ANNUAL REPORT OF THE COMMISSIONER OF PATENTS

VOL. 1 1871

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ANNUAL REPORT

OF THE

COMMISSIONER OF PATENTS

FOR

THE YEAR 1871.

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REPORT.

UNITED STATES PATENT OFFICE,
January 23, 1872.

To the Senate and House of Representatives of the United States of America in Congress assembled:

The law requires the Commissioner of Patents to lay before Congress, in the month of January, annually, a report of all receipts and expenditures, a list of all patents granted, with name and subject-matter indexes, and a list of all patents extended during the preceding year, together with such other information of the condition of the Patent Office as may be useful to Congress or the public.

I submit the following report in compliance with this law:

1.—*Statement of moneys received.*

Amount received on applications for patents, reissues, extensions, caveats, disclaimers, appeals, and trade-marks	$612,635 00
Amount received for copies of specifications, drawings, and other papers	47,729 80
Amount received for recording assignments	18,451 66
Total	678,716 46

2.—*Statement of moneys expended.*

Amount paid for salaries		$422,316 02
Amount paid for photographing		45,693 30
Amount paid for contingent and miscellaneous expenses, viz:		
Advertising	$3,062 00	
Stationery	17,204 41	
Tracings, &c	472 85	
Painting, glazing, varnishing, and glass	3,001 20	
File-boxes	1,215 00	
Furniture, carpeting, &c	10,827 05	
Repairing furniture, carpenter's work, and fitting up cases in model-rooms	16,832 04	
Plumbing and gas-fitting	5,752 59	
English patents	1,382 23	
Paper-hanging	1,057 49	
Work on report	1,683 00	
Preparing index of assignments	380 75	
Refunding money paid by mistake	900 00	
Hardware	3,992 70	
Pay of temporary employés	16,187 60	
Miscellaneous items, viz: Books for library, subscriptions to journals, freight, ice, washing towels, fees of judges in appeal cases, withdrawals, purchase of horse and carriage, and livery	11,031 41	
		94,082 32
		562,091 64

3.—*Statement of the balance in the Treasury of the United States on account of the patent fund.*

Amount to the credit of the patent fund January 1, 1871	$643,355 21
Amount of receipts during the year 1871	678,716 46
Total	1,322,071 67
From which deduct expenditures for the year 1871	562,091 64
Balance on the 1st of January, 1872	759,980 03

4.—*Statement of the business of the office for the year 1871.*

Number of applications for patents during the year 1871		19,472
Number of patents issued, including reissues and designs		13,033
Number of applications for extensions of patents		204
Number of patents extended		158
Number of caveats filed during the year		3,366
Number of patents expired during the year		2,654
Number of patents allowed, but not issued for want of final fee		1,007
Number of applications for registering of trade-marks		505
Number of trade-marks registered		486
Of the patents granted there were to—		
Citizens of the United States	12,511	
Subjects of Great Britain	432	
Subjects of France	30	
Subjects of other foreign governments	60	
		13,033

5.—*The patents issued to citizens of the United States were distributed among the citizens of the several States, Territories, &c., as follows:*

States, &c.	No. of patents.	Proportion of patents to population.
Alabama	29	One to 34,400 inhabitants.
Arkansas	13	" " 37,300 "
California	243	" " 2,300 "
Colorado Territory	15	" " 2,660 "
Connecticut	667	" " 806 "
Delaware	46	" " 2,717 "
District of Columbia	136	" " 970 "
Florida	10	" " 18,775 "
Georgia	73	" " 16,220 "
Idaho Territory	2	" " 7,500 "
Illinois	871	" " 2,916 "
Indiana	393	" " 4,277 "
Iowa	225	" " 5,387 "
Kansas	40	" " 9,110 "
Kentucky	125	" " 1,057 "
Louisiana	95	" " 7,655 "
Maine	197	" " 3,183 "
Maryland	240	" " 3,254 "
Massachusetts	1,386	" " 1,051 "
Michigan	383	" " 3,091 "
Minnesota	53	" " 8,302 "
Mississippi	48	" " 17,333 "
Missouri	248	" " 6,940 "
Montana Territory	2	" " 10,300 "
Nebraska	12	" " 10,250 "
Nevada	21	" " 2,125 "
New Hampshire	102	" " 3,121 "
New Jersey	496	" " 1,827 "
New Mexico Territory	1	" " 91,874 "
New York	2,954	" " 1,450 "
North Carolina	51	" " 21,000 "
Ohio	905	" " 2,945 "
Oregon	23	" " 4,000 "
Pennsylvania	1,543	" " 2,284 "
Rhode Island	184	" " 1,181 "
South Carolina	26	" " 27,139 "
Tennessee	104	" " 12,100 "
Texas	52	" " 15,742 "
Vermont	111	" " 3,000 "
Virginia	108	" " 11,342 "
Washington Territory	1	" " 23,955 "
West Virginia	42	" " 10,524 "
Wisconsin	227	" " 4,646 "
Wyoming Territory	3	" " 3,036 "
Persons in the Army and Navy	6	

6.—Comparative statement of the business of the office from 1837 to 1871, inclusive.

Year.	Applications filed	Caveats filed.	Patents issued.	Cash received.	Cash expended.
1837	.....	.....	435	$29,289 08	$33,506 98
1838	.....	.....	520	42,123 54	37,402 10
1839	.....	.....	425	37,260 00	34,543 51
1840	765	228	473	38,056 51	39,020 67
1841	847	312	495	40,413 01	52,666 87
1842	761	301	517	36,505 68	31,241 48
1843	819	315	531	35,315 81	30,776 96
1844	1,045	380	502	42,509 26	36,244 73
1845	1,246	452	502	51,076 14	39,395 65
1846	1,272	448	619	50,264 16	46,158 71
1847	1,531	553	572	63,111 19	41,878 35
1848	1,628	607	660	67,576 69	58,905 84
1849	1,955	595	1,070	80,752 78	77,716 44
1850	2,193	602	995	86,927 05	80,100 95
1851	2,258	760	869	95,738 61	86,916 93
1852	2,639	996	1,020	112,656 34	95,916 91
1853	2,673	901	958	121,527 45	132,869 83
1854	3,324	868	1,902	163,789 84	167,146 32
1855	4,435	906	2,024	216,450 35	179,540 33
1856	4,900	1,024	2,502	192,588 02	199,931 02
1857	4,771	1,010	2,910	196,132 01	211,582 09
1858	5,364	934	3,710	203,716 16	193,193 74
1859	6,225	1,097	4,538	245,942 15	210,278 41
1860	7,653	1,084	4,819	256,352 59	252,820 80
1861	4,643	700	3,340	137,354 44	221,491 91
1862	5,038	924	3,521	215,754 99	182,810 39
1863	6,014	787	4,170	195,593 29	189,414 14
1864	6,932	1,063	5,020	240,919 98	229,868 00
1865	10,664	1,937	6,616	348,791 84	274,199 34
1866	15,269	2,723	9,450	495,665 38	361,724 28
1867	21,276	3,597	13,015	646,581 92	639,263 32
1868	20,420	3,705	13,378	681,565 86	628,679 77
1869	19,271	3,624	13,986	693,145 81	486,430 78
1870	19,171	3,273	13,321	660,456 76	557,149 19
1871	19,472	3,366	13,033	678,716 46	560,595 08

A plate is added showing graphically the business of the office from 1836 to the present time, in such form as to represent to the eye the comparative business of the different years.

The name and subject-matter indexes, giving an alphabetical list of patentees, with their places of residence, are herewith, as part of this report, submitted.

It will be seen by the statements of receipts and expenditures that the Office has received and placed in the Treasury of the United States during the year $116,624.82 more than its entire expenditures. Of the items of expenditure, $47,885.37 was paid to copyists of drawings, to the photo-lithographers, and for paper for the reproduction of drawings of patents issued prior to July 1, 1869. This is an expenditure not properly chargeable to the current expenses of the office, and would, if

added to the balance above stated, make the real excess of receipts over the current expenses for the year, $164,510.19.

The reproduction of the past drawings is absolutely necessary to the proper management of the business of the Office, and is also a matter of great interest and profit to inventors and manufacturers. When once done, the expense of the work will cease, while the Office and the country will forever reap the benefits resulting from it. I would respectfully recommend that liberal appropriations be made for this work, that it may be completed as soon as possible.

The work of the Patent Office will necessarily increase to some extent, although the number of applications for patents may be substantially the same from year to year. Every application for a patent placed on file becomes a reference on which to reject subsequent applications for patents on the same improvements. Each year adds about twenty thousand to the number of these applications, which necessarily increases the clerical and examining labor of the Office.

The joint resolution of January 11, 1871, abolished the old form of annual report of the Patent Office. This resolution was passed in the belief that there was very little public demand for or interest felt in those reports. This belief, I think, was not well founded. There was a wasteful number of those reports printed, and they were, without doubt, injudiciously distributed. The consequence was that the larger portion of them fell into the hands of persons for whom they were not adapted, and soon found their way to rag-dealers and second-hand book-stores. The demand, however, of inventors, mechanics, manufacturers, and others, for accurate information of what is being done in the Patent Office is great and increasing. The old annual reports were unsatisfactory for two reasons: first, because they were always about two years behind date; and, second, because, in furnishing necessarily only ill-advised abstracts of the specifications and drawings, they seldom gave full information of what was covered by any patent, and consequently were very often misleading and deceptive.

These reports, however, with all their defects, were read and studied with great avidity by inventors and mechanics throughout the country, and the perusal of them has undoubtedly resulted in giving to the world very many valuable inventions and improvements. Unless a proper substitute is provided, I am of the opinion that their abolition will cause an abatement of interest in improvements and a diminution of the number of inventions. The inventive genius of one is stimulated and encouraged by seeing the results of the ingenuity of others. One man makes an important invention and obtains letters-patent therefor. If a correct knowledge of this patent can soon be placed in possession of five hundred other ingenious men, many valuable improvements will be suggested and patented, and the public will obtain a comparatively perfect machine, in place of the crude or less perfect production that may have come from the hands of the first inventor. The records of the

Patent Office will show that but comparatively few radical inventions have been practicable or profitable as first invented. It is only after the first thought has been embodied and presented to the world, and improvements to adapt it to the various uses for which it is calculated have been invented, that it becomes of most profit to the original inventor or most useful to the public. The value and importance of giving promptly a wide circulation to correct information of the character of all inventions and improvements patented can hardly be overestimated.

The object of the patent laws, as expressed in the Constitution, is, "to promote useful arts." This is done, in part, by giving inventors a legal monopoly of their inventions for a limited time; but it is of scarcely less importance that each inventor in the country should be promptly, and at small expense, furnished with a knowledge of what all the others are doing. Without such knowledge no one of them can pursue his investigations intelligently or economically. In any one of the useful arts, a knowledge of the present state of that art, of what others have done in it, is essential and necessary to any person engaged in improving it. To furnish this knowledge so far as it is made a matter of record by the Government, is clearly within the scope of the end sought by the establishment of the Patent Office.

In abolishing the old form of annual report, which was very unsatisfactory and expensive, it is questionable whether the law has provided an adequate substitute.

The joint resolution of January 11, 1871, provides as follows:

That the publication of the abstracts of specifications and of the engravings heretofore accompanying the annual report of the Commissioner of Patents be discontinued after the publication of that portion of the report for eighteen hundred and sixty-nine for which the plates have already been prepared; and that in lieu thereof, the Commissioner be authorized to have printed, for gratuitous distribution, not to exceed one hundred and fifty copies of the complete specifications and drawings of each patent subsequently issued, together with suitable indexes, to be issued from time to time, one copy to be placed for free public inspection in each capitol of every State and Territory; one for like purpose in the clerk's office of the district court of each judicial district of the United States, except when such offices are located in State or Territorial capitals, and one in the Library of Congress, which copies shall be taken and received in all courts as evidence of all matters therein contained, and shall be certified to under the hand of the Commissioner and seal of the Patent Office, and shall be taken and received in all courts as evidence; said copies not to be taken from said depositories for any other purpose than to be used as evidence; and the Commissioner of Patents is hereby authorized and directed to have printed such additional number of copies of specifications and drawings, certified as hereinbefore provided, at a price not to exceed the contract price for such drawings, for sale as may be warranted by the actual demand for the same; and the Commissioner is also hereby authorized to furnish a complete set of such specifications and drawings to any public library which will pay for binding the same into volumes to correspond with those in the Patent-Office, and for the transportation of the same, and which shall also provide proper custody for the same, with convenient access for the public thereto, under such regulations as the Commissioner shall deem reasonable.

By this joint resolution one copy each of the specifications and drawings of all patents issued will be placed for free public inspection in

the capitol of every State and Territory, and one copy for like purpose in the clerk's office of the district court of each judicial district, where said clerk's office is not at the capital of any State or Territory. This will give only one copy each to most of the States and Territories, two copies each to a few of the States, and three copies each to a still less number. These State and district court libraries are open only during the business hours of the day, and while they will be very convenient and useful for the courts and for a limited number of attorneys, yet they will prove valueless as far as the great body of mechanics and inventors of the country are concerned. They are practically "sealed books" to nearly all of the class most interested in them, and whose perusal of them would most benefit the public. The resolution also provides that these specifications and drawings shall be furnished to such public libraries as will pay for binding and transportation. The binding will cost the Government about one hundred and thirty dollars a year for each library supplied under this resolution. This provision will exclude them from nearly all places except the larger cities. The only remaining provision for giving inventors, mechanics, and others any information of patented inventions is found in the clause that directs the Commissioner to have printed additional copies of specifications and drawings for sale to persons desiring to purchase; and subsequent legislation fixes the minimum price at which the specifications and drawings may be sold at ten cents per copy. This would make a full set, unbound, for one year, cost about thirteen hundred dollars, a sum which would be paid by very few.

Supposing that the larger portion of inventors, mechanics, manufacturers, and others, who are interested in the work of the Patent Office, would each feel a special interest only in the particular branch of industry in which he is engaged, the Office has caused a classified subject-matter index to be prepared, for free distribution. This index classifies the various subjects of inventions under one hundred and seventy-six different heads, according to the departments of industry to which they relate. By consulting this index persons are enabled to order the complete copies of all specifications and drawings of patents belonging to classes in which they feel special interest. This arrangement has been in operation only since the 1st of September last, and is not very generally understood. It results, however, in the sale of about one thousand copies per week. The sale would be largely increased by a reduction of the price to five cents per copy, which would pay the cost. I would recommend such reduction to persons subscribing for an entire class. For single copies the price should remain as it is. I would further recommend that where parties desire to purchase copies of the specifications and drawings of all the patents issued, the Commissioner be authorized to sell them at net cost. Still there would remain unsupplied a large demand for prompt, brief, and general information, in a compendious form, of all the patents issued and of all important deci-

sions and changes affecting the Office practice. To meet this demand to some extent, the Office is now publishing, under the authority of section 20 of the act of July 8, 1870, a Weekly Official Gazette, in which is given a name, index of the patentees, and a subject-matter index of all patents issued during the current week, a list of the designs patented and of the trade-marks registered, a notice of all pending applications for extensions and of extensions granted, a transcript of the claims of all patents issued, a notice of all disclaimers filed, all important decisions of the Commissioner of Patents, current decisions of the courts in trade-mark and patent causes, all changes in the rules of Office practice, modifications of patent law, special legislation affecting existing patents, and other official matter of interest to persons having business with the Patent Office. This is as far as the Commissioner feels authorized to go, under existing laws. All that seems necessary to enable this Official Gazette to supply the entire demand for information still unprovided for, is to authorize the Commissioner to add to it a well-considered abstract of the specifications and drawings upon which patents are issued. The subscription price of the Gazette has been fixed at five dollars per annum. It is believed that the addition of the abstract of the specifications and drawings will very soon so increase its circulation as to make it entirely self-sustaining without increasing the subscription price. Investigations and experiments are now being made that will very soon enable me to lay before the proper committees the additional cost of such additional work.

Under the provisions of section 14 of the patent act, I have sought to dispose of the models of rejected cases, by permitting regularly incorporated institutions of learning to select from among them such as they could make useful in teaching the practical sciences. The models thus selected have been carefully invoiced and receipted for by the institutions taking them, to be held subject to the order of the Commissioner of Patents. In this manner, about twelve thousand models of rejected cases have been disposed of, and a large number of colleges and polytechnic schools have been supplied with a valuable means of instruction. Any one of these models can be recalled, should it at any time be needed by the Office, or by the courts in the trial of patent causes. The act approved July 8, 1870, known as the Patent Act, has been carefully tested by fair trial, and in most particulars has been found sufficient and satisfactory. In some features, however, I would respectfully suggest that it should be amended.

Section 23 provides that every patent shall date as of a day not later than six months from the time the applicant or his agent was notified of its allowance. The same section further provides that the applicant may have, after said notice is sent him, six months in which to pay his final fee. The Office has not been in the habit of incurring the expense of having the drawings and specifications printed and prepared for issue until the final fees are paid, because, frequently the application is

abandoned after notice of allowance. It takes about two weeks to reproduce the drawings and specifications and prepare a case for issue. But applicants very often delay paying their final fees until the very last day of the six months allowed by statute for issuing the patent. The sections should be so amended as to require the final fees to be paid in at the Patent Office, or if the money be paid elsewhere, as provided in section 69, to require the proper evidence of such payment to be presented to the Office, at least two weeks prior to the latest date allowed for the patent to issue.

Section 24, considered in connection with section 30, gives to citizens of all governments the same rights and privileges before the Patent Office as are granted to citizens of the United States.

The spirit of this section is praiseworthy, and to the citizens of countries whose governments reciprocate with similar favors, it is unquestionably just. In other cases, however, the wisdom of this provision is by no means clear; citizens of the Dominion of Canada, under our general law, can obtain patents here on precisely the same terms as citizens of the United States; while the latter must have resided in Canada one year before they can apply for patents at the Canadian office.

The effect of this law, practically, is to exclude our citizens from obtaining patents in Canada; and often the result is disastrous to our inventors. The inventor, for instance, of a process or a machine for making a given article of manufacture, may suffer by the practice of the invention across the boundary line between the two countries by parties who furnish the manufactured article in our market at such rates as to be ruinous to the inventor. There can be no protection against this practice except in cases in which a patent can be obtained on the article of manufacture itself as well as upon the process or upon the machine by which it is made. But where the article itself is old, and therefore not patentable, the inventor of the new process or machine for making it is, by the means indicated, left practically without protection. It has been suggested in various quarters that, with view to furnishing the Canadian government a notice for modifying their practically prohibitory law, our own law should be so amended as to limit the rights granted by the sections above referred to, to the citizens of such foreign countries as accord to the citizens of the United States the same protection as is granted to their own citizens. I think, however, that the wiser course may be to open correspondence with the Canadian authorities, through the proper diplomatic channels, with view to representing the nature of the injustice to which our inventors are now subjected; and it is hoped that when the matter is thus brought home to the attention of the Canadian people, the proper remedy will at once be supplied. I withhold any special recommendation in the premises to await the result of such correspondence.

Section 25 provides that where a patent is first obtained in a foreign country, and afterwards here, the patent obtained here shall expire at

the same time as the foreign patent. This law is just and equitable in cases where the applicant is himself a citizen of a foreign country. In such cases his monopoly here should cease when it ceases at home. But in cases where the patentees are citizens of the United States, I see no reason for the rule. In most of the countries of Europe a patentee need not necessarily be an inventor. They will grant patents as well to the first man who *imports* an improvement as to the one who *invents* it. If the importer is the first to apply, he alone becomes the patentee. Hence it is frequently the case that persons other than the inventors will seize upon an invention the day it is patented here, and rush to Europe in advance of the inventors and secure to themselves the foreign patents. This fact often compels our inventors to secure their patents abroad first, if they would secure them at all. But under certain contingencies the foreign patents may expire in two, three, or five years. Under our law at present, their patents obtained here must expire at the same time.

Section 36, providing for the recording of assignments of patents, or territorial interests therein, I think, should be so amended as to provide in the same manner for the recording of licenses to manufacture or use under the patent. A patentee may cover the country all over with licenses to manufacture and sell under his patent, without having the records of the Office show that any portion of his patent, or any rights under it, have been conveyed. A person in purchasing an interest in a patent has no means but the veracity of the patentee for learning to what extent the patent is involved by licenses. For the protection of persons buying interests in patents all conveyances of any interests or rights of any kind should be made a matter of record, so that the Patent Office may be able to furnish reliable abstracts of title.

Section 48 provides that parties, except parties to interferences, if dissatisfied with the decision of this Commissioner, may appeal to the Supreme Court of the District of Columbia, sitting in banc. I see no good reason for making an exception of interference cases. If other cases are appealable, there is no reason why interference cases should not be. But I would respectfully suggest whether this whole matter of appeals from the Commissioner to the courts is not an anomaly in our Government. It is true that intricate questions of law are arising and being discussed daily in the Patent Office, and there is a show of propriety in permitting appeals to the courts on these questions of law; but I confess I can see no good reason for permitting such appeals on questions of fact. When the facts have been examined by a principal examiner, by the board of examiners-in-chief, and by the Commissioner in person, making three separate examinations by three separate tribunals, and all of these examiners supposed to be experts, and all agree as to what are the facts, an appeal to a court composed of able judges, but men not pretending to any expert knowledge of the subject-matter presented to them, it seems to me is not only without reason, but against reason. I would recommend that section 48 be repealed, and that in its

stead a section be introduced, authorizing appeals to the Supreme Court of the District of Columbia, sitting in banc, from the decisions of the Commissioner on questions of law; and that such appeals be in the nature of *writs of error*. If such amendment should be made, sections 49, 50, 51, and 52 should also be amended to correspond.

Section 53 provides that in applications for reissue the model and the drawing may be amended each by the other, but that neither shall be amended by the specification. This section works great hardship to inventors in many cases. I think it should be so amended as to authorize the Commissioner in person to permit, in applications for reissue either the specifications, drawings, or models to be amended so as to show what is already clearly shown in either one of them. The privileges granted by this section are, perhaps, more often misused than those of any other section in the patent law. The object of the section is to provide for the correction of errors that have arisen by inadvertence, accident, or mistake, and for such purpose it is very just and proper. Almost all applications under this section are for the purpose of obtaining broader claims than were originally asked for or granted. It not infrequently happens, however, that a patentee, finding that some other person has made a valuable improvement upon his invention, rushes back to the Office to secure a reissue of his patent in such form as to cover the later improvement. The Office, not knowing the facts in the case, and finding it possible so to construe the original application as to cover the improvement, the desired claim is granted, thereby giving the patentee a monopoly of what is really the invention of another. To guard against this species of fraud, I would suggest that section 53 be so amended as to require that a notice of all such applications for reissues as seek to enlarge the original claim be published in the Official Gazette for at least four weeks previous to the day set for examining the same; and that opposition be allowed as in extension cases.

It often happens that by a misapprehension of the law, or the facts, parties in good faith make joint application for a patent when only one was the real inventor; or the two were inventors of different parts so distinct as to be divisible, but the Office, not learning these facts in an *ex parte* examination, grants a patent to such parties jointly. Under the rulings of the courts such patents are worthless, giving no protection, and the inventor is without remedy. I would suggest that section 53 be further amended so as to make a misjoinder of parties in an application where no fraud was intended a good ground for reissue.

Under the law as it now stands, the courts hold that a patentee surrendering his patent for reissue, by such act of surrender relinquishes all his rights of action that may have accrued against infringers of the surrendered patent. This often works hardships and wrongs against inventors. I think it would be just to the patentee and equity to all concerned if the law could be so amended as to save rights of action in such cases where the claim infringed is substantially the same in the surrendered patent as in the reissue.

Section 64 requires that a notice of all applications for extension shall be published for at least sixty days in one paper in the city of Washington, and in other papers in the section of the country most interested adversely to the extension. There is no way in which the Office can determine what section of the country is most interested adversely to the extension of the patent. The practice has always been to advertise in the section where the patentee resides; but in a majority of cases probably that is not the location where those opposed to the extension would be most likely to see the notice. It very often happens that patents are extended before parties desiring to oppose know of the pendency of an application. There should be a single paper designated by law in which all notices of applications for extensions of patents are published. That would enable any person to learn of the pendency of such applications. I would recommend that section 64 be so amended as to require, in lieu of the publication now demanded, that all notices of applications for extensions be published in the Official Gazette of the Patent Office for at least six weeks prior to the day set for hearing. The Official Gazette is being taken by nearly every patent attorney and solicitor of patents in the country, and by very many inventors and manufacturers. Such publication would be certain in almost every case to reach all persons interested adversely to a proposed extension, and the saving thus effected in the expense of advertising would do something toward paying the cost of the Official Gazette. As the Patent Office is expected to be self-sustaining, it should be relieved of needless expense.

One-half of the fee in extension cases is by law required to be paid upon filing the application, and the balance upon granting the certificate of extension. The decision refusing or granting the extension is required to be made prior to the expiration of the original term of the patent. As the decision to extend carries the monopoly, the patentee frequently lets the certificate lie in the office for months and years, and sometimes for the whole term of the extension, without paying his final fee. If he needs the certificate of extension at any time to prosecute infringers, he then takes it; and as it bears even date with the expiration of the original term, it covers the whole term of the extension. If he should not need the certificate for such purpose, he may permit the extended term to expire and never pay his final fee. This fraud upon the Office should be provided against. I would suggest that section 66 be so amended as to authorize the Commissioner to withhold and cancel certificates of extension in cases where the final fees are not paid within thirty days of date of notice that extension has been granted.

Section 71 provides—

That any person who, by his own industry, genius, efforts, and expense, has invented or produced any new and original design for a manufacture, bust, statue, alto-relievo, or bas-relief; any new and original design for the printing of woolen, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture, to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture; or any new, useful, and original shape or configuration of any article of manufacture, the same not having been known or used by others before his invention or production thereof, or patented or described in any printed publication, may, upon payment of the duty required by law, and other due proceedings had the same as in case of inventions or discoveries, obtain a patent therefor.

I am clearly of the opinion that the present mode of patenting designs is radically wrong, injurious to real inventors and the public, and not calculated "to promote the useful arts." Under section 71, the Office issues patents for mere changes in form or color, without regard to construction, function, or utility. This class of patents has been to some extent subversive of the fundamental object of the patent law. Very many design patents, which cannot, under the law, be denied, are a fraud upon the public. A man applies for a patent on a cultivator, or hammer, or any other useful tool or device, and finding himself fully anticipated in every principle and useful feature of his invention, abandons his application and at once applies for a design patent for the same thing. This application he bases upon some peculiarity of form or color, having nothing whatever to do with the merits or demerits of the article itself; and not being anticipated in these respects, a patent is granted for the new design. The patent gives him no protection whatever, except as to the form or color upon which it is based. He, however, obtains from the Office the right to stamp the word "Patented" upon the article he is manufacturing, and thereby deceives the public, wrongs inventors, and brings patented articles into disrepute. Patents have greatly increased in popularity within the last few years, and manufacturers regard it as an advantage to have the right to affix the word "Patented" upon the products of their shops and factories. This fact has led to very great abuse of the privileges granted by the section authorizing patents for designs. The protection of the public, and of true inventors, alike demands such modifications of the law as to distinguish widely between designs and inventions. Designs are in the field of taste, beauty, ornamentation; while inventions have to do with utility, resulting from new constructions and combinations. Designs look to esthetic effects, inventions to economical productions. Each has its proper sphere, but so distinct that they ought not to overlap each other in the Office practice. Each should be protected, but by instruments and marks easily distinguishable by the public. I therefore recommend such modification of the patent act as will place designs upon substantially the same basis as trade-marks. If a design is new, let the applicant have a certificate of registry, with authority to mark his productions "Registered" instead of "Patented." The fact is that a very large proportion of designs are used merely and solely as trade-marks. A man adopts a peculiar form or color for his articles of manufacture, that they may be known as his in the market; that he and his place of business may be pointed out by the peculiarity of the color or conformation. Such a modification of the law, I believe, would furnish ample protection to designs, and, in fact, would enable the Office to issue

certificates of registration in many cases where, from public policy, it now refuses design patents. I earnestly recommend early legislation on this subject.

By section 77, the right to apply for registration of trade-marks is limited to citizens of the United States and to residents of such foreign countries as "by treaty or convention" afford similar privileges to citizens of the United States. This restriction excludes residents of Canada and England, and perhaps other countries, which by statute, in the absence of "treaty or convention," afford the right of registry to citizens of the United States. I therefore recommend that this section be amended by striking out the limiting phrase, "by treaty or convention."

The discussion that has been going on in England during the past year, on the comparative merits of the English and American patent systems, has excited considerable interest in this country. The English system finds a few honorable and able advocates here, but a very large majority of inventors, and others intelligent upon the subject, seem to be ardently attached to our own system. The American system secures a preliminary examination by experts, on the question of novelty, and the issue of the patent is made dependent upon the result of such examination. Consequently, the patent, when issued, carries with it a presumptive right to its claims, and immediately has a value in the market; the amount of value depending principally upon the importance of the invention covered by the claims. The strength of the presumption in favor of the patent will, of course, depend upon the reputation the Patent Office may have for making honest and thorough preliminary examinations.

In England, patents are granted to every applicant, without any inquiry into the question of novelty or usefulness, and the patent is utterly without value until the patentee has, by litigation in the courts, established the fact that the invention to which it relates is new and useful. Unless an inventor is able to pay court costs, and liberal fees to attorneys and experts, he is much richer without a patent than with one. A poor inventor, under the English system, is entirely at the mercy of capitalists, and must, in general, assign a controling interest in his patent to secure the means to establish even a presumption in its favor.

The objections urged against the American system, so far as there is any validity at all in them, are chargeable, I believe, against the mode in which the system is organized and operated, rather than against the system itself. The more thorough and searching the preliminary examination, the more valuable will be the patent when issued. The better the organization of the Office to secure such examinations, the greater will be judicial and public confidence in the validity of patents. To secure the best possible organization for this purpose is a matter of the highest consideration. That the present organization of the examining corps has some radical defects, cannot be denied. That these defects can, in a great measure be remedied, I feel very confident. On this subject, I propose

soon to address a communication to the Honorable Secretary of the Interior, and, if it meets his approbation, it will probably be forwarded to Congress, with such suggestions as he may be pleased to make.

Protection to inventors is encouragement to every branch of industry. Such protection has already placed our country far in advance of all others in the development and adaptation of labor-saving machinery. In addition to this class of wealth which inventors have contributed to the country, they have paid, directly, the entire cost of our patent system, and three-fourths of a million dollars in excess. They do not now ask that the fees shall be reduced, nor that the excess shall be returned, but they do demand that the organization of the Office shall be such as to do better work, and that the force be made sufficient to do it more promptly.

On these matters I would recommend cautious but liberal legislation.

Respectfully submitted.

M. D. LEGGETT,
Commissioner of Patents.

PATENTEES AND PATENTS.

ALPHABETICAL LIST

OF

PATENTEES FOR THE YEAR 1871.

No.	Name, residence, and invention or discovery.	Date.
119,490	Aah, George, assignor to self and John McAndrews, Brooklyn, N. Y. Water-governor for steam-engines	Oct. 3, 1871
115,555	Abbe, John R., Providence, R. I. Bolt-heading machine	June 6, 1871
114,081	Abbey, Frederick J., and James H. Foster, Chicago, Ill. Breech-loading fire-arm	April 25, 1871
121,307	Abbot, James, Fitchburgh, Mass. Washing-machines	Nov. 28, 1871
110,617	Abbot, Theodore T., and John A. V. Smith, said Abbott assignor to said Smith, Manchester, N. H. Flier for spinning-machine	Jan. 3, 1871
117,851	Abbott, Charles E., Malden, Mass., and Rufus S. Merrill, Hyde Park, Mass. Pencil-sheath	Aug. 8, 1871
	Abbott, George, *et al.* (*See* Bowden, William, assignor.)	
111,163	Abbott, Levi, Lewiston, Me., and Joseph A. Sherburne, Boston, Mass., assignors to selves and Earl W. Johnson. Grain-drier	Jan. 24, 1871
112,764	Abbott, Nathan B., Brooklyn, N. Y. Composition for pavement	Mar. 21, 1871
114,899	Abbott, Samuel M., Wilmington, Ill. Windmill	May 16, 1871
117,237	Abbott, Sewall L., Deering, Me. Countersink	July 25, 1871
113,961	Abbott, Warren N., assignor to self and Isaac H. Wood, New York, N. Y. Chimney-cowl	April 25, 1871
118,396	Abeel, Charles S., Marshalltown, Iowa. Harness tug-buckle	Aug. 22, 1871
	Abel, Franklin B., and Joab Morse. (*See* Morse & Abel.)	
	Abel, George, and John Pedder. (*See* Pedder & Abel.)	
	Same.....same.	
	Abell, Henry E., and William H. Akins. (*See* Akins & Abell.)	
117,238	Abell, Otis, Witoka, Minn. Straw-carrier for thrashing-machine	July 25, 1871
4,810	Abendroth, John, New York, N. Y. Cooking-stove.....(Design)	April 18, 1871
119,071	Abrahams, Abraham, Syracuse, N. Y. Chair and cradle combined	Sept. 19, 1871
	Accelerating Fire-arms Company. (*See* Lyman, Azel S., assignor.) (Disclaimer.)	
122,096	Acee, Fielding Wallace, Columbus, Ga. Musical notation	Dec. 26, 1871
112,668	Acheson, William, assignor to Charles L. Fitzhugh, Pittsburgh, Pa. Roll for forming horse-shoe blank	Mar. 14, 1871
119,492	Ackart, David, Schaghticoke, N. Y. Preserving the color of dried fruit. (Antedated Sept. 18, 1871)	Oct. 3, 1871
112,594	Ackenback, John R., Saddle River, N. J. Rein-holder	Mar. 14, 1871
114,062	Ackerman, Orin, Carthage, N. Y. Support for camera-box	April 25, 1871
110,886	Adams, Albert Q., Wallingford, Vt. Snow-shovel	Jan. 10, 1871
114,743	Adams, Alfred, Chagrin Falls, Ohio. Paper-bag machine	May 16, 1871
113,001	Adams, August H., Piqua, Ohio. Flood-gate	Mar. 28, 1871
	Adams, Augustus. (*See* Dryden, W. A. & C. E., assignors.) (Reissue.)	
	Adams, Calvin, Pittsburgh, Pa. Keeper for right and left hand door-lock. (Extension)	Feb. 23, 1871
121,296	Adams, Charles, Philadelphia, Pa. Process for the manufacture of iron	Nov. 28, 1871
121,588	Adams, Frank, Middlebury, Ohio. Whip-socket	Dec. 5, 1871
	Adams, Frank F. (*See* Walker, George S., assignor.)	
114,063	Adams, Henry W., Philadelphia, Pa. Vacuum-engine	April 25, 1871
115,672	Same.....Steam-engine	June 6, 1871
116,407	Same.....same	June 27, 1871
116,531	Adams, Henry W., Philadelphia, Pa., and Steuben T. Bacon, Boston, Mass., said Adams assignor to said Bacon. Drier	July 4, 1871
116,532	Same.....same	July 4, 1871
113,612	Adams, Isaac, jr., Boston, Mass. Electro-plating with nickel	April 11, 1871
116,658	Same.....Nickel-plating	July 4, 1871
117,499	Adams, Isaac H., Montana, Iowa. Washing-machine	Aug. 1, 1871
114,510	Adams, James T., assignor to Joel R. Leidy, Washington, D. C. Permutation-lock	May 9, 1871
110,618	Adams, John, Greencastle, Ind. Mole-trap	Jan. 3, 1871
	Adams, John. (*See* Baker, Hayden M., assignor.)	
110,815	Adams, John, Birmingham, Pa. Glass lamp	Jan. 10, 1871
	Adams, John C., *et al.* (*See* Fanning & Nugent, assignors.)	
	Adams, John P. (*See* Goddard, Kingston, assignor).....(Reissue.)	
	Same.....(*See* Wilkinson, George, assignor).....(Design.)	
118,420	Adams, Joseph A., Brooklyn, N. Y. Treating forms of type, engraved blocks, &c.	Aug. 29, 1871
4,733	Adams, Joseph P., and George Hyde, Whitney's Point, N. Y. Stone-drag. (Design)	Mar. 28, 1871
115,264	Adams, Judson, and Warren A. Tolman, Richmond, Ind. Machine for winding bobbin. (Antedated May 19, 1871)	May 30, 1871
116,002	Adams, Robert, England. Spring hinge for doors	June 20, 1871
111,600	Adams, Samuel, Michigan Bluff, Cal. Hydraulic turn-pipe	Feb. 7, 1871
111,798	Adams, Thomas, assignor to John D. Adams, Hudson City, N. J. Chewing-gum	Feb. 14, 1871
116,300	Adams, William, Scotland. Machine for dressing stone	June 27, 1871
115,010	Adams, William C., and William B. Mayhew, West Tisbury, Mass. Folding-settee	May 23, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,385	Adams, William J., Grand Rapids, Mich. Machine for shearing metal. (Antedated April 22, 1871)	May 2, 1871
118,574	Adamson, James Hazel, South Australia. Harvester	Aug. 29, 1871
117,134	Adamson, William, Philadelphia, Pa. Paper-stock	July 18, 1871
117,135	Same. Extracting resin and gum from wood	July 18, 1871
117,136	Same. Process of obtaining paper-stock from wood, &c	July 18, 1871
	Same. Apparatus and process for treating animal and vegetable fiber	Sept. 5, 1871
	Same. (*See* Simonin & Coffin, assignors) (Reissue.)	
	Same. (*See* Simonin, Charles F. A., assignor) (Three cases.)	
117,552	Adamson, William, and Charles F. A. Simonin, assignors to William Adamson, Philadelphia, Pa. Process of obtaining vegetable fiber	Aug. 8, 1871
119,000	Same. Treating flesh, offal, &c	Sept. 19, 1871
111,296	Adgate, Edwin H., Mittineague, Mass. Adjustable reamer	Jan. 31, 1871
116,910	Adgate, Joseph J., assignor to self and Raymond Welles, Stevensville, N. Y. Wagon-brake	July 11, 1871
111,297	Adolphus, James M., Philadelphia, Pa. Fastening for door-knob roses. (Antedated Jan. 21, 1871)	Jan. 31, 1871
116,391	Adt, John, assignor to the Judd Manufacturing Company, New Haven, Conn. Twine-cutter	June 27, 1871
116,911	Same. Twine-holder	July 11, 1871
120,225	Adt, John B., assignor to self and August Hoen, Baltimore, Md. Printing-press	Oct. 24, 1871
4,451	Ager, Wilson, Washington, D. C. Process for decorticating grain. (Division A, reissue)	July 4, 1871
4,452	Same. Machine for decorticating grain (Division B, reissue.)	July 4, 1871
4,579	Same. Machine for cleaning rice (Extension)	Sept. 14, 1871
	Same. Machine for cleaning and scouring rice, coffee, and other grains. (Reissue)	Oct. 10, 1871
119,834	Agger, Peter, Cincinnati, Ohio. Bed-bottom	Sept. 12, 1871
111,505	Agnew, Niven, Canada. Coffee-pot	Feb. 7, 1871
116,136	Aguayo, José M., Boston, Mass. Tobacco-cutter	June 20, 1871
	Agur, Luke. (*See* Noble, Oscar W., assignor.)	
111,298	Ahrens, Christopher, and Frank Kamman, Cincinnati, Ohio. Steam-generator	Jan. 31, 1871
111,896	Aiken, Frank H., Franklin, N. H. Machine for cutting and mitering printers' rules	Feb. 21, 1871
121,036	Same. Stereotype	Nov. 21, 1871
113,478	Aikman, David, Canada. Manufacture of peat-fuel	April 11, 1871
112,006	Aitchison, James M., Omar, N. Y. Corn-planter	Feb. 21, 1871
116,302	Akerstein, Johan F., Chicago, Ill. Furniture-tip	June 27, 1871
115,673	Akin, Jonas Sely, Rye Patch, Nev. Furnace for roasting ores of the precious metals	June 6, 1871
114,386	Akins, William H., and Henry E. Abell, Brooklyn, N. Y. Padlock	May 2, 1871
	Albany Dental Plate Company. (*See* Hyatt, John W., jr., and Isaiah S., assignors.)	
	Albany Frear Stone Company. (*See* Brown, Frederic W., assignor.)	
4,623	Albee, George Sumner, Hopkinton, Mass. Heater for milk, &c (Design)	Feb. 7, 1871
4,328	Albert, Joseph, Bavaria. Printing photographs (Reissue)	April 11, 1871
119,292	Albert, William, Brooklyn, N. Y. Flag-halyards	Sept. 26, 1871
110,816	Albertson, Albert, Jersey City, N. J. Lamp	Jan. 10, 1871
115,409	Same. Manufacture of ice	May 30, 1871
112,525	Albertson, George A., New York, N. Y. Dry-dock	Mar. 14, 1871
118,893	Albertson, James M., New London, Conn. Horse-power	Sept. 12, 1871
119,731	Same. Combined cotton-press and horse-power	Oct. 10, 1871
112,660	Albrecht, August, Philadelphia, Pa. Clothes-wringer	Mar. 14, 1871
	Albrecht, Joseph, and Arthur Barbarin. (*See* Barbarin & Albrecht.)	
114,900	Albright, Joseph, Midway, Tenn. Molding-machine	May 16, 1871
116,252	Albright, Joshua, Pleasant View, Me. Gun-lock	June 27, 1871
120,015	Albro, Charles E., Fulton, N. Y. Lathe-chuck	Oct. 17, 1871
113,009	Alcorn, James, assignor to George R. Kelso, Charlestown, Mass. Apparatus for operating railway-switches	Mar. 28, 1871
116,912	Alden, Charles, Newburgh, N. Y. Fruit-jelly	July 11, 1871
121,589	Same. Process and apparatus for drying and preserving animal and vegetable substances	Dec. 5, 1871
4,287	Alden, Charles, assignor of part interest to Alden Fruit-Preserving Company, Newburgh, N. Y. Treating fruits to dry, saccharify, and preserve them (Reissue)	Mar. 7, 1871
4,592	Same. Treating vegetable and animal substances so as to dry and preserve them (Reissue)	Oct. 17, 1871
114,901	Alden, David Alonzo, Malden, Mass. Preparation of tobacco for chewing	May 16, 1871
113,238	Alden, Elbridge G., Cambridge, Mass. Machine for making boxes	April 4, 1871
	Alden, Rinaldo, and Henry Davis. (*See* Davis & Alden.)	
	Alden, Rinaldo, *et al.* (*See* Deming & Alden.)	
	Alden, Timothy, deceased, by Henry W. Alden, executor, New York, N. Y. Type-setting and distributing machine (Extension)	Sept. 12, 1871
119,491	Alderfer, Henry D., Grater's Ford, Pa. Latch for gates	Oct. 3, 1871
121,742	Aldom, Edward, New York, N. Y. Spring-perch for bird-cages	Dec. 12, 1871
114,084	Aldrich, George H., New York, N. Y. Passenger-recorder	April 25, 1871
115,801	Aldrich, James T., New York, N. Y. Passenger-recorder for vehicles	June 13, 1871
	Aldrich, Robert, *et al.* (*See* Pitts, Aldrich & Marble.)	
119,732	Aldrich, William, Proctorsville, Vt., and Alfred F. Spaulding, Northfield, Vt., assignors to Cyrus Wakefield, Calvin S. Greenwood, and Levi Heywood. Device for pressing chair-seats into their frames	Oct. 10, 1871
113,962	Aldrick, Hosea P., Boston, Mass. Waxed-thread sewing-machine	April 25, 1871
116,749	Aldridge, George, Henderson City, Ky. Fruit-gatherer	July 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,379	Aldridge, Hiram, assignor through mesne assignments to Cornelius Aultman, Elizabethtown, N. Mex. Horse-power (Reissue)	May 16, 1871
116,659	Ale, Ezra, assignor to self and J. Blake Walters, Clearfield, Pa. Fire-escape	July 4, 1871
	Alexander & Mason. (*See* Mason, James M., assignor.)	
112,670	Alexander, Granville W., Chicago, Ill. Railroad-station indicator	Mar. 14, 1871
119,684	Alexander, Isaac H., Newfield, N. Y. Tug for harness	Oct. 10, 1871
121,976	Alexander, James H., Geneva, N. Y. Faucet	Dec. 19, 1871
119,685	Alexander, John F., Shelley, N. C. Steam and air engine	Oct. 10, 1871
112,671	Alexander, Joseph Bell, Washington, D. C. Railroad-station indicator	Mar. 14, 1871
117,957	Alexander, Levi H., Gloucester, Mass. Fishing-net	Aug. 15, 1871
115,410	Alexander, Solomon A., Sunbury, Pa. Spring-adjuster	May 30, 1871
119,293	Alexandre, Arthur, New York, N. Y. Handle-strap for traveling-bags	Sept. 26, 1871
114,511	Alford, William D., Cuyahoga Falls, Ohio. Pipe-coupling	May 9, 1871
119,259	Same. Molding pipe	Sept. 26, 1871
121,206	Same. Casting female screws	Nov. 28, 1871
115,265	Algeo, Charles C., Pittsburgh, Pa. Fire-place fender	May 30, 1871
121,073	Same. same	Nov. 21, 1871
5,007	Algeo, William G., Rochester, Pa. Coffin (Design)	June 20, 1871
5,209	Same. Coffin-end (Design)	Aug. 22, 1871
5,314	Same. Coffin-top (Design)	Oct. 17, 1871
115,802	Alger, Francis, Boston, Mass. Steam-carriage for common roads. (Antedated May 29, 1871)	June 13, 1871
117,958	Same. Method of attaching wheels to axles. (Antedated Aug. 3, 1871)	Aug. 15, 1871
	Aling, John, and Cornelius Blom, sr. (*See* Blom & Aling.)	
114,387	Allebaugh, William, and Joseph M. Cuffell, assignors to Jacob C. Slemmer, Norristown, Pa. Binder for sewing-machines	May 2, 1871
113,239	Allegretti, Ignazio, Philadelphia, Pa. Manner of packing and conveying ice-cream, water-ices, &c	April 4, 1871
113,929	Allen, Albert F., Providence, R. I. Automatic relief-valve	April 18, 1871
	Same. (*See* Cooke, James C., assignor) (Two cases.) (Reissue.)	
117,853	Same. Hose-pipe valve	Aug. 8, 1871
120,925	Same. Automatic relief-valve	Nov. 14, 1871
122,097	Same. Fire-plug and hydrant	Dec. 26, 1871
	Allen, Albert F., *et al.* (*See* Caswell, William A., assignor.)	
116,660	Allen, Almon N., and Rodney H. Dewey, Pittsfield, Mass. Magnetic electric gas-lighting apparatus	July 4, 1871
119,492	Same. Electro-magnetic gas-lighting apparatus	Oct. 3, 1871
120,226	Same. Automatic gas-lighter	Oct. 24, 1871
120,476	Same. Lubricator for steam valves and pistons	Oct. 31, 1871
121,308	Same. Electric gas-lighter	Nov. 28, 1871
112,104	Allen, Arthur M., New York, N. Y. Toy-propeller	Feb. 21, 1871
	Allen, Benjamin C. (*See* Congdon, Joseph H., assignor.)	
120,016	Allen, Campbell, Albany, N. Y. Heating and preparing stone for pavements, &c	Oct. 17, 1871
111,037	Allen, Charles, Hartford, Conn. Hot-air furnace	Jan. 17, 1871
117,137	Allen, Charles B., Philadelphia, Pa. Boiler-rivet machine	July 18, 1871
111,714	Allen, Daniel R., Cumberland, Me. Seat for vehicles	Feb. 14, 1871
114,248	Allen, Darwin D., Adams, Mass. Weighing-scale. (Antedated April 27, 1871)	May 2, 1871
112,536	Allen, Elias B., Charles O. Allen, and Alonzo P. Small, Augusta, Me. Machine for coiling wire	Mar. 14, 1871
110,619	Allen, Elijah C., Deerfield, Mass. Stone-drag	Jan. 3, 1871
112,903	Allen, Francis E., Keene, N. H. Jewelers' combined caliper and poising-tool	Feb. 28, 1871
121,074	Allen, Frank S., and Charles F. Ritchel, New York, N. Y. Boring-machine	Nov. 21, 1871
121,743	Same. Bolt and nut threading machine	Dec. 12, 1871
116,253	Allen, George P., Woodbury, Conn. Apparatus for dividing powders	June 27, 1871
116,143	Allen, Hassan U., North Bennington, Vt. Fruit-jar	Dec. 26, 1871
113,963	Allen, Hiram J., Arkadelphia, Ark. Breech-loading cannon	April 25, 1871
116,661	Allen, Ira, Manchester, N. Y. Bag-holder	July 4, 1871
121,145	Allen, James M., Washington, D. C. Railway-car seat	Nov. 21, 1871
111,897	Allen, John F., Harlem, N. Y. Governor valve-connection	Feb. 21, 1871
112,003	Allen, John F., Tremont, N. Y. Refining iron, reducing ore, &c	Feb. 21, 1871
113,613	Same. New York, N. Y. Steam-generator	April 11, 1871
121,744	Allen, John F., Mott Haven, N. Y. Oiling-apparatus for crank-pins	Dec. 12, 1871
118,177	Allen, John M., Marion, Mass. Manufacture of paper and paper-pulp	Aug. 22, 1871
111,601	Allen, John P., Springfield, Ohio. Water-wheel	Feb. 7, 1871
	Same. (*See* Banta, William E., assignor.)	
114,512	Allen, John P., assignor to self and R. M. Dalby, Springfield, Ohio. Lathe	May 9, 1871
116,913	Allen, John P., and Henry Croft, Springfield, Ohio. Combination of watch-key, swivel, and hook	July 11, 1871
	Allen, Joseph D., and D. Chaplin Nutting. (*See* Nutting & Allen.)	
117,138	Allen, Joseph H., Wadsworth, Nev. Welt-trimmer for boots and shoes	July 18, 1871
116,914	Allen, Joshua G., Philadelphia, Pa. Railroad-car heater	July 11, 1871
117,029	Allen, Judson, assignor of one-half interest to William H. Crotser, Everett, Mo. Fruit-drier	July 18, 1871
116,790	Allen, King P., Homer, Mich. Hub-centering machine and spoke-guide	July 11, 1871
115,603	Allen, Levi O., Gardiner, Me. Milking-stool	June 13, 1871
111,586	Allen, Nicholas J., and James C. Moody, Brunswick, Me. Adjustable shuttle-binder	Feb. 7, 1871
119,686	Allen, Richard N., Pittsford, Vt. Sewing-machine treadle	Oct. 10, 1871
	Allen, Roger N., and Hubert R. Ives. (*See* Scott, George, assignor.)	
	Allen, Samuel S, deceased, by E. D. Buckman and Samuel A. Sisson, executors, Bristol, Pa. Harvester (Extension)	April 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,582	Allen, Samuel S., deceased, by E. D. Buckman and Samuel A. Sisson, executors, assignors to J. Russell Parsons, Bristol, Pa. Harvester.....(Reissue)	Oct. 10, 1871
	Allen, Sidney. (*See* French, Samuel, assignor.)	
110,887	Allen, Thomas W., Waterbury, Conn. Charger for shot-pouch	Jan. 10, 1871
111,102	Same.....same	Jan. 24, 1871
121,570	Allen, Truman H., Corry, Pa. Mode of attaching springs to vehicles	Dec. 5, 1871
116,791	Allen, William, Worcester, Mass. Lawn-mower	July 11, 1871
115,674	Allen, William, and John Wesley Bond, Saint Paul, Minn. Hand-carriage	June 6, 1871
	Allen, William H., and Oliver H. Perry. (*See* Perry & Allen.)	
115,556	Allen, William R., Stockton, N. J. Whip-socket	June 6, 1871
	Allerton, George M., and Burritt M. Hotchkiss. (*See* Hotchkiss & Allerton, assignors.)	
	Allen, John. (*See* Lane, George W., assignor.)	
4,836	Alling, Fred. D., Rochester, N. Y. Inkstand.....(Design)	April 25, 1871
111,790	Allison, Asa H., Charlottesville, Ind. Sulky-attachment for breaking-plow	Feb. 14, 1871
119,558	Allison, Jesse H., Charlottesville, Ind. Latch for gates and doors	Oct. 3, 1871
111,899	Allison, William C., assignor to W. C. Allison & Sons, Philadelphia, Pa. Machine for welding tubes	Jan. 31, 1871
118,503	Allonas, Joseph, and William Bauman, Mansfield, Ohio. Revolving cylinder-engine	Aug. 29, 1871
112,765	Allyn, John H., Whitesborough, N. Y. Bed-bottom	Mar. 21, 1871
115,557	Almqvist, August W., and Frans W. Ofeldt, New York, N. Y. Dry gas-meter	June 6, 1871
121,037	Almqvist, August W., and Eugene G. Conradson, Brooklyn, N. Y. Refrigerator	Nov. 21, 1871
111,800	Alms, Herman H., Kansas City, Mo. Tobacco-press. (Antedated Feb. 3, 1871)	Feb. 14, 1871
116,915	Almy, George F., Toledo, Ohio. Spoke-sawing machine	July 11, 1871
114,085	Almy, Ira, and Sereno A. Drake, Covert, N. Y. Plane-iron	April 25, 1871
	Almy, James F. (*See* Phillips, Phineas W., assignor.)	
	Same.....same.	
118,504	Alsip, Frank, North McGregor, Iowa. Brick-machine	Aug. 29, 1871
120,607	Same.....Shovel-handle	Nov. 7, 1871
120,608	Same.....Construction of arches	Nov. 7, 1871
112,004	Alsop, Henry, Elkhart City, Ill. Towel-holder	Feb. 21, 1871
	Alsover, Cyrus B., and Jacob D. Seipel. (*See* Seipel & Alsover.)	
119,810	Altenburg, Augustus, and George J. Lambrix, assignors through mesne assignments to Charles Spark, Augustus Altenburg, and Charles L. Massing, Buffalo, N. Y. Apparatus for turning leaves of music	Oct. 10, 1871
111,715	Alteneder, Theodore, Philadelphia, Pa. Compass-joint	Feb. 14, 1871
117,716	Alter, Jacob S., Carlisle, Pa. Attachment for sewing-machines	Aug. 8, 1871
4,556	Same.....Leavenworth, Kans. Attachment for sewing-machines. (Reissue)	Sept. 19, 1871
120,017	Althouse, Isaac, Columbus, Ohio. Power-hammer	Oct. 17, 1871
114,249	Althouse, John A., New Harmony, Ind. Millstone-balance	May 2, 1871
112,672	Altick, William, and Franklin P. Grimes, assignors to Wilson & Grimes, Dayton, Ohio. Fence	Mar. 14, 1871
120,926	Altman, David, Nashville, Tenn. Corn-planter	Nov. 14, 1871
111,300	Altman, Elijah, Hamilton, Miss. Well-auger	Jan. 31, 1871
111,716	Altman, Morits, Baltimore, Md. Leather to resemble cloth	Feb. 14, 1871
116,003	Altstatt, Parker H., Clarke County, Ind. Cotton-planter	June 20, 1871
110,720	Alvord, D. S., Austinburgh, Ohio, and Charles D. Hollis, Ashtabula, Ohio. Seeding-machine	Jan. 3, 1871
111,602	Alvord, Edward E., Salt River, Mich. Coating brick, wood, and other surfaces on walls, &c	Feb. 7, 1871
	Amberg, William A. (*See* Thompson, Edward H., assignor.)	
118,575	Ambler, Augustin L., Washington, D. C. Apparatus for generating gas from petroleum, &c	Aug. 29, 1871
117,360	Ambler, Stephen F., Monitor, Cal. Furnace for roasting ores	July 25, 1871
121,571	Ambrose, Anson R., Chicago, Ill. Wagon and sleigh box. (Antedated Nov. 30, 1871)	Dec. 5, 1871
114,744	Ambuhl, Jacob, Morristown, N. J. Apparatus for carbureting hydrogen gas	May 16, 1871
116,004	Amer, William, Janesville, Wis. Attachment for vacuum-cup	June 20, 1871
	American Bolt Company. (*See* Wright, Sheffield H., assignor.)	
	American Button-hole Overseaming and Sewing-Machine Company. (*See* Rehfuss, George, assignor).....(Two cases.)	
	American Chair-Seat Company. (*See* Watkins, Gardner A., assignor.)	
	American Coal Gas Light Improvement Company. (*See* Jones, Edward, assignor.)	
	Same.....(*See* Gibson, William, assignor.)	
	American Fertilizing Company. (*See* Falco, Levi S., assignor.)	
	American Gas-Screen Manufacturing Company. (*See* Duffee, Edward, assignor.)	
	American Horse-Nail Company. (*See* Perkins, Charles H., assignor.)	
	American Paper-Box Machine Company. (*See* Heyl, Henry R., assignor.)	
	American Peat Fuel Company. (*See* Hulbert, Edwin J., assignor.)	
	Same.....(*See* Aubin, Aime N. N., assignor.)	
	American Seal-Lock Company. (*See* Bohannan, Wilson, assignor.)	
	Same.....(*See* Brooks & Everett, assignors.)	
	Ames, F. Le Grand, and John Harwood. (*See* Harwood & Ames.)	
118,099	Ames, Gustavus, New York, N. Y. Beating-engine for preparation of paper-pulp	Aug. 15, 1871
	Ames, James T. (*See* Burton, James Henry, assignor).....(Reissue.)	
112,464	Ames, John, Lansingburgh, N. Y. Brush	Mar. 7, 1871
114,086	Ames, John, jr., assignor to John Ames, Lansingburgh, N. Y. Paint-brush	April 25, 1871
116,948	Ames, John H., Stamford, Conn. Padlock	Jan. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,003	Ames, Joseph R., Chest Township, Pa. Whiffletree	June 20, 1871
118,505	Ames, Oakley N., Haydenville, Mass. Compression-cock	Aug. 29, 1871
115,266	Amery, Arthur, New York, N. Y. Railroad-car starter	May 30, 1871
120,018	Ammons, Starns S. Winona, Miss. Horse-power	Oct. 17, 1871
121,309	Amos, Isaac, Bel Air, Md. Fastening for window-blinds	Nov. 28, 1871
112,204	Anderhub, Andreas, assignor to John Bayer, New York, N. Y. Target-alarm	Feb. 28, 1871
113,240	Anders, George L., assignor to E. B. Welch, Boston, Mass. Magneto-electric dial-telegraph	April 4, 1871
117,230	Same.....Printing-telegraph apparatus	July 25, 1871
118,777	Anderson, Alban, assignor to Homer and Euclid Anderson, Peekskill, N. Y. Brick-machine	Sept. 12, 1871
115,411	Anderson, Alexander, and Leslie Johnston, Canada. Attachment to the cutting-apparatus of harvesters	May 30, 1871
115,924	Anderson, Anton George, Hoboken, N. J. Composition pavement	June 13, 1871
112,105	Anderson, Charles, Montana, Iowa. Sad and crimping iron	Feb. 28, 1871
115,804	Anderson, Charles Lewis, and Alfred Bogardus, Yonkers, N. Y. Refrigerator	June 13, 1871
112,673	Anderson, Charles R., Saint Louis, Mo. Door-check	Mar. 14, 1871
117,959	Anderson, Edward A., Danville, Tex. Broom	Aug. 15, 1871
122,098	Anderson, Frank, Peekskill, N. Y. Perforating-machine	Dec. 26, 1871
118,506	Anderson, James, Alleghany, Pa. Pressure-gauge for water-locks of stoves, ranges, &c	Aug. 29, 1871
111,801	Anderson, James H., assignor to Thomas Marston, jr., and Walter L. and Clarence I. Peck, Terre Haute, Ind. Tying brooms and brushes	Feb. 14, 1871
113,060	Same.....Tying brooms and brushes. (Antedated Feb. 14, 1871)	Mar. 21, 1871
5,210	Anderson, John, Brooklyn, N. Y. Horse sun-bonnet.....(Design)	Aug. 22, 1871
120,694	Anderson, John A., Lambertville, N. J. Railway switch and signal	Nov. 7, 1871
118,093	Anderson, John C., and Allen W. Benson, Saginaw, Mich. Running-gear for carriages	Aug. 15, 1871
117,589	Anderson, John Price, Philadelphia, Pa. Machine for slicing candy, &c	Aug. 1, 1871
113,830	Anderson, John R., New York, N. Y. Portable roller for moving heavy bodies	April 18, 1871
117,717	Same.....Brooklyn, N. Y. Fog-horn	Aug. 8, 1871
116,916	Anderson, Joseph R., and Phillip C. Harlan, Freeport, Pa. Pneumatic hoisting-machine	July 11, 1871
	Anderson, Laurita, and Daniel Saylor. (*See* Saylor & Anderson.)	
	Anderson, R. G. (*See* Pennington, Thomas D., assignor.)	
113,719	Anderson, Robert J., New York, N. Y. Whip-rack	April 18, 1871
110,817	Anderson, Samuel J., Casenovia, N. Y. Stove-pipe shelf	Jan. 10, 1871
114,909	Anderson, Valerius D., Kewanee, Ill. Steam-radiator	May 16, 1871
114,903	Same.....Pipe-coupling	May 16, 1871
112,300	Anderson, William, San Francisco, Cal. Hose-sprinkler	Mar. 7, 1871
120,927	Andres, Hiram, assignor to self and Stephen R. Andres, Troy, N. Y. Adjustable weight for scales	Nov. 14, 1871
	Andres, Stephen R., and Hiram. (*See* Sampson, Elnathan, assignor.)	
115,673	Andreus, Joel. (*See* Kelly, Lewis, assignor.)	
117,854	Andrew, Matthew, Colony of Victoria. Attaching knobs to their spindles	June 6, 1871
118,069	Same.....Tap for oil-cans	Aug. 8, 1871
119,304	Same.....New York, N. Y. Gas-illuminator	Sept. 5, 1871
117,030	Andrew, William W., La Porte, Ind. Land-roller. (Antedated Sept. 22, 1871)	Sept. 26, 1871
119,001	Andrews, Albert J., Linden, Mich. Evaporator for concentrating liquids and cooling food for stock, &c	July 18, 1871
113,964	Andrews, Charles N., Saint Louis, Mo. Cotton-gin	Sept. 19, 1871
	Andrews, Chauncey, Paterson, N. J. Machine for making skewers	April 25, 1871
111,164	Andrews, Elisha W., *et al.* (*See* Edison, Thomas A., assignor.)	
118,983	Andrews, Emanuel, Williamsport, Pa. Saw	Jan. 24, 1871
	Same.....Saw-mill	Mar. 21, 1871
	Andrews, Ephraim H., and Dwight Hyde. (*See* Hyde & Andrews.)	
	Andrews, Ezra R. (*See* Clague & Randall, assignors.)	
114,067	Andrews, Ezra R., Robert B. Randall, and William H. Clague, Rochester, N. Y. Paper-feeding machine	April 25, 1871
116,254	Andrews, Francis, Galesburgh, Ill. Horse hay-rake	June 27, 1871
120,019	Andrews, George L., assignor to self and E. B. Welch, Boston, Mass. Double-transmitting printing-telegraph	Oct. 17, 1871
117,960	Andrews, Joseph F., Nashua, N. H. Pipe-coupling	Aug. 15, 1871
111,804	Andrews, Reuben H., Washington, D. C. Device for labeling cigars	Feb. 14, 1871
111,507	Andrews, Thomas A., jr., Philadelphia, Pa. Spark-arrester	Feb. 7, 1871
115,556	Andrews, William A., Columbus, Ohio. Smoothing-iron	June 6, 1871
111,028	Andrews, William H., assignor to Burton Mallory, New Haven, Conn. Reversible knob-latch	Jan. 17, 1871
116,135	Andrews, William J., East Machias, Me. Compound for the cure of spavin	June 20, 1871
114,388	Androvatt, Jacob W., and Truman W. Joline, Tottenville, N. Y. Kitchen-knife	May 2, 1871
113,129	Andrus, Henry M., and Jehiel H. Cleveland, North Bay, N. Y. Clothes-rack	Mar. 28, 1871
113,128	Andrus, John H., New York, N. Y. Skin under-garments	Mar. 28, 1871
	Andrus, John H., *et al.* (*See* Fanning & Nugent, assignors.)	
	Andrus, Leroy, *et al.* (*See* Lippold, Heinry, assignor.)	
121,979	Ansell, John Henry, Pontiac, Mich. Steam-boiler. (Antedated Dec. 5, 1871)	Dec. 19, 1871
117,590	Anesley, George W., assignor to self and Samuel P. Wormley, Marengo Township, Mich. Pruning-shears	Aug. 1, 1871
113,460	Anheuser, William, Saint Louis, Mo. Pitching barrels	April 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,602	Annan, Charles F., assignor to self and Herbert S. Merrill, Boston, Mass. Paper-bag machine	Feb. 14, 1871
111,803	Same.....same	Feb. 14, 1871
121,267	Ansley, John and George W., Marengo, Mich. Cultivator	Nov. 28, 1871
118,670	Anthony, H. Mark, Providence, R. I. Sealing-can for preserving fruit	Sept. 5, 1871
110,818	Anthony, Orrin A., Mayfield, N. Y. Lifting-jack	Jan. 10, 1871
114,068	Anthony, Sherman E., Stillwater, N. Y. Potato-digger	April 25, 1871
116,255	Antisdell, Josiah F., George H. Cronk, and John H. Haviland, Janesville, Wis. Steam-boiler	June 27, 1871
118,671	Antrim, Mary E., Philadelphia, Pa. Attachment for sewing-machines	Sept. 5, 1871
111,301	Antrun, John, and Elwood B. Mullin, Franklin, Ohio. Fodder-stanchion	Jan. 31, 1871
5,096	Appel, Daniel, Cincinnati, Ohio. Eccentric-yoke.....(Design)	July 11, 1871
119,493	Appleby, Stephen V., Spottswood, N. J. Grain-drier	Oct. 3, 1871
114,089	Applegate, Joseph F., and Casper Feiock, New Albany, Ind. Coopers' croze	April 25, 1871
112,305	Applegate, Vincent, Marline P. Jacobs, and Samuel F. Roby, Harrison County, Ind. Coopers' croze	Feb. 28, 1871
	Archer & Pancoast Manufacturing Company. (*See* Deavs, Charles, assignor.)	
	Same.....(*See* Deavs, Charles, assignor).....(Two cases.)	
120,845	Archibald, Edward A., Methuen, Mass. Hub for carriage wheels	Nov. 14, 1871
	Archibald, Judson A. (*See* Van Orman, Oliver, assignor.)	
113,831	Archibald, Samuel G., England. Machine for balling oakum	April 18, 1871
117,940	Arden, Henry, assignor to John C. Smith, Brooklyn N. Y. Record-book	July 25, 1871
120,179	Same.....Apparatus for discharging ordnance. (Antedated Oct. 11, 1871)	Oct. 24, 1871
	Arents, Albert, and Winfield S. Keys. (*See* Keys & Arents.)	
115,559	Arey, John P., Georgetown, Colo. Furnace for roasting ores	June 6, 1871
117,718	Same.....Feeder for ore-roasting furnaces	Aug. 8, 1871
116,792	Argall, James, Mineral Point, Wis. Steam water-heater	July 11, 1871
118,327	Arkell, James, assignor to self, and Benjamin and Adam Smith, Canajoharie, N. Y. Paper-cutting machine	Aug. 22, 1871
122,099	Arkell, James, assignor to Arkell & Smiths, Canajoharie, N. Y. Paper-bag machine	Dec. 26, 1871
117,139	Armbruster, Jacob H., assignor to self and George Booth & Co., Philadelphia, Pa. Manufacture of coated sheet-iron trays, platters, &c	July 18, 1871
119,733	Armerling, Charles C. G., Philadelphia, Pa. Vegetable-cutter	Oct. 10, 1871
113,965	Armour, John M., Syracuse, N. Y. Knitting-machine	April 25, 1871
4,664	Arms, James C., Northampton, Mass. Pocket-book tip.....(Design)	Feb. 21, 1871
113,720	Armstrong, Aaron R., and Charles S. Dudley, Nashua, N. H. Smoothing and ruffle iron	April 18, 1871
118,507	Armstrong, Augustus B., Dorset, Vt. Cheese-vat	Aug. 29, 1871
119,102	Armstrong, Charles, Chicago, Ill. Guide for sewing-machines	Sept. 19, 1871
115,967	Armstrong, Daniel, Chicago, Ill. Machines for making wrought-nails	May 30, 1871
121,837	Armstrong, Elvin S., Jerseyville, Ill. Bee-hive	Dec. 12, 1871
120,477	Armstrong, John, assignor of one-half interest to Marion G. Decrow, Newark, Ohio. Hold-back for shafts of vehicles	Oct. 31, 1871
120,020	Armstrong, John James, Kings County, N. Y. Insect-trap	Oct. 17, 1871
112,310	Armstrong, Joseph G., New Brunswick, N. J. Locomotive spark-arrester	Mar. 7, 1871
112,005	Armstrong, Peter Edward, Philadelphia, Pa. Paper-bag machine...(Design)	Feb. 21, 1871
	Arnd, Henry, and Albert Price. (*See* Price & Arnd.)	
113,479	Arndt, Albert, F. R., Cleveland, Ohio. Ticket-holder	April 11, 1871
119,103	Arndt, Daniel, and Dillingham C. Washington, Cleveland, Ohio. Railway-car brake	Sept. 19, 1871
121,960	Arndt, Daniel, Cleveland, Ohio. Door-securer	Dec. 19, 1871
111,603	Arnett, William D., Denver, Colo. Driving-power for locomotives	Feb. 7, 1871
117,031	Same.....Locomotive	July 18, 1871
120,180	Same.....same	Oct. 24, 1871
118,178	Arnold, Benjamin, East Greenwich, R. I. Twist-drill	Aug. 22, 1871
118,179	Same.....Machine for slotting the shanks of twist-drills	Aug. 22, 1871
	Arnold, Constable & Co. (*See* Stone, James Edward, assignor).....(Design.)	
117,032	Arnold, David G., Winona, Mich. Relishing-machine	July 18, 1871
	Arnold, Franklin, and George Steck. (*See* Steck & Arnold.)	
	Arnold, Joseph, and David F. Skinner. (*See* Skinner & Arnold.)	
112,674	Arnold, Lauren B., Lansing, N. Y. Ventilating milk-can	Mar. 14, 1871
111,898	Arnold, Levi, Belchertown, Mass. Fish-hook	Feb. 21, 1871
117,719	Same.....Fish-hook holder	Aug. 8, 1871
118,894	Arnold, Roberson, assignor to self, William B. Wellons, and Exum B. Britt, Suffolk, Va. Bee-hive	Sept. 12, 1871
119,958	Arnold, Satterlee, Philmont, N. Y. Machine for washing and fulling cloth	Oct. 17, 1871
116,006	Arnold, Stephen D., assignor to P. & F. Corbin, New Britain, Conn. Fastening for meeting rails of sashes	June 20, 1871
111,418	Arnold, Thomas, Petroleum Centre, Pa. Tube-holder	Jan. 31, 1871
	Arnold, Thomas F., and Henry E. Webster. (*See* Fifield, Levi W., assignor.)	
120,809	Arnold, William, Pawtucket, R. I. Washing-machine	Nov. 14, 1871
114,513	Aronson, Joseph N., New York, N. Y. Street lamp and lantern	May 9, 1871
117,961	Arrington, William J., Louisville, Ga. Cultivator	Aug. 15, 1871
117,960	Same.....Baling-press	Aug. 15, 1871
	Artificial Limb Manufacturing Company. (*See* Burd & Denniston, assignors.)	
110,721	Artley, Jeremiah S., Danville, Pa. Meat-cutter	Jan. 3, 1871
	Arvin, John N., and Joseph M. Whitmore. (*See* Whitmore & Arvin.)	
	Asbahr, Hans, and Frederick P. L. Reimers. (*See* Reimers & Asbahr.)	
120,478	Asbill, Lewis M., Edgefield County, S. C. Cotton-pickers' velocipede	Oct. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Ascough, William, and Charles H. Miller. (*See* Miller & Ascough.)	
	Same.....same.	
114,745	Ash, Charles C., Manor Hill, Pa. Car-replacer	May 16, 1871
119,911	Ash, James, Sterling, Ill. Stove-pipe damper	Oct. 17, 1871
	Ashcroft, John, *et al.* (*See* Patterson, J. Willard, assignor.)	
113,941	Ashcroft, John, assignor to Sarah Jane Ashcroft, New York, N. Y. Steam cooking-range	April 4, 1871
113,839	Same.....Brooklyn, N. Y. Apparatus and process for treating coffee	April 18, 1871
4,479	Ashcroft, John, assignor to Sarah Jane Ashcroft, Brooklyn, N. Y. Process for treating coffee.....(Division A, reissue)	July 25, 1871
4,480	Same.....Treating coffee.....(Division B, reissue)	July 25, 1871
119,959	Same.....Coffee-roaster	Oct. 17, 1871
120,410	Same.....Apparatus for maturing raw or green coffee	Oct. 31, 1871
117,500	Ashe, Edward D., England. Lamp-chimney	Aug. 1, 1871
122,209	Ashman, Alfred B., and Alfred H. Newell, Cincinnati, Ohio. Sewer-trap and catch-basin	Dec. 26, 1871
	Ashman, John, and William C. Wise. (*See* Wise & Ashman.)	
120,998	Ashton, Ezra J., Utica, Ind. Churn-dasher	Nov. 14, 1871
	Ashton, John. (*See* Dutton, George W., assignor.)	
121,838	Ashworth, John, assignor to George L. Davis, John A. Wiley, Joseph M. Stone, George G. Davis, Joseph H. Stone, and James H. Davis, North Andover, Mass. Loom shuttle-box mechanism	Dec. 12, 1871
115,805	Aspinall, Walter A., Brooklyn, N. Y. Medicinal preparation of iron	June 13, 1871
4,388	Aspinwall, L. Augustus, Albany, N. Y. Machine for husking corn.....(Reissue)	May 23, 1871
119,687	Same.....Potato-planter. (Antedated Sept. 30, 1871)	Oct. 10, 1871
	Assenheimer, Henry. (*See* Remer, John A., assignor.)	
114,250	Assmann, Albert, Rahway, N. J. Washing-machine	May 2, 1871
120,227	Asthalter, Henry J., Pittsburgh, Pa. Paper-file	Oct. 24, 1871
119,295	Atha, Simeon, West Liberty, Ohio. Hub for wagon-wheels	Sept. 26, 1871
117,241	Atherton, Abel T., Lowell, Mass. Tanning compound	July 25, 1871
119,912	Atherton, Abel T., assignor to self and Fitz Henry Winter, Lowell, Mass. Fruit-can tongs	Oct. 17, 1871
116,793	Atkins, Jearum, Mokena, Ill. Rake to grain-harvesters.....(Extension)	April 1, 1871
120,609	Atkinson, Alexander P., Vermont, Ill. Counting-register	July 11, 1871
112,311	Atkinson, George, San Francisco, Cal. Tool for carriage-makers' use	Nov. 7, 1871
111,899	Atkinson, James S., Ormsby Borough, Pa. Machine for cutting screws	Mar. 7, 1881
4,915	Atterbury, James S. and Thomas B., Pittsburgh, Pa. Jelly-glass.....(Design)	Feb. 21, 1871
4,773	Atterbury, Thomas B., Birmingham, Pa. Bottle.....(Design)	May 16, 1871
120,610	Atwater, Anson A., Trumansburgh, N. Y. Railway-car coupling	April 11, 1871
116,007	Atwater, John B., Geneva, Ill. Steam-boiler	Nov. 7, 1871
	Atwood, Charles R., *et al.* (*See* Nimmo, George, assignor).....(Reissue.)	June 20, 1871
114,090	Atwood, Edward T., Minerva, Ohio. Flux for refining iron and steel	April 25, 1871
120,411	Atwood, George V., Mount Hope, Ala. Rotary steam-engine	Oct. 31, 1871
	Atwood, Leonard. (*See* Mosman, Daniel F., assignor.)	
117,140	Atwood, Leonard, assignor to George W. Brown, New York, N. Y. Elevator for hods	July 18, 1871
117,141	Atwood, Leonard, assignor to P. H. Walker, New York, N. Y. Valve-gear for engines	July 18, 1871
113,833	Atwood, Lewis J., assignor to the Plume and Atwood Manufacturing Company, Waterbury, Conn. Lamp-burner	April 18, 1871
118,421	Same.....Lamp	Aug. 29, 1871
117,720	Atyeo, Isaac, North Fairfield, Ohio. Wash-boiler	Aug. 8, 1871
117,591	Aubin, Aime Nicholas Napoleon, assignor through mesne assignments to the American Peat Fuel Company, Portland, Conn. Peat-wringers	Aug. 1, 1871
	Aubin, Aime N. N., and Edwin J. Hulbert. (*See* Hulbert & Aubin.) (Three cases.)	
115,412	Auchey, Ephraim D., assignor to self and Francis J. Martin, Manheim, Pa. Flour-bolt	May 30, 1871
121,573	Auchincloss, William S., Wilmington, Del. Railway-car axle-box	Dec. 5, 1871
121,310	Aufderheide, Frederick W., Saint Louis, Mo. Bin for warehouses	Nov. 28, 1871
115,560	Aughinbaugh, Henry E., Harrisburgh, Pa. Mechanical fly-brush	June 6, 1871
121,830	Aull, Adam A. and John A., Bellefontaine, Ohio. Baking-oven	Dec. 12, 1871
	Aultman, Cornelius. (*See* Aldridge, Hiram, assignor.)	
	Austin, Algernon S. (*See* George, Levi F., assignor.)	
118,422	Austin, Clark L., Lawrence, Mass. Spindle and bearing for spinning-frames	Aug. 29, 1871
120,361	Austin, Emmet R., assignor to N. L. Austin & Co., Norwalk, Conn. Furnace and furnace-bar	Oct. 31, 1871
118,672	Austin, Ephraim H., Scott's Hill, Tenn. Grain-mill	Sept. 5, 1871
4,746	Austin, Roger S., Wallingford, Conn. Hitching-post cap.....(Design)	April 4, 1871
113,614	Austin, William, and William Obdyke, Philadelphia, Pa. Pipe-elbow	April 11, 1871
	Austin, William, jr., *et al.* (*See* Rost, Gottlieb, assignor.)	
5,097	Autenrieth, Charles, assignor through mesne assignments to Thomas Hoath, Philadelphia, Pa. Center-piece for ceilings.....(Design)	July 11, 1871
119,104	Autenrieth, Jacob, Newark, N. J. Extinguishing fires	Sept. 19, 1871
120,611	Aveling, Thomas, England. Locomotive and traction engine	Nov. 7, 1871
116,794	Averill, Benjamin F., assignor to self and Samuel James Gifford, Dunkirk, N. Y. Blacking-brush	July 11, 1871
121,146	Averill, Damon R., New Centreville, N. Y. Manufacture of paint	Nov. 21, 1871
121,311	Same.....Compound for filling or stuffing surfaces to be painted or varnished	Nov. 28, 1871
121,478	Same.....Manufacture of paint	Dec. 5, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,147	Averill, Damon R., New Centreville, N. Y., and Josiah Browning, Newburgh, Ohio. Manufacture of paint	Nov. 21, 1871
	Avery, Benjamin F. (*See* Wiard, Edward, assignor.)	
	Avery, Charles H., and John S. Everitt. (*See* Everitt & Avery)...(Two cases.)	
119,443	Avery, Cyrus, Erie, Pa. Revolving refrigerator	Oct. 3, 1871
	Avery, Cyrus, and Jerome W. Wetmore. (*See* Wetmore & Avery.)	
114,191	Avery, Ezra W. and Adaline A., assignors to A. W. Avery & Co., Plymouth, N. H. Glove	April 25, 1871
	Avery, Florello P., and Gilbert E. Palen. (*See* Palen & Avery.)	
119,296	Avery, Horace W., Westfield, Mass. Whip-stock	Sept. 26, 1871
113,527	Avery, John P., Norwich, Conn. Garden-hoe. (Antedated Feb. 28, 1871)	Mar. 14, 1871
120,021	Avery, Samuel, Phœnix, N. Y. Coffin	Oct. 17, 1871
	Avis, Joseph W., and Augustus H. Tait. (*See* Tait & Avis.) (Two cases.) (Reissue.)	
116,662	Axe, William R., Rockton, Ill. Paint-mill	July 4, 1871
117,963	Ayers, Charles, Farmington Centre, Wis. Fence-post	Aug. 15, 1871
	Aylesworth, G. Miller. (*See* Hughes, Elisha, assignor.)	
112,766	Aylworth, George H., Brighton, Ill. Pressing and baling hay	Mar. 21, 1871
120,612	Same.....Cotton and hay press	Nov. 7, 1871
	Ayres, Charles N., *et al.* (*See* Coons, Matthias P., assignor.)	
	Ayres, Frasee, and Sylvanus Decker. (*See* Decker & Ayres.)	
114,092	Ayres, Jared A., Hartford, Conn. Apparatus for elevating water	April 25, 1871
114,251	Ayres, Sidney K., assignor to self and Peter Flickner, Dellton, Wis. Grain-separator	May 2, 1871
118,423	Ayres, William G. and Seth L. Cole, assignor to Henry A. Snowdon, Brooklyn, N. Y. Paper-trimming machine	Aug. 29, 1871
120,236	Ayres, Zephaniah S., New York, N. Y. Girder	Oct. 24, 1871
111,717	Baade, William F., Buffalo, N. Y. Receptacle for stationery articles, &c	Feb. 14, 1871
117,964	Same.....Slate	Aug. 15, 1871
118,180	Same.....Reading and drawing cases	Aug. 29, 1871
110,090	Babbit, Asher S., assignor to Babit, Hinckley & Co., Keeseville, N. Y. Seeding-machine. (Antedated Dec. 29, 1870)	Jan. 3, 1871
111,165	Same.....Earth-scraper. (Antedated Jan. 14, 1871)	Jan. 24, 1871
115,011	Babbitt, Alfred B., Taunton, Mass. Anchor	May 23, 1871
120,479	Babbitt, Benjamin T., New York, N. Y. Steam-heater	Oct. 31, 1871
120,480	Same.....Sad-iron heater. (Antedated Oct. 18, 1871)	Oct. 31, 1871
117,501	Babbitt, Samuel, Brasil, Ind. Awl	Aug. 1, 1871
121,312	Same.....Shoe-quarter, &c	Nov. 28, 1871
113,242	Babbitt, S. William, West Meriden, Conn. Fluting-machine	April 4, 1871
	Babcock, Alpheus and Norman, *et al.* (*See* Montgomery & Howes, assignors.) (Reissue.)	
119,287	Babcock, Charles J., Rives Junction, Mich. Wagon-tongue supporter	Sept. 26, 1871
4,513	Babcock, George H., and Stephen Wilcox, assignors to George H. Babcock and Joseph P. Manton, New York, N. Y. Steam-generator (Reissue)	Aug. 15, 1871
111,029	Babcock, Hylliday C., Eureka, Cal. Shingle-machine	Jan. 17, 1871
114,258	Babcock, Josiah, John F. Stillson, and James C. Leidy, Galesburgh, Ill. Stalk-cutter	May 2, 1871
	Babcock, Sylvester P., and George A. Colton. (*See* Colton & Babcock.) (Three cases.)	
116,276	Babcock, William E., East Pembroke, N. Y. Clapboard-gauge	June 27, 1871
117,503	Bachelder, Amos, Pelham, N. H. Flat iron	Aug. 1, 1871
	Bachelder, John. (*See* Gibbud, Eli B., assignor.)	
114,253	Bachelier, William, assignor to self and George P. Kimball, West Newbury, Mass. Sash-holder	May 2, 1871
120,239	Backus, Rodman, Albany, N. Y. Base-burning stove	Oct. 24, 1871
110,819	Bacon, Charles Edwin, Buffalo, N. Y. Case for reed-organs	Jan. 10, 1871
4,700	Bacon, Charles E., assignor to self and George A. Prince, Buffalo, N. Y. Organ-case (Design)	Mar. 14, 1871
115,146	Bacon, Charles E., and William J. Kent, said Kent assignor to said Bacon, Buffalo, N. Y. Name-plate for organ-stops	May 23, 1871
112,588	Bacon, Isaac Preston, Bedford, Mass. Carriage-perch	Mar. 14, 1871
	Bacon, Steuben T., and Henry W. Adams. (*See* Adams & Bacon.)	
115,012	Baer, Benjamin F., assignor to Samuel S. Weist, Lancaster, Pa. Door-securer	May 23, 1871
117,361	Baer, Michael, Logansport, Ind. Combined seeder and cultivator	July 25, 1871
	Bagaley, Young & Co., (*See* Sleeth, Robert, assignor.)	
115,413	Baggott, Thomas, assignor to self and George J. Dufur, Baltimore, Md. Machine for making spiral wire-springs	May 30, 1871
	Bagnall, Isaac, and William Onions. (*See* Onions & Bagnall.)	
112,984	Bailey, Alfred M., assignor to the Metropolitan Washing-Machine Company, Middlefield, Conn. Clothes-wringer	Mar. 21, 1871
113,130	Same.....Washing-machine	Mar. 28, 1871
119,105	Bailey, Edward H., Brooklyn, N. Y. Stair-pad	Sept. 19, 1871
112,405	Bailey, Fortune L., Freeport, Ind. Clod-fender	Mar. 7, 1871
118,835	Bailey, Franklin L., Boston, Mass. Printing-press	Sept. 12, 1871
	Bailey, Frederick W., and James Noyes. (*See* Coffin, John E., assignor.)	
115,906	Bailey, George, Putnam, Conn. Let-off mechanism	June 13, 1871
121,313	Bailey, George C., Pittsburgh, Pa. Street-washer	Nov. 28, 1871
121,573	Bailey, George E., Mansfield, Mass. Bakers' oven	Dec. 5, 1871
117,362	Bailey, George H., and Harvey H. Burritt, Newark, N. J. Steam-engine	July 25, 1871
115,147	Bailey, Gilbert L., Portland, Me. Sash-fastener	May 23, 1871
117,363	Bailey, John W., San Francisco, Cal. Desulphurizing and treating ores	July 25, 1871
120,695	Same.....Roasting and treating ores	Nov. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,696	Bailey, John W., San Francisco, Cal. Furnace for roasting ores	Nov. 7, 1871
112,675	Bailey, Joseph R., assignor to self and Selden A. Bailey, Woonsocket, R. I. Bench-plane	Mar. 14, 1871
113,003	Bailey, Leonard, New Britain, Conn. Plane-stock	Mar. 28, 1871
114,634	Same.....Adjustable try-square	May 9, 1871
113,243	Bailey, Peter, Smyrna, Iowa. Wind-mill	April 4, 1871
116,533	Bailey, Richard W., New York, N. Y. Composition for blacking stoves	July 4, 1871
112,529	Bailey, Thomas D., Lowell, Mass. Chimney-cap	Mar. 14, 1871
111,604	Bailey, William, Friendship, N. Y. Sand-sifter	Feb. 7, 1871
	Bailey, William, and Henry Medlock. (*See* Medlock & Bailey.)	
112,106	Bailey, William Henry, England. Pyrometer	Feb. 28, 1871
120,920	Bailey, William H., Mahanoy City, Pa. Blower	Nov. 14, 1871
5,409	Baillairge, Charles, Quebec, Canada. Arrangement of geometrical forms. (Design)	Dec. 12, 1871
117,721	Bain, Francis M., Delaware, Ohio. Portable building	Aug. 8, 1871
112,107	Bain, William C., and John J. Kendall, Troy's Store, N. C. Washing-machine	Feb. 28, 1871
115,148	Baines, Hugh, Canada. Plant for repairing railway-rails	May 23, 1871
115,149	Same.....Roll for patching railway rails	May 23, 1871
118,181	Same.....Tilt-hammer	Aug. 22, 1871
118,667	Same.....Construction-train for railways	Aug. 29, 1871
117,142	Baird, James R., Vincennes, Ind. Wheel for vehicles	July 18, 1871
4,567	Same.....same.....(Reissue)	Sept. 26, 1871
117,364	Baird, Samuel J., Waynesborough, Va. Button-hole attachment for sewing-machines	July 25, 1871
113,721	Baker, Albert, Appleton, Wis. Paper-file, &c	April 18, 1871
113,131	Baker, Andrew A., Camden, N. J. Check-holder	Mar. 28, 1871
117,502	Baker, Barney, Hopkinton, Iowa. Seed-planter	Aug. 1, 1871
116,795	Baker, Burr C., Toledo, Ohio. Anti-friction journal-box	July 11, 1871
113,244	Baker, Charles L. W., assignor to C. L. W. Baker & Co., Hartford, Conn. Broom and mop handle brush	April 4, 1871
	Baker, Edward L., *et al.* (*See* Goodwin, William, assignor).....(Re-issue.)	
122,210	Baker, Elias, assignor to George A. Colby, Meriden, N. H. Threshhold	Dec. 26, 1871
116,350	Baker, Francis, New York, N. Y. Medical compound for cure of cancer and other diseases	June 27, 1871
122,100	Baker, Francis, Boston, Mass. Preparing salt	Dec. 26, 1871
122,101	Same.....Apparatus for preparing salt for culinary use	Dec. 26, 1871
117,722	Baker, George, and Isaac Bullock, Lima, Pa. Soap	Aug. 8, 1871
115,935	Baker, George M., and Erastus H. Carver. (*See* Carver & Baker.)	
120,564	Baker, George W., Wilmington, Del. Sewing-machine	June 13, 1871
	Baker, Haydn M., assignor to John Adams, Brooklyn, N. Y. Cleaning cotton-waste and other fibrous material	Nov. 7, 1871
117,033	Baker, Horace, Cortland, N. Y. Hay-loader	July 18, 1871
111,900	Baker, Horace Z., Pawtucket, R. I. Machine for cutting leather	Feb. 21, 1871
119,734	Baker, Isaac, Long Branch, Mo. Hoof-parer	Oct. 10, 1871
113,722	Baker, Isaac T., Gratiot, Ohio. Tile-ditcher	April 18, 1871
	Baker, Jacob, and Eide H. Schmulte. (*See* Schmulte & Baker.)	
118,895	Baker, John B., Syracuse, N. Y. Potato-digger	Sept. 12, 1871
	Baker, John B., and Richard W. Jones. (*See* Jones & Baker.)	
118,673	Baker, John C., Mechanicsburgh, Ohio. Mowing-machine	Sept. 5, 1871
117,365	Baker, John G., Philadelphia, Pa. Machine for cutting tobacco	July 25, 1871
112,007	Baker, John G., assignor to Henry Disston & Son, Philadelphia, Pa. Buck-saw frame	Feb. 21, 1871
121,314	Baker, John G., assignor to Enterprise Manufacturing Company, Philadelphia, Pa. Cheese-cutting machine	Nov. 28, 1871
115,013	Baker, John W., Elkton, Ind. Root-cutter for plows	May 23, 1871
	Same.....(*See* Evans, Benjamin D., assignor.)	
111,695	Baker, Joseph, Canada. Scoop and sifter	Feb. 7, 1871
113,245	Baker, Peter, Oakland, Md. Damper for chimneys	April 4, 1871
	Baker, Rufus, *et al.* (*See* Johnson, Albert W., assignor.)	
117,723	Baker, Rush D., Syracuse, N. Y. Ladle for canning fruit	Aug. 8, 1871
	Baker, Samuel T. (*See* Ogborn, Harrison, assignor.)	
110,621	Baker, Sanford J., Madison Centre, Me. Felter or clog for fowls	Jan. 3, 1871
121,268	Baker, Seth W., Providence, R. I. Saddle-girth	Nov. 28, 1871
115,268	Baker, Sylvester C., Joseph Root, and Emerson J. Case, York, Pa. Platform weighing-scale	May 30, 1871
121,267	Baker, William C., assignor to self and Jacob F. Cook, Baltimore, Md. Oyster-dredge	Nov. 28, 1871
114,746	Baker, William Rondeau, Canada. Carriage hold-back	May 16, 1871
	Baker, William R., and Leander J. McCormick. (*See* McCormick & Baker.) (Two cases.)	
113,834	Balch, Alfred H., and Wolfred D. E. Nelson, Canada. Clasp-fastener for bags, &c	April 18, 1871
115,561	Same.....Electro-magnetic separator	June 6, 1871
118,094	Balch, Frederick A., Hingham, Wis. Grain-separator	Aug. 15, 1871
118,576	Balch, Frederick A., assignor to self and E. T. Bond, Hingham, Wis. Lantern	Aug. 29, 1871
116,009	Balch, Israel D., Cambridge, Mass. Soap	June 20, 1871
118,188	Balch, William L., assignor to William H. Golding and Edward H. Dennison, Boston, Mass. Printing-press	Aug. 22, 1871
4,573	Baldwin, Anna E., Newark, N. J. Milk-cooler (Reissue)	Oct. 3, 1871
111,030	Baldwin, Cyrus W., Boston, Mass. Hydro-atmospheric elevator	Jan. 17, 1871
119,668	Baldwin, Frederick P., and Charles T. Segar, Utica, N. Y. Spring bed-bottom	Oct. 10, 1871
119,553	Baldwin, Hiram, Nashua, N. H. Vegetable-cutter	Oct. 3, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,479	Baldwin, James S., Newark, N. J. Engine operated by heated liquids	Dec. 5, 1871
121,480	Same.....same	Dec. 5, 1871
121,481	Same.....same	Dec. 5, 1871
121,482	Same.....Apparatus for forcing liquids by the expansion and condensation of gases	Dec. 5, 1871
	Baldwin, N. A. (*See* Crosby, Chauncey O., assignor).....(Reissue.)	
122,144	Baldwin, Nathan H., Laconia, N. H. Saw-filers' vise	Dec. 26, 1871
120,846	Baldwin, Nathaniel B., Chicago, Ill. Propelling-power	Nov. 14, 1871
117,034	Baldwin, Phineas Orlando, Spring Lake, Mich. Cultivator	July 18, 1871
120,613	Baldwin, Silas D., Chicago, Ill. Vapor-burner. (Antedated Oct. 26, 1871)	Nov. 7, 1871
117,734	Baldwin, Thomas B., Marshall, Texas. Bedstead	Aug. 8, 1871
	Baldwin, William M., and Charles S. Lee. (*See* Lee & Baldwin.)	
110,732	Ball, Albert, Canton, Ohio. Iron plow-beam	Jan. 3, 1871
120,022	Same.....Wheel for vehicles. (Antedated Oct. 14, 1871)	Oct. 17, 1871
112,895	Ball, Albert, assignor to Sullivan Machine Company, Claremont, N. H. Rock-drill	Mar. 21, 1871
	Ball, Augustus. (*See* Taft, George C., assignor.)	
111,419	Ball, David H., Sinnamahoning, Pa. Car-coupling	Jan. 31, 1871
116,663	Same.....same	July 4, 1871
110,723	Ball, David H., and John Brooks, Sinnamahoning, Pa. Car-replacer	Jan. 3, 1871
	Ball, Ephraim, Canton, Ohio. Mowing-machine.....(Extension of No. 1,007)	Nov. 27, 1871
	Same.....(Extension of No. 1,008)	Nov. 27, 1871
	Same.....(Extension of No. 1,009)	Nov. 27, 1871
	Same.....(Extension of No. 1,010)	Nov. 27, 1871
	Same.....(Extension of No. 1,011)	Nov. 27, 1871
	Same.....(Extension of No. 1,012)	Nov. 27, 1871
119,811	Ball, Ephraim, jr., Canton, Ohio. Wheel for vehicles. (Antedated Oct. 7, 1871.	Oct. 10, 1871
121,574	Same.....Axle for vehicles. (Antedated Nov. 25, 1871)	Dec. 5, 1871
	Ball, E., & Co. (*See* Rohrer & Roper, assignors.)	
112,406	Ball, Hugh S., Spartanburgh, S. C. Ruler	Mar. 7, 1871
111,420	Ball, James, New York, N. Y. Envelope-machine	Jan. 31, 1871
119,106	Ball, John, sr., Canton, Ohio. Iron running-gear for wagons	Sept. 19, 1871
121,315	Ball, Nathan, East Palestine, Ohio, and Joseph A. Stansbury, Salem, Ohio, said Stansbury assignor to said Ball. Rock-drilling machine	Nov. 28, 1871
	Ball, R., & Co. (*See* Halsted, Eminel P., assignor.)	
	Same.....(*See* Clark, Milton W., assignor.)	
	Same.....(*See* Halsted, Eminel P., assignor.)	
	Same.....(*See* Gibbs, Dalphon L., assignor.)	
116,000	Ball, Robert R., West Meriden, Conn. Sash-holder	June 20, 1871
117,366	Ball, William, New Vienna, Ohio. Meter	July 25, 1871
110,888	Ballard, Collester M., and Myron Morehouse, Johnsonburgh, N. Y. Fence	Jan. 10, 1871
115,676	Ballard, Seth R. and George W., Coldwater, Mich. Spinning-machine	June 6, 1871
116,534	Ballentine, Hamilton, Philadelphia, Pa. Lifting-jack	July 4, 1871
	Ballinger, Charles, *et al.* (*See* Guttridge, David C., assignor.)	
113,966	Ballou, Ellis, Zanesville, Ohio. Dumb-bell	April 25, 1871
115,677	Ballou, John, Boston, Mass. Furnace-pot	June 6, 1871
116,137	Balmain, William Henry, England. Manufacture of glass	June 20, 1871
116,664	Same.....Manufacture of bicarbonate of soda	July 4, 1871
	Balsley, Christian. (*See* Schoeller, Earnest A., assignor.)	
114,003	Balsly, Junius S., North Bend, Ky. Washing-machine	April 25, 1871
	Baltimore Bridge Company. (*See* Smith, C. Shaler, assignor.)	
110,734	Bammerlin, Leonard, Canton, Ohio. Grain-dumping car	Jan. 3, 1871
117,503	Bancroft, Edward H., Syracuse, N. Y. Apparatus for transmitting motion	Aug. 1, 1871
	Bancroft, J. A. & Co. (*See* Old, Ansborn F., assignor).....(Design.)	
	Bancroft, William R. (*See* Todd, Joshua, assignor.)	
117,367	Bandle, Jacob Christ, and Engelbert P. Christner, Cincinnati, Ohio. Cap-gun	July 25, 1871
111,805	Bangle, Amos H., Brooklyn, Cal. Printing-press	Feb. 14, 1871
115,807	Banker, George W., New York, N. Y. Barrel, keg, and pail	June 13, 1871
116,393	Same.....Vessel for oil and other liquids	June 27, 1871
116,394	Banks, James, Port Blanchard, Pa. Steam-engine	June 27, 1871
	Banks, Joseph, and James Hothersall. (*See* Hothersall & Banks.)	
	Bannehr, James, and Henry Moule. (*See* Moule & Bannehr.)	
117,243	Banta, William E., assignor to self and John P. Allen, Springfield, Ohio. Lever-staff for watches, &c	July 25, 1871
117,725	Banzett, William, Williamsburgh, N. Y. Sad-iron and rubber	Aug. 8, 1871
	Barbarin, Arthur, and Antoine Ernest Dupas. (*See* Dupas & Barbarin.)	
117,504	Barbarin, Arthur, and Joseph Albrecht, New Orleans, La. Hydraulic motor	Aug. 1, 1871
117,505	Same.....same	Aug. 1, 1871
116,535	Barber, Charles E., and William Dean, assignors to selves and George Loring, Central Village, Conn. Feather-renovator	July 4, 1871
113,967	Barber, Franklin, Detroit, Mich. Revolving-chair	April 25, 1871
	Barber, George M. (*See* Lewis Lewis, assignor.)	
111,508	Barber, Hugh M., Franklin Station, Ohio. Fence	Feb. 7, 1871
121,575	Barber, Joseph, assignor to self and Richard B. Duncan, Bridesburgh, Pa. Lubricator for car-axles	Dec. 5, 1871
118,577	Barber, Samuel W., Heath, Mass. Hinge	Aug. 29, 1871
	Barber, Theodore M., and Llewellyn E. Jones. (*See* Jones & Barber.)	
115,014	Barclay, Frank, Aurora, Ill. Heating-stove	May 23, 1871
5,330	Barclay, Thomas, assignor to Hartford Carpet Company, Scotland. Carpet-pattern (Design)	Oct. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Barcus, George W., and John W. Gentry. (*See* Gentry & Barcus.)	
	Bard, Samuel. (*See* Bowles, John, assignor.)	
	Bard, William H. (*See* Mason, Arnold P., assignor).....(Two cases.)	
117,035	Barden, John S., Providence, R. I. Water-meter	July 18, 1871
115,808	Bardin, Emerson R., Newburgh, N. Y. Boot and shoe stretcher	June 13, 1871
	Bare, A. S. (*See* Kraatz, David K., assignor.)	
119,602	Baringer, John J., Germantown, N. Y. Glue-pot	Sept. 19, 1871
116,917	Barjon, Victor, New York, N. Y. Liquid for galvanic batteries	July 11, 1871
116,010	Barker, Benjamin F., Belfast, Me. Door	June 20, 1871
119,107	Same.....Curtisville, Mass. Machine for pulping wood for paper-stock, &c.	Sept. 19, 1871
111,718	Barker, George R., Philadelphia, Pa. Ventilator	Feb. 14, 1871
	Barker, James S., and Trumble Kent. (*See* Kent & Barker)	
115,562	Barker, John F., assignor to the Gilbert & Barker Manufacturing Company, Springfield, Mass. Apparatus for carbureting air	June 6, 1871
121,289	Barker, John F., Springfield, Mass. Blowing-apparatus for organs	Nov. 28, 1871
115,414	Barker, Joseph, Chicago, Ill. Sand-papering machine	May 30, 1871
119,102	Barker, Joseph P., Vienna, Ohio. Harvester-cutter grinder	Sept. 19, 1871
	Barker, Samuel M., *et al.* (*See* Cauldwell, James A., assignor.)	
116,136	Barker, William C., Ypsilanti, Mich. Bucket for chain-pump	June 20, 1871
113,615	Barker, William Henry, Canada. Skate	April 11, 1871
118,896	Same.....Pot-cover	Sept. 12, 1871
115,415	Barling, Albert, West Chester, Pa. Pruning-shears	May 30, 1871
118,424	Barlow, Elisha T., San Francisco, Cal. Bedstead-fastening	Aug. 29, 1871
120,230	Barlow, Joseph C., assignor to Vandiver Corn-Planter Company, Quincy, Ill. Seed-dropper	Oct. 24, 1871
	Barlow, Moses, and James M. Van Demark. (*See* Van Demark & Barlow.)	
117,368	Barlow, Peleg C., Beverly, W. Va. Car-coupling	July 25, 1871
116,796	Barnard, George A., New York, N. Y. Steam-generator	July 11, 1871
116,836	Barnard, John D., assignor to self, B. C. Paul, and John N. Standish, Frostburgh, Md. Car-coupling	Sept. 12, 1871
4,308	Barnekor, Kiel V., assignor to self and George W. Greene, New York, N. Y. Breech-loading fire-arm.....(Reissue)	Mar. 28, 1871
	Barnes, Albert H., *et al.* (*See* Garity, James, assignor.)	
	Barnes, Augustus, and Orson W. Stow. (*See* Stow & Barnes).....(Extension.)	
110,890	Barnes, Harris H., Hoosick Falls, N. Y. Beds, cushions, and other upholstery	Jan. 10, 1871
121,745	Barnes, Harvey S., Augusta, Wis. Motive-power for sewing-machines	Dec. 19, 1871
4,665	Barnes, Jermain P., Rochester, N. Y. Hand-stamp frame.....(Design)	Feb. 21, 1871
114,094	Barnes, John, Rockford, Ill. Harvester-rake	April 25, 1871
114,747	Same.....Harvester	May 16, 1871
114,514	Barnes, John and William F., Rockford, Ill. Mechanical movement	May 9, 1871
119,554	Barnes, Joseph C., Albany, N. Y. Hot-air furnace	Oct. 3, 1871
110,821	Barnes, Lucius P., Fitchburgh, Mass. Adjustable door-fastener	Jan. 10, 1871
4,232	Barnes, Newcomb M., Tiffin, Ohio. Horse hay-rake.....(Reissue)	Jan. 17, 1871
110,949	Barnes, Thomas J., Corry, Pa. Harvester	Jan. 17, 1871
	Barnett, Heerman & Co. (*See* Leffel, Thomas, assignor.)	
116,895	Barnett, John, Fredericktown, Ohio. Rotary steam-engine	June 27, 1871
113,004	Barnett, John T., Decatur, Ill. Patch for railroad rails	Mar. 28, 1871
113,364	Barnett, Samuel L., New York, N. Y. Chest expander	April 4, 1871
4,621	Barnett, William N., assignor through mesne assignments to Saral L. Barnett and Simon Beery, Urbana, Ohio. Carriage-top prop-block.....(Reissue)	Nov. 7, 1871
112,407	Barney, Benjamin, Time, Ill. Fanning-mill	Mar. 7, 1871
119,960	Barney, C. Henry, Providence, R. I. Hair-curler	Oct. 17, 1871
117,593	Barney, Everett H., Springfield, Mass. Hand stamp	Aug. 1, 1871
113,132	Barney, Jeremiah, Perry's Mills, N. Y. Double-acting force-pump	Mar. 28, 1871
116,797	Barnhart, Daniel K., Gaines, Pa. Table-stand, &c	July 11, 1871
117,726	Barnhill, J. J. and D. N., Vincennes, Ind. Harvester-dropper	Aug. 8, 1871
111,421	Barns, Turner, and Hugh S. Jamison, Greensburgh, Ind. Grain-drill	Jan. 31, 1871
111,901	Barnstead, James T., Peabody, Mass. Curriers' tool	Feb. 21, 1871
4,258	Barnstead, James T., assignor through mesne assignments to George L. Newcomb and James Perkins, Peabody, Mass. Machine for scraping leather.....(Reissue)	Feb. 14, 1871
112,498	Barnum, Daniel, New York, N. Y. Sewing-machine gauge.....(Disclaimer)	July 26, 1871
	Barnum, Lafayette, assignor to self and A. R. Hale, Bridgeport, Conn. Ice-cutting machine	Mar. 7, 1871
	Barnum, Nelson. (*See* Goodrich, Harry C., assignor.)	
114,254	Barnum, Nelson, Laporte, Ind., and Russell S. Barnum, Chicago, Ill. Cording attachment for sewing-machines	May 2, 1871
121,146	Barnum, Noble S., Ridgefield, Conn. Fork-tine scoop for gathering stone	Oct. 24, 1871
119,494	Barnum, Seth, Whitestown, N. Y. Wagon-shaft coupling	Oct. 3, 1871
114,748	Barr, Henry H., assignor of half interest to John Kerper, Harrisburgh, Pa. Shutter-worker	May 16, 1871
116,306	Barr, Matthew R., Erie, Pa. Stove-grate	June 27, 1871
116,798	Barr, Watson, Ypsilanti, Mich. Cider-mill	July 11, 1871
113,616	Barrett, Albert G., Barrett, Kans. Balance-slide valve	April 11, 1871
121,675	Same.....Railway-car wheel	Nov. 21, 1871
122,143	Same.....Apparatus for producing plane or parallel movements	Dec. 26, 1871
121,981	Barrett, Charles, Boston, Mass. Dumping-car	Dec. 19, 1871
	Barrett, John R. (*See* Emerson, George W., assignor.)	
4,867	Barrett, Joseph, assignor to Hartford Carpet Company, New York, N. Y. Carpet-pattern.....(Design)	May 9, 1871
5,379	Same.....same.....(Design)	Nov. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,397	Barrett, Joseph W., Calhoun, Ga. Car-coupling	June 27, 1871
111,422	Barrett, Oramel Graves, Boston Highlands, Mass. Pipe-wrench	Jan. 31, 1871
118,897	Barrett, Oscar, and Azzel D. Brooks, Dartford, Wis. Bag-holder	Sept. 12, 1871
	Barrett, Rockwood, and Thomas Ross. (*See* Merriman & Ross, assignors.) (Reissue.)	
117,389	Barrick, Charles W., Walkersville, Md. Combined corn-planter and fertilizer-distributer	July 25, 1871
117,967	Barrie, Samuel S., Greenpoint, N. Y. Epergne for fruits and flowers	Aug. 15, 1871
120,231	Barriger, John W., Omaha, Nebr. Rotary-engine	Oct. 24, 1871
	Barritt, John R. (*See* Emerson, George W., assignor) (Reissue.)	
111,166	Barrow, Thomas J., Brooklyn, E. D., N. Y. Concrete for pipes, tubes, buildings, &c.	Jan. 24, 1871
111,806	Same ....Concrete for pipes, bricks, &c	Feb. 14, 1871
112,206	Same ....Burning hydrocarbon liquids for light	Feb. 28, 1871
114,904	Same....Water and drain pipe	May 16, 1871
114,905	Same....Mold	May 16, 1871
114,635	Barrows, Arad, Philadelphia, Pa. Pipe-attachment for plumbing	May 9, 1871
	Barrows, Edward, *et al.* (*See* Graichen, Frederick William, assignor). (Two cases.)	
	Barrows, Henry F. (*See* Clampitt, George W., assignor.)	
117,727	Barry, Andrew F., New York, N. Y. Range-setting	Aug. 8, 1871
119,495	Barry, Andrew P., Martinsville, Miss. Grain-drill	Oct. 3, 1871
122,211	Barry, George, Chicago, Ill. Filler-box for cigar-makers	Dec. 26, 1871
117,966	Barry, James S., and Alfred M., Sheridan Township, Mich. Fruit-gatherer	Aug. 15, 1871
111,719	Barry, William, Carthage, N. Y. Leather-punching and feeding machine	Feb. 14, 1871
113,065	Same....Rotary steam-engine	Mar. 28, 1871
116,396	Barsaloux, John B., Saint Louis, Mo. Barrel-head	June 27, 1871
	Barsch, Franz, and Bernhard Berndt. (*See* Berndt & Barsch.)	
120,368	Barse, Mills W., Olean, N. Y. Attaching knobs to spindles	Oct. 31, 1871
117,686	Barstow, Benjamin, Westfield, Mass. Spring-bed	July 18, 1871
110,725	Barstow, William, San Francisco, Cal. Rein-holder. (Antedated Dec. 3, 1870)	Jan. 3, 1871
114,749	Barta, Joseph, La Crosse, Wis. Harvester-binder	May 16, 1871
118,578	Bartel, Gustav, New York, N. Y. Hat-press	Aug. 29, 1871
120,614	Barth, Adam and Nicholas, Saint Louis, Mo. Sewing-machine	Nov. 7, 1871
	Barth, John, and Herrmann Erbs. (*See* Erbs & Barth) (Design.)	
117,143	Barthel, Michael, San Francisco, Cal. Farm-gate	July 18, 1871
	Bartholomew, G. W. and H. S. (*See* Porter, Rufus, assignor.)	
116,011	Bartholomew, Enos, Mill Hall, Pa. Ax-bit blank-machine	June 20, 1871
4,518	Bartholomew, Harry S., Bristol, Conn. Bit-brace (Division A, reissue)	Aug. 22, 1871
4,519	Same....same (Division B, reissue)	Aug. 22, 1871
111,509	Bartholomew, Thomas W., New York, N. Y. Faucet	Feb. 7, 1871
	Same....(*See* Eley, Philip, assignor)	
4,676	Bartholomew, William N., Newton Centre, Mass. Drawing-chart (Design)	Feb. 28, 1871
116,130	Same....Slate-frame	June 20, 1871
121,992	Bartholomew, William N., assignor to Joseph Reckendorfer, Newton Centre, Mass. Rubber eraser	Dec. 19, 1871
119,486	Bartlett, Abel H., Spuyten Duyvel, N. Y. Attachment for sewing-machines	Oct. 3, 1871
119,555	Same....Attachment for sewing-machines. (Antedated Sept. 16, 1871)	Oct. 3, 1871
	Bartlett, D. L., *et al.* (*See* Hawkes, Albert G., assignor.)	
113,150	Bartlett, Elbridge G. W., Providence, R. I. Clothes-wringer	May 23, 1871
116,065	Bartlett, Elbridge G. W., assignor to Providence Tool Company, Providence, R. I. Clothes-wringer	July 4, 1871
119,003	Bartlett, Henry M., South Dedham, Mass. Water-meter	Sept. 19, 1871
119,004	Same....same	Sept. 19, 1871
117,943	Bartlett, Jonathan B. L., North Jay, Me. Horse-rake teeth	July 25, 1871
116,390	Bartlett, Joseph W. New York, N. Y. Street-lantern	June 27, 1871
110,889	Bartlett, William D., Amesbury, Mass. Hot-air furnace	Jan. 10, 1871
115,015	Bartlett, William R., Newburgh, N. Y. Vapor-burner	May 23, 1871
113,793	Barton, George S., assignor to Rice, Barton & Fales Machine and Iron Company, Worcester, Mass. Expanding pulley	April 18, 1871
112,676	Barton, John W., and Thomas Holmes, Emporia, Kans. Rotary harrow	Mar. 14, 1871
113,835	Barton, Richard, New York, N. Y. Tongue and groove joint	April 18, 1871
120,491	Barton, William Oscar, Elizabeth, N. J. Wood-pavement	Oct. 31, 1871
115,678	Barwick, William H., Canada. Pipe-wrench	June 6, 1871
118,506	Bashor, William, Johnson City, Tenn. Flour-bolt	Aug. 29, 1871
120,338	Basket, Sanford, Crittenden County, Ark. Horse-power	Oct. 24, 1871
110,622	Bassett, Joel R., Cincinnati, Ohio. Pump	Jan. 3, 1871
118,579	Bassett, John A., assignor of half interest to Henri L. Stuart, Salem, Mass. Manufacture of coal-gas	Aug. 29, 1871
119,913	Bassett, John T., assignor to self, John Bassler, and Marcellus S. Matthews, Galesburgh, Ill. Steam-actuated car-brake	Oct. 17, 1871
	Bassler, John, *et al.* (*See* Bassett, John T., assignor.)	
119,398	Bastet, Louis, Tarrytown, N. Y. Electric battery	Sept. 26, 1871
114,695	Batchelar, Arthur, England. Kiln	April 25, 1871
116,257	Batchelder, Asahel G., Lowell, Mass. Blind-fastener	June 27, 1871
118,899	Batchelder, Jesse S., Fort Wayne, Ind. Confectioners and grocers' can	Sept. 12, 1871
118,900	Same....Confectionery jar	Sept. 12, 1871
114,389	Batchelder, William W., Boston, Mass. Self-lighting lamp	May 2, 1871
119,497	Batchelder, William W., assignor to self and Matthew Riley, Boston, Mass. Self-lighting lamp	Oct. 3, 1871
4,942	Batchelor, John A., New York, N. Y. Clock-front (Design)	May 30, 1871
111,031	Batchelor, William, assignor to Edwin Russ and Thomas Shewell Morris, England. Fire-bar	Jan. 17 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,151	Bates, Alexander B., Baltimore, Md. Sewing-machine	May 23, 1871
113,617	Bates, Benjamin, Baltimore, Md. Root or tonic beer	April 11, 1871
	Bates, Francis G., and Peter Ferguson. (*See* Ferguson & Bates.)	
111,433	Bates, George, Philadelphia, Pa. Paper-cutting machine	Jan. 31, 1871
120,697	Same....Paper-cutting and scoring machine	Nov. 7, 1871
	Bates, Hamilton and Daniel L. (*See* Lemman, John, assignor.)	
113,836	Bates, James, Baltimore, Md. Heisting-machine	April 18, 1871
119,109	Bates, Joseph W. and Mary A., Saint Paul, Minn. Wash-boiler	Sept. 26, 1871
113,385	Bates, Lyman M., Cleveland, Ohio. Spring bed-bottom. (Antedated March 27, 1871)	April 4, 1871
117,370	Bates, Lyman M., assignor to self, Edward P., and Ira H. Bates, Wooster, Ohio. Mosquito-canopy holder	July 25, 1871
122,212	Bates, Samuel D., Boston, Mass. Envelope	Dec. 26, 1871
4,380	Bates, Thomas, Central City, Colo. Grinding and amalgamating ores. (Reissue)	May 16, 1871
	Bates, Thomas L. (*See* Witall, George L., assignor)	
121,840	Bathurst, Henry A., Clearfield, Pa. Bee-hive	Dec. 12, 1871
121,938	Bathy, Theodore, Smith's Creek, Mich. Preventing mildew in canvas	Nov. 21, 1871
114,750	Battersly, Jenyns C., New York, N. Y. Sticking or adhesive plaster	May 16, 1871
117,144	Battey, Orrin F., Worcester, Mass. Composition for preserving and coloring leather	July 18, 1871
111,434	Batty, Lindley M., Canton, Ohio. Harvester	Jan. 31, 1871
112,530	Same....same	Mar. 14, 1871
122,213	Batwell, Edward, Ypsilanti, Mich. Thill-coupling	Dec. 26, 1871
114,751	Bauder, William, Circleville, Ohio. Carriage-top	May 16, 1871
	Bauer, Charles, and Henry Sommer. (*See* Sommer & Bauer.)	
	Bauer, George W., and George Otto. (*See* Otto & Bauer.)	
116,536	Bauer, John, Newark, N. J. Harness-trimming	July 4, 1871
117,145	Same....Brooklyn, E. D., N. Y. Blacksmith's tuyere	July 18, 1871
4,580	Same....Newark, N. J. Harness-trimming (Reissue)	Oct. 10, 1871
119,914	Same....same	Oct. 17, 1871
115,679	Baughman, David C., Tiffin, Ohio. Thrashing-machine	June 6, 1871
115,680	Same....same	June 6, 1871
114,390	Baughman, Henry, Sandusky, Ohio. Corn-planter	May 2, 1871
117,037	Baum, John E., Philadelphia, Pa. Curtain-fixture	July 18, 1871
117,038	Same....same	July 18, 1871
119,299	Same....same	Sept. 26, 1871
111,167	Bauman, Aaron, and Orin O. Witherell, Toledo, Ohio. Hollow auger	Jan. 24, 1871
121,148	Bauman, Aaron, Toledo, Ohio. Bucket for chain-pumps	Nov. 21, 1871
121,746	Bauman, Allen H., Mapleton, Pa. Apparatus for drying sand and gravel	Dec. 12, 1871
	Bauman, William, and Joseph Allonas. (*See* Allonas & Bauman.)	
	Baumgartner, Frederick. (*See* Douglass, William B., assignor.)	
112,866	Bausmith, William T., Aberdeen, Md. Sash-holder	Mar. 21, 1871
	Baxter, George W., *et al.* (*See* Morrell, James A., assignor.)	
	Baxter, Thomas. (*See* Jordan, James C., assignor.)	
120,462	Baxter, Thomas W., Chicago, Ill. Stone-dressing machine	Oct. 31, 1871
120,930	Baxter, William, assignor to self, A. J. Halsey, and William Baxter, jr., Newark, N. J. Boiler and engine for street-cars	Nov. 14, 1871
113,725	Baxter, William, jr., Newark, N. J. Steam-pump	April 18, 1871
113,128	Baxter, William H., England. Grain-weighing register	Mar. 28, 1871
	Same....(*See* Burch, Benjamin S., assignor.)	
116,537	Baxter, William Q., Maple Township, Pa. Combined stump-extractor and derrick	July 4, 1871
	Bayer, John. (*See* Anderhub, Andreas, assignor.)	
	Bayhan, William A., and Isaac P. Osborn. (*See* Osborn & Bayhan.)	
115,681	Bayley, William, and Abner B. Crowell, Wilmington, Del. Water-wheel	Jan. 6, 1871
118,778	Same....Water-wheel case	Sept. 12, 1871
120,736	Baylie, Thomas S., and George H. Maurer, Washington, D. C. Curtain-brake	Jan. 3, 1871
117,967	Baylis, Mary Emma, assignor to Henry Baylis, England. Paper wrapper for needles	Aug. 15, 1871
121,576	Bayly, George W., Stuyvesant, N. Y. Scraper	Dec. 5, 1871
113,837	Bayly, Thomas V., Jones Station, Ind. Hay-elevator	April 18, 1871
121,316	Bayma, Joseph, San Francisco, Cal. Motive power and balance-car	Nov. 28, 1871
113,398	Baymore, Joseph, Philadelphia, Pa. Cheek-piece for ships' masts	April 4, 1871
	Baynes, Joseph T., *et al.* (*See* Beebe, Baynes & King.)	
118,674	Baynton, William, Pottsville, Pa. Rotary puddling-furnace	Sept. 5, 1871
	Beach, A. E. (*See* Holske, William F., assignor.)	
119,605	Beach, Charles Y., Brooklyn, N. Y. Manufacture of bone-black	Sept. 19, 1871
110,890	Beach, Darwin, Oshkosh, Wis. Spark-arrester	Jan. 10, 1871
112,168	Beach, Elias, Titusville, Pa. Wrench	Feb. 28, 1871
112,169	Same....same	Feb. 28, 1871
114,636	Beach, Henry R., West Meriden, Conn. Tea-tray	May 9, 1871
4,384	Beach, Henry H., Rome, N. Y. Process of seasoning lumber (Reissue)	May 16, 1871
	Beach, James C. (*See* Levis, Samuel G., assignor) (Reissue.)	
	Beach, Robert C., and Frederic L. Churchill. (*See* Churchill & Beach.)	
113,387	Beach, Sylvester W., Ypsilanti, Mich. Adjustable carriage-seat	April 4, 1871
115,152	Same....same	May 23, 1871
	Same....(*See* Nellis, John, assignor.)	
116,536	Beach, Thomas, Freeport, Pa. Gauge for mortising-machine	July 4, 1871
121,931	Beach, William G., assignor to the New Haven Wheel Company, New Haven, Conn. Machine for turning hubs	Nov. 14, 1871

No.	Name, residence, and invention or discovery.	Date.
119,556	Beagle, Henry, jr., Philadelphia, Pa. Back-band hook. (Antedated Sept. 30, 1871)	Oct. 3, 1871
112,312	Beal, John A., Waterford, N. Y. Potato-probe	Mar. 7, 1871
121,270	Beal, John Williams, South Scituate, Mass. Attaching wheels to axles	Nov. 28, 1871
120,363	Beal, William S. M., Baltimore, Md. Bottle-fastening	Oct. 31, 1871
117,594	Beals, Charles W., Greig, N. Y. Device for resetting old auger-bits	Aug. 1, 1871
113,134	Beam, Jacob H., Springfield, Ill. Harvester	Mar. 28, 1871
117,787	Beaman, Aurelia W., Boston, Mass. Shoulder-brace	Aug. 8, 1871
114,301	Bean, Charles, Pawtucket, R. I. Horse hay-fork	May 2, 1871
116,530	Bean, Homer, assignor to Henry M. Wyuth, Fredonia, Ohio. Sawing-machine	July 4, 1871
116,256	Bean, John, jr., assignor to self, William H. Williams and Bennett Goodsell, Pentwater, Mich. Machine for cutting segment-patterns	June 27, 1871
	Bean, John, jr., *et al.* (*See* Goodsell, Goodsell & Bean.)	
4,481	Beane, Eben J., Providence, R. I. Boot and shoe heel-trimming machine (Reissue)	July 25, 1871
113,560	Beard, Charles A., and Ezra R. Evans, Zanesville, Ohio. Plow	April 18, 1871
116,140	Beardsley, Charles T., Hamden, Conn. Broom-holder	June 20, 1871
120,233	Beardsley, Emilie A., Binghamton, N. Y. Combined heater and stand for table purposes. (Antedated Oct. 17, 1871)	Oct. 24, 1871
121,371	Beardsley, George F., Binghamton, N. Y. Button for doors. (Antedated Nov. 18, 1871)	Nov. 28, 1871
115,809	Bearup, Albert G., assignor to self and Patrick Carraher, New York, N. Y. Steam-trap	June 13, 1871
118,779	Same.....Steam-heater	Sept. 12, 1871
	Bearup, Albert G., *et al.* (*See* Hopkins, Joseph W., assignor.)	
113,246	Beasley, Charles J., assignor to Tappey, Lumsden & Co., Petersburgh, Va. Power-press	April 4, 1871
121,317	Beasley, Charles J., Petersburgh, Va. Cotton-press	Nov. 28, 1871
	Beattie, Robert, & Sons. (*See* Nye, Elemir J., assignor.)	
	Beatty, Claudius F. (*See* Shedlock, Alfred, assignor.)	
118,005	Beatty, Henry, Massillon, Ohio. Portable-furnace	Aug. 15, 1871
	Beatty, James. (*See* Skillman, George R., assignor.)	
117,371	Beatty, James H., assignor to Sarah J. Beatty, Josiah B. Poor, and William McKee, Franklin, Pa. Sucker-rod joint or coupling	July 25, 1871
4,877	Beatty, John P., Norwalk, Conn. Hat (Reissue)	Feb. 28, 1871
112,677	Beatty, Samuel, Norwalk, Conn. Hat-press	Mar. 14, 1871
117,500	Same.....Hat-ventilator	Aug. 1, 1871
119,557	Beauchamp, William, Grayville, Ill. Hub and spoke	Oct. 3, 1871
122,214	Beaujeu, François, Parish of Orleans, La. Brick-machine	Dec. 26, 1871
118,580	Beaupré, Peter R., Metropolis City, Ill. Life-boat	Aug. 29, 1871
117,729	Bebout, John Newton, Oberlin, Ohio. Rafter-hook	Aug. 8, 1871
112,907	Bebro, Marcus, England. Electrical ticket-checking apparatus	Feb. 28, 1871
118,509	Same.....Printing-machine	Aug. 29, 1871
5,360	Beck, Alexander, Philadelphia, Pa. Carpet-pattern (Design)	Nov. 28, 1871
110,727	Beck, Frederick, New York, N. Y. Coating and decorating paper, cloth, and other materials	Jan. 3, 1871
121,140	Beck, Jonas D., Liberty, Pa. Machinists' vise	Nov. 21, 1871
	Beck, Washington. (*See* Miller, John Ernest, assignor.)	
118,183	Becker, John, Chickies, Pa. Arranging steam and water pipes in an exhaust chamber	Aug. 22, 1871
111,510	Becker, Leander, Jackson Township, Pa. Corn-planter	Feb. 7, 1871
115,289	Beckers, Alexander, New York, N. Y. Hand-stereoscope	May 30, 1871
118,675	Beckham, Cicero, Alexandria, Va. Handle of pocket-knives	Sept. 5, 1871
5,041	Beckley, Philip G., Newark, N. J. Swivel and snap-hook (Design)	June 27, 1871
121,039	Beckwith, Hiram, Grass Lake, Mich. Device for tightening loose tires	Nov. 21, 1871
122,315	Beckwith, Nelson F., Omro, Wis. Head-block	Dec. 26, 1871
113,734	Beckwith, William G., Newark, N. J. Sewing-machine	April 18, 1871
	Bedesseem, Michael, and Peter Boesen. (*See* Boesen & Bodesseem.)	
116,686	Bedford, Alma, Coldwater, Mich. Thill-coupling. (Antedated June 29, 1871)	July 4, 1871
5,365	Bedichimer, Isaac, Philadelphia, Pa. Badge (Design)	Nov. 21, 1871
119,558	Bee, Asa, Lancaster, Mass. Turbine water-wheel	Oct. 3, 1871
116,250	Bee, Benjamin F., Harwich, Mass. Sectional boiler	June 27, 1871
121,983	Beebe, Calvin T., assignor of one-half interest to Elihu Cooley, Jackson, Mich. Manufacture of barn-forks	Dec. 19, 1871
114,906	Beebe, Henry, Jersey City Heights, N. J. Wick-regulator for lamps	May 16, 1871
112,110	Beebe, Theophilus, Northport, N. Y. Washing-machine	Feb. 28, 1871
121,747	Beebe, William S., Joseph T. Baynes, and Abraham A. King, West Troy, N. Y. Knife-cleaner	Dec. 12, 1871
	Beecher, Eugene, *et al.* (*See* Jeffers, A. Perley M., assignor.)	
116,013	Beecher, Henry M., Plantsville, Conn. Die for forming carriage-shackles	June 20, 1871
118,780	Same.....Carriage-clip blank, and dies for making the same	Sept. 12, 1871
113,481	Beecher, William Fordyce, Pittsburgh, Pa. Fire-chamber of puddling, steam-boiler, and other furnaces	April 11, 1871
114,515	Beek, Albert G., Philadelphia, Pa. Ironing-board	May 9, 1871
112,008	Beekman, William T., Petersburgh, Ill. Hand-car	Feb. 21, 1871
117,146	Beeman, Sheldon S., Saint Albans, Vt. Standard for railway-cars	July 18, 1871
114,516	Beemer, Levi, Libertyville, N. J. Portable butter-tray	May 9, 1871
112,767	Beeny, Charles, Albany, N. Y. Hat and cap holder	Mar. 21, 1871
117,730	Beer, Joseph W., and Absolom W., Rural Valley, Pa. Carriage axle and boxing	Aug. 8, 1871
114,758	Beer, Peter, Detroit, Mich. Paper box	May 16, 1871
113,986	Beers, Charles C., Boston, Mass. Apparatus for carbureting air	April 25, 1871
112,313	Beers, George W., Bridgeport, Conn. Hinge for carriage-doors	Mar. 7, 1871

No.	Name, residence, and invention or discovery.	Date.
111,168	Beers, John B., San Francisco, Cal. Atmospheric pressure attachment for dental plates	Jan. 24, 1871
121,040	Beers, John D., Philadelphia, Pa. Journal-box. (Antedated Nov. 2, 1871)	Nov. 21, 1871
115,016	Beers, William, Milan, Ohio. Wagon-tongue support	May 23, 1871
4,490	Same.....same (Reissue)	Aug. 1, 1871
	Beery, Simon, *et al.* (*See* Barnett, William N., assignor) (Reissue.)	
4,916	Beesley, Jacob, and Josiah J. Ferris, assignors to Charles Noble & Co., Philadelphia, Pa. Plate of a stove (Design)	May 23, 1871
119,006	Beggo, Eugene, Paterson, N. J. Toy locomotive and track	Sept. 19, 1871
	Behel, Jacob, and Michael V. Doyle. (*See* Doyle & Behel.)	
	Behne, Andrew C., and Robert Marks. (*See* Marks & Behne.)	
5,367	Beiderhase, Bernhard D., New York, N. Y. Spoon-handle (Design)	Sept 19, 1871
113,638	Beidler, George A., Philadelphia, Pa. Wooden pavement	April 18, 1871
114,637	Same.....Propulsion of vessels	May 9, 1871
111,425	Beidler, Henry M., Philadelphia, Pa. Wood-pavement	Jan. 31, 1871
120,023	Belfield, Henry, Philadelphia, Pa. Machine for cutting the teeth of wheels	Oct. 17, 1871
114,753	Belknap, Elbridge G., Philadelphia, Pa. Coal-screen	May 16, 1871
116,799	Belknap, Jackson Ogden, New Orleans, La. Ornamental advertising medium	July 11, 1871
119,689	Belknap, Moody, Philadelphia, Pa. Spike-machine	Oct. 10, 1871
112,111	Bell, Alexander Dalrymple, assignor to Joseph Wesley Stowe, San Francisco, Cal. Apparatus for carbureting air	Feb. 28, 1871
112,009	Bell, Charles E., Greenfield, Ohio. Window-washer	Feb. 21, 1871
	Bell, Charles S. (*See* Bradley, Joseph H., assignor.)	
112,768	Bell, Daniel W., Saint Louis, Mo. Pump-piston	Mar. 21, 1871
114,096	Bell, Elbert A., Meriden, Conn. Adjustable bevel	April 25, 1871
111,606	Bell, James A., assignor to self and Henry Z. Stetler, Tyrone, Pa. Feather-renovator	Feb. 7, 1871
114,517	Bell, John, Dover, N. H. Manufacture of acetate of lime from pyroligneous acid. (Antedated April 27, 1871)	May 9, 1871
117,944	Bell, Joseph, Carrollton, Mo. Water-wheel	July 25, 1871
115,153	Bell, Landrow, Washington, D. C. Smoke-stack for locomotives. (Antedated May 19, 1871)	May 23, 1871
120,181	Bell, Stephen A., Newtown, Ohio. Machine for picking millstones	Oct. 24, 1871
111,302	Bell, Thomas M., New York, N. Y. Milk-can	Jan. 31, 1871
119,559	Same.....same	Oct. 3, 1871
	Bell, Thomas W. (*See* Miller, James B., assignor.)	
111,607	Bell, Van Seville, Ohio. Bed-bottom	Feb. 14, 1871
120,364	Bell, William, Buffalo, N. Y. Drawing-stand	Oct. 31, 1871
	Bell, William, and George E. Brown. (*See* Brown & Bell.)	
121,925	Bell, William Gibson, Boston, Mass. Apparatus for curing meat	Dec. 19, 1871
4,694	Bellamy, John H., Charlestown, Mass. Picture-frame (Design)	Mar. 7, 1871
4,853	Bellamy, John H., assignor to Elbridge Wolcott and Jonas C. Young, Charlestown, Mass. Bracket (Design)	May 2, 1871
4,854	Same.....Front of a catch-all (Design)	May 2, 1871
4,939	Same.....Clock-front (Design)	May 23, 1871
116,667	Bellerive, Francis H., Plattsburgh, N. Y. Baggage-check	July 4, 1871
118,676	Bellis, William, Indianapolis, Ind. Operating throttle-valve	Sept. 5, 1871
115,416	Bellows, Hartwell H., Brooklyn, N. Y. Wash-board	May 30, 1871
122,146	Belnap, Lester D., assignor of one-half interest to George W. Bullock, Jonesville, Mich. Thill-coupling	Dec. 26, 1871
117,855	Belt, William S., Cincinnati, Ohio. Metallic roofing	Aug. 8, 1871
110,693	Bement, Charles S., assignor to Hart Manufacturing Company, Kensington, Conn. Machine for marking squares	Jan. 3, 1871
	Bemis, Henry, and William M. Bingham. (*See* Bingham & Bemis.)	
121,318	Bender, Charles, Phœnixville, Pa. Metallic column	Nov. 28, 1871
115,417	Bender, Richard W., Boston, Mass. Refining raw sugar	May 30, 1871
113,368	Bender, William J., Cincinnati, Ohio. Attaching marble tops and backs of wash-stands	April 4, 1871
	Benedict & Burnham Manufacturing Company. (*See* Lewis, William F., assignor.)	
	Benedict, John, administrator. (*See* Leonard, Andrew) (Two cases.)	
115,810	Benedict, Joseph R., Williamson, N. Y. Hoisting-apparatus	June 13, 1871
119,110	Benedict, Julius S., Bedford, Ohio. Gate	Sept. 19, 1871
	Benham, James W., and Francis F. Warner. (*See* Warner & Benham.)	
121,447	Benjamin, Edwin, Chicago, Ill. Cutter for molding-machines	Dec. 5, 1871
	Benjamin, John, and Volkert O. Hart. (*See* Hart & Benjamin.)	
119,735	Benneckendorf, Albert, Hoboken, N. J. Mechanical movement	Oct. 10, 1871
	Bennet, Edwin R. (*See* Wood, Joseph, assignor.)	
117,731	Bennett, Edmund James, Port Huron, Mich. Spring-vent for casks	Aug. 8, 1871
119,736	Bennett, George M., Burlington, Iowa. Wagon-brake	Oct. 10, 1871
120,615	Bennett, Harrison, Waterbury, Conn. Means for securing the clothing on carding-machine cylinders	Nov. 7, 1871
121,972	Bennett, John M., Jaynesville, Iowa. Insect-destroyer	Nov. 28, 1871
119,560	Bennett, Orrin E., Cannonsville, N. Y. Carriage-spring attachment	Oct. 3, 1871
119,300	Bennett, Silas, New Castle, Pa. Wash-boiler	Sept. 26, 1871
117,845	Bennett, William N., Illyria, Iowa. Gun-lock	July 25, 1871
115,017	Benninghofen, August, assignor to Benninghofen, Northrup & Co., Hamilton, Ohio. Seasoning wagon-hubs	May 23, 1871
113,630	Bennison, Henry L., England. Rotary-engine	April 18, 1871
112,678	Bennor, Joseph, Philadelphia, Pa. Sewing-machine	Mar. 14, 1871

No.	Name, residence, and invention or discovery.	Date.
112,209	Benna, George, assignor to self and Lucius M. West, Rockford, Ill. Sad-iron heater	Feb. 28, 1871
	Benson, Allen W., and John C. Anderson. (*See* Anderson & Benson.)	
116,141	Benson, Benjamin S., Baltimore, Md. Machine for molding pipe	June 20, 1871
116,540	Benson, Beverly L., Fairview, Ind. Shifting buggy-top	July 4, 1871
117,595	Benson, John, Belle Plaine, Iowa. Harrow. (Antedated July 28, 1871)	Aug. 1, 1871
114,518	Benson, John, assignor to George McCord, Yonkers, N. Y. Street-lamp	May 9, 1871
115,811	Benson, Lorenzo D. and Leander C., North Jackson, Pa. Stove-dressing machine	June 13, 1871
119,444	Benson, Olof, and John G. Folk, Chicago, Ill. Dumping-car	Oct. 3, 1871
111,496	Bent, Samuel S., Port Chester, N. Y. Stall for horses	Jan. 31, 1871
112,887	Same.....Iron railing	Mar. 21, 1871
114,393	Same.....Stable-fixture	May 2, 1871
	Bentel, Frederick, *et al.* (*See* McBeth, Bentel, Margedant & Climer.)	
118,677	Benten, Albert Frederick, assignor to self and Farrell Jerome O'Reilley, San Francisco, Cal. Bed-lounge. (Antedated Aug. 11, 1871)	Sept. 5, 1871
112,898	Bentley, Warren W., Leo Township, Mich. Clevis-hook for double-trees	Mar. 21, 1871
120,099	Benton, Burr, Wecsaw, Mich. Bee-hive	Nov. 7, 1871
	Benton, Charles C., and Albert Fickett. (*See* Fickett & Benton.)	
116,918	Benton, Edward F., Buffalo, N. Y. Bronzing-machine	July 11, 1871
119,498	Same.....same	Oct. 3, 1871
122,316	Same.....same	Dec. 26, 1871
113,969	Benton, Goderich C., Port Huron, Mich. Stove-drum	April 25, 1871
4,491	Berdan, Hiram, assignor to the Berdan Fire-Arms Manufacturing Company, New York, N. Y. Metallic cartridge (Reissue)	July 1, 1871
5,211	Berger, Henry, New York, N. Y. Oblong center piece (Design)	Aug. 22, 1871
5,212	Same.....Star center-piece (Design)	Aug. 22, 1871
5,213	Same.....Escutcheon center-piece (Design)	Aug. 22, 1871
5,447	Same.....Center-piece (Design)	Dec. 26, 1871
	Bergin, Daniel. (*See* Rosiofa, Anthony, assignor.)	
118,096	Bergman, William, assignor to self and Adam Keller, Philadelphia, Pa. Chair and ladder	Aug. 15, 1871
121,319	Bergner, George, Washington, Mo. Pruning-shears	Nov. 28, 1871
113,736	Bergner, Theodore, assignor to James W. Queen & Co., Philadelphia, Pa. Ruler-attachment for drawing-boards	April 18, 1871
115,018	Bergner, Theodore, and Sigmund Zeisse, Philadelphia, Pa. Cooling-apparatus for beer, ale, &c	May 23, 1871
	Bergner, Theodore, and Charles T. Bonsal. (*See* Bonsal & Bergner.)	
112,010	Bergquist, Petter, Austin, Minn. Portable water-closet	Feb. 21, 1871
113,360	Berkeley, Norborne, Aldie, Va. Door-mat	April 4, 1871
118,678	Berkeley, Norborne, assignor to self and Charles B. Wildman, Aldie, Va. Combined carriage-jack, bag-holder, and weighing-scale	Sept. 5, 1871
115,154	Berlioz, Auguste Prosper, France. Electric lighting-apparatus. (Antedated May 17, 1871)	May 23, 1871
119,215	Bernard, Cleophas, assignor of 13-100 interest to Timothy Lague, Florida, Mass. Rock-drilling machine	Sept. 26, 1871
121,841	Bernds, Bernhard, and Franz Barsch, assignors of two-thirds interest to William P. Reiley and Thomas Maitland, Williamsport, Pa. Fastening carriage-wheels	Dec. 12, 1871
	Berney, James. (*See* Dearborn, Gilbert K., assignor.)	
4,370	Berrey, William, assignor to Henry B. Richmond, Boston, Mass. Detergent compound (Reissue)	May 9, 1871
113,727	Berry, Charles Henzleton, Natick, Mass. Washing-machine	April 18, 1871
120,099	Berry, Charles H., Brooklyn, N. Y. Hat-blocking machine	Nov. 7, 1871
118,389	Berry, James, assignor to self and Henry Berry, Buffalo, N. Y. Riveting-apparatus	Aug. 29, 1871
112,531	Berry, Robert M., Brooklyn, N. Y. Feeding-mechanism for sewing-machines. (Antedated Feb. 28, 1871)	Mar. 14, 1871
	Berry, William D., *et al.* (*See* Wilson, John T., assignor.)	
	Berryman Regulator and Alarm Company. (*See* Berryman, Robert, assignor.)	
115,662	Berryman, Robert, Hartford, Conn. Feed-water heater for steam-boilers	June 6, 1871
117,373	Same.....Steam-trap	July 25, 1871
111,030	Berryman, Robert, assignor to the Berryman Regulator and Alarm Company, Hartford, Conn. Water or steam valve	Jan. 17, 1871
118,679	Same.....Feed-water regulator for steam-boilers	Sept. 5, 1871
114,235	Berryman, Robert, Hartford, Conn., and Rufus N. Platt, Philadelphia, Pa. Automatic boiler-feeder	May 2, 1871
4,309	Bertrand, Theophilus F. and Peter Sames, Rockford, Ill. Cultivator (Reissue)	Mar. 28, 1871
4,581	Same.....same	Oct., 10, 1871
117,246	Bessemer, Henry, England. Construction and mode of working blast-furnaces	July 25, 1871
117,247	Same.....Furnace for the manufacture of malleable iron and steel	July 25, 1871
117,248	Same.....Bessemer converter, for converting crude iron into steel	July 25, 1871
117,249	Same.....Apparatus for melting and casting metals under pressure	July 25, 1871
117,250	Same.....Construction and operation of metallurgical furnaces	July 25, 1871
117,507	Same.....Process and apparatus for the treatment of crude or pig iron	Aug. 1, 1871
117,960	Same.....Machinery and buildings for the manufacture of iron and steel	Aug. 15, 1871
114,097	Best, Daniel, Yuba, Cal. Grain-separator	April 25, 1871
119,301	Bethel, Thomas W., Brooklyn, N. Y. Medical compound for consumption, &c	Sept. 26, 1871
119,260	Bethune, James N., Warrenton, Va. Motive-power	Sept. 26, 1871
120,938	Betts, Alfred H., Cleveland, Ohio. Gate	Nov. 14, 1871
	Betts, William. (*See* Patterson, James, assignor.)	
110,950	Betts, William C., Brooklyn, N. Y. Railroad-car ventilator	Jan. 17, 1871

No.	Name, residence, and invention or discovery.	Date.
	Bentel, Frederick, *et al.* (*See* McBeth, Bentel & Margedant) (Design.)	
115,155	Benttel, Charles, Cincinnati, Ohio. Feeding-mechanism for sewing-machines	May 23, 1871
111,393	Bevan, John, Port Richmond, N. Y., and Benjamin W. Hitchcock, West Flushing, N. Y. Pneumatic spring	Jan. 31, 1871
114,096	Bevan, Samuel, assignor to Henry Disston & Son, Philadelphia, Pa. Polishing-machine	April 25, 1871
111,364	Bevans, Alexander L., Flushing, N. Y. Printing-press guide	Jan. 31, 1871
114,393	Bever, John T. and Pauline S., Lathrop, Mo. Soap	May 2, 1871
	Bever, John T., and Isaac Cook. (*See* Cook & Bever.)	
117,949	Beverley, John M., Chicago, Ill. Mosquito-fan. (Antedated July 31, 1871)	Aug. 15, 1871
	Beyer, Harvey, and W. Bolton Rogerson. (*See* Rogerson & Beyer.)	
	Beyer, Louis, and Rudolph Hines. (*See* Hines & Beyer) (Two cases.)	
119,812	Bevill, Robert, Bowie County, Tex. Medical compound for treating chills, fever, &c	Oct. 10, 1871
	Bibb, Bentley C. (*See* Klotz, Philip, assignor.)	
112,209	Bibb, William C., Madison, Ga. Combined cotton chopper, scraper, &c	Feb. 28, 1871
113,482	Same.....Combined plow and seeder	April 11, 1871
118,184	Same.....Morgan County, Ga. Car-coupling	Aug. 22, 1871
118,329	Same.....Madison County, Ga. Propulsion of canal-boats	Aug. 22, 1871
118,330	Same.....Railway	Aug. 22, 1871
119,216	Same.....Steam wagon and plow	Sept. 26, 1871
	Bibber, A. H. (*See* Forrest, David, assignor.)	
4,660	Bibber, Francis F., South Boston, Mass. Railroad-station indicator (Design)	Feb. 21, 1871
118,336	Bickel, Christian, and Jacob F. Leibold, Delaware, Ohio. Harvester-dropper	Aug. 22, 1871
119,007	Bickford, Henry, assignor to J. A. Fay & Co., Cincinnati, Ohio. Mortising-machine	Sept. 19, 1871
	Bickford, Henry, and Hugh H. Humphrey. (*See* Humphrey & Bickford.)	
112,538	Biddle, Jacob S., and Theodore S. Lingenfelter, Hattonville, Pa. Fruit-dryer	Mar. 14, 1871
118,561	Biddle, Joseph, Edinburgh, Pa. Animal-trap	Aug. 29, 1871
	Bidwell, George H. (*See* Morrill, Charles, assignor.)	
121,076	Bidwell, Henry M., assignor to self and Stillman Moore, New Haven, Conn. Carriage-curtain fastener	Nov. 21, 1871
113,006	Bidwell, Jason A., East Boston, Mass. Wood-screw	Mar. 28, 1871
	Bidwell, Jason A., and D. M. Robertson. (*See* Robertson & Bidwell.)	
113,007	Biehl, Charles, Albany, N. Y. Combined bordering and drain tile	Mar. 28, 1871
	Bigelow Carpet Company. (*See* Magee, John, assignor.) (Nine cases.) (Design.)	
	Same.....(*See* Pennell, Thomas, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Neil, John, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Buzzell, John P., assignor.)	
113,483	Bigelow, Erastus Brigham, Boston, Mass. Let-off mechanism for looms	April 11, 1871
	Same.....Power-loom for weaving wire-cloth (Extension)	Sept. 26, 1871
	Bigelow, Everett W. (*See* Bradley, George L., assignor.)	
	Bigelow, George B., and John, *et al.* (*See* Duchemin, William, assignor.)	
113,008	Bigelow, Horace H., Worcester, Mass. Awl for heel-machines	Mar. 28, 1871
113,009	Same.....Machine for turning rands for shoes	Mar. 28, 1871
113,618	Same.....Machine for cutting leather	April 11, 1871
116,400	Same.....Heel for boots and shoes	June 27, 1871
	Bigelow, Lucius A. (*See* McCracken, Edwin D., assignor.)	
115,612	Bigelow, Lyman G., Grand Rapids, Mich. Photographic background	June 13, 1871
119,111	Same.....Photographer's curtain	Sept. 19, 1871
	Bigger, James J., and William A. Pugh. (*See* Pugh & Bigger.)	
112,409	Bigger, Thomas J., Kansas City, Mo. Manufacture of ice	Mar. 7, 1871
	Bilbrough, Samuel. (*See* Keane, Patrick, assignor.)	
118,338	Bilgram, Hugo, Philadelphia, Pa. Speed-indicator	Aug. 22, 1871
111,808	Bilhimer, Cyrus F., Irwin's Station, Pa. Corn-planter	Feb. 14, 1871
110,882	Billings, Charles E., Hartford, Conn. Machine for drilling shuttles	Jan. 10, 1871
	Same.....(*See* Colston, Theodore, assignor.)	
116,541	Billings, George W., Chicago, Ill. Die for making washers	July 4, 1871
120,933	Same.....Railway-crossing. (Antedated Nov. 13, 1871)	Nov. 14, 1871
116,837	Billings, Orson, Elyria, Ohio. Harvester	Sept. 12, 1871
113,769	Billings, Uriah, Cambridgeport, Mass. Horseshoe-machine	Mar. 21, 1871
116,142	Binder, Carl Frederick, Philadelphia, Pa. Purifying pyroligneous acid	June 20, 1871
118,781	Binder, Henry, Saint Louis, Mo. Reversible curtain-fastener	Sept. 12, 1871
115,926	Bingham, John Edward, Great Britain. Electro-plating with tin	June 13, 1871
116,401	Bingham, William M., and Henry Bemis, Rochester, N. Y. Self-watering vase	June 27, 1871
116,910	Binkard, Thomas, and Robert H. Boal, Urbana, Ohio. Fan-attachment for tables	July 11, 1871
116,260	Binkly, Lemuel G., Baughman, Ohio. Process for bolting flour	June 27, 1871
119,915	Binney, Benjamin S., Somerville, Mass. Paper-bag machine	Oct. 17, 1871
5,300	Binzer, Charles, New York, N. Y. Lamp-shade	Oct. 24, 1871
111,305	Birch, R. De Witt, Philadelphia, Pa. Manufacture of copperas	Jan. 31, 1871
114,089	Birchard, John F., Milwaukee, Wis. Ticket-case for railroad stations. (Antedated April 13, 1871)	April 25, 1871
5,315	Same.....Escritoire (Design)	Oct. 17, 1871
112,314	Birckhead, James, jr., Baltimore, Md. Stove-leg	Mar. 7, 1871
112,210	Bird, Charles, assignor to self, Charles J. Field, and T. P. Sargent, Philadelphia, Pa. Door-check	Feb. 28, 1871
114,394	Bird, James R., assignor to the New York Rubber Company, Brooklyn, N. Y. Vulcanized rubber-tube for grain-drills, &c	May 2, 1871
120,616	Birdseye, Isaac W., Birmingham, Conn. Bustle	Nov. 7, 1871
116,013	Birkenhead, John, Canton, Mass. Bed-clothes retainer	June 20, 1871
119,072	Birket, John C., Peoria, Ill. Mashing-tub	Sept. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,690	Bibbing, Henry, Bridgeton, N. J. Protecting unslacked lime, and apparatus therefor	Sept. 5, 1871
119,813	Bishop, Bela S., Menasha, Wis. Machine for curving saw-blades	Oct. 10, 1871
	Bishop, Edmond, and William W. Patterson. (*See* Patterson & Bishop.)	
115,418	Bishop, George W., Saratoga Springs, N. Y. Sash-balance	May 30, 1871
119,008	Bishop, George W., and Hugh H. Smith, Baltimore, Md. Fire-escape	Sept. 19, 1871
115,813	Bishop, Josiah, Austin, Tex. Elevator	June 13, 1871
112,315	Bishop, Orrie A., Chicago, Ill. Clothes-pin	Mar. 7, 1871
120,617	Bishop, Peter B. W., assignor to self and Jephtha W. Dunn, Morristown, N. J. Machine for shrinking hat-bodies	Nov. 7, 1871
113,135	Bishop, Thomas T., and Henry J. Merret, Evansville, Ind. Sewing-machine caster	Mar. 28, 1871
	Bissel, Eugene. (*See* Williamson, David, assignor.)	
	Bissell & Moore Manufacturing Company. (*See* Moore, Daniel and Edwin, assignors) (Reissue.)	
	Bissell, Eugene. (*See* Moore, Daniel, assignor.)	
	Bissell, Harvey. (*See* Huntley, Merritt G., assignor.)	
4,564	Bissell, Henri E., Hartford, Conn. Spring bed-bottom (Reissue)	Sept. 19, 1871
116,688	Bissell, Hiram, Hartford, Conn. Drain-tile machine	July 4, 1871
116,930	Same. Drain-pipe machine	July 11, 1871
111,607	Bissell, Melville R., assignor to Salmon B. Rowley, Kalamazoo, Mich. Fruit-jar	Feb. 7, 1871
113,720	Bitner, Eli S., Lock Haven, Pa. Door-latch	April 18, 1871
	Bixby, Horace E., and George W. Richey. (*See* Richey & Bixby.)	
111,730	Bixby, Rufus M., Iowa City, Iowa. Water cut-off. (Antedated Feb. 2, 1871)	Feb. 14, 1871
	Black, Charles N., administrator. (*See* Thompson, Moses) (Extension.)	
117,738	Black, Green V., Jacksonville, Fl. Dental drill	Aug. 8, 1871
117,733	Same. Universal joint for shaft-couplings	Aug. 8, 1871
114,519	Black, Horace S., Buchanan, Mich. Clothes-drier	May 9, 1871
	Black, James, and Robert E. Rogers. (*See* Rogers & Black) (Reissue.)	
112,112	Black, John Q., Richland Centre, Wis. Cheese-turning apparatus	Feb. 28, 1871
	Black, J. S. (*See* Smith, James P., assignor.)	
115,419	Black, William, Baltimore, Md. Weighing-scale	May 30, 1871
	Black, William E. (*See* Hayman, William, assignor.)	
117,373	Black, William T., Erie, Pa. Base-burning stove	July 25, 1871
115,370	Blackman, James A., Decorah, Iowa. Hot-air furnace	May 30, 1871
116,425	Blackwell, Benjamin B., Jamaica, N. Y. Printers' furniture	Aug. 29, 1871
112,533	Blackwell, Ezra B., Newton, Mass. Shirt-polishing machine	Mar. 14, 1871
117,970	Blackwood, John, Madison Township, Ohio. Gang-plow	Aug. 15, 1871
	Blaffer, John A., *et al.* (*See* Windhausen, Franz, assignor) (Two cases.)	
115,683	Blair, Valentine C., Wheatland, Pa. Elevator	June 6, 1871
	Blaisdell, Edwin A., and Robinson Brown. (*See* Brown & Blaisdell.)	
114,356	Blake, Christopher, Boston, Mass. Fire-extinguisher	May 2, 1871
	Blake, David. (*See* Dodge, James, assignor.)	
116,542	Blake, Edward S., Pittsburgh, Pa. Pitman-rod	July 4, 1871
116,014	Blake, Elisha B., Tarrytown, N. Y. Milkman's signal	June 20, 1871
118,097	Blake, Ezekiel and James E., Chicopee, Mass. Barrel and box elevator	Aug. 15, 1871
118,838	Blake, George F., Boston, Mass. Piston-packing	Sept. 12, 1871
120,565	Same. same	Nov. 7, 1871
121,392	Same. Valve for direct-acting engines	Nov. 28, 1871
111,721	Blake, George W., New York, N. Y. Steam-radiator	Feb. 14, 1871
	Blake, Henry D. (*See* Smith, Loyal J., assignor.)	
113,970	Blake, Ira G., Worcester, Mass. Watchman's time-check clock	April 25, 1871
121,228	Blake, John W., Jefferson, Wis. Cultivator and horse-hoe. (Antedated Nov. 17, 1871)	Nov. 28, 1871
116,402	Blake, Lyman R., Fort Wayne, Ind. Feather edging and channeling machine for boots and shoes	June 27, 1871
116,921	Same. Channeling soles for boots and shoes	July 11, 1871
117,500	Same. Sewing-machine for boots and shoes	Aug. 1, 1871
117,856	Same. Machine for channeling soles of boots and shoes	Aug. 8, 1871
115,420	Blake, Richard C., Cincinnati, Ohio. Pressure-gauge	May 30, 1871
116,669	Blake, Richard C., Cincinnati, Ohio. Steam-gauge	July 4, 1871
111,306	Blake, Robert, Scranton, Pa. Apparatus for opening the eyes of picks	Jan. 31, 1871
114,520	Blakeman, Elisha D., Mount Lebanon, N. Y. Piano-violin	May 9, 1871
119,814	Blakemore, Charles C., Zanesville, Ohio. Felling-attachment for sewing-machines. (Antedated Sept. 25, 1871)	Oct. 10, 1871
118,783	Blakeney, John W., New York, N. Y. Spring-seat	Sept. 12, 1871
	Blakeslee, Charles W., *et al.* (*See* Davis, Blakeslee & Peck.)	
116,992	Blakeslee, Edward C., Waterbury, Conn. Machine for threading sheet-metal screws	July 11, 1871
	Blakeslee, John R. (*See* Sprague, Edwin, assignor.)	
113,840	Blakey, William, Brooklyn, N. Y. Grain-drier	April 18, 1871
116,143	Blanchard, Abner J., Boston, Mass. Water-back for stoves	June 20, 1871
113,484	Blanchard, Jerome, Iowa Falls, Iowa. Plow	April 11, 1871
113,010	Blanchard, Joseph B., Boston, Mass. Needle for sewing-machines	Mar. 28, 1871
	Blanchard, J. M., & Co. (*See* Prall, William E., assignor.)	
117,251	Blanchard, Nathaniel L., Spuyten Duyvil, N. Y. Steam-boiler	July 25, 1871
117,252	Same. Blower for chimney-stacks	July 25, 1871
116,185	Blaney, Elias, Marblehead, Mass. Machine for shaping the soles of shoes	Aug. 22, 1871
121,361	Blaney, James V. K., Chicago, Ill. Process for restoring writing or printing on charred paper	Nov. 28, 1871
114,754	Blatchly, Ambrose, San Francisco, Cal. Gearing for operating drills	May 16, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,690	Bless, Richard, Brooklyn, N. Y. Feeding-mechanism for sewing-machines	Oct. 10, 1871
110,624	Bless, Eleazar, Indianapolis, Ind. Cutter for nail-cutting machines	Jan. 3, 1871
115,563	Same. Swedge for forming cutters for nail-machines	June 6, 1871
112,770	Blessing, James H., assignor to self and Frederick Townsend, Albany, N. Y. Piston-rod packing	Mar. 21, 1871
114,257	Same. Steam-trap	May 2, 1871
116,403	Same. same	June 27, 1871
121,748	Same. Apparatus for warming buildings with steam	Dec. 12, 1871
113,726	Blessing, James H., assignor to self and Townsend & Jackson, Albany, N. Y. Shaft-coupling	April 18, 1871
113,841	Same. Friction-clutch for belt-pulleys	April 18, 1871
120,234	Bligh, Samuel L., Pithole City, Pa. Desk or table attachment for chairs	Oct. 24, 1871
120,024	Blinn, Edward E., Brewerton, N. Y. Stove-pipe drum	Oct. 17, 1871
116,670	Blinn, Samuel C., Tecumseh, Mich. Stove-jointer	July 4, 1871
4,650	Bliss, Elipbalet W., assignor to Charles Pratt, Brooklyn, N. Y. Machine for making tin-cans (Reissue)	Dec. 5, 1871
111,307	Bliss, George W., Springfield, Mass. Metallic roofing	Jan. 31, 1871
111,160	Bliss, John and George H., Brooklyn, N. Y. Liquid-compass	Jan. 24, 1871
118,681	Bliss, William H., Newport, R. I. Earth-cabinet	Sept. 5, 1871
	Blodan, John, and August Gebhard. (*See* Gebhard & Blodan.)	
	Blodgett, Charles A., *et al.* (*See* Hallowell, Elliott & Blodgett.)	
112,316	Bloede, Victor G., Brooklyn, N. Y. Manufacture of Rochelle salts and borax	Mar. 7, 1871
121,578	Blom, Cornelius, and John Alting, Holland, Mich. Broom-head	Dec. 5, 1871
112,113	Blomsten, Bengt C., Waupaca, Wis. Straw-cutter	Feb. 28, 1871
118,186	Same. Cultivator. (Antedated Aug. 8, 1871)	Aug. 22, 1871
110,728	Bloodgood, John H., Bridgeport, Conn. Sash-holder	Jan. 3, 1871
113,971	Bloom, William H., Tiffin, Ohio. Culinary vessel	April 25, 1871
115,684	Bloomfield, Homer, assignor to Joseph Wesley Stow, San Francisco, Cal. Manufacture of pneumatic gas	June 6, 1871
	Blose, John H., *et al.* (*See* Rohrer & Blose.)	
	Blount, Haiman & Bro. (*See* Haiman, Elias, assignor.)	
111,427	Blue, Samuel, Danville, Pa. Cooking-stove	Jan. 31, 1871
121,577	Blueher, Franz., Mascoutah, Ill. Apparatus for preserving and forcing beer with cold air	Dec. 5, 1871
	Blundell, Henry, agent. (*See* Little, Robert B., assignor.)	
119,689	Blundell, William A., assignor to self, William P. Nelson, and Mathew C. Tully, Saint Louis, Mo. Attachment for harness	Mar. 21, 1871
	Blunt, John G., *et al.* (*See* Smith, Roswell T., assignor) (Reissue.)	
	Bly, Douglas. (*See* Locke, Henry H., assignor) (Reissue.)	
	Boal, Robert H., and Thomas S. Binkhard. (*See* Binkhard & Boal.)	
	Boalt, John H., *et al.* (*See* Riotte, Eugene N., assignor.)	
118,436	Boardman, Harris, deceased, by Sarah A. Boardman, administratrix, Lancaster Township, Pa. Machine for making cord	Aug. 29, 1871
	Boardman, Joseph F., and William P. Thomas. (*See* Thomas & Boardman.)	
114,395	Boas, Isaac, New Orleans, La. Ditching-machine	May 2, 1871
	Boas, William. (*See* Lutz, William H., assignor.)	
115,685	Boch, Nicholas, assignor to self and W. J. Maidhof, New York, N. Y. Building-block	June 6, 1871
118,662	Bock, Charles and Daniel, Drum's, Pa. Shaft for sleighs	Sept. 5, 1871
4,837	Bockee, John J., jr., New York, N. Y. Lard-pail (Design)	April 25, 1871
5,876	Same. Grocer's can (Design)	Sept. 26, 1871
	Bockine, Abraham R., *et al.* (*See* Raeuchle, William, assignor.)	
	Bockus, Charles, *et al.* (*See* Tisdale, Charles D., assignor) (Reissue.)	
121,984	Bodenheimer, Louis, Paducah, Ky. Medical compound or fever and ague cure	Dec. 19, 1871
118,187	Bodwell, Alrick M., Ann Arbor, Mich. School desk and seat	Aug. 22, 1871
	Boekenkamp, Charles G., *et al.* (*See* Walton, William E., assignor.)	
	Boeklen, Reinhold, and Henry Forstrick. (*See* Forstrick & Boeklen.)	
112,410	Boeklen, Reinhold, assignor to self and Henry Forstrick, Brooklyn, N. Y. Machine for heading bolts and spikes	Mar. 7, 1871
112,890	Boesch, Emil, San Francisco, Cal. Advertising-lamp	Mar. 21, 1871
122,217	Same. Lamp	Dec. 26, 1871
113,011	Boesen, Peter, and Michael Bodesseun, Kenosha, Wis. Culinary boiler	Mar. 28, 1871
119,073	Bogardus, Abram, Matteawan, N. Y. Hat	Sept. 19, 1871
	Bogardus, Alfred, and Charles Lewis Anderson. (*See* Anderson & Bogardus.)	
110,729	Bogart, Abraham L., New York, N. Y. Gas-apparatus	Jan. 3, 1871
119,561	Bogart, Abraham L., New York, N. Y. Apparatus for lighting gas-jets by induced current of electricity	Oct. 3, 1871
	Bogal, William, *et al.* (*See* Fisher, Charles Friedrich, assignor.)	
122,218	Bogert, Charles A., Bay City, Mich. Combined walking-cane and billiard-cue	Dec. 26, 1871
	Bogert, Gilbert J., and Eben Peck. (*See* Myers & Eunson, assignors.) (Disclaimer.)	
119,361	Bogge, David, and Hermann Rohs, Cynthiana, Ky. Hand-cultivator	Sept. 26, 1871
120,934	Bogk, William, Milwaukee, Wis. Refrigerator	Nov. 14, 1871
122,147	Bogle, Ralph, Milton, Pa. Combined coal hod and sifter	Dec. 26, 1871
112,011	Bohannan, Wilson, Brooklyn, N. Y. Seal-lock	Feb. 21, 1871
112,211	Bohannan, Wilson, assignor to American Seal-Lock Company, Brooklyn, N. Y. Keyless padlock	Feb. 28, 1871
112,891	Bohler, John J., Westfield, Mass. Whip-stock	Mar. 21, 1871
116,404	Bohn, John C., Allegheny, Pa. Spur	June 27, 1871
112,012	Boice, Peter, Chatham Village, N. Y. Machine for cleaning garden-walks	Feb. 21, 1871
4,501	Boileau, Etienne, Saint Louis, Mo. Fire-plate for stoves (Reissue)	Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,548	Boileau, Etienne, Saint Louis, Mo. Fire-plate for boiler-furnaces	Oct. 3, 1871
117,039	Boiles, James, New York, N. Y. Stern-bearing for propellers	July 18, 1871
110,730	Boland, Frederick W., New York, N. Y. Shuttle for sewing-machines	Jan. 3, 1871
4,701	Boland, Matthew F., Philadelphia, Pa. Hame-top (Design)	Mar. 14, 1871
112,892	Bolander, Aaron, Akron, Ohio. Mowing-machine	Mar. 21, 1871
118,188	Same. Machine for crushing corn	Aug. 22, 1871
113,619	Boldemann, Otto, New York, N. Y. Refining and disinfecting apparatus	April 11, 1871
116,144	Bolin, James P., Orangeburgh County, S. C. Cotton-press	June 20, 1871
121,077	Bollerman, Dominic L., assignor to Jesse J. Davis, Mount Vernon, N. Y. Hammer-flange butt for piano-action	Nov. 21, 1871
120,365	Bolles, Julius, Jackson, Ohio. Apparatus for elevating hay	Oct. 31, 1871
120,235	Bollman, George W., Pittsburgh, Pa. Manufacture of boilers, steam-cylinders, fittings, &c.	Oct. 24, 1871
114,755	Bolman, Edward, and George S. W. Clarke, Canada. Car-coupling	May 16, 1871
	Bolster, Solomon A., executor. (*See* Grigga, George S.) (Two cases.) (Extension.)	
117,971	Bolt, Daniel A., Harrisburgh, Pa. Hoisting-machine	Aug. 15, 1871
119,737	Bolthoff, Henry, Central City, Colo. Device for cutting stencil-plates	Oct. 10, 1871
121,985	Same. Stamp-guide	Dec. 19, 1871
112,114	Bolton, N. H., Omro, Wis. Sawing-machine	Feb. 28, 1871
120,709	Same. Machine for sharpening saws	Nov. 7, 1871
114,100	Bolton, Simeon R., assignor to self, Hannibal Felt, and Pascal P. Child, Prescott, Mo. Wagon-brake	April 25, 1871
120,493	Bois, George J., Michael Grabner, and Julius M. Jagel, New York, N. Y. Bird-cage. (Antedated Oct. 27, 1871)	Oct. 31, 1871
111,511	Bomby, Briscus E., Espy, Pa. Apparatus for oiling fellies, spokes, &c.	Feb. 7, 1871
114,396	Bond, Asa M., Concord, N. H. Machine for preparing beefsteak	May 2, 1871
	Bond, E. T. (*See* Balch, Frederic A., assignor.)	
118,427	Bond, Howard B., assignor to self and James B. Brice, Terrebonne Parish, La. Defecating and bleaching saccharine matter	Aug. 29, 1871
111,428	Bond, Joel L., Saint Louis, Mo. Combined gang and subsoil plow	Jan. 31, 1871
113,390	Same. Gang and subsoil plow	April 4, 1871
	Bond, John Wesley, and William Allen. (*See* Allen & Bond.)	
114,581	Bond, Spencer C., Hainesville, Ill. Alarm-bell	May 9, 1871
121,483	Bond, Virgil A., Cotton Gin, Texas. Pipe and cigar-holder	Dec. 5, 1871
115,271	Bond, William, Windsorville, Conn. Scroll for operating the carriages of spinning-mules	May 30, 1871
	Bonetti, Pietro, and Constantine Wegscheider. (*See* Wegscheider & Bonetti)	
110,731	Bonnell, Lansing, Milwaukee, Wis. Hot-air furnace	Jan. 3, 1871
4,331	Bonnell, William H., assignor to self and Horace Parmelee, Buffalo, N. Y. Lantern (Division A, reissue)	April 11, 1871
4,332	Same. Lantern (Division B, reissue)	April 11, 1871
	Bonnell, William H., *et al.* (*See* Orphy, John, assignor.)	
112,534	Bonneval, Eduardo, Boston, Mass. Car brake and starter	Mar. 14, 1871
111,309	Bonney, Olpha, jr., San Francisco, Cal. Horse hay-rake	Jan. 31, 1871
117,857	Bonsal, Charles T., and Theodore Bergner, Philadelphia, Pa. Air-pressure tap	Aug. 8, 1871
	Bonzano, Adolphus, and Thomas C. Clark. (*See* Clarke & Bonzano.) (Two cases.)	
114,6 8	Booher, Jesse, Dayton, Ohio. Tree-tub	May 9, 1871
116,800	Boon, Alonzo T., and Lucien Mills, assignor to selves, Frank Hughes, and W. S. Dewey, Galesburgh, Ill. Gate and door spring	July 11, 1871
117,308	Boon, Alonzo T., David M. Orsborn, and George Geer, Galesburgh, Ill. Machine for turning calks of horseshoes	Aug. 1, 1871
120,147	Boone, John L., assignor to self and Milton A. Wheaton, San Francisco, Cal. Roller-skate. (Antedated Oct. 3, 1871)	Oct. 24, 1871
118,510	Boone, Simpson P., Americus, Ga. Commode and wash-stand combined	Aug. 29, 1871
113,247	Boorsem, John V. V., New York, N. Y. Valve for steam-pumps	April 4, 1871
113,248	Same. same	April 4, 1871
114,756	Boorn, Samuel, Lowell, Mass. Loom	May 16, 1871
114,307	Boot, Henry, assignor to Thomas Dolan, Philadelphia, Pa. Knitted fabric	May 2, 1871
113,495	Boote, John J. K., and William A. Gibson, Cleveland, Ohio. Elastic cement for lining petroleum barrels	April 11, 1871
111,720	Booth, Alfred, Chicago, Ill. Refrigerating oyster-can	Feb. 14, 1871
	Booth, B. F. (*See* Devore, Leonard, assignor.)	
	Booth, George, & Co. (*See* White, Henry Clay, assignor.)	
	Same. (*See* Armbruster, Jacob H., assignor.)	
121,642	Booth, James, assignor to John Dobson, Pottstown, Pa. Harness-mechanism for looms	Dec. 12, 1871
115,979	Booth, Nathan, Cheshire, Conn. Washing-machine	May 30, 1871
111,170	Boothroyd, Joseph, Michigan City, Ind. Car-coupling	Jan. 31, 1871
110,625	Booton, Sinclair, Seguin, Texas. Shot case and distributer	Jan. 3, 1871
112,893	Bootaman, Theodore, Tompkinsville, N. Y. Portable railway	Mar. 21, 1871
121,701	Booze, Anderson, Buchanan, Va. Still for spirits	Nov. 7, 1871
122,148	Boozer, John, Potter's Mills, Pa. Grain and seed separator	Dec. 26, 1871
112,679	Boozer, William H., Potter's Mills, Pa. Loom	Mar. 14, 1871
114,398	Borein, Peter R., San Leandro, Cal. Roller-skate	May 2, 1871
114,399	Borger, Peter J., Cincinnati, Ohio. Safety-device for hoists	May 2, 1871
110,738	Borgfeldt, Nicholas H., New York, N. Y. Cigar-mold	Jan. 3, 1871
115,631	Borgert, John A., Jersey City, N. J. Spike-extractor	May 30, 1871
117,734	Borland, Andrew J., Charlestown, Iowa. Wheel-plow	Aug. 8, 1871
	Borland, Thomas H., and Samuel C. Murdock. (*See* Murdock & Borland.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,217	Borsch, John L., Philadelphia, Pa. Shuttle-treading device for sewing-machine	Sept. 26, 1871
113,136	Borst, Valentin, New York, N. Y. Harness-saddle	Mar. 28, 1871
119,113	Same. same	Sept. 19, 1871
111,309	Borthwick, John A., assignor to self and George W. Hess, Philadelphia, Pa. Hat supporter and ventilator combined	Jan. 31, 1871
111,171	Bosart, Timothy L., jr., Indianapolis, Ind. Coal-box	Jan. 24, 1871
114,523	Bosley, Elijah M., Baltimore, Md. Steam-radiator	May 9, 1871
116,592	Bossee, Oscar, Millbrae, Cal. Hay-press	Aug. 29, 1871
5,296	Bostick, Emanuel, assignor to self and Erastus B. Kunkle, Fort Wayne, Ind. Agitating-plate for egg-beaters (Design)	Oct. 3, 1871
115,019	Bostock, Edward, Philadelphia, Pa. Adjustable ruler	May 23, 1871
	Boston Belting Company. (*See* Holt, John F., assignor) (Reissue.)	
	Boston, William, and George E. Johnson. (*See* Johnson & Boston.)	
	Bostwick, Emanuel. (*See* Kunkle, Erastus B., assignor.)	
111,902	Bostwick, Jabes A., New York, N. Y. Tap for oil-cans	Feb. 21, 1871
112,771	Same. Tap and nozzle for oil-cans	Mar. 21, 1871
113,137	Same. Nozzle for oil-cans	Mar. 28, 1871
120,708	Same. Nozzle and cap for oil-cans	Nov. 7, 1871
121,579	Same. Tap for oil-cans	Dec. 5, 1871
116,923	Bostwick, Seymour A., Waltham, Mass. Machine for cutting sheet-metal	July 11, 1871
118,189	Boswell, Daniel, Green Castle, Ind. Mole-trap	Aug. 22, 1871
112,411	Boswell, Joseph and Levi M., Jonathan Palmer, and Jonathan H. James, assignors to selves and Thomas Starbuck, Wilmington, Ohio. Washing-machine	Mar. 7, 1871
118,098	Boswell, William, Pontiac, Mich. Milk-rack	Aug. 15, 1871
118,783	Same. Brick and mortar elevator	Sept. 19, 1871
4,381	Bosworth, Charles F., Milford, Conn. Fabric for head-covering (Reissue)	May 16, 1871
113,730	Bosworth, Lycurgus J., Monmouth, Ill. Car-coupling	April 18, 1871
117,972	Bothe, Henry, Saint Louis, Mo. Omnibus-brake	Aug. 15, 1871
117,040	Bott, William H. and Peter, West Manchester Township, Pa. Grain and straw shaker	July 18, 1871
	Bottner, Fred., and George H. Johnson. (*See* Johnson & Bottner.)	
114,400	Bouchard, Adolph, New Orleans, La. Machine for the treatment of fibrous plants	May 2, 1871
5,337	Bouet, Joannin, assignor to Joseph Wild & Co., England. Carpet-pattern. (Design)	Oct. 31, 1871
114,907	Boughton, John W., and Elisha C. Hussey, New York, N. Y. Table for making wainscoting	May 16, 1871
111,439	Boughton, Mary Ann, Norwalk, Conn. Mode of forming the air-chamber in dental plates	Jan. 31, 1871
113,842	Same. Bridgeport, Conn. Cooking-stove	April 18, 1871
	Same. Norwalk, Conn. same (Reissue)	Sept. 26, 1871
118,900	Boughton, Smith C., Waterford, N. Y. Bridle-bit	Sept. 19, 1871
112,630	Boult, Myron T., Battle Creek, Mich. Carving-tool	Mar. 14, 1871
116,543	Same. Machine for carving and molding wood	July 4, 1871
112,894	Boulware, Richard A., Doniphan, Kans. Corn-planter	Mar. 21, 1871
112,535	Bourgade, Gustave, New York, N. Y. Treating marine plants to obtain gelatine, &c.	Mar. 14, 1871
113,731	Bourland, Melton S., Buena Vista, Tex. Tenoning-machine	April 18, 1871
115,422	Bourn, Augustus O., Providence, R. I. Boot and shoe	May 30, 1871
116,671	Same. Steam-packing	July 4, 1871
121,446	Same. Overshoe	Nov. 28, 1871
5,065	Bourn, Augustus O., assignor to the National Rubber Company, Providence, R. I. Rubber overshoe (Design)	July 4, 1871
5,066	Same. same (Design)	July 4, 1871
5,067	Same. same (Design)	July 4, 1871
5,098	Same. Ornamentation of rubber boots and shoes (Design)	July 11, 1871
113,486	Bourn, Augustus O., and Isaac F. Williams, Providence, R. I. Manufacture of rubber belting	April 11, 1871
118,099	Same. Bristol, R. I. Tap-sole for rubber boots and shoes	Aug. 15, 1871
	Bousfield, Edward T., and James Howard. (*See* Howard & Bousfield.) (Two cases.)	
114,401	Boutel, Thomas C., France. Bridge	May 2, 1871
	Bouvier, Leopold. (*See* Tellier, Charles, assignor.)	
113,620	Bovey, George C., Cincinnati, Ohio. Automatic fan	April 11, 1871
113,621	Same. Key-hole guard	April 11, 1871
117,973	Same. Clay-pulveriser	Aug. 15, 1871
120,484	Same. Gate	Oct. 31, 1871
	Bovyer, William L. (*See* Frasee, Vitruvius, assignor.)	
116,961	Bowden, Isaiah W., and Joseph D. Leach, Penobscot, Me. Device for worming and serving rigging	June 27, 1871
121,078	Bowden, William, assignor through mesne assignments to Richard Bowden and George Abbott, White's Corners, N. Y. Tire-machine. (Antedated Sept. 7, 1871)	Nov. 21, 1871
120,483	Bowdish, Nelson S., Richfield Springs, N. Y. Photographic posing-chair	Oct. 31, 1871
	Bowdoin, Henry A. (*See* Green, Thomas, assignor.)	
120,366	Bowen, Charles P., Silver City, Idaho. Governor for steam and other engines	Oct. 31, 1871
117,374	Bowen, Franklin E., Knightstown, Ind. Fanning-mill	July 25, 1871
111,033	Bowen, Hiram R., and Lorenzo D. Robnett, New Washington, Ind. Plow	Jan. 17, 1871
115,686	Bowen, James A., Boston, Mass. Inkstand	June 6, 1871
113,731	Bowen, Jesse, and Aaron T. Foster, Clarksburgh, Ohio. Cider-mill	April 18, 1871
115,423	Bowen, Noah, Columbus, Ohio. Steam-heater	May 30, 1871
116,984	Bowen, William F., Stark, Fla. Cotton-gin	July 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,424	Bower, Adam J., Albion, Ill. Lathe for turning axles	May 30, 1871
115,687	Bower, James W., Princeville, Ill. Compound for covering coffins	June 6, 1871
120,847	Bowers, Isaac E., Bainbridge, Ga. Carriage-wheel	Nov. 14, 1871
116,673	Bowker, Daniel, Boston, Mass. Jack-post for pegging shoes. (Antedated June 24, 1871)	July 4, 1871
118,901	Bowker, Horace L., Boston, Mass. Process of making beer, &c.	Sept. 12, 1871
112,212	Bowlds, Francis H., Fairfield, Ky. Shovel-plow	Feb. 28, 1871
111,518	Bowles, John, assignor to self and Samuel Bard, Augusta, Ga. Lamp for coal-oil stoves	Feb. 7, 1871
	Bowling Green Improved Cylinder and Pump Packing Company. (*See* Huss, John Adam.)	
121,484	Bowman, Daniel W., Tippecanoe City, Ohio. Cultivator	Dec. 5, 1871
115,688	Bowman, John, and William G. Selby, Princeville, Ill. Combined seeder, planter, and cultivator	June 6, 1871
114,908	Bowman, William C., Clarksburgh District, Md. Corn-planter	May 16, 1871
	Bown, John D., and Daniel Snowhill. (*See* Snowhill & Bown.)	
114,101	Bowne, Robert T., Fallston, Md. Gate	April 25, 1871
121,392	Boyce, Jacob A., Altoona, Pa. Washing-machine. (Antedated Nov. 11, 1871)	Nov. 28, 1871
115,080	Boyce, James, Muncie, Ind. Flax thrashing and separating machine	May 23, 1871
111,178	Boyce, Louis D., and George H. Jones, Rochester, N. Y. Railway-car truck	Jan. 24, 1871
5,042	Boyd, Francis, Newburgh, N. Y. Basin-front (Design)	June 27, 1871
	Boyd, Harland. (*See* Moore, Charles S. and Silas A.)	
	Boyd, Harland P., and Charles S. Moore. (*See* Moore & Boyd.)	
120,148	Boyd, Henry, East Bridgewater, Mass. Machine for bending chain-links	Oct. 24, 1871
122,149	Boyd, James H., West Monterey, Pa. Spring-bit for cleaning and enlarging wells	Dec. 26, 1871
	Boyd, James M. (*See* Loomis, Kellogg H., assignor.)	
	Boyd, John, and Jacob Seeger. (*See* Seeger & Boyd.)	
115,937	Boyd, Louis R., New York, N. Y. Screw-cap for cans	June 13, 1871
	Same (*See* Taylor & Hodgetts, assignors.)	
	Boyd, Samuel S., *et al.* (*See* Draper, Henry V. P., assignor.)	
116,273	Boyd, William, Hartford, N. Y. Clamp for thill-coupling	May 30, 1871
	Boyd, William L., and Jacob W. Spangler. (*See* Spangler & Boyd.)	
115,021	Boyden, Pardon, assignor of one-half interest to Oscar F. Nelson, Amsterdam, N. Y. Stove-grate	May 23, 1871
112,115	Boyden, Theodore V., Bridgeport, Conn. Drill	Feb. 28, 1871
114,639	Same Machine for heading cartridge-shells	May 9, 1871
118,583	Boyer, John, Fairfield Township, Pa. Brake for vehicles	Aug. 29, 1871
112,895	Boyer, Michael C., Norristown, Pa. Device for opening oysters	Mar. 21, 1871
116,673	Same Track-clearer for railway-cars	July 4, 1871
120,025	Same Wagon or carriage body	Oct. 17, 1871
	Boyer, William L., and Brother. (*See* Ingraham, Amer, assignor.)	
4,449	Boyes, Burritt C., assignor through mesne assignments to Willcox & Gibbs Sewing-Machine Company, New York, N. Y. Folding-guide for sewing-machines (Re-issue)	June 27, 1871
116,405	Boyland, Jeptha G., and George Buchanan, Crawfordsville, Ind. Turbine water-wheel	June 27, 1871
	Boyle, James E., and George P. Perrine. (*See* Perrine & Boyle) (Extension.)	
112,412	Boyles, Ellery C., New York, N. Y. Water-wheel	Mar. 7, 1871
115,495	Boyman, Richard Boyman, England. Propulsion of vessels	May 30, 1871
	Boynton, Al Fitch. (*See* Young, George S., assignor.)	
116,406	Boynton, Edward S., assignor to self and Charles Parker, Brooklyn, N. Y. Lithographic printing-press	June 27, 1871
116,674	Boynton, Nathaniel A., New York, N. Y. Heating-stove	July 4, 1871
116,675	Same Stove-pipe damper	July 4, 1871
	Boynton, N. A., *et al.* (*See* Lewis, Albert C., assignor.)	
121,229	Brace, James P., assignor of one-half interest to Edward G. Danforth, Springfield, Ohio. Stove-pipe elbow	Nov. 28, 1871
110,891	Bracher, Thomas W., New York, N. Y. Embossing hat-linings	Jan. 10, 1871
113,391	Same Sewing-machine	April 4, 1871
115,660	Same Ornamenting hat linings and tips	June 6, 1871
4,488	Same Hat lining and tip (Reissue)	July 25, 1871
119,563	Same Ornamenting labels and hat-linings, &c.	Oct. 3, 1871
	Braches, Charles. (*See* Fringes, Charles H., assignor.) (Three cases.)	
112,773	Brackett, Joseph, Lynn, Mass. Horseshoe	Mar. 21, 1871
116,676	Brada, Charles, New York, N. Y. Folding-chair	July 4, 1871
113,012	Brada, John, New York, N. Y. Lounge-bed	Mar. 28, 1871
120,566	Bradbury, John, assignor to Hartford Manufacturing Company, Berlin, Conn. Fire-tongs	Nov. 7, 1871
120,567	Same same	Nov. 7, 1871
120,568	Same Caster	Nov. 7, 1871
120,569	Same Bird-cage hook	Nov. 7, 1871
113,973	Bradfield, John R., Ada, Mich. Flour bolt and reel	April 25, 1871
	Bradford, Charles K., and Eben W. Keyes. (*See* Keyes & Bradford.)	
115,928	Bradford, Gilbert, assignor to the Portable Steam-Engine and Manufacturing Company, Watertown, N. Y. Steam-engine	June 13, 1871
115,426	Bradford, Horace C., Providence, R. I. Sinker-wheel for knitting-machines	May 30, 1871
116,677	Same Stop-motion and creel-stand for knitting-machines	July 4, 1871
120,703	Same Tool for setting hook-buttons	Nov. 7, 1871
111,034	Bradford, Horace C., assignor to self and H. M. Fenner, Providence, R. I. Cotton and seed huller	Jan. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,961	Bradford, Joseph B., Calamus, Iowa. Combined boiler and steamer	Oct. 17, 1871
	Bradford, Purmort, and Joseph B. Sargent. (*See* Sargent & Bradford)	
	Bradford, Purmort, and Charles H., *et al.* (*See* Munson & Bradford.) (Design.)	
5,288	Bradford, Purmort, assignor to Sargent & Co., New Haven, Conn. Fastener for meeting-rails of sashes (Design)	Sept. 26, 1871
119,499	Same Turn-button for doors, &c.	Oct. 3, 1871
119,500	Same Blower-stand	Oct. 3, 1871
113,843	Bradford, William A., Cincinnati, Ohio. Low-water indicator	April 18, 1871
	Bradley & Hubbard, (*See* Seidensticker, Frederick R., assignor.) (Four cases.) (Design.)	
	Same (*See* Evarts & Cinquini, assignors.)	
	Same (*See* Hubbard, George R., assignor.) (Design.)	
	Same (*See* Cunningham, James, assignor.)	
	Same (*See* Cinquini, Pietro, assignor.) (Design.)	
	Bradley, Benjamin H. (*See* Gibbad, Eli B., assignor.)	
121,393	Bradley, David, and Asa Doney, Saratoga Springs, N. Y. Washing-machine	Nov. 28, 1871
114,909	Bradley, Frederick A., assignor to O. R. Worth & Co., New Haven, Conn. Top-prop for carriages	May 16, 1871
114,958	Bradley, George L., assignor to self and Everett W. Bigelow, Boston, Mass. Thill-coupling	May 2, 1871
110,626	Bradley, Henry W., Binghamton, N. Y. Compound for culinary use	Jan. 3, 1871
120,026	Bradley, Henry W., Plainfield, N. J. Shortening for culinary use. (Antedated Oct. 3, 1871)	Oct. 17, 1871
114,102	Bradley, John, assignor to self and Frank I. Kimball, New York, N. Y. Ventilator for railroad-cars and dwellings	April 25, 1871
114,640	Bradley, Joseph H., Hillsborough, Ohio. Straw-cutter	May 9, 1871
111,035	Bradley, Joseph H., assignor to self and Charles S. Bell, Hillsborough, Ohio. Feed-cutter	Jan. 17, 1871
4,419	Bradley, Lewis P., New Haven, Conn. Tape-measure (Reissue)	June 13, 1871
113,430	Bradley, Nathaniel L., assignor to Bradley & Hubbard, Meriden, Conn. Cup for kerosene lamps	Jan. 31, 1871
	Bradley, Sylvester, and Zera Waters. (*See* Waters & Bradley.)	
	Bradley, Thomas R. V. (*See* Smith, Reuben A., assignor.)	
	Bradley, William H. (*See* Gregory, George, assignor.)	
111,310	Bradshaw, Arthur, Rochester, N. Y. Bee-hive	Jan. 31, 1871
115,690	Bradshaw, Hugh, Chicago, Ill. Machine for crozing staves	June 6, 1871
4,233	Bradshaw, John A., William H. Brown, and Darius Whitehead, Lowell, Mass. Treadle for sewing-machines (Reissue)	Jan. 17, 1871
116,015	Bradshaw, William Joseph, Cleveland, Ohio. Earth-closet	June 20, 1871
120,367	Same Same	Oct. 31, 1871
113,497	Bradt, Henry E., Manistee, Mich. Edging-machine	April 11, 1871
	Bradway, John P., and William S. Deeds. (*See* Deeds & Bradway.)	
112,213	Brady, Elijah, New York, N. Y. Triturator	Feb. 28, 1871
114,523	Brady, Freeman, jr., Washington, Pa. Attachment for sash-weights	May 9, 1871
120,704	Brady, James, assignor to the Bradford Lock Works, Bradford, Conn. Door-lock	Nov. 7, 1871
118,334	Brady, John, and Charles L. Wall, Philadelphia, Pa. Ash-sifter	Aug. 22, 1871
119,738	Bragaw, John A., assignor to self and Nelson Ingram, Kingston, N. Y. Coal-scuttle	Oct. 10, 1871
116,678	Braggins, Edward, Mount Vernon, Ohio. Combined corn-planter and cultivator	July 4, 1871
110,951	Brainard, Amos H., Hyde Park, Mass. Back-center for milling-machines	Jan. 17, 1871
111,311	Same Head-stock for milling-machines	Jan. 31, 1871
4,436	Brainard, Edwin D., Albany, N. Y. Apparatus for refrigerating and desiccating (Division A, reissued)	June 27, 1871
4,437	Same Construction of ice-chambers, refrigerating chambers, &c. (Division B, reissued)	June 27, 1871
	Brailin, John, *et al.* (*See* Wood, James A., assignor.)	
117,375	Braley, Ephraim, assignor to self and Luther C. Hastings, Carmel, Me. Box for chalk-lines	July 25, 1871
116,333	Bramer, Frank, Little Falls, N. Y. Clutch for harvesters	Aug. 22, 1871
	Branch, Joseph W. (*See* Mulligan, James T., assignor.)	
119,113	Branch, William G., James A. Haseltine, and Walter and Charles F. Branch, Pomeroy, Ohio. Dovetailing-machine	Sept. 19, 1871
	Brand, Junius A., and John D. Crocker. (*See* Crocker & Brand.)	
113,973	Brandeis, Leopold, Brooklyn, N. Y. Material for filtering	April 25, 1871
	Brandenburger, Andrew. (*See* Felber, Jacob, assignor.)	
117,376	Brandon, Alexander, New York, N. Y. Process for producing signs in paint	July 25, 1871
	Brandon, David F., and Rufus B. Fowler. (*See* Fowler & Brandon.)	
112,774	Brandon, George, New York, N. Y. Street-lamp	Mar. 21, 1871
	Brandt, Hermann P., and Heinrich F. Moeller. (*See* Moeller & Brandt.)	
	Brandt, Jacob, jr. (*See* Perkins, James, assignor.)	
	Braner & Co. (*See* Kreusberger, Louis, assignor) (Design.)	
	Branford Lock Works. (*See* Brady, James, assignor.)	
112,116	Branning, Daniel L., Tampa, Fla. Odometer	Feb. 28, 1871
	Branson, James L., and G. W. Folts. (*See* Folts & Branson.)	
111,036	Brase, Adolph, and Lemuel Salladay, Scioto ville, Ohio. Steam-boiler	Jan. 17, 1871
	Brasher, William M., & Co. (*See* Robley, Joseph, assignor.) (Three cases.) (Design.)	
118,584	Brassfield, Austin G., Henry, Ill. Corn-marker	Aug. 29, 1871
	Brassington, Walter J., and Samuel P. Groocock. (*See* Groocock & Brassington.)	
121,230	Brastow, Louis C., and Alphons M. Zwiebel, assignors to L. B. Flanders, Wilkesbarre, Pa. Planing-machine attachment	Nov. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Brauer, Frederick, and Robert Nenninger. (*See* Nenninger & Brauer.)	
113,844	Brauer, Louis, Philadelphia, Pa. Apparatus for making extracts from animal and vegetable substances, &c	April 18, 1871
117,509	Braunfeld, Henry E., Philadelphia, Pa. Folding-chair	Aug. 1, 1871
121,643	Same.....Pump	Dec. 12, 1871
113,682	Braunhold, Henry, New York, N. Y. Cask for paste	April 11, 1871
116,145	Same.....Fur-box	June 20, 1871
117,650	Same.....Mode of securing pockets to traveling-bag partitions	Aug. 8, 1871
118,335	Bray, Edward P., Elizabeth, N. J. Metallic heel	Aug. 22, 1871
	Same.....(*See* Finck, Nicholas, assignor.)	
119,691	Same.....Metallic heel for boots and shoes	Oct. 10, 1871
	Bray, John B., and Wriley W. Dodson. (*See* Dodson & Bray.)	
118,839	Bray, Mellen, Newton, Mass. Boot and shoe heel	Sept. 12, 1871
121,927	Same.....Boot and shoe	Dec. 19, 1871
113,398	Bray, Morris P., Birmingham, Conn. Corset	April 4, 1871
	Same.....(*See* Hamilton, Thomas P., assignor.)	
112,681	Bray, Morris P., assignor to self and Downs & Bassett, Birmingham, Conn. Hoop-skirt	Mar. 14, 1871
4,588	Brayer, Nicholas, assignor to Equitable Co-operative Foundery Company, Rochester, N. Y. Heating-stove (Design)	Jan. 24, 1871
112,682	Braymer, George W., Penn Township, Mich. Sawing-machine	Mar. 14, 1871
116,146	Brecher, Phillip, Louisville, Ky. Fire-place	June 20, 1871
110,739	Breckenridge, Elias K., West Meriden, Conn. Fastener for meeting-rails of sashes	Jan. 3, 1871
114,910	Same.....Door-latch	May 16, 1871
120,765	Brecht, George H., Burton, Ill. Medical compound or restorative balsam	Nov. 7, 1871
121,231	Bredt, Ernst, New York, N. Y. Stud for shirts. (Antedated Nov. 10, 1871)	Nov. 28, 1871
119,908	Breed, De Witt Clinton, Medina, N. Y. Table and drawer attachment for sewing-machines	Oct. 17, 1871
120,412	Breen, Patrick, Auburn, N. Y. Tilt-hammer	Oct. 31, 1871
4,557	Breinig, David E., assignor through mesne assignments to Anna S. Breinig, Charles Taylor, and John H. Welles, New York, N. Y. Treating linseed and other oils for paints, &c (Reissue)	Sept. 19, 1871
120,706	Brennan, John B., and William Tucker, Paris, Ill. Middlings-separator	Nov. 7, 1871
	Brennan, John J., and Fred. W. Goodale. (*See* Goodale & Brennan.)	
113,530	Brenner, Godfrey, and George T. Polk, Poughkeepsie, N. Y. Car-coupling	Mar. 14, 1871
	Brenner, Philipp, *et al.* (*See* Seyl, Fischer & Brenner.)	
115,691	Brent, George Lee, Gordonsville, Va. Animal-hopple	June 6, 1871
115,693	Brett, Sydney, New York, N. Y. Bale-tie	June 6, 1871
115,814	Brett-ll, Edward W., Elizabeth, N. J. Permutation-wheel for locks	June 13, 1871
	Brevoort, Henry L., and William Craig. (*See* Craig & Brevoort.)	
112,317	Brewer, Felix, Waynesville, Mo. Bee-hive	Mar. 7, 1871
112,314	Brewer, John S., Chicago, Ill. Apparatus for lifting barrels, &c	Feb. 28, 1871
	Brewer, Joseph C., *et al.* (*See* Salvo, Christopher, assignor.)	
120,219	Brewer, Russell, assignor to self and Lyman P. Tompkins, Lincoln, Ill. Journal-box for railway-cars	Dec. 26, 1871
116,016	Brewer, Samuel C., Water Valley, Miss. Brick-kiln	June 20, 1871
117,377	Brewer, William D., Charlestown, Mass. Machine for pressing and molding cigar-bunches	July 25, 1871
118,402	Same.....Retainer for holding pressed and molded cigar-bunches	Aug. 29, 1871
114,103	Brewster, Daniel D., West Laurens, N. Y. Buckwheat-refiner	April 25, 1871
	Brewton, Ann D. (*See* Robbins, Louis S., assignor) (Reissue.)	
112,537	Brick, William S., Fitchburgh, Mass. Oil-can holder	Mar. 14, 1871
	Bricker, Henry, and Amos S. Brinser. (*See* Brinser & Bricker.)	
120,067	Bridenthall, Harry H., jr., New Derry, Pa. Harvester	Oct. 17, 1871
113,409	Bridge, James, Augusta, Me. Machine for reducing wood for the manufacture of paper-pulp	April 11, 1871
115,274	Same.....Machine for converting wood or other fibrous material into pulp	May 30, 1871
112,013	Bridge, Lewis, assignor to David Stuart and Richard Peterson, Philadelphia, Pa. Detachable magazine for cooking-stoves and ranges	Feb. 21, 1871
	Bridge, Lewis, and David Stuart. (*See* Stuart & Bridge) (Reissue.)	
	Same.....same.	
	Bridgeport Brass Company. (*See* Smith, George L., assignor.)	
	Bridgeport Manufacturing Company. (*See* Humphrey, John, assignor.)	
119,114	Bridges, Christopher M., Leon, Iowa. Liquid-measuring can	Sept. 19, 1871
119,366	Bridgman, Coleman, Saint Cloud, Minn. Thill-coupling	Sept. 26, 1871
116,017	Brigg, William W., Home, Tenn. Animal-trap. (Antedated June 16, 1871)	June 20, 1871
122,109	Same.....Machine for making shot	Dec. 26, 1871
	Brigg, William W., *et al.* (*See* Lawrence, William H., assignor.)	
	Briggs, Aaron, *et al.* (*See* Densmore, Myron H., assignor.)	
	Briggs, Alanson T., *et al.* (*See* Dodge, William James, assignor.)	
115,864	Briggs, George C., Boston, Mass. Apparatus for drying salt	June 6, 1871
	Briggs, George W., and William Hillhouse. (*See* Hillhouse & Briggs.)	
118,040	Briggs, George W., and Myron H. Densmore, Shickshinny, Pa. Rotary steam-engine	Sept. 12, 1871
117,367	Briggs, Martin, Rochester, N. Y. Bearing for vertical shafts	Aug. 1, 1871
115,009	Briggs, Orlando P. and Lewis W., said O. P. Briggs assignor to said L. W. Briggs, Chicago, Ill. Machine for cutting screw-threads on bolts	May 16, 1871
	Briggs, Silas P., and S. J. Pearsall. (*See* Pearsall & Briggs.)	
119,928	Brigham, Joseph L., Saint Paul, Minn. Clothes-drier	Jan. 17, 1871
	Bright, Joseph C. (*See* Krauser, Daniel H., assignor.)	
	Brightman, Joseph W., and Newton W. Taylor. (*See* Taylor & Brightman.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,561	Brignac, François M., Saint James Parish, La. Setting kettles for evaporating cane-juice, &c	Oct. 3, 1871
113,013	Brimmer, Daniel J., assignor to Martin E. Brimmer, North Petersburgh, N. Y. Dumping-car	Mar. 28, 1871
	Bringman, John, and Thomas F. Shaw. (*See* Shaw & Bringman.)	
	Brinie, William A. (*See* Wells, Charles S., assignor.)	
122,220	Brinkerhoff, Jacob, Auburn, N. Y. Clothes-wringer	Dec. 26, 1871
115,920	Brinly, Thomas E. C., Louisville, Ky. Cotton-seed planter	June 13, 1871
116,147	Same.....Cultivator	June 20, 1871
118,585	Same.....Machine for cutting potato-vines and digging potatoes	Aug. 29, 1871
	Same.....(*See* Pearson, Preston C., assignor.)	
113,845	Brinly, Thomas E. C., assignor to Tyler, Brown & Co., Louisville, Ky. Broom	April 18, 1871
110,734	Brinser, Amos S., and Henry Bricker, Falmouth, Pa. Manure-fork	Jan. 3, 1871
122,150	Bristnall, Thomas M., Medina, Ohio, and W. Eugene Powers, Cortland, N. Y. Washing-machine	Dec. 26, 1871
117,974	Britnall, Thomas M., Medina, Ohio. Cheese-frame	Aug. 15, 1871
119,363	Same.....Cloth-measuring machine	Sept. 26, 1871
	Brinton, J. Bernard. (*See* Philips, William J., assignor.)	
119,815	Brintzinghoffer, Charles, Philadelphia, Pa. Blacking-brush	Oct. 10, 1871
120,490	Brintzinghoffer, Charles, and George Eckert, Philadelphia, Pa. Brush-handle	Oct. 31, 1871
112,775	Briscoe, Benjamin and Joseph A., assignors to the Michigan Bolt and Nut Company, Detroit, Mich. Machine for upsetting bolts	Mar. 21, 1871
	Briscoe, Robert P. (*See* Mitchell, Thomas W., assignor.)	
119,502	Brison, Jerry, Competine, Iowa. Plow-clevis	Oct. 3, 1871
	Bristol Brass and Clock Company. (*See* Taplin, Alvin, assignor.) (Two cases.)	
	Britt, Exum B., *et al.* (*See* Arnold, Robersen, assignor.)	
120,026	Brittain, John T., Springfield, Ohio. Cultivator	Oct. 17, 1871
120,230	Brittan, Samuel B., Newark, N. J. Concrete and stone pavement	Oct. 24, 1871
116,408	Britten, Bashley, England. Ordnance	June 27, 1871
	Brittingham, William B., and Robert C. Gray. (*See* Gray & Brittingham.) (Two cases.)	
119,730	Britton, James, Williamsburgh, N. Y. Sheet-metal knob for teapots	Oct. 10, 1871
111,903	Britton, Rodney G., Springfield, Vt. Children's carriage	Jan. 24, 1871
5,404	Same.....Toy building-block (Design)	Dec. 5, 1871
113,733	Britton, Walter, assignor to self and Elmwood Mining and Manufacturing Company, Truro, Ill. Plow	April 18, 1871
113,848	Brix, Dominicus, Geneseo, Ill. Cooking-stove	April 18, 1871
5,137	Brix, Hans Christian, Denmark. Group of statues (Design)	July 18, 1871
112,014	Brisee, John, Alvarado, Cal. Mop-holder	Feb. 21, 1871
115,815	Same.....Mop-head	June 13, 1871
113,623	Broad, Gustavus Benson, Waterville, Me. Shawl-strap	April 11, 1871
114,409	Broadbent, Sidney, Scranton, Pa. Shaft-coupling	May 2, 1871
112,216	Broadbent, Sidney, and Williard B. Culver, Scranton, Pa. Stop-valve	Feb. 28, 1871
117,253	Broadbooks, Peter, Batavia, N. Y. Carriage-spring	July 25, 1871
112,897	Broadmeadow, John P., Bridgeport, Conn. Apparatus for tempering sand	Mar. 21, 1871
113,249	Same.....Apparatus for casting	April 4, 1871
112,215	Broadwell, Charles B., assignor to self and Ignatius Caulfield, New Orleans, La. Street-car	Feb. 28, 1871
121,079	Brock, Alvan D., Washington, D. C. Steam-generator	Nov. 21, 1871
117,041	Brock, Orville M., Monroeton, Pa. Combined cider mill and press	July 18, 1871
110,992	Brock, Orville M., assignor to James H. and George Hawes, Monroeton, Pa. Animal-power apparatus	Jan 10, 1871
116,079	Brock, William E., New York, N. Y. Window-blind	July 4, 1871
121,485	Brock, William H., Bridgeport, Conn. Safety-pin	Dec. 5, 1871
	Brockemier, Charles W., *et al.* (*See* Hobbs, Brockemier & Leighton.)	
4,366	Brockieper, Frederick W., assignor to Sargent & Co., New Haven, Conn. Butt-hinge (Design)	Nov. 21, 1871
113,734	Brockway, Damon W., Dover, Me. Shawl-strap	April 18, 1871
113,974	Brockway, Damon W., assignor to self and Jonathan F. Parkhurst, Dover, Me. Trunk-fastener	April 25, 1871
113,735	Brockway, Josephus, assignor to self and Urial K. Mayo, Albany, N. Y. Apparatus for compressing, straining, and molding plastic pyroxiline	April 18, 1871
113,736	Same.....Manufacture of dental plates from pyroxiline	April 18, 1871
121,150	Brode, John Fr., Memphis, Tenn. Car-brake	Nov. 21, 1871
118,841	Broderick, John and Michael, Louisville, Ky. Dumping-wagon	Sept. 12, 1871
	Brodhead, John C., and Edgar Eltinge. (*See* Eltinge & Brodhead.)	
111,173	Brodie, Anthony T., and Robert R. Smith, Pittsburgh, Pa. Collapsing-cores	Jan. 24, 1871
121,151	Brodie, Anthony T., Robert R. Smith, and John T. Tyler, Pittsburgh, Pa. Method and apparatus for casting pipe	Nov. 21, 1871
116,989	Brodie, George, Plum Bayou, Ark. Tie for metallic bands or hoops used in baling cotton	July 11, 1871
119,089	Same.....Baling-press	Sept. 19, 1871
120,487	Brody, Samuel, New York, N. Y. Muff-tassel	Oct. 31, 1871
121,580	Broezel, Henry, Mauston, Wis. Fountain	Dec. 5, 1871
	Bromley, John, & Sons. (*See* Koch, Christian J., assignor.)	
	Same.....(*See* Crabtree, Benjamin, jr., assignor) (Design.)	
111,513	Bromley, John C., Rock Island, Ill. Oscillating-balance steam-valve	Feb. 7, 1871
4,494	Bromley, John H., assignor to John Bromley & Sons, Philadelphia, Pa. Carpet-pattern (Design)	Feb. 7, 1871
5,226	Same.....Carpet (Design)	Sept. 12 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,556	Bronner, Julius, and Hermann G. Gutskow, Prussia. Preparing coloring-matter from anthracene.....(Reissue)..	Sept. 19, 1871
111,037	Bronson, George Walter, Ottawa, Ill. Cultivator.....	Jan. 17, 1871
121,041	Bronson, John F., Waterbury, Conn. Printers' galley.....	Nov. 21, 1871
117,378	Brook, James W., Lynchburgh, Va. Transplating device.....	July 25, 1871
117,379	Same.....Insect-guard.....	July 25, 1871
116,926	Brooke, Aries P., New York, N. Y. Glass-press.....	July 11, 1871
	Brooke, William E. (*See* Ivens, William H., assignor.)	
	Brooke, William E., and William H. Ivens. (*See* Ivens & Brooke.)	
122,221	Brooke, William M., Eaton, Ohio. School-desk.....	Dec. 26, 1871
113,393	Brookfield, William, New York, N. Y. Mode of making telegraph-insulators..	April 4, 1871
	Brooks, Alfred H. (*See* Ross, Abbott Q., assignor.)	
	Brooks, Azzel D., and Oscar Barrett. (*See* Barrett & Brooks.)	
119,503	Brooks, Benjamin G., Manchester, N. H. Apparatus for discharging extraneous coloring-matter, &c., from printed fabrics.....	Oct. 3, 1871
119,504	Brooks, Benjamin G., assignor to Waterman Smith, Manchester, N. H. Mode of attaching drums to shafts.....	Oct. 3, 1871
114,911	Brooks, David, Philadelphia, Pa. Galvanic battery.....	May 16, 1871
121,986	Brooks, Franklin W., assignor to National Manufacturing Company, New York, N. Y. Revenue-stamp canceler.....	Dec. 19, 1871
121,987	Brooks, Franklin W., and George A. Everett, assignor to the American Seal-Lock Company, New York, N. Y. Seal-lock.....	Dec. 19, 1871
111,038	Brooks, Franklin W., New York, N. Y. Stamp-canceler.....	Jan. 17, 1871
115,093	Same.....same.....	June 6, 1871
	Same.....(*See* Hamilton, Fred. C., assignor.).....(Two cases.)	
	Same.....(*See* Marston, Henry C., assignor.)	
	Brooks, H. P., and O. L. Hopson. (*See* Hopson & Brooks.)	
119,963	Brooks, Heman P., Waterbury, Conn. Paring and slicing knife.....	Oct. 17, 1871
	Brooks, John, and David H. Ball. (*See* Ball & Brooks.)	
119,776	Brooks, John E., Yarmouth, Me. Green glaze for flower-pots.....	Mar. 21, 1871
	Brooks, Joseph V., and William Reynolds. (*See* Reynolds & Brooks.)	
5,066	Brooks, Joshua, Boston, Mass. Advertising-print.....(Design)..	July 4, 1871
116,927	Brooks, Lorin A., Laporte, Ind. Heating-stove.....	July 11, 1871
113,489	Brooks, McKendree A., Laporte, Ind. Turbine water-wheel.....	April 11, 1871
113,737	Brooks, Peter, assignor to Carrington Manufacturing Company, Waterbury, Conn. Machine for punching corset-springs.....	April 18, 1871
112,413	Brooks, Rhodom M., Pike County, Ga. Cotton-press.....	Mar. 7, 1871
115,930	Brooks, Samuel R., Saint Louis, Mo. Notator for music.....	June 13, 1871
120,237	Brooks, Samuel W., Brownsville, Tex. Machine for making paving-blocks.....	Oct. 24, 1871
	Brooks, Silas N., administrator. (*See* Yale, Linus, jr.)	
118,100	Brooks, Thomas, assignor to self, Thomas Jackson, and Frank A. Foster, Minerva, Ohio. Process of converting iron into steel.....	Aug. 15, 1871
115,816	Brooks, William, assignor to self and Isaac C. Fisher, South Canton, Mass. Varnish for coating the surface of bobbins or spools.....	June 13, 1871
121,581	Brooks, William D., assignor to Mary C. Brooks, Baltimore, Md. Apparatus for testing cans, barrels, &c.....	Dec. 5, 1871
118,330	Brooks, William F., assignor to William Brooks Jones, New York, N. Y. Homogeneous metal for casting girders, beams, &c.....	Aug. 22, 1871
	Broome, Charles. (*See* Douden, Edwin, assignor.)	
114,919	Broomfield, James F., Richmond, Ky. Bee-hive.....	May 16, 1871
	Brotch, Conrad. (*See* Moulton, Charles H., assignor.)	
	Brothers, Brand, and Robert Themar. (*See* Themar & Brand.)	
119,099	Brough, William H., Coatsville, Pa. Saddle-box for relieving pressure from rolls in rolling-mills.....	Oct. 10, 1871
119,693	Same.....Saddle-box for relieving pressure from rolls in rolling-mills....	Oct. 10, 1871
117,975	Broughton, John, Brooklyn, N. Y. Water-meter.....	Aug. 15, 1871
4,593	Broughton, John, assignor through mesne assignments to Henry Moore, New York, N. Y. Lubricator.....(Reissue)..	Oct. 17, 1871
120,030	Brower, Henry L., New York, N. Y. Fire-alarm.....	Oct. 17, 1871
118,191	Brower, Henry L., assignor to Charles D. Fredericks, New York, N. Y. Combined fire and burglar alarm.....	Aug. 23, 1871
120,848	Brower, Joseph, and James and Harvey Campbell, West Alexandria, Ohio. Washing-machine.....	Nov. 14, 1871
114,403	Brown, Addison P., assignor to W. and B. Douglass, New York, N. Y. Pump..	May 2, 1871
116,409	Brown, Adna, Springfield, Vt. Coasting-wagon.....	June 27, 1871
111,312	Brown, Alexander D., sr., Columbus, Ga. Wheel for vehicles.....	Jan. 31, 1871
119,304	Brown, Alfred, New York, N. Y. Shutter-worker.....	Sept. 26, 1871
110,893	Brown, Alsiras, Worcester, Mass. Hay-tedder.....	Jan. 10, 1871
	Brown, Andrew, and Alexander H. Carson. (*See* Carson & Brown.)	
113,430	Brown, Arthur G., Wareham, Mass. Journal-box.....	April 11, 1871
120,030	Brown, Benjamin D., and Daniel Moyer, Philadelphia, Pa. Ironing-board.....	Oct. 17, 1871
112,777	Brown, Benjamin F., Catlin, Ind. Horse hay-fork.....	Mar. 21, 1871
117,510	Same.....Powder-box.....	Aug. 1, 1871
120,031	Brown, Charles H., Atlantic, Iowa. Chimney.....	Oct. 17, 1871
	Brown, C. L., and William H. Morris. (*See* Morris & Brown).....(Reissue.)	
118,190	Brown, Charles M., Chicago, Ill. Shutter-worker.....	Aug. 22, 1871
111,783	Brown, Charles M., and Cecil L. Gates, Hartford, Conn. Curtain-fixture.....	Feb. 14, 1871
118,192	Brown, Coolidge B., Placerville, Cal. Vapor-burner.....	Aug. 22, 1871
121,443	Brown, Cortland E., Pamelia, N. Y. Fence.....	Dec. 5, 1871
112,217	Brown, Cyril P., Hudson, Mich. Shower-bath apparatus.....	Feb. 28, 1871
111,869	Brown, Daniel H., Utica, Mo. Spring-supporter for carriages.....	Feb. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

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No.	Name, residence, and invention or discovery.	Date.
116,544	Brown, Daniel T., assignor to James H. M. Williams, Plainfield, N. J. Padlock.	July 4, 1871
112,536	Brown, Daniel W., Woodbridge, N. J. Apparatus for carrying drain-pipes.....	Mar. 14, 1871
117,598	Brown, Daniel W., and Charles A. Campbell, Woodbridge, N. J. Automatic signaling-apparatus for railways. (Antedated July 20, 1871).....	Aug. 1, 1871
	Brown, Daniel W., and David A. Flood. (*See* Flood & Brown.)	
	Brown, Dora E., *et al.* (*See* Prescott, Shubael C., assignor.)	
111,313	Brown, Edmund P., Thomasville, Ga. Washing-machine.....	Jan. 31, 1871
115,156	Brown, Ezra R., and James Long, Mauch Chunk, Pa. Punching machine.....	May 23, 1871
115,157	Same.....Cutter for cutting washers from leather.....	May 23, 1871
121,988	Brown, Floyd G., Brenham, Tex. Bale-tie.....	Dec. 19, 1871
113,138	Brown, Frederick W., assignor to the Albany Freer Stone Company, Albany, N. Y. Composition burial-case.....	Mar. 28, 1871
118,785	Brown, George A., assignor to self and Ebenezer L. Kelley, Reading, Mich. Belt-fastening.....	Sept. 12, 1871
119,564	Brown, George A., assignor to self, Samuel C. Dodge, and Henry F. Doty, Reading, Mich. Buggy-spring and attachment.....	Oct. 3, 1871
115,928	Brown, George C., assignor to Eugene E. Cornell, Brooklyn, N. Y. Pulley-block.	May 23, 1871
120,935	Brown, George E., South River, N. J., and William Bell, Perth Amboy, N. J. Railway-car truck.....	Nov. 14, 1871
5,257	Brown, George W., Louisville, Ky. Match-safe and paper-weight combined. (Design).....	Sept. 12, 1871
119,305	Brown, George W., New York, N. Y. Apparatus for elevating hods.....	Sept. 26, 1871
	Same.....(*See* Atwood, Leonard, assignor.)	
119,505	Brown, George W., and A. T. Gifford, Providence, R. I. Screw-cutting device...	Oct. 3, 1871
110,894	Brown, Gustavus A., and Francis A. McCallen, Russellville, Ky. Bee-hives.....	Jan. 10, 1871
115,427	Brown, Gustavus D., Lebanon, Ill. Corn-cultivator.....	May 30, 1871
115,275	Brown, Harvey V., Warren, Ill. Vise.....	May 30, 1871
	Brown, Horace, and Julius Gerber. (*See* Gerber & Brown.)	
	Brown, H. A. (*See* Rogers, Ezekiel, assignor.)	
121,989	Brown, Isaac, Philadelphia, Pa. Medical compound for the cure of chills and fevers.....	Dec. 19, 1871
116,545	Brown, Israel F., New London, Conn. Lathe and tool-supporter.....	July 4, 1871
116,546	Brown, James, Bay Ridge, N. Y. Fiber-cleaning machine.....	July 4, 1871
118,101	Brown, James, Fonda, N. Y. Millstone-bushes.....	Aug. 15, 1871
113,491	Brown, James, assignor to Ira D. Thompson, San Francisco, Cal. Filter.....	April 11, 1871
116,547	Brown, James R., Cambridgeport, Mass. Bolt-cutter.....	July 4, 1871
120,149	Same.....same.....	Oct. 24, 1871
112,218	Brown, James Raymond and William, Boston, Mass. Carpenters' plane.....	Feb. 28, 1871
114,594	Brown, James Salisbury, Pawtucket, R. I. Flier for spinning.....	May 9, 1871
114,404	Brown, Jefferson, jr., New York, N. Y. Safety-attachment for pocket-books....	May 2, 1871
115,476	Brown, John, Manchester, Ohio. Washing-machine.....	May 30, 1871
	Brown, John Albert. (*See* Hovey, Francis, assignor.)	
116,548	Brown, John S., Schenectady, N. Y. Capstan.....	July 4, 1871
	Brown, John S., *et al.* (*See* Trafford, Thomas, assignor.)	
113,975	Brown, John T. H., assignor to self and J. P. Ewart, Greenup, Ill. Elevator hay-fork.....	April 25, 1871
113,736	Brown, Leverett, New York, N. Y. Mode of attaching topmasts and top-gallant masts.....	April 18, 1871
116,148	Brown, Marshall R., Mingo, Ohio. Wheel for vehicles.....	June 20, 1871
121,344	Brown, Milton D., Newburgh, Tenn. Animal-trap.....	Nov. 28, 1871
113,394	Brown, Morgan W., New York, N. Y. Package for hydrocarbons and other liquids.....	April 4, 1871
113,395	Same.....Package for oysters, clams, &c.....	April 4, 1871
113,396	Same.....Covering for sausages and other meat.....	April 4, 1871
121,159	Same.....Composition stopper for vessels. (Antedated Nov. 9, 1871).....	Nov. 21, 1871
	Brown, Nelson H., and Eugene M. Van Hoesen. (*See* Van Hoesen & Brown.)	
120,413	Brown, Otho C., Albia, Iowa. Harness-buckle.....	Oct. 31, 1871
	Brown, O. C. (*See* Deyo, Ira, assignor.)	
	Brown, O. W., *et al.* (*See* Colby, Calvin M., assignor.)	
118,511	Brown, Patrick W., and Joseph Delarue, Richmond, Va. Machine for canceling and severing revenue stamps, &c.....	Aug. 29, 1871
120,936	Brown, Robinson, and Edwin A. Blaisdell, Goffstown, N. H. Coffee-pot.....	Nov. 14, 1871
113,414	Brown, Samuel, assignor to self and Cephas R. Carver, Philadelphia, Pa. Paper-cutting machine.....	Mar. 7, 1871
	Brown, Samuel M. (*See* Pardieck L. Henry, assignor.)	
115,931	Brown, Samuel P., assignor to self and William E. Shaw, Washington, D. C. Preserving wood.....	June 13, 1871
119,306	Brown, Thomas B., and Joshua N. Dinsmore, Kendall's Mills, Me. Machine for making wedges.....	Sept. 26, 1871
113,694	Brown, Thomas H., and Charles E. Gilman; said Gilman assignor to said Brown, Chicago, Ill. Compressing and inserting rubber blocks into carriage-clips....	April 11, 1871
116,784	Brown, Thomas S., Greenfield, Mich. Snow-plow.....	Sept. 12, 1871
4,240	Brown, Thomas W., assignor through mesne assignments to Harlster Bros. & Co., Boston, Mass. Grindstone journal box.....(Reissue)	Mar. 28, 1871
119,566	Brown, William, England. Ram for naval warfare.....	Oct. 3, 1871
117,735	Brown, William, assignor to William M. Evans, New York, N. Y. Carpet-stretcher and tack-hammer combined.....	Aug. 8, 1871
	Brown, William A. (*See* Morse, Charles H., assignor.)	
	Brown, W. E., *et al.* (*See* Heath, Elender, assignor.)	
111,104	Brown, William Hammond, Bangor, Me. Baggage-truck.....	Jan. 24, 1871
121,701	Same.....Sash-supporter.....	Dec. 12, 1871
121,938	Same.....Baggage-truck.....	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Brown, William H., *et al.* (*See* Bradshaw, Brown, & Whitehead.)	
	Brown, William H., and Isaac Hodgson. (*See* Hodgson & Brown)..(Two cases.)	
	Brown, William P., and James Timms. (*See* Timms & Brown.)	
114,913	Brown, William S., Thorntown, Ind. Whiffletree	May 16, 1871
120,570	Brown, William Z., assignor to self and Phineas B. Provost, Decatur, Ill. Clothes holder	Nov. 7, 1871
	Browne, John David, Cincinnati, Ohio. Hinge ..(Extension)	Feb. 21, 1871
	Browne, Thomas G., *et al.* (*See* Cole, Jonah E., assignor.)	
	Brownell, Emerson P., and John F. C. Rider. (*See* Rider & Brownell.)	
	Brownell, John R., and Sewall Tucker. (*See* Tucker & Brownell.)	
	Browning, Josiah, and Damon R. Averill. (*See* Averill & Browning.)	
	Browning, Warfield T. (*See* Heywood, Reuben W., assignor.)	
117,976	Brownlee, George, Princeton, Ind. Spring bed-bottom	Aug. 15, 1871
120,849	Broyhill, William C., and William D. Sperry, Tremont, Ill. Churn-dasher	Nov. 14, 1871
	Bruce, David Wolfe. (*See* Herriet, Julius, assignor)..(Four cases.) (Design.)	
110,627	Bruce, Duncan, assignor to Emma Bruce, Brooklyn, N. Y. Rendering and treating offal and other animal substances	Jan. 3, 1871
118,683	Bruce, Jerome D., Newberry, S. C. Speculum attachment	Sept. 5, 1871
120,414	Bruce, John P., Brooklyn, N. Y. Propulsion of vessels. (Antedated Oct. 17, 1871	Oct. 31, 1871
118,909	Bruce, Lucien F., and Newlan J. Wolcott, Springfield, Mass. Pantograph	Sept. 12, 1871
121,844	Bruce, Robert M., Camp Point, Ill. Washing-machine	Dec. 12, 1871
	Bruce, Warren S., and John C. Campbell. (*See* Campbell & Bruce.)	
	Bruen, William, and Alonzo B. Woodward. (*See* Woodward & Bruen.)	
118,849	Brumby, Charles, assignor to self and John Needham, jr., Rochester, N. Y. Varnish for leather	Sept. 12, 1871
	Brumfiel, Alonzo, and Henry C. McIlwain. (*See* McIlwain & Brumfiel.)	
113,014	Brumlen, Ludwig, Hoboken, N. J. Manufacture of white lead	Mar. 28, 1871
110,953	Brundred, William J., Oil City, Pa. Device for discharging oil from tanks	Jan. 17, 1871
115,817	Same.....Discharge-apparatus for oil-tanks, grain-cars, &c	June 13, 1871
	Same.....(*See* Glass, George W., assignor.)	
4,492	Brundred, William J., assignor of one-half interest to George W. Glass, Oil City, Pa. Oil-tank and reservoir ..(Reissue)	Aug. 1, 1871
115,429	Bruner, John M., Roanoke, Ohio. Musical transposing-board	May 30, 1871
	Brunner, Charles W. (*See* Robinson, Charles E., assignor.)	
111,610	Brunner, Henry J., Nazareth, Pa. Mill-stone pick	Feb. 14, 1871
116,549	Brunner, John D., Doylestown, Pa. Grain-separator	July 4, 1871
121,273	Bruns, Frederick, Cleveland, Ohio. Flat-iron holder	Nov. 28, 1871
119,962	Brunswick, Emanuel, Chicago, Ill. Game-table	Sept. 26, 1871
122,238	Brunton, John Dickinson, England. Machine for turning stones	Dec. 26, 1871
118,193	Brush, George E., Danbury, Conn. Lamp-burner	Aug. 22, 1871
118,439	Bruso, Frederick, Buffalo, N. Y. Spike-machine	Aug. 29, 1871
	Bruster, George E., and Charles Utter. (*See* Utter & Bruster.)	
116,768	Bruton, William M., Baltimore, Md. Apparatus for operating fans	July 4, 1871
	Bryan, Ezra T., and Peter D. Horton. (*See* Horton & Bryan.)	
113,976	Bryan, Hugh Swinton Legaré, Cedar Rapids, Iowa. Electric telegraphic sounder, relay, &c	April 25, 1871
116,928	Same.....Liberty, Mo. Telegraph-apparatus	July 11, 1871
111,105	Bryan, James A., and William Stainfield, Kent, Ohio. Automatic lubricating-cup	Jan. 24, 1871
117,736	Bryan, Richard, Penn Yan, N. Y. Grain-thrasher and straw-carrier	Aug. 8, 1871
112,778	Bryant, Abner H., Chicago, Ill. Device for transporting eggs. (Antedated March 9, 1871)	Mar. 21, 1871
120,488	Bryant, George B., Pottsville, Pa. Car-truck and axle	Oct. 31, 1871
120,489	Same.....Railway-car wheel	Oct. 31, 1871
113,847	Bryant, Isaac C., Washington, D. C. Machine for making bricks and tiles	April 18, 1871
119,307	Bryant, James M., Joseph P., and Samuel H., Temperanceville, Pa. Paper-bag machine	Sept. 26, 1871
	Bryant, John C., and Oliver J. Rider. (*See* Rider & Bryant.)	
119,567	Bryant, Orrin, Chesterfield, Mass. Water-wheel	Oct. 3, 1871
117,147	Bryant, Washington, Batesville, Ark. Wagon-brake	July 18, 1871
116,268	Bryhn, Ole A., and William T. Farre; said Farre assignor to said Bryhn, Montreal, Canada. Hand corn-sheller	June 27, 1871
118,430	Bryson, James V., Greenspeburgh, Ky. Gleaner-rake for reaping-machines	Aug. 29, 1871
5,331	Buchanan, George, Washington, Pa. Grate-fender ..(Design)	Oct. 24, 1871
120,571	Same.....same	Nov. 7, 1871
	Buchanan, George, and Jeptha G. Boyland. (*See* Boyland & Buchanan.)	
113,350	Buchanan, Joseph R., Louisville, Ky. Manufacture of salt	April 4, 1871
	Buchanan, Melford D., *et al.* (*See* Dotterer, Davis H., assignor.)	
116,149	Buchanan, Robert, Winslow, Ill. Water-wheel. (Antedated June 15, 1871)	June 20, 1871
	Buchanan, William C., and Theophilus Harrison. (*See* Harrison & Buchanan.)	
121,325	Buche, John, Apple River, Ill. Buckle	Nov. 28, 1871
114,359	Buchner, Heinrich, New York, N. Y. Breech-loading fire-arm	May 30, 1871
121,080	Buchter, Henry, Louisville, Ky. Chair-seat frame	Nov. 21, 1871
	Buck, Charles H., *et al.* (*See* Clement, Franklin, assignor.)	
	Same.....(*See* Ellis, Paschal P., assignor.)	
112,897	Buck, Chauncey S., assignor to self and James Lovett, Saint Louis, Mo. Railway-car truck	Mar. 21, 1871
117,380	Same.....Adjustable seat for railway-cars	Aug. 1, 1871
112,117	Buck, Henry A., Fredonia, N. Y. Feed-cutter	Feb. 28, 1871
118,337	Buck, James, Baltimore, Md. Bung-funnel	Aug. 22, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,102	Buck, Martin, Lebanon, N. H. Machine for crimping blind-slats	Aug. 15, 1871
	Buckingham, James. (*See* Koch, Philippe, assignor.)	
112,118	Buckingham, John, Weathersfield, Conn. Grain-drier	Feb. 28, 1871
119,074	Buckingham, Joseph P., Chicopee, Mass. Portable wardrobe	Sept. 19, 1871
117,738	Buckland, Ralph P., jr., and Gustavus A. Gessner, Fremont, Ohio. Pharmaceutical still, steam, and water bath	Aug. 8, 1871
116,920	Buckley, Chauncey, Meriden, Conn. Curtain-fixture	July 11, 1871
112,119	Buckley, George O., New Bedford, Mass. Self-centering chuck for lathes	Feb. 28, 1871
117,254	Buckley, J. D., Quincy, Ill. Farmers' boiler	July 25, 1871
120,707	Buckley, Thomas, New York, N. Y. Chandeliers	Nov. 7, 1871
4,733	Buckman, Alexander, and John W. Huffington, Brooklyn, N. Y. Toy steam-engine ..(Design)	Mar. 28, 1871
121,702	Buckman, Alexander, assignor to self and John W. Huffington, Brooklyn, N. Y. Toy steam-engine. (Antedated Nov. 23, 187.)	Dec. 12, 1871
	Buckman, E. D., and Samuel A. Sisson, executors. (*See* Allen, Samuel S.) (Extension.)	
	Buckman, E. D., and Samuel A. Sisson, executors. (*See* Allen, Samuel S.) (Reissue.)	
120,032	Buckman, Ira, jr., Williamsburgh, N. Y. Hinge	Oct. 17, 1871
121,332	Same.....Clamp for fruit-jars. (Antedated Nov. 10, 1871)	Nov. 28, 1871
4,286	Buckman, John H., assignor to self and Peter W. Reinshagen, Cincinnati, Ohio. Device for securing pulleys to shafts ..(Reissue)	Mar. 7, 1871
116,263	Buckminster, Ansel, assignor to Daniel M. Robertson, Boston, Mass. Feeding-device for wood-screw machines	June 27, 1871
120,238	Budd, Bern L., assignor to James S. Mott, Fairfield, Conn. Check-rein fastener	Oct. 24, 1871
120,239	Same.....same	Oct. 24, 1871
	Budd, Joseph W., administrator. (*See* Dodenhoff, Israel).....(Extension.)	
113,951	Budd, William E., Chatham, N. J. Churn	April 4, 1871
	Buddecke, C. T., *et al.* (*See* Windhausen, Franz, assignor.)	
	Same.....same ..(Reissue.)	
122,151	Buell, Edgar, Clinton, Conn. Windlass	Dec. 26, 1871
	Buell, John, *et al.* (*See* Hicks, Levi S., assignor.)	
4,830	Buell, Madison, and William W. Leslie, New Castle, Del. Side of a railway-car. (Design)	April 25, 1871
113,977	Buerkle, Augustus, Pittsburgh, Pa. Machine for manufacturing picks and similar tools	April 25, 1871
117,255	Buffum, Albert K. P., Gardiner, Me. Machine for making gutters for buildings	July 25, 1871
	Buford, Basil D. (*See* Underwood, Flavius J., assignor) ..(Reissue.)	
120,230	Buhle, Nicholas A., New York, N. Y. Cigar-clamp	Oct. 24, 1871
116,550	Buhoup, Henry C., Pittsburgh, Pa. Portable tallying-register	July 4, 1871
110,735	Buker, William H., Johnstown, N. Y. Sewing-machine	Jan. 3, 1871
117,360	Same.....Sewing-machine. (Antedated July 20, 1871)	July 25, 1871
122,152	Bulkley, Melissa E., Providence, R. I. Supporting-busk for corset-fastenings	Dec. 26, 1871
119,568	Bulkley, William N., Brooklyn, N. Y. Curtain-fixture	Oct. 3, 1871
115,566	Bull, Henry C., assignor of one-half interest to Joseph M. Lowenstein, New Orleans, La. Apparatus for cleaning privies	June 6, 1871
122,103	Bull, Henry C., assignor to Joseph M. Lowenstein, New Orleans, La. Earth-closet	Dec. 26, 1871
116,801	Bull, Jacob H., Hereford, Md. Car-coupling	July 11, 1871
111,314	Bullard, Ezekiel W., Barre, Mass. Hay-tedder	Jan. 31, 1871
120,709	Same.....Oscillating churn	Nov. 7, 1871
113,015	Bullard, O. Flagg, assignor of two-thirds interest to F. C. Hooton and J. R. Hayes, Media, Pa. Index	Mar. 28, 1871
	Bullock, George W. (*See* Belnap, Lester D., assignor.)	
	Bullock, Isaac, and George Baker. (*See* Baker & Bullock.)	
115,158	Bullock, Lewis Henry, Champaign City, Ill. Wagon-seat	May 23, 1871
120,182	Bullock, M. C., Rutland, Vt. Cutter for rock-channeling machines	Oct. 24, 1871
113,739	Bullock, Milan C., assignor to self and Samuel K. Griscom, Pottsville, Pa. Self-centering box or bearing	April 18, 1871
	Bullock, Milan C., and Jacob Shelley. (*See* Shelley & Bullock.)	
113,016	Bunce, William, Oberlin, Ohio. Regulating-clasp for elastic tubes	Mar. 28, 1871
118,786	Bundy, Nelson H., assignor to Charles Gregg, New York, N. Y. Steam-trap	Sept. 12, 1871
114,641	Bunn, Simeon, Belleville, Ill. Puddling-furnace	May 9, 1871
119,684	Bunnell, Aaron W., Lincsville, Pa. Lock-nut	Sept. 5, 1871
118,685	Same.....same	Sept. 5, 1871
	Bunnell, Dennis D., and Perry W. Davis. (*See* Davis & Bunnell.)	
119,360	Bunnell, Isaac S., Carbondale, Pa. Bread-cutter	Oct. 3, 1871
115,694	Bunnell, William R., Jersey City, N. J. Composition for steam-packing	June 6, 1871
121,486	Buntin, George, Boston, Mass. Car-seat frame	Dec. 5, 1871
	Buns, Henry. (*See* Haug, Carl W., assignor.)	
119,886	Burbank, Abner, Rochester, N. Y. Fluting-machine	Jan. 10, 1871
	Burbank, Samuel D. (*See* Risley, Martin, assignor.)	
115,490	Burcey, Charles J. T., Black Rock, Conn. Apparatus for distilling turpentine, &c	May 30, 1871
118,787	Same.....Manufacture of acetate of lime	Sept. 12, 1871
118,788	Same.....Manufacture of acetic acid	Sept. 12, 1871
115,696	Burch, Benjamin S., assignor to self and William H. Baxter, Petersburgh, Va. Combination tool	June 6, 1871
115,818	Burch, William C., and George D. Oatley, Gloucester, N. J. Friction-clutch	June 13, 1871
111,639	Burcham, Franklin J., Racine, Wis. Boot and shoes	Jan. 17, 1871
121,396	Burchard, Edwards M., Washington, D. C. Tea and coffee pot	Nov. 28, 1871
112,693	Burd, Samuel F., Mercer, Pa., and Joseph F. Deaniston, Pittsburgh, Pa., assignors to Artificial Limb Manufacturing Company. Clasp for artificial limbs	Mar. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Burden, Henry, deceased, by James A. and I. Townsend Burden, executors, Troy, N. Y. Machine for making horseshoes (Extension)	June 14, 1871
119,308	Burdett, Oliver H., assignor to self and Robert Webb, New Athens, Ohio. Steam-wagon	Sept. 26, 1871
117,839	Burdett, Riley, and Benjamin O. Church, Chicago, Ill. Organ. (Antedated Aug. 5, 1871)	Aug. 8, 1871
113,848	Burdick, Hiram M., Ilion, N. Y. Hay-tedder	April 18, 1871
113,849	Same same	April 18, 1871
119,300	Burdick, Orrin C., assignor to Plumb & Burdick, New Haven, Conn. Carriage-bolt	Sept. 26, 1871
121,153	Burdin, Luther E., Lexington, Ky. Plow	Nov. 21, 1871
121,327	Burger, Alois, New York, N. Y. Street-lantern	Nov. 28, 1871
121,949	Burger, Christian, Reading, Pa. Pipe-coupling	Dec. 19, 1871
116,018	Burger, Lewis, assignor of three-fourths interest to W. S. Gobble, Chicago, Ill. Office-indicator	June 20, 1871
	Burgess, Louis. (*See* Castle, Frederic, assignor.)	
119,115	Burgess, Andrew, New York, N. Y. Magazine fire-arm	Sept. 19, 1871
119,318	Same Breech-loading fire-arm	Sept. 26, 1871
122,153	Burgess, Benjamin F., jr., Boston, Mass. Hair-switch	Dec. 26, 1871
111,794	Burgess, Classon P., and James R. Stevenson, Rochester, N. Y. Composition for pavements	Feb. 14, 1871
119,010	Burgess, Classon P., assignor to self, Emmet Stafford, and James R. Stevenson, Rochester, N. Y. Wood-pavement	Sept. 19, 1871
110,823	Burgess, George G., Grafton, Ohio. Adjustable lock-coupling for vehicles	Jan. 10, 1871
122,154	Burgess, Perry A., Butler, Mo. Blind-stop	Dec. 26, 1871
121,081	Burgin, Walter S., Washington, Vt. Lifting-jack	Nov. 21, 1871
115,440	Burhans, Denslow, Burlington, Iowa. Match-box	May 30, 1871
116,808	Burhans, Gilbert, Rondout, N. Y. Ice-run	July 11, 1871
116,410	Burke, Andrew J., Baltimore, Md. Soldering-apparatus	June 27, 1871
117,048	Burke, Joseph, Saginaw, Mich. Wooden-truss bridge	July 18, 1871
114,914	Burke, Patrick, assignor to Willard M. Harding, Boston, Mass. Propulsion of vessels	May 16, 1871
121,749	Burke, Thomas James, Virginia, Ill. Propulsion of canal-boats	Dec. 12, 1871
116,019	Burkhardt, Gottlieb F., Boston, Mass. Steam engine and boiler	June 20, 1871
119,400	Same Boston Highlands, Mass. Steam-generator	Sept. 26, 1871
119,816	Same Steam-heater	Oct. 10, 1871
115,696	Burkmoider, Daniel R., Plainfield, Pa. Ladder-stand	June 6, 1871
113,859	Burleigh, Charles, assignor to the Burleigh Rock-Drill Company, Fitchburgh, Mass. Machine for drilling rocks	April 18, 1871
119,116	Burleigh, Nancy G., assignor to self, Charles A. Jackson, and William H. Eaton, Boston, Mass. Construction of brackets, shelves, &c	Sept. 19, 1871
	Burleigh Rock-Drill Company. (*See* Pattison, Charles S., assignor.)	
	Same (*See* Phillips, George, assignor.)	
121,089	Burlew, Cornelius, Washington, D. C. Asphalt pavement	Nov. 21, 1871
119,511	Burling, Benjamin, White Hall, N. Y. Clothes-pin	Sept. 26, 1871
121,326	Burnam, William, Pana, Ill. Sewing-machine attachment for button-holes	Nov. 28, 1871
115,697	Burnett, Durrant, assignor through mesne assignments to self, H. W. Shepard, and Robert Seaman, Bedford Station, N. Y. Locking-cover for milk-cans	June 6, 1871
121,154	Burnett, D. assignor to H. W. Shepard and Robert Seaman, Bedford Station, N. Y. Milk-can	Nov. 21, 1871
121,487	Burnett, Marsenal, Boston, Mass. Faucet	Dec. 5, 1871
111,903	Burnett, Thomas S., Syracuse, N. Y. Spring carriage-cushion	Feb. 21, 1871
114,851	Burnham, Garrett G. W., assignor to self and James N. Burnham, Baltimore County, Md. Carriage-wheel	April 18, 1871
120,368	Burnham, George L., Providence, R. I. Composition to render fabrics impervious to gas	Oct. 31, 1871
120,720	Burnham, John, York, Mich. Bee-hive	Nov. 7, 1871
120,850	Burnham, Manly A., assignor to self and Tobias New, New York, N. Y. Laying tile	Nov. 14, 1871
114,525	Burnham, Samuel F., York, Pa. Water-wheel	May 9, 1871
119,[illegible]	Burnham, Theodore, Bridgeport, Conn. Tobacco-pipe	Sept. 19, 1871
118,[illegible]	Burns, Charles M., jr., Philadelphia, Pa. Sash-holder	June 20, 1 71
115,431	Burns, Jabez, New York, N. Y. Grain-drier	May 30, 1871
	Burr, De Vere. (*See* Payman, George H., assignor.)	
122,155	Burr, George W., East Line, N. Y. Plow-cleaner	Dec. 26, 1871
117,043	Burr, John T., Brooklyn, N. Y. Hydro-static press	July 18, 1871
4,427	Burr, Thomas D., Kingsborough, N. Y. Glove	Feb. 28, 1871
115,477	Same same (Reissue)	May 30, 1871
	Burr, [illegible]. (*See* Stearnes, David E., assignor.)	
119,311	Burr, Sanford S., Baton, Mass. Cabinet bedstead	Sept. 26, 1871
114,419	[illegible], assignor to Allen and Henry Muir, Battle Creek, Mich. Thill-coupling	Mar. 7, 1871
1[illegible],198	[illegible], Battle Falls, N. Y. Apparatus for heating liquid	Feb. 28, 1871
	Burrell, David H., and George W. McCammon. (*See* McCammon & Burrell.)	
110,739	Burrows, Peter, Braidwood, Ill. Combined cultivator and planter	Jan. 3, 1871
114,407	Burridge, Thomas H., Saint Louis, Mo. Manufacture of white lead	May 2, 1871
	Burritt, Harvey H., and George H. Bailey. (*See* Bailey & Burritt.)	
120,63[illegible]	Burritt, Orrin W., Westport, N. Y. Tin-roofing machine	Nov. 14, 1871
115,47[illegible]	Burrough, George A., Providence, R. I. Manufacture of enameled metal	May 30, 1871
	Burroughs & Co. (*See* Lowe, Hezekiah E., assignor.)	
115,68[illegible]	Burroughs, Benjamin F., West Perry Township, Pa. Medical compound or cough-syrup	June 6, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Burroughs, John C., *et al.* (*See* Henderson, Edmond Q., assignor.)	
	Burrows, Frank M., and George C. Smith. (*See* Smith & Burrows) (Two cases.)	
	Burrows, Grant H., *et al.* (*See* Evans, Carlisle & Burrows) (Design.)	
116,551	Burrows, John E., Newark, N. J. Process and apparatus for the manufacture of spelter	July 4, 1871
4,970	Burrows, William H., assignor to Jordan L. Mott, New York, N. Y. Range. (Design)	June 6, 1871
4,971	Same Cooking-stove (Design)	June 6, 1871
118,194	Burson, James, assignor of one-half interest to Henry Whitall, Yates City, Ill. Oil-can	Aug. 22, 1871
	Burson, James, and Henry Whitall. (*See* Whitall & Burson.)	
114,737	Burson, Nathan C., and John W. Robertson, Onarga, Ill. Ticket-box	May 16, 1871
	Burt, George E., Harvard, Mass., and Abram and George F. Wright, Clinton, Mass. Horse-power (Extension)	Sept. 7, 1871
	Burt, Oliver T. (*See* Hitchcox & Gibbs, assignors.)	
	Burt, Thomas, and Silas Putnam. (*See* Putnam & Burt.)	
115,099	Burtis, John H., Brooklyn, N. Y. Hot-air furnace	June 6, 1871
116,620	Same Base-burning fire-place heater	July 4, 1871
116,681	Same Cooking-range	July 4, 1871
	Same. (*See* Greene, William A., assignor.)	
110,628	Burtnett, William B., New York, N. Y. Paint-brush	Jan. 3, 1871
4,666	Burton, James Henry, assignor to James T. Ames, England. Manufacture of gun-barrels (Reissue)	Dec. 26, 1871
5,914	Burton, Lester W., Rochester, N. Y. Advertising-desk (Design)	Aug. 22, 1871
120,150	Burwell, Joseph Y., Worthington, Pa. Hub for carriage-wheels	Oct. 24, 1871
111,040	Buschmann, Leopold F., New York, N. Y. Fluid-meter	Jan. 17, 1871
119,570	Busenger, Anthony, Mount Solon, Va. Cooper's croze and howel	Oct. 3, 1871
117,511	Bush, Arthur W., and Marshall McComb, Poughkeepsie, N. Y. Music-leaf turner	Aug. 1, 1871
119,117	Bush, Frank, Boonton, N. J. Coupling-hook for coal-cars	Sept. 19, 1871
121,489	Bush, Richard G., Jamestown, N. Y. Tuck-folding attachment for sewing-machines	Dec. 5, 1871
4,616	Bushnell, Edwin L., Poughkeepsie, N. Y. Spring-mattress (Reissue)	Oct. 31, 1871
	Bushnell, Edwin L., and Robert R. Cornell. (*See* Cornell, Richard T., assignor.)	
117,860	Bushnell, Edwin L., Poughkeepsie, N. Y. Device for forming spiral bed-springs	Aug. 8, 1871
112,219	Bushnell, Henry, New Haven, Conn. Water-wheel	Feb. 28, 1871
110,954	Bushnell, William, Elizabeth, N. J. Wood-pavement	Jan. 17, 1871
111,904	Same same	Feb. 21, 1871
	Bushnell, William K., and Daniel Wagner. (*See* Wagner & Bushnell.)	
	Buskett, James L., and Bartholdt J. Dreeson. (*See* Dreeson & Buskett.)	
121,845	Bussell, Erastus T., Indianapolis, Ind. Ceiling-ornament	Dec. 12, 1871
121,846	Same Ditching-machine	Dec. 12, 1871
111,811	Bussey, Eeck, Troy, N. Y. Cooking-stove	Feb. 14, 1871
111,812	Same same	Feb. 14, 1871
113,492	Same Heating-stove	April 11, 1871
	Bussey, Eeck, and Charles A. McLeod. (*See* Geissenhaner, Charles P., assignor) (Reissue.)	
114,900	Bussey, Eeck, and Charles A. Hamlin, assignors to Bussey, McLeod & Co., Troy, N. Y. Base-burning stove	May 9, 1871
120,618	Butch, Leonard C., Lancaster, Ohio, and Augustin F. Thoma, Piqua, Ohio. Watchmakers' tool	Nov. 7, 1871
	Butcher, Robert H., *et al.* (*See* Minter, James, assignor) (Reissue.)	
117,977	Butgenback, Charles, Louisville, Ky. Combined life-boat and bed-bottom	Aug. 15, 1871
	Butler, Cyrus, and Donald D. McKay. (*See* McKay & Butler.) (Two cases.)	
	Butler, Cyrus, and Chase A. Stevens. (*See* Stevens & Butler.)	
116,803	Butler, Francis G., Bellows Falls, Vt. Evaporating-apparatus for manufacture of sugar	July 11, 1871
119,694	Same Apparatus for evaporating and clarifying saccharine liquids	Oct. 3, 1871
112,319	Butler, Francis G., assignor to self and James B. Williams, Bellows Falls, Vt. Evaporating-pan for saccharine liquids	Mar. 7, 1871
112,539	Same Apparatus for evaporating saccharine liquids	Mar. 14, 1871
4,598	Same Evaporating-pan for saccharine liquids (Reissue)	Aug. 29, 1871
120,033	Butler, Henry L., Pittsburgh, Pa. Valve for steam-engines	Oct. 17, 1871
118,512	Butler, Jacob K., Yarmouth, Canada. Fastening for window-sashes	Aug. 29, 1871
110,955	Butler, James H., Hampden, Me. Belt-gearing	Jan. 17, 1871
111,174	Butler, John, New York, N. Y. Gas-generator	Jan. 24, 1871
115,970	Same Apparatus for vaporizing volatile hydrocarbons	April 25, 1871
4,420	Butler, John, Buffalo, N. Y. Harvester (Reissue)	June 13, 1871
	Butler, John, New York, N. Y. Gas-generator (Extension)	Sept. 15, 1871
121,582	Butler, John, Huff Township, Ind. Plow	Dec. 5, 1871
112,121	Butler, John G., Fort Monroe, Va. Projectile for ordnance	Feb. 28, 1871
114,406	Butler, John G., Glen's Falls, N. Y. Electro-magnetic burglar-alarm	May 2, 1871
119,313	Butler, John G., Fort Monroe, Va. Projectile	Sept. 26, 1871
	Butler, Pierce, and William Muir. (*See* Muir & Butler.)	
	Butler, William D., and John Shorey. (*See* Shorey & Butler.)	
114,926	Buttenberg, Henry, and John L. Strong, Memphis, Tenn. Stalk-puller	May 9, 1871
	Butterfield, George F., and Daniel Lovejoy. (*See* Lovejoy & Butterfield.) (Extension.)	
	Same. (*See* Lovejoy & Butterfield.) (Disclaimer.)	
121,274	Butterfield, Henry R., Vassalborough, Me. Machine for making shovel-handles	Nov. 28, 1871
4,470	Butterfield, John C., and James Hay, Chicago, Ill. Trip-hammer (Reissue)	July 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,432	Butterfield, William, assignor to self and Charles E. Woodman, Boston, Mass. Rivet	May 30, 1871
118,789	Butterfield, William, assignor to William H. Worden, Madison, Wis. Water-indicator	Sept. 12, 1871
	Butterfield, William, *et al.* (*See* Keniston, Charles, assignor) (Two cases.)	Jan. 17, 1871
111,041	Butterworth, William H., Trenton, N. J. Hay-tedder	Jan. 31, 1871
111,431	Butterworth, William H. and John, jr.; said John Butterworth, jr., assignor to William H. Butterworth, Trenton, N. J. Grain thrasher and cleaner	Oct. 31, 1871
120,415	Buttkereit, Carl Gustave, Toledo, Iowa. Bell-piano	June 27, 1871
4,439	Buttles, Cephas A., Milwaukee, Wis. Stove-pipe thimble (Reissue)	Oct. 3, 1871
119,571	Same same	Nov. 7, 1871
120,710	Same same	Nov. 28, 1871
121 329	Same same	
113,917	Büttner, Friederich, deceased, by Anna Büttner, administratrix, New York, N. Y. Liquid-meter	Mar. 28, 1871
5,099	Button, Conyers, Philadelphia, Pa. Stocking-fabric (Design)	July 11, 1871
5,100	Same same (Design)	July 11, 1871
5,101	Same same (Design)	July 11, 1871
116,151	Button, Lysander and Theodore E., Waterford, N. Y. Steam fire-engine	June 20, 1871
119,314	Same Steam pump	Sept. 26, 1871
	Buttrick, Edwin L. (*See* Manning, John H., assignor.)	
112,540	Buxton, John E., Owatonna, Minn. Combined drill and seeder	Mar. 14, 1871
112,541	Same Seeding-machine	Mar. 14, 1871
114,915	Buzby, Albert G., Philadelphia, Pa. Window-sash	May 16, 1871
120,858	Buzzell, Freeman P., assignor of one-half interest to Oscar D. Rowe, Milton Junction, Wis. Shoe and gaiter	Nov. 14, 1871
118,338	Buzzell, John P., assignor to Bigelow Carpet Company, Clinton, Mass. Weaving Brussels and other pile carpets	Aug. 22, 1871
116,552	Bye, Samuel J., assignor to self and William C. Bye, Bluff Point, Ind. Corn-planter	July 4, 1871
120,937	Byers, William, Philadelphia, Pa. Steam-generator	Nov. 14, 1871
111,905	Byington, Albert, Rochelle, Ill. Wire-stretcher	Feb. 21, 1871
117,737	Byram, Frank A., Germantown, Pa. Ironing-table	Aug. 8, 1871
118,103	Byrd, Isaiah and Turner, jr., Calvin Township, Mich. Safety whiffletree	Aug. 15, 1871
119,573	Byrne, Patrick, Nashville, Tenn. Elevator	Oct. 3, 1871
121,330	Byrne, Walter J., Russellville, Ky. Paint	Nov. 28, 1871
5,367	Byrom, Samuel, Philadelphia, Pa. Shawl-fabric (Design)	Nov. 21, 1871
115,043	Cabell, Samuel G., Washington, D. C. Spittoon	May 23, 1871
116,152	Same Quincy, Ill. Nautical alarm	June 20, 1871
117,861	Cabell, Samuel G., assignor to self and George P. Este, Quincy, Ill. Fog-alarm	Aug. 8, 1871
4,653	Cabell, Samuel G., assignor through mesne assignments to Flora B. Cabell and Susan R. Knox, Quincy, Ill. Fluting-machine (Reissue)	Nov. 28, 1871
	Cable, Charles, and Elias Zeigler. (*See* Zeigler & Cable.)	
	Caddick, Samuel, *et al.* (*See* While, Lewis, Strickland & Caddick.)	
4,839	Cade, George, Long Branch, N. J. Envelope-blank (Design)	April 25, 1871
4,385	Same Lamp-wick feeder (Reissue)	May 16, 1871
112,898	Cadwell, Jonathan W., Springfield, Mass. Roofing-bracket	Mar. 21, 1871
118,790	Cadwell, Marvin, Lansing, Mich. Elastic washing mitt	Sept. 12, 1871
118,513	Cady, Edmund G., Warwick, R. I. Coal and ash sifter	Aug. 29, 1871
111,793	Cady, Elisha W., Tomah, Wis. Stump-extractor	Feb. 14, 1871
119,964	Caffall, Robert May, and Daniel Miller, assignors to William Gouer Monk, England. Composition for water-proofing walls. (Antedated Sept. 27, 1871)	Oct. 17, 1871
	Cagwin, George H. (*See* Urie, Thomas S., assignor.)	
	Cahm & Salmon. (*See* Salmon, Adolphe, assignor.)	
120,619	Cahn, Levi F., New York, N. Y. Chain-lock	Nov. 7, 1871
122,293	Cahoone, Calvin G., and Augustus W. Robinson, Providence, R. I. Pocket-book guard	Dec. 26, 1871
119,817	Cail, Alfred, France. Steam-condenser. (Antedated Oct. 7, 1871)	Oct. 10, 1871
111,315	Cairns, William, Jersey City, N. J. Cracker-machine	Jan. 31, 1871
112,779	Calahan, Edward A., and George B. Field, New York, N. Y. Pneumatic telegraph	Mar. 21, 1871
111,108	Calder, John, Macedon, N. Y. Pruning-shears	Jan. 24, 1871
	Calderwood, Samuel, *et al.* (*See* Morrison, Duncan.)	
	Caldwell, David B., and John H. McGowan. (*See* McGowan & Caldwell.)	
118,903	Caldwell, Joseph K., Philadelphia, Pa. Apparatus for vaporizing hydrocarbons	Sept. 12, 1871
112,320	Caldwell, William H., Wheeling, W. Va. Door-securer	Mar. 7, 1871
	Calely, Edward L., and John R. Rose. (*See* Rose & Calely.) (Two cases.) (Design.)	
121,331	Calhoun, Robert, assignor to self and James C. Lindsay, Allegheny City, Pa. Shovel	Nov. 28, 1871
114,104	Califf, August, Danville, Ill. Lime-oven	April 25, 1871
121,375	Calkin, Hervey C., New York, N. Y. Life-raft	Nov. 28, 1871
119,965	Calkins, Almon H., Linesville, Ind. Washing-machine	Oct. 17, 1871
116,804	Calkins, James B., Pacific, Mo. Stock and freight car	July 11, 1871
122,104	Calkins, James B., assignor to self and Josiah Geiger, Pacific, Mo. Stock and freight car	Dec. 26, 1871
118,596	Callahan, Henry, Dayton, Ohio. Fruit-can	Aug. 29, 1871
120,034	Calland, Jean Armand, France. Galvanic battery	Oct. 17, 1871
115,433	Callow, William, jr., Baltimore, Md. Car-coupling	May 30, 1871
	Calverly, J., and John C. MacDonald. (*See* MacDonald & Calverly.)	
118,791	Calvert, Frank, Wabash City, Ind. Device for elevating hay, &c. (Antedated Aug. 24, 1871)	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,015	Cameron, Adam S., New York, N. Y. Valve-gear for direct-acting engines	Feb. 21, 1871
112,415	Same Governor for direct-acting engines	Mar. 7, 1871
112,416	Same same	Mar. 7, 1871
112,684	Same Steam-valve	Mar. 14, 1871
112,685	Same Piston-packing	Mar. 14, 1871
112,890	Same Valve-gear for steam-engines	Mar. 21, 1871
113,397	Same Pump-valve	April 4, 1871
119,585	Same Regulator for exhausters in gas-works	Oct. 3, 1871
114,643	Cameron, Adam S., New York, N. Y., and William E. Everett, Rye, N. Y. Manufacture of illuminating-gas	May 9, 1871
113,625	Cameron, John C., Madison Station, Miss. Combined plow and scraper	April 11, 1871
	Cammerer, Eberhard. (*See* Schnell, John C., assignor.)	
119,818	Camp, Ambrose E., and Charles L. Reid, Louisville, Ky. Lard-cooler	Oct. 10, 1871
118,772	Camp, Harry, Covington, Ga. Metallic fishing-line	Sept. 5, 1871
111,316	Camp, Herman, Rouseville, Pa. Pump	Jan. 31, 1871
119,315	Camp, Herman, and George W. McIntosh, Rouseville, Pa. Throttle-governor for engines	Sept. 26, 1871
117,739	Camp, Norman W., and Charles W. Camp, Saratoga Springs, N. Y., and Norman H. Camp, Wilkesbarre, Pa. Dumping-car	Aug. 8, 1871
118,904	Camp, Orrin S., Grand Rapids, Mich. Wood-encased can	Sept. 12, 1871
4,650	Same same (Reissue)	Nov. 28, 1871
114,105	Campbell, Andrew, Brooklyn, N. Y. Printing-press	April 25, 1871
114,106	Same same	April 25, 1871
112,122	Campbell, Benjamin F., Boston, Mass. Hot-air furnace	Feb. 28, 1871
	Campbell, Charles A., and Daniel W. Brown. (*See* Brown & Campbell.)	
	Campbell, Donald W. (*See* Reyman, Jacob B., assignor.)	
115,566	Campbell, Duncan H., Scotland, and Erastus Woodward, Charlestown, Mass. Boot and shoe	June 6, 1871
115,567	Same Boot and shoe peg attachment	June 6, 1871
119,966	Campbell, Edward R., assignor to self and James H. Campbell, New York, N. Y. Preparing pigments for water-color painting	Oct. 17, 1871
115,819	Campbell, Eugene, Medusa, N. Y. Car-coupling	June 13, 1871
111,813	Campbell, Henry, San Francisco, Cal. Lamp-bracket for sewing-machines	Feb. 14, 1871
121,583	Same Lamp-bracket or support. (Antedated Nov. 20, 1871)	Dec. 5, 1871
	Campbell, James and Harvey, *et al.* (*See* Brower & Campbell.)	
112,900	Campbell, James A., assignor to self, Abraham K. Layman, and Lewis W. Myers, Dayton, Va. Still	Mar. 21, 1871
115,920	Campbell, James W., New York, N. Y. Machine for cutting irregular forms	June 13, 1871
117,256	Same Philadelphia, Pa. Preserving cranberries	July 25, 1871
117,978	Same New York, N. Y. Carving-machine	Aug. 15, 1871
116,020	Campbell, John, Chatham Village, N. Y. Preparing and bleaching paper-pulp	June 20, 1871
110,629	Campbell, John C., and Warren S. Bruce, Good Hope, Ill. Hog-snouter	Jan. 3, 1871
114,107	Campbell, John W., sr., New York, N. Y. Burglar-proof safe	April 25, 1871
114,916	Same Cooler for liquids	May 16, 1871
4,774	Campbell, Mary B., assignor to Campbell, Jones & Co., Pittsburgh, Pa. Ornamentation of glassware (Design)	April 11, 1871
114,917	Campbell, Nathan, Rochester, N. Y. Curtain-fixture. (Antedated May 12, 1871)	May 16, 1871
114,918	Same same. (Antedated May 12, 1871)	May 16, 1871
119,740	Same same. (Antedated July 26, 1871)	Oct. 10, 1871
114,758	Campbell, Peter, Carrolltown, Pa. Railway-car coupling	May 16, 1871
4,547	Campbell, Robert R., assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet-pattern (Design)	Jan. 3, 1871
4,548	Same same (Design)	Jan. 3, 1871
4,549	Same same (Design)	Jan. 3, 1871
4,550	Same same (Design)	Jan. 3, 1871
4,775	Same same (Design)	April 11, 1871
4,776	Same same (Design)	April 11, 1871
4,777	Same same (Design)	April 11, 1871
4,778	Same same (Design)	April 11, 1871
4,868	Same same (Design)	May 9, 1871
4,869	Same same (Design)	May 9, 1871
4,870	Same same (Design)	May 9, 1871
4,871	Same same (Design)	May 9, 1871
4,872	Same same (Design)	May 9, 1871
4,873	Same same (Design)	May 9, 1871
5,008	Same Carpet (Design)	June 20, 1871
5,009	Same same (Design)	June 20, 1871
5,010	Same same (Design)	June 20, 1871
5,011	Same same (Design)	June 20, 1871
5,012	Same same (Design)	June 20, 1871
5,013	Same same (Design)	June 20, 1871
5,014	Same same (Design)	June 20, 1871
5,015	Same same (Design)	June 20, 1871
5,016	Same same (Design)	June 20, 1871
5,164	Same Carpet-pattern (Design)	Aug. 8, 1871
5,165	Same same (Design)	Aug. 8, 1871
5,166	Same same (Design)	Aug. 8, 1871
5,167	Same same (Design)	Aug. 8, 1871
5,168	Same same (Design)	Aug. 8, 1871
5,169	Same same (Design)	Aug. 8, 1871
5,170	Same same (Design)	Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,171	Campbell, Robert R., assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet-pattern (Design)	Aug. 8, 1871
5,172	Same same (Design)	Aug. 8, 1871
5,173	Same same (Design)	Aug. 8, 1871
5,174	Same same (Design)	Aug. 8, 1871
5,381	Same same (Design)	Nov. 28, 1871
5,382	Same same (Design)	Nov. 28, 1871
5,383	Same same (Design)	Nov. 28, 1871
5,384	Same same (Design)	Nov. 28, 1871
5,385	Same same (Design)	Nov. 28, 1871
5,386	Same same (Design)	Nov. 28, 1871
5,387	Same same (Design)	Nov. 28, 1871
5,388	Same same (Design)	Nov. 28, 1871
5,389	Same same (Design)	Nov. 28, 1871
5,434	Same same (Design)	Dec. 19, 1871
5,435	Same same (Design)	Dec. 19, 1871
5,436	Same same (Design)	Dec. 19, 1871
5,437	Same same (Design)	Dec. 19, 1871
5,438	Same same (Design)	Dec. 19, 1871
5,439	Same same (Design)	Dec. 19, 1871
5,440	Same same (Design)	Dec. 19, 1871
5,441	Same same (Design)	Dec. 19, 1871
	Campbell, Whittier & Co. (*See* Perkins, Francis B., assignor.)	
113,859	Campbell, William, New York, N. Y. Curtain-fixture	April 18, 1871
119,118	Same Belleville, Mich. Wagon-seat standard	Sept. 19, 1871
4,234	Campbell, William, assignor to Nathan Campbell, New York, N. Y. Curtain or shade fixture (Reissue)	Jan. 17, 1871
121,584	Campbell, William J., Saint Louis, Mo. Ticket-holder	Dec. 5, 1871
120,853	Campeaux, Camille, New York, N. Y. Water-meter	Nov. 14, 1871
	Campfield, Matthew E., and William E. Hedges. (*See* Hedges & Campfield.)	
121,585	Canan, Charles Edwin, Coldwater, Mich. Flour-bolt vibrator	Dec. 5, 1871
	Candee, L., & Co. (*See* Elliott, Lewis, jr., assignor) (Two cases.)	
113,252	Canfield, William M., Philadelphia, Pa. Steam and hydraulic packing	April 4, 1871
111,042	Canine, Henry E., Waveland, Ind. Thrashing-machine	Jan. 17, 1871
113,253	Cann, Otho, Coldwater, Mich. Horse-collar and hames	April 4, 1871
115,024	Cannell, Robert A., assignor to self and S. P. Parmly, New Orleans, La. Earth-closet	May 23, 1871
	Capell, Britton, and William J. Ross. (*See* Helm, Shelby W., assignor.)	
118,104	Capewell, George A., George D., and Joseph T., Woodbury, Conn. Charge for powder-flasks	May 15, 1871
113,139	Capewell, George D., George A., and Joseph T., assignors to George D. and George A. Capewell, Woodbury, Conn. Shot charger	Mar. 28, 1871
114,759	Capewell, George J., Cheshire, Conn. Combined tool	May 16, 1871
	Capewell, George J., and William S. Platt. (*See* Platt & Capewell.)	
4,972	Capewell, Joseph T., Woodbury, Conn. Shot-pouch, &c (Design)	June 6, 1871
112,543	Capewell, Joseph T. and George D., Woodbury, Conn. Powder-flask	Mar. 14, 1871
117,044	Caple, Chauncey S., assignor to self and William Gates, Frankfort, N. Y. Ladies' work-stand	July 18, 1871
115,130	Capp, Theophilus F., Bloomington, Ill. Cultivator	May 23, 1871
116,964	Cappon, John, Rochester, N. Y. Tuyere	June 27, 1871
113,853	Capron, Elisha P. H., New York, N. Y. Water-wheel and chute	April 18, 1871
118,431	Capron, Elisha P. H., assignor to Oscar B. Gray and Andrew Foster, Hudson, N. Y. Clothes-wringer	Aug. 29, 1871
117,979	Capron, Jacob, New York, N. Y. Electro-magnetic enunciator	Aug. 15, 1871
5,396	Capron, Willard O., New York, N. Y. Ladies' dress comb (Design)	Dec. 5, 1871
	Carbon Stove Company. (*See* Churchman, John, assignor.)	
112,543	Card, Edward, Providence, R. I. Tea-kettle	Mar. 14, 1871
	Card, Elisha, and James M. Hine. (*See* Hine & Card.)	
118,330	Card, Miles H., Freeport, Ill., and Levi Safford, Chicago, Ill. Grain-door for railway-cars	Aug. 22, 1871
	Cardell, Charles E. (*See* Turner, William H., assignor.)	
121,930	Cardullo, Dominick, Titusville, Pa. Liquid soap	Dec. 19, 1871
	Carkhuff, Ralph, and James W. Musser. (*See* Musser & Carkhuff.)	
110,737	Carleton, Cyrus, assignor to Willcox & Gibbs Sewing-Machine Company, Brooklyn, N. Y. Hemmer for sewing-machines	Jan. 3, 1871
	Carleton, Cyrus, and Charles H. Willcox. (*See* Willcox & Carleton.)	
116,965	Carleton, Enoch, Cape Elizabeth, Me. Blower	June 27, 1871
	Carleton, Freeman. (*See* Merriman, Alfred, assignor.)	
112,417	Carleton, John W., assignor to the Union Manufacturing Company, New Britain, Conn. Butt-hinge	Mar. 7, 1871
	Carlisle, John, *et al.* (*See* Evans, Carlisle, & Burrows) (Design.)	
	Carll, Peter R. (*See* Earll, John E., assignor) (Two cases.)	
110,956	Carlsson, Pehr J., Andover, Mass. File-cutting machine	Jan. 17, 1871
117,281	Carlton, William D., Morrisville, N. C. Farm-gate	July 25, 1871
111,791	Carman, George A., Deer Park, N. Y. Seed-sower	Feb. 14, 1871
122,234	Carman, Leander, McCoy's Station, Ohio. Steam-engine	Dec. 26, 1861
111,906	Carman, William H., and Richard P. McCollum, Philadelphia, Pa. Washing-machine	Feb. 21, 1871
	Carmichael, Samuel D. (*See* Culver, Jacob D., assignor.)	
4,840	Carmichael, Thomas, Newark, N. J. Mosquito-netting (Design)	April 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,919	Carnell, Franklin, assignor to self and David R. Carnell, Philadelphia, Pa. Wheel for tempering clay	May 16, 1871
121,449	Carnell, George, Philadelphia, Pa. Brick-mold	Dec. 5, 1871
	Carner, William W., *et al.* (*See* Hubbard, William C., assignor.)	
119,219	Carns, William A., assignor to self and Henry Elmer Townsend, Malden, Mass. Exhaust mechanism for locomotive engines	Sept. 26, 1871
121,763	Caron, William A., Springfield, Mass. Door-plate	Dec. 12, 1871
119,120	Carothers, Jacob H., Pine Grove Mills, Pa. Horse hay-fork	Sept. 19, 1871
120,854	Carpenter, Charles B., North Attleborough, Mass. Link-joint for watch-chains	Nov. 14, 1871
112,123	Carpenter, Charles C., Huntsville, Ala. Door-key	Feb. 28, 1871
116,411	Same New York, N. Y. Hoop-skirt	June 27, 1871
	Same (*See* Sperry, Timothy S., assignor.)	
	Same (*See* Carter, Albert, assignor.)	
	Carpenter, E. S., *et al.* (*See* Colby, Calvin M., assignor.)	
120,690	Carpenter, Henry, Williamsburgh, N. Y. Fruit-basket	Nov. 7, 1871
113,740	Carpenter, James M., Pawtucket, R. I. Machine for cutting screws	April 18, 1871
119,916	Same same	Oct. 10, 1871
114,407	Carpenter, Jeremiah T., Downingtown, Pa. Corpse-preserver	May 2, 1871
121,704	Carpenter, Junius, Wilmington, Ohio. Halter	Dec. 12, 1871
112,016	Carpenter, Mary P., San Francisco, Cal. Sewing-machine feeding mechanism	Feb. 21, 1871
116,153	Carpenter, Milo, assignor to self and J. H. D. Snell, Wayland, Mich. Hinged hay-rack	June 20, 1871
	Carpenter Sewing-Machine Needle Company. (*See* Frary, George M., assignor.)	
	Carpenter, T. B. (*See* Nichols, William B., assignor.)	
	Carpenter, Thomas E., and Henry P. Richmond. (*See* Richmond & Carpenter.)	
	Carpenter, Thomas L. (*See* Mason, Benjamin A., assignor.)	
4,646	Carpenter, Willard M., Rowley, Mass. Infants' shoes (Design)	Feb. 14, 1871
114,261	Same same	May 2, 1871
121,332	Carpenter, William, assignor to self and Samuel Poole, Lawrence, Kans. Embroidering-attachment for sewing-machines	Nov. 28, 1871
118,105	Carr, Thomas, England. Flour	Aug. 15, 1871
	Carr, William N. (*See* McPherson, William H., assignor.)	
	Carraher, Patrick. (*See* Bearup, Albert G., assignor.)	
	Carraher, Patrick, *et al.* (*See* Hopkins, Joseph W., assignor.)	
	Carraher, Patrick J., and Albert G. Bearup. (*See* Bearup & Carraher.)	
	Carrington Manufacturing Company. (*See* Brooks, Peter, assignor.)	
113,636	Carroll, Francis F., Midway, S. C. Cotton-seed planter	April 11, 1871
119,445	Carroll, John, assignor to self and Charles Wilkinson, Oakland, Cal. Die for cutting screws	Oct. 3, 1871
113,493	Carroll, John E., and John Lord, Philadelphia, Pa. Washing-machine	April 4, 1871
115,548	Carroll, John S., Covington, Ga. Cotton-hoe	June 6, 1871
114,760	Carroll, William J., Natchez, Miss. Cotton-bale tie. (Antedated May 12, 1871.)	May 16, 1871
115,700	Same Excavator	June 6, 1871
115,160	Carroll, William T., Medway, Mass. Spinning-ring	May 23, 1871
113,494	Carroll, William T., assignor to George Draper & Sons, Medway, Mass. Journal-box	April 11, 1871
	Carrollton, William. (*See* Hopkins, James H., assignor.)	
5,133	Carsley, Robert B., Chelsea, Mass. Hand-stamp (Design)	July 25, 1871
113,979	Carson, Alexander H., and Andrew Brown, Troy, N. Y. Baby-tender	April 25, 1871
112,544	Carson, Thomas, Brooklyn, N. Y. Marbleizing paper	Mar. 14, 1871
117,512	Same Marbleized oil-cloth	Aug. 1, 1871
113,854	Carter, Albert, assignor to Charles C. Carpenter, New York, N. Y. Hoop-skirt	April 18, 1871
	Carter, Calvin H. (*See* Thacker, Samuel, assignor.)	
114,108	Carter, Charles L., Washington, D. C. Key-tag	April 25, 1871
113,254	Carter, Cyrus E., Martinsville, Ohio. Washing-machine	April 4, 1871
115,161	Same Clothes-wringer	May 23, 1871
119,819	Carter, Egbert P., Arcade, N. Y. Running-gear for buggies	Oct. 10, 1871
	Carter, George T. (*See* Jordan, John Joseph, assignor) (Two cases.)	
120,711	Carter, Henry, Aylmer, Canada. Ditching-machine	Nov. 7, 1871
	Carter, Hosea B. (*See* Johnson, William, assignor.)	
5,134	Carter, John W., South Orange, N. J. Paper-box cover	July 25, 1871
4,317	Carter, Merrill E., Syracuse, N. Y., and Elisha Mets, Rochester, N. Y.; said Mets assignor to Hayden & Hahn. Slide for extension-tables (Reissue)	April 4, 1871
119,316	Carter, Wesley C., and James P. Emery, Galva, Ill. Desk for school-teachers, &c.	Sept. 26, 1871
	Carver, Cephas R. (*See* Brown, Samuel, assignor.)	
113,495	Carver, Erastus H., Humberstone, Canada, and George M. Baker, Buffalo, N. Y. Corn-husker	April 11, 1871
116,021	Cary, Alanson, New York, N. Y. Telegraph-wire coupling	June 20, 1871
116,206	Same Mode of tempering springs	June 27, 1871
116,207	Same Tempering-oven	June 27, 1871
118,341	Cary, Albert, assignor to B. F. Little and R. B. Brindle, Norwich, N. Y. Wash-stand bracket	Aug. 22, 1871
114,930	Caryl, Alexander H., Groton, Mass. Machine for pointing horseshoe-nails	May 16, 1871
117,148	Same Manufacture of nails for horseshoes	July 18, 1871
	Case, Charles G., and George L. Davenport. (*See* Davenport & Case.)	
114,921	Case, Charles P., Troy, Pa. Saw-filing machine	May 16, 1871
	Case, Emerson J., *et al.* (*See* Baker, Root & Case.)	
118,903	Case, Israel B. B., Toledo, Ohio. Blast-furnace	Sept. 12, 1871
121,155	Case, James W., assignor of one-half interest to John Gilbert, Ypsilanti, Mich. Milk-safe	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,438	Case, Jarvis, La Fayette, Ind. Cultivator	Feb. 7, 1871
112,545	Case, Joel T., assignor to National Water-Wheel Company, Bristol, Conn. Water-wheel	Mar. 14, 1871
4,329	Same.....same.....(Division A, reissue)	April 11, 1871
4,330	Same.....same.....(Division B, reissue)	April 11, 1871
119,286	Same.....same	Sept. 26, 1871
5,089	Case, Julian M., North Lansing, Mich. Plate of alarm-locks.....(Design)	July 4, 1871
114,928	Case, Schuyler S., Marion, N. Y. Churn	May 16, 1871
116,022	Case, Warren, Troy, Ill. Rotary engine	June 20, 1871
121,183	Same.....same	Oct. 24, 1871
4,567	Cash, Joseph, England. Dress-trimming.....(Design)	Jan. 17, 1871
4,568	Same.....same.....(Design)	Jan. 17, 1871
4,569	Same.....same.....(Design)	Jan. 17, 1871
4,570	Same.....same.....(Design)	Jan. 17, 1871
4,571	Same.....same.....(Design)	Jan. 17, 1871
4,572	Same.....same.....(Design)	Jan. 17, 1871
4,573	Same.....same.....(Design)	Jan. 17, 1871
4,574	Same.....same.....(Design)	Jan. 17, 1871
4,575	Same.....same.....(Design)	Jan. 17, 1871
4,576	Same.....same.....(Design)	Jan. 17, 1871
4,577	Same.....same.....(Design)	Jan. 17, 1871
4,578	Same.....same.....(Design)	Jan. 17, 1871
4,579	Same.....same.....(Design)	Jan. 17, 1871
4,580	Same.....same.....(Design)	Jan. 17, 1871
4,581	Same.....same.....(Design)	Jan 17, 1871
4,582	Same.....same.....(Design)	Jan. 17, 1871
4,583	Same.....same.....(Design)	Jan. 17, 1871
4,584	Same.....same.....(Design)	Jan. 17, 1871
4,613	Casper, Charles, assignor to the Meriden Silver-Plate Company, Meriden, Conn. Dessert set.....(Design)	Jan. 31, 1871
4,614	Same.....same.....(Design)	Jan. 31, 1871
	Cass, Frederick G. (*See* Parker, Sanford A., assignor.)	
117,257	Cass, James F., L'Orignal, Canada. Wheeled vehicle	July 25, 1871
113,960	Castellaw, Edwin A., Savannah, Ga. Locomotive smoke-stack	April 25, 1871
111,608	Castelow, Elijah D., Meriden, Conn. Flower-stand	Feb. 7, 1871
	Same.....(*See* Smith, Henry G., assignor.)	
	Castle, Chauncey H., and Samuel H. Emery, jr. (*See* Emery & Castle.)	
112,780	Castle, Frederic, assignor to self and Newbury J. Eaton, Montana, Iowa. Combined gauge and try-square	Mar. 21, 1871
116,805	Castle, Frederic, assignor to self and Louis Burges, Montana, Iowa. Combined gauge and try-square	July 11, 1871
120,035	Caswell, Ezra, assignor of one-half interest to A. H. Towar, Lyons, N. Y. Wagon-seat fastening	Oct. 17, 1871
113,381	Caswell, Ralph B., Springfield, Mass. Toe-calk bar. (Antedated March 2, 1871)	Mar. 7, 1871
113,140	Caswell, William A., assignor to self, Albert T. Allen, and William D. Hilton, Providence, R. I. Top-roll for spinning, &c	Mar. 28, 1871
113,253	Cate, Ebenezer, East Woburn, Mass. Roll for rolling horseshoes	April 4, 1871
117,980	Cate, Henry S., Deerfield, Pa. Packing for oil-wells	Aug. 15, 1871
114,282	Catlin, Seth C., Cleveland, Ohio. Inkstand	May 2, 1871
4,617	Same.....Automatic barrel-filler.....(Division A, reissue)	Oct. 31, 1871
4,618	Same.....same.....(Division B, reissue)	Oct. 31, 1871
121,233	Same.....Sponge cup	Nov. 28, 1871
117,600	Caton, Charles, Boyd's Mills, Ohio. Railway cattle guard	Aug. 1, 1871
	Catt, Milton, and James B. Conaty. (*See* Conaty & Catt.)	
	Caughell, R. N. (*See* Nevens, George H., assignor.)	
110,630	Cauhape, Pierre, New York, N. Y. Pill-machine	Jan. 3, 1871
117,982	Cauldwell, James A., assignor to Frank L. and George Johnson, Orlando and Bradford C. Hurd, and Samuel M. Barker, Watkins, N. Y. Harvester	Aug. 8, 1871
116,432	Caulfield, Edward, Oswego, N. Y. Steam-heater	Aug. 29, 1871
	Caulfield, Ignatius. (*See* Broadwell, Charles B., assignor.)	
121,568	Cavarly, John F., Flushing, N. Y. Purifying acetic acid	Dec. 5, 1871
120,490	Caven, John, Indianapolis, Ind. Fire-place grate	Oct. 31, 1871
	Cavender, John. (*See* Tompkins, James V., assignor.)	
120,938	Cawthon, Simon L. S., and Abel F. Tatom, Troy, Ala. Coffee-pot	Nov. 14, 1871
	Cawthorn, Orville F., *et al.* (*See* Worthman, John E., assignor.)	
120,930	Cazier, John Randolph, Hemlock, Mich. Washing-machine	Nov. 14, 1871
117,258	Center, Joshua C., Mason City, Ill. Harrow	July 25, 1871
4,098	Chase, John K., assignor to Silas A. Ilsley and Charles L. Northrup, New York, N. Y. Fastening for paint-cans, &c.....(Reissue)	Nov. 7, 1871
115,169	Chadwick, Benjamin B., Buffalo, N. Y. Plant-grower. (Antedated May 12, 1871)	May 23, 1871
116,642	Chafee, Vosco M., Clay City, Ill. Slide for wagons	July 4, 1871
117,601	Chaffee, Charles W., Des Moines, Iowa. Fire and water proof roofing	Aug. 1, 1871
115,560	Challinor, David, Birmingham, Pa. Tool for molding glass	June 6, 1871
115,940	Challoner, George, Omro, Wis. Shingle-machine	June 13, 1871
112,230	Chalmers, William, Philadelphia, Pa. Apparatus for heating propagating-beds	Feb. 28, 1871
	Chamberlain & Co. (*See* Crowley & Chamberlain, assignors.)	
	Chamberlain, Addison E., and John B. Crowley. (*See* Crowley & Chamberlain.)	
116,154	Chamberlain, Dexter H., West Roxbury, Mass. Railroad-car seat	June 20, 1871
116,155	Same.....Tap or faucet for bottles	June 20, 1871
116,156	Same.....Elevator	June 20, 1871
121,705	Same.....Lawn-mower	Dec. 12, 1871
113,496	Chamberlain, William H., Dentoe, Mich. Hasp-lock	April 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,606	Chamberlin, Charles A., Pittsburgh, Pa. Anchor	July 11, 1871
114,643	Chamberlin, Edward E., Bellefontaine, Ohio. Washing-machine	May 9, 1871
114,923	Chamberlin, James P., North Abington, Mass. Spring bed and seat	May 16, 1871
121,990	Same.....Spring for beds and seats	Dec. 19, 1871
111,814	Chamberlin, Martin J., Springfield, Mass. Breech-loading fire-arm	Feb. 14, 1871
	Chamberlin, Martin J., and Dexter Smith, (*See* Smith & Chamberlin.)	
118,587	Chamberlin, Melvin C., Wabashaw, Minn. Tire-tightener	Aug. 29, 1871
115,701	Chambers, Charles F., Hutsonville, Ill. Plow	May 6, 1871
4,266	Chambers, Cyrus, jr., Philadelphia, Pa. Paper-folding machine.....(Reissue)	Feb. 21, 1871
113,256	Same.....Paper cutting and folding machine	April 4, 1871
113,257	Chambers, Cyrus, jr., and William Mendham, assignors to Edward and Cyrus Chambers, jr., Philadelphia, Pa. Paper-cutting and folding machine	April 4, 1871
	Chambers, David H., *et al.* (*See* Duff, John T., assignor.).....(Design.)	
118,686	Chambers, George W., Talladega, Ala. Medical compound	Sept. 5, 1871
117,981	Chambers, William B., Decatur, Ill. Corn-planter	Aug. 15, 1871
	Champagne, Fred., and John Welfare. (*See* Welfare & Champagne.)	
114,263	Chandler, Aser, Rome, N. Y. Cheese-hoop flange	May 2, 1871
121,750	Chandler, Hiram C., Peru, Ind. Automatic fly-brush	Dec. 12, 1871
119,076	Chandler, Henry, Buffalo, N. Y. Liquid-meter	Sept. 19, 1871
118,906	Chandler, Hull, Bennington, Vt. Bed-spring	Sept. 12, 1871
113,398	Chandler, J. Frank, Boston, Mass. Towel-bracket and sponge-holder	April 4, 1871
119,317	Chandler, Thomas A., Rockford, Ill. Drill-nut wrench	Sept. 26, 1871
110,736	Chandler, Thomas W., assignor to self and Nicholas DePeyster, New York, N. Y. Preserving wood	Jan. 3, 1871
	Channing, William F., Providence, R. I., and Moses G. Farmer, Boston, Mass. Electro-magnetic fire-alarm telegraph for cities.....(Extension)	May 18, 1871
115,570	Chapin, Cornelius V., Collinsville, Conn. Varnish for coating and water-proofing	June 6, 1871
112,546	Chapin, Harlow F., Rochester, N. Y. Animal-poke	Mar. 14, 1871
4,667	Same.....same.....(Reissue)	Dec. 12, 1871
116,683	Chapin, Harlow F., assignor to self and Pollock, Weaver & Co., Rochester, N. Y. Animal-poke	July 4, 1871
111,175	Chapin, Henry Albert, New York, N. Y. Apparatus for carbureting air	Jan. 24, 1871
	Chapin, Philip E., *et al.* (*See* Coe, Daniel S., assignor.)	
119,917	Chapman, Cass, Chicago, Ill. Paper-file. (Antedated Sept. 27, 1871)	Oct. 17, 1871
5,109	Chapman, Frank R., Greenfield, Mass. Handle and bolster for table cutlery. (Design)	July 11, 1871
111,907	Chapman, Franklin B., Salisbury, Me. Churn	Feb. 21, 1871
115,702	Chapman, George, Rockford, Ill. Bolt-heading machine	June 6, 1871
118,687	Chapman, James W., assignor to self and Samuel J. Smith, Madison, Ind. Churn	Sept. 5, 1871
120,036	Chapman, John, Amsterdam, N. Y. Rock drill	Oct. 17, 1871
	Chapman, John C. (*See* Warren, John, assignor.)	
121,587	Same.....Waltham, Mass. Valve-indicator	Dec. 5, 1871
	Chapman, John C., and Andrew Robes. (*See* Robes & Chapman.)	
113,087	Chapman, Luke, assignor to self and the Collins Company, Collinsville, Conn. Gang-plow	April 11, 1871
120,572	Same.....same	Nov. 7, 1871
119,011	Chapman, Luke, assignor to self and W. J. Wood, Collinsville, Conn. Rotary pump	Sept. 19, 1871
121,063	Chapman, Luke, Collinsville, Conn. Wrench	Nov. 21, 1871
116,419	Chapman, Matthew, Greenfield, Mass. Table knife and fork	June 27, 1871
111,043	Chapman, Nathan, Hopedale, Mass. Hay and cotton press	Jan. 17, 1871
119,573	Same.....Baling-press	Oct. 3, 1871
117,602	Chapman, Rufus B., assignor to John C. Chapman, Waltham, Mass. Ceiling dip-pipe of gas apparatus	Aug. 1, 1871
117,045	Chapman, William, Mount Vernon, N. Y. Portable water-closet	July 18, 1871
	Chapman, William, *et al.* (*See* Jaquith, Frederick P., assignor.)	
115,434	Chapman, William D., Theresa, N. Y. Minnow-propeller	May 30, 1871
120,419	Chappel, John, Chenango Forks, N. Y. Milk-refrigerator	Oct. 31, 1871
111,317	Chappel, John H., assignor to self, Robert Seaman, and Henry W. Shepard, New York, N. Y. Culinary vessel	Jan. 31, 1871
	Chappell, Enos L., and Guy E. (*See* Wheeler, Shepherd H., assignor.)	
115,435	Chappell, John W., assignor to self and Dennis Macomber, Berlin, Mich. Twisting and spinning heads	May 30, 1871
113,258	Charles, Augustus, Pittsburgh, Pa. Rubber and brush	April 4, 1871
4,589	Same.....same.....(Reissue)	Aug. 29, 1871
112,781	Charles, Benjamin, Akron, Ohio. Pen-holder	Mar. 21, 1871
114,761	Charles, Isaac, Allegheny City, Pa. Cement for coating and sealing coffins, &c	May 16, 1871
113,497	Charleton, John B., Kalamazoo, Mich. Cradle	April 11, 1871
4,943	Charlton, Richard, assignor to W. and J. Sloane, England. Carpet-pattern. (Design)	May 30, 1871
116,930	Charter, John, Sterling, Ill. Molding cigars	July 11, 1871
112,547	Chase, Andrew Jackson, Boston, Mass. Refrigerator	Mar. 14, 1871
121,751	Same.....same	Dec. 12, 1871
	Chase, Andrew J., and W. D. Smith. (*See* Smith & Chase.)	
	Chase, Charles C. (*See* Tolcom, Henry H., assignor.)	
118,166	Chase, Frederic, Philadelphia, Pa. Pipe and tube for water, gas, &c	Aug. 15, 1871
113,141	Chase, John F., Westbrook, Me. Rotary harrow	Mar. 28, 1871
4,464	Same.....Rotary harrow-teeth.....(Reissue)	July 11, 1871
113,498	Chase, Milton, Haverhill, Mass. Sewing-machine	April 11, 1871
4,634	Chase, Oliver Rice, assignor to Chase & Co., Boston, Mass. Machine for the manufacture of lozenges.....(Reissue)	Nov. 14, 1871
	Chase, Oscar C. (*See* Favor, Zebulon C., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Chase, T. A., *et al.* (*See* Colby, Calvin M., assignor.)	
	Chase, William L., *et al.* (*See* Smith, Charles B., assignor.)	
120,621	Chassaing-Baptist, Edme, Buenos Ayres. Adjustable elastic measuring-scale	Nov. 7, 1871
119,318	Chatain, Henry, Washington, D. C. Frame for drying lace, &c	Sept. 26, 1871
118,195	Chatard, Ferdinand E., jr., Baltimore, Md. Hot-air furnace	Aug. 22, 1871
122,105	Same. Draught-regulator for furnaces and stoves	Dec. 26, 1871
115,703	Chattaway, Samuel W. M., Middletown, Conn. Culinary vessel	June 6, 1871
	Chatterton, George and James. (*See* Vanstone, Samuel, assignor.)	
116,368	Chaumont, Jules, assignor to Laisnez and Grojean Manufacturing Company, Woodhaven, N. Y. Curry-comb	June 27, 1871
112,548	Chauncey, Robert, Syracuse, N. Y. Burnisher for boots and shoes	Mar. 14, 1871
119,012	Chavons, Hillry, assignor to self and William P. De Bolt, Union City, Ind. Lathe	Sept. 19, 1871
121,333	Cheeseman, James L., assignor of one-half interest to Henry C. Cheeseman, Gardiner, Me. Swinging-railway for loading vessels	Nov. 21, 1871
120,037	Cheetham, Linneus, Lewiston, Me. Roller-cleaner for spinning-machines	Oct. 17, 1871
117,149	Chellew, Joseph, Glassford, Ill. Harrow	July 18, 1871
120,622	Chenal, Joseph Julien, France. Apparatus for converting motion	Nov. 7, 1871
121,991	Cheney, Danforth, Brookfield, Mo. Watering device for railroads	Dec. 19, 1871
116,553	Cheney, Henry, Little Falls, N. Y. Nail-hammer	July 4, 1871
113,499	Cheney, Horace H., East Saginaw, Mich. Lock for handcuffs	April 11, 1871
119,221	Cheney, Return J., Petaluma, Cal. Horse-power	Sept. 26, 1871
116,807	Cherrington, Leroy Jones, Boston, Mass. Knife and fork rest	July 11, 1871
110,824	Cherrington, Robert E., South Boston, Mass. Compound for stove-polish	Jan. 10, 1871
120,949	Cherry, Henry, England. Pulley-block	Nov. 14, 1871
	Cherry, J. W., and Thomas Logan. (*See* Davenport, Frank P., assignor.)	
121,758	Cherry, John Wesley, assignor to self, Jesse R. Quinby, and Thomas Logan, Carthage, Ill. Fence. (Antedated Nov. 25, 1871)	Dec. 12, 1871
121,753	Chesebro, James F., Trenton, N. J. Washing-machine	Dec. 12, 1871
118,433	Chesley, James E., assignor to Jefferson J. Gray, Boston, Mass. Bracket	Aug. 29, 1871
112,788	Cheseman, Francis G., Lemont, Ill. Thrashing-machine	Mar. 21, 1871
120,241	Chesney, Ezra E., Bushnell, Ill. Seed-planter	Oct. 24, 1871
117,389	Chess, Henry, Pittsburgh, Pa. Furnace for heating metal plates, calcining ores, and for other purposes	July 25, 1811
112,017	Chester, Stephen, New York, N. Y. Signal-box for fire-alarm telegraphs. (Antedated Feb. 18, 1871)	Feb. 21, 1871
114,924	Same. Elizabeth, N. J. Telegraph-insulator	May 16, 1871
113,741	Chesterman, Edwin, Tremont, N. Y. Table for sewing and knitting machines	April 18, 1871
117,863	Chestnutwood, Augustus, Davidsville, Pa. Fire-screen	Aug. 8, 1871
120,242	Cheyney, Solon L., Springfield, Ohio. Drier	Oct. 24, 1871
121,588	Chichester, Charles F., Brooklyn, N. Y. Grain-drier	Dec. 5, 1871
110,896	Chichester, Lewis S., Brooklyn, N. Y. Grain-drier	Jan. 10, 1871
121,847	Chichester, Lewis S. and Charles F., assignors to Charles F. Chichester, Brooklyn, N. Y. Grain-drier, cooler, and scourer	Dec. 12, 1871
115,163	Chicken, William, assignor to Amos L. Wood, trustee, Boston, Mass. Sewing-machine for working button-holes	May 23, 1871
120,855	Chicken, William, and Eri S. Moulton, assignors to Amos L. Wood, Chelsea, Mass. Button-hole sewing-machine	Nov. 14, 1871
121,334	Chickering, Charles F., New York, N. Y. Upright piano	Nov. 28, 1871
	Child, Cyril C. (*See* Paine, Charles, assignor.)	
116,157	Child, George F., Dayton, Ohio. Apparatus for holding and adjusting umbrellas on vehicles	June 20, 1871
5,197	Child, Pascal P., Saint Louis, Mo. Barn-door hanger (Design)	Aug. 15, 1871
5,251	Same. Riser for wagon-seat (Design)	Sept. 5, 1871
118,648	Same. Journal-box for grindstones	Sept. 5, 1871
119,319	Same. Reversible hinge	Sept. 26, 1871
120,492	Same. Hinge for gates, &c	Oct. 31, 1871
	Child, Pascal P., *et al.* (*See* Bolton, Simeon R., assignor.)	
119,446	Childs, Jonathan, West Troy, N. Y. Thill-coupling	Oct. 3, 1871
116,808	Childs, Paris, Northampton, Mass. Oil-can	July 11, 1871
	Childs, R. H., *et al.* (*See* Colby, Calvin M., assignor.)	
111,044	Chilson, William E., Troy, Pa. Medical compound pill for cure of colds, &c	Jan. 17, 1871
122,106	Chinn, Richard H., Washington, D. C., George Hall and Jesse J. Fitch, Morgantown, W. Va. Box-opener	Dec. 26, 1871
121,335	Chipley, William H., Libertytown, Md. Automatic fly-brush	Nov. 28, 1871
116,554	Chipman, Emanuel, Baltimore, Md. Wheat-cleaner	July 4, 1871
	Chisholm, Alexander. (*See* Stuart, William M., assignor.)	
111,815	Chisholm, Henry, Cleveland, Ohio. Apparatus for manufacture of Bessemer steel	Feb. 14, 1871
114,109	Same. Apparatus for manufacture of Bessemer steel	April 25, 1871
115,279	Same. Converter for the manufacture of Bessemer steel	May 30, 1871
4,410	Same. Apparatus for the manufacture of Bessemer steel (Reissue)	June 27, 1871
112,418	Choate, Charles B., East Saginaw, Mich. Machine for cutting sheet-metal	Mar. 7, 1871
119,880	Same. Machine for cutting and punching shingle-bands	Oct. 10, 1871
117,513	Chormann, Ernest G., Philadelphia, Pa. Universal slide-rest for lathes	Aug. 1, 1871
	Chrisholm, George W. (*See* Sweet, Asel, assignor.)	
116,023	Christian, Daniel, Chagrin Falls, Ohio. Seat for stores. (Antedated June 17, 1871)	June 20, 1871
115,164	Christiansen, Martin, Winneconne, Wis. Sand and seed ejector	May 23, 1871
4,811	Christie, David, Chillicothe, Ohio. Claw-bar (Design)	April 18, 1871
117,046	Same. same	July 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,272	Christie, Joseph Miller, assignor to Henry Jeoks Dixon & Sons, England. Carpet-pattern (Design)	Sept. 19, 1871
	Christner, Engelbert P., and Jacob Christ Bandle. (*See* Bandle & Christner.)	
121,277	Christophe, Louis, and John Montigny, Belgium. Machine-gun	Nov. 28, 1871
115,571	Christy, John, Clyde, Ohio. Pruning-shears	June 6, 1871
119,320	Chubb, Archibald L., Grand Rapids, Mich. Horse hay-rake	Sept. 26, 1871
114,597	Chubb, Thomas H., and William G. Marston, Post Mills, Vt. Clothes-drier	May 9, 1871
	Chubb, Thomas J., New York, N. Y. Separating ore (Extension)	Aug. 24, 1871
	Chubbuck, Levi. (*See* Walker, John, assignor.)	
	Church, Benjamin O., and Riley Burdett. (*See* Burdett & Church.)	
	Church, Cornelius A. (*See* Tilyon, Albert D., assignor.)	
112,901	Church, Dwight Madison, Holyoke, Mass. Thread-guide for winding-machines	Mar. 21, 1871
117,383	Church, James, Saint Louis, Mo. Clamp for entering blind-slats	July 25, 1871
112,124	Churchill, Frederic A., Pittsfield, Mass. Gun-sight	Feb. 28, 1871
114,925	Churchill, Frederic L., and Robert C. Beach, Minneapolis, Minn. Breeching-holder for harness	May 16, 1871
	Churchill, Henry. (*See* Lewis, Sylvester, assignor.)	
	Same. (*See* Cone, John L., assignor.)	
111,514	Churchill, Lee, Troy, N. Y. Paper-collar box	Feb. 7, 1871
114,762	Churchman, John, assignor to self and Carbon Stove Company, Burlington, N. J. Grate for stoves, &c	May 16, 1871
111,176	Churchman, William H., Indianapolis, Ind. Scouring, washing, and wringing machine	Jan. 24, 1871
	Cinnamon, John. (*See* MacCartney, William N., assignor.)	
4,677	Cinquini, Pietro, assignor to Parker & Whipple Co., West Meriden, Conn. Drawer-pull (Design)	Feb. 28, 1871
4,695	Same. Bell-crank and escutcheon (Design)	Mar. 7, 1871
4,874	Cinquini, Pietro, assignor to Charles Parker, Meriden, Conn. Counter weighing-scale (Design)	May 9, 1871
4,984	Cinquini, Pietro, assignor to Bradley & Hubbard, West Meriden, Conn. Chandelier (Design)	June 13, 1871
	Cinquini, Pietro, and John A. Evarts. (*See* Evarts & Cinquini.)	
113,698	Cipperley, John, Galesville, N. Y. Mastic roofing	April 11, 1871
112,388	Clabby, James, Lenox, Mass. Glass flattening furnace and leer	Mar. 7, 1871
117,740	Clack, William, Prairie du Chien, Wis. Washing-machine	Aug. 8, 1871
	Claflin, William, trustee of the American Wire-Quilted Sole Association. (*See* Godfrey, Benjamin D., assignor.)	
	Clagstone, Henry G. (*See* Lang, Charles, assignor.)	
121,931	Clague, William H., and Robert B. Randall, assignors to selves and Ezra R. Andrews, Rochester, N. Y. Addressing-machine. (Antedated Dec. 2, 1871)	Dec. 19, 1871
	Clague, William H., *et al.* (*See* Andrews, Randall & Clague.)	
120,623	Clampitt, George W., assignor to Henry F. Barrows, Attleborough, Mass. Chain for watches, &c	Nov. 7, 1871
115,280	Clapham, James Henry, New York, N. Y. Traction-engine	May 30, 1871
114,364	Clapp, Albion R., assignor to James R. Nichols & Co., Boston, Mass. Citrate of iron and manganese for medical purposes	May 2, 1871
117,514	Clapp, Charles, assignor to Erastus C. and Chauncey P. Gregg, Trumansburgh, N. Y. Harvester	Aug. 1, 1871
119,918	Clapp, Edson, Boston, Mass. Combination-scissors	Oct. 17, 1871
120,713	Clapp, James H., Providence, R. I. Screw-die press	Nov. 7, 1871
118,107	Clapp, John C., Boston, Mass. Friction-brake for machinery	Aug. 15, 1871
119,695	Clapp, Rollin M., Vergennes, Vt. Machine for turning and polishing	Oct. 10, 1871
	Claringdon, Edward, and Solomon Miller. (*See* Miller & Claringdon.)	
	Clark, Albert, and Jesse W. Craven. (*See* Craven & Clark.)	
119,891	Clark, Alexander, assignor to Stephen G. Perkins, Albany, Ill. Mechanical movement	Oct. 10, 1871
118,196	Clark, Alfred R., Albia, Iowa. Post-hole auger	Aug. 22, 1871
111,177	Clark, Allison N., Plainville, Conn. Die for making felloe-plates	Jan. 24, 1871
120,493	Clark, Alvin B., Richmond, Ind. Carriage-curtain fastening	Oct. 31, 1871
	Clark, Benjamin F., and Rus W. Dugan. (*See* Dugan & Clark.)	
114,985	Clark, Celia P., Lockhaven, Pa. Needle-sharpening attachment for sewing-machines	May 2, 1871
111,515	Clark, Charles B., Buffalo, N. Y. Hinge for gates	Feb. 7, 1871
4,855	Same. Gate-hinge (Design)	May 2, 1871
119,963	Same. Latch for gates. (Antedated Sept 23, 1871)	Sept. 26, 1871
119,121	Clark, Charles H., Wyo. Ter. Tube-expander	Sept. 19, 1871
117,741	Clark, Cullen B., Armada, Mich. Lamp-chimney cleaner	Aug. 8, 1871
	Clark, Cyrus S. (*See* Merriam, George H., assignor.)	
112,696	Clark, David H., and Henry Wineon, New Haven, Conn. Furniture-pad	Mar. 14, 1871
111,418	Clark, Decius W., Chicago, Ill. Compound for enameling brick	Jan. 31, 1871
114,783	Same. Enameling gas-retorts, &c	May 16, 1871
114,598	Clark, Edwin, Lancaster, Pa. Hot-air furnace	May 9, 1871
	Clark, Elijah and James E. Thompson. (*See* Thompson & Clark.)	
120,243	Clark, Erastus Y., New York, N. Y. Saw-set	Oct. 24, 1871
115,572	Clark, George, Buffalo, N. Y. Apparatus for evaporating liquids by means of air blasts	June 6, 1871
115,573	Same. Process and apparatus for purifying brine and other liquids	June 6, 1871
113,241	Clark, George and Samuel P., assignors to selves and Franklin B. Ives, Princeton, Ill. Hedge-trimmer	Feb. 28, 1871
114,439	Clark, George Homer, assignor to self and Peter B. Reid, Cleveland, Ohio. Reaping machine	May 2, 1871
	Clark, George T. (*See* Vance, William A., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,856	Clark, George W., Council Bluffs, Iowa. Steam-governor	Nov. 14, 1871
122,107	Clark, Henry A., Boston, Mass. Treadle for sewing-machines. (Antedated Dec. 6, 1871)	Dec. 26, 1871
118,514	Clark, Horace L., Rahway, N. J. Door for railway freight-cars	Aug. 29, 1871
117,742	Clark, Isaac, Dryden, Mich. Trace-buckle	Aug. 8, 1871
110,897	Clark, Jacob, Brush Valley, Pa. Churn	Jan. 10, 1871
116,156	Clark, James B., Plantsville, Conn. Apparatus for heating bolt-blanks	June 20, 1871
	Same. (*See* Ransom, George B., assignor.)	
	Clark, James B., and Joshua H. Moore. (*See* Moore & Clark.)	
114,110	Clark, James M., Jersey City, N. J. Pen and pencil case	April 25, 1871
115,706	Same. same	June 6, 1871
117,603	Clark, James M., assignor to Franklin L. Clark, Lancaster, Pa. Washing-machine	Aug. 1, 1871
121,520	Same. Wringing-machine	Dec. 5, 1871
118,434	Clark, James M., assignor to Ephraim S. Johnson, Jersey City, N. J. Pen and pencil case	Aug. 29, 1871
	Clark, James T. (*See* Pangburn, James V., assignor.)	
113,629	Clark, James W., Ontville, Ohio. Picket-cutter	April 11, 1871
114,644	Clark, Jedediah P., Philadelphia, Pa. Compensating watch-regulator	May 9, 1871
118,515	Clark, John, England. Railway-car truck	Aug. 29, 1871
120,713	Same. Locomotive-engine	Nov. 7, 1871
118,843	Clark, John, Harrisburgh, Pa. Piston-packing	Sept. 12, 1871
	Same. (*See* Ebbert, John, assignor.)	
	Clark, Josephus H. (*See* Harris, Samuel W., assignor) (Two cases.)	
117,864	Clark, Levi S., Bethel, Conn. Mowing-machine	Aug. 8, 1871
115,165	Clark, Locklin N., Brighton, Mich. Fence	May 23, 1871
118,907	Clark, Milton W., assignor to R. Ball & Co., Worcester, Mass. Cutter-head for molding-machines	Sept. 12, 1871
121,994	Clark, Nathaniel, Malden, Mass. Knitting-machine and process of knitting	Dec. 12, 1871
112,783	Clark, Newton J., assignor to self and Milton H. Clark, Clarkston, Mich. Thill-coupling	Mar. 21, 1871
119,741	Clark, Orrin R., La Fayette, Ind. Shank-lester for boots and shoes	Oct. 10, 1871
	Clark, Peter. (*See* Hill, Leonard B., assignor.)	
113,230	Clark, Peter E., Hartford, Conn. Gaiter	April 4, 1871
4,678	Clark, Patrick J., West Meriden, Conn. Drawer-pull (Design)	Feb. 28, 1871
	Clark, P. J. (*See* Pierrepont, Charles H., assignor.)	
	Clark, P. J. (*See* Kinta, Joseph, assignor) (Four cases.)	
	Same. (*See* Kinta, Joseph, assignor.) (Two cases.) (Design.)	
112,549	Clark, Richard A., Unadilla, N. Y. Clip for buggy-springs. (Antedated March 9, 1871)	Mar. 14, 1871
	Clark, Samuel, *et al.* (*See* Staples, John H., assignor.)	
110,925	Clark, Sarah J., Richmond, Ind. Washing-machine	Jan. 10, 1871
121,336	Clark, Sarah M., Beaver Dam, Wis. Cake-stirrer	Nov. 28, 1871
117,443	Clark, Stuart D., Minneapolis, Minn. Inkstand	Aug. 8, 1871
	Clark, Thomas R., *et al.* (*See* Heath, Henry, assignor) (Reissue.)	
117,744	Clark, Thomas S., Chicago, Ill. Tuyere	Aug. 8, 1871
122,156	Clark, William, Shelburne, Conn. Base-burning cooking-stove	Dec. 26, 1871
113,200	Clark, William A., Woodbridge, Conn. Device for preparing beefsteak for broiling	April 4, 1871
121,706	Same. Westville, Conn. Box for carriage-wheels	Dec. 12, 1871
121,707	Same. Woodbridge, Conn. Hollow auger	Dec. 12, 1871
4,008	Same. Westville, Conn. Expansive bit (Reissue)	Dec. 12, 1871
	Clark, William C. (*See* Rulon, Henry M. and Jesse F., assignors.)	
118,908	Clark, William F., Mount Pleasant, Iowa. Bed and seat bottom	Sept. 12, 1871
112,784	Clark, William J., Lina, Ill. Egg and fruit carrier	Mar. 21, 1871
121,754	Clark, William P., Medford, Mass. Draught-cock	Dec. 12, 1871
120,694	Same. Piqua, Ohio. Bee-hive	Nov. 7, 1871
113,261	Clarke, Alfred, Philadelphia, Pa. Shoemakers' pincers	April 4, 1871
112,902	Clarke, Arthur, Boston, Mass. Shoemakers' hammer	Mar. 21, 1871
119,447	Same. Shoemakers' pincers	Oct. 3, 1871
	Clarke, Elisur E., deceased, by Franklin N. Clark, administrator, New Haven, Conn. Machine for cutting pasteboard for boxes (Extension)	Feb. 28, 1871
117,665	Clarke, Frederick M., Washington, D. C. Croquet-arch	Aug. 8, 1871
112,687	Clarke, George E., Racine, Wis. Fanning-mill	Mar. 14, 1871
118,435	Clarke, George Pemberton, New York, N. Y. Creeping-doll	Aug. 29, 1871
121,042	Clarke, George R., New York, N. Y. Washing and wringing machine	Nov. 21, 1871
	Clarke, George S. W., and Edward Bolman. (*See* Bolman & Clarke.)	
118,197	Clarke, Orlando, Rockford, Ill. Steam-generator	Aug. 22, 1871
117,047	Clarke, Thomas C., and Adolphus Bonsano, Philadelphia, Pa. Connection for iron and steel bridges	July 18, 1871
117,048	Same. Connection for iron and steel bridges	July 18, 1871
117,049	Same. same	July 18, 1871
117,050	Same. same	July 18, 1871
121,848	Same. same	Dec. 12, 1871
121,084	Clarke, Thomas M., Winsted, Conn. Drawing-knife	Nov. 21, 1871
	Clarke, William Penn, *et al.* (*See* Starr, William M., assignor.)	
111,609	Clarkson, George, assignor to self, Samuel D. Wilder, and Albert Sherwin, Elgin, Ill. Alcohol-still	Feb. 7, 1871
114,784	Clary, Nathan G. assignor to self and Robert Reddel, Northfield, Minn. Washing-machine	May 16, 1871
120,038	Clase, George C. A., Chicago, Ill. Music-leaf turner	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Claughton, H. O., *et al.* (*See* McClure, William B., assignor.)	
	Same. same (Reissue.)	
	Clause, John J., *et al.* (*See* Nicholson, Ezra, assignor.)	
118,909	Claver, Max, assignor to A. Frentzel, New York, N. Y. Spring-lock for ventilating sash	Sept. 12, 1871
118,689	Clawson, Clement C., Raleigh, N. C. Rotary ice-shaver	Sept. 5, 1871
113,655	Claxton, Frank J., and Charles D. Stevens, Saint Louis, Mo. Curculio-catcher	April 18, 1871
120,184	Clay, Edward C., Malden, Mass. Steam-heater	Oct. 24, 1871
120,039	Clay, Henry M., Easton, Pa. Slate-frame	Oct. 17, 1871
112,550	Clay, Robert J., assignor to self and Tasker H. Marvin, New York, N. Y. Creeping-doll	Mar. 14, 1871
111,107	Claypool, Albert, Weston, Ohio. Bee-hive	Jan. 24, 1871
	Clayton, Charles H., *et al.* (*See* La Monte, Saxe & Clayton.)	
117,982	Clayton, Daniel B., Columbia, S. C. Egg-beater	Aug. 15, 1871
117,983	Clayton, George, Cleveland, Ohio. Tire-machine. (Antedated Aug. 11, 1871)	Aug. 15, 1871
115,705	Clayton, Gregg, assignor to self and Samuel Ringwalt, Marshallton, Pa. Apple-pulping machine	June 6, 1871
119,321	Clayton, Herbert, Lexington, Ky. Curtain-fixture	Sept. 26, 1871
	Clayton, Joseph, *et al.* (*See* Graichen, Frederick William, assignor) (Two cases.)	
118,108	Cleaveland, John B., Indianapolis, Ind. Arrow-spring	Aug. 15, 1871
116,555	Cleaver, Ellwood, North Wales, Pa. Windmill	July 4, 1871
	Cleeton, G. Edward. (*See* Smith, J. Boardman, assignor.)	
111,816	Clegg, John, Warwick, R. I. Let-off mechanism for looms	Feb. 14, 1871
112,228	Clemens, Gilbert H., Chicago, Ill. Steam safety-valve	Feb. 28, 1871
	Clemens, John H., and Henderson Rose. (*See* Rose & Clemens.)	
	Same. same (Reissue.)	
121,302	Clemens, Samuel L., Hartford, Conn. Adjustable and detachable strap for garments	Dec. 19, 1871
113,742	Clement, Franklin, assignor to Charles H. Buck and Wiley S. Wright, Saint Louis, Mo. Cooking-stove	April 18, 1871
	Clement, William. (*See* Linsley, Newton, assignor.)	
115,574	Clements, Isaac, Fort Ann, N. Y. Eye-glass	June 6, 1871
116,730	Cleminshaw, Sherman, Troy, N. Y. Sewing-machine for working button-holes	Jan. 3, 1871
118,690	Clemmer, William F., and George H., Alexandria, Ohio. Pruning-shears	Sept. 5, 1871
120,714	Clemmons, Alvens J., Aberdeen, Miss. Water-elevator	Nov. 7, 1871
121,849	Same. Chain-machine	Dec. 12, 1871
116,289	Clemson, William, Middletown, N. Y. Saw-frame	June 27, 1871
118,198	Same. Cross-cut saw	Aug. 22, 1871
119,696	Same. Buck-saw frame	Oct. 10, 1871
119,967	Same. Back-saw	Oct. 17, 1871
116,034	Clenny, Henry, Gallatin, Tenn. Ferry-boat	June 20, 1871
	Cleveland, Jehiel H., and Henry M. Andrus. (*See* Andrus & Cleveland.)	
	Cleveland Non-Explosive Lamp Company. (*See* House, Mark W., assignor.) (Two cases.)	
117,806	Cleveland, William, Orange, N. J. Faucet	Aug. 8, 1871
117,984	Same. Ventilating decanting-apparatus for oil-cans	Aug. 15, 1871
112,419	Cleveland, William, assignor to self and James Swan, Lawrence, Mass. Bit-brace	Mar. 7, 1871
119,506	Clews, William, Ilion, N. Y. Instrument for extracting caps from cartridges	Oct. 3, 1871
114,645	Cliff, Edward, Oswego, N. Y. Spring for railway-cars	May 9, 1871
119,574	Clifford, John C., Yonkers, N. Y. Coal-elevator	Oct. 3, 1871
115,166	Clift, Levi D., Philadelphia, Pa. Method of making spades and shovels	May 23, 1871
	Climer, Henry, *et al.* (*See* McBeth, Bentel, Margedant & Climer.)	
113,202	Climer, Henry, and Charles E. McBeth, Hamilton, Ohio. Cutter-head for planing-machines	April 4, 1871
120,941	Cline, William F., and Philip D. Weaver; said Weaver assignor to said Cline, Bendersville, Pa. Machine for boring posts	Nov. 14, 1871
115,925	Clinton, Edward H., and William H. Lavinia, Chicago, Ill. Combined stove-pipe damper and shelf	May 23, 1871
	Clinton Wire-Cloth Company. (*See* Waters, Charles H., assignor.) (Two cases.) (Reissue.)	
	Same. (*See* Waters & Orr, assignors) (Two cases.)	
117,234	Clisbee, George, Marlborough, Mass. Friction-clutch	July 18, 1871
119,968	Clogston, Lucius B., West Rutland, Vt. Gate for gang for marble-saws. (Antedated Sept. 20, 1871)	Oct. 17, 1871
118,508	Clopton, James P., Terry, Tenn. Cotton-planter	July 4, 1871
111,610	Close, Charles Saunders, Philadelphia, Pa. Stairway	Feb. 7, 1871
114,409	Close, John W., Buffalo, N. Y. Railway-frog and rail-coupling	May 2, 1871
113,149	Close, Thomas J., Philadelphia, Pa. Stove-leg	Mar. 28, 1871
4,371	Close, Walter R., assignor to self and Thomas N. Egery, Bangor, Me. Shingle-machine (Reissue)	May 9, 1871
116,413	Close, Walter R., assignor to self, John E. M. Sanford, Emon C. Smart, Job Collett, Reuel W. Kimball, William Margesson & Son, and Frederick H. Coombs, Bangor, Me. Friction-pawl or clutch-mechanism	June 27, 1871
122,225	Closterman, Henry, jr., Cincinnati, Ohio. Kitchen-table	Dec. 26, 1871
112,705	Clough, Joseph, and Joseph Crompton, Chicopee, Mass. Lappet loom	Mar. 21, 1871
120,715	Clough, Theodore, New York, N. Y. Gas-burner	Nov. 7, 1871
116,025	Clow, Roderick F., and William H. Down, New York, N. Y. Water-elevator	June 20, 1871
120,716	Cluff, George F., Petersburgh, Ill. Boring-machine	Nov. 7, 1871
113,630	Clute, John S., Henry W. Trissler, and Walter D. Trissler, Cleveland, Ohio. Faucet	April 11, 1871
	Clute, Jonas H., and Jacob V. Vrooman. (*See* Vrooman & Clute.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,786	Clute, Nicholas, Schenectady, N. Y. Coating gas and water pipes	Mar. 21, 1871
115,7 6	Coale, Joseph M., Baltimore, Md. Slide-valve	June 6, 1871
111,500	Coate, Thomas H., and Lewis A. John, Pleasant Hill, Ohio. Rock-drilling machine	Dec. 5, 1871
111,908	Coates, Abraham, and George W. Lascell, Syracuse, N. Y. Valve for water-engines	Feb. 21, 1871
	Coates, George H. (*See* Long, William A. N., assignor.)	
117,315	Coates, William B., Philadelphia, Pa. Composition sad-iron holder. (Antedated July 20, 1871)	Aug. 1, 1871
113,500	Coats, Franklin A., Kelloggsville, Ohio. Weather-strip	April 11, 1871
	Coatsworth, John. (*See* McHardy, Robert, assignor.)	
125,831	Cobb, Benjamin F., West Troy, N. Y. Riveting-tool	June 13, 1871
	Cobb, Clinton L. (*See* Pool, John, assignor.)	
117,150	Cobb, Edward A., Philadelphia, Pa. Button	July 18, 1871
118 844	Cobb, Elisha T., Conway, Mass. Flower-stand	Sept. 12, 1871
111,611	Cobb, Judd M., Beloit, Wis. Manufacture of straw-board for the construction of buildings	Feb. 7, 1871
116,557	Cobb, Zenas, Chicago, Ill. Spring for seats, &c	July 4, 1871
124,157	Coburn, Joseph W., East Walpole, Mass. Tanning-vat	Dec. 26, 1871
119,221	Coburn, Joseph W., East Walpole, Mass., and Elisha F. Winslow, South Dedham, Mass. Tanning-apparatus	Oct. 10, 1871
	Coby, E. Parke, *et al.* (*See* Farrington, John A., assignor.)	
113,631	Cochran, Alexander, Athens, Ohio. Machine for splitting and skiving leather	April 11, 1871
115,167	Cochran, David M., and Lindley A. Hawkins, Richmond, Ind. Gate	May 23, 1871
116,550	Cochran, Frederick G., Saint Louis, Mo. Revolving fire-arm	July 4, 1871
	Cochran, Hugh M., *et al.* (*See* Power, Benjamin F., assignor.)	
121,755	Cochran, John, jr., Auburn, Me. Paper-file	Dec. 19, 1871
116,809	Cochran, John C., Ripley, Ohio. Sewing-machine table	July 11, 1871
113,263	Cochran, John S., New York, N. Y. Warehouse-truck	April 4, 1871
110,826	Cochran, John W., New York, N. Y. Insulated bolt for railway-rails	Jan. 10, 1871
119,883	Same. Railway car spring	Oct. 10, 1871
120,635	Cochran, J. W., assignor through mesne assignments to Union Metallic Cartridge Company, New York, N. Y. Metallic cartridge	Nov. 7, 1871
	Cochran, Samuel D. (*See* Runstetler, Andrew, assignor.)	
116,536	Cochrane, Charles, England. Smelting iron-ores	July 4, 1871
	Cochrane, Charles, *et al.* (*See* Siemens, Cowper, & Cochrane.)	
110,827	Cochrane, James, New York, N. Y. Mariners' sound-indicator	Jan. 10, 1871
	Same. Fluid-meter (Extension)	Mar. 16, 1871
116,414	Cochrane, John, Wall Township, N. J. Screw-propeller	June 27, 1871
	Cochrane, Thomas M. (*See* Lewitt, William H., assignor.)	
118,190	Cook, George E., and John H. Guest, New York, N. Y. Electro-magnetic burglar-alarm	Aug. 22, 1871
119,122	Cockill, Ezra, Llewellyn, Pa. Car-dumping apparatus	Sept. 19, 1871
115,707	Cockrill, William A., assignor to self and Charles H. Durban, Zanesville, Ohio. Grain cleaner and separator	June 6, 1871
113,143	Cocks, George B., Cincinnati, Ohio. Marine-propeller. (Antedated March 24, 1871)	Mar. 28, 1871
4,253	Codding, Abiel, jr., North Attleborough, Mass. Manufacture of enameled brace-ets (Reissue)	Feb. 7, 1871
120,944	Codding, James H., assignor to Dighton Furnace Company, Taunton, Mass. Cooking-stove	Oct. 24, 1871
115,575	Coddington, Benjamin, La Fayette, Ind. Tinners' swage	June 6, 1871
119,383	Codington, Ayres, Bound Brook, N. J. Lightning-rod connection	Sept. 26, 1871
114,529	Cody, Joseph A., Cleveland, Ohio. Car brake and starter	May 9, 1871
116,870	Coe, Daniel S., assignor to self, R. R. Holmes, and Philip E. Chapin, Pine Meadow, Conn. Bolt-machine	June 27, 1871
	Coe, James A. (*See* Dean, Charles A., assignor.)	
121,756	Coe, Marion N., Madison Parish, La. Device for making bale-ties	Dec. 12, 1871
121,757	Coeller, Frederick, New Haven, Conn. Shoe-fastening	Dec. 12, 1871
113,743	Coes, Aury G., Worcester, Mass. Mode of forming the heads of wrench-bars	April 18, 1871
114,505	Same. Wrench	May 2, 1871
122,108	Same. same	Dec. 26, 1871
	Same. (*See* Richard, Albert C., assignor) (Reissue.)	
	Coes, John H. (*See* Taft, George C., assignor) (Two cases.)	
120,494	Coffin, Charles W., Pittsburgh, Pa. Coal-box	Oct. 31, 1871
115,893	Coffin, David N. B., jr., Newton, Mass. Sash-holder	June 13, 1871
119,969	Same. Traveler for vessels	Oct. 17, 1871
4,453	Coffin, David N. B., jr., assignor through mesne assignments to self and Benjamin Woodward, Newton Centre, Mass. Capstan and windlass (Reissue)	July 4, 1871
	Coffin, Edward W., and Charles F. A. Simonin. (*See* Simonin & Coffin) (Reissue.)	
111,108	Coffin, Francis E., Boston, Mass. Parlor-bedstead	Jan. 24, 1871
115,576	Coffin, George A., Cincinnati, Ohio. Parlor-game. (Antedated May 27, 1871)	June 6, 1871
110,641	Coffin, John E., assignor to Frederick W. Bailey and James Noyes, Portland, Me. Paper-cutting machine	Jan. 3, 1871
	Coffin, John E., *et al.* (*See* Morrill, Coffin & Hall.)	
120,945	Coffin, John George, assignor to Sensitized Paper Company, Portsmouth, Ohio. Photographic printing frame	Oct. 24, 1871
112,018	Coffin, Nathan T., Knightstown, Ind. Pump	Feb. 21, 1871
113,144	Same same	Mar. 28, 1871
	Coggeshall, William, and Benn t B. Warner, Massillon, Ohio. Seeding-machine (Extension)	Dec. 13, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,577	Cogswell, William A., assignor to Junius Judson, Rochester, N. Y. Governor-valve for steam-engines	June 6, 1871
116,200	Same. Machine for milling heads of governor-valves	Aug. 22, 1871
113,981	Cohen, David L., Pensacola, Fla. Boat-detaching apparatus	April 25, 1871
	Cohen, Jacob. (*See* Joyce, Thomas H., assignor.)	
119,123	Cohen, McDuff, and Robert M. Edwards, Charleston, S. C. Machine for double-seaming tin-ware	Sept. 19, 1871
113,666	Cohen, Robert Livingston, assignor to self and William L. Lance, Philadelphia, Pa. Rotating-cylinder engine	Mar. 14, 1871
121,993	Cohn, Louis, Montreal, Canada. Paper-file	Dec. 19, 1871
114,926	Colbern, George W., Gardiner, Me. Method of attaching saws to their arbors	May 16, 1871
111,516	Colborne, Levi H., and David H. Lowe, New York, N. Y. Broiler	Feb. 7, 1871
	Colburn, George W. (*See* Webber, Eldridge, assignor.)	
	Colburn, Henry J., and James Goodrich. (*See* Goodrich & Colburn.) (Two cases.)	
117,604	Colby, Asa F., Bath, Me. Hemmer for sewing-machines	Aug. 1, 1871
116,436	Colby, Calvin M., assignor to self, T. A. Chase, William Standlick, Alvin H. Little, A. W. Paine, O. W. Brown, Ransom Darling, R. H. Childs, Benjamin Willis, E. S. Carpenter, and Richard Robil, Corinth, Vt. Car-coupling	Aug. 29, 1871
	Colby, George A. (*See* Baker, Elias, assignor.)	
	Colby, William, *et al.* (*See* Hoe, Richard M., assignor) (Reissue.)	
113,638	Colcord, Otis B., Greenville, Ill. Harvester-rake	April 11, 1871
114,530	Cole, Aaron H., deceased, by Lydia B. and Miner T. Cole, administrators, Adrian, Mich. Trace-buckle	May 9, 1871
118,910	Cole, Albert W., Mount Killingly, Conn. Yard-beams for looms	Sept. 12, 1871
119,393	Cole, Alexander, Manamuskin, N. J. Spring bed-bottom	Mar. 7, 1871
113,708	Cole, Andrew Norton, assignor to self and Herbert C. Jones, Brockville, Canada. Separating oil from cotton-waste	June 6, 1871
115,578	Cole, Ashley D., Toronto, Canada. Water-wheel	June 6, 1871
116,810	Cole, Benjamin E., Buffalo, N. Y. Vent-bung	July 11, 1871
110,957	Cole, Calvin, assignor to Moses Gilmor, Dayton, Ohio. Gate-latch	Jan. 17, 1871
	Cole, Charles H. (*See* Pilkington, Joseph W., assignor.)	
112,551	Cole, Charlie B., Chester, Ill. Keying wheels to shafts	Mar. 14, 1871
121,756	Cole, Elisha B., Huntington, Mass. Basket	Dec. 12, 1871
120,495	Cole, Frederick W., Philadelphia, Pa. Wagon	Oct. 31, 1871
117,151	Cole, George P., assignor to Clemons Hathaway, Hudson, Mich. Collar-pad	July 18, 1871
116,560	Cole, Gideon W., Canton, Ill. Swing	July 4, 1871
4,349	Cole, Henrietta H., New York, N. Y. Piston-packing (Reissue)	April 25, 1871
	Cole, Isaac. (*See* Eley, Philip, assignor.)	
121,157	Cole, John, Fredericksburgh, Iowa. Land-roller	Nov. 21, 1871
116,931	Cole, Jonah E., assignor to self, Thomas G. Brown, and Charles Herring, New York, N. Y. Machine for seaming cylindrical tin boxes	July 11, 1871
	Cole, Nathan H., and Ephraim McDonald. (*See* McDonald & Cole.)	
116,036	Cole, Seth L., Brooklyn, N. Y. Cigar-machine	June 20, 1871
	Cole, Seth L., and William G. Ayres. (*See* Ayres & Cole.)	
	Cole, William H. (*See* Corbus, James L., assignor.)	
111,612	Coleman, Charles C., San Francisco, Cal. Apparatus for cleaning sulphurets and other ores	Feb. 7, 1871
112,334	Coleman, Edward E., West Cummington, Mass. Water-wheel	Mar. 7, 1871
111,613	Coleman, Ezra, San Francisco, Cal. Boot-jack	Feb. 7, 1871
119,575	Coleman, George S., Alexandria, Va. Butter-worker	Oct. 3, 1871
120,249	Coleman, Isaac, New York, N. Y. Manufacture of artificial stone	Oct. 31, 1871
	Coleman, James O., and Charles A. Thompson. (*See* Thompson & Coleman.)	
	Coleman, Rahm & Co. (*See* Wilson, John T., assignor.)	
	Coles, Isaac U., *et al.* (*See* Farrington, John A., assignor.)	
110,740	Coles, Jacob L., Newark, N. J. Binder for sewing-machines	Jan. 3, 1871
117,867	Same. Machine for sewing hat-tips to linings	Aug. 8, 1871
118,019	Coles, Jacob L., assignor to self and James W. Corey, Newark, N. J. Binder for sewing-machines	Feb. 21, 1871
112,823	Same. Binder for sewing-machines	Feb. 28, 1871
113,264	Coles, William C., Williamsburgh, N. Y. Bolt	April 4, 1871
	Coll, Hugh. (*See* Merriman, Edward, assignor.)	
	Collamore, Charles L., and William H. S. Lawrence. (*See* Lawrence & Collamore.)	
114,410	Colleader, Hugh W., New York, N. Y. Billiard-table cushion	May 2, 1871
4,973	Same. Billiard-table (Design)	June 6, 1871
4,985	Same. Portable stand for a billiard-marker (Design)	June 13, 1871
116,159	Same. Pool-board	June 20, 1871
116,561	Same. Pool-ball rack	July 4, 1871
	Same. Billiard-table cushion (Extension)	Dec. 2, 1871
	Collett, Job, *et al.* (*See* Close, Walter R., assignor.)	
4,973	Colley, William H., deceased, by James Seymour, administrator, and William H. Coolidge and Charles Stinson, assignees of William H. Colley, Leavenworth, Kans. Bed-lounge (Reissue)	Feb. 21, 1871
119,919	Collier, Charles, Selma, Ala. Hydraulic main of gas-works	Oct. 17, 1871
4,350	Collier, Orrin, Sacramento, Cal. Piston-packing (Reissue)	April 25, 1871
113,991	Collier, Orrin, assignor to R. M. Funkhouser, Sacramento, Cal. Shield for boots and shoes	Aug. 22, 1871
117,985	Collier, Ralph, Laurel, Md. Composition-roll for dressing-frames	Aug. 15, 1871
119,743	Collier, Thomas, New York, N. Y. Device for raising sunken vessels	Oct. 10, 1871
111,219	Collier, William F., Worcester, Mass. Corn-popper	Jan. 31, 1871

Alphabetical list of patentees for the year 1861—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,933	Collier, William F., Worcester, Mass. Wheel for animal-traps	June 13, 1871
116,271	Collignon, Nicholas, Claudius O., and Adam, Chester, N. J. Extension-chair	June 27, 1871
116,811	Same ..... Folding-chair	July 11, 1871
	Collings, Kearnes, and William Knowland. (*See* Knowland & Collings.)	
	Collins & McLeester. (*See* McLeester, Alexander, assignor) ..... (Design.)	
112,787	Collins, Alfred Q., Cambridge, Mass. Blotting-pad	Mar. 21, 1871
116,273	Collins, Andrew, and John Hardy; said Hardy assignor to said Collins, Galesburgh, Ill. Locomotive head-light	June 27, 1871
	Collins Company. (*See* Chapman, Luke, assignor.) ..... (Two cases.)	
117,250	Collins, Cornelious, Jonesborough, Ind. Sawing-machine	July 25, 1871
121,083	Collins, Daniel, Zanesfield, Ohio. Fanning-mill	Nov. 21, 1871
121,489	Collins, Dennis B., Richmond, Va. Earth-closet	Dec. 5, 1871
118,991	Collins, Edward, New York, N. Y. Device for lubricating car-axle journals	Sept. 5, 1871
121,501	Collins, Edwin S., Trenton, Tenn. Cotton and hay press	Dec. 5, 1871
122,158	Collins, George E. and W. C., Bucksport, Me. Picture-frame, &c. (Antedated Dec. 21, 1871)	Dec. 26, 1871
121,066	Collins, George L., Trenton, N. J. Dump-cart	Nov. 21, 1871
115,709	Collins, George T., North Eastham, Mass. Carriers' slicker	June 6, 1871
117,745	Collins, James, Crawfordsville, Ind. Wheel-pit for spoking carriage-wheels	Aug. 8, 1871
110,898	Collins, John F., New York, N. Y. Ventilator or blower	Jan. 10, 1871
117,516	Collins, John F., Lodi, Miss. Horse-power	Aug. 1, 1871
119,077	Collins, John F., Albany, N. Y. Separating wool from rags	Sept. 19, 1871
120,630	Collins, John K., Hartford, Vt. Hay-tedder	Nov. 7, 1871
114,705	Collins, Laroe M., Lebanon, N. H. Machine for mortising blind-stiles	May 16, 1871
113,998	Collins, Michael H., Chelsea, Mass. Lamp-shade	April 25, 1871
114,706	Same ..... same	May 16, 1871
117,960	Same ..... same	July 25, 1871
119,223	Same ..... Machine for forming glass chimneys for lamps	Sept. 26, 1871
113,856	Collins, Morris, Decatur, Ill. Thimble skeins and boxings	April 18, 1871
4,537	Collins, Samuel W., assignor to the Collins Company, Collinsville, Conn. Casting edge and other tools ..... (Division A, reissue)	Aug. 29, 1871
4,538	Same ..... Casting edge and other tools ..... (Division B, reissue)	Aug. 29, 1871
	Collins, Simon. (*See* Helwig, Arthur, assignor.)	
120,857	Collins, Stephen C., Oregon, Mo. Apple-corer	Nov. 14, 1871
120,858	Collins, Tandy S., and Hiram Seneeman, Tremont, Ohio. Bee-hive	Nov. 14, 1871
110,399	Collins, Thomas C., Little Hockhocking, Ohio. Fence	Jan. 10, 1871
116,582	Collins, Willard C., Bucksport, Me. Medicated voltaic plaster	July 4, 1871
119,394	Collins, William H., Boston, Mass. Machine for shaving ice	Sept. 26, 1871
116,812	Collinson, Henry, assignor to self and Nathan W. Hasen, Boston, Mass. Grate-bar	July 11, 1871
114,997	Collis, Samuel C., Philadelphia, Pa. Metallic sign	May 16, 1871
118,437	Collom, Charles Frederick, England. Apparatus for dressing ores	Aug. 29, 1871
119,125	Colston, Theodore, assignor to self and Charles E. Billings, Hartford, Conn. Shuttle for sewing-machines	Feb. 28, 1871
122,226	Colton, Franklin B., Philadelphia, Pa. Dumping-car	Dec. 26, 1871
122,227	Same ..... Dumping-bucks	Dec. 26, 1871
	Same ..... (*See* Weston, Thomas Aldridge, assignor.)	
117,158	Colton, George A., and Sylvester P. Babcock, Adrian, Mich. Cording-attachment for sewing-machines	July 18, 1871
116,109	Same ..... Attachment for sewing-machines	Aug. 15, 1871
116,110	Same ..... same	Aug. 15, 1871
116,111	Same ..... Binder for sewing-machines	Aug. 15, 1871
116,415	Coltrane, Thomas, Cedar Township, Iowa. Kitchen-safe	June 27, 1871
	Colt's Patent Fire-Arms Manufacturing Company. (*See* Leaycroft, Edwin S., assignor) ..... (Two cases.)	
	Same ..... (*See* Richards, Charles B., assignor) ..... (Two cases.)	
	Same ..... (*See* Kinne, George O., assignor.)	
116,813	Colvin, Leighton O., Newark, N. J. Baby-walker, hanging-chair, &c.	July 11, 1871
120,717	Colvin, Margaret P., Battle Creek, Mich. Washing-machine	Nov. 7, 1871
115,926	Colvin, Robert J., Lancaster, Pa. Combined harrow, roller, and seed-planter	May 23, 1871
	Combination Rubber Company. (*See* Greacon & Perry, assignors.)	
	Same ..... (*See* Perry, Edward L., assignor.)	
121,337	Combs, Abel, Burlingame, Kans. Watch-escapement	Nov. 28, 1871
	Combs, Robert J., and James Michales, jr. (*See* Michales & Combs.)	
	Combs, Thomas H. (*See* Pettit, Thomas J., assignor.)	
	Comey, Willard, *et al.* (*See* Switzer, John J., assignor.)	
110,630	Comins, Charles S., Lowell, Mass. Bedstead-fastening	Jan. 3, 1871
122,220	Comins, John M., assignor to self and Austin G. Kimball, Boscawen, N. H. Head-block	Dec. 26, 1871
122,100	Comly, James. Horse hay-rake	Dec. 26, 1871
116,873	Common, Andrew Ainslie, England. Automatic apparatus for opening and closing valves by the effect of temperature	June 27, 1871
	Compton, Edward S., *et al.* (*See* Knight, Ebenezer, assignor.)	
121,309	Comstock, Abner M., assignor to Agnes A. Comstock, Galesburgh, Ill. Cherry-stoner	Dec. 5, 1871
116,343	Comstock, John A., Bowling Green, Mo. Combined planter and roller	Aug. 22, 1871
	Conant, C. P. (*See* Langley, Thomas J., assignor.)	
	Conant, John, *et al.* (*See* Stevens, Benjamin D., assignor.)	
113,016	Conaty, James B., and Milton Catt, Indianapolis, Ind. Corn-planter	Mar. 28, 1871
112,420	Condé, Charles A., Indianapolis, Ind. Steam-engine governor	Mar. 7, 1871
111,360	Condra, Isaac N., Genoa, Iowa. Horse hay-rake	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,684	Cone, John L., assignor to self and Henry Churchill, Waterloo, N. Y. Package for butter and lard	July 4, 1871
119,894	Cone, Jonathan, Bristol, Pa. Feed-pipe of steam-boilers	Oct. 10, 1871
	Cone, Salmon F., and George E. Dowling. (*See* Dowling & Cone.)	
	Coney, Justus, *et al.* (*See* Thompson, James M., assignor.)	
118,845	Congdon, James W., assignor to F. A. Wheeler, Marietta, Ohio. Broom-tying machine	Sept. 12, 1871
115,168	Congdon, Joseph H., assignor to self and Benjamin C. Allen, Coventry, R. I. Chimney-collar	May 23, 1871
118,343	Conger, Walter M., Newark, N. J. Dust-pan	Aug. 22, 1871
117,153	Conkle, James M., Beaver Falls, Pa. Rotary engine	July 18, 1871
111,727	Conley, Aaron W., Economy, Ind. Drain-tile	Feb. 14, 1871
112,558	Conley, James H., Philadelphia, Pa. Ladder	Mar. 14, 1871
114,767	Conley, John H., Moingona, Iowa. Cultivator	May 16, 1871
111,728	Connel, James M., Newark, Ohio. Sash-balance	Feb. 14, 1871
117,517	Connel, James M., assignor to self and William Sturgeon, Newark, Ohio. Nut-lock	Aug. 1, 1871
	Connell, Adrian M., *et al.* (*See* Phillips, George B., assignor.)	
112,903	Connell, John P., Kensington, Conn. Door-bell	Mar. 21, 1871
115,027	Connelly, Joseph H., Wheeling, W. Va. Apparatus for heating and lighting locomotives and railroad-cars by gas	May 23, 1871
115,028	Connelly, Joseph H., and John McLure. Apparatus for the manufacture of gas for heating and illuminating	May 23, 1871
113,965	Conner, Champ C., Ripley, Tenn. Cotton-press	April 4, 1871
112,553	Conner, E. A., Metropolis, Ill. Wood-bending machine	Mar. 14, 1871
115,934	Conner, James M., Brooklyn, N. Y. Machine for ornamenting printers' rules	June 13, 1871
113,019	Conner, Lee W. and Richard G., Troy, Iowa. Cultivator	Mar. 28, 1871
	Conner, Orlando P., *et al.* (*See* Wentz, Green & Conner.)	
118,798	Connor, William J., Benton, Ill. Wheel-plow	Sept. 12, 1871
	Conradson, Eugene G., and August W. Almqvist. (*See* Almqvist & Conradson.)	
115,636	Constable, David A., and John F. Riggs; said Riggs assignor to said Constable, Saint Joseph, Mo. Sewing-machine motor	May 30, 1871
116,274	Constant, Silas, Peekskill, N. Y., and John Smith, Brooklyn, N. Y. Preserving and seasoning wood	June 27, 1871
	Convers, Eugene, and John Long. (*See* Long & Convers.)	
	Converse, Chester W. (*See* Setchell & Taylor, assignors.)	
115,169	Converse, Elisha S., Boston, Mass. Shoe	May 23, 1871
119,325	Converse, Lewis H., and James K. Welter, assignors to Lewis H. Converse, Springfield, Ill. Seed-dropper	Sept. 26, 1871
	Converse, Lyman P., and William A. Wells. (*See* Wells & Converse.)	
4,966	Converse, Paschal, New Haven, Conn. Clock-case ..... (Design)	June 13, 1871
115,437	Covey, John Graham, Saint John, N. B. Steam cooking apparatus	May 30, 1871
119,743	Coogan, Owen, Pittsfield, Mass. Machine for boarding, pebbling, and glossing leather	Oct. 10, 1871
119,744	Same ..... Propulsion of canal-boats	Oct. 10, 1871
120,946	Same ..... Bark-mill	Oct. 24, 1871
121,850	Cook, Albert A., Milford, Mass. Dividers	Dec. 12, 1871
115,893	Cook, Anson G., Burlington, Vt. Cupola furnace	June 13, 1871
	Cook, Arlon M., Chicago, Ill. Corn-sheller ..... (Extension)	Sept. 26, 1871
113,309	Cook, Daniel M., Mansfield, Ohio. Electric batteries for telegraphing and other purposes	April 4, 1871
119,825	Same ..... Induction-coil	Oct. 10, 1871
112,196	Cook, Daniel P., Hartford, Conn. Lap-board	Feb. 28, 1871
	Cook, David C. (*See* Darby, Daniel H., assignor.)	
114,768	Cook, George, Napier, Canada. Scroll-sawing machine	May 16, 1871
112,660	Cook, George W., Genesco, Ill., and Francis M. Duncan, Aledo, Ill. Cutting-apparatus for harvesters	Mar. 14, 1871
117,605	Cook, Harry D., Normal, Ill. Metallic roofing	Aug. 1, 1871
114,286	Cook, Isaac, and John T. Bever, Haynesville, Mo. Hoe	May 2, 1871
	Cook, Jacob F. (*See* Baker, William C., assignor.)	
121,067	Cook, Joel S., West Groton, Mass. Baling-press	Nov. 21, 1871
120,037	Cook, John, assignor of one-half interest to G. L. Smith, New York, N. Y. Vapor-burner	Nov. 7, 1871
4,613	Cook, John M., Marion, Ind. Plow-clevis ..... (Design)	Jan. 31, 1871
120,650	Cook, Justus, Wellsville, N. Y. Evaporating-apparatus	Nov. 14, 1871
110,623	Cook, Leonard, Shreveport, La. Fastening for eaves-troughs	Jan. 3, 1871
	Cook, Leonard, and John J. Currier. (*See* Currier & Cook.)	
112,554	Cook, Lyman A., Woonsocket, R. I. Machine for feeding rivets and inserting them in shoes, &c	Mar. 14, 1871
	Same ..... (*See* Sheffield, George V., assignor.)	
119,448	Cook, Peter, Tonawanda, N. Y. Machine for cutting veneers ..... (Extension)	Feb. 2, 1871
119,449	Cook, Richard, New Hartford, N. Y. Stopping-mechanism for knitting-machines	Oct. 3, 1871
117,868	Cook, Richard, and Thomas Hanford, New Hartford, N. Y. Cap-shearing block	Oct. 3, 1871
114,411	Cook, Sydney P. and Hiram D., San Francisco, Cal. Journal-bearing	Aug. 8, 1871
114,967	Cook, Thomas, New York, N. Y. Liquid-meter	May 2, 1871
	Cook, Thomas, and John Watson, assignors to Fluid-Meter Company, England. Meter	May 2, 1871
5,017	Cook, Thomas K., assignor to self and Edward H. Hotchkiss, New York, N. Y. Pipe-wrench ..... (Design)	June 20, 1871
121,158	Cooke, Charles L., Shortsville, N. Y. Railway-switch	Nov. 21, 1871
4,779	Cooke, Edward L., and Jabez H. Whitmore, Hartford, Conn. Burial-casket. (Design)	April 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,450	Cooke, Jacob, Muncy, Pa. Brick-machine	Dec. 5, 1871
4,344	Cooke, James C., assignor to Albert F. Allen, Bridgeport, Conn. Hose-coupling (Reissue)	April 18, 1871
4,605	Cooke, James C., assignor of one-half interest to Albert F. Allen, Bridgeport, Conn. Hose-coupling (Reissue)	Oct. 24, 1871
	Cooke, James C., and Albert D. Lawe. (*See* Lawe & Cooke.)	
119,013	Cooke, John, Paterson, N. J. Locomotive	Sept. 19, 1871
	Same (*See* Doyle, Francis P., assignor.)	
	Cooke, John A. (*See* Waterbury, William M., assignor.)	
111,817	Cooke, Joseph C., and Henry A. Whiteley, Preston, Conn. Machine for the manufacture of moldings	Feb. 14, 1871
121,708	Cookson, John C., Lancaster, Pa. Flour-bolting machine	Dec. 12, 1871
117,051	Cool, Keyes P., Glen's Falls, N. Y. Propulsion of vessels	July 18, 1871
	Coolidge, O. B., *et al.* (*See* Hodges, Samuel R., assignor.)	
	Cooley, Anthony, deceased, by Ann M. Cooley, administratrix, Ceresco, Mich. Whiffletree-hook (Extension)	June 16, 1871
	Cooley, Eli P. (*See* Martin, Robert Y., assignor.)	
114,646	Same New York, N. Y. Whisk-broom	May 9, 1871
	Cooley, John. (*See* Beebe, Calvin T., assignor.)	
	Cooley, Jonas D., and William C. Thornton. (*See* Thornton & Cooley.)	
4,580	Cooley, Pindar F., Pittsfield, Mass. Whip-hanger (Reissue)	Aug. 22, 1871
120,718	Cooley, Solon, Clarkston, Mich. Plow	Nov. 7, 1871
115,261	Cooley, William and Henry, Toronto, Canada. Machine for bending sheet-metal	May 30, 1871
120,416	Coolidge, John B., Boston, Mass. Gas-regulator. (Antedated Oct. 14, 1871)	Oct. 31, 1871
	Coolidge, William H., *et al.* (*See* Colley, William H., assignor) (Reissue.)	
	Coombs, Frederick H., *et al.* (*See* Close, Walter R., assignor.)	
121,276	Coombs, Moses, jr., Youngstown, Ohio. Stand-pipe of gas-retorts	Nov. 28, 1871
114,531	Cooney, Clark, Columbus, Nebr. Potato-digger	May 9, 1871
116,563	Coons, Matthias P., assignor to self, Philip Dater, and Charles N. Ayres, Brooklyn, N. Y. Carburetor for gas and air	July 4, 1871
120,040	Coons, Robert J., Greensburgh, Pa. Printing-press	Oct. 17, 1871
119,014	Cooper, Almond F., San Francisco, Cal. Driving-wheel of locomotive-engines	Sept. 19, 1871
114,419	Cooper, Arthur, England. Ventilating-roller window-blinds	May 2, 1871
118,344	Cooper, Edward A., assignor to self and Josiah Letchworth, Lancaster, N. Y. Trace-carrier for harness	Aug. 22, 1871
111,109	Cooper, Eustace J., Mineral Point, Wis. Sleigh-brake	Jan. 24, 1871
114,647	Cooper, George A., and Consider Southworth, Stoughton, Mass. Tassel-head	May 9, 1871
119,576	Cooper, John H., Philadelphia, Pa. Mechanical movement	Oct. 3, 1871
118,693	Cooper, John M., Pittsburgh, Pa. Steam-engine	Sept. 5, 1871
111,381	Cooper, Royal, Georgetown, D. C. Bath and washstand	Jan. 31, 1871
5,133	Cooper, Simon P., Cincinnati, Ohio. Hand-stamp (Design)	July 25, 1871
116,564	Cooper, William, jr., Mexico, N. Y. Show-case and counter	July 4, 1871
4,780	Cooper, William Samuel, assignor to Cooper, Jones, and Cadbury, Philadelphia, Pa. Handle for stop-cocks (Design)	April 11, 1871
117,606	Same Supply and waste cock (Design.)	Aug. 1, 1871
	Cope, Ezra, and James R. Maxwell. (*See* Maxwell & Cope) (Design.)	
115,029	Copeland, David, jr., Rochester, N. Y. Cement-pipe mold	May 23, 1871
115,030	Same Machine for molding drain and sewer pipes	May 23, 1871
	Copestake, Sampson George Goodall, and Henry Dube. (*See* Dube & Copestake.)	
115,934	Copp, Benjamin F., West Cumberland, Me. Wheel-borer and key-way cutter	June 13, 1871
119,826	Coppock, John F., Dexter, Iowa. Animal-trap	Oct. 10, 1871
115,170	Coppe, Ferdinand L., Atlanta, Ill. Washing-machine	May 23, 1871
117,986	Copson, Robert E., Hamburgh, Iowa. Broom	Aug. 15, 1871
110,898	Corbin, Daniel L., Friendship, N. Y. Rubber-pad for horseshoes	Jan. 10, 1871
117,361	Corbin, James M., Liberty, Mo. Stove-leg	July 25, 1871
	Corbin, P. and F. (*See* Spring, John M., assignor.)	
	Same (*See* Munger, William T., assignor) (Two cases.)	
	Same (*See* Arnold, Stephen D., assignor.)	
	Same (*See* Munger, Wallace, assignor.)	
116,160	Corbus, James L., assignor to self and William H. Cole, Quincy, Mich. Running-gear for vehicles	June 20, 1871
	Corby, Emmons B. (*See* Crisp & Dodd, assignors.)	
110,900	Cordley, James, Adrian, Mich. Parlor-organ	Jan. 24, 1871
5,126	Core, William H., New York, N. Y. Show-case (Design)	July 18, 1871
118,694	Coreth, Rudolph, New Braunfels, Tex. Wheel-plow	Sept. 5, 1871
111,178	Corey, James W., Newark, N. J. Hat	Feb. 21, 1871
	Same (*See* Coles, Jacob L., assignor) (Two cases.)	
116,365	Corgan, Daniel, Sugar Notch, Pa. Tamping-apparatus	July 4, 1871
114,111	Corley, John, near Colefield, Kans. Mechanical movement	April 25, 1871
	Corliss, George H., Providence, R. I. Steam-pumping apparatus (Disclaimer)	May 27, 1871
	Same same (Extension)	June 1, 1871
117,383	Same Steam-generator	July 25, 1871
117,386	Same Journal-box	July 25, 1871
	Cornell, Eugene E. (*See* Brown, George C., assignor.)	
	Cornell, George B., and John Lacey. (*See* Lacey & Cornell.)	
117,697	Cornell, Harmon W., Owego, N. Y. Corn-sheller	Aug. 1, 1871
118,693	Same Casting toothed cylinders	Sept. 5, 1871
120,369	Cornell, Henry M., Brighton, Ill. Combination-lever bridle-bit. (Antedated Nov. 11, 1871)	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,450	Cornell, Horatio, and Andrew H. Marshall, Wilmington, Del. Carriage-curtain strap	Oct. 3, 1871
117,384	Cornell, John B., New York, N. Y. Fire-proof roofing	July 25, 1871
117,746	Cornell, John W., Lawn Ridge, Ill. Corn-stalk cutter	Aug. 8, 1871
117,050	Cornell, Ledlert R., Syracuse, N. Y. Apparatus for evaporating brine and other liquids	July 18, 1871
121,994	Same Purifying brine for manufacture of salt	Dec. 19, 1871
114,648	Cornell, Richard T., assignor to Edwin L. Bushnell and Robert R. Cornell, Poughkeepsie, N. Y. Spring-mattress	May 9, 1871
117,987	Cornell, Thomas L., and Sturgis Whitlock, assignors to Thomas L. Cornell, Derby, Conn. Scroll-saw	Aug. 15, 1871
115,436	Cornell, William F., Adrian, Mich. Surface-gauge	May 30, 1871
113,857	Cornell, William H., Easton, Pa. Sectional steam-boiler	April 18, 1871
4,677	Same same (Reissue)	Dec. 19, 1871
117,988	Cornforth, Joseph T., Kansas City, Mo. Egg and fruit carrier	Aug. 15, 1871
112,224	Corning, Thomas J., San José, Cal. Baling-press	Feb. 28, 1871
120,942	Same same	Nov. 14, 1871
119,326	Cornish, John A., Marshfield, Mo. Straw-cutter	Sept. 26, 1871
121,851	Cornish, Theodore O., Woonsocket, R. I. Clamp	Dec. 12, 1871
120,496	Corr, Thomas Jefferson, Bloomington, Ill. Combined flour-chest and cupboard	Oct. 31, 1871
4,431	Corse, Albert C., Troy, N. Y. Base-burning stove (Reissue)	June 13, 1871
	Same (*See* Fagan, Michel G., assignor.)	
114,928	Corse, Albert C., assignor to Eddy, Corse & Co., Troy, N. Y. Base-burning stove	May 16, 1871
120,497	Corse, Augustus P., assignor to Eddy, Corse & Co., Troy, N. Y. Cooking-stove	Oct. 31, 1871
116,685	Corsett, Sherman, and Oliver D. Lowe, Middleville, Mich. Bolting-reel	July 4, 1871
117,367	Corwin, Isaac, Defiance, Ohio. Raft-clip	July 25, 1871
110,741	Cory, David Pitkin, assignor to self and Joseph Crane, jr., Crawford, N. J. Automatic car-coupling	Jan. 3, 1871
115,439	Cory, David P., and Josiah Crane, jr., Crawford, N. J. Adjustable draw-head for railroad-cars	May 30, 1871
110,749	Cory, William Robert, Springfield, Ill. Harvester	Jan. 3, 1871
119,451	Cossaboom, Ewan, Lenox, Mass. Method of casting plate-glass	Oct. 3, 1871
115,710	Coston, John, Bowden, Ga. Plow	June 6, 1871
115,935	Coston, Martha J., Washington, D. C. Pyrotechnic night-signal	June 13, 1871
120,620	Cote, Louis, Saint Hyacinth, Canada. Apparatus for making boot and shoe soles	Nov. 7, 1871
112,556	Cottingham, William, and John W. Stafford, Troy, Ohio. Heating-stove	Mar. 14, 1871
113,080	Cotton, James B., Dayton, Ohio. Gate	Mar. 28, 1871
114,920	Cottrell, Calvert B., Westerly, R. I. Printing-press	May 9, 1871
120,041	Same same	Oct. 17, 1871
121,750	Same Piston for printing-presses	Dec. 12, 1871
113,744	Couch, Alfred B., Worcester, Mass. Hanging for revolving shafting	April 18, 1871
120,496	Couch, George, Saint Louis, Mo. Adjustable bolster	Oct. 31, 1871
116,087	Coulon, Frederick, assignor to self, Elias Nashold, and Jacob Martin, Rockford, Ill. Band-knife	June 20, 1871
118,345	Coulston, Thomas P., Philadelphia, Pa. Burglar-alarm	Aug. 22, 1871
	Coulter, Henry. (*See* Hipwell, Thomas, assignor.)	
120,220	Coulter, William S., Ashley, Pa. Turn-table	Dec. 26, 1871
111,909	Court, John, Memphis, Tenn. Washing-machine	Feb. 21, 1871
121,858	Same Sash-holder	Dec. 12, 1871
	Courtney, John A., *et al.* (*See* Wilson, John T., assignor.)	
119,577	Cousens, William, Orono, Me. Potato-digger	Oct. 3, 1871
118,209	Coutant, John E., Rondout, N. Y. Sled-brake	Aug. 22, 1871
120,710	Couty, Gabriel Felix, France. Clothes-dryer	Nov. 7, 1871
110,920	Cousens, Matthew K., Yonkers, N. Y. Self-acting sewer-basin trap	Jan. 10, 1871
116,161	Covell, Allen Thompson, San Leandro, Cal. Roller-skate	June 20, 1871
121,490	Covell, Edward T., Brooklyn, N. Y. Head for rectangular cans	Dec. 5, 1871
	Coventry, Charles, and Sidney W. Palmer. (*See* Cronk & Palmer, assignors.) (Reissue.)	
116,666	Covert, D'Estaing, Chicago, Ill. Safe-door	July 4, 1871
116,668	Same same	July 4, 1871
115,579	Covert, Enoch, Farmer Village, N. Y. Meat and vegetable cutter	June 6, 1871
	Covert, John P., *et al.* (*See* Westlake, William, assignor) (Disclaimer.)	
	Same same (Reissue.)	
	Cowan, Edward A., and Erastus D. Johnson. (*See* Johnson & Cowan.)	
119,745	Cowardin, Collin M., Gardner's Station, Tenn. Broom-needle	Oct. 10, 1871
5,352	Cowell, Albert, England. Carpet-pattern (Design)	Nov. 7, 1871
5,353	Same same (Design)	Nov. 7, 1871
5,354	Same same (Design)	Nov. 7, 1871
5,355	Same same (Design)	Nov. 7, 1871
5,356	Same same (Design)	Nov. 7, 1871
5,357	Same same (Design)	Nov. 7, 1871
5,358	Same same (Design)	Nov. 7, 1871
5,359	Same same (Design)	Nov. 7, 1871
4,781	Cowell, Albert, assignor to James Humphries & Sons, England. Carpet-pattern (Design)	April 11, 1871
4,782	Same Carpet-pattern (Design)	April 11, 1871
4,783	Same same (Design)	April 11, 1871
4,784	Same same (Design)	April 11, 1871
4,785	Same same (Design)	April 11, 1871
4,786	Same same (Design)	April 11, 1871
4,787	Same same (Design)	April 11, 1871
5,019	Same Carpet (Design)	June 20, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,019	Cowell, Albert, assignor to James Humphries & Sons, England. Carpet. (Design)	June 20, 1871
5,020	Same.....Carpet (Design)	June 20, 1871
5,021	Same.....same (Design)	June 20, 1871
5,175	Same.....Carpet-pattern (Design)	Aug. 8, 1871
110,901	Cowell, Rensselaer A., Cleveland, Ohio. Railway-car platform	Jan. 10, 1871
115,580	Same.....Earth-closet	June 6, 1871
119,837	Cowles, Edwin, Cleveland, Ohio. Paper-cutting machine	Oct. 10, 1871
114,413	Cowles, Harley D., and George Stacey, Montreal, Canada. Horseshoe-nail machine	May 2, 1871
116,169	Cowles, James M., Burlington, Iowa. Sash-holder	June 20, 1871
	Cowper, Edward Alfred, *et al.* (*See* Siemens, Cowper & Cochrane.	
113,400	Cox, Gardner, Pierrepont, N. Y. Water-wheel	Jan. 10, 1871
	Cox, Harry, *et al.* (*See* Rowland, Charles, assignor.)	
121,583	Cox, Henry S., Franklin, Mich. Thill-coupling	Dec. 5, 1871
115,171	Cox, James, Belle Plaine, Iowa. Rotary engine	May 23, 1871
118,346	Cox, James Edward, Baltimore, Md. Corpse-preserver	Aug. 22, 1871
113,491	Cox, Richard D., and William F., Philadelphia, Pa. Smelting iron and other ores	April 4, 1871
	Cox, Whiteman & Cox. (*See* Rose & Calely, assignors) (Design.)	
117,980	Coyle, Hugh J., Buffalo, N. Y. Combined cultivator, marker, and coverer	Aug. 15, 1871
114,414	Coyne, Edward Richard, Chicago, Ill. Bridge-gate	May 2, 1871
119,327	Coyne, John W., Madrid, N. Y. Vise	Sept. 26, 1871
110,634	Cozad, Jackson, Corydon, Iowa. Seeding-machine	Jan. 3, 1871
114,538	Cozzens, Samuel W., Sheboygan, Wis. Sewing-machine chair	May 9, 1871
116,814	Crabill, Joseph R., La Crosse, Ill. Automatic car-brake	July 11, 1871
113,633	Crabill, Joseph R., assignor to self and Frank B. Modica, La Crosse, Ill. Connection for railway-cars	April 11, 1871
5,256	Crabtree, Benjamin, jr., assignor to John Bromley & Sons, Philadelphia, Pa. Carpet (Design.)	Sept. 12, 1871
110,743	Crabtree, John, Cincinnati, Ohio. Boot-jack	Jan. 3, 1871
4,917	Crabtree, Jonathan, Philadelphia, Pa. Carpet-pattern (Design)	May 23, 1871
4,918	Same.....same (Design)	May 23, 1871
4,589	Crabtree, Jonathan, assignor to Leedom, Shaw & Stewart, Philadelphia, Pa. Carpet-pattern (Design)	Jan. 24, 1871
4,590	Same.....same (Design)	Jan. 24, 1871
4,591	Same.....same (Design)	Jan. 24, 1871
4,592	Same.....same (Design)	Jan. 24, 1871
4,593	Same.....same (Design)	Jan. 24, 1871
4,594	Same.....same (Design)	Jan. 24, 1871
4,595	Same.....same (Design)	Jan. 24, 1871
4,596	Same.....same (Design)	Jan. 24, 1871
4,597	Same.....same (Design)	Jan. 24, 1871
4,598	Same.....same (Design)	Jan. 24, 1871
4,599	Same.....same (Design)	Jan. 24, 1871
4,600	Same.....same (Design)	Jan. 24, 1871
4,601	Same.....same (Design)	Jan. 24, 1871
4,679	Same.....same (Design)	Mar. 21, 1871
4,680	Same.....same (Design)	Mar. 21, 1871
4,684	Same.....same (Design)	Mar. 21, 1871
4,682	Same.....same (Design)	Mar. 21, 1871
4,685	Same.....same (Design)	Mar. 21, 1871
5,215	Same.....Carpet (Design)	Aug. 9, 1871
5,216	Same.....same (Design)	Aug. 9, 1871
5,217	Same.....same (Design)	Aug. 9, 1871
5,218	Same.....same (Design)	Aug. 9, 1871
5,219	Same.....same (Design)	Aug. 9, 1871
5,220	Same.....same (Design)	Aug. 9, 1871
5,221	Same.....same (Design)	Aug. 9, 1871
5,222	Same.....same (Design)	Aug. 9, 1871
5,223	Same.....same (Design)	Aug. 9, 1871
4,681	Crabtree, Jonathan, assignor to Horner Brothers, Philadelphia, Pa. Carpet-pattern (Design)	Feb. 28, 1871
4,683	Same.....Carpet-pattern (Design)	Feb. 28, 1871
120,502	Cracraft, Zadok S., assignor to self and William Stormont, Ottawa, Ill. Feed-mill	Oct. 31, 1871
120,042	Crady, Edward E., Sioux City, Iowa. Bitters	Oct. 17, 1871
112,421	Craft, John Crew, assignor to self and Antonio Roselle, Baltimore, Md. Carpet-cleaning machine	Mar. 7, 1871
120,730	Craft, Samuel D., New York, N. Y. Carriage-wheel	Nov. 7, 1871
120,417	Cragg, Joseph, Baltimore, Md. Coffee-pot	Oct. 31, 1871
	Craig, Andrew J., and James A., *et al.* (*See* Thomas, Craig, Craig & Hathaway.)	
115,711	Craig, David D., Macon, Ga. Horse-power	June 6, 1871
	Craig, David D., and Christopher D. Findlay. (*See* Findlay & Craig.)	
	Craig, I. S., and S. S. Turner. (*See* Turner & Craig.)	
113,091	Craig, William, and Henry L. Brevoort, Brooklyn, N. Y. Condenser for steam-engines	Mar. 28, 1871
118,516	Craik, David, Church Mills, Chateaugay, N. Y. Water-wheel	Aug. 29, 1871
116,028	Crakes, Thomas, Mishawaka, Ind. Harness-buckle	June 20, 1871
115,936	Cram, Alonzo W., Saint Louis, Mo. Railway-switch signal	June 13, 1871
119,124	Same.....Railway-switch stand and lock	Sept. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,416	Cram, Alonzo W., and William B. Dunbar, assignors to Alonzo W. Cram, Chicago, Ill. Switch-lock	June 27, 1871
110,908	Cram, John, assignor to self and John S. Cram, Chicago, Ill. Churn	Jan. 10, 1871
115,440	Cramer, Benjamin F., Tyrone, Pa. Feather-renovator	May 30, 1871
110,830	Cramer, Ephraim D., Hackettstown, N. J. Spring-bottom for wagon-bodies	Jan. 10, 1871
	Cramer, James P., Schuylerville, N. Y. Cultivator-teeth (Extension)	Jan. 5, 1871
111,818	Cramer, Philipp, Providence, R. I. Rotary steam-engine	Feb. 14, 1871
111,614	Crampton, Thomas Russell, England. Apparatus for feeding pulverized fuel to furnaces	Feb. 7, 1871
111,615	Same.....Apparatus for distributing and feeding powdered fuel to furnaces	Feb. 7, 1871
111,616	Same.....Furnace for burning pulverized fuel	Feb. 7, 1871
112,690	Crandal, Edwin G., Belfast, N. Y. Grapple	Mar. 14, 1871
113,402	Crandall, Benjamin P., jr., Williamsburgh, N. Y. Children's carriage or perambulator	April 4, 1871
114,640	Crandall, Cyprian U., Sterling, Ill. School-desk joint	May 9, 1871
114,112	Crandall, Delos V., Chicago, Ill. Bed-spring	April 25, 1871
116,515	Same.....Spring bed-bottom	July 11, 1871
111,388	Crandall, Hosea B., Brockton, N. Y. Gate	Jan. 31, 1871
	Crandall, James C. (*See* Rogers, John C., assignor.)	
115,825	Crandall, Jesse A., Brooklyn, N. Y. Swing	June 13, 1871
118,695	Same.....Velocipede	Sept. 5, 1871
110,744	Crandall, John C., New York, N. Y. Children's carriage	Jan. 3, 1871
110,745	Crandall, William E., New York, N. Y. Children's carriage	Jan. 3, 1871
4,233	Same.....same (Reissue)	Jan. 3, 1871
118,911	Crandell, James H., Upper Marlborough, Md. Wine-press	Sept. 12, 1871
110,746	Crandell, William, Westfield, N. Y. Railway-car seat	Jan. 3, 1871
	Crane, Albert G. (*See* McMahan, Charles E., assignor.)	
110,831	Crane, Albert O., Boston, Mass. Washing-machine	Jan. 10, 1871
113,266	Same.....Stool or table (Antedated March 24, 1871)	April 4, 1871
115,581	Same.....Heel of boots and shoes	June 6, 1871
118,203	Same.....Heel for boots and shoes	Aug. 22, 1871
110,956	Crane, James B., Dalton, Mass. Paper bed-bottom	Jan. 17, 1871
	Crane, Jason. (*See* Jones, James P., assignor) (Reissue.)	
	Same.....(*See* Seidis, Raphael M., assignor.)	
	Crane, John E., and Jonathan J. Hoyt. (*See* Hoyt & Crane.)	
	Crane, John E., *et al.* (*See* Melvin, Jerome B., assignor.)	
113,403	Crane, John H., and Charles W., Boston, Mass. Suspending signs, &c	April 4, 1871
	Crane, John S., and James T. Gilmore. (*See* Gilmore & Crane.)	
	Crane, Josiah, jr. (*See* Cory, David Pitkin, assignor.)	
	Crane, Josiah, jr., and David P. Cory. (*See* Cory & Crane, assignors.)	
	Crane, Moses G., and Joseph W. Stover. (*See* Stover & Crane.)	
4,513	Crane, Moses G., and Edwin Rogers, assignors through mesne assignments to Gamewell & Co., Boston, Mass. Automatic signal-box for fire-alarm telegraphs (Reissue)	Aug. 15, 1871
118,204	Crane, Seymour, assignor to Samuel W. Hoffman, Dalton, Mass. Mode of preventing and detecting the alteration of bank-checks, &c	Aug. 22, 1871
117,362	Crane, Thomas, assignor to self and Melvin A. Jones, Fort Atkinson, Wis. Sewing-machine	July 25, 1871
	Cranston, James F., *et al.* (*See* Martin, Edwin, assignor.)	
117,366	Crary, John S., Salem, N. Y. Metallic cartridge	July 25, 1871
113,022	Craven, Jesse W., and Albert Clark, Centre Valley, Ind. Grain-drill	Mar. 28, 1871
111,910	Craven, John J., Jersey City, N. J. Treating blood for the manufacture of fertilizers and ammoniacal salts	Feb. 21, 1871
121,760	Craven, Michael, Dedham, Mass. Rest for cloth-shearing machines	Dec. 12, 1871
115,441	Craven, Thomas C., assignor to Barton H. Jenks, Philadelphia, Pa. Cotton-gin saw	May 30, 1871
111,323	Crawford, Andrew, Wilkesbarre, Pa., and Iram Crawford, Bloomington, Ill. Grain, coffee, and rice cleaner	Jan. 31, 1871
113,093	Crawford, Benjamin, Allegheny, Pa. Apparatus for purifying coal-oil	Mar. 28, 1871
115,173	Crawford, John M., Philadelphia, Pa. Stamp-mill	May 23, 1871
112,904	Crawford, Peter S., Union, Ill. Gate	Mar. 21, 1871
117,363	Same.....same	July 25, 1871
	Crawford, R. A. (*See* Wright, Edwin L., assignor.)	
112,788	Creager, Jonathan, Cincinnati, Ohio. Sewing-machine table	Mar. 21, 1871
	Creager, Jonathan P., *et al.* (*See* Lawrence, William H., assignor.)	
116,938	Crease, Alexander, Cleveland, Ohio. Vise	July 11, 1871
115,826	Creed, George H., New York, N. Y. Spectacle-clew for sails of vessels	June 13, 1871
117,518	Cregan, Mickail, assignor to self and Andrew Damodiou, Chicago, Ill. Battle-door	July 11, 1871
111,433	Crehore, Horace C., assignor to self and Samuel T. Cushing, Boston, Mass. Hot-air distributing-pipe	Jan. 31, 1871
120,573	Creighton, David, Vacaville, Cal. Gate	Nov. 7, 1871
119,458	Creighton, John F., Placerville, Cal. Pruning-shears	Oct. 3, 1871
118,517	Creighton, Samuel, Lithopolis, Ohio. Insect-destroyer	Aug. 29, 1871
111,911	Cremer, Francis, Elmwood, Ill. Plow	Feb. 21, 1871
114,415	Cremin, Joseph W., assignor of half interest to George H. Fairchild, New York, N. Y. Water-meter	May 2, 1871
115,937	Same.....same	June 13, 1871
120,418	Same.....Axle for vehicles	Oct. 31, 1871
122,230	Same.....Hollow beam	Dec. 26, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,231	Cremin, Joseph W., assignor of half-interest to George H. Fairchild, New York, N. Y. Liquid-meter	Dec. 26, 1871
119,228	Cress, John M. and William L., Taylorsville, Tenn. Water-wheel	Sept. 26, 1871
	Cresson & Smith. (*See* Smith, Scott A., assignor) (Two cases.)	
116,833	Cresson, Charles M., assignor to Robert P. Dechert, Philadelphia, Pa. Manufacture of paper-pulp from straw	July 11, 1871
121,338	Creuse, Jules Leon Augustin, Brooklyn, N. Y. Medical compound	Nov. 28, 1871
111,179	Creuzbaur, Robert, Williamsburgh, N. Y. Fluid-meter	Jan. 24, 1871
113,084	Crick, Elias, Phillipsburgh, N. J. Washing-machine	Mar. 28, 1871
113,267	Crihfield, Aylett R., Lincoln, Ill. Camera stand	April 4, 1871
111,819	Criley, John, and Whitney Gilbreath, Rockwood, Ill. Feed-cutter	Feb. 14, 1871
	Crisman, John B., and George C. Taylor. (*See* Taylor & Crisman.)	
119,970	Crisp, James, and Vincr V. Dodd, assignors to selves and Emmons B. Corby, Orange, N. J. Rolling and felting hat-bodies. (Antedated Sept. 30, 1871)	Oct. 17, 1871
113,634	Crispin, Silas, New York, N. Y. Metallic cartridge	April 11, 1871
118,805	Crispin, Thomas, Bay City, Mich. Machine for cutting lath-bolts	Aug. 22, 1871
114,269	Crocker, Hyde, jr., Montrose, Pa. Whiffletree-coupling	May 2, 1871
119,507	Crocker, John D., and Junius A. Brand, Norwich, Conn. Stretcher for pictures	Oct. 3, 1871
119,578	Crocker, Richard, Marshalltown, Iowa. Strap-cutter. (Antedated Sept. 27, 1871)	Oct. 3, 1871
4,654	Crocker, William R., deceased, by Mary F. Crocker, administratrix, West Winsted, Conn. Machine for manufacturing corks (Reissue)	Dec. 5, 1871
121,159	Crockett, Lucien A., Wythe County, Va. Horse hay-rake	Nov. 21, 1871
119,195	Crockett, Nathaniel, Portland, Me. Washing-machine	Sept. 19, 1871
	Croft, Henry, and John P. Allen. (*See* Allen & Croft.)	
111,720	Croll, Sylvester, assignor to Samuel J. Phillips, Philadelphia, Pa. Stationary bell-holder	Feb. 14, 1871
111,324	Crompton, George, Worcester, Mass. Harness-operating mechanism for looms	Jan. 31, 1871
111,325	Same.....Carpet	Jan. 31, 1871
120,247	Same.....Hasp-lock	Oct. 24, 1871
5,198	Crompton, George, assignor to Crompton Carpet Company, Worcester, Mass. Carpet (Design)	Aug. 15, 1871
5,199	Same.....same (Design)	Aug. 15, 1871
	Crompton, George, and Jacob Fisler. (*See* Fisler & Crompton.)	
	Crompton, Joseph, and Joseph Clough. (*See* Clough & Crompton.)	
119,508	Cromwell, David, Saint Louis, Mo. Refrigerator	Oct. 3, 1871
	Cronk, George W., *et al.* (*See* Antisdell, Cronk & Haviland.)	
4,497	Cronk, Munson C., and Sidney W. Palmer, assignors to Sidney W. Palmer and Charles Coventry, Auburn, N. Y. Washing-machine (Reissue)	Aug. 1, 1871
	Crook, Charles, New Hope, Pa. Harvester (Disclaimer)	April 20, 1871
	Same.....same (Extension)	April 20, 1871
	Same.....same (Extension)	April 20, 1871
120,159	Crook, Joseph, Ludlow, Vt. Automatic oiler for looms	Dec. 26, 1871
113,501	Crooke, John J. and Lewis, New York, N. Y. Plated butt-hinge	April 11, 1871
5,070	Crooke, Lewis, New York, N. Y. Shutter-bar (Design)	July 4, 1871
119,078	Crookes, Joseph, Saint Louis, Mo. Furnace for heating saws for hardening and tempering	Sept. 19, 1871
110,838	Croom, William W., Montgomery, Ala. Cotton-seed planter and guano-distributor	Jan. 10, 1871
	Croome, William, deceased, by Rosalie Croome, executrix, Brooklyn, N. Y. Method of printing in colors (Extension)	May 3, 1871
	Cropper, John S. (*See* Thacker, Samuel, assignor.)	
119,364	Crosby, Augustine B., Greene, Me. Amalgamation of gold and silver	Sept. 26, 1871
121,491	Crosby, Chauncey O., Milford, Conn. Construction of packages of pins	Dec. 5, 1871
121,493	Same.....Case for pin-packages	Dec. 5, 1871
121,493	Same.....New Haven, Conn. Machine for sticking pins	Dec. 5, 1871
4,305	Crosby, Chauncey O., and N. A. Baldwin, New Haven, Conn. Sewing-machine (Reissue)	Mar. 21, 1871
111,830	Crosby, Daniel, Hampden, Me. Apparatus for smoothing and pressing paper during the manufacture	Feb. 14, 1871
112,492	Same.....Steam-regulator for paper-driers	Mar. 7, 1871
115,031	Crosby, Francis W., Washington, D. C. Furnace for roasting metallic ores	May 23, 1871
114,416	Crosby, Lewis M., Ashtabula, Ohio. Fanning-mill	May 2, 1871
119,079	Crosby, Mark, Boston, Mass. Parlor-bed	Sept. 19, 1871
116,816	Crosselmire, Charles, assignor to self and Alfred V. C. Genung, Newark, N. J. Joining for watch-chains	July 11, 1871
	Cross, Ransler R., and Francis A. Ramey. (*See* Ramey & Cross.)	
111,186	Cross, William B., Sacramento, Cal. Variable cut-off for steam-engines	Jan. 24, 1871
117,747	Same.....same	Aug. 8, 1871
117,964	Crossland, John, Spencer Grove, Iowa. Corn-harvester	July 25, 1871
113,260	Crossley, Harry A., Cleveland, Ohio. Stave-jointer	April 4, 1871
113,025	Crossman, Alonzo G., Huntington, N. Y. Steering-apparatus	Mar. 28, 1871
113,983	Crossman, Alonzo G., assignor to Franklin M. Crossman, Huntington, N. Y. Apparatus for reefing sails	April 25, 1871
113,984	Same.....Center-board for vessels	April 25, 1871
115,173	Same.....Center-board	May 23, 1871
115,038	Crossman, Charles P., West Warren, Mass. Medicine for coughs, colds, &c	May 23, 1871
120,419	Crossman, James M., South Orange, N. J., and George S. Rice, Tarrytown, N. Y. Fastener for meeting-rails of sashes	Oct. 31, 1871
119,971	Crossman, Montgomery, and Pratt A. Spicer, Marshall, Mich. Windmill	Oct. 17, 1871
119,972	Same.....same	Oct. 17, 1871
	Crotser, William H. (*See* Allen, Judson, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,269	Crouch, George, Westport, Conn. Shawl-strap (Reissue)	Mar. 7, 1871
119,223	Same.....same	Sept. 26, 1871
120,490	Crouch, John W., Rushville, Ohio. Gig-saddle	Oct. 31, 1871
	Crow, Henry, *et al.* (*See* Rich, Crow & Rich.)	
	Crowell, Abner B., and William Bayley. (*See* Bayley & Crowell.) (Two cases.)	
116,667	Crowell, Calvin, assignor to Daniel D. Smith, Syracuse, N. Y. Shirt-bosom expander	July 4, 1871
115,719	Crowell, David, jr., Yarmouth Port, Mass. Hank for eaile	June 6, 1871
115,713	Same.....Device for hanging looking-glasses and pictures	June 6, 1871
116,039	Same.....Knife scourer and sharpener	June 20, 1871
118,206	Crowell, Everard S., Augusta, Me. Pump	Aug. 22, 1871
111,730	Crowell, Hiles C., Morgan, Ohio. Apparatus for leaching bark, &c	Feb. 14, 1871
117,369	Crowell, John H., assignor to John Hendrick, Providence, R. I. Machine for manufacturing loom-harness	July 25, 1871
114,929	Crowley, Jeremiah F., Philadelphia, Pa. Loom	May 16, 1871
111,517	Crowley, John R., and Addison E. Chamberlain, Cincinnati, Ohio. Cooking-stove	Feb. 7, 1871
121,761	Crowson, Valenus W., Westfield, Mass. Covering for whips	Dec. 12, 1871
112,423	Cruikshank, George M., Providence, R. I. Metallic piston and valve-rod packing	Mar. 7, 1871
113,026	Crull, Jacob M., assignor of one-half interest to George S. Crull, Harrisburgh, Pa. Paper-clip	Mar. 28, 1871
113,027	Crumb, Edwin L., South West, Pa. Needle-holder and tension-device for sewing-machines	Mar. 28, 1871
120,043	Crump, Samuel, Brooklyn, N. Y. Apparatus for cleaning and preserving printers' rollers	Oct. 17, 1871
116,163	Crupper, James E., Berlin, Ky. Blotting-instrument	June 20, 1871
120,861	Crutcher, James P., and Thomas Y. Vancleave, Cornersville, Tenn. Rein and shaft support	Nov. 14, 1871
116,689	Csapp, George, New York, N. Y. Rocking-chair	July 4, 1871
	Cuffell, Joseph N., and William Allebaugh. (*See* Allebaugh & Cuffell.)	
112,494	Culham, George, Grand Rapids, Mich. Grain thrashing and separating machine. (Antedated Feb. 25, 1871)	Mar. 7, 1871
120,340	Culp, Elijah, Hilliard, Ohio. Corn harvester and shocker	Oct. 24, 1871
111,181	Culp, Godfrey E., and Matthew Flaig, Lock Haven, Pa. Spoke-tenoning machine	Jan. 24, 1871
115,033	Culver, David, Kingston, Pa. Cultivator-plow	May 23, 1871
111,326	Culver, Frank J., Hartford, Vt. Platform horse-power	Jan. 31, 1871
120,509	Culver, Jacob D., assignor to self and Samuel D. Carmichael, Catlin Station, Ind. Sawing-machine	Oct. 31, 1871
112,691	Culver, James H., San Francisco, Cal. Molding-machine	Mar. 14, 1871
4,788	Culver, John M., assignor to Hall, Elton & Co., Wallingford, Conn. Fork or spoon handle (Design)	April 11, 1871
120,943	Culver, John P., assignor to the Union Pipe Company, Jersey City, N. J. Core for dikes	Nov. 14, 1871
	Culver, Willard B., and Sidney Broadbent. (*See* Broadbent & Culver.)	
119,746	Culver, William H., West Troy, N. Y. Grinding-mill	Oct. 10, 1871
	Cumberland, John, and James R. McClintock. (*See* McClintock & Cumberland.)	
119,265	Cumberworth, Anthony, and William D. Little, Toronto, Canada. Wrench	Sept. 26, 1871
120,244	Cuming, Thomas, jr., Brookhaven, Miss. Plow	Oct. 24, 1871
	Cumming, William, and Daniel Fisher. (*See* Fisher & Cumming.)	
4,374	Cummings, Charles A., and Freeman M. Swallow, assignors through mesne assignments to Metropolitan Washing-Machine Company, Worcester, Mass. Clothes-wringer (Reissue)	Oct. 3, 1871
119,868	Cummings, Daniel M., assignor to self and Lewis Kimball, jr., Enfield, N. H. Machinery for making wooden trays	Oct. 10, 1871
113,028	Cummings, Edwin H., Grimshaw Heyes, and Thomas Entwistle, England. Stop-motion for warping-machines	Mar. 28, 1871
116,817	Cummings, Jotham, West Charleston, Vt. Mill-pick	July 11, 1871
116,347	Cummings, Patrick H., assignor to self and Edgar Konyon, Adams, N. Y. Fifth-wheel for vehicles	Aug. 22, 1871
121,330	Cummings, William H., Oxford, Mass. Knife-polisher	Nov. 28, 1871
117,606	Cummins, Simon A., Vienna, N. J. Plow	Aug. 1, 1871
117,980	Cummiskey, Michael N., Paterson, N. J. Propulsion of canal-boats	Aug. 8, 1871
115,442	Cunningham, James, assignor to Bradley & Hubbard, West Meriden, Conn. Standard for drop-lights	May 30, 1871
110,035	Cunningham, Robert W., Chesterville, Ohio. Flour-bolt	Jan. 3, 1871
5,424	Cunningham, William B., and Philip Hill, Philadelphia, Pa. Fringe (Design)	Dec. 19, 1871
5,425	Same.....same (Design)	Dec. 19, 1871
5,426	Same.....same (Design)	Dec. 19, 1871
111,434	Cuplin, Samuel, Iowa Falls, Iowa. Bee-hive	Jan. 31, 1871
120,944	Same.....same	Nov. 14, 1871
121,234	Cuppers, Gustavus, Brooklyn, E. D., N. Y. Illuminating-apparatus. (Antedated Nov. 16, 1871)	Nov. 28, 1871
	Curl, James H. (*See* Wilson, Milton M., assignor.)	
	Curl, John, and John Osmun. (*See* Osmun & Curl.)	
117,870	Curless, William, Truckee, Cal. Medical compound for treating rheumatism, &c	Aug. 8, 1871
111,110	Currie, Daniel, Belleville, Ill. Steam lubricator	Jan. 24, 1871
	Currie, John, and John Martino. (*See* Martino & Currie) (Design.)	
	Currier, Israel J., and Edward N. Porter. (*See* Porter & Currier.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,110	Currier, John J., and Leonard Cook, Gloucester, Mass. Marine-paint	Dec. 26, 1871
114,770	Currier, John W., Newbury, Vt. Combined tool	May 16, 1871
114,930	Currier, John W., assignor to self and John W. Labaree, Springfield, Mass. Bread-slicer	May 16, 1871
120,945	Currier, Thomas D., Waldoborough, Me. Tea and coffee pot stand	Nov. 14, 1871
113,404	Cursons, Samuel E., Buffalo, N. Y. Street-sprinkling machine	April 4, 1871
	Curtis, Augustin B., and Josiah Pierce. (*See* Pierce & Curtis.)	
120,862	Curtis, Charles W. Manufacture of gunpowder	Nov. 14, 1871
112,425	Curtis, David, assignor to self and C. B. Graham, Mishawaka, Ind. Cooking-stove	Mar. 7, 1871
120,044	Curtis, Francis, Brattleborough, Vt. Machine for making machine-screws	Oct. 17, 1871
110,833	Curtis, Francis, assignor to David Scrymgeour, Foxborough, Mass. Manufacture of articles from paper-pulp	Jan. 10, 1871
116,600	Curtis, George S., Chicago, Ill. Roller-skate	July 4, 1871
120,250	Curtis, Harrison W., assignor to Hale, Goodman & Co., Philadelphia, Pa. Wooden mat for picture-frames	Oct. 24, 1871
116,691	Curtis, Ira T., and J. Willard Smith, Rochester, N. Y. Preparation of wheat for food	July 4, 1871
115,174	Curtis, James, North Palmer, N. Y. Boiler washing-machine	May 23, 1871
119,579	Curtis, John, Cincinnati, Ohio. Carriage	Oct. 3, 1871
	Curtis, John B. (*See* Lymonde, Thomas, assignor.)	
115,443	Curtis, John G., Warren, Pa. Machine for rolling leather	May 30, 1871
	Curtis, Thaddeus B. (*See* Penny, Benjamin F., assignor.)	
116,417	Curtis, William B., Chicago, Ill. Rowing-machine	June 27, 1871
	Curtiss, Horace H., and Landy T. Lindsey. (*See* Lindsey & Curtiss.)	
115,382	Curtiss, Jonas P., New Britain, Conn. Screw-driver	June 6, 1871
118,807	Curtiss, Thomas E., Titusville, Pa. Corn-harvester	Aug. 22, 1871
114,417	Curtiss, Willis, jr., assignor to Elisha Turner, Wolcottville, Conn. Raisin-seeder	May 2, 1871
119,119	Curts, James, Ottumwa, Iowa. Water-elevator	Sept. 19, 1871
117,154	Cushing, Ambrose M., Cambridge, Mass. Wash-tub	July 18, 1871
115,444	Cushing, Mark A., Aurora, Ill. Hot-air furnace	May 30, 1871
117,053	Same.....Fire-place	July 18, 1871
122,160	Same.....Heating-stove	Dec. 26, 1871
	Cushing, Samuel T. (*See* Crehore, Horace C., assignor.)	
	Cushing, Sewell G., and Luther Southworth, jr. (*See* Southworth, jr., & Cushing.)	
110,963	Cushman, Austin F., Hartford, Conn. Lathe-chuck	Jan. 10, 1871
120,863	Same.....Machinists' lathe-chuck	Nov. 14, 1871
121,494	Same.....Chuck for metal-turning lathes	Dec. 5, 1871
117,748	Cushman, Henry T., North Bennington, Vt. Pencil	Aug. 8, 1871
121,853	Cushman, Joseph, Thomson, Ill. Windmill	Dec. 12, 1871
112,426	Cushman, Sylvanus D., New Lisbon, Ohio. Lightning-rod	Mar. 7, 1871
113,905	Custer, Cornelius, Norristown, Pa. Carriage-gearing	Mar. 21, 1871
118,348	Custer, Isaac D., Davenport, Iowa. Grape-trellis	Aug. 22, 1871
112,093	Custer, Henry, Central Village, Conn. Harvester-cutter	Mar. 14, 1871
	Cutshall, Jacob, and William Darrah. (*See* Darrah & Cutshall.)	
113,856	Cutter, John D., Brooklyn, N. Y. Spool-exhibitor	April 18, 1871
116,934	Cutter, Richard H., Cleveland, Ohio. Chair for boats	July 11, 1871
111,918	Cutting, Lewis, assignor to self and Francis Cutting, San Francisco, Cal. Mandrel for ganging and cutting solder-wire	Feb. 21, 1871
4,565	Cutting, Lewis, assignor to Francis Cutting, San Francisco, Cal. Furnace for soldering (Reissue)	Sept. 19, 1871
	Cuyler, Edward J. (*See* Lewis, James, assignor.)	
	Same.....same.	
112,315	Cuzner, John B., Bridgeport, Conn. Toy horse and carriage	Mar. 7, 1871
120,721	Criner, Matjas, New York, N. Y. Treating Indian corn with malt extract	Nov. 7, 1871
	Daft, Simpson H. (*See* Spangler, George C., assignor.)	
116,819	Daggett, Henry S., La Fayette, Ind. Electro-magnetic car-brake	July 11, 1871
120,946	Dagley, Joseph, Gosport, Ind. Hog-lifting machine..(Antedated Nov. 1, 1871)	Nov. 14, 1871
110,834	Dahlen, William, Madison, Ind. Feed-cutter	Jan. 10, 1871
	Dailey, Peter, *et al.* (*See* Banks, James, assignor.)	
119,427	Daily, Patrick, assignor to self and John J. Kehoe, New York, N. Y. Hose-bridge	Mar. 7, 1871
	Dalby, R. M. (*See* Allen, John P., assignor.)	
119,015	Dale, Thomas, Russellville, Ky. Cotton-cultivator	Sept. 19, 1871
112,426	Dale, William, New York, N. Y. Cover for openings in side-walks	Mar. 7, 1771
120,629	Same?.....Ventilator for hats and caps	Nov. 7, 1871
121,995	Same.....same	Dec. 19, 1871
118,309	Daley, Lewis, Minaville, N. Y. Cultivator-teeth	Aug. 22, 1871
119,747	Dalrymple, Robert, Galt, Canada. Drying-room	Oct. 10, 1871
116,164	Daly, Joseph, Troy, N. Y. Folding-table support	June 20, 1871
	Dalsell, A. Filson, *et al.* (*See* Davis, Joseph, assignor.)	
	Same..... (*See* Rigby, John, assignor.)	
117,390	Dalsell, David, South Egrement, Mass. Axle-box	July 25, 1871
4,594	Same.....same (Reissue)	Oct. 17, 1871
111,518	Dalziel, William, New York, N. Y. Self-closing cock	Feb. 7, 1871
113,636	Damant, William Edward, assignor to self and William Hessin, West Hoboken, N. J. Machine for cutting lozenges, &c	April 11, 1871
	Damodion, Andrew. (*See* Cragen, Mickall, assignor.)	
4,369	Damon, George L., Cambridge, Mass. Bolt for safes, &c. (Reissue)	May 23, 1871
115,443	Same.....Permutation-lock	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,714	Damon, George L., and Hiram B. Tripp, Boston, Mass. Device for operating safe-doors	June 6, 1871
121,854	Damon, Thomas, Thompsonville, Conn. Apparatus for transmitting and applying power	Dec. 12, 1871
117,860	Damp, John, Ashland, Ohio. Bran-duster	Aug. 15, 1871
	Dane, James F., *et al.* (*See* Westlake, William, assignor).....(Disclaimer.)	
	Same.....same.....(Reissue.)	
	Danforth, Edward G. (*See* Brace, James P., assignor.)	
111,831	Danforth, Oliver, Bibb County, Georgia. Dentifrice	Feb. 14, 1871
113,969	Daniels, Aaron M., Hartford, Conn. Chemically prepared lamp-wick	April 4, 1871
113,965	Daniels, Francis L., and John Russell, Boston, Mass. Dust-pan	April 25, 1871
	Daniels, Henry A. and Alfred J. Works. (*See* Works & Daniels.)	
119,560	Daniels, John F., Foxborough, Mass. Water-wheel	Oct. 3, 1871
111,913	Daniels, Reuben, Woodstock, Vt. Vegetable-crusher	Feb. 21, 1871
115,034	Daniels, Thomas H., Anderson, Ind. Wagon-side brace	May 23, 1871
	Danison, Aaron, and Franklin N. Draper. (*See* Draper & Danison.)	
122,161	Danks, Melancthon W., assignor to self and J. E. Harroun, Fulton, N. Y. Circular-saw mill	Dec. 26, 1871
116,975	Danks, Samuel, Cincinnati, Ohio. Mechanical firing	June 27, 1871
	Dann, Jesse W. (*See* Mithoff & Dann.)	
115,382	Dann, John A., and William F., assignors to Dann, Brothers & Co., New Haven, Conn. Wagon-seat	June 6, 1871
114,416	Dapron, Francis E., Davenport, Iowa. Toilet-case	May 2, 1871
115,269	Darby, Daniel H., assignor to self and David C. Cook, Mendon, Ill. Hemmer for sewing-machine	May 30, 1871
120,722	Darby, George W., assignor to self and James Harsha, Cincinnati, Ohio. Ruffling-attachment for sewing-machines	Nov. 7, 1871
114,772	Dare, Samuel G., New York, N. Y. Feeder for wax tapers	May 16, 1871
114,270	Dark, Thomas, Buffalo, N. Y. Receiver and stench-trap for street-sewers	May 2, 1871
114,771	D'Arlincourt, Ludovic Charles Adrian Joseph Guyot, France. Electric telegraph	May 16, 1871
117,991	Darling, Daniel S., Brooklyn, N. Y. Paddle-wheel	Aug. 15, 1871
116,586	Darling, George E., and Mathew Hess, Marytown, Wis. Car-coupling	July 4, 1871
	Darling, Ransom, *et al.* (*See* Colby, Calvin M., assignor.)	
110,950	Darling, Samuel, Providence, R. I. Pen-cleaner	Jan. 17, 1871
111,435	Same.....Inkstand	Jan. 31, 1871
116,970	Same.....Pencil-sharpener	June 27, 1871
	Same.....Manufacture of metallic squares (Extension)	Sept. 21, 1871
119,509	Darrach, Samuel A., Newburgh, N. Y. Gate. (Antedated Sept. 16, 1871)	Oct 3, 1871
121,700	Darrah, William, and Jacob Cutshall, Coshocton, Ohio. Cattle-guard for railways	Dec. 12, 1871
111,436	Darrell, Armistead M., assignor to self, Solon C. Kemon, and Lysander Hill, Washington, D. C. Branding-stamps	Jan. 31, 1871
111,188	Dart, Alfred, Carbondale, Pa. Furnace for burning small coal or culm	Jan. 24, 1871
119,581	Dasenbrock, Charles, Cincinnati, Ohio. Cleaning boiler-flues by steam-jets	Oct. 3, 1871
	Da Silva, José, and Charles Goodyear, jr. (*See* Goodyear, jr., & Da Silva.)	
	Dater, Philip, *et al.* (*See* Coons, Matthias P., assignor.)	
119,582	Daughtrey, Marmaduke F., Portsmouth, Va. Railway-car brake	Oct. 3, 1871
115,446	Davee, Ezra, Marshall, Ill. Process of seasoning wood	May 30, 1871
111,183	Davenport, George L., and Charles G. Case, Davenport, Iowa. Wine-press	Jan. 24, 1871
118,439	Davenport, James B., New York, N. Y. Barrel, tank, and cask for transporting acid and petroleum	Aug. 22, 1871
115,584	Davenport, Nelson, Troy, N. Y. Oar	June 6, 1871
112,139	Davenport, Frank P., assignor to self, Johon W. Cherry, and Thomas Logan, Carthage, Ill. Meadow-cultivator	Feb. 28, 1871
	Davey, Charles C., and Jost Stengel. (*See* Stengel & Davey.)	
	Davey, William O., & Sons. (*See* Wilkinson, Edward, assignor.)	
117,609	Davids, John B., New York, N. Y. Mallet	Aug. 1, 1871
	Davidson, Charles H., deceased, by Herman E. Davidson, administrator, and Herman E. Davidson for himself, Gloucester, Mass. Enema-syringe..(Extension)	Mar. 16, 1871
	Davidson, Marshall T. (*See* Frisbie, John L., assignor).....(Two cases.)	
113,745	Davies, Henry, Newport, Ky. Cut-off for blast-furnace	April 18, 1871
121,768	Same.....Blast-furnace	Dec. 12, 1871
114,773	Davies, Henry J., New York, N. Y. Elastic-type. (Antedated May 1, 1871)	May 16, 1871
117,301	Davies, John R., Racine, Wis. Method and apparatus for molding match-plates	July 25, 1871
115,938	Davies, John Scorey, and Walter Edward Yates, England. Loom	June 13, 1871
114,113	Davies, Thomas A., New York, N. Y. Lamp-chimney	April 25, 1871
	Davis, Abram V. (*See* Leaner, Alexander C., assignor.)	
118,569	Davis, Addison, and Theodore Parsons, Boston, Mass. Prop for holding up the lids of boxes, &c	Aug. 29, 1871
121,169	Davis, Albert J., Newark, N. J. Drain-pipe machine	Nov. 21, 1871
	Davis, Alfred B., *et al.* (*See* Shrieves, Charles D., assignor.)	
118,918	Davis, Andrew, Oxford, Mass. Machine for leveling cutting-blocks	Sept. 12, 1871
120,370	Davis, Anna, Reno, Nev. Wardrobe	Oct. 31, 1871
120,884	Davis, Arthur A., Clark's Green, Pa. Lifting-jack	Nov. 14, 1871
121,378	Davis, Asahel, Lowell, Mass. Dovetailing-machine	Nov. 28, 1871
120,947	Davis, Augustus Ball, Philadelphia, Pa. Wrench	Nov. 14, 1871
115,175	Davis, Biram C., assignor to self and Robert B. Doubleday, Binghamton, N. Y. Method of boxing blind-staples	May 23, 1871
	Davis, Charles A. (*See* Earlywine, Nathan, assignor.)	
	Davis, Curtis. (*See* Ultech, John B., assignor.)	
118,569	Davis, Daniel, assignor to the Davis Patent Hub and Wheel Company, New York, N. Y. Wheel-hub for vehicles	Aug. 29, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,110	Currier, John J., and Leonard Cook, Gloucester, Mass. Marine-paint	Dec. 26, 1871
114,770	Currier, John W., Newbury, Vt. Combined tool	May 16, 1871
114,830	Currier, John W., assignor to self and John W. Labaree, Springfield, Mass. Bread-slicer	May 16, 1871
120,945	Currier, Thomas D., Waldoborough, Me. Tea and coffee pot stand	Nov. 14, 1871
113,404	Cursons, Samuel E., Buffalo, N. Y. Street-sprinkling machine	April 4, 1871
	Curtis, Augustin B., and Josiah Pierce. (*See* Pierce & Curtis.)	
120,862	Curtis, Charles W. Manufacture of gunpowder	Nov. 14, 1871
112,435	Curtis, David, assignor to self and C. B. Graham, Mishawaka, Ind. Cooking-stove	Mar. 7, 1871
120,044	Curtis, Francis, Brattleborough, Vt. Machine for making machine-screws	Oct. 17, 1871
110,833	Curtis, Francis, assignor to David Scrymgeour, Foxborough, Mass. Manufacture of articles from paper-pulp	Jan. 10, 1871
116,090	Curtis, George S., Chicago, Ill. Roller-skate	July 4, 1871
120,250	Curtis, Harrison W., assignor to Hale, Goodman & Co., Philadelphia, Pa. Wooden mat for picture-frames	Oct. 24, 1871
116,091	Curtis, Ira T., and J. Willard Smith, Rochester, N. Y. Preparation of wheat for food	July 4, 1871
115,174	Curtis, James, North Palmer, N. Y. Boiler washing-machine	May 23, 1871
119,579	Curtis, John, Cincinnati, Ohio. Carriage	Oct. 3, 1871
	Curtis, John B. (*See* Lymonde, Thomas, assignor.)	
115,443	Curtis, John G., Warren, Pa. Machine for rolling leather	May 30, 1871
	Curtis, Thaddeus B. (*See* Penny, Benjamin F., assignor.)	
116,417	Curtis, William B., Chicago, Ill. Rowing-machine	June 27, 1871
	Curtiss, Horace H., and Landy T. Lindsey. (*See* Lindsey & Curtiss.)	
115,582	Curtiss, Jonas P., New Britain, Conn. Screw-driver	June 6, 1871
118,207	Curtiss, Thomas E., Titusville, Pa. Corn-harvester	Aug. 22, 1871
114,417	Curtiss, Willis, jr., assignor to Elisha Turner, Wolcottville, Conn. Raisin-seeder.	May 2, 1871
119,119	Curts, James, Ottumwa, Iowa. Water-elevator	Sept. 19, 1871
117,154	Cushing, Ambrose M., Cambridge, Mass. Wash-tub	July 18, 1871
115,444	Cushing, Mark A., Aurora, Ill. Hot-air furnace	May 30, 1871
117,053	Same.....Fire-place	July 18, 1871
122,160	Same.....Heating-stove	Dec. 26, 1871
	Cushing, Samuel T. (*See* Crehore, Horace C., assignor.)	
	Cushing, Sewall G., and Luther Southworth, jr. (*See* Southworth, jr., & Cushing.)	
110,903	Cushman, Austin F., Hartford, Conn. Lathe-chuck	Jan. 10, 1871
120,863	Same.....Machinists' lathe-chuck	Nov. 14, 1871
121,494	Same.....Chuck for metal-turning lathes	Dec. 5, 1871
117,743	Cushman, Henry T., North Bennington, Vt. Pencil	Aug. 8, 1871
121,853	Cushman, Joseph, Thomson, Ill. Windmill	Dec. 12, 1871
113,436	Cushman, Sylvanus D., New Lisbon, Ohio. Lightning-rod	Mar. 7, 1871
113,905	Custer, Cornelius, Norristown, Pa. Carriage-gearing	Mar. 21, 1871
118,348	Custer, Isaac D., Davenport, Iowa. Grape-trellis	Aug. 22, 1871
112,692	Custer, Henry, Central Village, Conn. Harvester-cutter	Mar. 14, 1871
	Cutshall, Jacob, and William Darrah. (*See* Darrah & Cutshall.)	
113,858	Cutter, John D., Brooklyn, N. Y. Spool-exhibiter	April 18, 1871
116,934	Cutter, Richard H., Cleveland, Ohio. Chair for boats	July 11, 1871
111,912	Cutting, Lewis, assignor to self and Francis Cutting, San Francisco, Cal. Mandrel for gauging and cutting solder-wire	Feb. 21, 1871
4,565	Cutting, Lewis, assignor to Francis Cutting, San Francisco, Cal. Furnace for soldering (Reissue)	Sept. 19, 1871
	Cuyler, Edward J. (*See* Lewis, James, assignor.)	
	Same.....same.	
112,325	Cuzner, John B., Bridgeport, Conn. Toy horse and carriage	Mar. 7, 1871
120,721	Criner, Matjas, New York, N. Y. Treating Indian corn with malt extract	Nov. 7, 1871
	Daft, Simpson H. (*See* Spangler, George C., assignor.)	
116,818	Daggett, Henry S., La Fayette, Ind. Electro-magnetic car-brake	July 11, 1871
120,946	Dagley, Joseph, Gosport, Ind. Hog-lifting machine..(Antedated Nov. 1, 1871)	Nov. 14, 1871
110,834	Dahlen, William, Madison, Ind. Feed-cutter	Jan. 10, 1871
	Dailey, Peter, *et al.* (*See* Banks, James, assignor.)	
113,497	Daily, Patrick, assignor to self and John J. Kehoe, New York, N. Y. Hose-bridge	Mar. 7, 1871
	Dalby, R. M. (*See* Allen, John P., assignor.)	
119,015	Dale, Thomas, Russellville, Ky. Cotton-cultivator	Sept. 19, 1871
112,426	Dale, William, New York, N. Y. Cover for openings in side-walks	Mar. 7, 1771
120,629	Same.....Ventilator for hats and caps	Nov. 7, 1871
121,995	Same.....same	Dec. 19, 1871
118,908	Daley, Lewis, Minaville, N. Y. Cultivator-tooth	Aug. 22, 1871
119,747	Dalrymple, Robert, Galt, Canada. Drying-room	Oct. 10, 1871
116,164	Daly, Joseph, Troy, N. Y. Folding-table support	June 20, 1871
	Dalzell, A. Filson, *et al.* (*See* Davis, Joseph, assignor.)	
	Same..... (*See* Higby, John, assignor.)	
117,390	Dalzell, David, South Egremont, Mass. Axle-box	July 25, 1871
4,594	Same.....same (Reissue)	Oct. 17, 1871
111,518	Dalziel, William, New York, N. Y. Self-closing cock	Feb. 7, 1871
113,635	Damant, William Edward, assignor to self and William Hessin, West Hoboken, N. J. Machine for cutting lozenges, &c	April 11, 1871
	Damedion, Andrew. (*See* Cragen, Mickail, assignor.)	
4,369	Damon, George L., Cambridge, Mass. Bolt for safes, &c.....(Reissue)	May 23, 1871
115,445	Same.....Permutation-lock	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

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115,714	Damon, George L., and Hiram R. Tripp, Boston, Mass. Device for operating safe-doors	June 6, 1871
121,854	Damon, Thomas, Thompsonville, Conn. Apparatus for transmitting and applying power	Dec. 12, 1871
117,960	Damp, John, Ashland, Ohio. Bran-duster	Aug. 15, 1871
	Dane, James F., *et al.* (*See* Westlake, William, assignor).....(Disclaimer.)	
	Same.....same.....(Reissue.)	
	Danforth, Edward G. (*See* Brace, James P., assignor.)	
111,881	Danforth, Oliver, Bibb County, Georgia. Dentifrice	Feb. 14, 1871
113,969	Daniels, Aaron M., Hartford, Conn. Chemically prepared lamp-wick	April 4, 1871
113,985	Daniels, Francis L., and John Russell, Boston, Mass. Dust-pan	April 25, 1871
	Daniels, Henry A., and Alfred J. Works. (*See* Works & Daniels.)	
119,580	Daniels, John F., Foxborough, Mass. Water-wheel	Oct. 3, 1871
111,913	Daniels, Reuben, Woodstock, Vt. Vegetable-crusher	Feb. 21, 1871
115,034	Daniels, Thomas H., Anderson, Ind. Wagon-side brace	May 23, 1871
	Danison, Aaron, and Franklin N. Draper. (*See* Draper & Danison.)	
122,161	Danks, Melancthon W., assignor to self and J. E. Harroun, Fulton, N. Y. Circular-saw mill	Dec. 26, 1871
116,275	Danks, Samuel, Cincinnati, Ohio. Mechanical spring	June 27, 1871
	Dann, Jesse W. (*See* Mithoff & Dann.)	
115,583	Dann, John A., and William F., assignors to Dann, Brothers & Co., New Haven, Conn. Wagon-seat	June 6, 1871
114,418	Dapron, Francis E., Davenport, Iowa. Toilet-case	May 2, 1871
115,928	Darby, Daniel H., assignor to self and David C. Cook, Meadon, Ill. Hemmer for sewing-machine	May 30, 1871
120,722	Darby, George W., assignor to self and James Harsha, Cincinnati, Ohio. Ruffling-attachment for sewing-machines	Nov. 7, 1871
114,772	Dare, Samuel G., New York, N. Y. Feeder for wax tapers	May 16, 1871
114,870	Dark, Thomas, Buffalo, N. Y. Receiver and stench-trap for street-sewers	May 2, 1871
114,771	D'Arlincourt, Ludovic Charles Adrian Joseph Guyot, France. Electric telegraph.	May 16, 1871
117,991	Darling, Daniel S., Brooklyn, N. Y. Paddle-wheel	Aug. 15, 1871
116,566	Darling, George E., and Mathew Heus, Marytown, Wis. Car-coupling	July 4, 1871
	Darling, Ransom, *et al.* (*See* Colby, Calvin M., assignor.)	
119,939	Darling, Samuel, Providence, R. I. Pen-cleaner	Jan. 17, 1871
111,435	Same.....Inkstand	Jan. 31, 1871
116,276	Same.....Pencil-sharpener	June 27, 1871
	Same.....Manufacture of metallic squares (Extension)	Sept. 21, 1871
119,569	Darrach, Samuel A., Newburgh, N. Y. Gate. (Antedated Sept. 16, 1871)	Oct 3, 1871
121,709	Darrah, William, and Jacob Cutshall, Coshocton, Ohio. Cattle-guard for railways.	Dec. 12, 1871
111,436	Darrell, Armistead M., assignor to self, Solon C. Kemon, and Lysander Hill, Washington, D. C. Branding-stamps	Jan. 31, 1871
111,182	Dart, Alfred, Carbondale, Pa. Furnace for burning small coal or culm	Jan. 24, 1871
119,561	Dasenbrock, Charles, Cincinnati, Ohio. Cleaning boiler-flues by steam-jets	Oct. 3, 1871
	Da Silva, José, and Charles Goodyear, jr. (*See* Goodyear, jr., & Da Silva.)	
	Dater, Philip, *et al.* (*See* Coons, Matthias P., assignor.)	
119,562	Daughtrey, Marmaduke F., Portsmouth, Va. Railway-car brake	Oct. 3, 1871
115,446	Davee, Ezra, Marshall, Ill. Process of seasoning wood	May 30, 1871
111,183	Davenport, George L., and Charles G. Case, Davenport, Iowa. Wine-press	Jan. 24, 1871
118,436	Davenport, James B., New York, N. Y. Barrel, tank, and cask for transporting acid and petroleum	Aug. 22, 1871
115,584	Davenport, Nelson, Troy, N. Y. Oar	June 6, 1871
112,130	Davenport, Frank P., assignor to self, Johon W. Cherry, and Thomas Logan, Carthage, Ill. Meadow-cultivator	Feb. 28, 1871
	Davey, Charles C., and Jost Stengel. (*See* Stengel & Davey.)	
	Davey, William O., & Sons. (*See* Wilkinson, Edward, assignor.)	
117,609	Davids, John B., New York, N. Y. Mallet	Aug. 1, 1871
	Davidson, Charles H., deceased, by Herman E. Davidson, administrator, and Herman E. Davidson for himself, Gloucester, Mass. Enema-syringe..(Extension)	Mar. 16, 1871
	Davidson, Marshall T. (*See* Frisbie, John L., assignor).....(Two cases.)	
112,745	Davies, Henry, Newport, Ky. Cut-off for blast-furnace	April 18, 1871
121,768	Same.....Blast-furnace	Dec. 12, 1871
114,773	Davies, Henry J., New York, N. Y. Elastic-type. (Antedated May 1, 1871)	May 16, 1871
117,391	Davies, John R., Racine, Wis. Method and apparatus for molding match-plates	July 25, 1871
115,936	Davies, John Storey, and Walter Edward Yates, England. Loom	June 13, 1871
114,113	Davies, Thomas A., New York, N. Y. Lamp-chimney	April 25, 1871
	Davis, Abram V. (*See* Lesner, Alexander C., assignor.)	
118,588	Davis, Addison, and Theodore Parsons, Boston, Mass. Prop for holding up the lids of boxes, &c	Aug. 29, 1871
121,160	Davis, Albert J., Newark, N. J. Drain-pipe machine	Nov. 21, 1871
	Davis, Alfred B., *et al.* (*See* Shrieves, Charles D., assignor.)	
118,912	Davis, Andrew, Oxford, Mass. Machine for leveling cutting-blocks	Sept. 12, 1871
120,370	Davis, Anna, Reno, Nev. Wardrobe	Oct. 31, 1871
120,864	Davis, Arthur A., Clark's Green, Pa. Lifting-jack	Nov. 14, 1871
121,378	Davis, Asahel, Lowell, Mass. Dovetailing-machine	Nov. 28, 1871
120,947	Davis, Augustus Ball, Philadelphia, Pa. Wrench	Nov. 14, 1871
115,175	Davis, Biram C., assignor to self and Robert B. Doubleday, Binghamton, N. Y. Method of boxing blind-staples	May 23, 1871
	Davis, Charles A. (*See* Earlywine, Nathan, assignor.)	
	Davis, Curtis. (*See* Ultsch, John B., assignor.)	
118,589	Davis, Daniel, assignor to the Davis Patent Hub and Wheel Company, New York, N. Y. Wheel-hub for vehicles	Aug. 29, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,119	Davis, David P., Jersey City, N. J. Meter	Aug. 15, 1871
112,693	Davis, Ellwood, and Jacob M. Stiles, Camden, N. J. Locking stop-cock	Mar. 14, 1871
	Davis Excavator Company. (*See* Davis, Robert W., assignor.)	
117,156	Davis, Francis N., Beloit, Wis. Paper for buildings	July 18, 1871
5,226	Davis, George, Cincinnati, Ohio. Flour-safe	Aug. 29, 1871
	Davis, George A., *et al.* (*See* Marr, Maughlin & Davis.)	
	Davis, George L., George G., and James H., *et al.* (*See* McGovern, Peter, assignor.)	
	Same.....(*See* Ashworth, John, assignor.)	
	Same.....(*See* Stone, Joseph M., assignor.)	
119,453	Davis, Henry, and Rinaldo Aldea, Erie, Pa. Refrigerator	Oct. 3, 1871
121,161	Davis, Henry G., Worcester, Mass. Loom	Nov. 21, 1871
114,871	Davis, Henry J., Wetumpka, Ala. Cotton-press. (Antedated April 26, 1871)	May 2, 1871
110,904	Davis, Hiiss D., Andover, Mass. Loom	Jan. 10, 1871
116,977	Davis, Jacob W., Reno, Nev. Ironing and stretching board	June 27, 1871
115,176	Davis, Jacob Z., San Francisco, Cal. Fastener for doors and windows	May 23, 1871
111,437	Davis, James, Saratoga, N. Y. Potato-digger	Jan. 31, 1871
112,556	Same.....Chicago, Ill. Mop-head	Mar. 14, 1871
	Davis, Jesse J. (*See* Bollermann, Dominic L., assignor.)	
118,793	Davis, John P. T., assignor to self and Samuel Davis, New Trenton, Ind. Excavator. (Antedated Sept. 11, 1871)	Sept. 19, 1871
120,045	Davis, John S., Louisville, Ky. Bale-tie. (Antedated Oct. 11, 1871)	Oct. 17, 1871
120,430	Davis, John W., and James Vermilion, assignors to selves and George B. Edwards; and said Vermilion assignor to said Edwards, Washington, D. C. Fire-escape. (Antedated Oct. 14, 1871)	Oct. 31, 1871
114,774	Davis, Joseph, assignor through mesne assignments to self, John Rigby, and A. Filson Dalzell, Pittsburgh, Pa. Reverberating-furnace	May 16, 1871
	Davis, Joseph, *et al.* (*See* Rigby, John, assignor.)	
112,127	Davis, Joshua, Limestoneville, Pa. Magazine fire-arm	Feb. 28, 1871
121,088	Davis, Leonard L., Springfield, Mass. Spirit-level	Nov. 21, 1871
	Davis Patent Hub and Wheel Company. (*See* Davis, Daniel, assignor.)	
117,998	Davis, Perry W., Portland, Oreg. Car-coupling	Aug. 15, 1871
114,650	Davis, Perry W., and Dennis D. Bunnell, Portland, Oreg. Water-wheel gate	May 9, 1871
117,993	Davis, Robert W., assignor to the Davis Excavator Company, Sonora, N. Y. Excavating-machine	Aug. 15, 1871
115,827	Davis, Salmon P., Constantine, Mich. Stove-grate	June 13, 1871
116,692	Davis, Samuel, New Trenton, Ind. Butteris	July 4, 1871
112,120	Davis, Samuel H., and David W., Detroit, Mich. Preserving fish by freezing	Feb. 28, 1871
	Davis, Samuel H., jr. (*See* Miller, Henry S., assignor) .....(Three cases.)	
121,996	Davis, Samuel W., and Charles P. Elliott, Norristown, Pa. Pencil-sharpener	Dec. 19, 1871
112,906	Davis, Walter D., Charles W. Blakeslee, and Joseph C. Peck, Watertown, Conn. Harness-rosette	Mar. 21, 1871
112,198	Davis, Walter S., Warner, N. H. Water-wheel curb	Feb. 28, 1871
118,846	Davis, William H., Lexington, Ind. Tire for wheels of vehicles	Sept. 12, 1871
120,185	Davis, William M., Cincinnati, Ohio. Electric-clock	Oct. 24, 1871
111,731	Davis, William M., assignor to self and S. S. Norton, Mount Sinai, N. Y. Ornamenting mirrors	Feb. 14, 1871
119,196	Davis, William P., Honeoye Falls, N. Y. Window	Sept. 19, 1871
112,557	Davison, Darius, New York, N. Y. Gas-retort	Mar. 14, 1871
117,610	Same.....same	Aug. 1, 1871
119,339	Same.....Manufacture of illuminating-gas	Sept. 26, 1871
120,121	Same.....Manufacture of coal-gas. (Antedated Oct. 6, 1871)	Oct. 24, 1871
120,501	Davison, Ferdinand, Liberty, Va. Cut-nail machine	Oct. 31, 1871
116,567	Davison, George A., Montana, Iowa. Addressing-machine	July 4, 1871
114,775	Davison, John C., Chicago, Ill. Acid-bottle for fire-extinguishers	May 16, 1871
116,794	Davison, William, Baltimore, Md. Machine for washing white lead	Sept. 12, 1871
115,715	Davol, William C., jr., Fall River, Mass. Hose-leak stopper	June 6, 1871
4,789	Dawes, John L., Pittsburgh, Pa. Bitter-tube .....(Design)	April 11, 1871
117,994	Dawson, Paul R., Bronham, Tex. Hame-tug for harness	Aug. 15, 1871
118,113	Dawson, Zedekiah, Cole Creek, Ind. Milestone-balance	Aug. 15, 1871
111,510	Day, Alfred, assignor of one-half interest to Francis Lyford, Skowhegan, Me. Clothes-drier	Feb. 7, 1871
116,935	Day, Charles T., Newark, N. J. Skate	July 11, 1871
117,054	Day, Daniel C., San José, Cal. Side-hill plow. (Antedated July 12, 1871)	July 18, 1871
	Day, Eben A. (*See* Lawton, Christopher P., assignor.)	
117,519	Day, Edwin, Rockford, Ill. Steam-generator	Aug. 1, 1871
120,232	Day, Francis E., Kennedy, N. Y. Cheese-vat	Dec. 26, 1871
118,696	Day, Horace H., Bloomingdale, N. J. Combined hydraulic and pneumatic elevator for railroads	Sept. 5, 1871
	Day, Levi, *et al.* (*See* Wagner, Alfred H., assignor.)	
115,930	Day, Lloyd, Baltimore, Md. Corn-sheller	June 13, 1871
	Day, Ralph A. (*See* Rayment, William L., assignor.)	
114,831	Dayton, Charles E., Meriden, Conn. Can-top	May 16, 1871
	Dayton, Edwin, *et al.* (*See* Goodwin, William, assignor) .....(Reissue.)	
111,617	Dayton, John W., Augusta, Me. Suspender	Feb. 7, 1871
116,165	Deacon, George Frederick, assignor to Dillwyn Smith, England. Apparatus for feeding furnaces with fuel	June 20, 1871
118,209	Deacon, Henry, England. Apparatus for the manufacture of chlorine	Aug. 22, 1871
18,210	Same.....Manufacture of bleaching-powder	Aug. 22, 1871
18,211	Same.....Apparatus for producing chlorine	Aug. 22, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,212	Deacon, Henry, England. Treating mixed gases containing chlorine for the production of bleaching-powder, &c	Aug. 22, 1871
121,595	Same.....Manufacture of bleaching-powder, sulphates, &c	Dec. 5, 1871
4,606	Deacon, Joseph H., Lumberton, N. J. Manufacture of alcoholic liquor from the rhubarb-plant .....(Reissue)	Oct. 24, 1871
117,749	Dean, Aaron, Ann Arbor, Mich. Portable fire-shield	Aug. 8, 1871
118,591	Dean, Charles A., Boston, Mass. Fiber-cleaning machine	Aug. 29, 1871
115,898	Dean, Charles A., assignor to James A. Coe, Boston, Mass. Machine for cleaning sisal hemp and other grasses	June 13, 1871
	Dean, Lloyd H. (*See* Lee, Charles T., assignor.)	
114,278	Dean, Otis, Richmond, Va. Gas-regulator	May 2, 1871
118,697	Dean, Walter L., Dayton, Ohio. Log-binder	Sept. 5, 1871
	Dean, William, and Charles E. Barber. (*See* Barber & Dean.)	
113,879	Dean, William G., Brooklyn, N. Y. Preparing flour for use in confectionery, &c	April 18, 1871
110,835	Deane, Charles P., Springfield, Mass. Steam-engine valve	Jan. 10, 1871
121,451	Same.....Direct-acting steam-engine. (Antedated Nov. 20, 1871)	Dec. 5, 1871
113,406	Deane, Collins W., Philadelphia, Pa. Sediment-collector for steam-boilers	April 4, 1871
4,635	Same.....same .....(Reissue)	Nov. 14, 1871
119,747	Deane, Royal E., and Thomas Shedd., New York, N. Y. Door for ranges	Jan. 3, 1871
119,366	Dearborn, Gilbert K., assignor to James Berney, Smithfield, R. I. Blind-fastener	Sept. 26, 1871
117,055	Deardorff, George B., Canal Dover, Ohio. Harvester-platform	July 18, 1871
115,447	Deave, Charles, assignor to the Archer and Pancoast Manufacturing Company, New York, N. Y. Sliding gas-joint for extension drop-lights	May 30, 1871
118,349	Same.....Sustaining device for center drop-lights for gaseliers	Aug. 22, 1871
121,340	Same.....Chuck for screw-cutting	Nov. 28, 1871
119,583	De Baun, Rebecca, Chicago, Ill. Corset. (Antedated Sept. 18, 1871)	Oct. 3, 1871
	De Bolt, William P. (*See* Chavons, Hilry, assignor.)	
4,667	De Bussom, Elias, Yonkers, N. Y. Spoon .....(Design)	Feb. 21, 1871
	Dechert, Robert P. (*See* Crosson, Charles M., assignor.)	
112,326	Decker, Ebenezer L., Southport, Me. Mackerel-line holder	Mar. 7, 1871
118,913	Decker, Frederick E., assignor to Edward Simon & Brothers, Newark, N. J. Sewing-machine	Sept. 12, 1871
113,746	Decker, James, assignor to self and F. McRae, Holmesville, Ga. Shingle-machine	April 18, 1871
113,870	Decker, John M., assignor to self and Thomas J. Smith, Covington, Ky. Spring for vehicles	April 4, 1871
5,328	Decker, Levi, assignor to Kavanaugh & Decker, New York, N. Y. Billiard-table .....(Design)	Oct. 31, 1871
117,965	Decker, Sylvanus, and Frazee Ayres, Rahway, N. J. Washing-machine	July 25, 1871
120,046	Decrow, Marion G., assignor of one-half interest to Joseph P. Decrow, jr., Newark, Ohio. Churn-dasher rod	Oct. 17, 1871
	Decrow, Marion G. (*See* Armstrong, John, assignor.)	
120,630	De Dartlin, Charles Felix and Jules E., France. Metallic cartridge	Nov. 7, 1871
115,983	Dee, Henry William, England. Liquid-flask	May 30, 1871
	Deeble, John. (*See* Prindle, Franklin B., assignor.)	
119,090	Deeds, William S., Baltimore, Md. Solder	Sept. 19, 1871
117,611	Deeds, William S., Baltimore, Md., and John P. Bradway, Philadelphia, Pa. Combined circular and elliptical cutter	Aug. 1, 1871
121,332	Deering, William, Louisville, Ky. Horse-power	Dec. 19, 1871
110,905	Deey, Edward Mortimer, New York, N. Y. Ventilator	Jan. 10, 1871
111,914	Same.....Base-burning stove	Feb. 21, 1871
113,271	Same.....Fluting-machine	April 4, 1871
121,235	Same.....same	Nov. 28, 1871
	Defrees, John D., and William E. Prall. (*See* Prall & Defrees.)	
	Defrees, William H., and Samuel H. Warren. (*See* Warren & Defrees.)	
	De Frondat, Charles. (*See* Prud'homme, Pierre Désiré, assignor.)	
118,213	Degen, Francis, and Edwin R. Parsil, Newark, N. J. Cover for cones of hat-body formers	Aug. 22, 1871
114,776	Degenhardt, George C. Louis, Williamsburgh, N. Y. Purifying water for use in steam-boilers, &c	May 16, 1871
120,722	Degree, James, Hinesburgh, Vt. Furnace for heating tires	Nov. 7, 1871
	De Haas, James B., and Stephen A. Gibson. (*See* Gibson & De Haas.)	
	Deibert, Jeremiah M., *et al.* (*See* Royal, Lents & Deibert.)	
113,872	Deitz, Lewis, Benjamin P. Wayne, and Albern Stone, Auburn, N. Y. Manufacture of billiard-balls and other composition articles	April 4, 1871
	Deitzler, George W. (*See* Hearne, John C., assignor.)	
	De Jonge, Jan, and Marinus Van Quine. (*See* Van Quine & De Jonge.)	
	Delacourt, Louis, *et al.* (*See* Decamecur, Dudin & Delacourt.)	
117,730	De Lagillardais, Edouard, France. Suction-siphon	Aug. 8, 1871
	Delamater, Cornelius H., *et al.* (*See* Rider, Alexander K., assignor.) (Six cases.)	
	Same.....(*See* Reynolds, George H., assignor) .....(Three cases.)	
	De La Mater, Silas, and Frederick A. Ross. (*See* Ross & De La Mater.)	
112,920	De Land, Henry C., Syracuse, N. Y. Lubricator for steam-chests	Feb. 21, 1871
116,819	Delaney, Mathew, New York, N. Y. Manufacture of rubber-cushions for billiard-tables	July 11, 1871
117,995	Same.....Billiard-cushion	Aug. 15, 1871
	De Lany, John C. (*See* Smith, George, assignor) .....(Two cases.)	
113,747	Delap, J. Dyson, Tyrone Township, Pa. Corn-planter	April 18, 1871
121,162	De la Peyrouse, Lee Louis Aimé Elie Picot, France. Treating fatty matters	Nov. 21, 1871
	Delarue, Joseph and Patrick W. Brown. (*See* Brown & Delarue.)	
121,163	De Lill, Lewis, Phœnix, N. Y. Propeller for vessels	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,495	Delkescamp, Adolph, assignor of one-half interest to John North, New York, N. Y. Eyeletting-machine	Dec. 5, 1871
118,518	Dellinger, Frederic D., and Samuel H. Hunt, Waynesborough, Va. Car-truck. (Antedated Aug. 17, 1871)	Aug. 29, 1871
113,273	Delmont, Rensselaer P., Flemington, Pa. Extension-ladder	April 14, 1871
119,584	De Man, Alphonse, Belgium. Rudder for vessels	Oct. 3, 1871
113,906	Demarest, John, assignor to self and Jordan L. Mott, Mott Haven, N. Y. Flask for casting pipe	April 25, 1871
117,986	Same. Molding-machine	July 25, 1871
119,187	Same. Leader-pipe coupling	Sept. 19, 1871
121,043	Demarest, John L., Elmira, N. Y. Thread-rack for spooling-attachments of sewing-machines	Nov. 21, 1871
	Demary, Newcomb, jr., Attica, N. Y. Snow-plow (Extension)	Nov. 20, 1871
113,630	Dement, Robert H., Hudson, Ill. Wagon-brake	April 11, 1871
	Deming, George N., and De Witt C. Ellis. (*See* Ellis & Deming.)	
4,558	Deming, John, assignor to self and A. R. Silver, Salem, Ohio. Spoke-tenoning and hub-boring machine (Reissue)	Sept. 12, 1871
121,279	Deming, Loton L. and Andrew J., and Rinaldo Alden, Erie, Pa. Bed-bottom	Nov. 28, 1871
121,907	Demongeot, Narcisse, Washington, D. C. Hair-weaving and mounting apparatus	Dec. 19, 1871
120,251	Demorest, David W., Newark, N. J. Lightning-rod coupling	Oct. 24, 1871
5,389	Demoussy, Emile, assignor to Joseph Wild & Co., France. Printed carpet. (Design)	Oct. 31, 1871
113,274	Demuth, Theodore, Danbury, Conn. Felted fabric	April 4, 1871
4,856	Demuth, William A., New York, N. Y. Bottle (Design)	May 2, 1871
114,419	De Navarro, Jose F., New York, N. Y. Water-meter with stop-cock connections	May 2, 1871
	Same. (*See* Moore, Charles, assignor.)	
	Same. (*See* Sergeant, Henry C., assignor) (Two cases.)	
	Same. (*See* Snediker, William E., assignor.)	
114,490	De Navarro, Jose F., and Henry C. Sergeant, assignors to Jose F. De Navarro, New York, N. Y. Liquid-meter	May 2, 1871
113,508	Denis, Julian, England. Preparation of paper-pulp and manufacture of paper. (Antedated March 24, 1871)	April 4, 1871
113,637	Denison, Daniel M., Savannah, Ga. Stall for horses	April 11, 1871
120,631	Denison, George M., Essex, Conn. Compound for lubricating axles	Nov. 7, 1871
4,747	Denison, Wellington, assignor to self and Joseph H. Knight, Cincinnati, Ohio. Gang-press (Design)	April 4, 1871
4,919	Denney, Samuel L., Christiana, Pa. Medal (Design)	May 23, 1871
5,103	Dennick, Lyman L., Chicago, Ill. Picture-frame (Design)	July 11, 1871
112,789	Denning, Isaac W., Allegheny City, Pa. Fire-shovel	Mar. 21, 1871
118,914	Dennis, Dexter, Barre, Mass. Machine for forming hats	Sept. 12, 1871
115,035	Dennis, Joseph H., and Willoughby F. Kistler, Chicago, Ill. Lantern-globe holder	May 23, 1871
121,296	Dennis, Joseph Mason, Galesburgh, Ill. Extensible furniture. (Antedated Nov. 24, 1871)	Dec. 5, 1871
	Dennison, Edward H., *et al.* (*See* Balch, William L., assignor.)	
116,166	Dennison, Oliver P., Mulberry, Ohio. Meat-crusher	June 27, 1871
121,089	Dennison, Robert S., Winsted, Conn. Lamp-bracket for sewing-machines	Nov. 21, 1871
	Denniston, Joseph F., and Samuel F. Burd. (*See* Burd & Denniston.)	
117,751	Denny, Nicholas, Saranac, Mich. Animal-poke	Aug. 8, 1871
4,608	Densmore, Daniel, Red Wing, Minn. Clothes-line reel-iron (Design)	Feb. 21, 1871
	Densmore, James. (*See* Sholes, C. Latham, assignor.)	
113,406	Densmore, Myron H., assignor to self, Milton J. Snyder, and Aaron Briggs, Shickshinny, Pa. Trace-buckle	April 4, 1871
	Densmore, Myron H., and George W. Briggs. (*See* Briggs & Densmore.)	
118,608	Denton, James and Whitley, Amsterdam, N. Y. Extension clothes-pole	Sept. 5, 1871
118,519	Denton, Whitley, Amsterdam, N. Y. Wringing-machine	Aug. 29, 1871
114,421	De Pew, William, Paris, Canada. Fire-escape	May 2, 1871
	De Peyster, Nicholas. (*See* Chandler, Thomas W., assignor.)	
118,814	De Poe, James H., assignor to self and Richard Mansell, Boonton, N. J. Carpet-stretcher	Aug. 29, 1871
114,373	De Puy, Alexander T., New York, N. Y. Printers' case	May 2, 1871
115,939	Derby, John K., Jamestown, N. Y. Clothes-drier	June 13, 1871
116,418	Derby, John K., assignor to Daniel A. Seymour and Elias B. Stilson, Jamestown, N. Y. Reamer	June 27, 1871
121,406	Derrick, Anthony J., Sheridan, Nev. Butter-mold. (Antedated Nov. 18, 1871)	Dec. 5, 1871
112,558	Desaulniers, Antoine, Oswego, N. Y. Bitters	Mar. 14, 1871
	Desbarats, George Edward. (*See* Leggo, William Augustus, assignor.)	
112,429	Deschamps, Francis Oliver, Philadelphia, Pa. Rotary pump	Mar. 7, 1871
118,915	Same. Rotary steam-engine	Sept. 12, 1871
111,390	Desmedt, Edward J., New York, N. Y. Asphalt cement for pavements, drain-pipes, &c	Feb. 7, 1871
120,399	Desmolins, Claude Leon, France. Stone-crushing machine	Oct. 31, 1871
115,940	De Souchet, Augustus M., Evansville, Ind. Water-meter	June 13, 1871
121,454	Desumeur, Jean C., Celestin and Edward Dadin, and Louis Delescourt, France. Fastening driving-belts	Dec. 5, 1871
115,941	Detrick, John, and William B. Niven, assignors to William B. Niven, Bellefontaine, Ohio. Bee-hive	June 13, 1871
	Detroit Novelty Works. (*See* Thompson, Walter, assignor.)	
	Same. (*See* Dinnen, William, assignor.)	
	Detroit Stove Works. (See Miller, John D., assignor.)	
	Same. same. (Design.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,114	Detweiler, John, West Liberty, Ohio. Loom	Aug. 15, 1871
111,045	Detwiler, Benjamin H., and Samuel G. Van Gilder, Williamsport, Pa. Preserving wood	Jan. 17, 1871
118,215	Deuel, Frederic P., Tecumseh, Mich. Stave-jointer	Aug. 22, 1871
118,216	Deutsch, Charles K., New York, N. Y. Wooden pavement	Aug. 22, 1871
110,748	De Valin, John H., Baltimore, Md. Machine for bending metal stirrups	Jan. 3, 1871
118,592	De Valin, William H., Sacramento, Cal. Pavement for streets, &c	Aug. 29, 1871
110,749	Devean, Samuel, Syracuse, N. Y. Washing-machine	Jan. 3, 1871
117,529	Devine, William, Philadelphia, Pa. Sizing for window-shades	Aug. 1, 1871
116,030	Devines, William, Williamsburgh, N. Y. Scrubbing-brush	June 20, 1871
122,233	Devlan, Arthur C., Altoona, Pa. Operating railway-switches	Dec. 26, 1871
113,060	Devlan, Patrick S., Jersey City, N. J. Lubricator for journals	April 18, 1871
111,438	Devlan, Patrick S., assignor to self, Isaac P. Wendell, and Stephen P. M. Tasker, Jersey City, N. J. Combined pneumatic and rubber spring	Jan. 31, 1871
111,618	Devlin, James W., Yonkers, N. Y. Hand-vise	Feb. 7, 1871
121,955	Devoe, Benjamin G., Fredericktown, Ohio. Fence	Dec. 12, 1871
112,225	Devol, Jonathan L., Parkersburgh, W. Va. Shutter-fastener	Feb. 28, 1871
115,448	Same. Locking-latch for gates	May 30, 1871
118,217	Devore, Leonard, assignor of two-thirds interest to D. J. Hussey and B. F. Booth, Victor, Iowa. Combined corn harvester and husker	Aug. 22, 1871
116,031	Dewey, Albert L., Westfield, Mass. Steam-engine	June 20, 1871
116,568	Same. Toy-locomotive steam-engine	July 4, 1871
118,218	Same. Miniature steam fire-engine	Aug. 22, 1871
117,267	Dewey, Alvah, Princeton, Ky. Feed apparatus for millstones	July 25, 1871
118,593	Dewey, Edward M., San Francisco, Cal. Can-opener. (Antedated Aug. 11, 1871)	Aug. 29, 1871
113,020	Dewey, Orville C., assignor to Joseph Dudley and Frederick Lindemann, Wheeling, W. Va. Nail-plate rolling	Mar. 28, 1871
	Dewey, Rodney H., and Almon N. Allen. (*See* Allen & Dewey) (Five cases.)	
	Dewey, W. S., *et al.* (*See* Boon & Mills, assignors.)	
113,638	Dewey, William W., Tidioute, Pa. Attachment to oil-well tubing	April 11, 1871
	Dewitt, Ezra. (*See* Dickinson, Samuel T., jr., assignor.)	
	Dewitt, Moses A. (*See* Watson, Peter B., assignor.)	
117,956	De Witzleben, Arthur, Washington, D. C. Barrel-pitching machine. (Antedated Aug. 1, 1871)	Aug. 8, 1871
116,560	Dexter, Albert M., Mattapoisett, Mass. Saw-mill	July 4, 1871
113,748	Dexter, George R., New York, N. Y. Scarf	April 18, 1871
110,900	Dexter, John M., Elmira, N. Y. Railroad-car ventilator	Jan. 10, 1871
116,278	De Yo, George P., Groton Township, Ohio. Machine for pulverizing soil	June 27, 1871
115,716	Deyo, Ira, assignor to self and O. Brown, Naples, N. Y. Bedstead	June 6, 1871
115,830	Deyoe, Henry, Machias, N. Y. Fence	June 13, 1871
	De Zouche, L. H., *et al.* (*See* Gubbins, Richard, assignor) (Two cases.)	
112,226	D'Heureuse, Rudolph, N. Y. Fermentation and purification of organic substances	Feb. 28, 1871
113,749	Dial, Martin N., Painesville, Ohio. Dirt-chamber for gas-pipes	April 18, 1871
120,794	Dibble, John L., New York, N. Y. Holder for stereoscopic pictures	Nov. 7, 1871
	Dick, Charles James Adolph. (*See* Levi & Kunzel, assignors) (Two cases.)	
4,875	Dick, Dundas, assignor to Marie A. Manger, New York, N. Y. Package. (Design.)	May 9, 1871
114,851	Same. Clamp for holding packages, &c	May 9, 1871
116,038	Dick, James M., Buffalo, N. Y. Wool-drier	June 20, 1871
121,980	Dick, Joseph F., New Orleans, La. Refrigerator	Nov. 28, 1871
111,732	Dickerman, Charles C., Boston, Mass. Night-latch. (Antedated Feb. 4, 1871)	Feb. 14, 1871
120,638	Dickerman, Fletcher W., New York, N. Y. Seat for chairs and stools	Nov. 7, 1871
	Same. (*See* Westbrook, Abraham D., assignor.)	
120,948	Dickerson, Theodore J., and Oliver B. Warren, Auburn, N. Y. Machine for cutting solid leather-belting	Nov. 14, 1871
121,597	Dickey, Aaron F., Benford's Store, Pa. Bee-hive	Dec. 5, 1871
	Dickey, Andrew, and John S. Perry. (*See* Perry & Dickey.)	
120,186	Dickey, James, Oil City, Pa. Process of removing obstructions in oil-wells	Oct. 24, 1871
119,330	Dickey, Julius C., Titusville, Pa. Torpedo for oil-wells	Sept. 26, 1871
120,574	Same. same	Nov. 7, 1871
	Dickie, David M. (*See* Redding, Benjamin, assignor.)	
	Dickinson & Bros. (*See* Smith, Gad, assignor.)	
118,594	Dickinson, Alfred, Olean, N. Y. Stump-extractor	Aug. 29, 1871
115,178	Dickinson, Alfred S., Brooklyn, N. Y. Window-shade fixture	May 23, 1871
121,998	Dickinson, Arthur, New York, N. Y. Means of extending the tables of sewing-machines. (Antedated Dec. 5, 1871)	Dec. 19, 1871
115,284	Dickinson, Charles G., Poughkeepsie, N. Y. Grain-binder	May 30, 1871
4,377	Dickinson, Charles G., assignor through mesne assignments to J. Russell Parsons, Poughkeepsie, N. Y. Harvester-rake (Reissue)	May 9, 1871
117,156	Dickinson, Edward S., and John L. Peake, New York, N. Y. Draining collars	July 18, 1871
116,033	Dickinson, John H., Chicopee Falls, Mass. Straw-cutter	June 20, 1871
	Dickinson, John T., *et al.* (*See* Greenleaf, William A., assignor.)	
121,763	Dickinson, Samuel T., jr., assignor to self and Ezra Dewitt, Belvidere, N. J. Tinman's tongs	Dec. 12, 1871
	Dickson, Joseph E. (*See* Richmond, Seelye, assignor.)	
	Dickson, Joseph E., and Daniel M. Sprogle. (*See* Sprogle & Dickson.)	
113,145	Dickson, Joseph E., and Seelye Richmond, Annapolis, Md. Garden-bed border	Mar. 28, 1871
112,559	Dickson, Samuel, Chicago, Ill. Wagon-box and hay-rack	Mar. 14, 1871
115,585	Dickson, Walter, Albany, N. Y. Cork-screw attachment	June 6, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Diebold and Kleagle. (*See* Townley, Miron G., assignor.)	
	Diebold, Charles, and Jacob Kleagle. (*See* Oberseeser, Jacob, assignor.)	
	Diebold, Charles, and Gothelf Gartner. (*See* Gartner & Diebold.)	
113,030	Dieckmann, Ferdinand, Cincinnati, Ohio. Bridge	Mar. 28, 1871
121,341	Same ..... Stove-pipe elbow	Nov. 28, 1871
118,389	Diefendorf, Eugene W., Manitous, Mo. Bee-hive	Aug. 29, 1871
	Diefendorf, John J. (See Riggs, John W., assignor) ..... (Reissue.)	
121,933	Diehl, George H., assignor to self and Thomas E. Ricketts, Chicago, Ill. Steam-boiler furnace	Dec. 19, 1871
113,146	Diehl, Jacob J., Harrisburgh, Pa. Sash-holder	Mar. 28, 1871
115,036	Diehl, Philip, and Ludwig Oehring, Chicago, Ill. Feeding-mechanism for sewing-machines	May 23, 1871
	Diehl, Phillip, and Friederich Heyl. (*See* Heyl & Diehl.)	
117,871	Dierkes, Henry A., New York, N. Y. Call-bell	Aug. 8, 1871
112,907	Dierkes, Henry A., and John Fretts; said John Fretts assignor to said Henry A. Dierkes, New York, N. Y. Call-bell	Mar. 21, 1871
115,586	Dieterich, Charles F., and August Schussler, New York, N. Y. Air-tight joint for gas-retorts	June 6, 1871
115,717	Dieterich, Daniel P., and Richard M. Popham, assignors to Daniel P. Dieterich, Philadelphia, Pa. Step-cover	June 6, 1871
113,639	Dieterich, Jerome C., Rochester, N. Y. Buck-saw frame	April 11, 1871
	Dietrich, Charles H., and George C. Smith. (*See* Smith & Dietrich.)	
	Dietrick, Abram J., and John Q. Merriam. (*See* Merriam & Dietrick.)	
112,560	Dietz, Andrew, New York, N. Y. Stone-crusher	Mar. 21, 1871
114,777	Dietz, Edward, Philadelphia, Pa. Reclining-chair	May 16, 1871
120,047	Diezel, Andrew, Omaha, Nebr. Powder-flask	Oct. 17, 1871
113,861	Diggins, Henry M., Cincinnati, Ohio. Corpse-preserver	April 18, 1871
	Digston Furnace Company. (See Codding, James H., assignor.)	
118,585	Dill, Joseph, Grand Rapids, Mich. Marquetry	Aug. 29, 1871
117,157	Dillaway, Hiram, Sandwich, Mass. Mold for glass lamps	July 18, 1871
111,915	Diller, George W., assignor to self and George B. Woodbury, Odell, Ill. Fastening end-boards on wagons	Feb. 21, 1871
112,561	Dillingham, Isaac, Boston, Mass. Pump	Mar. 14, 1871
111,337	Dillingham, Moses W., Amsterdam, N. Y. Screw-driver	Jan. 31, 1871
116,693	Dillon, William, Wheeling, W. Va. Boiler-tile support	July 4, 1871
111,916	Dilworth, Joseph, and John C. Hodgins, New York, N. Y. Condenser and feed-water heater for engines	Feb. 21, 1871
110,750	Dimick, Albert J., Berlinville, Ohio. Gate	Jan. 3, 1871
117,612	Dimock, Ira, assignor to the Nonotuck Silk Company, Boston, Mass. Quills for silk	Aug. 1, 1871
114,114	Dimock, Lucius, Leeds, Mass. Silk and thread measuring apparatus	April 25, 1871
	Dimsdale, Augustus Salem, *et al.* (*See* Ellis, George Henry, assignor.)	
122,234	Dindinger, Jacob and Christian H., New Orleans, La. Stone-sawing machine	Dec. 26, 1871
113,875	Dingee, John F., Bedford Station, N. Y. Sash-holder	April 4, 1871
113,750	Dingee, William W., assignor to the Geiser Threshing-Machine Company., Racine, Wis. Horse-power	April 18, 1871
116,034	Dingman, Emerson, Liverpool, N. Y. Clothes-line holder	June 20, 1871
113,503	Dinnen, William, assignor to the Detroit Novelty Works, Detroit, Mich. Compression-cock	April 11, 1871
113,407	Dinsmore, Alfred S., assignor to self, John O. Richardson, jr., and Daniel D. Foster, Boston, Mass. Sewing-machine	April 4, 1871
119,331	Dinsmore, Alpheus B., Springfield, Mass. Railway-car seat	Sept. 26, 1871
	Dinsmore, Joshua N., and Thomas B. Brown. (*See* Brown & Dinsmore.)	
199,735	Dinwiddie, Archibald F., Columbia, Mo. Washing-pounder	Nov. 7, 1871
119,809	Dirner, John P., Honesdale, Pa. Machine for dressing railway-ties	Oct. 10, 1871
	Disbrow, Benjamin L., *et al.* (*See* Margerum, Mahlon R., assignor.)	
119,297	Disston, Henry, Philadelphia, Pa. Saw	Feb. 28, 1871
111,619	Disston, Henry, and Thomas O. Hill, assignors to Henry Disston & Son, Philadelphia, Pa. Saw	Feb. 7, 1871
	Disston, Henry, & Son. (*See* Baker, John G., assignor.)	
	Same ..... (*See* Bevan, Samuel, assignor.)	
	Same ..... (*See* Reid, Robert, assignor.)	
110,751	Disston, Thomas S., assignor to self and Henry Disston & Son, Philadelphia, Pa. Handle for cross-cut saws	Jan. 3, 1871
115,985	Dithridge, Edward, Pittsburgh, Pa. Surgical instrument for the relief of the piles	May 30, 1871
114,533	Diven, Robert, Williamsburgh, N. Y. Base-burning stove	May 9, 1871
114,652	D'Ivernois, Eardley Louis Charles, France. Producing the electric light	May 9, 1871
	D'Ivernois, Eardley Louis Charles, and Zenobe Theophile Gramme. (*See* Gramme & D'Ivernois.)	
	Dixon, Henry Jecks, & Sons. (*See* Christie, Joseph Miller, assignor) .. (Design.)	
4,974	Dixon, Thomas N., and Charles Friese, assignors to Thomas N. Dixon & Sons, Philadelphia, Pa. Gas fire-logs ..... (Design)	June 6, 1871
116,635	Dixon, Zohrab, Bristol, Ill. Tea-kettle cover	June 20, 1871
111,046	Doan, Gerard, Theodore Wallis, and George D. Moreland, assignors to Thomas M. Jones, Fleming, N. Y. Hounds, sway-bars, tongue-braces, and cross-bars of vehicles	Jan. 17, 1871
115,718	Doan, John F. M., Niles, Mich. Current-water wheel	June 6, 1871
119,081	Doane, Sharron P., San Francisco, Cal. Nozzle for oil-cans	Sept. 19, 1871
121,497	Doane, Truman P., New York, N. Y. Vapor-burner	Dec. 5, 1871
119,699	Doane, William H., Cincinnati, Ohio. Canal	Sept. 5, 1871
	Same ..... (*See* Sprague, Franklin L., assignor.)	
	Doane, William H., and William H. Dobson. (*See* Dobson & Doane.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,966	Doane, William H., assignor to J. A. Fay & Co., Cincinnati, Ohio. Band-saw frame ..... (Design)	Sept. 19, 1871
120,949	Doane, William H., and William P. McKee, assignors to J. A. Fay & Co., Cincinnati, Ohio. Band-sawing machine	Nov. 14, 1871
	Dobler, Anton, and Frederick Charles Spiess. (*See* Spiess & Dobler.)	
	Dobson & Barlow. (*See* Pfaff, Ernest C., assignor.)	
	Dobson, John. (*See* Booth, James, assignor.)	
111,393	Dobson, William H., assignor to Henry Lampert, Rochester, N. Y. Scroll-saw	Jan. 31, 1871
114,778	Same ..... Scroll-sawing machine	May 16, 1871
121,856	Dobson, William H., and William H. Doane, assignors to J. A. Fay & Co., Cincinnati, Ohio. Scroll-sawing machine	Dec. 12, 1871
	Dodd, Amzi S. (*See* Heintzelman, Rush B., assignor.)	
114,274	Dodd, John, England. Self-acting mule for spinning	May 2, 1871
	Dodd, Vincr V., and James Crisp. (*See* Crisp & Dodd.)	
118,819	Doddridge, Loyal M., Union City, Ind. Washing-machine	Aug. 22, 1871
113,504	Dodds, Lewis Z., assignor to self and John B. Moulton, Laporte, Ind. Carriage seat and top	April 11, 1871
	Dodenhoff, Israel, deceased, by Joseph W. Budd, administrator, Midland City, Mich. Raking-apparatus for harvesters ..... (Extension)	Aug. 5, 1871
119,620	Dodge, Charles G., Marshall, Mich. Composition for removing incrustation in steam-boilers	Oct. 10, 1871
111,321	Dodge, D. Franklin, Lowville, N. Y. Mail-bag fastening	Feb. 7, 1871
120,810	Dodge, Hezekiah, Albany, N. Y. Apparatus for drying and finishing paper	Nov. 14, 1871
112,430	Dodge, James, assignor to David Blake, England. Machine for cutting piles	Mar. 7, 1871
120,575	Dodge, Lemuel P., New York, N. Y. Nursing-bottle	Nov. 7, 1871
118,709	Dodge, Levi, Waterford, N. Y. Fire-kindling	Sept. 5, 1871
120,048	Same ..... Baling-press	Oct. 17, 1871
	Dodge, Samuel C., *et al.* (*See* Brown, George A., assignor.)	
112,763	Dodge, William C., Washington, D. C. Breech-loading fire-arm	Mar. 14, 1871
113,466	Same ..... same	April 4, 1871
114,653	Same ..... same	May 9, 1871
112,694	Dodge, William C. and Philip T.; said Philip T. Dodge assignor to said William C Dodge, Washington, D. C. Breech-loading fire-arm ..... (Reissue)	Mar. 14, 1871
4,403	Dodge, William C., assignor to Horace Smith and D. B. Wesson, Washington, D. C. Revolving fire-arm ..... (Reissue)	July 25, 1871
118,350	Dodge, William C. and Philip T.; said P. T. Dodge assignor to William C. Dodge, Washington, D. C. Breech-loading fire-arm	Aug. 22, 1871
119,510	Dodge, William James, New York, N. Y. Wash-boiler	Oct. 3, 1871
120,504	Same ..... Washing-machine	Oct. 31, 1871
112,790	Dodge, William James, assignor to self, Alanson T. Briggs, and William Henry Thrall, New York, N. Y. Washing-machine	Mar. 21, 1871
	Dodge, William P., and George G. Parker. (*See* Parker & Dodge.)	
119,511	Dodson, Harry E., West Liberty, Ohio. Carriage-wheel	Oct. 3, 1871
121,999	Dodson, Wriley W., and John B. Bray, Lynnville, Tenn. Bee-hive	Dec. 19, 1871
118,847	Dee, Horatio W., assignor to self and William F. Matthews, Springfield, Ohio. Device for bending tubes of sheet-metal	Sept. 12, 1871
4,647	Dolan, Thomas, Philadelphia, Pa. Stocking-fabric ..... (Design)	Feb. 14, 1871
4,648	Same ..... same ..... (Design)	Feb. 14, 1871
4,686	Same ..... same ..... (Design)	Feb. 28, 1871
4,836	Same ..... same ..... (Design)	April 18, 1871
4,837	Same ..... same ..... (Design)	April 18, 1871
4,957	Same ..... Cellular-fabric ..... (Design)	May 30, 1871
4,975	Same ..... Stocking-fabric ..... (Design)	June 6, 1871
4,976	Same ..... same ..... (Design)	June 6, 1871
117,158	Same ..... Nubias	July 18, 1871
	Same ..... (*See* Hodgson, Joseph, assignor) ..... (Three cases.) (Design.)	
	Same ..... (*See* Boot, Henry, assignor.)	
	Same ..... (*See* Truitt, Henry A., assignor) ..... (Two cases.)	
114,534	Dole, Charles S., Chicago, Ill. Grain-drying car	May 9, 1871
121,857	Dole, William T., Peabody, Mass. Carriage-hub	Dec. 12, 1871
122,235	Same ..... Mode of coupling carriages	Dec. 26, 1871
110,960	Dolis, William P., Charlottesville, Va. Bit-brace. (Antedated Jan. 14, 1871)	Jan. 17, 1871
113,987	Doll, John H., Etna, Ill. Washing-machine	April 25, 1871
	Doll, Noah, and Peter Young. (*See* Young & Doll) ..... (Two cases.)	
115,177	Dolloff, Samuel F., Bloomington, Ill. Churn-dasher	May 23, 1871
120,505	Dolmetch, Henry, Canton, Pa. Millstone-dress	Oct. 31, 1871
116,570	Dolph, George E., Monee, Ill. Binding-attachment for sewing-machines	Aug. 25, 1871
110,961	Dominic, John J., Gallupsville, N. Y. Clamp	July 4, 1871
120,421	Donahy, Thomas, Empire City, Nev. Railway-rail chair	Jan. 17, 1871
110,758	Donald, William, Erie, Pa. Quadrat	Oct. 31, 1871
114,779	Donaldson, John E., Montezuma, Ind. Molding-plane	May 16, 1871
110,636	Donaldson, Nimrod, Lime Creek, S. C. Cotton-planter and manure-distributer	Jan. 3, 1871
120,506	Donohoe, Thomas, Richmond, Va. Portable fence	Oct. 31, 1871
	Doney, Asa, and David Bradley. (*See* Bradley & Doney.)	
114,535	Donnellan, Charles E., assignor to self and McCord & Wheatley, Indianapolis, Ind. Machine for making straw-rope	May 9, 1871
111,620	Donnelly, Thomas, Pittsburgh, Pa. Device for enlarging wells	Feb. 7, 1871
111,893	Donner, Carlos E., San Francisco, Cal. Hub and axle	Feb. 14, 1871
117,561	Same ..... Sonora, Cal. Feed-cutter	Aug. 1, 1871
116,056	Donoghue, William, Philadelphia, Pa. Reclining-chair	July 18, 1871
121,660	Donohoe, Patrick M., Saint Rose, Wis. Binders' table for harvesters	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Doolittle, George, and John S. Follansbee. (*See* Follansbee & Doolittle.)	
118,785	Doolittle, Merritt E., assignor to Earth-Closet Company, Hartford, Conn. Earth-closet	Sept. 12, 1871
118,115	Doran, David C., Mount Healthy, Ohio. Double-perch and fifth-wheel for carriages	Aug. 15, 1871
117,309	Doran, Frank C., and Benjamin F. Sortman, Knightstown, Ind. Water-wheel	Aug. 1, 1871
111,917	Doremus, Edward P., Washington, La. Fanning-machine	Feb. 21, 1871
119,867	Dorn, Frederick W., New York, N. Y. Process of utilizing tinners' clippings	Sept. 26, 1871
115,587	Dorn, Rufus H., Port Henry, N. Y. Circular cutter	June 6, 1871
	Doro, William, and Jacob Speaker. (*See* Speaker & Dorn.)	
121,598	Dorr, Oscar L., South Walpole, Mass. Washing-machine	Dec. 5, 1871
	Dorris, Benjamin F. (*See* Wand, Edward, assignor.)	
	Dorsett, Folsom, and George A. Mariner. (*See* Mariner & Dorsett.)	
	Doscher & Co. (*See* Kicherer, Carl R., assignor.)	
119,338	D'Ossone, Freeman, Philadelphia, Pa. Slate	Sept. 26, 1871
121,044	Dotch, Julius Edmund, Washington, D. C. Composition for soap. (Antedated Nov. 4, 1871)	Nov. 21, 1871
115,449	Dotterer, Davis Henry, Philadelphia, Pa. Axle-box. (Antedated May 18, 1871)	May 30, 1871
118,701	Dotterer, Davis H., assignor to self, M. S. Gilbert, and M. D. Buchanan, Philadelphia, Pa. Car-axle box	Sept. 5, 1871
115,450	Doty, Ellis, Janesville, Wis. Tackle-block	May 30, 1871
119,831	Doty, Ellis, and George W. Miltimore, Janesville, Wis. Railway-car axle	Oct. 10, 1871
121,498	Doty, George W., Wooster, Ohio. Knuckle-protector for washing clothes	Dec. 5, 1871
	Doty, Henry F., *et al.* (*See* Brown, George A., assignor.)	
118,508	Doty, William, Circleville, Ohio. Steam-flue cleaner	Aug. 29, 1871
122,163	Doty, William H. H., Sonora, Ohio. Plow	Dec. 26, 1871
110,637	Dotzenroth, Heinrich, Pittsburgh, Pa. Reversible latch	Jan. 3, 1871
	Doubleday, Robert D. (*See* Davis, Biram C., assignor.)	
115,037	Doubler, John W. H., assignor to self and William Logue, Darlington, Wis. Combination lock	May 23, 1871
116,571	Same.....Swivel rocking-chair	July 4, 1871
120,422	Same.....Rocking-chair	Oct. 31, 1871
111,918	Douden, Edwin, assignor to self and Charles Broome, Lykens, Pa. Lubricator for wheels, pulleys, and journals	Feb. 21, 1871
114,422	Dougherty, James, Philadelphia, Pa. Cupola-furnace	May 2, 1871
	Doughty, John W. (*See* Morehouse, Clark, assignor.)	
113,640	Douglas, Charles B., Montgomery, Ala. Cotton-chopper	April 11, 1871
115,943	Douglas, Charles H., assignor to William A. English, Hartford, Conn. Lifting-apparatus	June 13, 1871
121,934	Douglass, Thomas, Warren, Ohio. Head-block	Dec. 19, 1871
	Douglass, W. and B. (*See* Brown, Addison P., assignor.)	
111,522	Douglass, William B., assignor to Frederick Baumgartner, Brooklyn, N.Y. Carriage-curtain knob	Feb. 7, 1871
4,351	Dourson, Jacob, Columbus, Ohio. Fall-leaf extension-table (Reissue)	April 25, 1871
111,439	Douty, Grafton, Columbus, Ohio. Seal for dip-pipes in gas-works	Jan. 31, 1871
111,440	Same.....same	Jan. 31, 1871
113,751	Dovell, Louis, Newark, N. J. Bottle-stopper	April 18, 1871
5,934	Same.....Mucilage-bottle (Design)	Aug. 29, 1871
120,950	Dow, George H., Freeport, Ill. Field-roller	Nov. 14, 1871
4,748	Dow, Orrin C., and Alford C. Harvey, Saint Johnsbury, Vt. Telegraphers' badge-pin (Design)	April 4, 1871
114,654	Dowell, Asa B., Vinton, Iowa. Trace-fastener	May 9, 1871
117,752	Dowling, George E., and Salmon F. Cone, Montague, Mich. Rafting-dog	Aug. 8, 1871
115,179	Dowling, Robert H., assignor to self and Charles Winslow, Fenton, Mich. Chuck for lathes	May 23, 1871
120,726	Dowling, Robert H., Fenton, Mich., and Elkanah S. Perry, Clay Lick, Ohio. Car-coupling	Nov. 7, 1871
	Down, William H., and Roderick F. Clow. (*See* Clow & Down.)	
115,266	Downes, Harrison, New York, N. Y. Automatic attachment for keyed musical instruments	May 30, 1871
120,727	Downes, John, England. Metallic band for baling cotton, &c	Nov. 7, 1871
	Downing, John, and John T. Mygatt. (*See* Mygatt & Downing.)	
112,828	Downing, William, and William H. Soley, assignors to Westford Warner, Philadelphia, Pa. Mortising-machine	Feb. 28, 1871
	Downs & Bassett. (*See* Bray, Morris P., assignor.)	
119,126	Downs, William H., Jeffersonville, Ind. Bed and table fan	Sept. 19, 1871
116,167	Doyen, Erasmus P., Portland, Me. Steam-generator	June 20, 1871
122,000	Same.....Steam-radiator	Dec. 19, 1871
	Doyen, Erasmus P., and Samuel W. Emery. (*See* Emery & Doyen.)	
111,910	Doyle, Francis P., assignor to self and John Cooke, New York, N. Y. Reflector	Feb. 21, 1871
110,753	Doyle, John, assignor to self and Anthony Reybold, Baltimore, Md. Feed-water pipe	Jan. 3, 1871
4,345	Same.....Feed-water pipe (Division A, reissue)	April 18, 1871
4,346	Same.....same (Division B, reissue)	April 18, 1871
115,639	Doyle, Michael V., and Jacob Behel, Rockford, Ill. Door-stop. (Antedated May 10, 1871)	May 23, 1871
119,454	Doyle, Morris, Baltimore, Md. Water-gauge for steam-boilers	Oct. 3, 1871
116,573	Doyle, Patrick, New Comerstown, Ohio. Steam-pumping engine	July 4, 1871
4,350	Doyle, William, Albany, N. Y. Combined stove-lid and damper (Reissue)	May 2, 1871
117,996	Same.....Base-burning stove	Aug. 15, 1871
120,511	Same.....same	Nov. 14, 1871
121,326	Same.....Stove-grate	Nov. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,822	Drake, Ellis, assignor to self and John S. Smith, Stoughton, Mass. Shell-fuse	Feb. 14, 1871
	Drake, Henry, *et al.* (*See* Hinsdell, Drake & Way.)	
	Drake, Serene A., and Ira Almy. (*See* Almy & Drake.)	
4,790	Drake, Thomas, Cincinnati, Ohio. Hinge (Design)	April 11, 1871
116,419	Drane, James H., and Leonard, Eminence, Ky. Dining-table	June 27, 1871
112,503	Draper, Daniel A., Cambridge, Mass. Process of manufacturing type-blocks	Mar. 14, 1871
119,988	Draper, Franklin N., and Aaron Davison, West Liberty, Ohio. Carriage-wheel	Sept. 19, 1871
	Draper, Gamaliel B., and Linnemus H. Stanley. (*See* Stanley & Draper.)	
111,562	Draper, George, Hopedale, Mass. Machine for warping yarn	Feb. 7, 1871
111,924	Same.....Railway-alarm	Feb. 14, 1871
113,752	Same.....Drawing-frame	April 18, 1871
114,536	Same.....Spindle-step	May 9, 1871
116,168	Same.....Device for holding spinning-bobbins on spindles	June 20, 1871
	Same.....(*See* Westcott, Asa A., assignor.)	
	Draper, George, & Son. (*See* Rouse, Wanton, assignor.)	
	Same.....(*See* Carroll, William F., assignor.)	
	Draper, George, and George William Knight. (*See* Knight & Draper.)	
119,083	Draper, Henry V. P., assignor to James H. McConnell, Hannibal, Mo. Material for the manufacture of textile fabrics	Sept. 19, 1871
119,084	Draper, Henry V. P., assignor to self, Frank Holtsclaw, John W. Hickman, Andrew B. Hopkins, and Samuel S. Boyd, Hannibal, Mo. Material for the manufacture of paper-pulp	Sept. 19, 1871
115,719	Draper, James O., Pawtucket, R. I. Composition or soap for cleansing the teeth	June 6, 1871
112,131	Draper, Joel E., assignor to self and Robert Dunlap, 1st, South Lyons, Mich. Corn-husking bench	Feb. 28, 1871
115,287	Draper, Robert E., Sacramento, Cal. Machine for producing stereotype matrices	May 30, 1871
116,889	Draper, Tronson, Petrolia, Canada. Oil-pump valve	July 11, 1871
4,722	Draper, Virgil, assignor to Oscar M. Draper, Attleborough, Mass. Ornamental chain-link (Design)	Mar. 21, 1871
4,723	Same.....Ornamental chain-link (Design)	Mar. 21, 1871
4,749	Same.....Chain-link (Design)	April 4, 1871
4,857	Same.....same (Design)	May 2, 1871
7,333	Draper, William W., Greenfield, Mass. Tool-holder (Reissue)	April 11, 1871
	Drayton, Benjamin A., and George R. Osborn. (*See* Osborn & Drayton.) (Two cases.)	
116,694	Dreeson, Barthold J., and James L. Buskett, Saint Louis, Mo. Cotton-picker	July 4, 1871
116,695	Drescher, Luis, New York, N. Y. Electro-medical apparatus	July 4, 1871
117,057	Same.....Galvanic battery	July 18, 1871
5,330	Dresser, Christopher, assignor to Joseph Wild & Co., England. Printed carpet (Design)	Oct. 31, 1871
116,979	Drevet, Ernest, New York, N. Y. Drier	June 27, 1871
	Drew, Charles H., and Francis T. Morton. (*See* Wright, Benjamin F., assignor.)	
118,176	Drew, Emanuel S., New Orleans, La. Steering-apparatus	Aug. 15, 1871
112,563	Drew, Henry J., Dixon, Ill. Magazine-gun	Mar. 14, 1871
112,564	Same.....Repeating fire-arm	Mar. 14, 1871
121,281	Drew, Hiram C., Jamestown Center, Mich. Mode of fastening horse-powers. (Antedated Nov. 24, 1871)	Nov. 28, 1871
	Drew, William H., *et al.* (*See* Paradis, Joseph, assignor.)	
	Drewer, Henry, and Thomas Atkins. (*See* Atkins & Drewer.)	
	Drexel, Herman C., *et al.* (*See* Klingenburg, Adolph, assignor.)	
111,691	Dreyfus, Isidore, New York, N. Y. Valve and cock	Feb. 7, 1871
120,187	Driggs, Elliott F., Brooklyn, N. Y. Buckle	Oct. 24, 1871
117,753	Drippe, Isaac, Altoona, Pa. Railway-journal box	Aug. 8, 1871
	Driscoll, Jeremiah W., and William G. Schmidlin. (*See* Schmidlin & Driscoll.)	
111,584	Drott, Henry W., Cumberland, Md. Sash-holder	Feb. 7, 1871
110,907	Drown, Thomas M., assignor to W. A. Drown, Philadelphia, Pa. Apparatus for dyeing fabrics	Jan. 10, 1871
	Drown, William A., & Co. (*See* Tate, William John, assignor.)	
115,720	Drown, William A., jr., Philadelphia, Pa. Umbrella	June 6, 1871
	Drown, William A., jr., and Edward Evans. (*See* Plumb, Hiram, assignor.)	
	Drexel, John. (*See* Keffer, Peter, assignor.)	
114,537	Drum, John H., Bethel, Mich. Combined spool-stand and button-box	May 9, 1871
113,753	Drummond, James T., Mount Pleasant, Iowa. Fence	April 18, 1871
4,687	Drury, Cassius M., Granby, N. Y. Window-sash holder (Design)	Feb. 28, 1871
119,697	Drury, Charles H., assignor of one-half interest to Isaac F. Spencer, Osceola, Ill. Hames for harness	Oct. 10, 1871
110,836	Dryden, William A., assignor to self and John M. Turnbull, Monmouth, Ill. Cultivator	Jan. 10, 1871
4,258	Dryden, W. A. and C. E., assignors to Augustus Adams, Monmouth, Ill. Cultivator (Reissue)	Feb. 7, 1871
115,189	Du Bois, Ithamar, Brooklyn, N. Y. Tailors' measure	May 23, 1871
117,058	Du Bois, John, Greensborough, Ala. Cotton-gin	July 18, 1871
113,276	Dubois, Otto, Fall River, Mass. Lithographic printing	April 4, 1871
114,655	Dubrul, Napoleon, Joliet, Ill. Cigar-mold	May 9, 1871
114,939	Same.....same	May 16, 1871
	Same.....(*See* Fitch, Lewis R., assignor.)	
	Dubrul, Napoleon, and James Miller. (*See* Miller & Dubrul.)	
	Dubrul, Napoleon, and Emery E. Hardy. (*See* Hardy and Dubrul.)	
112,431	Dube, Henry, and Sampson George Goodall Copestake, Great Britain. Coupling for railway-cars	Mar. 7, 1871
111,194	Duchemin, Peter F., Somerville, Mass. Removable car-seat back	Jan. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,389	Duchemin, Watson, Charlottetown, Prince Edward Island. Egg-carrier	June 27, 1871
121,237	Duchemin, William, assignor through mesne assignments to George B. Bigelow, trustee, Boston, Mass. Sewing-machine for boots and shoes	Nov. 28, 1871
4,207	Duck, John H., and Elias K. Whitcomb; said Whitcomb assignor to James T. Whipple, Elgin, Ill. Pipe and fixture for wells (Reissue)	Feb. 21, 1871
	Duckworth, Martin H. (*See* Stevenson, Charles J., assignor.)	
	Dudin, Celestin and Edouard, *et al.* (*See* Desumeur, Dudin & Delacourt.)	
	Dudley, Charles S., and Aaron R. Armstrong. (*See* Armstrong & Dudley.)	
	Dudley, Davis A. and Edward D. (*See* Witherell, Loren R., assignor.)	
	Dudley, George D., and Cyrus H. Latham. (*See* Latham & Dudley.)	
	Dudley, George D. and Daniel Sherwood. (*See* Sherwood & Dudley). (Design.)	
5,411	Dudley, George D., assignor to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, Lowell, Mass. Three-bottle caster (Design)	Dec. 19, 1871
	Dudley, Joseph, *et al.* (*See* Dewey, Dudley & Lindemann.)	
112,220	Dudley, Richard, and Benjamin Hershey, Erie, Pa. Railway-car spring	Feb. 28, 1871
	Same (*See* Hershey & Dudley.)	
	Dudley, Richard, *et al.* (*See* Hershey, Benjamin, assignor.)	
	Same (*See* Hershey & Gaggin, assignors.)	
	Same (*See* Hershey, Benjamin, assignor) (Two cases.)	
	Dudley, Uriah H. (*See* Gulden, Jacob, assignor.)	
	Dueberg, Helmuth, and Gustavus A. Wedekind. (*See* Wedekind & Dueberg.)	
	Duell, Edgar, and John Yates. (*See* Yates & Duell.)	
117,968	Duerden, Lawrence L., Brooklyn, N. Y. Electro-magnetic instrument	July 25, 1871
120,951	Duerre, George, Williamsburgh, N. Y. Hoisting-gear	Nov. 14, 1871
116,420	Duff, James, Peoria, Ill. Punching-machine	June 27, 1871
4,502	Duff, James, assignor to self and E. B. Pierce, Peoria, Ill. Self-lubricating journal-box (Reissue)	Aug. 8, 1871
118,848	Duff, James, Henry Roberts, and Gilbert D. Nourse, assignors to L. G. Pratt & Co., Peoria, Ill. Manufacture of plow land-sides	Sept. 12, 1871
4,877	Duff, John T., assignor to self, John T. Greer, and David H. Chambers, Pittsburgh, Pa. Child's toy (Design)	May 9, 1871
114,423	Duff, Robert, assignor to Ernest Greenfield and Philip Strauss, New York, N. Y. Machine for mixing paste for confectionery, &c.	May 2, 1871
115,030	Same Machine for making and breaking confectioners' paste and other materials	May 23, 1871
114,375	Duffee, Edward, assignor to American Gas-Screen Manufacturing Company, Haverhill, Mass. Dry-gas purifier	May 2, 1871
121,704	Duffee, Edward, Haverhill, Mass. Screen for coal-gas purifiers	Dec. 12, 1871
113,862	Duffett, William H., Rochester, N. Y. Dish-rack	April 18, 1871
118,116	Same Hydrant	Aug. 15, 1871
122,111	Duffy, James F., assignor to self and George C. Tobias, Chicago, Ill. Spring for upholstery purposes. (Antedated Dec. 9, 1871)	Dec. 26, 1871
112,387	Dufour, Joseph W., Stratford, Conn. Sewing-machine	Mar. 7, 1871
	Dufur, George J. (*See* Baggett, Thomas, assignor.)	
118,702	Dugan, Rna W., and Benjamin F. Clark, Cairo, Ill. Steam-generator	Sept. 5, 1871
113,505	Dugan, William, Chicago, Ill. Preserving and transporting fresh meat	April 11, 1871
118,439	Duganne, A. J. H., New York, N. Y. Printers' column-rule	Aug. 29, 1871
114,376	Du Laney, George L., New York, N. Y. Tuck-marker for sewing-machines	May 2, 1871
114,424	Same Sewing-machine	May 2, 1871
118,703	Dummer, Edward, Newbury, Mass. Device for reducing friction on rollers and bearings	Sept. 5, 1871
	Dummer, Paul, and Peter R. Malmstrom. (*See* Malmstrom & Dummer.)	
118,704	Dump, Jacob, Kingston, Ohio. Metallic hub for vehicles	Sept. 5, 1871
112,791	Dunaway, Elijah F., Cincinnati, Ohio. Blind-wiring machine	Mar. 21, 1871
115,040	Same Handle-fastening for brooms, brushes, &c	May 23, 1871
117,398	Same Spring seat for wheeled vehicles	July 25, 1871
118,351	Same Spring-bedstead	Aug. 22, 1871
118,352	Same same	Aug. 22, 1871
119,585	Dunbar, Alexander, Woodstock, Canada. Horse-collar and hames	Oct. 3, 1871
119,455	Dunbar, George S., Pittsfield, Mass. Apparatus for extinguishing street gas-lamps	Oct. 3, 1871
	Dunbar, William B., and Alonzo W. Cram. (*See* Cram & Dunbar.)	
4,422	Dunbrack, Charles S., assignor of one-third interest to William N. Spinney, Swampscott, Mass. Boot and shoe (Reissue)	June 13, 1871
	Duncan, Francis M., and George W. Cook. (*See* Cook & Duncan.)	
118,117	Duncan, Frank Harper, Evansville, Ind. Caster for sewing-machine	Aug. 15, 1871
115,831	Duncan, Nancy, Beaver Falls, Pa. Cooking-stove	June 13, 1871
	Duncan, Richard B. (*See* Barber, Joseph, assignor.)	
115,041	Duncan, Thomas, Brookville, Md. Inkstand	May 23, 1871
117,743	Duncan, William, assignor to self and Calvin C. Rowell, Lebanon, N. H. Electro-magnetic safe-protector	Aug. 1, 1871
119,748	Duncanson, Ethelbert E., Chicago, Ill. Inhaler and vaporizer for administering anæsthetics	Oct. 10, 1871
113,641	Dunham, David A., Pilatka, Fla. Ship-pump	April 11, 1871
4,454	Dunham, Isaac A., North Bridgewater, Mass. Edge-plane for shoemakers. (Reissue)	July 4, 1871
	Same Edge-plane for shoemakers (Extension)	Sept. 7, 1871
117,393	Dunham, John B., East Chester, N. Y. Prepared wood sounding-board for pianos	July 25, 1871
112,138	Dunham, Lemuel, Lincoln Centre, Me. Cooking-stove	Feb. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,465	Dunham, William H., Hokah, Minn., and James Widney, Allegheny, Minn., assignors of part interest to Samuel P. Ross. Car-brake. (Division A., reissue)	July 11, 1871
4,466	Same Car-brake shoe (Division B, reissue)	July 11, 1871
114,115	Dunkerly, Walter, Woonsocket, R. I. Forge-bonnet	April 25, 1871
112,909	Dunklee, Benn F., Concord, N. H. Circular-saw bench	Mar. 21, 1871
	Dunlap, Robert, 1st. (*See* Draper, Joel E., assignor.)	
120,507	Dunlevy, Andrew W., Fair Play, Ohio. Walking-planter	Oct. 31, 1871
121,282	Dunn, Edward H., Portland, Me. Saddle-tree	Nov. 28, 1871
119,333	Dunn, George R., Newark, N. J. Seal-locking bolt	Sept. 26, 1871
	Dunn, Jeptha W. (*See* Bishop, Peter V. W., assignor.)	
119,334	Dunn, John M., Erin, Miss. Excavator	Sept. 26, 1871
	Dunn, Joseph B., *et al.* (*See* Marsble, Thomas E., assignor.)	
122,236	Dunn, Leonard F., Oneida, N. Y. Thread-measuring apparatus	Dec. 26, 1871
	Dunn, Samuel W. (*See* Pierrepont, Charles L., assignor.) (Five cases.) (Design.)	
	Same (*See* Meyer, Victor E., assignor) (Design.)	
111,111	Dunn, William Wallace, San Francisco, Cal. Type-casting machine	Jan. 24, 1871
113,277	Dunne, John W., New York, N. Y. Ceiling for stages	April 4, 1871
113,988	Dunning, James, Bangor, Me. Watchman's time-detector	April 25, 1871
119,016	Same Ice-preservor	Sept. 19, 1871
118,230	Dunseith, James, New York, N. Y. Fire-proof floor	Aug. 22, 1871
	Dunton, Marlin A., and Charles T. Merry. (*See* Merry & Dunton.)	
4,625	Dunworth, James A. and Frank, assignors to Vidvard & Sheehan, New York, N. Y. Liquor-holder (Design)	Feb. 7, 1871
111,825	Dupas, Antoine Ernest, New Orleans, La. Gas-burner	Feb. 14, 1871
113,147	Dupas, Antoine Ernest, and Arthur Barbarin, New Orleans, La. Carbureting-machine	Mar. 28, 1871
5,297	Dupuy, Marcellin, New York, N. Y. Wire-fence (Design)	Oct. 3, 1871
119,832	Durand, John, Columbus, Ohio. Smoke-consuming apparatus for fire-boxes	Oct. 10, 1871
	Same (*See* Setchel, John H., assignor.)	
	Durband, Charles H. (*See* Cockrill, William A., assignor.)	
4,395	Durborow, John C., Ellicott City, Md. Harvester-rake (Reissue)	May 23, 1871
112,792	Durfee, William F., assignor to self and Jackson & Wiley, Bridgeport, Conn. Balancing vertical reciprocating masses	Mar. 21, 1871
114,377	Durfee, Zoheth S., Cincinnati, Ohio. Manufacture of iron and steel	May 2, 1871
118,397	Same New York, N. Y. Method of refining cast-iron and making castings	Aug. 29, 1871
	Same (*See* Mushet & Mushet, assignors.)	
5,200	Durgin, Charles A., East Andover, N. H. Corner-piece for looms (Design)	Aug. 15, 1871
5,071	Durgin, William B., Concord, N. H. Spoon or fork handle (Design)	July 4, 1871
121,599	Durham, Nephthali A., Duquoin, Ill. Dental forceps	Dec. 5, 1871
121,858	Same same	Dec. 12, 1871
114,116	Durnell, Milton, and Wesley Milner, Leesburgh, Ohio. Doubletree	April 25, 1871
115,451	Durrell, John N., Dunkirk, N. Y. Machine for tapping nuts	May 30, 1871
	Duryea, Sanford, and Edward F. Walsh. (*See* Walsh & Duryea.)	
115,721	Dustin, Francis W., Saint Louis, Mo. Washing-machine	June 6, 1871
113,378	Dutcher, Josiah J., assignor to Godfrey W. Dutcher, New Haven, Conn. Eel-trap for water-pipes	April 4, 1871
119,740	Dutemple, William R., assignor to self and I. M. Hopkins, Providence, R. I. Stud or button	Oct. 10, 1871
120,049	Dutton, George W., assignor to self and John Ashton, Tomales, Cal. Harness	Oct. 17, 1871
113,565	Duval, Joseph, La Prairie, Canada. Breech-loading fire-arm	Mar. 14, 1871
112,900	Duvall, William T., Georgetown, D. C. Adjustable mill-feed	Mar. 21, 1871
116,281	Same Propulsion of canal-boats	June 27, 1871
121,859	Duxon, George and Henry, Brooklyn, N. Y., and Henry Perry, Newark, N. J. Manufacture of japanned or enameled horse-collars	Dec. 12, 1871
113,432	Dwyer, Patrick J., Elizabethport, N. J. Tobacco-pipe	Mar. 7, 1871
121,936	Dyckman, Aaron S., South Haven, Mich. Cover for fruit-baskets	Nov. 28, 1871
114,536	Dye, Alexander M., Elkhart City, Ill. Uterine and prolapsus ani supporter	May 9, 1871
	Dyer, A. S., and Johnson M. Quimby. (*See* Quimby & Dyer.)	
114,441	Dyer, Elisha, jr., Providence, R. I. Lubricating compound	Jan. 31, 1871
122,237	Dyer, George E., New Sharon, Maine. Stump-extractor	Dec. 26, 1871
113,643	Dyer, Isaac T., Macon, Ga. Mold-board for plows	April 11, 1871
	Dyer, Jacob. (*See* Good, Jacob L., assignor.)	
114,378	Dyer, Stephen P., Ankney Town, Ohio. Evaporator	May 2, 1871
116,573	Dyott, Michael B., Philadelphia, Pa. Vapor-burner	July 4, 1871
119,920	Same Lantern	Oct. 17, 1871
117,393	Dyson, John, Philadelphia, Pa. Shuttle drop-box mechanism	Aug. 1, 1871
112,230	Eads, James B., Saint Louis, Mo. Operating ordnance	Feb. 28, 1871
115,181	Same Gun-carriage	May 23, 1871
4,471	Same same (Division A, reissue)	July 18, 1871
4,472	Same same (Division B, reissue)	July 18, 1871
118,118	Same Caissons for sinking piers	Aug. 15, 1871
117,394	Eads, James B., and Henry Flad, Saint Louis, Mo. Pressure-gauge	July 25, 1871
	Same (*See* Flad & Eads.)	
115,838	Eager, George R., Boston, Mass. Pantaloons	June 13, 1871
	Eagle Lock Company. (*See* Terry & Hunter, assignors.)	
	Eagle Square Company. (*See* Millington, Norman, assignor.) (Two cases.) (Reissue)	
122,001	Eagleton, J. J., deceased, by Sarah N. Eagleton, administratrix, assignor to Eagleton Manufacturing Company, New York, N. Y. Japanned furniture spring	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,295	Eames, Horace N., assignor to Hiram B. Olmstead and Richard W. Jones, Syracuse, N. Y. Harness-ring ..... (Reissue)	Mar. 14, 1871
117,754	Eames, William T., assignor to Leonard J. Haas, New York, N. Y. Ice-pick	Aug. 8, 1871
120,633	Earing, William L., Oswego, N. Y. Saw	Nov. 7, 1871
116,096	Earl, Henry W., Baltimore, Md. Car-coupling	July 4, 1871
	Earl, William, *et al.* (*See* Smith, Roswell T., assignor) ..... (Reissue.)	
118,531	Earle, Charles H., De Pere, Wis. Chimney-stop	Aug. 29, 1871
4,503	Earle, John E., assignor through mesne assignments to Peter R. Carll, New Haven, Conn. Clothes-frame ..... (Division A, reissue)	Aug. 8, 1871
4,504	Same ..... same ..... (Division B, reissue)	Aug. 8, 1871
120,433	Earlywine, Nathan, assignor to self and Charles A. Davis, Centreville, Iowa. Walking-planter	Oct. 31, 1871
117,997	Earnest, William H., assignor to Richard P. Stood, Parkersburgh, W. Va. Scrubber and mop-head	Aug. 15, 1871
	Earth-Closet Company. (*See* Moule & Bannehr, assignors.)	
	Same ..... (*See* Doolittle, Merritt, assignor.)	
117,305	Easley, Elbridge V., Johnson City, Tenn. Flour-bolt	July 25, 1871
114,425	East, Samuel, Memphis, Mich. Machine for dressing millstones	May 2, 1871
113,643	Easteely, James, assignor to self and James Gray, Albany, N. Y. Cooking-stove	April 11, 1871
112,433	Eastman, Albert P., Washington, D. C. Basket for house-plants	Mar. 7, 1871
	Eastman, Joseph L., deceased, by Clara A. Eastman, executrix, Boston, Mass. Steam-pressure gauge ..... (Extension)	June 5, 1871
114,530	Eastman, Peter S., Washington Mills, N. Y. Fifth-wheel for carriages	May 9, 1871
118,440	Eastman, Robert, Media, Pa. Composition for soap	Aug. 29, 1871
4,791	Eastman, William W., Meadville, Pa. Flange and crank ..... (Design)	April 11, 1871
119,017	Eastman, William W., and William H. H. Morris, Meadville, Pa. Gudgeon for shafts	Sept. 19, 1871
116,936	Eastren, Samuel W., Tremont, N. Y. Combined shears and button-hole cutter	July 11, 1871
114,780	Eastwick, Edward P., Baltimore, Md. Kiln for reburning bone-black	May 16, 1871
115,042	Eaton, Albert E., Portland, Me. Reversible crib	May 23, 1871
119,224	Eaton, Asahel K., assignor to the Eaton Fire Company, Brooklyn, N. Y. Manufacture of paper-pulp	Sept. 26, 1871
121,342	Eaton, Charles, New York, N. Y. Curtain-fixture	Nov. 28, 1871
116,109	Eaton, Charles B., Grafton, Ill. Railway-car brake	June 20, 1871
111,442	Eaton, Daniel E., assignor to self and James S. Hanscom, Boston, Mass. Tube-cutter	Jan. 31, 1871
121,765	Eaton, Daniel E., Boston, Mass. Stamp-canceler	Dec. 19, 1871
	Eaton, Edwin. (*See* Elliott, Alfred L., assignor.)	
	Eaton Fire Company. (*See* Eaton, Asahel K., assignor.)	
	Eaton, Newbury J. (*See* Castle, Frederic, assignor.)	
110,639	Eaton, Richard, Montreal, Canada. Refining petroleum	Jan. 3, 1871
115,833	Eaton, Thomas W., Kankakee, Ill. Grain-drier	June 13, 1871
	Eaton, William H., *et al.* (*See* Burleigh, Naroy G., assignor.)	
112,231	Eayrs, Winslow P., Nashua, N. H. Lozenge-cutting machine	Feb. 28, 1871
116,282	Ebbert, John, assignor to self and John Clark, Chicago, Ill. Dredging-machine	June 27, 1871
119,235	Eberhardt, Jonas, Conshohocken, Pa. Steam-generator	Sept. 26, 1871
115,834	Eberle, Peter, Freetown, Ind. Pruning-saw	June 13, 1871
119,750	Eberly, David B., Pine Village, Ind. Cultivator	Oct. 10, 1871
	Eccles, James, and Joseph Holding. (*See* Holding & Eccles.)	
	Eckert, George, and Charles Brintzinghoffer. (*See* Brintzinghoffer & Eckert.)	
117,394	Eddelman, Daniel, Madison, Ind. Cultivator	Aug. 1, 1871
	Eddy, Corse & Co. (*See* Corse, Albert C., assignor.)	
	Same ..... (*See* Gass, Robert, assignor.)	
	Same ..... (*See* Hyde, James B., assignor.)	
	Same ..... (*See* Corse, Augustus P., assignor.)	
	Eddy, Horace M. (*See* Vance, John D., assignor) ..... (Design.)	
115,968	Eddy, Henry, North Bridgewater, Mass. Crib for horses ..... (Extension)	Jan. 3, 1871
	Same ..... Sewing-machine work-holder	May 30, 1871
4,405	Same ..... Crib for horses ..... (Reissue)	May 30, 1871
115,723	Eddy, Robert Henry, assignor to A. G. Eddy, Boston, Mass. Suspender	June 6, 1871
121,600	Same ..... same	Dec. 5, 1871
	Eddy, William H., *et al.* (*See* Sparks, John, assignor.)	
120,424	Edgar, Thomas M., Paris, Tenn. Corn-planter	Oct. 31, 1871
119,335	Edgar, William D., Ottawa, Kans. Key-board of musical instruments	Sept. 26, 1871
113,031	Edge, William Charles, Newark, N. J. Device for piercing and lining ears for the reception of earrings	Mar. 28, 1871
121,766	Edgecomb, Edward F., Mechanic's Falls, Me. Tool-holder for gripders	Dec. 12, 1871
113,032	Edgecomb, Joseph, Newark, N. J. Purchase for capstans	Mar. 28, 1871
117,396	Edgerton, Henry H., Fort Wayne, Ind. Shield for naphtha-gas burner	July 25, 1871
117,999	Same ..... Method and apparatus for separating certain hydrocarbon vapors from illuminating gases	Aug. 15, 1871
118,231	Same ..... Register for gas-motors	Aug. 22, 1871
119,586	Same ..... Gas-retort	Oct. 3, 1871
116,170	Edgerton, Joseph W., assignor to self and David J. Medlitt, Thornton, Ind. Flood-gate	June 20, 1871
122,002	Edie, David A., Norristville, Md. Saw-mill	Dec. 19, 1871
	Edie, D. A., *et al.* (*See* Lawrence, William H., assignor.)	
113,633	Edison, Thomas A., Newark, N. J. Printing-telegraph apparatus	Mar. 28, 1871
114,656	Same ..... Telegraphic transmitting instrument	May 9, 1871
111,112	Edison, Thomas A., assignor to self, Elisha W. Andrews, George B. Field, and Marshall Lefferts, Newark, N. J. Governor for electro-motors	Jan. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,034	Edison, Thomas A., assignor to the Gold and Stock Telegraph Company, Newark, N. J. Printing-telegraph apparatus	Mar. 28, 1871
114,637	Edison, Thomas A., assignor to self and Marshall Lefferts, Newark, N. J. Relay-magnet for telegraph-instruments	May 9, 1871
114,658	Same ..... Electro-magnet for telegraph-instruments	May 9, 1871
121,601	Edison, Thomas A., assignor to self and George Harrington, Newark, N. J. Machinery for perforating paper for telegraphic purposes	Dec. 5, 1871
115,182	Edmonds, George, New Orleans, La. Apparatus for carbureting	May 23, 1871
	Edmonds, Robert M., and McDuff Cohen. (*See* Cohen & Edmonds.)	
	Edmonson, James H. (*See* Grader, George W., assignor.)	
118,119	Edmunds, Thomas, Talcott, Va. Plow	Aug. 15, 1871
115,453	Edson, Jacob, Boston, Mass. Driven-well	May 30, 1871
118,233	Edson, Jacob, Boston, Mass., and Person Noyes, Lowell, Mass., assignors to Person Noyes. Pump	Aug. 22, 1871
117,872	Edson, Jarvis B., Brooklyn, N. Y. Safety-valve	Aug. 8, 1871
116,283	Edson, Nathaniel T., New Orleans, La. Rotary steam-generator	June 27, 1871
117,150	Same ..... Rotary boiler	July 18, 1871
118,796	Same ..... Scroll-sawing machine	Sept. 12, 1871
120,371	Same ..... Propulsion of canal-boats	Oct. 31, 1871
116,574	Edward, David, Montreal, Canada. Mop and brush holder	July 4, 1871
111,826	Edwards, Arthur, Cuba, Mo. Corn-planter	Feb. 21, 1871
113,149	Edwards, David, Australia. Cultivator	Mar. 28, 1871
	Edwards, George R. (*See* Davis & Vermillion, assignors.)	
119,336	Edwards, John C., Cattleville, Mo. Bee-hive	Sept. 26, 1871
111,585	Edwards, Lester P., Hamlinton, Pa. Funnel	Feb. 7, 1871
117,999	Edwards, Martin L., Salem, Ohio. Meat-chopper	Aug. 15, 1871
113,969	Edwards, Thomas, England. Condensing steam-engine	April 25, 1871
112,091	Edwards, Wesley, assignor to self, John Holloway, and John F. Snider, Indianapolis, Ind. Implement for driving spokes into hubs of wheels	Feb. 21, 1871
110,837	Edwards, Young L., Trenton, Tenn. Corn-planter	Jan. 10, 1871
122,230	Eells, Frederick, Walton, N. Y. Ladder	Dec. 26, 1871
4,688	Eger, Frederick W., and Henry H. Kunze, Philadelphia, Pa. Bed-quilt (Design)	Feb. 28, 1871
110,903	Egerton, Charles C., assignor to Samuel E. and Daniel W. Middleton, Washington, D. C. Stamp-canceler	Jan. 17, 1871
114,436	Egery, Marshal J., assignor to self and Thomas N. Egery, Bangor, Me. Saw-mill	May 2, 1871
	Egery, Thomas N. (*See* Closs, Walter R., assignor) ..... (Reissue.)	
113,863	Eggleston, Asa, Fall River, Mass. Machine for piercing leather	April 18, 1871
117,523	Eggleston, Charles H., Marshall, Mich. Pruning-shears	Aug. 1, 1871
122,112	Same ..... Heel for boots and shoes	Dec. 26, 1871
117,100	Eggleston, George W., Monroe County, N. Y. Millstone-curb	July 18, 1871
4,585	Eggleston, Leonard, assignor to Rumsey & Co., Seneca Falls, N. Y. Pump. (Design)	Jan. 17, 1871
119,731	Ehlin, Erick, San Francisco, Cal. Lubricator	Oct. 10, 1871
117,161	Ehrhardt, Louis H. G., New York, N. Y. Decolorizing raw sugar	July 18, 1871
116,937	Ehrhart, Daniel, Bel Air, Md. Water-wheel	July 11, 1871
121,045	Eickemeyer, Rudolph, New York, N. Y. Felting-machine	Nov. 21, 1871
120,373	Eisele, John, Philadelphia, Pa. Shaft-coupling ..... (Antedated Oct. 14, 1871)	Oct. 31, 1871
121,343	Eisenmann, Nathan, New York, N. Y. Machine for blacking boots and shoes	Nov. 28, 1871
113,979	Eisefeldt, Hermann, and Camille Thumb, Prussia. Purifying animal charcoal	April 4, 1871
112,695	Elam, Willoughby P., Petersburgh, Ill. Spring-seat for wagons	Mar. 14, 1871
112,696	Elder, Roscoe G., New York, N. Y. Children's carriage	Mar. 14, 1871
121,344	Same ..... Folding-commode	Nov. 28, 1871
121,345	Same ..... Library-step and holder for blacking-implements combined	Nov. 28, 1871
119,513	Eldred, Franklin J., Webster, N. Y. Shaving-horse	Oct. 3, 1871
117,536	Eldredge, John V. D., Detroit, Mich. Sewing-machine	Aug. 1, 1871
	Electric Clock and Bell Company. (*See* Hahl, Augustus, assignor.)	
113,980	Eley, Philip, assignor through mesne assignments to Charles Wallich, George Hicock, and Alexander Young, New York, N. Y. Bolt-heading die	April 4, 1871
114,781	Eley, Philip, assignor to Isaac Cole, New York, N. Y. Spinning-top	May 16, 1871
117,567	Eley, Philip, assignor of one-half interest to Thomas W. Bartholomew, New York, N. Y. Machine for heading bolts	Aug. 1, 1871
110,630	Ellicott, Henry William, Baltimore, Md. Protecting the hearth of furnaces	Jan. 3, 1871
119,018	Elling, Charles, Cleveland, Ohio. Machine for mixing soap	Sept. 19, 1871
111,113	Elliot, Alfred L., assignor to self and Edwin A. Eaton, Boston, Mass. Machine for cutting paper collars	Jan. 24, 1871
111,837	Elliot, William H., New York, N. Y. Magazine for breech-loading fire-arms	Feb. 14, 1871
114,540	Same ..... Breech-loading fire-arm	May 9, 1871
118,916	Same ..... Cartridge-magazine	Sept. 12, 1871
121,499	Same ..... Breech-loading fire-arm	Dec. 5, 1871
	Elliott, Calvin A. (*See* Morrison, Jacob, assignor.)	
	Elliott, Charles P., and Samuel W. Davis. (*See* Davis & Elliott.)	
116,294	Elliott, Clark, assignor to self and Nathan Elliott, Woodland, Cal. Vehicle	June 27, 1871
	Elliott, Edmund D., *et al.* (*See* Hallowell, Elliott & Blodgett.)	
	Elliott, Frank S., and Hiram S. Harned. (*See* Harned & Elliott.)	
119,129	Elliott, George, Saint Louis, Mo. Railway-car spring	Sept. 19, 1871
4,411	Elliott, Harrison, assignor through mesne assignments to self, Elijah Smith, and Solomon S. Gray, Boston, Mass. Machine for crozing staves ..... (Reissue)	June 6, 1871
114,279	Elliott, James P., Bridgeport, Conn. Stove-pipe shelf	May 2, 1871
111,921	Elliott, Josiah S., assignor to the Union Stone Company, Boston, Mass. Machine for forming artificial stone	Feb. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,938	Elliott, Lewis, jr., assignor to L. Candee & Co., New Haven, Conn. India-rubber shoe	July 11, 1871
120,272	Same.....India-rubber shoe	Oct. 24, 1871
112,434	Elliott, Milo A., Stratford Hollow, N. H. Sulky-plow	Mar. 7, 1871
110,640	Elliott, Robert, Chester, Pa. Loom	Jan. 3, 1871
112,566	Same.....Sleigh	Mar. 14, 1871
117,598	Elliott, Samuel, Sonora, Cal. Carpet-stretcher	Aug. 1, 1871
	Elliott, Theodore C., *et al.* (*See* Smith, David M., assignor).....(Two cases.)	
120,612	Elliott, Thomas J., New York, N. Y. Varnish for destroying insect-life	Nov. 14, 1871
114,541	Elliott, William R., Troy, Kans. Sash-holder	May 9, 1871
114,117	Elliott, William W., Elliott's Mills, Miss. Spark-arrester	April 25, 1871
120,050	Ellis, Augustin, Canton, Ind. Hoe	Oct. 17, 1871
112,567	Ellis, De Witt C., and George N. Deming, Rochester, N. Y. Cotton-planter	Mar. 14, 1871
112,568	Ellis, Edward S., Trenton, N. J. Envelope	Mar. 14, 1871
116,575	Same.....Ice-creeper	July 4, 1871
115,835	Ellis, Francis M., Galva, Ill. Washing-machine	June 13, 1871
116,881	Ellis, Francis Marion, assignor to Joshua Beatty Glenn, Brooklyn, N. Y. Soap	July 11, 1871
112,697	Ellis, George Henry, assignor to Augustus Salem Dimedate and Edward Bovino Lovell, England. Ladder	Mar. 14, 1871
119,991	Ellis, Henry Allyn, assignor to self and George S. Weaver, Greenbush, N. Y. Hemmer for sewing-machines	Oct. 17, 1871
121,046	Same.....Albany, N. Y. Hemmer for sewing-machines	Nov. 21, 1871
111,329	Ellis, Joel A. H., Springfield, Vt. Compounding liquor for use in vapor-engines	Jan. 31, 1871
111,330	Same.....Stuffing-box for engines	Jan. 31, 1871
111,331	Same.....Vapor-generator for vapor-engines	Jan. 31, 1871
122,339	Ellis, Marshall M., assignor to self and Frederick R. Ladd, Springfield, Mass. Window casing and sash	Dec. 26, 1871
120,728	Ellis, Paschal P., assignor to Charles H. Buck and Wiley S. Wright, Saint Louis, Mo. Cooking-stove	Nov. 7, 1871
	Ellis, Seth C., Jersey City, N. J. Machine for cutting tenons on blind-slats. (Extension)	Feb. 2, 1871
114,542	Same.....Journal-box	May 9, 1871
118,000	Ellis, Thomas J., Decatur, Ill. Cultivator	Aug. 15, 1871
112,793	Ellis, Willard C., assignor of one-half interest to Rufus A. Russell, Springfield, Mass. Adjustable bevel	Mar. 21, 1871
119,694	Elliadon, Joseph, England. Canopy	Oct. 10, 1871
116,171	Ellithorpe, Albert C., Chicago, Ill. Dredging-scoop	June 20, 1871
116,172	Same.....Mortar-mixing machine	June 20, 1871
112,028	Ella, Benjamin F., Dayton, Ohio. Fruit-drier	Feb. 21, 1871
117,755	Ella, George F., assignor to M. G. Goodwin, New York, N. Y. Flexible hand-card	Aug. 8, 1871
111,990	Ella, Josiah W., Pittsburgh, Pa. Cruet-stand	Feb. 21, 1871
117,397	Same.....Casting car-wheels	July 25, 1871
	Ellsworth, George, and Silas D. Stearns. (*See* Stearns & Ellsworth.)	
114,118	Ellsworth, Louis H., and Samuel Seabury, Peoria, Ill. Weather-strip	April 25, 1871
111,828	Elmer, Samuel, Ashtabula, Ohio. Spool-silk case	Feb. 14, 1871
	Elmwood Mining and Manufacturing Company. (*See* West, Samuel, assignor.)	
	Same.....(*See* Britton, Walter, assignor.)	
	Elso, T. C., *et al.* (*See* Foster & Sayler, assignors.)	
113,281	Elsom, Julius, Boston, Mass. Watch-regulator	April 4, 1871
120,051	Elston, James A., Elston Station, Mo. Sawing-machine	Oct. 17, 1871
116,036	Eltinge, Edgar, Kingston, N. Y. Coal-scuttle	June 20, 1871
110,908	Eltinge, Edgar, and John C. Brodhead, Kingston, N. Y. Propeller	Jan. 10, 1871
113,990	Elward, John H., Polo, Ill. Harvester	April 25, 1871
116,697	Elwell, Henry H., assignor to the Norwalk Lock Company, South Norwalk, Conn. Reversible knob-latch	July 4, 1871
114,543	Ely, Ellsworth, Lockport, N. Y. Fence	May 9, 1871
	Ely, Ellsworth, and Claudius L. Hoag. (*See* Hoag & Ely.)	
	Ely, Eugene A., and Eugene C. Hopping. (*See* Hopping & Ely.)	
	Ely, George H., and John A. Topliff. (*See* Topliff & Ely.)	
	Ely, Matthew. (*See* Mason, Richard, assignor.)	
	Embossing Company. (*See* Hyatt, John W., jr., assignor.)	
116,576	Emerson, George D., Calumet, Mich. Water-meter. (Antedated June 20, 1871)	July 4, 1871
113,901	Emerson, George W., assignor to John R. Barrett, Chicago, Ill. Paper-file	April 25, 1871
4,345	Same.....Temporary binder.....(Reissue)	Sept. 12, 1871
116,385	Emerson, James, Lowell, Mass. Dynamometer	June 27, 1871
111,829	Emerson, James E., Trenton, N. J. Gauge for saw-filers	Feb. 14, 1871
112,569	Same.....Saw	Mar. 14, 1871
113,902	Same.....same	April 25, 1871
113,903	Same.....Saw for sawing stone	April 25, 1871
116,421	Same.....Saw	June 27, 1871
	Emerson, Thomas. (*See* Mahan, Frank M., assignor.)	
	Emerson, Ralph. (*See* Stillman, William Warren, assignor).....(Reissue.)	
119,130	Emerson, Richard, Sycamore, Ill. Harvester-rake	Sept. 19, 1871
	Emery, Charles E., and James S. Griffith. (*See* Griffith & Emery.)	
113,409	Emery, James F., assignor to self and James E. Thomson, Buffalo, N. Y. Advertising device	April 4, 1871
	Emery, James P., and Wesley C. Carter. (*See* Carter & Emery.)	
111,622	Emery, Samuel H., jr., and Chauncey H. Castle, Quincy, Ill. Heating-stove	Feb. 7, 1871
117,613	Emery, Samuel W., and Erasmus P. Doyen, Portland, Me. Steam-generator	Aug. 1, 1871
	Emery, Silas H. (*See* Moss, Reed, assignor.)	
120,058	Emlaw, Andrew J., Grand Haven, Mich. Feeding saw-dust to furnaces	Oct. 17, 1871

Alphabetical list of patentees for the year ending 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,858	Emmert, John, Dunleith, Ill. Stilt. (Antedated Nov. 6, 1871)	Nov. 14, 1871
116,939	Emmert, Joseph F., Waynesborough, Pa. Universal joint for shaft-coupling	July 11, 1871
	Emmons, James F., and Jay Northrop. (*See* Northrop & Emmons.)	
119,085	Emory, William H., Ashburnham, Mass. Dish-washer	Sept. 19, 1871
120,253	Endemann, Hermann, New York, N. Y. Apparatus for drying fruit, meat, &c	Oct. 24, 1871
	Enderton, George, and William E. Robbins. (*See* Robbins & Enderton.)	
119,337	Enslow, Samuel, Blain, Pa. Insect-trap	Sept. 26, 1871
114,782	Engelbrecht, F., Memphis, Tenn. Door-bolt	May 16, 1871
	Engelskerchen, Carl, and Orrin L. Gridley. (*See* Gridley & Engelskerchen.)	
113,994	Engers, Peter, Jefferson Furnace, Pa. Melodeon	April 25, 1871
114,119	England, George A., Ripon, Wis. Pocket fire-escape	April 25, 1871
112,938	England, Lewis C., Philadelphia, Pa. Apparatus for tanning	Feb. 28, 1871
121,500	Englebert, Councillous, and Joseph S. Von Nieda, Philadelphia, Pa. Ice-pitcher	Dec. 5, 1871
110,900	Engledow, Thomas S., Cedar Falls, Iowa. Bee-hive	Jan. 10, 1871
116,940	English, Francis Marion, Evansville, Ind. Churn	July 11, 1871
121,346	English, James, assignor to self and Jonathan M. Roberts, Syracuse, N. Y. Canal-boat	Nov. 28, 1871
	English, Nathan F., and Charles Rowland. (*See* Rowland & English.)	
111,992	English, Samuel, assignor to self and James Ostrander, Troy, N. Y. Machine for molding tuyeres	Feb. 21, 1871
	English, William A. (*See* Douglas, Charles H., assignor.)	
112,570	Ennis, George W., assignor to self and J. P. Ennis, Orange, N. J. Children's crib	Mar. 14, 1871
110,641	Ennis, William, Philadelphia, Pa. Ventilator	Jan. 3, 1871
110,838	Same.....same	Jan. 3, 1871
112,698	Same.....Furnace for treating ores, &c. (Antedated March 7, 1871)	Mar. 14, 1871
121,047	Enos, John M. and Joab, Saint Joseph, Mich. Car-coupling	Nov. 21, 1871
	Enterprise Manufacturing Company. (*See* Baker, John G., assignor.)	
	Entwistle, Thomas, *et al.* (*See* Cummings, Heyes & Entwistle.)	
	Equitable Company—Operative Foundery Company. (*See* Brayer, Nicholas, assignor).....(Design)	Dec. 12, 1871
5,419	Erbe, Herrmann, and John Barth, Philadelphia, Pa. Shawl.....(Design)	May 16, 1871
114,783	Erd, William, New Ulm, Minn. Sleigh-velocipede. (Antedated May 9, 1871)	Feb. 21, 1871
112,093	Erganzinger, Jacob Joseph Alexander, Atlanta, Ga. Mosquito-net	Mar. 28, 1871
113,035	Erkson, Garrett, Brooklyn, N. Y. Flower-stand	Nov. 28, 1871
	Ernest, Anthony, and Humphreys Joyce. (*See* Joyce & Ernest.)	
121,347	Ernsberger, Andrew M., Danville, Ill. Bulletin-board	May 23, 1871
115,183	Erpelding, Nicholaus and John, Chicago, Ill. Folding-box	June 13, 1871
4,423	Erskine, Massena B., Racine, Wis. Mounted horse-power.....(Reissue)	
5,348	Erwein, John A., assignor to self and Benjamin R. Myers, Philadelphia, Pa. Tongs for coals, &c.....(Design)	Nov. 7, 1871
119,587	Erwin, Charles M., Winona, Miss. Mounted horse-power	Oct. 3, 1871
113,982	Erwin, James B., Pittsburgh, Pa. Gate	April 4, 1871
119,568	Escudier, Charles, Iberia Parish, La. Cultivator	Oct. 3, 1871
119,336	Eshleman, John P., West Salem, Ohio. Washing-machine	Sept. 26, 1871
116,822	Eskildson, Henry W., Boston, Mass. Carpet-protector	July 11, 1871
112,910	Essex, Henry, Meadville, Pa. Locked cock	Mar. 21, 1871
116,986	Essex, James J., Newport, R. I. Atomizer	June 27, 1871
119,580	Estabrook, Edward M., New York, N. Y. Tension-regulator for sewing-machines	Oct. 3, 1871
	Este, George P. (*See* Cabell, Samuel G., assignor.)	Oct. 10, 1871
119,633	Estell, Samuel F., Chicago, Ill. Programme-clock	Mar. 16, 1871
	Esterly, George, Whitewater, Wis. Harvesting-machine.....(Extension)	
	Esterly, George and George W. (*See* Van De Water, Joseph, assignor.)	Feb. 28, 1871
4,279	Estes, Philip, Leavenworth, Kans. Steam-engine.....(Reissue)	May 2, 1871
114,427	Same.....Piston-packing	
	Estey, J. & Co. (*See* Fuller, Levi K., assignor).....(Five cases.)	
121,348	Estill, James L., assignor to self and Daniel Koll, Salem, Ohio. Nut-locking device	Nov. 28, 1871
5,104	Ettinger, William, New York, N. Y. Muff.....(Design)	July 11, 1871
116,917	Euler, Conrad, Evansville, Ind. Bottle-washing machine	Sept. 12, 1871
	Eunson, Robert G., and John Myers. (*See* Myers & Eunson.) (Three cases.) (Disclaimer.)	
	Eureka Mower and Reaper Manufacturing Company. (*See* Wilber, John D., assignor)	
4,342	Evans, Benjamin D., assignor to John W. Baker, Columbus, Ohio. Combined vapor-burner and lamp-post.....(Reissue)	April 18, 1871
4,958	Evans, Caleb B., John Carlisle, and Grant H. Burrows, Cincinnati, Ohio. Iron mantel.....(Design)	May 30, 1871
4,959	Same.....Iron mantel.....(Design)	May 30, 1871
4,960	Same.....same.....(Design)	May 30, 1871
4,961	Same.....same.....(Design)	May 30, 1871
121,860	Evans, David, England. Papering or putting up needles	Dec. 12, 1871
122,940	Evans, David Zimmerman, Town Point, Md. Cultivator	Dec. 26, 1871
112,398	Evans, Edward, North Tonawanda, N. Y. Steam-boiler	Mar. 7, 1871
121,935	Same.....Steam-engine	Dec. 19, 1871
	Evans, Edward, and William A. Drown, jr. (*See* Plumb, Hiram, assignor.)	
119,010	Evans, Ezra E., and Charles A. Beard. (*See* Beard & Evans.)	Sept. 19, 1871
117,103	Evans, George T., Norway, Me. Clipping-shears	July 18, 1871
	Evans, George R., Virginia City, Nevada. Apparatus for saving gold-amalgam, &c.	
119,330	Evans, Henry James, Quebec, Canada. Combination wheelbarrow and step-ladder	Sept. 26, 1871
118,223	Evans, Henry S., West Chester, Pa. Automatic railway-signal	Aug. 22, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Evans, John, and Christopher Meyer. (*See* Meyer & Evans.)	
120,729	Evans, Lewis J., Binghamton, N. Y. Door-bolt	Nov. 7, 1871
112,571	Evans, Nathaniel, jr., Boston, Mass. Paper collar	Mar. 14, 1871
113,410	Evans, Thomas A. E., Albany, Ga. Horse-power	April 4, 1871
119,590	Evans, Thomas E., William R. Thomas, and Joshua Hunt, Catasauqua, Pa. Valve-gear	Oct. 3, 1871
113,149	Evans, Thomas R., Philadelphia, Pa. Shoe and over-gaiter	Mar. 28, 1871
119,131	Same.....Boot and shoe tree	Sept. 19, 1871
121,501	Evans, Thomas R., Blacksburgh, Va. Broom	Dec. 5, 1871
119,080	Evans, Warren R., Thomaston, Me. Gun-lock	Sept. 19, 1871
115,989	Evans, William J., New York, N. Y. Revolving urn-stand	May 30, 1871
121,091	Same.....Revolving urn and spice stand	Nov. 21, 1871
	Evans, William M. (*See* Brown, William, assignor.)	
118,918	Evans, William R., Philadelphia, Pa. Portable cradle	Sept. 12, 1871
110,642	Evarts, Harry H., Chicago, Ill. Dovetailing-machine	Jan. 3, 1871
111,830	Same.....Traveling-trunk	Feb. 14, 1871
113,506	Evurts, John N., and Pietro Cinquini, assignors to Bradley & Hubbard, West Meriden, Conn. Drawer pull label-holder	April 11, 1871
115,943	Evenden, John G., Chicago, Ill. Sheet-metal can	June 13, 1871
5,022	Same.....Wood-incased can (Design)	June 20, 1871
5,023	Same.....same (Design)	June 20, 1871
117,050	Evens, Julian T., assignor to self, William H. Meyer, and Adolph Rederer, Saint Louis, Mo. Railroad-car stove	July 18, 1871
120,730	Everding, John, Philadelphia, Pa. Device for arresting motion	Nov. 7, 1871
	Everett, George A., and Franklin W. Brooks. (*See* Brooks & Everett.)	
111,195	Everett, Samuel J., Mahoney City, Pa. Treating fruit-trees to prevent the ravages of insects, &c.	Jan. 24, 1871
	Everett, William E., and Adam S. Cameron. (*See* Cameron & Everett.)	
112,572	Everitt, John S., and Charles H. Avery, Oshkosh, Wis. Head-block for sawmills	Mar. 14, 1871
120,634	Same.....Machine for cutting and punching shingle-bands. (Antedated Oct. 20, 1871)	Nov. 7, 1871
121,767	Evers, William, San Francisco, Cal. Bagatelle game and apparatus	Dec. 12, 1871
110,754	Everson, Walter, New York, N. Y. Tug for towing boats	Jan. 3, 1871
115,836	Evert, Henry, deceased, by Charles F. Nahmmacher, administrator, Pittsburgh, Pa. Bedstead	June 13, 1871
	Eves, Chandler, and George W. McEuen. (*See* McEuen & Eves.)	
119,340	Eves, Francis, Fountain City, Wis. Fanning-mill	Oct. 3, 1871
	Ewart, J. P. (*See* Brown, John T. H., assignor.)	
	Ewell, Carlos, *et al.* (*See* Montgomery & Howes, assignors.)	
	Ewell, William H. S., administrator. (*See* Martin & Wombaugh)..(Extension.)	
113,150	Ewing, Alvan B., Lewisburgh, Tenn. Chimney	Mar. 28, 1871
	Ewing, O. G. (*See* Wight, Lyman, assignor).....(Three cases.) (Reissue.)	
120,953	Ewing, Oscar S., Rome, N. Y. Animal-trap	Nov. 14, 1871
113,094	Ewing, Sarah C., Indianapolis, Ind. Pattern for applying measurements and laying out garments	Feb. 24, 1871
114,439	Ewing, Selena C., Hill's Ferry, Cal. Division-plate for cooking-stoves	May 9, 1871
	Ewings, Orison G., and Lyman Wight. (*See* Wight & Ewings.) (Two cases.)	
	Excelsior Needle Company. (*See* Hopson & Brooks, assignors.)	
116,577	Extein, Achille, and Jesse C. Mills, Springfield, Mass. Music-leaf holder	July 4, 1871
110,755	Eynon, David, Saint Louis, Mo. Spike-machine	Jan. 3, 1871
120,254	Same.....Combination of devices and in furnaces for the manufacture of spikes	Oct. 24, 1871
110,756	Eynon, David, assignor to Tredegar Company, Saint Louis, Mo. Spike-machine	Jan. 3, 1871
118,353	Faas, Anthony, Philadelphia, Pa. Piano	Aug. 22, 1871
118,354	Faas, Anthony J., jr., Philadelphia, Pa. Tuning-pin for pianos	Aug. 22, 1871
113,036	Facer, Wilson E., Philadelphia, Pa. Electro-magnetic burglar-alarm	Mar. 28, 1871
	Fachtz, Ernest F. M., and Philip H. Reinhard. (*See* Reinhard & Fachtz.)	
112,332	Fagan, Michel G., assignor to self and Albert C. Corse, Troy, N. Y. Heating-apparatus	Feb. 28, 1871
118,705	Fagin, Lewis, Cincinnati, Ohio. Lubricator for vertical shafting	Sept. 5, 1871
4,616	Fahnestock, Frederick S., Chicago, Ill. Sewing-machine sample-trunk. (Design)	Jan. 31, 1871
111,186	Fahnestock, Obed, Indianapolis, Ind. Tray-holder	Jan. 24, 1871
	Fair, Charles, *et al.* (*See* Morgan, Edward, assignor.)	
112,911	Fair, George W., Dayton, Ohio. Sand-screen	Mar. 21, 1871
	Fairbairn, John O. (*See* Horn, Henry, assignor.)	
118,508	Fairbanks, Franklin, Saint Johnsbury, Vt. Brake for vehicles	Aug. 29, 1871
111,733	Fairbanks, Franklin, and Harvlin Paddock, Saint Johnsbury, Vt. Weighing-scale	Feb. 14, 1871
110,903	Fairbanks, Henry, Saint Johnsbury, Vt. Electro-magnetic weighing-machine	Jan. 17, 1871
110,904	Same.....Automatic weighing and distributing scale	Jan. 17, 1871
110,905	Same.....Compression-cock for flexible tubes	Jan. 17, 1871
	Fairbanks, Thaddeus, Saint Johnsbury, Vt. Platform-scale.....(Extension)	Jan. 13, 1871
	Fairchild, George H. (*See* Cremin, Joseph W., assignor).....(Five cases.)	
118,706	Fairchild, Gershom H., Cincinnati, Ohio. Medical compound or liniment	Sept. 5, 1871
120,731	Fairfield, George A., assignor to the Wood Sewing-Machine Company, Hartford, Conn. Shuttle for sewing-machines	Nov. 7, 1871
	Fairfield, Samuel W. (*See* Parsons, Getchell & Fairfield.)	
119,301	Fairlie, Robert Francis, England. Locomotive-engine	Oct. 3, 1871
112,435	Fairman, James, New York, N. Y. Stretcher for paintings	Mar. 7, 1871
113,128	Faivre, Alexander C., Meadville, Pa. Sash-holder	Sept. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Falco, George S., *et al.* (*See* Stanley & Draper, assignors.)	
4,996	Falco, Joel F., Walpole, Mass. Carpet-lining (Reissue)	Mar. 14, 1871
	Falco, John R., *et al.* (*See* Wilmarth, Moses P., assignor) (Reissue.)	
111,734	Falco, Levi S., assignor to the American Fertilising Company, New York, N. Y. Treating blood for the manufacture of fertilizers	Feb. 14, 1871
116,578	Falkenau, Louis, San Francisco, Cal. Preparing seal-skins	July 4, 1871
121,453	Falkingham, Edwin, San Francisco, Cal. Child's carriage	Dec. 5, 1871
111,443	Fallis, John N., assignor to self and Charles Thacker, sr., Cincinnati, Ohio. Compound for dressing and coloring the hair	Jan. 31, 1871
119,441	Fallows, James, Philadelphia Pa. Toy-toad	Aug. 29, 1871
121,502	Same.....same	Dec. 5, 1871
112,912	Falson, Matthew, Bloomington, Ill. Bed-bottom	Mar. 21, 1871
120,732	Fanning, John, and Friederich Legler, Burlington, Iowa. Cultivator	Nov. 7, 1871
4,617	Fanning, David H., Worcester, Mass. Corset	Jan. 31, 1871
	Same. (*See* Rutherford, Clementine D., assignor.)	
122,113	Fanning, John, and Edward Nugent, assignors to John C. Adams and John H. Andrus, Brooklyn, N. Y. Sewing-machine	Dec. 26, 1871
115,588	Fanning, John T., Norwich, Conn. Joint-end for sheet-metal pipes	June 6, 1871
120,954	Same.....Chute for water-wheel cases	Nov. 14, 1871
115,944	Fanyon, Joseph, Bridgeport, Conn. Device for applying remedies to the ear	June 13, 1871
115,043	Farber, Manasseh W., Mount Pleasant, Iowa. Spring for bed-bottoms	May 23, 1871
115,837	Farine, William, England. Projector	June 13, 1871
120,373	Farley, Frederick A., Pine Meadow, Conn. Washing-machine	Oct. 31, 1871
119,341	Farley, Henry S., Sing Sing, N. Y. Trunk	Sept. 26, 1871
113,754	Farley, Peter, New York, N. Y. Drying bone-black	April 18, 1871
116,883	Farley, Philip, Philadelphia, Pa. Tube-cleaner	July 11, 1871
111,444	Farley, Rasselas, Cincinnati, Ohio. Treating cotton-seed oil to render it drying	Jan. 31, 1871
113,644	Farmer, David, jr., Wheeling, W. Va. Nail and tack plate feeder	April 11, 1871
118,355	Same.....Cut-nail machine	Aug. 29, 1871
118,356	Same.....same	Aug. 29, 1871
118,357	Same.....Nail and tack machine	Aug. 29, 1871
122,241	Farmer, George P., Brooklyn, N. Y. Needle-threader and spool combined	Dec. 26, 1871
4,841	Farmer, George P., assignor to E. C. Pratt, Brother & Co., Brooklyn, N. Y. Show-case and drawer (Design)	April 25, 1871
4,842	Same.....Show-case for needle-packages (Design)	April 25, 1871
117,756	Farmer, John H., Detroit, Mich. Coal-shovel. (Antedated July 25, 1871)	Aug. 8, 1871
113,864	Farmer, Moses G., Salem, Mass. Construction of thermo-electric pairs	April 18, 1871
116,579	Same.....Nickel-plating	July 4, 1871
	Farmer, Moses G., and William F. Channing. (*See* Channing & Farmer.) (Extension.)	
111,332	Farnam, Harriet A., South Bend, Ind. Fly-catcher	Jan. 31, 1871
122,242	Same.....Bee-hive	Dec. 26, 1871
113,507	Farnan, James, Cleveland, Ohio. Hydrant	April 11, 1871
120,935	Farnham, John M., Hartford, Conn. Spring-bed	Nov. 14, 1871
110,757	Farnham, Reuben G., assignor of one-half interest to Russell B. Wheeler, Elbridge, N. Y. Fruit-can	Jan. 3, 1871
113,133	Farquhar, Edwin, Ankenytown, Ohio. Portable feed-rack	Feb. 28, 1871
115,044	Farrand, Thomas M., Skowhegan, Me. Folding or tuck-laying device for sewing-machines	May 23, 1871
113,755	Farrar, Alonzo, Brookline, Mass. Composition for printing or painting on surfaces	April 18, 1871
5,146	Farrar, Chilion M., Buffalo, N. Y. Steam-engine (Design)	Aug. 1, 1871
	Farrar, Cyrus S., and Myron S. Holman. (*See* Holman & Farrar.)	
113,283	Farrar, William B., Greensborough, N. C. Cider and wine mill	April 4, 1871
113,995	Farrar, William H., Richmond, Va. Medical compound for treating rheumatism, &c.	April 25, 1871
117,980	Farre, William Theodor, Montreal, Canada. Tobacco-cutting box	July 25, 1871
	Farre, William T., and Ole A. Bryhn. (*See* Bryhn & Farre.)	
111,114	Farrel, John, New York, N. Y. Flux for welding steel of high and low grade	Jan. 24, 1871
116,287	Same.....Burglar-proof safe	June 27, 1871
120,577	Same.....Interlocked conical bolt for safes	Nov. 7, 1871
121,710	Same.....Safe	Dec. 12, 1871
121,711	Farrel, John, and Jacob Weimar, New York, N. Y. Bolt for safe-doors	Dec. 12, 1871
115,045	Farrell, John, Brooklyn, N. Y. Lamp-wick	May 23, 1871
116,037	Farrington, Joel, Corry, Pa. Harvester	June 20, 1871
116,038	Same.....Gearing for harvesters	June 20, 1871
120,576	Farrington, John A., assignor through mesne assignments to self, E. Parke Coby, and Isaac U. Coles, Brooklyn, N. Y. Letter-box	Nov. 7, 1871
	Ferris, John. (*See* Woodruff, George W., assignor).....(Three cases.)	
113,037	Farris, William H., Cairo, Ill. Water-grate bar	Mar. 28, 1871
114,280	Same.....Tubular-grate bar	May 2, 1871
120,374	Farson, William, Philadelphia, Pa. Sofa-bedstead. (Antedated Oct. 17, 1871)	Oct. 31, 1871
115,453	Fassett, Amos, Sterling, Ill. Wagon-coupling	May 30, 1871
115,454	Same.....Spring-wagon seat	May 30, 1871
	Faubrother, Nathaniel, *et al.* (*See* Stanley & Draper, assignors.)	
117,873	Fawcett, Hiram W., and Thomson McGowan, Meredith, Pa. Condenser for oil-stills	Aug. 8, 1871
115,722	Fawcitt, William M., assignor to self and Thomas C. Morris, Brooklyn, N. Y. Washing-machine	June 6, 1871
4,360	Faught, Luther R., Philadelphia, Pa. Turning-lathe (Reissue)	May 23, 1871
115,990	Same.....Holdfast for lathe-spindles	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,201	Faught, Luther R., Philadelphia, Pa. Die-stock for cutting screws	May 30, 1871
119,683	Same.....Cog-gearing	Oct. 3, 1871
121,048	Same.....Horse-power	Nov. 21, 1871
110,758	Faught, Nelson, Pittsborough, Ind. Plow	Jan. 3, 1871
110,910	Faulkner, Admiral, assignor to J. W. Hampton, Mount Pleasant, Iowa. Fence	Jan. 10, 1871
116,288	Faulkner, Daniel A., Centreville, Cal. Punching-machine	June 27, 1871
111,831	Faulkner, Osker F. A., Mount Pleasant, Iowa. Fence	Feb. 14, 1871
118,509	Faulks, John P., Glasgow, Mo. Baby-jumper	Aug. 29, 1871
122,063	Fausett, John, Leonardtown, Md. Gate. (Antedated Dec. 7, 1871)	Dec. 19, 1871
112,573	Favor, Zebnlon C., assignor to self and Oscar C. Chase, Chicago, Ill. Elevator	Mar. 14, 1871
122,163	Fawcett, William, New York, N. Y. Mode of covering harness-mountings	Dec. 26, 1871
118,707	Fawkes, Joseph W., Marca, Ill. Grading and ditching machine	Sept. 5, 1871
114,544	Fay, John, Lacon, Ill. Medical compound	May 9, 1871
	Fay, J. A., & Co. (*See* Passel, George W., assignor.)	
	Same.....(*See* Bickford, Henry, assignor.)	
	Same.....(*See* Doane, William H., assignor.)	
	Same.....(*See* Schmackers, Anton, assignor.)	
	Same.....(*See* Doane & McKee, assignors.)	
	Same.....(*See* Dobson & Doane, assignors.)	
	Fay, Lucien, deceased, by Joshua B. Prouty, administrator, Cincinnati, Ohio, Machine for seaming sheet-metal roofs (Extension)	July 13, 1871
111,623	Fay, Lyman, Fall River, Mass. Sifter and strainer	Feb. 7, 1871
112,574	Same.....Nut-lock	Mar. 14, 1871
4,234	Fay, Lyman, assignor to Joseph M. Rice and Daniel B. Pratt, Worcester, Mass. Securing railway-rail joints (Reissue)	Jan. 3, 1871
113,151	Fay, Philip, sr., Lacon, Ill. Medical compound for cure of scrofula, liver complaint, &c	Mar. 28, 1871
121,602	Fayman, George H., assignor to De Vere Burr, Washington, D. C. Machine for printing mail-tags	Dec. 5, 1871
	Fee, William R., Cincinnati, Ohio. Machine for hulling cotton-seed. (Extension)	July 26, 1871
	Fegans, James H. (*See* Hubbard, William Penn, assignor.)	
	Felock, Casper, and Joseph F. Applegate. (*See* Applegate & Felock.)	
120,666	Felber, Jacob, assignor to self and Andrew Brandenburger, Saint Louis, Mo Excelsior machine	Nov. 14, 1871
111,735	Fell, John E., and John H. Mattock, Maquoketa, Iowa. Hay-loader	Feb. 14, 1871
119,599	Fell, Thomas, New York, N. Y. Animal-trap	Oct. 3, 1871
118,443	Fellows, Barnard T., Lancaster, Pa. Wash-boiler	Aug. 29, 1871
112,575	Fellows, Henry, Bloomington, Ind. Track-cleaner	Mar. 14, 1871
113,159	Same.....Spur	Mar. 28, 1871
115,945	Same.....Weatherboard-gauge	June 13, 1871
	Fellows, Hoffman & Co. (*See* Thomas, Francis E., assignor.) (Design.)	
121,340	Fellows, Jabez B., Augusta, Maine. Clothes-drier	Nov. 28, 1871
117,874	Fellows, James H., Alba, Pa. Wagon-seat fastening	Aug. 8, 1871
	Felt, Hannibal, *et al.* (*See* Bolton, Simeon R., assignor.)	
120,255	Felt, Luther W., Keene, N. H. Machine for spinning wool	Oct. 24, 1871
120,250	Same.....Mechanism for delivering roving in spinning-machines	Oct. 24, 1871
	Felter, Daniel B. (*See* Lenhart, Adam L., assignor.)	
112,794	Felton, Jacob, Fairmount, Ind. Sawing-machine	Mar. 21, 1871
	Fendrich, Xaver, and Joseph L. Harbey. (*See* Harbey & Fendrich.)	
121,009	Fenerty, Edward Lawson, Halifax, Nova Scotia. Skate-fastening	Nov. 21, 1871
115,455	Fenimore, Wesley, Philadelphia, Pa. Watch-case spring	May 30, 1871
4,235	Fenn, William A., Rochester, N. Y. Machine for forming the brims of felt-hats. (Reissue)	Jan. 17, 1871
112,134	Same.....Attaching knobs to their spindles	Feb. 28, 1871
112,689	Same.....Mechanical movement	Mar. 14, 1871
116,941	Same.....Attaching knobs to their spindles	July 11, 1871
114,784	Fennell, William P., assignor to Margaret Fennell, Louisville, Ky. Compound for the cure of chills and fevers	May 16, 1871
	Fenner, H. N. (*See* Bradford, Horace C., assignor.)	
116,894	Fensom, John, Toronto, Canada. Copying-press	July 11, 1871
	Fenton, A. Ward, *et al.* (*See* Phillips, George B., assignor.)	
116,942	Ferguson, Alexander, David Ralston, and George Hildreth, Troy, N. Y. Brick-machine	July 11, 1871
118,284	Ferguson, James, and John Turner, Bridgewater, Mass. Nail-plate feeder	Aug. 22, 1871
112,934	Ferguson, John B., and Samuel M. White, Big Lick, Va. Plow	Feb. 28, 1871
	Ferguson, John H., *et al.* (*See* Staples, John H., assignor.)	
120,955	Ferguson, Peter, New Haven, Conn., and Francis G. Bates, Springfield, Mass. Mechanical movement	Nov. 14, 1871
118,190	Ferguson, Robert E., Chicago, Ill. Washing-machine	Aug. 15, 1871
5,178	Ferreira, Joseph H., Newark, N. J. Molding (Design)	Aug. 8, 1871
116,698	Ferrie, William, Great Britain. Smelting or blast-furnace	July 4, 1871
113,411	Ferris, Benjamin, Wilmington, Del. Earth-closet	April 4, 1871
117,970	Ferris, Isaac, Cincinnati, Ohio. Kite. (Antedated July 18, 1871)	July 25, 1871
	Ferris, Josiah J., and Jacob Beasley. (*See* Beasley & Ferris) (Design.)	
120,425	Ferris, Oliver, Pawling, N. Y. Coffee-pot stand	Oct. 31, 1871
113,509	Ferris, Oscar C., and Frederick B. Miles, Philadelphia, Pa. Construction of steam-hammer standards	April 11, 1871
118,640	Ferriss, George H., Utica, N. Y. Cartridge-loader	Sept. 12, 1871
119,834	Same.....Breech-loading fire-arm	Oct. 10, 1871
113,885	Ferry, William M., Grand Haven, Mich. Saw-mill	April 18, 1871
113,886	Same.....same	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Ferry, William M., Grand Haven, Mich. Sawing-mill (Extension)	July 10, 1871
112,436	Fessenden, Samuel C., Stamford, Conn. Body-lantern holder	Mar. 7, 1871
	Fetherstone, Patrick, *et al.* (*See* Jackson, Richard A., assignor.)	
110,639	Fetter, David F., New York, N. Y. Drive-screw	Jan. 10, 1871
118,235	Feusier, Louis, jr., Virginia City, Nev. Ruler	Aug. 22, 1871
118,236	Same.....same	Aug. 22, 1871
	Feyh, Adrian. (*See* Schlich, Frederick, assignor.)	
111,333	Ficht, Frank, Dyckesville, Wis. Machine for splitting wood	Jan. 31, 1871
111,047	Fickett, Albert, and Charles C. Benton, Rochester, N. Y. Grate-bar	Jan. 17, 1871
111,048	Field, Benjamin F., Beloit, Wis. Machine for lining straw-boards, &c	Jan. 17, 1871
117,060	Same.....Apparatus for pasting lining to paper	July 18, 1871
	Field, Charles J., *et al.* (*See* Bird, Charles, assignor.)	
111,526	Field, David C. G., Lowell, Mass. Water-heater for steam-boilers	Feb. 7, 1871
112,339	Field, Erastus, Ostrander, Ohio. Medical compound for cure of catarrh and asthma	Mar. 7, 1871
119,738	Field, Francis F., Stapleton, N. Y. Helical wire-brush	Oct. 10, 1871
	Field, George B., *et al.* (*See* Edison, Thomas A., assignor.)	
	Field, George B., and Edward A. Calahan. (*See* Calahan & Field.)	
111,527	Field, Loyal C., Galesburgh, Ill. Steam-generator	Feb. 7, 1871
	Field, Seymour. (*See* Winton & Hines.)	
115,946	Fielder, John W., Princeton, N. J. Apparatus for preserving wood by the Robbins process	June 13, 1871
117,529	Fielding, Albert A., Boston, Mass. Device for hanging pictures, mirrors, &c	Aug. 1, 1871
116,669	Fielding, Bridget, Cincinnati, Ohio. Coal-scuttle	July 4, 1871
113,996	Fields, William, Wilmington, Del. Battery-gun	April 25, 1871
	Fiester, John U., and William L. Herberling. (*See* Herberling & Fiester.)	
111,049	Fifield, Levi W., assignor to Thomas F. Arnold and Henry E. Webster, Worcester, Mass. Shirt button or stud	Jan. 17, 1871
117,875	Fifield, Levi W., assignor to self and William H. Hathorne, Worcester, Mass. Shingling and slating bracket	Aug. 8, 1871
120,956	Filbert, Lewis S., Philadelphia, Pa. Composition for pavements	Nov. 14, 1871
118,797	Filbey, Samuel, Lewiston, N. Y. Machine for thrashing and separating grain	Sept. 12, 1871
118,443	Filer, Amos W., and Llewellyn T. Hatfield; said Hatfield assignor to said Filer, Danby, Ill. Car-brake	Aug. 29, 1871
110,643	Filkins, Reed A., North Adams, Mass. Alarm for locomotive-engines	Jan. 3, 1871
112,437	Finch, Amon L., Sing Sing, N. Y. Stove-leg	Mar. 7, 1871
120,257	Finch, Reuben R., assignor to Union Stove Works, Peekskill, N. Y. Hot-air furnace	Oct. 24, 1871
119,699	Finck, Nicholas, assignor to self and Edward P. Bray, Elizabeth, N. J. Liquid-meter	Oct. 10, 1871
111,923	Findlay, Christopher D., and Daniel D. Craig, Macon, Ga. Press for hay, cotton, &c	Feb. 7, 1871
113,038	Finger, John Franklin, Wilmington, N. C. Hand turning and boring machine	Mar. 28, 1871
116,787	Fink, Albert, Louisville, Ky. Bridge-truss	July 4, 1871
111,187	Fink, John B., Mechanicsville, Pa. Pipe-coupling	Jan. 24, 1871
116,289	Fink, William D., Windsor, Ill. Movable standard in wagons	June 27, 1871
118,227	Finlay, Leonard, Saint Louis, Mo. Balancing-piston	Aug. 22, 1871
120,053	Finlayson, Henry C., New York, N. Y. Tobacco-pipe	Oct. 17, 1871
121,603	Finley, Amasiah, Bainbridge, Ind. Fifth-wheel	Dec. 5, 1871
121,350	Finley, James R., Delphi, Ind. Trace-coupling	Nov. 28, 1871
114,785	Finley, John E., Memphis, Tenn. Churn	May 16, 1871
117,757	Finley, John E., George H. Hurd, and Benjamin F. Tatem, Memphis, Tenn. Fire-kindler	Aug. 8, 1871
116,925	Finley, Perry, New York, N. Y. Treating rubber and other vulcanizable gums	July 11, 1871
113,412	Finnegan, George, England. Saw-mill	April 4, 1871
	Finney, William S., and George W. Parsons. (*See* Parsons & Finney.)	
117,163	Firby, Edwin A., Norwalk, Ohio. Tub, &c	July 18, 1871
	Firmin, George Jordan. (*See* Kirk, Joseph, assignor.)	
	Firth, Williams & Co. (*See* Lochhead, William, assignor.) (Three cases.) (Design.)	
117,614	Fischer, Adolph, New York, N. Y. Brush for cleaning tumblers	Aug. 1, 1871
	Fischer, George, and John Michna. (*See* Michna & Fischer.)	
117,164	Fischer, Louis F., Fenimore, Wis. Water-elevator	July 18, 1871
	Fischer, Peter, *et al.* (*See* Seyl, Fischer & Brenner.)	
120,579	Fischer, William A., Allegheny City, Pa. Composition for making crucibles, glass-melting pots, &c	Nov. 7, 1871
114,120	Fiscus, Charles, Washington, D. C. Broom-head	April 25, 1871
113,039	Fish, Edward G., Colfax, Iowa. Pitman-rod connection	Mar. 28, 1871
114,786	Fish, James, Chicago, Ill. Stereotype-block	May 16, 1871
119,236	Fish, Silas D., Schuyler Falls, N. Y. Ladder-hook	Sept. 26, 1871
116,290	Fisher, Alexander, Whitinsville, Mass. Ring-driver	June 27, 1871
113,413	Fisher, Charles, assignor to self and Henry N. Wilcox, Niles, Mich. Stove-drum	April 4, 1871
112,925	Fisher, Charles Friedrich, assignor to self, Lewis Moses, Bernard Moses, Gustave Moses, and William Bogel, New Orleans, La. Floating water-elevating wheels	Feb. 21, 1871
119,835	Fisher, Charles G., Washington, D. C. Feed-water apparatus for steam-boilers	Oct. 10, 1871
119,593	Fisher, Charles H., Albany, N. Y. Turn-table for railways	Oct. 3, 1871
5,201	Fisher, Cyrus, assignor to self and Tobias Kohn, Canton, Mass. Hoe (Design)	Aug. 15, 1871
113,158	Fisher, Daniel, and William Cumming, Oil City, Pa. Valve for oil-tanks	Mar. 28, 1871
118,661	Fisher, David, Mansfield, Mass. Roof-bracket	Aug. 15, 1871
	Fisher, Elam, and Jamina F. Whiting. (*See* Whiting & Fisher.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,020	Fisher, Fisher Ames, Westfield Township, N. J. Apparatus for carbureting and generating gas	Feb. 21, 1871
121,936	Fisher, George W., Rochester, N. Y. Toy-monument. (Antedated Dec. 3, 1871)	Dec. 19, 1871
	Fisher, Isaac C. (*See* Brooks, William, assignor.)	
120,857	Fisher, James W., Islip, N. Y. Refrigerator	Nov. 14, 1871
4,879	Fisher, John, assignor to Hartford Carpet Company, Enfield, Conn. Carpet-pattern (Design)	May 9, 1871
4,930	Same.....Carpet-pattern (Design)	May 23, 1871
4,944	Same.....same (Design)	May 30, 1771
4,967	Same.....same (Design)	June 13, 1871
4,968	Same.....same (Design)	June 13, 1871
4,969	Same.....same (Design)	June 13, 1871
116,251	Fisher, John C., assignor to self and Robert F. Walsh, Providence, R. I. Loom-picker motion	June 20, 1871
110,840	Fisher, John W., Albany, N. Y. Shoe	Jan. 10, 1871
	Fisher, Joseph G., and William Stark. (*See* Stark & Fisher) (Two cases.)	
	Fisher, Joseph G., *et al.* (*See* Stark, Fisher & Fitch) (Three cases.)	
4,942	Fisher, Joseph Hyde, Chicago, Ill. Refrigerator (Reissue)	Jan. 31, 1871
115,734	Fisher, Oscar, Smyrna, Del. Combined door-fastenings and alarms	June 6, 1871
116,291	Fisher, Paul, Brooklyn, N. Y. Flesh-fork	June 27, 1871
116,580	Fisher, Robert F., and George F. Waldron, assignors to George F. Waldron, Boston, Mass. Measuring-funnel. (Antedated June 20, 1871)	July 4, 1871
114,933	Fisher, Willet, assignor to self, Jerry C. Gray, and Jessie L. Judd, Marathon, N. Y. Dasher for wheeled vehicles	May 16, 1871
115,456	Fisher, William, New York, N. Y. Show-stand	May 30, 1871
114,121	Fisk, Benjamin F., and Mark B. Stone, Haverhill, Mass. Heel-die	April 25, 1871
112,330	Fisk, Henry Clay, Wellsville, N. Y. Machine for grinding the cutters of mowers, &c	Mar. 7, 1871
120,259	Same.....Hand-grinders for harvester-cutters	Oct. 24, 1871
	Fisk, H. G., *et al.* (*See* Heath, Henry, assignor) (Reissue.)	
121,604	Fisk, Miles, Adrian, Mich. Churn	Dec. 5, 1871
	Fiske, Egbert H., and William S. Roberts. (*See* Roberts & Fiske.)	
5,034	Fiske, Joseph W., New York, N. Y. Fountain (Design)	June 20, 1871
5,035	Same.....same (Design)	June 20, 1871
5,147	Same.....Settee (Design)	Aug. 1, 1871
116,581	Fisler, Jacob, and George Crompton, Jersey City, N. J. Hasp-lock	July 4, 1871
	Fitch, Jesse J., *et al.* (*See* Chinn, Hall & Fitch.)	
120,937	Fitch, Lewis R., assignor to Napoleon Dubrul, Chicago, Ill. Driving gear for portable forges	Nov. 14, 1871
115,299	Fitch, Ross L., assignor to self and William A. Van Houten, Sing Sing, N. Y. Hoisting and lowering apparatus	May 30, 1871
	Fitch, Simeon, *et al.* (*See* Stark, Fisher & Fitch) (Three cases.)	
	Fitch, William. (*See* Taylor, Thomas, assignor.)	
115,589	Fithian, Lemuel Scudder, Brooklyn, N. Y. Apparatus for converting motion	June 6, 1871
117,756	Same.....Clutch-gearing	Aug. 8, 1871
	Fitts, Benaiah, Worcester, Mass. Arrangement of feed-rollers for planing machines (Extension)	Aug. 7, 1871
112,135	Fitts, George W., Oberlin, Ohio. Traction-engine	Feb. 28, 1871
117,759	Same.....Steering-apparatus for road-steamers. (Antedated Aug. 8, 1871)	Aug. 8, 1871
117,760	Same.....Rubber-block tire for traction-wheel	Aug. 8, 1871
119,922	Same.....Wheel-traction	Oct. 17, 1871
117,165	Fitts, R. Berkeley, Philadelphia, Pa. Preparing wheat, corn, and other grain for food	July 18, 1871
	Fitts, Robert B. (*See* Waitt, George W., assignor) (Two cases.)	
114,787	Fitts, R. Berkeley, assignor to self, George W. Wait, and William Rogers, Philadelphia, Pa. Apparatus for carbureting air	May 16, 1871
113,047	Fitts, R. Berkeley, assignor to self and George W. Waitt, Philadelphia, Pa. Preparing grain for food	June 13, 1871
117,871	Same.....Process and apparatus for treating rice, wheat, and corn	July 25, 1871
	Fitts, Edwin H., *et al.* (*See* Switzer, John J., assignor.)	
121,454	Fitzgerald, Daniel, New York, N. Y. Binding-post safe	Dec. 5, 1871
121,455	Same.....Submarine ordnance. (Antedated Dec. 2, 1871)	Dec. 5, 1871
121,503	Same.....Safe	Dec. 5, 1871
121,504	Same.....Cast metal desk	Dec. 5, 1871
121,605	Same.....Railway	Dec. 5, 1871
	Fitzgerald, Patrick J., *et al.* (*See* Gubbins, Richard R., assignor.)	
111,334	Fitzgerald, Walter H., assignor to Spadone & Fitzgerald, Carlstadt, N. J. Stem-winding watch	Jan. 31, 1871
114,122	Fitzgerald, Walter H., assignor to self and Isaiah A. Huson, Brooklyn, N. Y. Axle-box cover	April 25, 1871
116,173	Fitzgibbons, Maurice, New York, N. Y. Machine for pasting paper upon straw-board, &c	June 20, 1871
119,836	Same.....Wood-pavement. Antedated Sept. 2, 1871)	Oct. 10, 1871
118,003	Fitzhenry, Edward, assignor to Hide and Leather Machine Company, Boston, Mass. Machine for dressing hides	Aug. 15, 1871
118,003	Same.....Machine for dressing leather	Aug. 15, 1871
119,513	Same.....Machine for scouring skins and hides	Oct. 3, 1871
114,788	Fitzhugh, Benjamin G., Frederick, Md. Cooking-stove	May 16, 1871
119,342	Same.....Water-closet seat. (Antedated Sept. 11, 1871)	Sept. 26, 1871
119,973	Same.....Combined wheelbarrow and hand-plow	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,974	Fitzhugh, Benjamin G., Frederick, Md. Broiler	Oct. 17, 1871
119,975	Same.....Window-shade and clothes-drier	Oct. 17, 1871
119,976	Same.....Dumping-cart	Oct. 17, 1871
119,977	Same.....Portable furnace	Oct. 17, 1871
	Fitzhugh, Charles L. (*See* Acheson, William, assignor.)	
111,188	Flad, Henry, and James B. Eads, Saint Louis, Mo. Hoisting-apparatus	Jan. 24, 1871
	Same.....(*See* Eads & Flad.)	
118,004	Flagg, James M., Providence, R. I. Oil-proof rubber for steam-packing, &c	Aug. 15, 1871
	Flagg, Thomas J., *et al.* (*See* Heath, Henry, assignor) (Reissue.)	
	Flaig, Matthew, and Godfrey E. Culp. (*See* Culp & Flaig.)	
	Flanders, L. B. (*See* Stevens, Charles L., assignor.)	
	Same.....(*See* Brastow & Zwiebel, assignors.)	
114,934	Flanders, Marvin, Kendall, N. Y. Clothes-drier	May 16, 1871
116,836	Flanery, David, New Orleans, La. Printing-telegraph	July 11, 1871
114,650	Flanigan, Mark, Detroit, Mich. Water-wheel	May 9, 1871
115,457	Flanigan, Mark, assignor to self and Harvey D. Winser, Detroit, Mich. Combined concrete and wood pavement	May 30, 1871
	Fleming Brothers. (*See* Hogg, James, assignor) (Design.)	
	Same.....(*See* Pye, Henry, assignor.)	
118,592	Fleming, Jacob S., Island Creek, Ohio. Cultivator	Aug. 29, 1871
115,184	Fleming, John H., Dundee, Mich. Thill-coupling	May 23, 1871
	Fleming, Thornton H., and Eder Hedge. (*See* Hedge & Fleming.)	
113,414	Fleath, Charles, Rochester, N. Y. Tumbler for permutation-locks	April 4, 1871
121,093	Flesher, Thomas, Dunkirk, N. Y. Machine for boring and mortising blind-slats	Nov. 21, 1871
120,508	Fletcher, Addison C., New York, N. Y. Steam-boiler flue-joint	Oct. 31, 1871
120,733	Same.....Grate-bar	Nov. 7, 1871
121,230	Fletcher, Frank A., Newark, Del. Paper-cutting machine	Nov. 28, 1871
111,050	Fletcher, John E., Rectortown, Va. Seed-drill and cockle-separator combined	Jan. 17, 1871
116,039	Fletcher, Moore R., Boston, Mass. Pulp engine or crusher	June 20, 1871
120,635	Fletcher, William, New York, N. Y. Lubricating-apparatus for cylinders of condensing steam-engines	Nov. 7, 1871
114,789	Flickinger, Peter, Hanover, Pa. Grain-separator	May 16, 1871
	Flickner, Peter. (*See* Ayres, Sidney K., assignor.)	
119,021	Fling, George F., Portland, Me. Boot and shoe heel	Sept. 19, 1871
	Fling, Henry D. (*See* Meaney, Frederick, assignor.) (Design.)	
113,415	Flinn, William Thomas, assignor to self and Jacob Steinmetz Thorn, Philadelphia, Pa. Let-off mechanism for looms	April 4, 1871
4,696	Flinsch, Heinrich, New York, N. Y. Type (Design)	Feb. 7, 1871
115,046	Flint, Delos C., Bardolph, Ill. Corn-harvester	May 23, 1871
115,590	Flood, David A., and Daniel W. Brown, Woodbridge, N. J. Stove-grate	June 6, 1871
119,022	Floom, John P., Canton, Ohio. Grain-drill	Sept. 19, 1871
119,023	Same.....same	Sept. 19, 1871
122,243	Flower, James, Detroit, Mich. Boring-bar for facing the ends of cylinders	Dec. 26, 1871
	Floyd, James R., New York, N. Y. Retort-cover (Extension)	July 21, 1871
111,335	Floyd, John G., jr., New York, N. Y. Paper-file	Jan. 31, 1871
4,698	Fluca, Eberhardt, White Marsh, Pa. Talma or cloak-garment (Design)	April 18, 1871
4,551	Fluhrer, William F., New York, N. Y. Hair-pin (Design)	Jan. 3, 1871
	Fluid Meter Company. (*See* Cook & Watson, assignors.)	
118,708	Flummerfelt, Daniel A., Bridgeville, N. J. Water-wheel	Sept. 5, 1871
	Flynn, Francis, *et al.* (*See* Banks, James, assignor.)	
	Flynn, Thomas, and Joseph Monaghan. (*See* Monaghan & Flynn.)	
120,054	Foe, Amos H., Strathroy, Canada. Pump-piston	Oct. 17, 1871
113,756	Fogarty, John, Brooklyn, N. Y. Signal for railroads	April 18, 1871
111,624	Fogarty, Thomas B., Brooklyn, N. Y. Water-meter	Feb. 7, 1871
115,591	Same.....Gas-machine	June 6, 1871
115,592	Same.....same	June 6, 1871
115,593	Same.....same	June 6, 1871
115,594	Same.....same	June 6, 1871
115,595	Same.....same	June 6, 1871
115,596	Same.....same	June 6, 1871
115,597	Same.....same	June 6, 1871
119,227	Same.....same	Sept. 26, 1871
121,768	Fogelberg, Carl, Boston, Mass. Key-board for reed and pipe organs	Dec. 12, 1871
113,645	Fogerty, Valentine, Boston, Mass. Non-freezing pipe	April 11, 1871
117,398	Same.....Breech-loading fire-arm	July 25, 1871
121,937	Same.....Meter	Dec. 19, 1871
114,123	Fogg, Thomas, Saint Mary's, Canada. Switch for changing gauge of cars	April 25, 1871
119,343	Foley, Cornelius O., Troy, N. Y. Stove-grate	Sept. 26, 1871
120,158	Foley, Dennis D., and John J. Johnson, Washington, D. C. Cap and other paper	Oct. 24, 1871
121,938	Foley, John T., New York, N. Y. Sign for street-lamps	Dec. 19, 1871
	Folger, Edward F. (*See* Roberts, Thomas, assignor.)	
	Folk, John G., and Olop Benson. (*See* Benson & Folk.)	
112,436	Follansbee, John S., and George Doolittle, assignors to the Forrester Manufacturing Company, Bridgeport, Conn. Pump-piston	Mar. 7, 1871
111,115	Folleau, Alexander, San Francisco, Cal. Truss	Jan. 24, 1871
113,284	Folsom, Andrew, Eastport, Me. Water and wind wheel	April 4, 1871
119,456	Folsom, George F., assignor of one-half interest to Albert A. Folsom, Boston, Mass. Signaling-device for railroads	Oct. 3, 1871
111,736	Folsom, Henry H., assignor to Charles A. Chase, Lowell, Mass. Drill-rest for turning-lathes	Feb. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Folsom, John R. (*See* Lambert, Richard C., assignor.)	
	Folsom, John T., and John S. (*See* Marshall, John S., assignor.)	
4,200	Folsom, Nathaniel T., Laconia, N. H. Atmospheric dental plate ....(Reissue)..	Mar. 7, 1871
	Folsom, Rufus, and Harry R. Smith. (*See* Smith & Folsom).....(Two cases.)	
112,027	Folts, G. W., Boston, Mass., and James I. Branson, Chicago, Ill. Knitting-machine	Feb. 21, 1871
114,429	Fontaine, Heppolyte, France. Steam-engine	May 2, 1871
119,943	Fontaine, Patrick H., Reidsville, N. C. Propulsion of canal-boats	Oct. 17, 1871
118,040	Fontayne, Albert, Cincinnati, Ohio. Treadle for sewing-machines	June 20, 1871
113,154	Foot, David A., and George S. Knapp, Winona, Minn. Lighting-rod	Mar. 28, 1871
	Foote, Hiram W. (*See* Horton, John M., assignor.)	
118,919	Foote, James B., Hamden, N. Y. Wagon-seat	Sept. 12, 1871
	Foote, James H., and Charles R. Harvey. (*See* Harvey & Foote.)	
111,116	Foote, Lucas, North Fairfield, Ohio. Steam-boiler feeder	Jan. 24, 1871
117,530	Foote, Monroe B., Northampton, Mass. Glove-fastener	Aug. 1, 1871
118,005	Foote, Richard R., Chicago, Ill. Device for raising letters on metal plates. (Antedated Aug. 11, 1871)	Aug. 15, 1871
114,790	Foote, Theodore M., and Charles A. Randall, Brooklyn, E. D., N. Y. Printing-telegraph apparatus	May 16, 1871
114,791	Same.....Printing-telegraph apparatus	May 16, 1871
114,792	Same.....Same	May 16, 1871
114,793	Same .....Printing-telegraph	May 16, 1871
113,416	Forbes, David, and Astley P. Price, England. Treatment of sewage and the manufacture of fertilizers	April 4, 1871
115,293	Forbes, Isaac W., La Porte, Ind. Polishing ores to aid in amalgamating the precious metals	May 30, 1871
115,294	Same.....Cleaning pulverized ores so as to aid in amalgamation	May 30, 1871
115,295	Same.....Stamp-battery	May 30, 1871
115,296	Same.....Oscillating-valve for steam and air engines	May 30, 1871
115,297	Same.....Same	May 30, 1871
115,298	Same.....Slide-valve for steam-engines	May 30, 1871
115,299	Same.....Same	May 30, 1871
115,300	Same.....Valve-gear for steam-engines	May 30, 1871
115,301	Same.....Steam-engine	May 30, 1871
118,920	Forbes, John, Halifax, Nova Scotia. Bending-machine	Sept. 12, 1871
121,240	Forbes, John Charles, Toronto, Canada. Studio-easel	Nov. 28, 1871
119,837	Forbes, Samuel J., Marshalltown, Iowa. Blacksmiths' tool	Oct. 10, 1871
112,795	Forbis, Herbert K., Danville, Ky. Magazine fire-arm	Mar. 21, 1871
	Ford, C. B., and Benjamin F. (*See* Webb, Edward, assignor.)	
116,041	Ford, David M., and John A. Kley; said Kley assignor to said Ford, Chicago, Ill. Fire-extinguisher	June 20, 1871
117,399	Ford, Frank M., assignor to self and Charles S. Pearl, Sebec, Me. Lantern	July 25, 1871
111,625	Ford, Franklin D., New Bedford, Mass. Boot and shoe fastener	Feb. 7, 1871
117,876	Ford, Franklin D., New Bedford, Mass., and Elmer D. McIntosh, Washington, D. C. Shoe-fastening	Aug. 8, 1871
111,832	Ford, Frederic G., Baltimore, Md. Bedstead and bed-bottom. (Antedated Feb. 10, 1871)	Feb. 14, 1871
115,948	Same.....Washington, D. C. Invalid-bedstead	June 13, 1871
120,734	Same.....Philadelphia, Pa. Slat-holder for bedsteads	Nov. 7, 1871
	Same.....(*See* Smith, Sidney E., assignor.)	
111,833	Ford, George A., Oswego, N. Y. Tackle for hoisting sail	Feb. 14, 1871
112,331	Ford, Jeremy T., San Francisco, Cal. Machine for making hooks and eyes	Mar. 7, 1871
	Ford, Martin W. (*See* Robbins, Joseph A., assignor.)	
	Ford, William A., and Peter Lugenbell. (*See* Lugenbell & Ford.)	
	Fordyce, John. (*See* Gray & Brittingham, assignors) .....(Reissue.)	
116,837	Forse, John T., Henry County, Ky. Corn-planter	July 11, 1871
116,422	Forehand, Sullivan, and Henry C. Wadsworth, Worcester, Mass. Revolving fire-arm	June 27, 1871
121,606	Same.....Metallic cartridge	Dec. 5, 1871
4,360	Foreman, Benjamin S., Morrison, Ill. Preserving wood, railroad ties, &c. (Reissue)	May 2, 1871
114,134	Foreman, Edward L. Rantoul, Ill. Car-coupling	April 25, 1871
114,794	Foreman, John, Healdsburgh, Cal. Thrashing-machine	May 16, 1871
115,047	Forker, William, Rockland, Pa. Crevice searcher and cleaner for oil-wells	May 23, 1871
117,619	Same.....Reamer for oil-wells	Aug. 1, 1871
120,868	Forrest, David, assignor to self and A. H. Bibber, Eastport, Me. Hemmer for sewing-machines	Nov. 14, 1871
	Forrest, William W., and David Gilmore. (*See* Gilmore & Forrest.)	
	Forrester Manufacturing Company. *See* Follansbee & Doolittle, assignors.)	
	Forrow, Emory D., and Edward McDuff. (*See* McDuff & Forrow.)	
	Forsaith, Samuel C. (*See* Kendal & Stark, assignors.)	
119,700	Forschner, Charles, New York, N. Y. Sausage-stuffer	Oct. 10, 1871
116,423	Forstall, Theobald, New Orleans, La. Apparatus for storing and discharging naphtha, &c.	June 27, 1871
	Forster, Simon. (*See* Harrison, George W., assignor.)	
120,509	Forster, Thomas A. D., Philadelphia, Pa. Artificial teeth	Oct. 31, 1871
4,243	Forsyth, James B., Boston, Mass. Rubber-rolls for clothes-wringers..(Reissue)	Jan. 31, 1871
4,244	Same.....Manufacture of India-rubber rollers .....(Reissue).	Jan. 31, 1871
117,400	Fortin, Charles, Poultney, Vt. Washing-machine	July 25, 1871
111,686	Foskett, William, assignor to Charles Parker, Meriden, Conn. Gate-latch	Feb. 7, 1871
	Foskett, William A., and Samuel F. Gold. (*See* Gold & Goskett).....(Reissue.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,666	Foss, Eliphalet J., Boston, Mass. Photography	Aug. 15, 1871
	Foss, James M. (*See* Putnam, Perley, assignor.)	
115,185	Foss, John P., assignor to self and John W. Pierce, Lowell, Mass. Stripper-carrying frame for carding-machines	May 23, 1871
	Foster, Aaron T., and Jesse Bowen. (*See* Bowen & Foster.)	
120,169	Foster, Alexander, W., jr., Pittsburgh, Pa. Grate-bar	Oct. 24, 1871
	Foster, Andrew, *et al.* (*See* Capron, Elisha P. H., assignor.)	
116,943	Foster, Calvin A., assignor to Sewell K. Lovewell, David Huntoon, and Cyrus A. Foster, Fitchburgh, Mass. Apple parer and slicer	July 11, 1871
118,444	Foster, Clement S., Ashland, Pa., and Oliver Saylor, Philadelphia, Pa., assignors to selves, Walter F. Shultz, and T. C. Else. Rubber-boot	Aug. 29, 1871
	Foster, Daniel D., *et al.* (*See* Dinsmore, Alfred S., assignor.)	
	Foster, Frank A., *et al.* (*See* Brooks, Thomas, assignor.)	
115,838	Foster, Hickman E., Decatur, Ill. Boat-detaching apparatus	June 13, 1871
	Foster, Israel. (*See* Kerr, Hugh S., assignor) .....(Nine cases.) (Design.)	
	Foster, James H., and Frederick J. Abbey. (*See* Abbey & Foster.)	
115,949	Foster, John C., New London, Conn. Machine for cutting round belts	June 13, 1871
114,430	Foster, John G., Boston, Mass. Counterpoise gun-carriage	May 2, 1871
119,924	Same.....same	Oct. 17, 1871
117,061	Foster, John H., Chicago, Ill. Packing-box	July 18, 1871
118,445	Foster, Joseph, assignor to self and Ephraim Foster, Keene, N. H. Reed musical instrument	Aug. 29, 1871
	Foster, Merriam & Co. (*See* Merriam, Julius E., assignor) .....(Design.)	
119,925	Foster, Morrison, Cleveland, Ohio. Machine for making spikes	Oct. 17, 1871
114,981	Foster, Samuel C., assignor to the Monitor Shield Company, New York, N. Y. Nipple-shield	May 2, 1871
112,235	Foster, Seymour, Lansing, Mich. Clothes-rubber	Feb. 28, 1871
	Foster, Sol., jr. (*See* Reichard, Henry C., assignor.)	
118,709	Foster, William, Brooklyn, N. Y. Gas-pump	Sept. 5, 1871
113,646	Foster, William, jr., New York, N. Y. Pneumatic-signal apparatus	April 11, 1871
113,647	Same.....same	April 11, 1871
118,600	Foster, William G., Dansville, N. Y. Thill-coupling	Aug. 29, 1871
	Foster, William S. (*See* Stone, William C., assignor.)	
118,601	Foubert, Andre, Buffalo, N. Y. Condenser for rectifying apparatus	Aug. 29, 1871
118,602	Same..... Apparatus for distilling and refining oil	Aug. 29, 1871
121,607	Fountain, Vincent, jr., West New Brighton, N. Y. Bung	Dec. 5, 1871
119,584	Foust, Henry, Mill Village, Pa. Animal-trap	Oct. 3, 1871
120,580	Fouser, Robert R., Butler, Pa. Hinge	Nov. 7, 1871
	Fowks, James, *et al.* (*See* Howard, Hiland, assignor.)	
4,921	Fowle, George B., Cambridge, Mass. Ornamentation of the bottom of glasses. (Design)	May 23, 1871
111,834	Fowle, Joseph W., Boston, Mass. Mortising-machine	Feb. 14, 1871
116,850	Fowler, Charles L., Baltimore, Md. Roofing-compound	Sept. 12, 1871
120,153	Same.....Roofing-machine	Oct. 17, 1871
118,136	Fowler, Edgar M., assignor to Margaretta B. McGonegal, New York, N. Y. Preserving blocks of wood	Feb. 28, 1871
111,051	Fowler, George, Seymour, Conn. Papering pins	Jan. 17, 1871
113,285	Fowler, George B., Brooklyn, N. Y. Wagon-jack	April 4, 1871
114,282	Fowler, George T., East Somerville, Mass. Invalid-chair	May 2, 1871
121,712	Fowler, Harvey, Washington, D. C. Propulsion of canal-boats	Dec. 12, 1871
121,713	Same.....same	Dec. 12, 1871
121,714	Same.....same	Dec. 12, 1871
121,094	Fowler, John N., New York, N. Y. Rocking-apparatus	Nov. 21, 1871
	Fowler, Jonathan O., jr. (*See* Tunnicliffe, J. R., assignor) .....(Reissue.)	
113,040	Fowler, Rufus B., and Daniel F. Brandon, Chicago, Ill. Coating iron and steel with molten iron	Mar. 28, 1871
115,458	Fowler, Samuel W., Brooklyn, N. Y. Lamp-chimney	May 30, 1871
116,292	Same .....Lamp-burner	June 27, 1871
115,048	Fowler, William Henry, and William Pettingell, assignors of one-third interest to Louis Freitag, Painesville, Ohio. Cording-attachment for sewing-machines. (Antedated May 9, 1871)	May 23, 1871
121,861	Fox, Albert, Edinburgh, Ind. Belt-shifter for spinning-jacks	Dec. 12, 1871
118,131	Fox, Benjamin G., Princetown, Pa. Fork for hay-elevators	Aug. 15, 1871
118,028	Fox, Charles James, Charlotte, N. C. Water-wheel	Feb. 21, 1871
116,042	Fox, Charles W., Saint Louis, Mo. Gate-latch	June 20, 1871
114,935	Fox, George H., Boston, Mass. Screw-tap	May 16, 1871
114,795	Fox, George Washington, Laramie, Wyo. Stock-car	May 16, 1871
120,636	Fox, John, Farmersville, Iowa. Washing-machine	Nov. 7, 1871
122,164	Same.....Clothes-wringer	Dec. 26, 1871
	Fox, Theodore, *et al.* (*See* Jones, Howson & Gjers, assignors.)	
113,298	Fox, William, Beaver Dam, Wis. Harrow	April 4, 1871
5,298	Fradley, Joseph, Brooklyn, N. Y. Spoon-handle.....(Design)..	Oct. 3, 1871
117,166	Frampton, Benjamin F., Punxatawney, Pa. Churn-power	July 18, 1871
121,456	France, Simon W., Brooklyn, N. Y. Street-gas lamp-post	Dec. 5, 1871
	France, William H., and Isaac Leas. (*See* Leas & France.)	
121,608	Francisco, Dudley M., Three Rivers, Mich. Animal-trap	Dec. 5, 1871
	Franck, Arnold C. (*See* Kleemann, Carl J. H. F., assignor.)	
	Francis, Norton L., and Thomas C. Smith. (*See* Smith & Francis.)	
116,562	Francis, Ransome N., and Russel, Girard, Pa. Rotary-engine	July 4, 1871
	Francis, Samuel W. (*See* Newton, William Harrison, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,439	Francis, Samuel W., assignor to self and William H. Newton, Newport, R. I. Shoe	Mar. 7, 1871
119,838	Frank, David, and Theophilus Snyder, Allentown, Pa. Pipe-wrench	Oct. 10, 1871
121,095	Frank, Hans H., and Peter Hansen, Richton, Ill. Wind-mill	Nov. 21, 1871
121,351	Franke, Henry, Brooklyn, N. Y. Mixer and heater for preparing concrete for pavements	Nov. 28, 1871
	Frankel, Henry U. (*See* McKinney, Martin V., assignor.)	
114,545	Frankel, William, Springfield, Ohio. Ratchet-drill	May 9, 1871
112,798	Frankfoder, David, Wakarusa, Ind. Churn	Mar. 21, 1871
111,189	Frankish, Charles, Chicago, Ill. Water-closet. (Antedated Jan. 14, 1871)	Jan. 24, 1871
	Franklin, Albert, Genoa Cross-Roads, Ohio. Seeding-machine. (Extension)	Nov. 9, 1871
119,024	Franklin, Alvin, Galena, Ohio. Sap-bucket holder	Sept. 19, 1871
117,761	Franklin, John B., New York, N. Y. Drawing-board	Aug. 8, 1871
111,190	Franklin, Willard G., Shelbina, Mo. Gate	Jan. 24, 1871
5,130	Frantz, Henry J., assignor of one-half interest to William B. Whiffen, Metamora, Ill. Cattle-horn knob. (Design)	July 25, 1871
112,576	Frary, George M., assignor through mesne assignments to Carpenter Sewing-Machine Needle Company, Saint Louis, Mich. Needle and holder for sewing-machines	Mar. 14, 1871
113,648	Frary, James D., New Britain, Conn. Manufacture of bolsters for cutlery	April 11, 1871
	Fraser, D. R. (*See* Gates, Phletus W., assignor.)	
114,125	Fraser, David R., assignor to self and P. W. Gates, Chicago, Ill. Steam-engine	April 25, 1871
112,797	Fraser, John, assignor to self and John J. Hardy, Dowagiac, Mich. Horse-collar pad	Mar. 21, 1871
110,911	Fraser, Kasson, Syracuse, N. Y. Shaft-tug	Jan. 10, 1871
115,186	Fraser, William, Chatsworth, Ill. Land-measuring register	May 23, 1871
	Frauenberger, George. (*See* Trotter, Charles W., assignor.)	
115,735	Frayer, Seymour A., Coxsackie, N. Y. Bedstead-fastening	June 6, 1871
112,913	Frazee, Lawrence F., Jersey City, N. J. Plow	Mar. 21, 1871
114,661	Same. Grain-door for cars	May 9, 1871
121,769	Frazee, Vitruvius, assignor to self and William L. Bovyer, San Francisco, Cal. Combined latch and lock	Dec. 12, 1871
4,456	Frear, George A., assignor to Charles Holland, George A. Frear, and John M. Wilson, Chicago, Ill. Manufacture of artificial stone, stucco, &c. (Reissue)	July 4, 1871
111,336	Frear, James M., Pittstown, Pa. Damper	Jan. 31, 1871
120,436	Freck, Newton C., and Solomon Strock, Millersburgh, Pa. Wood-planing machine	Nov. 7, 1871
112,577	Frederick, Charles A., San Francisco, Cal. Potato-masher	Mar. 14, 1871
119,133	Frederick, Henry N., Hancock, N. Y. Carpenters' plane	Sept. 19, 1871
	Fredericks, Charles D. (*See* Brower, Henry L., assignor.)	
115,596	Free, Henry, Lewiston, Me. Camp-stool	June 6, 1871
110,841	Freed, Abraham, and Jonathan Snook, La Porte, Ind. Binding-attachment for harvesters. (Antedated Jan. 7, 1871)	Jan. 10, 1871
112,706	Freeman, Alexander H., Chicago, Ill. Telegraph-switch	Mar. 21, 1871
113,155	Freeman, Benjamin P., and Pat. Payton, Macon, Ga. Spark-arrester for locomotives	Mar. 28, 1871
114,662	Freeman, Moody G., Bloomington, Ill. Iron culvert	May 9, 1871
116,293	Freeman, Samuel B., Ashland, Ohio. Rotary steam-engine	June 27, 1871
	Same. (*See* Osgood, Otis S., assignor.)	
	Freeman, Thomas B., and William Hay. (*See* Hay & Freeman.)	
112,332	Freeman, Thompson, Westfield, Ill. Churn	Mar. 7, 1871
110,443	Freeman, Wilkerson G., Richmond, Va. Connecting-rod	Jan. 10, 1871
114,401	Freitag, Charles H., Springfield, Ill. Gate-latch	July 25, 1871
	Freitag, Louis. (*See* Fowler & Pettingell, assignors.)	
121,341	French, Alonzo, Philadelphia, Pa. Lantern	Nov. 28, 1871
116,174	French, Bridget, Rochester, N. Y. Mop-head	June 20, 1871
117,763	Same. Stove-pipe damper	Aug. 8, 1871
120,637	Same. Funnel	Nov. 7, 1871
121,770	Same. Culinary boiler	Dec. 12, 1871
119,025	French, Charles A., Davenport, Iowa. Piano-truck	Sept. 19, 1871
113,156	French, Daniel S., Montgomery, Ala. Coffee-pot	Mar. 28, 1871
	French, Evelyn F., New York, N. Y. Corn-husker. (Extension)	May 12, 1871
119,395	French, George, Alexandria, Va. Turn-table for transferring freight	Oct. 3, 1871
117,068	French, James C., Chicago, Ill. Vault-light	July 18, 1871
117,063	Same. same	July 18, 1871
115,839	French, John H., Burlington, Vt. School-desk	June 13, 1871
	French, John M., jr. (*See* Stiles, David L., assignor) (Reissue.)	
112,799	French, Raymond, Seymour, Conn. Bit-brace	Mar. 21, 1871
114,936	French, Samuel, assignor to Sidney Allen, Boston, Mass. Railroad-switch	May 16, 1871
122,114	French, Samuel, assignor to self and James H. Page, Boston, Mass. Throat-check for horses	Dec. 26, 1871
	Fretts, John, and Henry A. Dierkes. (*See* Dierkes & Fretts.)	
	Freund, Adolph. (*See* Hinden, Mathias Joseph, assignor.)	
113,921	Freutal, August, New York, N. Y. Spring-lock for ventilating-sash	Sept. 12, 1871
	Same. (*See* Claver, Max, assignor.)	
118,358	Frey, John A., assignor to self, S. A. H. Marks, and John Walker, Washington, D. C. Coal-oil stove	Aug. 22, 1871
119,228	Frey, Joseph J. M., Sacramento, Cal. Side-arm sheath	Aug. 22, 1871
114,796	Frey, Nathaniel, Erie, Pa. Wagon-spring	May 16, 1871
111,627	Friberg, Andrew, Moline, Ill. Walking-cultivator	Feb. 7, 1871
117,616	Frick, Jacob G., Pottsville, Pa. Loom	Aug. 1, 1871
111,052	Fricke, Joseph R., Pittsburgh, Pa. Lightning-rod	Jan. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,137	Fricke, Joseph R., Pittsburgh, Pa. Lightning-rod	Feb. 28, 1871
121,771	Fricker, Jacob, assignor to self and Americus Warden, Cincinnati, Ohio. Hydrant	Dec. 12, 1871
111,445	Friedemann, August, Waverly, Iowa. Harrow	Jan. 31, 1871
	Friend & Smith, *et al.* (*See* Manning, John, jr., assignor.)	
	Friend, Franklin. (*See* Ward, Moses N., assignor.)	
117,877	Friend, John P., Peabody, Mass. Machine for finishing leather	Aug. 8, 1871
111,038	Fries, Alexander, Cincinnati, Ohio. Safety-device for hatchways	Feb. 7, 1871
119,134	Fries, Manasseh, assignor of one-half interest to Kreider, Zindgraf & Co., Philadelphia, Pa. Millstone dress	Sept. 19, 1871
118,220	Friesoke, Albert C., Owasso, Mich. Compound soldering-lamp and blow-pipe	Aug. 22, 1871
	Friese, Charles, and Thomas N. Dixon. (*See* Dixon & Friese) (Design.)	
113,907	Frings, Charles H., assignor to self and Charles Brachen, Centreton, Mo. Preparing and mashing grain	April 25, 1871
116,043	Same. Fermenting mash	June 20, 1871
116,044	Same. Preventing waste of alcohol in fermenting-tanks	June 20, 1871
121,501	Frink, Christopher L., Vernon, Conn. Machine for cleaning and finishing silk and thread	Dec. 5, 1871
115,187	Frisbee, Gideon, assignor to self and Samuel E. Griscom, Titusville, Pa. Rock-drilling machine	May 23, 1871
110,843	Frisbie, Hamlin F., Danville, Ill. Mill-bush	Jan. 10, 1871
111,191	Frisbie, John L., assignor to Marshall T. Davidson, Brooklyn, N. Y. Steam-boiler	Jan. 24, 1871
111,192	Same. Steam-radiator	Jan. 24, 1871
118,007	Frisbie, Russel, Cromwell, Conn. Toy steam-engine	Aug. 15, 1871
118,710	Frisby, Richard, Cleveland, Ohio. Coffee and grain cleaner and separator	Sept. 5, 1871
115,188	Frishmuth, John C. W., Philadelphia, Pa. Sample-box for cigars	May 23, 1871
	Fritchey, Alexander H., and Thomas S. Gates. (*See* Gates & Fritchey.)	
	Same. same	
110,844	Fritsch, Hugo O., New York, N. Y. Fire-screen and stand	Jan. 10, 1871
117,763	Fritsch, Josef, Carlstadt, N. J. Holder for wax candles or tapers	Aug. 8, 1871
110,845	Fritsche, Anton, New York, N. Y. Clarionet	Jan. 10, 1871
122,004	Fritts, Wesley, Flanders, N. J. Churn	Dec. 19, 1871
	Fritz, John, and John P. Griscom. (*See* Griscom & Fritz.)	
	Fritz, John, *et al.* (*See* Griscom, Griscom, Griscom & Fritz.)	
	Frost, E. W. (*See* Hovey, Francis, assignor) (Reissue.)	
120,373	Frost, Henry S., Watertown, Conn. Animal-trap	Oct. 31, 1871
117,531	Frost, John O., Candor, N. Y. Grain-spout	Aug. 1, 1871
	Same. (*See* Johnson, Leonard A., assignor.)	
	Frost, Mahlon S. (*See* Paine, Henry M., assignor.)	
118,922	Frost, Oscar F., Monmouth, Me. Window-screen	Sept. 12, 1871
116,045	Frost, Phineas, Medfield, Mass. Bed-plate for paper-pulp engine	June 20, 1871
116,046	Frowen, James, Edward Hemmings, and James Sheldon, Niles, Ohio. Process of manufacturing nail-plates and sheet-strips	June 20, 1871
112,236	Fry, George, Newaygo, Mich. Mode of fastening harrow-teeth	Feb. 28, 1871
4,922	Fry, Henry L., assignor to James L. Haven & Co., Cincinnati, Ohio. Chain-pump. (Design)	May 23, 1871
4,945	Same. Chain-pump. (Design)	May 30, 1871
118,446	Fry, Henry R., Wabash, Ind. Picking-mechanism for looms	Aug. 29, 1871
112,914	Fry, John, Salisbury, Conn. Tuyere for blast-furnaces	Mar. 21, 1871
	Fryer, William H., *et al.* (*See* Parker, William F., assignor.)	
115,049	Fryer, William J., jr., New York, N. Y. Molders' slicker	May 23, 1871
4,645	Fuller, Andrew, and Louis P. Reichert, Buffalo, N. Y. Refrigerator (Reissue)	Nov. 28, 1871
	Fuller, Fred. W. (*See* Jordan, Henry, assignor.)	
114,663	Fuller, George C., Marcy, N. Y. Sleigh-brake	May 9, 1871
114,664	Fuller, George H., assignor to self, Augustus J. Fuller, Roswell A. Neale, and Amzi P. Plant, Unionville, Conn. Nut-machine	May 9, 1871
110,846	Fuller, George P., Humphrey, N. Y. Lamp-burner	Jan. 10, 1871
112,578	Fuller, Henry W., New York, N. Y. Tuck-creaser for sewing-machine	Mar. 14, 1871
5,229	Fuller, Levi K., assignor to J. Estey & Co., Brattleborough, Vt. Organ-case. (Design)	Sept. 26, 1871
5,230	Same. Organ-case. (Design)	Sept. 26, 1871
5,239	Same. Parlor-organ case. (Design)	Oct. 3, 1871
121,609	Same. Tremolo for reed-organs	Dec. 5, 1871
121,610	Same. same	Dec. 5, 1871
112,579	Fuller, Solomon, Somers, Conn. Mowing-machine	Mar. 14, 1871
	Fuller, Warren & Co. (*See* Harwood, Luther W., assignor.) (Design.) (Two cases.)	
	Fullerton, George A., *et al.* (*See* Hodges, Samuel H., assignor.)	
111,737	Fulton, Andrew, Albany, N. Y. Purifier, condenser, &c., for gas-works	Feb. 14, 1871
119,999	Fulton, Bennington, Pulaski, Iowa. Combined bread-board and dough-tray	Oct. 17, 1871
	Funkhouser, R. M. (*See* Collier, Orrin, assignor.)	
	Funston, Hugh M. (*See* Scharf, Samuel R., assignor.)	
116,434	Furniss, Fred. H., Waterloo, N. Y. Thread-cutting device for sewing-machines	June 27, 1871
	Furst, Bernhard, and Frederick Roth. (*See* Roth & Furst.)	
115,439	Furst, Conrad, Chicago, Ill. Cultivator	May 30, 1871
4,750	Fusary, Angelo, New York, N. Y. Statue. (Design)	April 4, 1871
112,449	Fyfe, George, and Chester Hard, Ottawa, Ill. Guard-finger for harvesters	Mar. 7, 1871
	Gable, Charles. (*See* Young, Charles M., assignor.)	
120,427	Gafney, Michael, Newark, N. J. Stench-trap	Oct. 31, 1871
	Gage, H. M. (*See* Tomlinson, James, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
110,966	Gage, Walter L., Saint Louis, Mo. Saw	Jan. 17, 1871
118,350	Gaggin, Richard, Erie, Pa. Process of deodorizing hydrocarbon oils	Aug. 22, 1871
	Gaggin, Richard F., *et al.* (*See* Hershey, Benjamin, assignor.) (Four cases.)	
	Gaggin, Richard F., and Benjamin Hershey. (*See* Hershey & Gaggin.)	
121,358	Gahr, Conrad, Newark, N. J. Method of making harness-pads	Nov. 28, 1871
111,835	Gail, Titus D., Chicago, Ill. Griddle	Feb. 14, 1871
111,738	Gaines, Erasmus D., and John A. McMillen, Chicago, Ill. Pruning-shears	Feb. 14, 1871
117,878	Gaines, John Henry, Durhamville, Tenn. Wagon-hub	Aug. 8, 1871
116,485	Gaines, William C., assignor to self and Harvey B. Barnes, Salem, Va. Combined corn and cotton cultivator	June 27, 1871
119,753	Gale, Charles A., Piqua, Ohio. Apparatus for fixing photographs	Oct. 10, 1871
111,337	Gale, Charles E., Aurelius, N. Y. Carpet-stretcher	Jan. 31, 1871
116,394	Gale, D'Alembert T., Fort Wayne, Ind. Hot-air register	June 27, 1871
4,640	Gale, Daniel J., assignor of one-half interest to Aaron Huyck, Sheboygan Falls, Wis. Calendar-clock dial (Design)	Feb. 14, 1871
121,049	Gale, Moses F., New York, N. Y. Cigar-lighter	Nov. 21, 1871
	Gale, William S., deceased, by Mary I. Kelsey, administratrix, Brooklyn, N. Y. Means for rendering joints steam-tight (Extension)	July 7, 1871
120,581	Galentine, Henry, Greece, N. Y. Plow-wheel	Nov. 7, 1871
119,927	Gallagher, Henry N., Worcester, Mass. Toy. (Antedated Sept. 29, 1871)	Oct. 17, 1871
114,983	Gallagher, Joseph P., Saint Louis, Mo. Hydrant	May 2, 1871
114,984	Same Pump	May 2, 1871
	Gallaher Gold and Stock Telegraph Company. (*See* Gallaher, Robert H., assignor.)	
116,175	Gallaher, Robert H., New York, N. Y. Type-wheel for printing telegraphs	June 20, 1871
118,122	Gallaher, Robert H., assignor to Gallaher Gold and Stock Telegraph Company, New York, N. Y. Printing-telegraph instrument	Aug. 15, 1871
112,580	Gallatin, James, jr., New York, N. Y. Universal mandrel	Mar. 14, 1871
4,586	Gallegos, José Ramon, Cuba. Show-case (Design)	Jan. 17, 1871
	Gallentine, J. S. (*See* Wiggins, Jefferson G., assignor.)	
115,302	Galloway, James, Webster, Ill. Coffee-roaster	May 30, 1871
112,709	Gallup, Silas N., Macedon, N. Y. Grain-drill	Mar. 14, 1871
114,285	Gally, Merritt, Rochester, N. Y. Printing-press	May 2, 1871
4,646	Same same (Reissue)	Nov. 28, 1871
118,773	Galt, Thomas A., and George S. Tracy, Sterling, Ill. Joint for school-desks	Sept. 5, 1871
5,259	Same School-desk (Design)	Sept. 12, 1871
121,353	Same Corn-stalk cutter	Nov. 28, 1871
	Galusha, Norman H. (*See* Fitzmiller, August, assignor.)	
	Gamber, Jacob, and Aaron Wissler. (*See* Wissler & Gamber.)	
113,041	Gamble, James, San Francisco, Cal. Mechanical-telegraph instrument	Mar. 28, 1871
	Gamewell & Co. (*See* Crane & Rogers, assignors) (Reissue.)	
113,649	Gamewell, John N., Hackensack, N. J. Fire-alarm telegraph-apparatus	April 11, 1871
118,798	Gano, Louis H., New York, N. Y. Permutation-padlock	Sept. 12, 1871
116,644	Gantt, Lafayette, Camilla, Ga. Combined cotton-seed planter and guano-distributer	Jan. 3, 1871
112,581	Ganta, Peter V. B., assignor to Charles E. Ganta, Albany, N. Y. Tea-kettle	Mar. 14, 1871
114,020	Gard, Benjamin M., Urbana, Ohio, and Emery R. Gard, Chicago, Ill., assignors to United States Brick-Machine Company. Brick-machine	Feb. 7, 1871
116,295	Gard, Emery R., Chicago, Ill. Lawn-mower	June 27, 1871
116,296	Same Lifting-jack	June 27, 1871
118,447	Same Hoisting-apparatus	Aug. 29, 1871
120,735	Gard, Samuel F., New Orleans, La. Propulsion of vessels	Nov. 7, 1871
115,050	Gardiner, Perry G., New York, N. Y. Self-coupling draw-hook and buffer	May 23, 1871
116,044	Gardiner, Samuel, jr., New York, N. Y. Electro-magnetic apparatus	July 11, 1871
116,008	Same Apparatus for automatically operating gas-cocks	Aug. 15, 1871
	Same Washington, D. C. Mode of lighting gas by electricity. (Extension)	Dec. 31, 1871
121,862	Gardiner, William Fitch, Bethany, Canada. Burglar-alarm	Dec. 12, 1871
111,193	Gardner, Francis A., Danbury, Conn. Caster	Jan. 24, 1871
113,867	Same Bearing-step and vertical shaft	April 18, 1871
111,053	Gardner, George, Clarksville post-office, N. J. Portable chair	Jan. 17, 1871
113,287	Same Glen Gardner, N. J. Chair	April 4, 1871
120,154	Gardner, Henry, Rodger Lowe, and Joseph and James Wood, and James Pickering, England. Spring-mattress	Oct. 24, 1871
111,630	Gardner, James, South Lee, Mass. Water-wheel	Feb. 7, 1871
118,923	Gardner, John, New York, N. Y. Steering-apparatus	Sept. 12, 1871
111,836	Gardner, Joseph, Bedford, Ind. Fire-extinguisher	Feb. 14, 1871
122,944	Gardner, Joseph, Louisville, Ky. Fire-extinguisher	Dec. 26, 1871
113,860	Gardner, Oliver L. and William, Glen Gardner, N. J. Device for adjusting mirrors	April 18, 1871
119,268	Same Wardrobe and bedstead	Sept. 26, 1871
113,042	Gardner, William, Glen Gardner Station, N. J. Scroll-saw	Mar. 28, 1871
113,510	Same Boston, Mass. Fire-escape. (Antedated March 30, 1871)	April 11, 1871
119,754	Gardner, William, assignor to self and O. L. Gardner, Glen Gardner, N. J. Folding-chair	Oct. 10, 1871
4,261	Gardner, William R., Leonardsville, N. Y. Pessary (Reissue)	Mar. 7, 1871
117,879	Garfield, Joel, Ayer, Mass. Mill for grinding coffee, spices, &c.	Aug. 8, 1871
118,930	Garity, James, assignor to Edwin D. Gould and Albert H. Barnes, Brower, Mo. Brick-knife	Aug. 22, 1871
110,645	Garity, John, East Birmingham, Pa. Glass telegraph-insulator	Jan. 3, 1871
119,978	Garland, Converse J., Gwin Mine, Cal. Mining sluice and ripple	Oct. 17, 1871
120,966	Garland, James, assignor through mesne assignments to self and Heber Le Favour, Providence, R. I. Automatic relief-valve	Nov. 14, 1871
111,338	Garlinghouse, George R., North Madison, Ind. Road-scraper	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,446	Garman, George B., Washington Township, Ind. Tempering steel	Jan. 31, 1871
	Same (*See* Siegfried, Alexander H., assignor.)	
	Same same (Reissue.)	
114,431	Garner, James H., Pontiac, Ill. Wash-boiler. (Antedated April 25, 1871)	May 2, 1871
112,441	Garner, Samuel R., assignor to self and S. M. Marquett, Independence, Iowa. Dining-table	Mar. 7, 1871
	Garnhart, John H. (*See* Rice, Eli B., assignor.)	
121,611	Garratt, William T., San Francisco, Cal. Lubricator	Dec. 5, 1871
119,026	Garreteon, John G., West Liberty, Ohio. Water-wheel	Sept. 19 1871
113,996	Garrett, George, Elkhart, Ill. Hinge for gates	April 25, 1871
5,202	Garrett, George B., Philadelphia, Pa. Paper-weight (Design)	Aug. 15, 1871
121,663	Garrett, James H., Greencastle, Ind. Harness-pad	Dec. 12, 1871
113,157	Garrett, Jonathan, and Jonas E. Rauch, Selin's Grove, Pa. Feather-renovator	Mar. 28, 1871
113,757	Garrett, William H., Cannonsburgh, Pa. Fire-place grate	April 18, 1871
111,447	Garrick, Thomas, Providence, R. I. Sewing-machine	Jan. 31, 1871
114,665	Same Household implement	May 9, 1871
119,979	Same Machine for making eyelets	Oct. 17, 1871
120,180	Garrigues, Edward H., Saint Louis, Mo. Hod-elevator	Oct. 24, 1871
	Garrison, David, and Daniel A. Hall. (*See* Hall & Garrison) (Three cases.)	
	Garrison, George T. (*See* Porter, Benjamin F., assignor.)	
121,864	Gartner, Gothelf, and Charles Dieboid, Lebanon, Pa. Method of operating locomotive steam-engines	Dec. 12, 1871
118,523	Garton, William, England. Preparation of fermentable saccharine matter	Aug. 29, 1871
118,524	Same Manufacture of inverse sugar for brewing, &c	Aug. 29, 1871
114,546	Garver, Daniel, assignor to self and Cyrus Garver, Ringgold, Md. Grain-separator	May 9, 1871
114,547	Same Fan-blast regulator	May 9, 1871
	Garvey, James. (*See* Kimball, Matthew H., assignor.)	
120,930	Garvin, Benjamin, Oshkosh, Wis. Steam-boiler feed-water heater	Nov. 14, 1871
119,926	Garvin, Benjamin, assignor of one-half interest to Henry Hull, Oshkosh, Wis. Spark-arrester for locomotives	Oct. 17, 1871
116,496	Gass, Robert, assignor to Eddy, Corse, & Co., Troy, N. Y. Cooking-stove	June 27, 1871
	Gassett, Edward. (*See* Tirrell, Jacob P., assignor.)	
	Same same (Reissue.)	
114,126	Gaston, Henry A., San Francisco, Cal. Washing-machine	April 25, 1871
118,585	Gaston, Jeremiah C., Cincinnati, Ohio. Envelope-machine	Aug. 29, 1871
	Gates, Cecil L., and Charles M. Brown. (*See* Brown & Gates.)	
118,994	Gates, Edward M., Watertown, N. Y. Blacking-box	Sept. 12, 1871
119,506	Gates, John, Portland, Oreg. Wrench	Oct. 3, 1871
119,507	Same Surface-blow for steam-boilers	Oct. 3, 1871
120,426	Same Spark-arrester for steam-boilers	Oct. 31, 1871
120,870	Same Ash-pan for boilers	Nov. 14, 1871
	Gates, P. W. (*See* Fraser, David R., assignor.)	
111,339	Gates, Philetus W., assignor to self and D. R. Fraser, Chicago, Ill. Sash-holder	Jan. 31, 1871
112,020	Gates, Stephen F., assignor to the Lowell Oil-Cup Company, Cambridge, Mass. Lubricator	Feb. 21, 1871
115,189	Gates, Thomas S., and Alexander H. Fritchey, Columbus, Ohio. Vapor-burner	May 23, 1871
119,539	Same Vapor-burner. (Antedated Sept. 25, 1871)	Oct. 10, 1871
	Gates, William. (*See* Caple, Chauncey S., assignor.)	
119,457	Gathmann, Louis, Chicago, Ill. Combined sash-holder and blind-opener	Oct. 3, 1871
112,800	Gathright, Josiah B., Louisville, Ky. Loop for stirrups	Mar. 21, 1871
113,159	Gatling, James H., Murfreesborough, N. C. Treating the timber of old-field pine	Mar. 28, 1871
114,127	Same Cotton and corn-stalk chopper	April 25, 1871
112,139	Gatling, Richard J., Indianapolis, Ind. Revolving-battery gun	Feb. 28, 1871
122,005	Gavan, William S., Savannah, Ga. Advertising-album	Dec. 19, 1871
121,354	Gavett, George L., Sandstone, Mich. Device for converting reciprocating into rotary motion	Nov. 28, 1871
119,967	Gavitt, Lorenzo D., Los Angeles, Cal. Portable camp-grate. (Antedated Jan. 7, 1871)	Jan. 17, 1871
118,799	Gay, Asel, Rochester, N. Y. Boiler for heating buildings	Sept. 12, 1871
	Gay, Joel. (*See* Harrigan, Dennis, assignor.)	
	Gay, John. (*See* Kerr, William, assignor) (Two cases.) (Design.)	
113,860	Gaylord, Albert A., East Cleveland, Ohio. Lightning-rod	April 18, 1871
113,510	Gaylord, Charles, Washington, D. C. Railroad-spike	April 11, 1871
115,849	Gaylord, Edward L., Terryville, Conn. Pin-clamp for riveting	June 13, 1871
117,064	Same Bridgeport, Conn. Key for padlocks	July 18, 1871
121,096	Same Key for sewing-machine locks	Nov. 21, 1871
114,432	Gear, Nathaniel, Newark, Ohio. Lantern	May 2, 1871
112,443	Geary, M. Boland, New York, N. Y. Step-ladder	Mar. 7, 1871
120,376	Gebby, William L., New Richland, Ohio. Apparatus for regulating the speed of machinery	Oct. 31, 1871
116,487	Gebhard, August, and John Blodan, Indianapolis, Ind. Dentists' and barbers' chair	June 27, 1871
113,870	Gebhart, Daniel, assignor to self and Peter Weimer, Salamonia, Ind. Bee-hive	April 18, 1871
115,841	Geddes, William B., Rochester, N. Y. Hot-air furnace	June 13, 1871
120,259	Gee, William, New York, N. Y. Apparatus for discharging acid carbons	Oct. 24, 1871
120,510	Gee, William V., Philadelphia, Pa. Loom	Oct. 31, 1871
	Geer, E., *et al.* (*See* Hershey, Benjamin, assignor) (Four cases.)	
	Same (*See* Hershey & Gaggin, assignors.)	
	Geer, George, *et al.* (*See* Bean, Osborn & Geer.)	
120,726	Gehr, John, Clear Spring, Md. Wheelbarrow	Nov. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Geiger, Josiah. (*See* Calkins, James B., assignor.)	
	Geiser Thrashing-Machine Company. (*See* Dingee, William W., assignor.)	
4,954	Geisenhainer, Charles P., assignor to Esek Bussey and Charles A. McLeod, Pittsburgh, Pa. Cooking-stove ..... (Reissue)	Feb. 7, 1871
116,898	Geller, Charles C., Albany, N. Y. Shoe	July 11, 1871
116,563	Gentry, John W., and George W. Barcus, Peytona, W. Va. Canal-lock	July 4, 1871
	Genung, Alfred V. C. (*See* Croselmire, Charles, assignor.)	
111,054	George, Alfred M., Sand Fly, Tex. Fire-tongs	Jan. 17, 1871
111,194	Same.....Pen-holder	Jan. 24, 1871
113,758	George, Benjamin George, England. Ornamentation of metal, glass, &c	April 18, 1871
114,797	George, Emanuel M., Three Rivers, Mich. Car-coupling	May 16, 1871
119,598	George, Levi F., assignor of two-thirds interest to Algernon S. Austin, San Francisco, Cal. Rat and mouse trap	Oct. 3, 1871
117,065	George, Margaret N., Evansville, Ind. Medicine for cure of hog and chicken cholera	July 18, 1871
116,047	George, Richard F., Palmyra, Va. Surveying-instrument	June 20, 1871
113,043	George, Robert W., Boston, Mass. Stave-sawing machine. (Antedated March 23, 1871)	Mar. 28, 1871
113,511	Gerber, Julius, and Horace Brown, Rockford, Ill. Cultivator	April 11, 1871
119,027	Gerdwood, William Wallace, England. Gasket-packing	Sept. 19, 1871
121,164	Gergen, Nicholas, Buffalo, N. Y. Cooking-stove	Nov. 21, 1871
121,772	Gerhart, John A., Easton, Pa. Wagon-brake	Dec. 12, 1871
	Gerner, Charles, and Frank Tiesing. (*See* Tiesing & Gerner) .....(Two cases.)	
116,176	Gerner, Henry, New York, N. Y. Gas-regulator	June 20, 1871
113,989	Gernert, Charles, assignor to self and Edward Kahre, Philadelphia, Pa. Apparatus for stamping wearing-apparel, &c	April 25, 1871
	Gerry, Albert, and Henry H. Morgan. (*See* Morgan & Gerry.)	
	Gertiea, Louis. (*See* Lee, Leroy E., assignor.)	
	Gessner, Gustavus A., and Ralph P. Buckland, jr. (*See* Buckland, jr., & Gessner.)	
	Getchell, Charles E., *et al.* (*See* Parsons, Getchell & Fairfield.)	
112,701	Getty, Henry, Hoboken, N. J. Ale or beer cock	Mar. 14, 1871
118,803	Getty, Henry, assignor to Lucien Knapp, Hoboken, N. J. Attachment to gas-fitters' gauges	Aug. 29, 1871
120,960	Gibbons, Dwight, Rochester, N. Y. Seated urinal	Nov. 14, 1871
120,961	Same.....Bidet or hip-bath	Nov. 14, 1871
	Gibbons, George. (*See* McKay, John R., assignor.)	
113,871	Gibbons, James S., Philadelphia, Pa. Slide for drawers	April 18, 1871
120,737	Gibbs, Dalphon L., assignor to R. Ball & Co., Worcester, Mass. Mortising-machine	Nov. 7, 1871
	Gibbs, Fred. R. (*See* Smith, Henry, assignor.)	
4,647	Gibbs, George and William, Canton, Ohio. Whiffletree ..... (Reissue)	Nov. 28, 1871
	Gibbs, James E. A., Steele's Tavern, Va. Sewing-machine .....(Extension)	June 1, 1871
116,397	Gibbs, Lucius H., assignor to self and Philo Remington, Brooklyn, N. Y. Rotary spading-machine	June 27, 1871
116,048	Gibbs, Martin, Canton, Ohio. Plow	June 20, 1871
4,412	Gibbs, Pierre L., Dunleith, Ill. Lock-nut ..... (Reissue)	June 6, 1871
	Gibbs, Willis, and Dwight Hitchcock. (*See* Hitchcock & Gibbs.)	
112,237	Gibbud, Eli B., assignor through mesne assignments to John Batchelder, Waterbury, Conn. Neck-tie retainer	Feb. 28, 1871
117,764	Gibson, Charles T., Baltimore, Md. Lock for railroad-cars	Aug. 8, 1871
	Gibson, Corodon D. W., and Martin L. Munger. (*See* Munger & Gibson.)	
120,055	Gibson, David D., Springville, Iowa. Plow-colter	Oct. 17, 1871
117,066	Gibson, John, jr., Albany, N. Y. Table-stand for pitchers, &c. (Antedated July 17, 1871)	July 18, 1871
117,617	Same.....Tea-kettle and other vessels	Aug. 1, 1871
117,765	Same.....Table-caster	Aug. 8, 1871
117,766	Same.....Saucer, dish, &c	Aug. 8, 1871
118,925	Same.....Tree-box	Sept. 12, 1871
119,048	Same.....Table basket or dish	Sept. 19, 1871
119,949	Same.....Bank-note	Oct. 3, 1871
117,402	Gibson, Joshua R., and James Powell, Cincinnati, Ohio. Waste-way stopper	July 25, 1871
	Gibson, Robert. (*See* Smith, Edward H., assignor.)	
110,912	Gibson, Samuel, assignor to self, Alexander L. Hayes, and J. W. G. Wierman, Lancaster, Pa. Rotary engine	Jan. 10, 1871
117,167	Gibson, Stephen A., and James B. De Haas; said De Haas assignor to William Hoover, Clearfield, Pa. Scrubbing-brush	July 18, 1871
119,135	Gibson, William, assignor to the American Coal-Gas Light Improvement Company, Cambridge, Mass. Apparatus for the manufacture of coal-gas	Sept. 19, 1871
	Gibson, William A., and John J. K. Boots. (*See* Boots & Gibson.)	
119,939	Gibson, William F., Ryegate, Vt. Evaporator for sap, &c	Oct. 17, 1871
	Gibson, William T. (*See* Wilkinson, Asbury, assignor.)	
113,303	Giddings, Isaac E., Springfield, Mass. Steam-trap	May 30, 1871
110,646	Gidley, Robert, Lagrangeville, N. Y. Gate	Jan. 3, 1871
117,403	Same.....Moore's Mill, N. Y.. same	July 25, 1871
120,261	Giebrich, Louis, Ottumwa, Iowa. Combined burglar and fire alarm	Oct. 24, 1871
	Giebrick, George. (*See* Newlove, Matthew, assignor.)	
113,998	Gifford, William R., William R., jr., and James A., Milo, Me. Loom	April 4, 1871
122,165	Gifling, John C., New York, N. Y. Head-rest for car-seats	Dec. 26, 1871
110,989	Gifford, Alden and Zenas A., Somerset, N. Y. Churn	Jan. 17, 1871
	Gifford, A. T., and George W. Brown. (*See* Brown & Gifford.)	
112,233	Gifford, Edwin B., Westport, Mass. Wrench and oiler. (Antedated Feb. 22, 1871)	Feb. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,798	Gifford, Leander C., Monticello, Ill. Compound for preserving fruit-trees	May 16, 1871
	Gifford, Samuel James. (*See* Averill, Benjamin F., assignor.)	
113,759	Gifford, Thomas J., Salem, Mass. Scuttle-fastening	April 18, 1871
4,353	Gifford, Walter C., Jamestown, N. Y. Stanchion .....(Reissue)	April 25, 1871
115,304	Same.....same	May 30, 1871
122,166	Gilberds, James, Jamestown, N. Y. Butter-tub	Dec. 26, 1871
	Gilbert & Barker Manufacturing Company. (*See* Barker, John F., assignor.)	
4,563	Gilbert, Andrew, Boston, Mass. Type .....(Design)	Jan. 10, 1871
4,627	Same.....same.....(Design)	Feb. 7, 1871
116,560	Gilbert, Charles R., High Point, N. C. Garden-hoe	Aug. 29, 1871
	Gilbert, George, *et al.* (*See* Shortt, Edward G., assignor).....(Two cases.)	
	Gilbert, John. (*See* Case, James W., assignor.)	
113,417	Gilbert, John T., Asbury, Ill. Motive-power apparatus	April 4, 1871
115,796	Gilbert, Lucien M., Cow Run, Ohio. Valve of steam-pumping engines	June 6, 1871
	Gilbert, M. S., *et al.* (*See* Dotterer, Davis H., assignor.)	
116,001	Gilbert, Sheldon P., Racine, Wis. Combined ligature, protector, and fertilizing bag for fruit-trees	June 13, 1871
113,416	Gilbert, Thomas S., Birmingham, Conn. Skeleton-corset	April 4, 1871
113,419	Same.....same	April 4, 1871
	Gilbert, William L. (*See* Janney, Nathan L., assignor.)	
	Gilbreath, Whitney, and John Criley. (*See* Criley & Gilbreath.)	
114,937	Giles, Abner R., Adams, N. Y. Wagon-jack	May 16, 1871
	Giles, Alonzo M., Boston, Mass. Gas-generator .....(Extension)	Mar. 16, 1871
	Gilfillan, William, and Frederick Glasson. (*See* Glasson & Gilfillan.)	
115,950	Gilham, William, Richmond, Va. Process and apparatus for the manufacture of sparkling wine	June 13, 1871
111,195	Gilkinson, Rebecca, New York, N. Y. Medical compound for the cure of rheumatism	Jan. 24, 1871
114,128	Gill, Alpheus, Holmes' Hole, Mass. Connection of booms to masts	April 25, 1871
113,879	Gill, Andrew J., Denver, Colo. Fence-post	April 18, 1871
4,696	Gill, George, assignor to Reed & Barton, Taunton, Mass. Pedestal for cake-dish .....(Design)	Mar. 7, 1871
4,812	Same.....Bottle-stand .....(Design)	April 18, 1871
4,813	Same.....Tea-pot .....(Design)	April 18, 1871
5,442	Same.....Cake-tazza .....(Design)	Dec. 19, 1871
	Gill, Ira, Walpole, Mass. Machinery for forming hat-bodies .....(Extension)	Jan. 11, 1871
113,519	Gill, John L., jr., Columbus, Ohio. Machine for tapping nuts	April 11, 1871
	Gillam, Harvey E. (*See* McCullum, James, assignor.)	
117,067	Gillam, John W., assignor to self and H. C. Kelsey, Newton, N. J...Car-coupling	July 18, 1871
115,951	Gillespie, James P., San Francisco, Cal. Atmospheric-pressure attachment for dental plates	June 13, 1871
121,983	Gillespie, Richard S., New York, N. Y. Locomotive	Nov. 28, 1871
111,631	Gillespie, Robert T., Millport, Ohio. Clod-fender	Feb. 7, 1871
115,599	Gillett, George D., Meridian, N. Y.. Gig-saddle	June 6, 1871
120,962	Gillett, Webster, assignor to self, Hall Hugus, and Charles M. Gillett, Allegheny, Pa. Telegraph-apparatus	Oct. 24, 1871
121,773	Gillette, Henry S., New Preston, Conn. Machine for sawing stone	Dec. 12, 1871
116,498	Gillham, Samuel J., William Capp Taylor, and James W. Stolle, assignors to said Gillham and Taylor, Vandalia, Ill. Gang-plow	June 27, 1871
110,980	Gilliam Algernon, Pittsburgh, Pa. Harness-saddle	Jan. 17, 1871
116,045	Same.....Bridle-bit	July 11, 1871
116,946	Same.....Harness-saddle	July 11, 1871
122,006	Gillies, James, Great Britain. Bung-inserter	Dec. 19, 1871
116,396	Gillies, James W., New York, N. Y. Process of roasting coffee	June 27, 1871
116,399	Same.....Process of treating coffee	June 27, 1871
116,430	Gilliland, Ezra T., assignor to Hiram D. Rogers, Cincinnati, Ohio. Dial-telegraph apparatus	June 27, 1871
116,430	Same.....Telegraph-instrument	June 27, 1871
116,431	Gilliland, Henry C., Wellsville, Mo. Car-coupling	June 27, 1871
120,962	Gillis, James H., assignor to Joseph J. Walton, Washington, D. C. Rigging-clamp	Nov. 14, 1871
	Gilman, Albert H. (*See* Lothrop, Henry O., assignor) .....(Reissue.)	
113,044	Gilman, Charles B., Brooklyn, N. Y. Method of bending compressed wood	Mar. 28, 1871
	Gilman, Charles E., and Thomas H Brown. (*See* Brown & Gilman.)	
114,000	Gilman, James R., assignor to Studebaker Bros. Manufacturing Company, South Bend, Ind. Buggy	April 25, 187
	Gilmor, Moses. (*See* Cole, Calvin, assignor.)	
110,730	Gilmore, David, and William W. Forrest, assignors to George Laidlow, Peotone, Ill. Excavator	Jan. 3, 1871
121,965	Gilmore, Edward T., New York, N. Y. Barrel-fastening	Dec. 12, 1871
115,600	Gilmore, James T., and John S. Crane, Lake Village, N. H. Machine for dressing millstones	June 6, 1871
117,767	Gilmore, Weller S., Chester, Ohio. Sap-spout	Aug. 8, 1871
113,873	Gilmore, William, assignor to self and Henry M. Rogers, Hudson, N. J. Tenoning-machine	April 18, 1871
4,968	Gilson, Harlow, and Charles F. Southwick, Nashua, N. H. Bracket...(Reissue)	May 30, 1871
113,045	Gibson, Samuel D., Syracuse, N. Y. Manufacture of salt from brine	Mar. 28, 1871
4,300	Same.....Apparatus for evaporating salt-brine .....(Reissue)	May 30, 1871
119,136	Same.....Apparatus for evaporating brine	Sept. 19, 1871
121,896	Gingrich, Henry B., Bradford, Ohio. Rock-drill	Dec. 12, 1871
112,584	Gipson, Reuben, Shelby, Ohio. Fanning-mill	Mar. 14, 1871
112,585	Girard, Frajus, Cuba. Electrical alarm-lock	Mar. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,840	Gire, John, Louden City, Ill. Churn	Oct. 10, 1871
114,548	Giroux, Benjamin, Chicago, Ill. Window-screen	May 2, 1871
112,139	Gisler, Joseph H., Saint Louis, Mo. Bee-hive	Feb. 28, 1871
119,640	Gissinger, Samuel, Pittsburgh, Pa. Bed-bottom	Oct. 3, 1871
	Gissinger, Samuel, and Richard A. Jackson. (*See* Jackson & Gissinger.)	
113,874	Givandan, Antoine, Washington, D. C. Carpet-fastener	April 18, 1871
	Gjers, John, *et al.* (*See* Jones, Howson & Gjers.)	
112,563	Gladding, Charles E., Towanda, Pa. Plaster-sower	Mar. 14, 1871
116,300	Same.....Hay-elevator	June 27, 1871
116,432	Gladwin, Russell S., West Meriden, Conn. Scissors	June 27, 1871
	Glaesser, Charles T., and George C. Hohenstein. (*See* Hohenstein & Glaesser.)	
	Glass, George W. (*See* Brundred, William J., assignor).....(Reissue.)	
120,963	Glass, George W., assignor to self and William J. Brundred, Pittsburgh, Pa. Oil-tank	Oct. 24, 1871
114,540	Glass, Homer, Racine, Wis. Horse-power	May 9, 1871
117,404	Glass, James H., assignor through mesne assignments to Louis J. Glass, McGregor, Iowa. Gang-plow	July 25, 1871
114,986	Glass, John, assignor to George H. Sanborn, Green Point, N. Y. Book-binding machine	May 2, 1871
116,700	Glass, Martin A., Independence, Iowa. House for the management of bees	July 4, 1871
119,755	Glasson, Frederick, New York, N. Y., and William Gilfillan, Paterson, N. J. Valve-movement	Oct. 10, 1871
	Glazier, Theodore C. (*See* Plaggo, Charles, assignor.)	
	Glenn, Joshua Beattie. (*See* Ellis, Francis M., assignor.)	
112,702	Glidden, Charles W., assignor to McKay Heeling Machine Association, Lynn, Mass. Machine for making boot and shoe heels	Mar. 14, 1871
116,301	Glines, Dearborn P., assignor to Daniel M. Robertson, Manchester, N. H. Spindle for screw-machines	June 27, 1871
	Globe Nail Company. (*See* Hall, George L., assignor.)	
116,433	Glover, Claude, New York, N. Y. Bottle-stopper	June 27, 1871
119,028	Same.....Siphon-bottle	Sept. 19, 1871
117,618	Glover, Ives, Newtown, Conn. Ox-bow joint	Aug. 1, 1871
4,669	Glover, Warren, assignor to Al B. Shaw, Millbury, Mass. Treadle-attachments for sewing-machines.....(Reissue)	Dec. 12, 1871
111,196	Glue, William, Muskegon, Mich. Spring-catch for doors	Jan. 24, 1871
119,344	Glynn, Martin T., and John L. Goodman, Boston, Mass. Seat for horse-cars	Sept. 26, 1871
118,711	Glynn, Michael A., Cuba. Spark-arrester	Sept. 5, 1871
	Gobble, W. S. (*See* Burger, Lewis, assignor.)	
121,774	Goddard, Alfred E., Essex, Conn. Lifting-jack	Dec. 12, 1871
118,361	Goddard, Curtis, Alliance, Ohio. Combined flue-holder and wardrobe-hook	Aug. 22, 1871
4,318	Goddard, Kingston, assignor to self and John P. Adams, Richmond, N. Y. Water-pitcher and other articles.....(Reissue)	April 4, 1871
111,837	Goddu, Louis, assignor to Elmer Townsend, Boston, Mass. Machine for nailing shoe-soles with wire	Feb. 14, 1871
120,153	Same.....Machine for nailing shoe-soles	Oct. 24, 1871
121,167	Godefroy, Leon, Pulaski, Tenn. Billiard-register	Dec. 26, 1871
111,446	Godfrey, Benjamin D., assignor to William Claflin, trustee of the American Wire-Quilted Sole Association, Milford, Mass. Boot and shoe sole	Jan. 31, 1871
112,333	Godfrey, Joseph S., assignor to self and Scars M. Loveridge, Leslie, Mich. Attachment for revolving mold-board for plows	Mar. 7, 1871
113,760	Same.....Rochester, Pa. Revolving mold-board for plows	April 18, 1871
114,093	Same.....Attachment of revolving mold-boards to plows	April 25, 1871
120,864	Godfrey, Joseph S., assignor to self, Scars M. Loveridge, and James Irwin, Leslie, Mich. Propulsion of vessels	Oct. 24, 1871
117,619	Godwin, Henry L., Windsor, N. C. Dash-board for vehicles	Aug. 1, 1871
121,355	Godwin, Thomas W., Norfolk, Va. Oscillating-engine	Nov. 28, 1871
117,715	Goets, John, West Bend, Wis. Fanning-mill	Aug. 1, 1871
111,598	Goets, Sebastian, Reed's Mills, Ohio. Bedstead-fastening. (Antedated Jan. 25, 1871)	Feb. 7, 1871
	Geeway, John A. (*See* Vedder & Heister, assignors).....(Design.)	
112,586	Goff, Henry J., Dubuque, Iowa. Lamp	Mar. 14, 1871
113,650	Same.....Combined lamp and reflector	April 11, 1871
	Goff, James W., and Charles B. Jarvis. (*See* Jarvis & Goff.)	
	Goffrie, Charles F. L. (*See* Schucht, John H., assignor.)	
	Gold and Stock Telegraph Company. (*See* Edison, Thomas A., assignor.)	
4,643	Gold, Samuel F., and William A. Foskett, assignor through mesne assignments to the Union Steam and Water-Heating Company, New York, N. Y. Steam-heating apparatus.....(Reissue)	Nov. 21, 1871
117,538	Gold, Stephen J., Cornwall, Conn. Heating stove and furnace	Aug. 1, 1871
	Golding, William H., *et al.* (*See* Balch, William L., assignor.)	
116,434	Goldsborough, John., Philadelphia, Pa. Stamp-canceler	June 27, 1871
121,356	Goldsmith, Bernard, assignor to Jenny Goldsmith, Newark, N. J. Binder for sewing-machines	Nov. 28, 1871
111,820	Goldsmith, Francis J., assignor of one-half interest to Peter F. Young, Concord, Ohio. Invertible trough	Feb. 7, 1871
	Goldthwaite, John R., *et al.* (*See* Parker, William F., assignor.)	
115,460	Goldtry, George H., and Frederick W. Hegarth, Port Allegheny, Pa. Medical compound	May 30, 1871
120,963	Gomes, Edwin, New York, N. Y. Mode of exploding torpedoes. (Antedated Nov. 9, 1871)	Nov. 14, 1871
122,945	Same.....Explosive compound. (Antedated Dec. 30, 1871)	Dec. 26, 1871

No.	Name, residence, and invention or discovery.	Date.
116,701	Gommenginger, Bartholomew, Rochester, N. Y. Hot-air furnace	July 4, 1871
116,584	Gooch, Charles, Cincinnati, Ohio. Ice-cream freezer	July 4, 1871
114,799	Good, Jacob L., assignor to self and Jacob Dyer, Elizabethtown, Pa. Meat-chopper	May 16, 1871
112,801	Good, Jonathan, Lancaster, Pa. Vise for joiners' use	Mar. 21, 1871
115,461	Goodale, Fred. W., and John J. Brennan, Danbury, Conn. Clothes-drier	May 30, 1871
120,056	Goodale, Samuel N., Saint Louis, Mo. Lubricator for steam and air engines	Oct. 17, 1871
120,429	Same.....Mode of operating the brakes of railroad-cars	Oct. 31, 1871
114,809	Goodchild, George H., Centreville, N. J. Joiners' clamp	May 16, 1871
114,801	Same.....same	May 16, 1871
	Goodell, Anthony W., and Thomas W. Johnson, jr. (*See* Johnson, jr., & Goodell.....(Reissue.)	
5,316	Goodell, Bardwell A., assignor to E. Howard & Co., Waltham, Mass. Watch-hand.....(Design)	Oct. 17, 1871
110,913	Goodes, Ebenezer A., Philadelphia, Pa. Shutter-fastener	Jan. 10, 1871
112,703	Same.....Staining glass	Mar. 21, 1871
112,443	Goodes, Ebenezer A., assignor to Philadelphia Patent and Novelty Company, Philadelphia, Pa. Oil-cloth printing-machinery	Mar. 7, 1871
121,506	Goodfellow, John H., Troy, N. Y. Auxiliary air-chamber for stoves	Dec. 5, 1871
119,514	Goodfellow, John H., assignor to Sweet, Quimby & Perry, Troy, N. Y. Cooking-stove	Oct. 3, 1871
4,977	Goodhue, Charles W., assignor to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, Lowell, Mass. Napkin-ring.....(Design)	June 6, 1871
117,972	Same.....Wire-blank for napkin-rings, cruet-holders, &c	July 25, 1871
110,914	Goodin, John, Joliet, Ill. Wrench	Jan. 10, 1871
119,458	Goodman, Csar T., Cleveland, Ohio. Machine for clothing organ and melodeon valves	Oct. 3, 1871
	Goodman, John L., and Martin T. Glynn. (*See* Glynn & Goodman.)	
120,156	Goodrich, Albert J., assignor to Turner, Seymour & Judds, Wolcottville, Conn. Hook for hats, coats, &c	Oct. 24, 1871
121,775	Goodrich, Harry C., assignor to Nelson Barnum, Chicago, Ill. Cording-attachment for sewing-machines	Dec. 12, 1871
	Goodrich, Henry O., *et al.* (*See* Hatch, Warren D., assignor.)	
111,632	Goodrich, James, and Henry J. Colburn, Fitchburgh, Mass. Planing-machine	Feb. 7, 1871
114,189	Same.....Self-oiling pully	April 25, 1871
115,305	Goodrich, Levon S., Waverly, Tenn. Apparatus for feeding blast-furnaces	May 30, 1871
120,871	Same.....Manufacture of iron	Nov. 14, 1871
	Goodsell, Bennett, *et al.* (*See* Bean, John, jr., assignor.)	
116,889	Goodsell, George, and Bennett J., and John Bean, jr., Pentwater, Mich. Refuse-burning furnace	July 11, 1871
116,302	Goodwin, Lewis, Bangor, Me. Sash-balance	June 27, 1871
	Goodwin, M. G. (*See* Ella, George F., assignor.)	
4,563	Goodwin, William, assignor through mesne assignments to Edward L. Baker, Henry Knight, and Edwin Dayton, New Haven, Conn. Machine for making cement-pipe.....(Reissue)	Sept. 19, 1871
111,633	Goodwin, William F., Metuchen, N. J. Harvester	Feb. 7, 1871
111,634	Same.....Horse-power	Feb. 7, 1871
118,586	Same.....Harvester	Aug. 29, 1871
113,159	Goodwin, Williamson, and Sinclair D. G. Niles, Helena, Ark. Cotton-picker	Mar. 28, 1871
111,924	Goodwyn, George W., Petersburgh, Va. Horse-holder attachment to carriages	Feb. 21, 1871
116,702	Goodyear, Albert, 2d, Hamlin, Conn. Axle-box	July 4, 1871
111,197	Goodyear, Charles, jr., New Rochelle, N. Y. Machine for sewing boots and shoes	Jan. 24, 1871
112,892	Same.....Machine for sewing boots and shoes	Mar. 21, 1871
116,947	Same.....Sewing-machine for boots and shoes	July 11, 1871
113,420	Goodyear, Charles, jr., New Rochelle, and José Da Silva, Williamsburgh, N. Y., assignors to Charles Goodyear, jr. Boot and shoe sole	April 4, 1871
118,851	Goodyear, George, New York, N. Y. Shank for boots and shoes.....(Antedated Aug. 25, 1871)	Sept. 12, 1871
117,533	Goodyear, Robert Burns, Wilmington, Del. Loom	Aug. 1, 1871
119,430	Same.....Loom-harness operating-mechanism	Oct. 3, 1871
115,190	Goolman, William P., Kansas City, Mo. Platform-scale	May 23, 1871
121,612	Gordon, Alphonso E., New Brunswick, N. J. Grain-car	Dec. 5, 1871
113,421	Gordon, Charles M., La Porte, Ind. Plow-colter	April 4, 1871
114,686	Gordon, Frederick W., Ironton, Ohio. Steam-boiler	May 9, 1871
120,377	Gordon, George P., Rahway, N. J. Printing-press	Oct. 31, 1871
116,830	Gordon, James W. W., Newport, Ky. Treadle for sewing-machines	July 11, 1871
113,675	Gordon, William, assignor to self and Andrew McCambridge, Philadelphia, Pa. Water-closet valve	April 18, 1871
111,530	Gore, Myron, Ottawa, Ill. Feed-grinder	Feb. 7, 1871
	Gorham Manufacturing Company. (*See* Wilkinson, George, assignor.) (Three cases.) (Design.)	
121,813	Gorham, Marquis L., Rockford, Ill. Cultivator	Dec. 5, 1871
5,137	Gorham, William B., Boston, Mass. Hand-stamp.....(Design)	July 25, 1871
	Same.....(*See* Weeden, William N., assignor).....(Design.)	
111,635	Gormly, Charles M., Pittsburgh, Pa. Hair-pin	Feb. 7, 1871
114,667	Gorrell, Thomas, Warren, R. I. Let-off mechanism for looms	May 9, 1871
121,257	Gortner, Henry, Nashport, Ohio. Corn-planter	Nov. 28, 1871
116,708	Gorton, Daniel J., Quincy, Ill. Pump	July 4, 1871
	Gorton, John, jr. (*See* Miller & Hannah, assignors.)	
117,088	Gorton, William, New York, N. Y. Window-curtain roller	July 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,636	Goshorn, Jacob S., Fort Wayne, Ind. Iron abutment for bridges	Feb. 7, 1871
119,345	Gosline, John H., Hampton, Va. Marine railway	Sept. 26, 1871
113,389	Goss, Keyes H., Cedar Springs, Mich. Clothes-pin	April 4, 1871
	Goss, Leonard, *et al.* (*See* Heath, Elsander, assignor.)	
114,001	Gosson, Louis C., assignor to self and John O. Raum, Trenton, N. J. Burglar-alarm and hotel-room indicator	April 25, 1871
119,460	Gottschalk, August, Napa, Cal. Apparatus for clarifying wines	Oct. 3, 1871
114,550	Gouch, Lyman A., Yonkers, N. Y. Detachable fluid-reservoir for street-lamps	May 9, 1871
121,165	Same.....Lamp-post	Nov. 21, 1871
116,049	Gouge, Henry A., Brooklyn, N. Y. Ventilator	June 20, 1871
114,130	Gough, John, England. Printing-press	April 25, 1871
121,715	Gould, Albert R., Carrollton, Ohio. Photographic back-ground	Dec. 12, 1871
	Gould, Edwin D. (*See* Garity, James, assignor.)	
117,168	Gould, Hiram Varney, Dover, N. H. Boot and shoe	July 18, 1871
	Gould, John C., Oxford, N. J. Nail-plate feeding-machine .....(Extension)	May 12, 1871
119,228	Same.....same	Sept. 26, 1871
120,190	Same.....same	Oct. 24, 1871
112,444	Gould, Lyman, Norwich, Conn. Tenoning-machine	Mar. 7, 1871
110,847	Gould, Marcus B., assignor to self and Winfield S. Shaw, Buffalo, N. Y. Hide-working machine	Jan. 10, 1871
	Gould, Marcus B., and Winfield S. Shaw. (*See* Shaw & Gould.)	
121,567	Gould, Ovid Miner, Montreal, Canada. Grain-carrier	Dec. 12, 1871
120,265	Gould, Simeon L., Skowhegan, Me. Paper-pulp engine	Oct. 24, 1871
5,177	Gould, William B., New York, N. Y. Stair-rod.....(Design)	Aug. 8, 1871
5,178	Same.....same.....(Design)	Aug. 8, 1871
5,203	Same.....Stair-rod fastening.....(Design)	Aug. 15, 1871
	Same.....(*See* Hutchison, Robert, assignor.)	
121,356	Gould, William F., Davenport, Iowa. Steam-valve	Nov. 28, 1871
121,457	Goulding, Alfred, Worcester, Mass. Oscillating-engine	Dec. 5, 1871
117,373	Goulding, Francis Robert, Roswell, Ga. Pencil-case	July 25, 1871
115,191	Goulding, John, Worcester, Mass. Spinning-machine	May 23, 1871
115,958	Same.....Oscillating-engine	June 13, 1871
114,068	Goulding, Thomas B., Columbus, Ga. Pump	May 9, 1871
	Gould's Manufacturing Company. (*See* Pollard, William H., assignor.) (Two cases.) (Reissue.)	
4,963	Goutink, Edward, Detroit, Mich. Center-piece in ceilings.....(Design)	May 30, 1871
111,637	Gouverneur, Samuel L., Frederick City, Md. Device for securing corks in bottles	Feb. 7, 1871
119,756	Goux, Pierre Nicolas, France. Deodorising excrements	Oct. 10, 1871
121,350	Gove, Elijah D., Holyoke, Mass. Loom-picking mechanism	Nov. 28, 1871
	Gove, Elijah D., and Henry A. Whitten. (*See* Whitten & Gove.)	
113,201	Gove, John C., Cleveland, Ohio. Railroad-car break	April 4, 1871
111,639	Goward, William F., Boston, Mass. Apparatus for the manufacture of confectionery	Feb. 7, 1871
111,925	Gowen, William, Bartlett, Tenn. Cultivator-plow	Feb. 21, 1871
	Grace, James J. (*See* Hughes, Samuel, assignor.)	
114,809	Gracie, John, assignor to Lockhart, Frew & Co., Pittsburgh, Pa. Still for hydrocarbons	May 16, 1871
114,803	Gracie, John, Pittsburgh, Pa. Still for oil	May 16, 1871
117,405	Same.....same	July 25, 1871
117,406	Same.....same	July 25, 1871
121,369	Same.....Soldering-apparatus	Nov. 28, 1871
	Gracie, John, and Charles Lockhart. (*See* Lockhart & Gracie) .....(Reissue.)	
119,348	Grader, George W., assignor to self and James H. Edmondson, Memphis, Tenn. Cotton-press	Sept. 26, 1871
4,320	Graebe, Charles, and Charles Lieberman, Prussia. Manufacture of alizarine. (Division A, reissue)	April 4, 1871
4,321	Same.....Dye or coloring-matter from anthracine..(Division B, reissue)	April 4, 1871
111,340	Graham, Charles, Kingston, Pa. Railway-car truck	Jan. 31, 1871
4,843	Graham, Chauncey, Elizabeth, N. J. Cottage-front.....(Design)	April 25, 1871
4,844	Same.....Front of a country-house.....(Design)	April 25, 1871
	Graham, C. B. (*See* Curtis, David, assignor.)	
116,435	Graham, Edmund H., assignor to self and Reuben W. Randall, Biddeford, Me. Loom-shuttle	June 27, 1871
	Graham, Hugh J., and James H. Pattee. (*See* Pattee & Graham.)	
	Graham, John C., *et al.* (*See* McClure, William B., assignor.)	
	Same.....same.....(Reissue.)	
117,789	Graham, John H., Brooklyn, N. Y. Saw-frame	Aug. 8, 1871
119,347	Graham, John W., Chillicothe, Ohio. Sediment-chamber for lamp-posts	Sept. 26, 1871
113,428	Graham, Lewis, Plymouth, Ill. Corn-planter	April 4, 1871
115,842	Graham, Simon P., London, Canada. Carriage-seat	June 13, 1871
121,614	Graham, William, William Snyder, and Patrick O'Brien, Pittsburgh, Pa. Sign for street-lamps	Dec. 5, 1871
116,436	Graham, William A., Carlisle, Pa. Rotary engine	June 27, 1871
110,647	Graham, William W., assignor to self and James S. Parsons, Boston, Mass. Hand-hole cap for steam-boilers	Jan. 3, 1871
116,437	Graichen, Frederick William, assignor to Edward Barrows and Joseph Clayton, Providence, R. I. Let-off motion of looms	June 27, 1871
117,788	Same.....Olneyville, R. I. Let-off attachment for looms	Aug. 8, 1871
120,057	Gramme, Zeno Theophile, and Eardley Louis Charles D'Ivernois, France. Magneto-electric machine	Oct. 17, 1871
	Grannise, James E. (*See* Tracy, Lewis W., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,669	Grant, Emory A., Louisville, Ky. Surgical instrument for the treatment of club-foot	May 9, 1871
4,845	Grant, George H., Richmond, Ind. End of school-desks and seats.....(Design)	April 25, 1871
115,198	Same.....School-desk and seat	May 23, 1871
112,339	Grant, Jackson, Milwaukee, Wis. Wooden pavement	Feb. 28, 1871
120,964	Grant, James A., assignor to Robert Charles Wilkins McCunig, Ottawa, Canada. Brush	Nov. 14, 1871
118,604	Grant, John C., Salem, Mass. Grate and grate-bar	Aug. 29, 1871
120,366	Grant, John J., Greenfield, Mass. Die for cutting screw-threads	Oct. 24, 1871
111,198	Grant, William T., Neelyville, Ill. Compound for removal of scales from steam-boilers	Jan. 24, 1871
119,220	Grass, Ignatius, Sandusky, Ohio. Pruning-shears	Sept. 26, 1871
114,433	Grassler, William F., Muncy, Pa. Rail-joint	May 2, 1871
120,430	Same.....Railway-car coupling	Oct. 31, 1871
117,930	Groupner, Frans, Evansville, Indiana. Compound for dyeing	Aug. 1, 1871
117,407	Gravenstine, John, Philadelphia, Pa. Corpse-preserving case	Jan. 25, 1871
117,408	Same.....Refrigerating-apparatus	Jan. 25, 1871
118,527	Graves, Charles Leonard, Osage, Iowa. Shank and shoe-laster for boots and shoes	Aug. 29, 1871
	Graves, Horatio. (*See* Vanderburgh, Van, assignor.)	
113,298	Graves, John A., Washington, D. C. Paper-feeder. (Antedated April 1, 1871)	April 4, 1871
119,841	Graves, Joseph S., assignor to self and Charles W. Harmon, Lima, N. Y. Carriage-wheel	Oct. 10, 1871
4,618	Graves, Joshua B., New York, N. Y. Caster-bottle.....(Design)	Jan. 31, 1871
118,009	Graves, Marcellus C., Muscola, Mich., and Byron D. Graves, Waterloo, Iowa. Thill-coupling	Aug. 15, 1871
120,738	Graves, Robert C., Barnesville, Ohio. Stove-lid	Nov. 7, 1871
110,970	Gray, Elisha, Chicago, Ill. Mechanism for opening and closing telegraphic-station circuits	Jan. 17, 1871
114,936	Same.....Telegraph-repeater	May 16, 1871
118,231	Same.....Electro-magnetic annunciator	Aug. 22, 1871
112,803	Gray, Gardner B., and Joseph H. Remans, assignors of one-third interest to Davis T. Ruth, Mount Vernon, Ohio. Breech-loading fire arm	Mar. 21, 1871
113,651	Gray, George A., jr., Cincinnati, Ohio. Turning and boring mill	April 11, 1871
114,670	Same.....Railroad-car axle-lathe	May 9, 1871
	Gray, James. (*See* Easterly, James, assignor.)	
	Gray, Jefferson J. (*See* Cheeney, James E., assignor.)	
	Gray, Jerry C., *et al.* (*See* Fisher, Willet, assignor.)	
122,946	Gray, John, Cincinnati, Ohio. Machine for wrapping wire-cables	Dec. 26, 1871
122,947	Same.....Machine for laying bridge-cables	Dec. 26, 1871
120,058	Gray, Joshua, New York, N. Y. Gas-lamp	Oct. 17, 1871
121,342	Gray, Joshua, assignor to Arthur W. Gray and Charles H. Hartshorn, Medford, Mass. Curtain-fixture	Nov. 28, 1871
	Gray, Oscar B., *et al.* (*See* Capron, Elisha P. H., assignor.)	
111,838	Gray, Robert C., and William B. Brittingham, La Fayette, Ind. Water-meter	Feb. 14, 1871
4,319	Gray, Robert C., and William B. Brittingham, assignors to selves and John Fordyce, La Fayette, Ind. Piston steam-valve	April 4, 1871
116,948	Gray, Solomon S., Boston, Mass. Paper-collar	July 11, 1871
117,274	Same.....Barrel-head	July 25, 1871
	Gray, Solomon S., *et al.* (*See* Elliott, Harrison T., assignor).....(Reissue.)	
	Gray, Thomas, and Joseph Maxwell. (*See* Maxwell & Gray.)	
112,567	Gray, William H., Ashfield, Mass. Cow-tail holder	Mar. 14, 1871
113,876	Same.....Lamp-burner	April 18, 1871
114,131	Same.....New York, N. Y. Horse-collar	April 25, 1871
4,435	Gray, William H., assignor of one-half interest to Samuel Ross, Saint Louis, Mo. Lamp-burner.....(Reissue)	June 20, 1871
115,933	Gray, William H., Saint Louis, Mo., and Samuel Ross, Washington, D. C. Lamp-burner	June 13, 1871
121,507	Gray, William M., Brooklyn, N. Y. Door-spring	Dec. 5, 1871
121,508	Same.....same	Dec. 5, 1871
114,287	Greacon, John, jr., New York, N. Y. Manufacture of rubber	May 2, 1871
111,449	Greacon, John, jr., and Edward L. Perry, assignors to Combination Rubber Company, New York, N. Y. Manufacture of rubber-rolls	Jan. 31, 1871
120,059	Greacon, John, jr., and Stanley, New York, N. Y. Spark-arrester	Oct. 17, 1871
	Grebner, Michael, *et al.* (*See* Bola, Grebner & Jagel.)	
	Green, Albert, *et al.* (*See* Wentz, Green & Conner.)	
114,671	Green, Duby, New York, N. Y. Manufacture of yeast and in the application of the same in mashing and brewing	May 9, 1871
118,800	Green, George B., England. Saw	Sept. 12, 1871
115,193	Green, Jacob, Philadelphia, Pa. Gas-burning furnace	May 23, 1871
112,334	Green, James A., Mill Dale, Va. Grain-cleaner and fertilizer-sifter	Mar. 7, 1871
117,534	Green, Joseph, assignor to self and George Stancliff, New York, N. Y. Coal hoister and conveyer	Aug. 1, 1871
118,448	Green, Luther W., Williamsport, Pa. Feeding-device for sewing-machines	Aug. 29, 1871
114,694	Green, Marion, Coldwater, Mich. Implement for slitting and joining rags for carpets	April 25, 1871
4,372	Green, Nelson W., Amherst, Mass. Method of constructing artesian wells. (Reissue)	May 9, 1871
117,490	Green, Squire J., assignor to self and Dyer Williams, Syracuse, N. Y. Pitman-connection for harvesters. (Antedated July 14, 1871)	July 25, 1871
116,303	Green, Thomas, assignor to self and Henry A. Bowdoin, Brooklyn, N. Y. Fan-attachment for sewing-machines	June 27, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,831	Green, William, Yonkers, N. Y. Railway-signal apparatus	July 11, 1871
4,923	Green, William B., Mansfield, N. Y. Glove (Design)	May 23, 1871
117,631	Green, William M., Gallatin, Tenn. Razor-strap	Aug. 1, 1871
116,439	Greenaway, Alfred, and Hugh J. Needham, New Albany, Ind. Fire-place grate	June 27, 1871
122,249	Greene, Darwin A., New York, N. Y. Steam-engine	Dec. 26, 1871
	Greene, George W. (*See* Barnekor, Kiel V., assignor) (Reissue.)	
120,191	Greene, James, Providence, R. I. Lotion for protecting animals against flies	Oct. 24, 1871
113,638	Greene, James Durell, New York, N. Y. Life-preserving mattress	April 11, 1871
121,097	Greene, William A., assignor to John H. Burtis, Brooklyn, N. Y. Stove-grate	Nov. 21, 1871
	Greenfield, Ernest, and Philip Strauss. (*See* Duff, Robert, assignor.) (Two cases.)	
	Same (*See* Oehl, Charles A., assignor.)	
117,375	Greening, Benjamin, assignor to Samuel Owen Greening, Hamilton, Canada. Machine for making wire fencing	July 25, 1871
	Greenleaf, Halbert S. (*See* Rosner, George, assignor) (Reissue.)	
118,601	Greenleaf, William A., assignor to self, John T. Dickson, and Edward Greenleaf, Indianapolis, Ind. Head-block for saw-mills	Sept. 12, 1871
118,449	Greenough, John James, Syracuse, N. Y. Apparatus for grooming horses	Aug. 29, 1871
120,193	Same. Fastening for boxes, &c	Oct. 24, 1871
121,666	Greentree, Hiram, assignor to self and Thomas M. Webb, Baltimore, Md. India-rubber supporter for the arms	Dec. 12, 1871
120,511	Greenwalt, William H., Strikersville, Pa. Lifting-jack	Oct. 31, 1871
	Greenwood, Calvin S., *et al.* (*See* Aldrich & Spaulding, assignors.)	
114,266	Greenwood, Peter William, Landenburgh, Pa. Spinning-mule, &c	May 2, 1871
	Greer, John F., *et al.* (*See* Duff, John T., assignor) (Design.)	
115,306	Gregg, Alexander, Watertown, Mass. Packing-box	May 30, 1871
	Gregg, Charles. (*See* Bundy, Nelson H., assignor.)	
119,335	Gregg, Erastus C., assignor to Alexander H. and Chauncey P. Gregg, Trumansburgh, N. Y. Screw-propulsion	Mar. 7, 1871
	Gregg, Erastus C. and Chauncey P. (*See* Clapp, Charles, assignor.)	
114,672	Gregg, Henry K., Baltimore, Md. Envelope	May 9, 1871
114,063	Gregg, Phineas, Brownsville, Mich. Cutting-apparatus for harvesters	April 25, 1871
119,515	Gregg, Thomas, Danville, Pa. Joint for school-desks, &c	Oct. 3, 1871
118,220	Gregg, William, assignor to self and Charles Newkirk, Dansville, Mich. Staking horse-power	Aug. 22, 1871
	Gregory, Charles W., and George E. Morris. (*See* Morris & Gregory.)	
121,361	Gregory, Clark B., Beverly, N. J. Base-burning stove and furnace	Nov. 28, 1871
114,073	Gregory, George, assignor to William H. Bradley, New Haven, Conn. Folding-step for carriages	May 9, 1871
4,361	Gregory, George W., New York, N. Y. Pulley-attachment for raising weights. (Reissue)	May 16, 1871
116,838	Gregory, Seth, South Norwalk, Conn. Cooking-stove	July 11, 1871
113,160	Gregory, Stephen, Jonesville, Mich. Car-coupling	Mar. 28, 1871
117,880	Grenelle, William E., New York, N. Y. Sealing and unsealing drip-pipes in hydraulic mains	Aug. 8, 1871
112,445	Gresham, William H. A., Atlanta Ga. Printers' case	Mar. 7, 1871
	Greve, H. (*See* Smith, William, assignor.)	
112,566	Grey, John D., Pittsburgh, Pa. Coating sheet-iron with zinc	Mar. 14, 1871
4,354	Gridley, James H., assignor to H. L. Purdie, Washington, D. C. Lock-nut. (Reissue)	April 25, 1871
4,406	Same. Locking-washer for nuts (Reissue)	May 30, 1871
111,730	Gridley, John B., assignor of one-third interest to Robert Patterson and Chauncey Rice, Louisville, Ky. Cotton-press	Feb. 14, 1871
116,177	Gridley, Orrin L., and Carl Engelskerchen; said Engelskerchen assignor to said Gridley, Buffalo, N. Y. Lantern	June 20, 1871
5,105	Gridley, Wilmer D., New Haven, Conn. Bracket (Design)	July 11, 1871
120,431	Grier, George S., Milford, Del. Harvester	Oct. 31, 1871
122,007	Same. Harvester-reel	Dec. 19, 1871
	Griffen, John, Phœnixville, Pa. Pile for rolling beams (Extension)	Nov. 15, 1871
115,194	Griffes, David S., Flint, Mich. Device for turning and canting logs	May 23, 1871
116,178	Griffin, Crawford S., and Josiah W. Wilkins, Chelsea, Me. Dovetailing-machine	June 20, 1871
116,940	Griffin, James Kent, Waterdown, Canada. Manufacture of composition-pipes for water, gas, &c	July 11, 1871
119,001	Same. Manufacture of pipes, roofing, flooring, and other articles from disintegrated wood	Oct. 3, 1871
121,160	Same. Process and apparatus for the manufacture of roofing, flooring, pipes, &c	Nov. 21, 1871
118,143	Griffin, Mortimer, New York, N. Y. Table-slide	Aug. 15, 1871
111,117	Griffin, Patrick H., Albany, N. Y. Burial-case. (Antedated Jan. 7, 1871)	Jan. 24, 1871
121,710	Same. Hydrant	Dec. 12, 1871
113,493	Griffin, Robert Arthur, Montreal, Canada. Manufacture of peat-fuel	April 4, 1871
114,138	Griffing, Charles S. S., assignor to self and Thomas Sharp, Salem, Ohio. Feed-water heater	April 25, 1871
111,118	Griffith, Collins W., assignor to self and Charles H. Mackintosh, Cincinnati, Ohio. Thill-coupling	Jan. 24, 1841
114,674	Griffith, Daniel A., Saint Charles, Mo. Stock-marker	May 9, 1871
115,843	Griffith, Daniel M., Alum Bank, Pa. Bee-hive	June 13, 1871
111,926	Griffith, Edmund, Wilmington, Del. Earth-closet	Feb. 21, 1871
114,551	Griffith, James S., Saint Louis, Mo. Surface blow-off for steam-boilers	May 9, 1871
116,179	Same. Blow-off pipe for steam-boilers	June 20, 1871
111,620	Griffith, James S., and Charles E. Emery, New York, N. Y. Sectional steam-boiler	Feb. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,653	Griffith, John, and George W. Wundram, New York, N. Y. Machine for facing T-heads	April 11, 1871
117,622	Griffith, Nathan L., South Plymouth, Ohio. Hedge-planter	Aug. 1, 1871
111,839	Griffith, Richard W., Georgetown, D. C. Chimney-top	Feb. 14, 1871
5,322	Griffith, William H., New York, N. Y. Billiard-table (Design)	Oct. 24, 1871
114,675	Griffiths, John W., East Boston, Mass. Railroad-car	May 9, 1871
5,120	Griffiths, William H., Boston, Mass. Clock-front (Design)	July 18, 1871
115,307	Griggs, Andrew J., Pittsburgh, Pa. Whiffletree-hook	May 30, 1871
120,638	Griggs, George H., assignor to Charles F. Pike, Worcester, Mass. Spark arrester and consumer for locomotives	Nov. 7, 1871
	Griggs, George S., deceased, by Solomon A. Bolster, executor, Boston, Mass. Locomotive-furnace (Extension)	Dec. 3, 1871
	Same. Locomotive-engine wheel (Extension)	Dec. 13, 1871
121,500	Griggs, Henry C., assignor to self and Louis D. Griggs, Waterbury, Conn. Suspender	Dec. 5, 1871
115,001	Grill, Louis A., New York, N. Y. Billiard-table	June 6, 1871
116,950	Same. same	July 11, 1871
116,951	Same. Fabric for beds of billiard and other tables, and for other purposes	July 11, 1871
	Grilley Company. (*See* Hillhouse & Briggs.)	
116,030	Grim, David, Pittsburgh, Pa. Felloe-clip for vehicle-wheels	June 20, 1871
120,813	Same. Horseshoe	Nov. 14, 1871
118,852	Grim, Louis, assignor of one-half interest to Alexander L. Moore, Fort Branch, Ind. Fly-trap	Sept. 12, 1871
118,926	Grimes, Benjamin F., Memphis, Tenn. Straw-cutter	Sept. 12, 1871
118,927	Same. Fare-box for cars	Sept. 12, 1871
	Grimes, Franklin P., and William Altick. (*See* Altick & Grimes.)	
110,648	Grimes, Franklin T., Liberty, Mo. Lamp	Jan. 3, 1871
111,190	Same. Baster-guide for sewing-machines	Jan. 24, 1871
111,531	Same. Lamp	Feb. 7, 1871
119,842	Same. same. (Antedated Oct. 6, 1871)	Oct. 10, 1871
113,761	Grimes, William C., Decatur, Ill. Check-row attachment for corn-planters	April 18, 1871
111,639	Grinter, Thomas W., assignor to James L. Haven, Russellville, Ky. Wine and cider press	Feb. 7, 1871
113,494	Gripp, John C., Pittsburgh, Pa. Furnace for steam-boilers	April 4, 1871
118,010	Griscom, Chalkley, John P. and Lewis, Port Carbon, Pa., and John Fritz, Mahanoy Top, Pa. Tunneling-machine	Aug. 15, 1871
111,641	Griscom, John P., and John Fritz, Port Carbon, Pa. Bridge for supporting shaft-drilling machines	Feb. 7, 1871
119,757	Griscom, Samuel E., Mahanoy Plane, Pa. Valve or bottom for separating slate from coal	Oct. 10, 1871
	Same. (*See* Bullock, Milan C., assignor.)	
	Same. (*See* Frisbee, Gideon, assignor.)	
4,427	Griswold, Catharine, Willimantic, Conn. Skirt-supporting corset (Reissue)	June 20, 1871
116,583	Same. Corset	July 4, 1871
5,225	Same. Garment-supporting hook (Design)	Aug. 22, 1871
112,446	Griswold, George W., Factoryville, Pa. Lamp-chimney	Mar. 7, 1871
120,872	Same. Adjustable music-stool, stand, and work-table	Nov. 14, 1871
116,598	Griswold, Gouvion G., Brooklyn, N. Y. Umbrella	July 4, 1871
117,089	Griswold, Joshua G., Hartford, Conn. Shirt-stud	July 18, 1871
111,927	Griswold, Levi, Branford, Conn. Milling-tool	Feb. 21, 1871
112,894	Griswold, Lyman, Denver, Colo. Combined ore-crusher and amalgamator	Mar. 21, 1871
	Griswold, Matthew, jr., and Samuel Selden. (*See* Selden & Griswold.)	
112,447	Griswold, Philander, Hudson, Mich. Grain-separator	Mar. 7, 1871
120,739	Griswold, William C., Newark, N. J. Adjustable crown-block for hat-blocking machines	Nov. 7, 1871
	Same. (*See* Hayden, George, assignor.)	
118,712	Groat, Elias, Napa, Cal. Churn	Sept. 5, 1871
118,713	Same. same	Sept. 5, 1871
119,701	Groat, John, Peru, Ind. Sawing-machine	Oct. 10, 1871
113,762	Groat, Julius W., Fremont, Ohio. Washing-machine	April 18, 1871
119,348	Grovel, Nicholas, Newark, N. J. Trunk	Sept. 26, 1871
121,458	Groff, Solomon G., Voganaville, Pa. Brush and broom holder	Dec. 5, 1871
4,440	Grogan, Henry, Flatbush, N. Y. Lubricating compound (Reissue)	June 27, 1871
116,704	Same. same	July 4, 1871
116,958	Same. Bearing for journal-boxes	July 11, 1871
120,378	Groh, Michael, and J. V. Weitz, Cleveland, Ohio. Lime-kiln	Oct. 31, 1871
120,814	Groocock, John G., New York, N. Y. Surgical bandage	Nov. 14, 1871
121,510	Groocock, Samuel P., Clifton, N. J., and Walter J. Brassington, Brooklyn, N. Y., assignors to the National Wood-Manufacturing Company. Gluing-table	Dec. 5, 1871
117,070	Groom, George, assignor to Martin M. Reynolds, Brockville, Canada. Churn	July 18, 1871
5,043	Groom, Patrick W., assignor to self and Jonathan R. Seltzer, Philadelphia, Pa. Shovel (Design)	June 27, 1871
116,180	Groomes, J. William, Portsmouth, Ohio. Envelope	June 20, 1871
115,051	Grosheing, Jean Jacques, France. Manufacture of glucose sirup and sugar	May 23, 1871
112,940	Grosjean, Florian, Brooklyn, N. Y. Spoon	Feb. 28, 1871
	Same. (*See* Smith, John Harry, assignor.)	
	Same. (*See* Milligan, Henry C., assignor.)	
111,200	Gross, Jacob H., Niantick, Ill. Corn-dropper	Jan. 24, 1871
112,241	Gross, Philip P., Palmyra, Mo. Straw-cutter	Feb. 28, 1871
114,556	Gross, Samuel, Dover Township, Pa. Flavoring whisky	May 9, 1871
111,532	Group, Jesse R., Idaville, Pa. Machine for boring posts	Feb. 7, 1871

No.	Name, residence, and invention or discovery.	Date.
4,734	Grove, William Henry, Philadelphia, Pa. Show-case.....(Design)..	Mar. 21, 1871
114,434	Same.....Dry-earth closet.....	May 2, 1871
114,435	Same.....Sewing-machine stand.....	May 2, 1871
115,195	Same.....Show-case.....	May 23, 1871
4,946	Same.....same.....(Design)..	May 30, 1871
4,978	Same.....same.....(Design)..	June 6, 1871
120,759	Same.....same.....	Nov. 7, 1871
4,628	Grove, Winfield S., Philadelphia, Pa. Show-case.....(Design)..	Feb. 7, 1871
119,920	Grover, Demas L., Groton, N. Y. Churn-dasher.....	Oct. 17, 1871
7,17,535	Grover, John William, England. Rolling-stock for railways.....	Aug. 1, 1871
118 450	Grover, William O., Boston, Mass. Sewing-machine.....	Aug. 29, 1871
120,297	Groves, John, New York, N. Y. Window-sash.....	Oct. 24, 1871
	Grubb, Jonathan W. (*See* Schuckers, Jacob W., assignor.)	
118,853	Grube, Henry C., New York, N. Y. Covering or hide for toy-animals.....	Sept. 12, 1871
	Grueter, Bernard, and Lorenzo Matt. (*See* Matt & Grueter.)	
110,842	Gramling, Hugh B., Grant, Pa. Hames-fastening. (Antedated Jan. 6, 1871)..	Jan. 10, 1871
	Grundy, John C., and Edward F. Reed. (*See* Reed & Grundy.)	
119,602	Grut, George C., Chicago, Ill. Spring bed-bottom. (Antedated Sept. 27, 1871)..	Oct. 3, 1871
111,928	Guard, Chauncey Holmes, Toronto, Canada. Carriage.....	Feb. 21, 1871
120,639	Gubbins, Richard R., assignor to self, Patrick J. Fitzgerald, and Lewis H. De Zouche, Troy, N. Y. Paper-folding machine.....	Nov. 7, 1871
121,615	Gubbins, Richard R., assignor to self, Thomas W. Holmes, Achille J. Rosseau, and Louis H. De Zouche, West Troy, N. Y. Paper-folding machine.....	Dec. 5, 1871
122,115	Guenther, John G., Buffalo, N. Y. Apparatus for rectifying spirits, &c.....	Dec. 26, 1871
5,360	Gueritte, Victor, assignor to W. and I. Sloane, Scotland. Carpet-pattern. (Design).....	Nov. 7, 1871
112,704	Guernsey, William B., Jersey City, N. J. Electro-magnetic burglar-alarm.....	Mar. 14, 1871
112,705	Same.....same.....	Mar. 14, 1871
112,706	Same.....same.....	Mar. 14, 1871
4,297	Guernsey, William B., assignor to Cyrus B. Martin, Jersey City, N. J. Electro-magnetic burglar-alarm.....(Reissue)..	Mar. 14, 1871
	Guest, John H., and George E. Cock. (*See* Cock & Guest.)	
112,805	Guest, Samuel M., Ypsilanti, Mich. Railway-rail chair.....	Mar. 21, 1871
116,304	Guex, Louis, assignor to R. Hoe & Co., New York, N. Y. Stereotype-mold.....	June 27, 1871
112,446	Guider, John W., assignor to self and John Kieffer, Saint Joseph, Mo. Clamp for thill-couplings.....	Mar. 7, 1871
114,604	Guild, Joseph, Buffalo, N. Y. Automatic water-valve.....	May 16, 1871
115,727	Guilfoyle, William, New York, N. Y. Machine for pressing and stuffing horse-collars.....	June 6, 1871
113,161	Guinnip, Lyman, Danville, Ill. Horse-collar.....	Mar. 28, 1871
	Gulayer, Louis W., *et al.* (*See* Winner, Joseph L., assignor.)	
117,770	Gulden, Jacob, Keyport, N. J. Soldering-apparatus.....	Aug. 8, 1871
115,308	Gulden, Jacob, assignor to Uriah H. Dudley, Keyport, N. J. Soldering-apparatus.....	May 30, 1871
118,854	Gulliber, James K., Montana, Iowa. Sad and fluting iron.....	Sept. 12, 1871
	Gullberg, Carl, and Constant W. Wadsworth. (*See* Wadsworth & Gullberg.)	
113,336	Gundlach, Philip M., Belleville, Ill. Seeding-machine.....	Mar. 7, 1871
	Gunn, George H., and Benjamin Haviland. (*See* Haviland & Gunn.)	
	Gunn, Hiram B., and Samuel S. Sherman. (*See* Sherman & Gunn.)	
121,869	Gunn, Schuyler E., assignor to Frank Sturges & Co., Chicago, Ill. Tin can.....	Dec. 12, 1871
119,603	Gunning, Thomas B., New York, N. Y. Composition-box.....	Oct. 3, 1871
113,449	Gunther, Gottlob, New York, N. Y. Bird-cage.....	Mar. 7, 1871
120,288	Gunther, Hermann A., New York, N. Y. Pavement.....	Oct. 24, 1871
113,406	Gurney, Heman S., and Horace Merrill, Memphis, Mich. Churn.....	Mar. 21, 1871
119,702	Gustafson, Gustaf, assignor to self, John Phillips, and Henry Leibenstein, Chicago, Ill. Machine for bending wood.....	Oct. 10, 1871
	Gustin, Samuel. (*See* Snyder, Philip A., assignor.)	
113,714	Gutierrez, Benigno, Santa Barbara, Cal. Medical compound.....	Sept. 5, 1871
118,605	Guttridge, David C., assignor of two-thirds interest to Charles Ballinger and Robert Smiley, Pittsburgh, Pa. Corn-sheller.....	Aug. 29, 1871
	Gutzkow, Hermann, and Julius Bronner. (*See* Bronner & Gutzkow)..(Reissue.)	
	Guy, Elias E., and Leander Spaulding. (*See* Spaulding & Guy.)	
	Guyot, Minor, *et al.* (*See* Shortt, Edward G., assignor).....(Two cases.)	
120,379	Guzman, Peter, France. Motor.....	Oct. 31, 1871
	Gwyer, C. H. (*See* Smith & Winston, assignors.)	
118,328	Gyles, James F., Chicago, Ill. Wood-pavement.....	Aug. 29, 1871
119,756	Gyss, Florent, New York, N. Y. Door-lock.....	Oct. 10, 1871
	Haas, Leonard J. (*See* Eames, William T., assignor.)	
113,450	Haas, William, New York, N. Y. Stop-cock and valve.....	Mar. 7, 1871
118,715	Same.....Stop-valve.....	Sept. 5, 1871
121,167	Habecker, Joseph B., Newport, Pa. Clothes-line holder.....	Nov. 21, 1871
	Hacker, Francis, and Frederick Richardson. (*See* Richardson & Hacker.) (Two cases.)	
111,939	Hackett, Joseph, Louisville, Ky. Fire-place.....	Feb. 21, 1871
117,376	Same.....same.....	July 25, 1871
121,616	Same.....Burial-case.....	Dec. 5, 1871
113,140	Hadwin, William, assignor to self and Isaac S. Wilson, Rochester, N. Y. Baling short-cut hay or straw.....	Feb. 28, 1871
	Haerther, Augustus, and Charles F. Smith. (*See* Smith & Haerther.)	

No.	Name, residence, and invention or discovery.	Date.
111,643	Hafenegger, Joseph, San Francisco, Cal. Explosive compound.....	Feb. 7, 1871
	Hagelin, Adolphus. (*See* Stanton, Joseph, assignor.)	
122,008	Hagerty, Thomas, Richmond, Va. Pinking-machine.....	Dec. 19, 1871
	Haggerty, B. B. (*See* Read, Horatio, assignor.)	
	Haggerty, James W., *et al.* (*See* Morean, Eugene, assignor.)	
112,948	Hahl, Augustus, assignor to the Electric Clock and Bell Company, Washington, D. C. Electro-magnetic signal-apparatus.....	Feb. 28, 1871
118,928	Hahn, Francis E., Philadelphia, Pa. Sewing-machine.....	Sept. 12, 1871
122,949	Haight, Henry J., New York, N. Y. Incubator.....	Dec. 26, 1871
118,529	Haight, Levi A., Cairo, N. Y. Churn-power.....	Aug. 29, 1871
113,763	Haines, Charles L., North Newburgh, Me. Cheese-press.....	April 18, 1871
4,361	Haines, John Peter, New York, N. Y. Oil-cup.....	May 2, 1871
116,953	Haines, John W., Cambridge, Mass. Reflector for lamps.....	July 11, 1871
113,513	Hainsworth, Frederick, Chicago, Ill. Gasoline-attachment for cooking-stoves...	April 11, 1871
4,347	Hainsworth, William, assignor of one-half interest to Sears M. Loveridge, Allegheny City, Pa. Mold.....(Reissue)..	April 18, 1871
111,055	Hayman, Elias, assignor to Blount, Hayman & Bro., Columbus, Ga. Plow.....	Jan. 17, 1871
	Hale & Manley. (*See* Park, John, assignor.)	
	Hale, A. R. (*See* Barnum, Lafayette, assignor.)	
119,843	Hale, Benjamin E., New York, N. Y. Manufacture of wrapping-paper.....	Oct. 10, 1871
114,805	Hale, Elias J., Foxcroft, Me. Lamp-burner.....	May 16, 1871
	Hale, Goodman & Co. (*See* Curtis, Harrison W., assignor.)	
120,640	Hale, Joseph, Somerville, Mass. Thill-coupling.....	Nov. 7, 1871
112,030	Hale, Luke, Hollis, N. H. Hay-tedder.....	Feb. 21, 1871
120,512	Same.....Clothes-wringer.....	Oct. 31, 1871
119,750	Hale, Oscar F., Irvington, Iowa. Ditching-machine.....	Oct. 10, 1871
120,260	Haley, Andrew M., Sioux City, Iowa. Valve for steamboat engines.....	Oct. 24, 1871
122,000	Hall, Abijah W., Northfield, Vt. Combined friction and ratchet clutch.....	Dec. 19, 1871
115,463	Hall, Albert H., and Theophilus Locher, Sacramento, Cal. Metallic packing for stuffing-boxes.....	May 30, 1871
115,602	Hall, Alexander W., New York, N. Y. Anti-friction bearing for journals.....	June 6, 1871
119,961	Hall, Charles, New York, N. Y. Differential pulley-block.....	Oct. 17, 1871
4,629	Hall, Charles S., New York, N. Y. Show-card.....	Feb. 7, 1871
116,305	Same.....Rochester, N. Y. Adjustable shield for shaft-coupling.....	June 27, 1871
117,410	Same.....Concave for thrashing-machine.....	July 25, 1871
120,562	Same.....Grain-separator.....	Nov. 7, 1871
121,930	Same.....Grain thrasher and separator.....	Dec. 19, 1871
4,602	Hall, Daniel A., and David Garrison, assignors to Swan & Clark, Philadelphia, Pa. Box for the top of bureaus.....(Design)..	Jan. 24, 1871
4,603	Same.....same.....(Design)..	Jan. 24, 1871
113,046	Hall, Daniel A., and David Garrison, Philadelphia, Pa. Construction of pier-ginas frames and cornices.....	Mar. 28, 1871
116,833	Hall, Don C., Hannibal, Mo. Carpet-sweeper. (Antedated July 8, 1871).....	July 11, 1871
113,877	Hall, Edward K., Louisville, Ky. Burglar-proof safe.....	April 18, 1871
115,728	Same.....same.....	June 6, 1871
116,954	Same.....same.....	July 11, 1871
116,705	Hall, Edwin, Oxford, N. Y. Carriage-spring.....	July 4, 1871
	Hall, Edwin R. (*See* Henderson, Constantine, assignor.)	
114,806	Hall, Eli R., and Daniel A. Keyes, Norfolk, Conn. Stove-pipe damper.....	May 16, 1871
	Hall, Elihu, & Co. (*See* Warner, Almon, assignor).....(Reissue.)	
	Hall, Elton & Co. (*See* Culver, John M., assignor).....(Design.)	
	Hall, F. F., *et al.* (*See* Morrison, Duncan, assignor.)	
116,567	Hall, Francis L., Oneida, N. Y. Brick-machine.....	July 4, 1871
121,243	Hall, Frank Elmer, Bridgewater, Mass. Stall-floor.....	Nov. 28, 1871
	Hall, George, *et al.* (*See* Chinn, Hall & Fitch.)	
118,929	Hall, George B., Rising Sun, Ind. Shoe.....	Sept. 12, 1871
119,349	Hall, George B., and Joseph Shaffer, Kansas City, Mo. Railroad-car ventilator.	Sept. 26, 1871
	Hall, George F., *et al.* (*See* Morrill, Coffin & Hall.)	
121,511	Hall, George L., assignor to Globe Nail Company, Boston, Mass. Machine for manufacturing horseshoe-nails.....	Dec. 5, 1871
119,350	Hall, Henry M., New York, N. Y. Device for securing hemmers, &c., to sewing-machines.....	Sept. 26, 1871
120,513	Same:.....Binder for sewing-machines.....	Oct. 31, 1871
117,771	Hall, Isaac, assignor to self and George B. Walter, New York, N. Y. Telegraph-apparatus.....	Aug. 8, 1871
118,194	Hall, James, Ligonia, Ind. Windmill.....	Aug. 15, 1871
	Hall, James F., *et al.* (*See* Harwood, William P., assignor.)	
5,307	Hall, Joel, assignor to Hall, Elton & Co., Wallingford, Conn. Sugar-tongs.....	Oct. 10, 1871
118,011	Hall, John, Watertown, Mass. Race-course toy-bank.....	Aug. 15, 1871
120,270	Hall, John C., Cincinnati, Ohio. Combined lounge and bedstead.....	Oct. 24, 1871
112,031	Hall, John C., assignor to self and Allen C. Richards, Cincinnati, Ohio. Lounge and bed.....	Feb. 21, 1871
	Hall, John S., Pittsburgh, Pa. Plow.....(Extension)..	May 17, 1871
115,844	Hall, Joseph B., Lebanon, N. H. Millstone-elevator.....	June 13, 1871
	Hall, Joshua, *et al.* (*See* Phillips, George B., assignor.)	
	Hall, Robert E. H. (*See* Nichols, William H., assignor.)	
	Hall, Samuel H. (*See* Osgood, James H., assignor.)	
5,413	Hall, Thomas, Jersey City, N. J. Show-card for hair-nets.....(Design)..	Dec. 12, 1871
113,425	Hall, Thomas S., New Haven, Conn. Railway-bridge signal-apparatus.....	April 4, 1871
4,493	Same.....West Meriden, Conn. Double-circuit instrument for railroad-signals and other purposes.....(Reissue)..	Aug. 1, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,606	Hall, Thomas S., West Meriden, Conn. Electro-magnetic signal-apparatus for railroads	Aug. 29, 1871
119,177	Same.....Electro-magnetic signal for switches and draw-bridges	Sept. 19, 1871
121,870	Same.....Electro-magnetic signal-house	Dec. 12, 1871
114,676	Hall, Uriah S., assignor of one-half interest to Jesse Owen, Chemung, N. Y. Method of attaching springs to carriages	May 9, 1871
	Hall, William H. (*See* Sheldon, Nathaniel P., assignor.)	
111,740	Hall, William H., assignor to self and Joseph W. Haskins, Boston, Mass. Interfering-pad for horses	Feb. 14, 1871
118,830	Hall, William N., Springfield, Tex. Combination-lock	Sept. 12, 1871
120,935	Hall, William P., Piqua, Ohio. Kiln for burning brick, lime, &c	Nov. 14, 1871
122,010	Same.....Steam-boiler casing and furnace	Dec. 19, 1871
119,351	Hall, Willis De Lancey, Memphis, Tenn. Automatic fan	Sept. 26, 1871
120,986	Halladay, William H., assignor to self and Daniel A. Kimball, Chicago, Ill. Guide for sewing-machines	Nov. 14, 1871
117,411	Halleck, Samuel P., Oriskany, N. Y. Cheese-vat fastener	July 25, 1871
113,764	Hallefas, William T., New York, N. Y. Caloric-engine	April 18, 1871
121,617	Hallett, Albert S. and Hervey H., East Abington, Mass. Car-coupling	Dec. 5, 1871
113,514	Hallett, Enoch, Hillsdale, Mich. Brick-machine	April 11, 1871
117,412	Halley, Thomas F., and John F. Livingston, Washington, D. C. Lamp-burner	July 25, 1871
115,729	Halliday Edwin W., Columbus, Ky. Wharf-boat	June 6, 1871
117,772	Halliday, John, New Orleans, La. Apparatus for removing sand-bars from rivers	Aug. 8, 1871
110,971	Hallidie, Andrew Smith, San Francisco, Cal. Endless-wire rope-way	Jan. 17, 1871
115,300	Same.....same	May 30, 1871
115,310	Same.....same	May 30, 1871
121,776	Same.....Endless rope-way	Dec. 12, 1871
121,284	Hallock, Charles C., assignor of one-half interest to Asa Hoyt, Brooklyn, N. Y. Coating concrete and cement floors, pavements, &c	Nov. 28, 1871
120,062	Hallock, W. H. Harrison, Mattituck, N. Y. Animal-gag	Oct. 17, 1871
117,277	Hallowell, Albert, Edmund Elliott, and Charles A. Blodgett; said Elliott assignor to said Blodgett, Lowell, Mass. Camp-stool	July 25, 1871
	Halsey, A. J., *et al.* (*See* Baxter, William, assignor.)	
116,706	Halsey, Herrick R., La Fayette, Ill. Sash-holder	July 4, 1871
116,125	Same.....Household-utensil	Aug. 15, 1871
120,022	Halsey, William Hudson, Philadelphia, Pa. Oil-cloth printing-machinery	Feb. 21, 1871
115,311	Halsey, William H., assignor to self and Theodore F. Taylor, Philadelphia, Pa. Temporary shoe for horses. (Antedated May 19, 1871)	May 30, 1871
115,663	Halsted, Eminel P., assignor to R. Ball & Co., Worcester, Mass. Tenoning-machine	June 6, 1871
116,731	Same.....Cutter-head for wood-working machine	Sept. 12, 1871
119,138	Halsted, Melvin A., San Francisco, Cal. Traction-engine	Sept. 19, 1871
4,413	Halvorson, Halvor, assignor to Rufus S. Merrill, Nashua, N. H. Lamp. (Reissue)	June 6, 1871
4,660	Halvorson, Halvor, assignor through mesne assignments to Rufus S., William R., and Joshua Merrill, Nashua, N. H. Lamp. (Reissue)	Dec. 5, 1871
114,436	Ham, John C., New York, N. Y. Support for the sashes of carriage-doors and windows	May 2, 1871
	Ham, Robert, and Robert Scorer. (*See* Scorer & Ham).....(Three cases.)	
	Haman, George, *et al.* (*See* Lippold, Heinry, assignor.)	
115,604	Hamill, Hugh, New York, N. Y. Pressing, ironing, and smoothing machine	June 6, 1871
115,312	Hamilton, Benjamin R., South Deerfield, and Samuel Swan, Conway, Mass. Machine for creasing leather	May 30, 1871
117,169	Hamilton, Emery M., New York, N. Y. Adding-machine	July 18, 1871
110,849	Hamilton, Finlay F., Green Bay, Wis. Hay-press	Jan. 10, 1871
121,944	Same.....same. (Antedated Nov. 9, 1871)	Nov. 28, 1871
	Hamilton, Franklin D., and George K. Proctor. (*See* Proctor & Hamilton.)	
120,060	Hamilton, Fred. C., assignor through mesne assignments to Franklin W. Brooks, New York, N. Y. Seal-bolt	Oct. 17, 1871
120,061	Same.....same	Oct. 17, 1871
121,777	Hamilton, Henry W., Brandon, Vt. Hay-loader	Dec. 12, 1871
116,955	Hamilton, Ira S., Hamilton, Ohio. Ratchet-drill	July 11, 1871
120,641	Same.....Pipe-wrench	Nov. 7, 1871
121,512	Hamilton, Ira S., assignor to self and Owens, Lane, Dyer & Co., Hamilton, Ohio. Swaying-tool for boiler-tubes	Dec. 5, 1871
121,513	Same.....Tool for expanding and cutting off boiler-tubes. (Antedated Nov. 25, 1871)	Dec. 5, 1871
121,514	Same.....Flue-expander	Dec. 5, 1871
	Hamilton, James A. (*See* Rodgers, Amos Charles, assignor.)	
114,553	Hamilton, John L., Saint Joseph, Mo. Horse-detaching apparatus	May 9, 1871
111,341	Hamilton, Joseph F., Alliance, Ohio. Valve for steam-pumps	Jan. 31, 1871
116,707	Hamilton, Robert W., Hartford, Conn. Exhaust-valve	July 4, 1871
117,881	Hamilton, Robert W., assignor to William L. Williams, New York, N. Y. Lock-nut	Aug. 8, 1871
111,342	Hamilton, Thomas Foster, Genesco, Ill. Door-hanger and rail	Jan. 31, 1871
118,360	Same.....Cultivator and shovel-plow	Aug. 29, 1871
115,954	Hamilton, Thomas F., assignor to self and Morris P. Bray, New Haven, Conn. Corset	June 13, 1871
114,389	Hamilton, Wesley W., Flushing Township, N. Y. Slate-frame	May 2, 1871
114,133	Hamilton, William B., assignor to the New Orleans Sanitary and Fertilizing Company, New Orleans, La. Fertilizing-compound	April 25, 1871
115,313	Hamilton, William Barkerville, assignor to William P. Hamilton, New Orleans, La. Turpentine-box	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,530	Hamilton, William T., Lutherburgh, Pa. Wagon-brake	Aug. 29, 1871
117,693	Hamler, Cornelius, assignor to Andrew Shiner, Newton, N. J. Scythe-fastening. (Antedated July 21, 1871)	Aug. 1, 1871
120,967	Hamlin, Caroline L., New York, N. Y. Corset	Nov. 14, 1871
	Hamlin, Charles A., and Eeek Bussey. (*See* Bussey & Hamlin.)	
119,844	Hamlin, Edgar C., Pavilion, N. Y. Metallic hook	Oct. 10, 1871
116,834	Hamlin, Emmons, assignor to Mason & Hamlin Organ Company, Winchester, Mass. Keyed musical instrument	July 11, 1871
121,778	Same.....Key-board musical instrument	Dec. 12, 1871
111,930	Hamlin, George B., Willimantic, Conn. Making cider	Feb. 21, 1871
	Hammon, Noah W., and Henry B. Osborn. (*See* Osborn & Hammon.)	
112,560	Hammond, Henry, assignor to Lewis Hammond, Hartford, Conn. Breech-loading fire-arm	Mar. 14, 1871
119,352	Hammond, Horace J., Newburgh, Ohio. Tea and coffee pot	Sept. 26, 1871
113,292	Hammond, Job E., New Bedford, Mass. Fish-trap. (Antedated March 24, 1871)	April 4, 1871
112,141	Hammond, Samuel S., and John S. Paden, North East, Pa. Grain-separator and fanning-mill	Feb. 28, 1871
119,845	Hampton, James W., Mount Pleasant, Iowa. Washing-machine	Oct. 10, 1871
120,871	Same.....Bed-bottom	Oct. 24, 1871
120,988	Same.....Clothes-wringer	Nov. 14, 1871
	Same.....(*See* Faulkner, Admiral, assignor.)	
114,807	Hancock, Edward Clinton, New Orleans, La. Projectile	May 16, 1871
112,033	Hancock, Henry J., New York, N. Y. Holder for needles in sewing-machines	Feb. 21, 1871
112,590	Hancock, John, jr., assignor through mesne assignments to self and Benjamin Morse, Providence, R. I. Window-screen	Mar. 14, 1871
116,430	Hancock, John C., Charlestown, Mass., and Josiah C. and Edward P. Richardson, Somerville, Mass. Boot and shoe tap	June 27, 1871
117,773	Hancock, John C., Charlestown, Mass., and Edward P. Richardson, Somerville, Mass., Fire-escape	Aug. 8, 1871
121,515	Hancock, John T., West Roxbury, Mass. Ejector for forcing liquids	Dec. 5, 1871
114,554	Hancock, Leonard, assignor to James Newman, Alton, Ill. Buck-saw frame	May 9, 1871
117,624	Hancock, William, Gosport, Ind. Roofing-bracket	Aug. 1, 1871
113,203	Hand, William, Plainfield, N. J. Dumping-cart	April 4, 1871
	Handren & Ripley. (*See* Lawson, Benjamin S., assignor.)	
	Handy, Thomas. (*See* Phillips, Moreau, assignor.)	
120,432	Handyside, James Baird, Great Britain. Railway-car wheel	Oct. 31, 1871
110,972	Hanford, Melancthon, Lexington, Mass. Machine for mixing and bleaching sugars	Jan. 17, 1871
	Hanford, Thomas, and Richard Cook. (*See* Cook & Hanford.)	
117,413	Hanger, Jacob A. and George C., Churchville, Va. Device for climbing telegraph-poles, &c	July 25, 1871
111,741	Hanger, James Edward, Staunton, Va. Artificial leg	Feb. 14, 1871
118,338	Hankin, William, Hawley, Pa. Buck-saw frame	Aug. 22, 1871
120,157	Hankin, William, assignor to self, William H. Hankin, and H. W. Pence, Williamsburgh, N. Y. Buck-saw frame	Oct. 24, 1871
4,563	Hanley, James, New York, N. Y. Mechanical movement for sewing and other machinery (Reissue)	Oct. 10, 1871
	Same.....Mechanical movement for sewing and other machinery. (Extension)	Nov. 29, 1871
120,389	Hanna, Daniel W. and Edward S., Pittsburgh, Pa. Method of utilizing the waste chloride of zinc in treating paper	Oct. 31, 1871
	Hanna, Edmund S., *et al.* (*See* Taylor, Thomas, assignor.)	
119,604	Hanna, Edmund S., assignor to self and Columbus West, Pittsburgh, Pa. Paper-washer	Oct. 3, 1871
4,245	Hanna, Hugh, Pittsburgh, Pa. Thrashing-machine (Reissue)	Jan. 31, 1871
121,362	Hanna, John A., Bel Air, Md. Carriage-seat joint	Nov. 28, 1871
121,698	Hanna, John C., assignor to C. W. Harvey, Rossville, Iowa. Sash-holder	Nov. 21, 1871
119,353	Hanna, John F., Momence, Ill. Grading-machine	Sept. 26, 1871
	Hanna, Philip, and George Miller. (*See* Miller & Hanna.)	
121,168	Hannan, John W., Elyria, Ohio. Milk-can handle	Nov. 21, 1871
115,730	Hannen, Henry, assignor to self, Thomas Woods, and Benjamin F. Pine, Philadelphia, Pa. Machine for making sheet-lead	June 6, 1871
112,337	Hannum, Joseph L., and Samuel H. Stebbins, Berea, Ohio. Compound for kindling fire	Mar. 7, 1871
	Hanscom, James S. (*See* Eaton, Daniel B., assignor.)	
5,026	Hanscom, William W., San Francisco, Cal. Steam-pump (Design)	June 20, 1871
112,120	Hansen, Christian O., Ferguson, Mo. Sawing-machine	Sept. 19, 1871
	Hansen, Peter, and Hans H. Frank. (*See* Frank & Hansen.)	
	Hansen, Frederick C., and Joseph L. Ross. (*See* Ross & Hanson.)	
116,051	Hanson, Thomas, New York, N. Y. Direct-acting engine	June 20, 1871
117,071	Same.....Packing steam-pistons	July 18, 1871
117,536	Hanvey, Alexander, Steubenville, Ohio. Barrel-head	Aug. 1, 1871
114,134	Hanvey, Thomas, Rochester, N. Y. Veneer-cutting machine	April 25, 1871
117,625	Hanvey, Thomas, assignor to the Hanvey Barrel Manufacturing Company, Elmer, N. Y. Trunk	Aug. 1, 1871
	Hapgood & Co. (*See* Tinkham, Benjamin, assignor)..(Two cases.) (Reissue.)	
	Same.....(*See* Lane, John, assignor).....(Two cases.)	
118,938	Hapgood, Joab, Shrewsbury, Mass. Plow	Sept. 12, 1871
113,436	Happel, Henry, New York, N. Y. Composition for coating photograph-pictures	April 4, 1871
113,047	Harbach, Horatio N. and Theodore J., Philadelphia, Pa. Confectionery or cocoa-nut candy	Mar. 28, 1871
	Harbaugh, Isaac, and William A. Wallet. (*See* Wallet & Harbaugh.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,654	Harbison, John Hamilton, Philadelphia, Pa. Toy	April 11, 1871
	Harbottle, James V., *et al.* (*See* Phillips, George B., assignor.)	
	Harbster, Brothers & Co. (*See* Brown, Thomas W., assignor) (Reissue.)	
	Harcourt, A. P., *et al.* (*See* Snyder, Samuel, assignor.)	
	Hard, Chester, and George Fyfe. (*See* Fyfe & Hard.)	
121,169	Hard, Hanson, Akron, Ohio. Spring bed-bottom	Nov. 21, 1871
4,792	Hardcastle, Thomas, England. Printed fabric (Design)	April 11, 1871
111,742	Hardick, Charles B., Brooklyn, N. Y. Air-pump	Feb. 14, 1871
120,063	Harding, George R., Manchester, Va. Animal-trap	Oct. 17, 1871
114,808	Harding, Josiah, Ainsworth, Iowa. Wagon-standard	May 16, 1871
117,414	Harding, Orrin H., and Daniel G. Williams, Quincy, Mich. Clothes-drier	July 25, 1871
111,056	Harding, Thomas, La Fayette, Ind. Plow	Jan. 17, 1871
111,057	Same Emery-wheel	Jan. 17, 1871
116,363	Harding, Willard M., Chelsea, Mass. Propulsion of vessels	Aug. 22, 1871
	Harding, Willard M. (*See* Burke, Patrick, assignor.)	
113,635	Harding, William Henry, and Henry Frederic Morse, Portland, Me. Dumping-car	April 11, 1871
	Hardwick, Charles F., *et al.* (*See* Hunt, George W., assignor.)	
119,354	Hardwick, George W., Wyandotte, Ind. Mole-trap	Sept. 26, 1871
119,703	Hardy, Charles C., Rutland, N. Y. Ironing-table. (Antedated Sept. 25, 1871)	Oct. 10, 1871
113,515	Hardy, Clinton R., Lexington, Ind. Fly-trap	April 11, 1871
111,533	Hardy, Emery E., and Napoleon Dubrul, Joliet, Ill. Leather punching and cutting machine	Feb. 7, 1871
	Hardy, John, and Andrew Collins. (*See* Collins & Hardy.)	
	Hardy, John J. (*See* Fraser, John, assignor.)	
113,048	Hardy, Pierre J., New York, N. Y. Turning-lathe. (Antedated March 24, 1871)	Mar. 28, 1871
113,294	Hardy, Uriah W., Abingdon, Ill. Gate	April 4, 1871
113,102	Hargrave, Thomas C., Boston, Mass. Water-meter	Mar. 28, 1871
113,427	Same Rolled metallic strip for washers	April 4, 1871
121,099	Same Post-office letter-stamping apparatus	Nov. 21, 1871
112,591	Harlan, Aaron S., Bloomington, Ill. Rotary steam-engine	Mar. 14, 1871
	Harlan, Philip C., and Joseph R. Anderson. (*See* Anderson & Harlan.)	
112,451	Harley, Joseph L., Baltimore, Md., and Xaver Feudrich, Georgetown, D. C. Valve for steam-engines	Mar. 7, 1871
117,774	Harlow, Charles F., Boston, Mass. Clipping-shears	Aug. 8, 1871
111,119	Harlow, Edwin W., Hastings, Mich. Back-pad press	Jan. 24, 1871
115,605	Harly, Jacob F., Cleveland, Ohio. Milk-cooler	June 6, 1871
119,355	Same Ripton Station, Ohio. Street-lantern	Sept. 26, 1871
	Harman, Charles W. (*See* Graves, Joseph S., assignor.)	
116,589	Harman, William H., Westminster, Md. Harvester	July 4, 1871
5,138	Harmon, Emma F., Conneaut, Ohio. Garment-measure (Design)	July 25, 1871
112,243	Harned, Hiram S., and Frank S. Elliott, Boonsborough, Iowa. Bee-hive	Feb. 28, 1871
112,339	Harnish, Benjamin, Lancaster, Pa., and David H., Pequea, Pa. Lawn-mower	Mar. 7, 1871
118,334	Same Machine for cutting and grinding corn-fodder, &c.	Aug. 22, 1871
118,335	Same Vegetable-cutter	Aug. 22, 1871
118,716	Harnish, Edward P., Felton, Del. Seed and fertiliser dropper	Sept. 5, 1871
119,360	Harper, James, New Haven, Conn. Lubricator for steam-engines	Sept. 26, 1871
121,779	Same same	Dec. 12, 1871
115,845	Harper, James B., Saint John, Mo. Car-coupling	June 13, 1871
112,452	Harper, John H., Pittsburgh, Pa. Metallic hub	Mar. 14, 1871
120,815	Harper, Thomas J., Atlanta, Ga. Sewing-machine	Nov. 14, 1871
119,140	Harrell, Hiram P., Roxobel, N. C. Cotton gin attachment	Sept. 19, 1871
	Harrell, James Lafayette, and Ezekiel Pickard Jones. (*See* Jones & Harrell.)	
112,592	Harrell, William D., Moore's Hill, Ind. Potato-digger	Mar. 14, 1871
114,939	Harrigan, Dennis, assignor to self and Joel Gay, North Somerville, Mass. Pipe-cutter	May 16, 1871
117,378	Harrigan, John, Fort Wadsworth, N. Y. Corkscrew, cork-puller, and can-opener combined	July 25, 1871
	Harrington, Benjamin F., and Henry H., *et al.* (*See* Holdredge, Harrington & Harrington.)	
114,609	Harrington, Dennis, Boston, Mass. Machine for securing, polishing, and glossing leather	May 16, 1871
113,678	Harrington, Francis S., Boston, Mass. Railway-car truck	April 18, 1871
	Harrington, George. (*See* Edison, Thomas A., assignor.)	
111,534	Harrington, Gilbert H., Worcester, Mass. Cartridge-shell ejector for revolving fire-arms	Feb. 7, 1871
119,704	Harrington, Jackson, assignor to self and Ralph Wheeler, both of New London, Conn. Raisin-seeder. (Antedated Sept. 30, 1871)	Oct. 10, 1871
115,196	Harrington, John, Bridgeport, Conn. Dies for forging axles	May 23, 1871
113,765	Harrington, John R., Brooklyn, N. Y. Carpet-lining	April 18, 1871
110,850	Harrington, Thomas, Pittsburgh, Pa. Steam-pump	Jan. 10, 1871
118,607	Harriott, Edgar, Plainfield, N. J. Propulsion of vessels	Aug. 29, 1871
	Harris, A. H. (*See* North, John, assignor.)	
115,846	Harris, Andrew R., Saint Louis, Mo. Device for indicating and registering the motion of marine-engines	June 13, 1871
115,847	Same Electro-magnetic indicator for steam-engines	June 13, 1871
113,163	Harris, Calvin A. S., Saint Louis, Mo. Propeller for vessels	Mar. 28, 1871
112,330	Harris, Charles B., New York, N. Y. Composition for pavements	Mar. 7, 1871
114,437	Harris, Charles J., Bloomington, Ill. Return-flue boiler-furnace	May 2, 1871
119,605	Same Furnace for steam-boilers	Oct. 3, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,049	Harris, D. R., New South Berlin, N. Y. Coach-painters' easel. (Antedated March 16, 1871)	Mar. 28, 1871
118,451	Harris, Edward A., Chicago, Ill. Stand for brooms	Aug. 29, 1871
	Harris, General J., and Justin D. Turner. (*See* Turner & Harris.)	
110,649	Harris, George Alfred, Buchanan, Mich. Clothes-pin	Jan. 3, 1871
112,593	Harris, George W., Elizabeth, N. J. Gas-retort	Mar. 14, 1871
112,142	Harris, Hart, Tidioute, Pa. Extricator for oil-wells	Feb. 28, 1871
110,650	Harris, Henry A., Centre, Tex. Saw-set. (Antedated Dec. 23, 1870)	Jan. 3, 1871
113,050	Harris, James, San Francisco, Cal. Wheel for vehicles	Mar. 28, 1871
115,052	Same Janesville, Wis. Harvester-rake	May 23, 1871
115,606	Harris, John, New York, N. Y. Milk-cart	June 6, 1871
115,848	Same Grand Lodge, Mich. Sewing-machine	June 13, 1871
	Harris, John C., and Benjamin R. Smith. (*See* Smith & Harris.)	
	Harris, J. Campbell, *et al.* (*See* Myers & Runson, assignors) (Disclaimer.)	
111,201	Harris, John K., Springfield, Ohio. Gate	Jan. 24, 1871
112,344	Harris, Max, New York, N. Y. Ladies' supporting-brace	Feb. 28, 1871
120,583	Same Brace or suspender. (Antedated Oct. 24, 1871)	Nov. 7, 1871
120,584	Same Combined suspender and safety-pocket	Nov. 7, 1871
115,197	Harris, Milo, Jamestown, N. Y. Hemmer for sewing-machines	May 23, 1871
120,969	Same Hemming and binding attachment for sewing-machines	Nov. 14, 1871
121,516	Same Hemmer and binder for sewing-machines	Dec. 5, 1871
117,979	Harris, Newton J., Meredocia, Ill. Cultivator	June 25, 1871
116,181	Harris, Samuel W., assignor to self and Josephus H. Clark, Jamestown, N. Y. Saw-mill	June 20, 1871
120,514	Same Saw-mill head-block	Oct. 31, 1871
4,636	Harris, Theodore R., Green Bay, Wis. Machine for shearing and punching shingle-straps	Nov. 14, 1871
121,940	Harris, Thomas, Coté Saint Paul, Canada. Needle-sharpener	Dec. 19, 1871
120,193	Harris, William J., assignor of half interest to Samuel Stewart, Elizabeth, N. J. Machine for driving wedges in pavements	Oct. 24, 1871
118,531	Harrison, Edmund, Mountain View, Cal. Apparatus for unloading hay, &c.	Aug. 29, 1871
119,356	Harrison, George W., assignor to self and Simon Forster, Lansing, Mich. Harvester-pitman	Sept. 26, 1871
114,810	Harrison, James, Castalia, N. C. Compound for the cure of cancer	May 16, 1871
114,811	Same New York, N. Y. Sign	May 16, 1871
120,272	Same Apparatus for releasing horses	Oct. 24, 1871
111,203	Harrison, James M., Spartanburgh, Ind. Hand corn-planter	Jan. 24, 1871
110,760	Harrison, Joseph, Philadelphia, Pa. Precautionary attachment for bottles containing poison	Jan. 3, 1871
	Harrison, Joseph G. (*See* Jonson, Julius, assignor.)	
119,029	Harrison, Marshall, assignor to self and Jefferson Mize, Laclede, Mo. Cutting-apparatus for harvester	Sept. 19, 1871
118,236	Harrison, Orrel M., Glasgow, Mo. Harvester-dropper	Aug. 22, 1871
111,840	Harrison, Robert J., Raleigh, N. C. Cotton-press	Feb. 14, 1871
114,555	Harrison, Theophilus, and William C. Buchanan, Belleville, Ill. Horse-power	May 9, 1871
117,260	Harrison, Jacob G., Sag Harbor, N. Y. Method of converting rectilinear into rotary motion	July 25, 1871
	Harroun, J. E. (*See* Danks, Melancthon W., assignor.)	
	Harsha, James. (*See* Darby, George W., assignor.)	
	Harshberger, Adam. (*See* Rose & Mason, assignors.)	
	Same (*See* Wagner, Alfred H., assignor.)	
110,973	Hart, George L., New Britain, Conn. Animal-trap	Jan. 17, 1871
112,807	Same Mouse and animal trap	Mar. 21, 1871
116,052	Same Trace-lock	June 20, 1871
113,051	Hart, Hubert C., Unionville, Conn. Mouse and animal trap	Mar. 28, 1871
	Hart Manufacturing Company. (*See* Bement, Charles S., assignor.)	
	Same (*See* Ottner, Joseph, assignor) (Design.)	
	Same (*See* Bradbury, John, assignor) (Four cases.)	
111,643	Hart, Oliver P., Logtown, Cal. Cam for quartz-mills	Feb. 7, 1871
111,841	Hart, Sanford H. and Hubert C., Unionville, Conn. Animal-trap	Feb. 14, 1871
117,775	Hart, Volkert O. and John Benjamin, Naples, N. Y. Extension-lounge	Aug. 8, 1871
	Hart, William H., jr., and Hiram H. Thayer. (*See* Thayer & Hart.)	
	Hart, William H., jr., and James Hayden. (*See* Hayden & Hart.)	
5,130	Hartell, Thomas R., assignor to Hartell & Letchworth, Philadelphia, Pa. Jelly-glass (Design)	July 18, 1871
120,273	Harter, Theodore, Ilion, N. Y. Hay-elevator	Oct. 24, 1871
	Hartford Carpet Company. (*See* Malkin, Levi G., assignor.) (Ten cases.) (Design.)	
	Same (*See* Smith, John H., assignor) (Five cases.) (Design.)	
	Same (*See* Barrett, Joseph, assignor) (Two cases.) (Design.)	
	Same (*See* Fisher, John, assignor) (Six cases.) (Design.)	
	Same (*See* Ney, Elemir J., assignor) (Twenty-two cases.) (Design.)	
	Same (*See* Upson, Lyman A., assignor) (Design.)	
	Same (*See* Heinigke, Otto, assignor) (Five cases.) (Design.)	
	Same (*See* Barclay, Thomas, assignor) (Design.)	
	Hartley, M. (*See* Moore, Charles A., assignor.)	
121,363	Hartley, Thomas, Bridgeport, Ohio. Stove-grate	Nov. 28, 1871
118,237	Hartman, Alexander, Murfreesborough, Tenn. Dental-drill	Aug. 22, 1871
115,731	Hartman, Christian F., Nazareth, Pa. Wine-press	June 6, 1871
114,812	Hartman, Daniel F., Charles City, Iowa. Spring-guards for legs of furniture	May 16, 1871
111,842	Hartman, Duncan C., Baltimore, Md. Earth-closet	Feb. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,776	Hartman, Samuel H., Allegheny, Pa. Blower	Aug. 8, 1871
121,100	Hartmann, Adolph, New York, N. Y. Stud-fastener	Nov. 21, 1871
116,589	Hartmann, Dominikus, Mansfield, Ohio. Support for mirror and picture frames	July 4, 1871
	Hartshorn, Charles H., *et al.* (*See* Gray, Joshua, assignor.)	
110,651	Hartshorn, Henry M., Malden, Mass. Folding lamp-shade	Jan. 3, 1871
113,879	Hartshorn, Stewart, New York, N. Y. Spring-roller shade	April 18, 1871
113,164	Harty, William, Bridgeport, Conn. Machine for forming carriage-springs	Mar. 28, 1871
4,751	Hartsell, George, assignor to John P. Reifsneider, Philadelphia, Pa. Ornament for the backs of lounges (Design)	April 4, 1871
115,732	Hartsell, George, and John P. Reifsneider, Philadelphia, Pa. Bed-lounge	June 6, 1871
	Hartsell, Jacob, and John McCallum. (*See* McCallum & Hartsell.)	
	Harvey & Ford. (*See* Watts, John, assignor) (Design.)	
	Harvey, Alfred C., and Orrin C. Dow. (*See* Dow & Harvey.)	
114,200	Harvey, Charles R., and James H. Foote, assignors to Charles R. Harvey, New York, N. Y. Stove-grate	May 2, 1871
119,087	Harvey, Charles W., Buffalo, N. Y. Device for lubricating railway-journals	Sept. 19, 1871
	Harvey, C. W. (*See* Hanna, John C., assignor.)	
115,840	Harvey, H., Meriden, Ill. Bee-hive	June 13, 1871
121,050	Harvey, Hayward A., assignor to Manhattan Brush Manufacturing Company, Orange, N. J. Brush	Nov. 21, 1871
118,236	Harvey, Joseph, Painesville, Ohio. Lock-nut	Aug. 22, 1871
111,190	Harvey, Patrick, Chicago, Ill. Pump	Jan. 24, 1871
120,515	Harvey, Willard H., Bangor, Me. Lubricator for axles and other spindles	Oct. 31, 1871
122,011	Harvey, William, Albany, N. Y. Keeper for door-latches	Dec. 19, 1871
118,230	Harwood, Charles H., Salem, Mass. Means for extinguishing gas-lights	Aug. 22, 1871
118,717	Harwood, John, and F. Le Grand Ames, Albany, N. Y. Holder for grinding scissors	Sept. 5, 1871
4,947	Harwood, Luther W., assignor to Fuller, Warren & Co., Troy, N. Y. Stove. (Design)	May 30, 1871
5,448	Same.....Cooking-range (Design)	Dec. 26, 1871
13,656	Harwood, William P., assignor to James F. Hall and John L. Marshall, Cambridge, N. Y. Vise	April 11, 1871
	Haseltine, James A., *et al.* (*See* Branch, Haseltine, Branch & Branch.)	
121,245	Haserick, Ernest C., Lake Village, N. H. Preparing iron chips, shavings, &c., for melting	Nov. 28, 1871
116,835	Haskell, Ezra, Dover, N. H. Cam for roving	July 11, 1871
120,194	Same.....Alarm-pump for vessels	Oct. 24, 1871
115,733	Haskell, William O., Boston, Mass. Inkstand	June 6, 1871
113,657	Haskin, Henry P., Roscoe, Ill. Farm-gate	April 11, 1871
115,314	Haskins, Charles H., Chicago, Ill. Automatic telegraph-repeater	May 30, 1871
121,170	Haskins, David Greene, Cambridge, Mass. Gas-heater	Nov. 21, 1871
4,250	Haskins, John, Boston, Mass. Perforated sheet-rubber (Reissue)	Feb. 14, 1871
115,198	Haskins, John F., Fitchburgh, Mass. Pneumatic engine	May 23, 1871
115,464	Same.....Alarm-bates	May 30, 1871
117,626	Same.....Supplying water to air-pumps	Aug. 1, 1871
122,012	Haskins, Leonard G., Newport, N. Y. Dental forceps	Dec. 19, 1871
	Haskins, Joseph W. (*See* Hall, William H., assignor.)	
115,053	Hastings, Azaria Horace, New York, N. Y. Front-fall for pianos	May 23, 1871
116,182	Hastings, A. Horace, Jersey City, N. J. Upright piano-forte action	June 20, 1871
119,760	Hastings, Azariah H., New York, N. Y. Piano-forte	Oct. 10, 1871
113,343	Hastings, Emory B., assignor to self, Edwin Sawyer, Daniel L. Thompson, and Charles A. Perley, Palmer, Mass. Loom	Jan. 31, 1871
117,281	Hastings, E. Warren, Boston, Mass. Incense-burner. (Antedated July 21, 1871)	July 25, 1871
118,120	Same.....Illuminating incense-burner	Aug. 15, 1871
121,941	Same.....Reclining and folding chair. (Antedated Dec. 1, 1871)	Dec. 19, 1871
	Hastings, Luther C. (*See* Braley, Ephraim, assignor.)	
116,527	Hastings, Martin E., Salisbury, Md. Hand-car	Jan. 27, 1871
115,850	Hassinger, George M., Vicksburgh, Miss. Beer-cooler	June 13, 1871
	Hatch, Anson, *et al.* (*See* Nettleton, Raymond & Hatch) (Extension.)	
	Hatch, Frederick A., *et al.* (*See* Russell, Titus H., assignor.)	
120,970	Hatch, George Cliffe, India. Postage-stamp holder	Nov. 14, 1871
117,627	Hatch, Jesse W., Rochester, N. Y. Apparatus for crimping the stiffening of boots and shoes	Aug. 1, 1871
121,780	Hatch, Jonathan, assignor to Smith, Winchester & Co., South Windham, Conn. Paper-pulp engine	Dec. 12, 1871
	Hatch, N. B. (*See* Hyams, Hyam Jacob, assignor.)	
119,606	Hatch, Warren D., assignor to self, Shepard Russell, and Henry O. Goodrich, Antrim, N. H. Caster for sewing-machines	Oct. 3, 1871
115,465	Hatch, William P., Lincoln Centre, Me. Combined hand-spinning and reeling machine	May 30, 1871
120,274	Hatcher, Julius W., Bethesda, Tenn. Cultivator	Oct. 24, 1871
113,422	Hatcher, William Z., assignor to self and William L. Lance, Plymouth, Pa. Valve and valve-gear	April 4, 1871
	Hatfield, Llwellyn T., and Amos W. Filer. (*See* Filer & Hatfield.)	
	Hathaway, Clemona. (*See* Cole, George P., assignor.)	
	Hathaway, Jerome W., *et al.* (*See* Thomas, Craig, Craig & Hathaway.)	
119,141	Hathaway, William, Northbridge, Mass. Gate	Sept. 19, 1871
122,517	Hathorn, George H., Bangor, Me. Spinning-machine	Dec. 5, 1871
	Hathorne, William H. (*See* Fifield, Levi W., assignor.)	
111,223	Haug, Carl W., assignor to self and Henry Buns, New York, N. Y. Beer-cooler	Jan. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,064	Haupt, William W., Mountain City, Tex. Chair	Oct. 17, 1871
117,072	Hause, Elmer, and Libin Kelley, Tecumseh, Mich. Animal-trap	July 18, 1871
114,438	Havard, Charles, New York, N. Y. Manufacture of candles	May 2, 1871
4,856	Havell, George, Newark, N. J. Handle-cap for satchels (Design)	May 2, 1871
117,892	Same.....Buckle	Aug. 8, 1871
120,275	Havemeyer, Hector C., New York, N. Y. Suspended lifting-jack	Oct. 24, 1871
4,924	Haven, James L., Cincinnati, Ohio. Housing-plate (Design)	May 23, 1871
5,148	Same.....Caster (Design)	Aug. 1, 1871
	Same.....(*See* Grinter, Thomas W., assignor.)	
	Haven, James L., & Co. (*See* Fry, Henry L., assignor) (Two cases)	
	Same.....(*See* Roedefer, Joseph, deceased, by Ann M. Roedefer, administratrix.)	
118,608	Havens, Alonzo P., Brooklyn, N. Y. Seal for dip-pipes in gas-apparatus	Aug. 29, 1871
118,609	Same.....Apparatus for purifying gas	Aug. 29, 1871
122,250	Same.....Cover for gas-retorts	Dec. 26, 1871
113,766	Haviland, Benjamin, Hudson, N. Y., and George H. Gunn, Ilion, N. Y. Parlor air-pistol	April 18, 1871
	Haviland, John H., *et al.* (*See* Antisdell, Cronk & Haviland.)	
	Haw, John, Hanover County, Va. Picker sawing-machine (Extension)	June 21, 1871
117,415	Haw, Robert A., New York, N. Y. Potato-digger	July 25, 1871
111,058	Hawe, Matthew, Albany, N. Y. Construction of barrels for beer, &c	Jan. 17, 1871
	Hawes & Hersey. (*See* Hersey, Charles H., assignor.)	
120,260	Hawes, George W., New York, N. Y. Advertising-album	Oct. 24, 1871
112,707	Hawes, Herbert H., Mount Meridian, Va. Dough-kneader	Mar. 14, 1871
	Hawes, James H. and George. (*See* Brock, Orville M., assignor.)	
119,607	Hawes, James M., Covington, Ky. Concrete-pavement	Oct. 3, 1871
120,065	Hawes, Samuel W., assignor to Richard W. Hawes, trustee, Jersey City, N. J. Device for discharging grain from railway-cars	Oct. 17, 1871
114,135	Hawk, George W., Chicago, Ill. Wheel-skate	April 25, 1871
116,802	Hawkes, Albert G., assignor to D. L. Bartlett and H. W. Robbins, Baltimore, Md. Rustic seat	Sept. 12, 1871
114,813	Hawkes, David B., assignor to George E. Lucas, Providence, R. I. Spring-hinge	May 16, 1871
120,276	Hawkins, David L., Poughkeepsie, N. Y. Water-closet seat	Oct. 24, 1871
116,594	Hawkins, Frank M., Indianapolis, Ind. Reversible seat	July 4, 1871
110,915	Hawkins, Gardner C., Boston, Mass. Air-engine or fan-blower	Jan. 10, 1871
113,658	Hawkins, Gardner C., and Albert G. Mead, Boston, Mass., and Vivian Kimball Spear, Lynn, Mass. Boot and shoe heel-burnishing machine	April 11, 1871
	Hawkins, Lindley A., and David M. Cochran. (*See* Cochran & Hawkins.)	
120,642	Hawkins, Lorenzo D., Stoneham, Mass. Cutting up and punching sole-leather	Nov. 7, 1871
117,537	Hawkins, Robert, and Albert A. Hill, Beallville, Pa. Medical compound for kidney diseases	Aug. 1, 1871
120,433	Hawkins, William, San Francisco, Cal. Milling-machine	Oct. 31, 1871
118,302	Hawley, Benjamin R., Normal, Ill. Brick-kiln	Aug. 22, 1871
115,851	Hawley, Charles F., Kansas City, Mo. Angular strap-hinge	June 13, 1871
	Hawley, Edwin H., and George H. Snow. (*See* Snow & Hawley.)	
111,121	Hawley, Richard, jr., Detroit, Mich. Evaporator	Jan. 24, 1871
118,933	Hawley, Samuel F., Constableville, N. Y. Recoil-obviator for ordnance	Sept. 12, 1871
	Hawn, Guilford, and Abram I. Quackenbush. (*See* Quackenbush & Hawn.) (Reissue.)	
119,142	Haworth, Lysander L., assignor to self, Mahlon, George D., and James W. Haworth, Decatur, Ill. Corn-planter	Sept. 19, 1871
	Hay, James, and John C. Butterfield. (*See* Butterfield & Hay) (Reissue.)	
116,950	Hay, William, and Thomas B. Freeman, Hillsborough, Oreg. Gang-plow. (Antedated July 4, 1871)	July 11, 1871
114,291	Haycock, Benjamin A., Richland, Iowa. Draught-promoter	May 2, 1871
	Hayden & Hahn. (*See* Carter & Mete, assignors) (Reissue.)	
120,740	Hayden, George, assignor to William C. Griswold, Newark, N. J. Adjustable banding-ring for hat-blocking machines	Nov. 7, 1871
121,942	Hayden, Henry F., Washington, D. C. Air-register	Dec. 19, 1871
4,829	Hayden, Hiram W., assignor to Holmes, Booth & Hayden, Waterbury, Conn. Lamp-burner (Design)	April 18, 1871
4,836	Same.....same (Design)	April 18, 1871
115,315	Same.....same	May 30, 1871
115,466	Same.....same	May 30, 1871
115,955	Same.....Argand-lamp burner	June 13, 1871
4,541	Same.....Lamp-burner (Reissue)	Sept. 5, 1871
	Hayden, Isaac, Lawrence, Mass. Machine for cleaning and separating cotton, wool, fur, and other fibrous materials (Extension)	Mar. 16, 1871
	Same.....Boston, Mass. Bobbin for roving and slubbing (Extension)	July 21, 1871
	Same.....Lawrence, Mass. Long-trunk for cleaning cotton (Extension)	Dec. 12, 1871
113,659	Hayden, James, Philadelphia, Pa. Shirt	April 11, 1871
119,608	Hayden, James, and William H. Hart, jr., Philadelphia, Pa. Scarf or neck-tie holder	Oct. 3, 1871
118,012	Hayden, Joel, jr., Haydenville, Mass. Self-closing faucet	Aug. 15, 1871
119,516	Hayden, Joseph L., Haydenville, Mass. Chuck for holding valve-cocks to be dressed	Oct. 3, 1871
122,168	Hayden, Nathan, Chicago, Ill. Folding hat-rack. (Antedated Dec. 9, 1871)	Dec. 26, 1871
111,450	Hayden, William B., Columbus, Ohio. Cartridge-belt	Jan. 31, 1871
119,270	Same.....Damper	Sept. 26, 1871
117,282	Haye, Augustus, New York, N. Y. Adjustable reflector for lamps, &c	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,271	Haye, Augustus, Morrisania, N. Y. Combined fastener for sash and blinds	Sept. 26, 1871
120,516	Hayen, Jacob F., Buffalo, N. Y. Steam-boiler	Oct. 31, 1871
	Hayes, Alexander, *et al.* (*See* Gibson, Samuel, assignor.)	
115,852	Hayes, Daniel, and John Martin, Cambridge, Mass. Machine for bending spouts.	June 13, 1871
118,365	Hayes, Eli R., Vergennes, Vt. Cutter-head	Aug. 22, 1871
120,594	Hayes, George, New York, N. Y. Skylight, conservatory, and other glazed structures	Mar. 14, 1871
118,230	Hayes, John, Philadelphia, Pa. Infants' chair	Aug. 22, 1871
119,761	Hayes, John P., Philadelphia, Pa. Gas-heater	Oct. 10, 1871
	Hayes, J. R., *et al.* (*See* Bullard, O. Flagg, assignor.)	
118,718	Hayes, Martin Peter, Seaforth, Canada. Evaporator for brine	Sept. 5, 1871
116,836	Hayes, Samuel J., and Edward T. Jeffery, Chicago, Ill. Locomotive-boiler	July 11, 1871
110,652	Hayman, William, assignor to self and William R. Black, Taunton, Mass. Composition for preserving wood	Jan. 3, 1871
121,518	Haynes, Cornelius E., Boston, Mass. Machine for packing sugar	Dec. 5, 1871
115,697	Haynes, Edgar K., Boston, Mass. Lamp-wick tube	June 6, 1871
115,698	Same.....Lamp-burner	June 6, 1871
	Haynes, N. (*See* Knowlton, George, assignor.)	
	Haynes, W. D. (*See* Pile, George, assignor.)	
116,183	Hays, William C., and John D. Scott, Sharonville, Ohio. Hog-stock	June 20, 1871
118,610	Hays, William C., and John S. Pancake, Sharonville, Ohio. Girth	Aug. 29, 1871
119,230	Hayward, Mary A., Brooklyn, N. Y. Electric and vapor chair	Sept. 26, 1871
110,653	Hayward, Samuel, assignor to self and Luther E. Kimball, Boston, Mass. Reclining and rocking chair	Jan. 3, 1871
119,143	Hayward, Mary A., Norwich, N. Y. Tilting-chair	Sept. 19, 1871
111,743	Hazard, Benjamin L., Georgetown, S. C. Extracting turpentine from trees	Feb. 14, 1871
	Hazard, Fisher, *et al.* (*See* Wilson, Joseph B., assignor).....(Two cases.)	
114,292	Hazard, William T., Randolph, Mass. Crib or cradle	May 2, 1871
113,429	Hazelton, George H. and Dwight W., Philadelphia, Pa. Coal-scuttle	April 4, 1871
113,767	Hazen, John W., West Hartford, Vt. Traction-engine	April 18, 1871
114,677	Hazen, Loren E., Fond du Lac, Wis. Windmill	May 9, 1871
	Hazen, Nathan W. (*See* Collinson, Henry, assignor.)	
	Head, Jeremiah, *et al.* (*See* Jones, Howsen & Gjers, assignors.)	
117,416	Head, Joseph, Andover, N. Y. Water-heater	July 25, 1871
112,034	Heafer, Napoleon B., Bloomington, Ill. Road-bed	Feb. 21, 1871
4,879	Heald, Alfred, assignor to McCallum, Crease & Sloan, Philadelphia, Pa. Carpet-pattern.....(Design)	May 9, 1871
4,880	Same.....Carpet-pattern	May 9, 1871
4,881	Same.....same	May 9, 1871
4,882	Same.....same	May 9, 1871
4,883	Same.....same	May 9, 1871
5,375	Same.....same	Nov. 21, 1871
5,376	Same.....same	Nov. 21, 1871
5,390	Same.....same	Nov. 28, 1871
5,391	Same.....same	Nov. 28, 1871
	Heald, Martin C. (*See* Keene, George A., assignor.)	
113,680	Heald, Issachar A., Lowell, Mass. Cigar-machine	April 18, 1871
	Heald, William Hesketh, *et al.* (*See* Parkinson, Metcalf & Heald.)	
4,061	Healey, Benjamin W., Providence, R. I. Iron-tender frame.....(Reissue)	Dec. 5, 1871
116,957	Healy, Dorus, South Danville, N. Y. Wagon-brake	July 11, 1871
113,660	Hearn, George A., jr., New York, N. Y. Show-case	April 11, 1871
116,306	Same.....same	June 27, 1871
5,073	Hearn, William, New York, N. Y. Combination-game board.....(Design)	July 4, 1871
115,699	Hearne, John C., assignor to self and George W. Deitzler, Pleasant Hill, Mo. Railroad hand-car	June 6, 1871
120,643	Hearst, Alexander, Peoria, Ill. Corn-planter	Nov. 7, 1871
	Heath & Smith Manufacturing Company. (*See* Smith, William H., assignor.)	
	Same.....(*See* Stetson, Thomas D., assignor).....(Design.)	
121,364	Heath, Arden A., Mercer, Pa. Steam-engine	Nov. 28, 1871
118,127	Heath, Benjamin S., Philadelphia, Pa. Marine propulsion	Aug. 15, 1871
	Heath, Elander. (*See* Pomeroy, David, assignor.)	
114,914	Heath, Elander, assignor to S. W. Shaw, William E. Brown, and Leonard Goss, San Francisco, Cal. Dovetailing-machine	May 16, 1871
110,654	Heath, Elisha S., Baltimore, Md. Base-burning fire-place heater	Jan. 3, 1871
119,705	Heath, Eugene A., New York, N. Y. Cuspadore	Oct. 10, 1871
119,706	Same.....same	Oct. 10, 1871
113,661	Heath, George, Little Falls, N. Y. Canal-lock valve	April 11, 1871
4,455	Heath, Henry, assignor to H. G. Fisk, Thomas R. Clark, and Thomas J. Flagg, New York, N. Y. Drawer.....(Reissue)	July 4, 1871
119,762	Heath, Mark Antony, Providence, R. I. Street-lantern	Oct. 10, 1871
114,556	Heath, Robert F. S., Philadelphia, Pa. Mosquito-bar	May 9, 1871
	Heath, Thomas. (*See* Antenrieth, Charles, assignor.).....(Design.)	
4,505	Heath, Vilas M., Morristown, Vt. Clothes-rack.....(Reissue)	Aug. 8, 1871
115,654	Heath, William, Bath, Me. Invalid-bedstead	May 23, 1871
118,719	Same.....Reclining-chair	Sept. 5, 1871
113,663	Heatwole, Gabriel D., Bridgewater, Va. Chair and bed combined	April 11, 1871
114,940	Heatwole, Simeon H., Bridgewater, Va. Railway-gate	May 16, 1871
118,128	Heavner, Andrew J., Pittsfield, Ill. Adjustable scaffolding	Aug. 15, 1871
121,246	Hebard, Albert K., Boston, Mass. Reed-organ	Nov. 28, 1871
4,335	Hebbard, Albert, assignor to self and John P. Onderdonk, Buffalo, N. Y. Car-spring.....(Reissue)	April 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,768	Hebbard, Albert, assignor to self and John P. Onderdonk, Cambridge, Mass. Car-spring	April 18, 1871
4,670	Same.....Car-spring.....(Reissue)	Dec. 12, 1871
115,467	Heberling, John, Mount Pleasant, Ohio. Coffee-pot	May 30, 1871
120,381	Same.....Whip-socket	Oct. 31, 1871
118,611	Heberling, William L., Mount Pleasant, Ohio, and John U. Fiester, Winchester, Ohio; said Fiester assignor to said Heberling. Snap-hook	Aug. 29, 1871
118,790	Heberling, William L., assignor to self and John Heberling, Mount Pleasant, Ohio. Vegetable-cutter	Sept. 5, 1871
117,698	Hebert, Henry B., New York, N. Y. Fluid-meter	Aug. 1, 1871
112,915	Hecht, Ansel, New York, N. Y. Center-point trimming	Mar. 21, 1871
	Hecht, Leopold. (*See* Schults, Joseph, assignor.)	
	Heckle, William. (*See* Mitchell, Chauncey L., assignor.)	
111,204	Heckman, Henry L., Brooklyn, Iowa. Bee-hive	Jan. 24, 1871
120,741	Hecox, John J., Lyons, N. Y. Cheese-box	Nov. 7, 1871
116,307	Hedge, Eder, Liverpool, Ill., and Thornton H. Fleming, Canton, Ill. Clothes-clamp	June 27, 1871
	Hedger, Stephen W., and Frederick Yeiser. (*See* Yeiser & Hedger.)	
117,538	Hedges, George E., Ashland, Nebr. Miter-box	Aug. 1, 1871
120,434	Hedges, George W., San Francisco, Cal. Friction-clutch	Oct. 31, 1871
115,199	Hedges, Israel, Radnor, Ohio. Harvester-dropper	May 23, 1871
	Hedges, John L., and Benjamin T. Parsels. (*See* Parsels & Hedges.)	
112,035	Hedges, William H., Newark, N. J. Faucet	Feb. 21, 1871
111,805	Hedges, William H., and Matthew E. Campfield, Newark, N. J. Cock	Jan. 24, 1871
111,806	Hedrick, Jacob, William Tash, and Henry Kreidler, York, Pa. Machine for cutting and dressing stone	Jan. 24, 1871
120,666	Heebner, David S. and Josiah D., Norritonville, Pa. Horse-power	Oct. 17, 1871
121,519	Heermance, Garet G., Claverack, N. Y. Device for fastening wagon-seats. (Antedated Nov. 25, 1871)	Dec. 5, 1871
115,900	Heery, Luke M., Hinsdale, Mass. Cloth-steaming apparatus	May 23, 1871
4,575	Same.....Steaming and cooling cloth.....(Reissue)	Oct. 3, 1871
116,440	Heesen, John and George, and Henry Nyland, Tecumseh, Mich. Instrument for ringing hogs	June 27, 1871
116,308	Heffley, Samuel, and James D. Pettit, Rochester, Ind. Adjustable and folding wagon-bed	June 27, 1871
114,678	Heffner, Daniel, Independence, Iowa. Millstone condenser and ventilator	May 9, 1871
117,883	Heflebower, Daniel P., Champaign County, Ohio. Device to prevent hogs from rooting	Aug. 8, 1871
118,366	Hege, Constantine A., Forsyth County, N. C. Rotary steam-engine	Aug. 22, 1871
115,201	Heiges, George W., Franklintown, Pa. Combined thrasher, grain separator and cleaner	May 23, 1871
	Heika, L. L. (*See* Weaber, Adam, assignor.)	
5,073	Heinigke, Otto, assignor to Hartford Carpet Company, New York, N. Y. Carpet-pattern.....(Design)	July 4, 1871
5,331	Same.....Carpet-pattern.....(Design)	Oct. 31, 1871
5,332	Same.....same.....(Design)	Oct. 31, 1871
5,333	Same.....same.....(Design)	Oct. 31, 1871
5,392	Same.....same.....(Design)	Nov. 28, 1871
120,816	Heintzelman, Rush B., assignor of one-half interest to Amzi S. Dodd, New York, N. Y. Inhaler	Nov. 14, 1871
115,468	Heiss, John M., Baltimore, Md. Cooling and preserving beer and other liquids on draught	May 30, 1871
116,053	Same.....Apparatus for cooling and discharging beer and other liquids on draught	June 20, 1871
	Heister, Tobias S., and Nicholas S. Vedder. (*See* Vedder & Heister.)	
	Same.....same..(Five cases.) (Design).	
122,013	Heister, William D., Newton Hamilton, Pa. Hasp-lock	Dec. 19, 1871
111,744	Helenbrook, John, Olean, N. Y. Bark-mill	Feb. 14, 1871
	Hellins, William. (*See* Richardson, Frederick C., assignor.)	
	Helm, Augustus L., *et al.* (*See* Vaughn, Daniel, assignor.)	
115,202	Helm, John, jr., New Brunswick, N. J. Bleaching rubber, gutta-percha, &c.	May 23, 1871
122,014	Helm, J. Henry, Pittsburgh, Pa. Projectile	Dec. 19, 1871
119,595	Helm, Shelby W., assignor to Britton Capell and William J. Rose, Bachelor Valley, Cal. Medical compound for treating bronchial and lung diseases	Mar. 14, 1871
	Helmling, Harry, and George Laynor. (*See* Laynor & Helmling.)	
115,853	Helms, Charles H., Poughkeepsie, N. Y. Mechanism for polishing the heels of boots and shoes	June 13, 1871
117,283	Same.....Machine for polishing boot and shoe heels	July 25, 1871
119,707	Same.....Boot and shoe heel polisher	Oct. 10, 1871
119,144	Helms, John W., Bainbridge, Ga. Medical compound or liniment for rheumatism, &c	Sept. 19, 1871
111,050	Helwig, Arthur, assignor to self and Simon Collins, England. Sewing-machine	Jan. 17, 1871
122,015	Hemingray, Robert, Covington, Ky. Molding telegraph-insulators	Dec. 19, 1871
	Hemmings, Edward, *et al.* (*See* Frowen, Hemmings & Sheldon.)	
4,434	Hempel, John C., Baltimore, Md. Diaper.....(Reissue)	June 13, 1871
	Hempstead, William A., and David W. Huntington. (*See* Huntington & Hempstead.....(Two cases.)	
115,854	Henderson, Benjamin L., Salem, Mass. Rotary engine	June 13, 1871
113,681	Henderson, Constantine, assignor to Edwin R. Hall, England. Arched structure	April 18, 1871
112,453	Henderson, Edmond Q., assignor to John C. Burroughs and Richard A. Springs, Charlotte, N. C. Composition for lubricating machinery	Mar. 7, 1871
121,385	Henderson, William Lindsay, Western India. Cotton-gin	Nov. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,643	Hendey, Henry J., Wolcottville, Conn. Clothes-line fastener	Feb. 14, 1871
114,815	Hendrick, Eli E., Carbondale, Pa. Needle-setter, needle-sharpener, needle-case, and ripper	May 16, 1871
111,451	Hendrick, John H., Clinton, Ill. Bee-hive	Jan. 31, 1871
115,610	Hendrickson, Stephen C., Brooklyn, E. D., N. Y. Railroad danger-signal	June 6, 1871
117,170	Hendry, John C., Manchester, N. H. Machine for boring wheel-hubs for setting boxes	July 18, 1871
	Hendy, Joshua, and George Stevens. (*See* Stevens & Hendy.)	
113,165	Henkle, John F., Saint Louis, Mo. Horse hay-rake	Mar. 28, 1871
111,207	Henkle, Thomas B., Knightstown, Ind. Box-opener	Jan. 24, 1871
113,430	Henley, Henry, Shoals, Ind. Boot-crimper	April 4, 1871
116,441	Henley, William, Chicago, Ill. Fire-escape	June 27, 1871
	Hennaman, John T. (*See* Wettstein, John, assignor.)	
	Henning, Theodore, and Adolph Schnabel. (*See* Schnabel & Henning.)	
	Henri, Christian, and Jacob Dindinger. (*See* Dindinger & Henri.)	
116,184	Henrichs, Peter, Erie, Pa. Folding-brush	June 20, 1871
116,185	Same.....Brush, &c., for the pocket	June 20, 1871
119,145	Henry, Alexander, Scotland. Breech-loading fire-arm	Sept. 19, 1871
119,846	Same.....Rifled fire-arm	Oct. 10, 1871
114,557	Henry, John, assignor to self and Alexander Robinson, Millburn, N. J. Printing-press	May 9, 1871
115,469	Henry, John Joseph, assignor to self and W. D. Williams, Baltimore, Md. Thread-cutter	May 30, 1871
120,517	Henry, William, New York, N. Y. Folding-step for vehicles	Oct. 31, 1871
117,330	Henry, William M., Leo, Ind. Bee-hive	Aug. 1, 1871
117,029	Hensel, Henry, Moon Township, Pa. Churn	Aug. 1, 1871
114,358	Hensley, Henry, Elysian Field, Tex. Grinding-mill	May 9, 1871
115,316	Heoter, Peter, and Rudolph Victor, Grand Rapids, Mich. Mode of attaching caps to hubs. (Antedated May 23, 1871)	May 30, 1871
	Hepburn, George. (*See* Synder, John H., assignor.)	
111,231	Herald, John, Unadilla, N. Y. Pattern for casting grooved rollers	Feb. 21, 1871
5,368	Same.....Barn-door hinge	(Design) Nov. 21, 1871
120,195	Herendeen, Edward W., Geneva, N. Y. Harrow	Oct. 24, 1871
111,595	Herkner, Henry F., New York, N. Y., and Jared W. Post, Brooklyn, N. Y. Water-proof piano-cover	Feb. 7, 1871
111,644	Hermance, Charles W., Schuylerville, N. Y. Steam road-wagon	Feb. 7, 1871
4,311	Same.....same	(Reissue) Mar. 28, 1871
116,934	Same.....Elastic wheel for traction-engine	Sept. 12, 1871
4,438	Hermance, Levi, Lansingburgh, N. Y. Cooking-stove	(Reissue) June 20, 1871
117,417	Same.....same	July 25, 1871
112,916	Hermance, Levi, assignor of one-half interest to Peletiah J. Marsh, Lansingburgh, N. Y. Culinary vessel	Mar. 21, 1871
121,101	Same.....Cooking-stove	Nov. 21, 1871
113,295	Hermann, August, and Warren H. Taylor, assignors to the Yale Lock Manufacturing Company, Stamford, Conn. Pin-lock	April 4, 1871
121,285	Herr, Abraham S., Bainbridge, Pa. Wash-boiler	Nov. 28, 1871
118,241	Herreman, Cassius M., Mankato, Minn. Stove-pipe clothes-drier	Aug. 22, 1871
112,454	Herrick, Bryant B., Decatur, Mich. Post-hole digger	Mar. 7, 1871
	Herrick, Gardner. (*See* Wright, E. M., assignor)	(Two cases.)
4,532	Herriet, Julius, assignor to David Wolfe Bruce, New York, N. Y. Type. (Design)	Jan. 3, 1871
4,533	Same.....Type	(Design) Jan. 3, 1871
4,990	Same.....same	(Design) June 13, 1871
4,991	Same.....same	(Design) June 13, 1871
	Herring, Charles, *et al.* (*See* Cole, Jonah R., assignor.)	
111,536	Herring, George H., Durand, Ill. Hydraulic apparatus	Feb. 7, 1871
121,102	Herring, Richard, England. Printing-telegraph	Nov. 21, 1871
120,873	Herrington, Elial S., Emmett, Ohio. Harrow	Nov. 14, 1871
117,284	Herrmann, George, Newport, R. I. Swinging-clock	July 25, 1871
111,537	Herrmann, Heinrich, New York, N. Y. Æolian chiming-bell	Feb. 7, 1871
115,317	Herrmann, John and Peter, Tell City, Ind. Wagon-axle	May 30, 1871
4,844	Herron, James A., Talley Cavey, Pa. Hay-rack	(Design) May 9, 1871
111,536	Herron, James P., Atlanta, Ga. Double-acting rotary engine. (Antedated Jan. 30, 1871)	Feb. 7, 1871
114,679	Herschmann, Siegmund, New York, N. Y. Lounge and chair combined	May 9, 1871
114,137	Hersey, Charles H., assignor to Hawes & Hersey, Boston, Mass. Drier	April 25, 1871
111,209	Hersey, David Wallace, Pembroke, Me. Vegetable-cutter	Jan. 24, 1871
114,138	Hersey, Ira, New York, N. Y. Telegraph-pole	April 25, 1871
	Hershberger, Henry B., and Charles C. Davey. (*See* Stengel & Davey.)	
112,036	Hershey, Benjamin, Erie, Pa. Trip-hammer	Feb. 21, 1871
113,166	Same.....Torsion-spring for cars	Mar. 28, 1871
112,037	Hershey, Benjamin, and Richard Dudley, Erie, Pa. Spring for vehicles	Feb. 21, 1871
	Same.....(*See* Dudley & Hershey.)	
113,063	Hershey, Benjamin, assignor to self, E. Geer, Richard Dudley, and Richard F. Gaggin, Erie, Pa. Staple-machine	April 11, 1871
116,186	Same.....Torsion-spring for vehicles	June 20, 1871
118,452	Same.....Seat-spring for wagons	Aug. 29, 1871
116,187	Hershey, Benjamin, and Richard F. Gaggin, assignors to selves, E. Geer, and Richard Dudley, Erie, Pa. Torsion-spring for vehicles	June 20, 1871
121,943	Hersman, Michael M., Delavan, Ill. Coffin	Dec. 19, 1871
112,245	Hertorich, Franz, Jersey City, N. J. Guide for sewing-machines	Feb. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,277	Hervey, James C., Newport, Ky. Shuttle for sewing-machines	Oct. 24, 1871
4,702	Herzig, Simon, New York, N. Y. Muff	(Design) Mar. 14, 1871
116,591	Heskett, Harrison H., Le Roy, Ill. Watchmakers' chuck	July 4, 1871
121,871	Hess, Daniel, Des Moines, Iowa. Brick-machine	Dec. 12, 1871
	Hess, George W. (*See* Borthwick, John A., assignor.)	
111,000	Hesse, Frederick G., Oakland, Cal. Water-meter	Jan. 17, 1871
	Hessemer, William. (*See* Rasmussen, Niels, assignor.)	
	Hessin, William. (*See* Damant, William Edwin, assignor.)	
115,903	Heubach, Conrad, Chicago, Ill. Press for finishing cloth, &c	May 23, 1871
121,947	Heuermann, John, Wilhelm Sternberg, and John Stuhr, Davenport, Iowa. Harvester-rake	Nov. 28, 1871
	Heus, Mathew, and George Darling. (*See* Darling & Heus.)	
110,974	Heusser, Albert, Ellington, Conn. Wedge for splitting wood	Jan. 17, 1871
121,051	Heverling, John B., Greenville, Ohio. Car-coupling	Nov. 21, 1871
114,550	Hevner, Samuel, San Francisco, Cal. Manufacture of illuminating-gas	May 9, 1871
	Hewes, Joseph L., and Parle I. Perrin. (*See* Perrin & Hughes.)	
4,885	Hewes, Shubael E., Albany, N. Y. Heating-stove	(Design) May 9, 1871
115,956	Same.....Hot-air furnace	June 13, 1871
115,957	Same.....Heating-stove	June 13, 1871
115,958	Same.....same	June 13, 1871
115,959	Same.....Base-burning stove	June 13, 1871
121,366	Hewitt, Albert H., Batavia, N. Y. Attachment for sewing-machines	Nov. 28, 1871
115,855	Hewitt, Edward, and John McAuliffe, New York, N. Y. Hair-pin	June 13, 1871
111,938	Hewitt, Elisha A., Groton, Conn. Cow-milker	Feb. 21, 1871
120,435	Hewitt, Philip, Farmland, Ind. Sulky-cultivator	Oct. 31, 1871
121,248	Hewlett, Alonzo S., Sebastopol, Cal. Attachment for planers	Nov. 28, 1871
117,985	Hey, Michael, Philadelphia, Pa. Hydraulic air-compresser	July 25, 1871
118,013	Heydrick, William H. H., Chestnut Hill, Pa. Mode of attaching plows to traction-engines	Aug. 15, 1871
118,935	Heyer, Charles, Racine, Wis. Apparatus for turning the leaves of music	Sept. 12, 1871
	Heyes, Grimshaw, *et al.* (*See* Cummings, Heyes & Entwistle.)	
116,054	Heyl, Frederich, and Phillip Diehl, East New York, N. Y. Electro-magnetic gas-lighting apparatus	June 20, 1871
120,436	Heyl, Henry R., assignor through mesne assignments to American Paper-Box Machine Company, Philadelphia, Pa. Paper-box machine	Oct. 31, 1871
	Heywood, Levi, *et al.* (*See* Aldrich & Spaulding, assignors.)	
120,382	Heywood, Levi, assignor to Heywood Bros. & Co., Gardner, Mass. Tilting-chair	Oct. 31, 1871
115,304	Heywood, Reuben W., assignor to self and Warren T. Browning, Baltimore, Md. Propulsion of vessels	May 23, 1871
111,539	Hiatt, Spencer, Clayton, Ind. Apparatus for transmitting power and changing the speed. (Antedated Feb. 1, 1871)	Feb. 7, 1871
121,520	Hibbard, Frank E., Boston, Mass. Device for cutting whale-bone	Dec. 5, 1871
120,518	Hibberd, George, Wheeling, W. Va. Water-heater for stoves	Oct. 31, 1871
120,519	Same.....Safety and vacuum valve	Oct. 31, 1871
115,205	Hice, Joseph R., Salem, Ohio. Fire-kindler	May 23, 1871
116,708	Hichborn, William, Charlestown, Mass. Flower-bracket	July 4, 1871
113,888	Hickcox, Thomas N., Brooklyn, N. Y. Metal-clad shingle	April 18, 1871
115,418	Hickman, Edwin A., Independence, Mo. Apparatus for illustrating trigonometry	May 30, 1871
	Hickman, John W., *et al.* (*See* Draper, Henry B. P., assignor.)	
122,016	Hickock, Samuel S., Methuen, Mass. Caster for furniture	Dec. 19, 1871
	Hickok, William O. (*See* Walters, John, assignor.)	
	Hicks & Wolf. (*See* Vedder & Ritchie, assignors)	(Design.)
	Hicks, George C., & Co. (*See* Parus, Zeno F., assignor.)	
119,461	Hicks, Isaac, Hartford, Wis. Potato-digger	Oct. 3, 1871
113,052	Hicks, James M., New York, N. Y. Tubular steam-generator. (Antedated March 11, 1871)	Mar. 28, 1871
121,781	Hicks, John W., Laurel, Md. Belt-fastening	Dec. 12, 1871
112,455	Hicks, Levi S., assignor to self, J. P. Johnson, and John Buell, Peoria, Ill. Door-check	Mar. 7, 1871
	Hicks, William Cleveland, Summit, N. J. Breech-loading fire-arm. (Extension)	Feb. 27, 1871
112,917	Hicks, William S., New York, N. Y. Pencil-case	Mar. 21, 1871
120,520	Same.....Pen and pencil-case	Oct. 31, 1871
122,109	Same.....same	Dec. 26, 1871
	Hicock, George, *et al.* (*See* Ely, Philip, assignor.)	
116,055	Hidden, Edward S., Millburn, N. J. Machine for tearing up leather	June 20, 1871
	Hide and Leather Machine Company. (*See* Fitzhenry, Edward, assignor.) (Two cases.)	
	Hide and Leather Manufacturing Company. (*See* Fitzhenry, Edward, assignor.)	
121,618	Hieronymus, Jasper N., Fairbury, Ill. Bee-hive	Dec. 5, 1871
114,816	Hiestand, David, Pughtown, Pa. Carriage-jack	May 16, 1871
113,718	Hiestand, Samuel, Hillsborough, Ohio. Combined planter and seeder	April 11, 1871
115,856	Hiester, Samuel E., New York, N. Y. Exercising-club	June 13, 1871
4,903	Hiester, Edwin C., and Gabril O., Reading, Pa. Sash-holder	(Design) May 16, 1871
114,817	Higel, Frank, assignor of one-half interest to James A. Weir, Philadelphia, Pa. Vice	May 16, 1871
112,038	Higgins, Charles J., Indianapolis, Ind. School desk and seat	Feb. 21, 1871
117,418	Higgins, Edmund, Sacramento, Cal. Gate	July 25, 1871
	Higgins, E. S., & Co. (*See* Wright, George C., assignor.) (Sixteen cases.)	(Design.)
8,936	Higgins, John D., Rome, N. Y. Gas-retort	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Higgins, Johnson. (*See* Lord, Allen P., assignor.)	
111,645	Higgins, Oliver, Napoleon, Ohio. Pump	Feb. 7, 1871
114,660	Higgins, Reuben C., Boston, Mass. Carpet-sweeper	May 9, 1871
111,452	Higgins, Walter B., San Francisco, Cal. Feeding-mechanism for sewing-machines	Jan. 31, 1871
113,664	Higley, Aaron, Cleveland, Ohio. Rubber-spring for wagons	April 11, 1871
	Hildreth, George, *et al.* (*See* Ferguson, Ralston & Hildreth.)	
4,968	Hildreth, George W., Lockport, N. Y. Seat for school-desks (Reissue)	Feb. 21, 1871
112,340	Same. Grate for burning coal-screenings	Feb. 28, 1871
113,665	Same. Attaching plow-points	April 11, 1871
118,937	Same. Device for delivering and receiving mail-bags	Sept. 12, 1871
	Hildreth, Henry A. (*See* Johnson, William J., assignor.)	
112,143	Hildreth, Henry L., Lockport, N. Y. Screw-driver	Feb. 28, 1871
	Hill, Albert A., and Robert Hawkins. (*See* Hawkins & Hill.)	
118,612	Hill, A. Harley, Saint Johnsbury, Vt. Clothes-drier	Aug. 29, 1871
118,555	Hill, Albert M., New Haven, Conn. Toy-hoop	Sept. 12, 1871
4,709	Hill, Benjamin, Malden, Mass. Frame of a show-case (Design)	Mar. 14, 1871
121,986	Hill, Benjamin B., Springfield, Mass. Hand-stamp	Nov. 28, 1871
5,449	Same. same (Design)	Dec. 26, 1871
116,592	Hill, Benjamin B. and John R., Worcester, Mass. Wheel for animal-traps	July 4, 1871
114,005	Hill, Edward A., Chicago, Ill. Zinc for galvanic batteries	April 25, 1871
114,006	Same. Galvanic battery	April 25, 1871
114,007	Same. Hotel-annunciator and fire-alarm	April 25, 1871
121,717	Same. Electric fire-alarm (Antedated Dec. 9, 1871)	Dec. 12, 1871
111,646	Hill, Egbert B., Grand Rapids, Mich. Spring bed-bottom	Feb. 7, 1871
115,055	Hill, George, Galva, Ill. Corn-harrow	May 23, 1871
118,453	Hill, George Jay, assignor to self and Charles Frederick Nagel, Buffalo, N. Y. Bottle and box opener	Aug. 29, 1871
	Hill, Henry, *et al.* (*See* Rawson, Ovenden, Wylde, McCree & Hill.)	
117,171	Hill, H. Harrison, Pontiac, Ill. Buggy-spring	July 18, 1871
118,938	Hill, Henry R., and Nelson W. Twiss, New Haven, Conn. Lathe	Sept. 12, 1871
122,251	Hill, Jacob, and James G. Stewart, Jonesville, Ind. Revolving-harrow	Dec. 26, 1871
5,373	Hill, John, assignor to Meriden Silver-Plate Company, West Meriden, Conn. Pickle jar or caster (Design)	Sept. 19, 1871
112,596	Hill, John R., Rouseville, Pa. Oil-well drilling	Mar. 14, 1871
116,309	Hill, Leonard B., assignor to self and Peter Clark, Albany, N. Y. Bracket for water-conductors	June 27, 1871
112,456	Hill, Luther, Stoneham, Mass., and Seth D. Tripp, Lynn, Mass. Railway-carbrake	Mar. 7, 1871
115,960	Hill, Lysander, Alexandria, Va. Wood-pavement	June 13, 1871
	Hill, Lysander, *et al.* (*See* Darrell, Armistead M., assignor.)	
	Hill, Philip, and William B. Cunningham. (*See* Cunningham & Hill.) (Three cases.)	
118,856	Hill, Porter, Millport, N. Y. Spring bed-bottom	Sept. 12, 1871
	Hill, Samuel, *et al.* (*See* Moreau, Eugene, assignor.)	
114,303	Hill, Samuel A., and Charles F. Thumm, assignors to selves and Oliver P. Scaife, Oil City, Pa. Distilling hydrocarbon oil	May 2, 1871
117,172	Hill, Thomas, Vallejo, Cal. Projectile	July 18, 1871
	Hill, Thomas O., and Henry Disston. (*See* Disston & Hill.)	
117,630	Hillard, James P., Fall River, Mass. Cloth-beam for looms	Aug. 1, 1871
120,007	Hillebrand, Louis, and Daniel Wolf, Philadelphia, Pa. Trunk-lid guide	Oct. 17, 1871
	Hillebrand, Louis, assignor to self and Daniel Wolf, Philadelphia, Pa. Trunk-lock (Disclaimer)	Oct. 6, 1871
112,340	Hiller, John R., Woodland, Cal. Spring for vehicles	Mar. 7, 1871
110,761	Hillhouse, William, and George W. Briggs, assignors to the Grilley Company, New Haven, Conn. Device for nicking screw-caps	Jan. 3, 1871
116,188	Hills, Amariah M., Hockanum, Conn. Lawn-mower	June 20, 1871
	Hills, L. M. & Sons. (*See* Osgood, Charles M., assignor.)	
120,644	Hilsabeck, John C., Montevallo, Mo. Buggy-reach	Nov. 7, 1871
118,855	Hilton, Samuel F., Providence, R. I. Paper-collar	Sept. 12, 1871
	Heaton, William D., *et al.* (*See* Caswell, William A., assignor.)	
119,763	Himmer, Vitalis, New York, N. Y. Electric battery	Oct. 10, 1871
112,809	Hinden, Mathias Joseph, assignor to Adolph Freund, Detroit, Mich. Apparatus for cutting the ends of cigars	Mar. 21, 1871
5,335	Hindman, Samuel B., and William N. Matthews, assignors to selves, Merrick C. Weeks, and Edward R. Matthews, Richmond, Ind. Spoke-socket rim for hubs (Design)	Aug. 29, 1871
121,879	Hinde, Thomas Callender, England. Manufacture of iron and steel, and in furnaces for the same	Dec. 12, 1871
119,962	Hines, George A., assignor of one-half interest to John F. Vinton, Brattleborough, Vt. Railroad-car ventilator	Oct. 17, 1871
	Hines, George A., and John P. Vinton. (*See* Vinton & Hines.)	
111,344	Hines, George W., Brookfield, Wis. Harvester-rake	Jan. 31, 1871
116,189	Hines, Rudolph, and Louis Beyer, Washington, D. C. Machine for sharpening saws	June 20, 1871
116,190	Same. Machine for sharpening saws	June 20, 1871
114,009	Hingher, Constantine, New Brunswick, N. J. Combined tatting-shuttle and crochet-needle	April 25, 1871
115,470	Hinkley, Benjamin; Troy, N. Y. Railway-switch	May 30, 1871
113,666	Hinkley, George M., Milwaukee, Wis. Machine for sapping timber for shingles	April 11, 1871
114,681	Hinman, David, Southington, Conn. Head-block for carriages	May 9, 1871
121,719	Hinman, William A., New York, N. Y. Bottle-wrapper	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,457	Hinoult, Adam, Montgomery, N. Y. Truss	Mar. 21, 1871
117,540	Hinsdell, Samuel H., Camillus, N. Y. Mortar-machine	Aug. 1, 1871
113,206	Hinsdell, Samuel H., Henry W. Drake, and Cornelius B. Way, Camillus, N. Y. Grain scourer and separator	April 4, 1871
4,542	Hints, Julius C., jr., Cincinnati, Ohio. Permutation-lock (Reissue)	Sept. 5, 1871
111,933	Hipkins, Edward, Burford Township, Canada. Self-adjusting car-truck	Feb. 21, 1871
111,934	Same. same	Feb. 21, 1871
120,383	Hipwell, Thomas, assignor to self and Henry Coulter, Camden, N. J. Lamp-burner	Oct., 31, 1871
119,517	Hird, Isaac, Cincinnati, Ohio. Scroll-saw	Oct. 3, 1871
114,009	Hires, Phillip, Columbus, Ky. Hinge for table-leaves, &c	April 25, 1871
120,585	Hirons, John, Buchanan, Mich. Combined clothes-drier and pendent seat	Nov. 7, 1871
	Hirschl, Samuel. (*See* Schmidt, Johann, assignor.)	
111,453	Hirsh, Mason and Leopold, Philadelphia, Pa. Umbrella	Jan. 31, 1871
114,941	Hisey, Allen, Tama City, Iowa. Tanning compound	May 16, 1871
	Hitchcock, Benjamin W., and John Bevan. (*See* Bevan & Hitchcock.)	
118,120	Hitchcock, Charles, Chicago, Ill. Hydrocarbon-stove	Aug. 15, 1871
114,139	Hitchcock, Dwight, and Willis Gibbs, assignors to Oliver T. Burt, Syracuse, N. Y. Machine for the manufacture of roofing	April 25, 1871
4,494	Hitchcock, Marcus T., assignor to John W. Labaree, Springfield, Mass. Railroad-car ventilator (Reissue)	Aug. 11, 1871
115,611	Hitchings, Daniel, Litchfield, N. Y. Mode of expanding wheels	June 6, 1871
118,538	Hite, Joseph C., assignor to self and Charles Le R. Moss, Mound City, Ill. Paddle-wheel	Aug. 29, 1871
120,521	Hitt, Edgar, and Andrew Lent, Katona, N. Y. Machine for upsetting tires	Oct. 31, 1871
117,073	Hix, Oliver P., Rockland, Me. Windlass	July 18, 1871
119,847	Hong, Claudius L., and Ellsworth Ely, Lockport, N. Y. Refrigerating-car	Oct. 10, 1871
111,454	Hoagland, James, and Isaac C. McDonald, Columbus, Ohio. Manufacture of soap	Jan. 31, 1871
114,818	Hoare, Esther, Dedham, Mass. Baby's traveling and toilet chair	May 16, 1871
4,758	Hoare, John, New York, N. Y. Caster-bottle (Design)	April 4, 1871
119,983	Hobart, Franklin, Mount Pleasant, Iowa. Curtain fixture	Oct. 17, 1871
113,431	Hobbs, Alfred C., Bridgeport, Conn. Bullet-patch	April 4, 1871
117,173	Same. Metallic cartridge	July 18, 1871
119,357	Same. Cartridge-shell for drill purposes	Sept. 26, 1871
120,196	Hobbs, Alfred C., and Jerome Orcutt, Bridgeport, Conn. Primer for cartridges	Oct. 24, 1871
117,286	Hobbs, Isaac H., Philadelphia, Pa. Pavement	July 25, 1871
118,454	Same. Window-blind	Aug. 29, 1871
4,689	Hobbs, John H., Wheeling, W. Va. Sugar-bowl, &c (Design)	Feb. 28, 1871
114,140	Hobbs, John H., Charles W. Brockemier, and William Leighton, jr., Wheeling, W. Va. Manufacture of lamp-shades	April 25, 1871
118,804	Hobbs, Samuel, Wilmot, Ohio. Bed-bottom	Sept. 12, 1871
	Hoblitzell, J. J., *et al.* (*See* Ryan, Michael G., assignor.)	
119,609	Hobson, Ben James, Covington, Ky. Stove-pipe drum	Oct. 3, 1871
120,742	Hobson, Richard G., Houlka, Miss. Cotton-planter	Nov. 7, 1871
118,533	Hockensmith, William H., Bridgeport, Conn. Diaper-pin	Aug. 29, 1871
	Hodenpyl, Tunison & Co. (*See* Pond, Robert J., assignor.)	
120,039	Hodge, Ephraim C., Oneonta, N. Y. Plow-colter	Feb. 21, 1871
110,655	Hodge, Francis M., Shelburne Falls, Mass. Drop-hammer lifter. (Antedated Dec. 24, 1870)	Jan. 3, 1871
116,442	Hodge, John, Harrison, N. J. Lubricator	June 27, 1871
116,443	Hodge, Otis J., North Adams, Mass. Water-wheel	June 27, 1871
114,141	Hodges, James Wilson, Baltimore, Md. Steam-trap	April 25, 1871
117,287	Hodges, Samuel H., assignor to self, George A. Fullerton, O. B. Cooledge, and B. F. Larrabee, Lynn, Mass. Machine for trimming and burnishing soles	July 25, 1871
	Hodgetts, Charles, and William Taylor. (*See* Taylor & Hodgetts.)	
119,146	Hodgetts, Charles, assignor to E. Ketchum & Co., Brooklyn, N. Y. Melon-shaped mold	Sept. 19, 1871
	Hodgins, John C., and Joseph Dilworth. (*See* Dilworth & Hodgins.)	
121,367	Hodgins, Samuel, assignor to self and Ferdinand Meyer, Saint Louis, Mo. Gaiter-pattern	Nov. 28, 1871
119,764	Hodgkins, Christopher, Marlborough, N. H. Water-ram	Oct. 10, 1871
113,883	Hodgman, Marcus M., Weymouth, Mass. Excavator	April 18, 1871
120,743	Hodgson, Edmund D., England. Lock	Nov. 7, 1871
115,471	Hodgson, Isaac, and William H. Brown, Indianapolis, Ind. Fire-proof roof	May 30, 1871
115,472	Same. Fire-proof beam, floor, and ceiling	May 30, 1871
5,106	Hodgson, Joseph, assignor to Thomas Dolan, Philadelphia, Pa. Shawl-fabric. (Design)	July 11, 1871
5,323	Same. Shawl-fabric (Design)	Oct. 24, 1871
115,473	Hodskinson, Jabez, Salem, Mass. Machine for whitening and shaving skins and leather	May 30, 1871
	Hoe, R., & Co. (*See* Guex, Louis, assignor.)	
113,769	Hoe, Richard M., New York, N. Y. Printing-press	April 18, 1871
	Same. West Farms, N. Y. Mode of operating the fly-frames of printing-presses (Extension)	Nov. 1, 1871
4,490	Hoe, Richard M., and Stephen D. Tucker, New York, N. Y. Printing-press. (Reissue)	May 30, 1871
4,492	Hoe, Richard M., assignor of part interest to Robert and Peter S. Hoe, Stephen D. Tucker, William L. Colby, and Robert Hoe, jr., New York, N. Y. Feeding paper to printing-presses (Reissue)	June 20, 1871
113,667	Hoefinger, Joseph, Carrollton, Mo. Fire-escape	April 4, 1871
113,167	Hoeller, Charles, assignor to self and Henry S. Hoeller, Cincinnati, Ohio. Machine for forming pipe-elbows	Mar. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Hoen, August. (*See* Adt, John B., assignor.)	
119,358	Hoes, Edward V. B., Green Bay, Wis. Toy-projectile	Sept. 26, 1871
111,345	Hoffman, Austin D., assignor to James H. Small, Chicago, Ill. Registering ticket-punch	Jan. 31, 1871
4,246	Hoffman, Austin D., assignor through mesne assignments to James H. Small, Chicago, Ill. Registering ticket-punch (Reissue)	Jan. 31, 1871
117,777	Hoffman, James, Belvidere N. J. Boot-stretcher	Aug. 8, 1871
117,778	Hoffman, Joseph, assignor of one-half interest to S. H. Sweetland, Tewksbury, N. J. Hoisting-apparatus	Aug. 8, 1871
	Hoffman, Samuel W. (*See* Crane, Seymour, assignor.)	
121,873	Hoffmann, Carl, New York, N. Y. Implement for handling boxes and packages	Dec. 12, 1871
115,734	Hoffmann, Frederick E., Prussia. Brick-kiln	June 6, 1871
113,770	Hoffmann, Michael, assignor to Ludwig Kolbl, Bavaria. Grain-hulling machine	April 18, 1871
120,971	Hoffmeister, Louis Christian, jr., Philadelphia, Pa. Window-shade fixture	Nov. 14, 1871
120,437	Hoffstadt, Adolphus, New York, N. Y. Neck-tie	Oct. 31, 1871
118,942	Hoffstadt, Louis, Philadelphia, Pa. Dentists' articulator	Aug. 22, 1871
114,819	Hofmann, Jacob, Chicago, Ill. Adjustable bolster for bedsteads	May 16, 1871
114,509	Hogan, Patrick J., and Adam Snowden, Cincinnati, Ohio. Meat-saw	May 2, 1871
	Hogarth, Frederick W., and George H. Goltry. (*See* Goltry & Hogarth.)	
115,612	Hoge, William, and Joseph R. Peck, Washington, Pa. Enameled flexible metallic plate for photographers and others	June 6, 1871
114,508	Hogel, Hascal A., assignor to Effingham H. Nichols, New York, N. Y. Apparatus for treating animal matter for fertilizers	May 2, 1871
4,704	Hogg, James, assignor to Fleming Brothers, Philadelphia, Pa. Stocking. (Design)	Mar. 14, 1871
117,074	Hoggatt, Nathaniel, Madison Parish, La. Cotton-gin feeder	July 18, 1871
122,170	Hoggson, Samuel, assignor to self, William A. Peck, jr., and Whiting S. Sanford, New Haven, Conn. Process of printing on enameled or vitreous surfaces	Dec. 26, 1871
	Hogle, Sidney S., Berea, Ohio. Harrow (Extension)	Mar. 16, 1871
111,061	Hohenstein, George C., and Charles T. Glaeser, Cincinnati, Ohio. Crushing and hulling attachment to grinding-mills	Jan. 17, 1871
119,785	Hoherst, Friedrich, New York, N. Y. Sling for packages	Oct. 10, 1871
115,206	Holbrook, Augustus L., Fremont, Nebr. Metallic heel for boots and shoes	May 23, 1871
	Holbrook, Benjamin, administrator. (*See* Stone, Nathaniel F.)	
	Holbrook, Franklin F., *et al.* (*See* Small, Matthews & Holbrook.)	
117,075	Holbrook, Jonathan, Sherburne, Mass. Cider-press	July 18, 1871
	Same (*See* Safford, Mark, assignor.)	
	Holcomb, Frederick A., and Samuel B. Jenks. (*See* Jenks & Holcomb.)	
114,560	Holcroft, Henry, Media, Pa. Curtain-cord retainer	May 9, 1871
	Holcroft, Henry, *et al.* (*See* Stead, Holcroft & Pearson.)	
114,622	Holden, James John, England. Apparatus for charging and discharging gas-retorts	May 9, 1871
	Holden, Stoughton B. and Luther L. (*See* Rogers, Edwin F., assignor.)	
119,848	Holding, Joseph, and James Eccles, Great Britain. Warp-shedding mechanism for looms	Oct. 10, 1871
112,597	Holdredge, Artemas, West Burlington, N. Y., and Benjamin F. and Henry H. Harrington, New Berlin, N. Y. Cheese-hoop	Mar. 14, 1871
4,734	Holdsworth, George, assignor to William and I. Sloane, England. Carpet-pattern (Design)	Mar. 28, 1871
112,809	Holdsworth, Samuel, Maspeth, N. Y. Sand-screen	Mar. 21, 1871
111,540	Hollabaugh, Samuel, and Thomas W. Letts, Mount Union, Pa. Scaffold	Feb. 7, 1871
	Holland, Charles, *et al.* (*See* Frear, George A., assignor) (Reissue.)	
119,367	Holland, John, Cincinnati, Ohio. Pen-holder	Aug. 29, 1871
118,930	Holland, Mary A., Passaic, N. J. Burglar-alarm	Sept. 12, 1871
118,940	Same Burglar-alarm for windows	Sept. 12, 1871
121,103	Holland, William H., Boston, Mass. Piston	Nov. 21, 1871
121,782	Hollen, Stephen William, Cincinnati, Ohio. Time-lock	Dec. 12, 1871
110,656	Hollen, William H. H., Fostoria, Pa. Knitting-machine	Jan. 3, 1871
120,278	Hollenbaugh, William, New Germantown, Pa. Blast-attachment for lime-kilns	Oct. 24, 1871
	Hollenbeck, George, and William A. Sharp. (*See* Sharp & Hollenbeck.)	
121,368	Holley, Minard Y., Washington, D. C. Telegraph-insulator	Nov. 28, 1871
111,541	Hollihan, Dennis W., San Francisco, Cal. Shoe for thrashers. (Antedated Jan. 26, 1871)	Feb. 7, 1871
113,884	Hollinger, Jacob, Millersburgh, Ohio. Carriage-coupling	April 18, 1871
	Hollingsworth, Lyman, and Charles McBurney. (*See* McBurney & Hollingsworth.)	
	Hollingsworth, Robert J., and Louis McMurray. (*See* McMurray & Hollingsworth.)	
122,017	Hollis, Berry, Randolph, Ill. Husk-splitter	Dec. 19, 1871
	Hollis, Charles D., and D. S. Alvord. (*See* Alvord & Hollis.)	
114,430	Hollister, John F., Plano, Ill. Construction of bedsteads	May 2, 1871
	Hollister, Warren. (*See* Sinclair, James A., assignor.)	
	Hollow Axle Manufacturing Company. (*See* Lewis, William A., assignor.) (Seven cases.)	
	Same (*See* Lewis, William A., assignor) (Reissue.)	
116,709	Holloway, Ephraim S., Columbiana, Ohio. Pressing and stuffing machine	July 4, 1871
	Holloway, John, *et al.* (*See* Edwards, Wesley, assignor.)	
113,516	Holly, Birdsill, Lockport, N. Y. Filter	April 11, 1871
113,517	Same Regulating and safety valve	April 11, 1871
113,668	Same Surface-condenser	April 11, 1871
114,010	Same Variable cut-off for engines for water-works	April 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,142	Holly, Birdsill, Lockport, N. Y. Combined heater and condenser	April 25, 1871
114,683	Same Pressure-regulator for water-works	May 9, 1871
4,373	Same System of water-supply for cities (Reissue)	May 9, 1871
4,396	Same Automatic regulating-valve (Reissue)	May 23, 1871
	Holly, James H. (*See* Knapp & Robertson, assignors.)	
	Holly, James H., *et al.* (*See* Robertson, John F., assignor.)	
112,341	Holly, Solomon T., assignor to John P. Manny, Rockford, Ill. Harvester-rake	Mar. 7, 1871
118,130	Holman, Miron S., and Cyrus S. Farrar, Armada, Mich. Horse hay-rake	Aug. 15, 1871
117,631	Holman, Stephen, England. Securing lids to gas-retorts	Aug. 1, 1871
	Holmead, J. E. F. (*See* Peyton, Joseph L., assignor.)	
121,619	Holmes, Albert N., Tyrone, Mich. Self-operating gate	Dec. 5, 1871
118,941	Holmes, Alexander M., Morrisville, N. Y. Signal-light	Sept. 12, 1871
	Holmes, Booth & Hayden. (*See* Hayden, Hiram W., assignor) (Six cases.)	
119,610	Holmes, Chester D., Boston, Mass. Earth-closet. (Antedated Sept. 23, 1871)	Oct. 3, 1871
121,620	Holmes, Edwin, Brooklyn, N. Y. Electric indicator for elevators	Dec. 5, 1871
120,744	Holmes, Edwin, Brooklyn, N. Y., and Henry C. Roome, Jersey City, N. J. Circuit-closer for electrical burglar-alarms and signals	Nov. 7, 1871
120,874	Same Electric lining for safes	Nov. 14, 1871
120,875	Same Electro-magnetic burglar-proof curtain	Nov. 14, 1871
	Holmes, Farley, *et al.* (*See* Madden, De Marcus, assignor.)	
111,209	Holmes, Francis March, Boston, Mass. Folding-chair	Jan. 24, 1871
111,455	Same same	Jan. 31, 1871
120,040	Same same	Feb. 21, 1871
120,041	Same same	Feb. 21, 1871
4,280	Same same (Reissue)	Feb. 28, 1871
	Holmes, Francis V. (*See* Robbins, Joseph A., assignor.)	
114,820	Holmes, H. S., and D. Williams, assignors to David Williams, South Boston, Mass. Combined punch, awl, and knife	May 16, 1871
116,444	Holmes, Henry T., and Wallace H. Priest, Little Falls, N. Y. Cooking-stove	June 27, 1871
122,171	Holmes, Isaac V., New York, N. Y. Metallic lathing. (Antedated Dec. 9, 1871)	Dec. 26, 1871
	Holmes, James G., Charleston, S. C. Chair for invalids (Extension)	June 1, 1871
121,783	Holmes, John, Saint Clair, Pa. Miners' equib	Dec. 12, 1871
113,518	Holmes, John, and James C. H. Slack, England. Bale-tie	April 11, 1871
119,766	Holmes, Catharine E., Cambridgeport, Mass. Railway-car safety-apparatus	Oct. 10, 1871
113,519	Holmes, Levi, Greenpoint, N. Y. Finger-guard	April 11, 1871
	Holmes, R. E., *et al.* (*See* Coe, Daniel S., assignor.)	
113,438	Holmes, Sumner, North Brookfield, and Joseph F. Sargent, Melrose, Mass. Machine for forming heel-rands	April 4, 1871
118,343	Holmes, Thomas, Williamsburgh, N. Y. Cake-mixer	Aug. 22, 1871
	Holmes, Thomas, and John W. Barton. (*See* Barton & Holmes.)	
	Holmes, Thomas W., *et al.* (*See* Gubbins, Richard R., assignor.)	
120,438	Holsey, Julius Hopkins, Butler, Ga. Blasting-plug	Oct. 31, 1871
115,056	Holske, William F., assignor to self and A. E. Beach, New York, N. Y. Construction of hollow vessels	May 23, 1871
116,310	Holst, Moritz, Memphis, Tenn. Medical compound or bitters	June 27, 1871
114,821	Holsten, Charl Gustaf, Sweden. Transient bolt for vehicles	May 16, 1871
120,645	Holt, Chauncey, Jersey City, N. J. Children's carriage	Nov. 7, 1871
111,844	Holt, Horace, and William W. Secombe, assignors to Secombe Manufacturing Company, New York, N. Y. Hand-stamp	Feb. 14, 1871
4,473	Holt, John F., assignor through mesne assignments to the Boston Belting Company, Providence, R. I. Roller for clothes-wringers, &c (Reissue)	July 18, 1871
	Holt, Joseph, and John Rigby. (*See* Rigby & Holt.)	
119,611	Holtz, Dennis, Tiffin, Ohio. Bob-sled	Oct. 3, 1871
	Holtzclaw, Frank, *et al.* (*See* Draper, Henry V. P., assignor.)	
115,474	Holtzman, George, Baltimore, Md. Oyster-shucker	May 30, 1871
	Homans, F. W., *et al.* (*See* Manning, John J., assignor.)	
121,621	Hood, Cornelius, Seneca Falls, N. Y. Rotary harrow	Dec. 5, 1871
116,593	Hood, Freeman W., Boston, Mass. Revolving fire-arm	July 4, 1871
111,346	Hood, Joseph R., Wedowee, Ala. Cotton-chopper	Jan. 31, 1871
121,387	Hood, Wendell P., Winona, Minn. School desk and seat. (Antedated Nov. 11, 1871)	Nov. 28, 1871
	Hool, John R., & Son. (*See* Siebert & Lilley, assignors.)	
	Hoon, Joseph S., and Joseph S. Shaneman. (*See* Shaneman & Hoon.)	
120,068	Hooper, Cyrus Augustus, Lewiston, Me. Picker-staff check for looms	Oct. 17, 1871
112,342	Hooper, Henry O., Diamond Springs, Cal. Door-clamp	Mar. 7, 1871
118,131	Hooper, James Edwin, Boston, Mass. Tool for packing valves	Aug. 15, 1871
117,419	Hooper, Robert, Baltimore, Md. Canal-boat	July 25, 1871
	Hooper, Sherman D., and Washburn Race. (*See* Race & Hooper.)	
112,918	Hooper, William, Ticonderoga, N. Y. Ore-separator	Mar. 21, 1871
112,919	Same same	Mar. 21, 1871
117,984	Hooton, Francis C., West Chester, Pa. Preserving fruits and vegetables	Aug. 8, 1871
	Hooton, F. C., *et al.* (*See* Bullard O. Flagg, assignor.)	
	Hoover, William. (*See* Gibson & De Haas.)	
	Hope, Jonathan, *et al.* (*See* Minter, James, assignor) (Reissue.)	
117,632	Hopf, Frederick, Chicago, Ill. Desk and bed combined	Aug. 1, 1871
118,534	Hopkin, George E., Philadelphia, Pa. Cooking-stove	Aug. 29, 1871
	Hopkins, Andrew B., *et al.* (*See* Draper, Henry V. P., assignor.)	
116,710	Hopkins, Charles A., Charles H. Reid, George N. Raymond, and John S. Meeker, Danbury, Conn. Hat	Jan. 4, 1871
	Hopkins, Clark R., and Obadiah S. Smith. (*See* Smith & Hopkins)	
4,671	Hopkins, George E., and William B. Shedd, Boston, Mass. Machine for preparing sisal-grass and like substances (Reissue)	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,622	Hopkins, George M., assignor through mesne assignments to Henry G. Thompson, Albion, N. Y. Electro-magnetic sewing-machine	Dec. 5, 1871
121,784	Hopkins, Harvey L., Eaton, N. Y. Harvester	Dec. 12, 1871
	Hopkins, I. M. (*See* Dutemple, William R., assignor.)	
115,319	Hopkins, James, Akron, Ohio. Animal-poke	May 30, 1871
111,935	Hopkins, James H., assignor to self and William Carrollton, Newark, N. J. Hat-sizing machine	Feb. 21, 1871
119,030	Hopkins, Joseph W., assignor to self, Albert G. Bearup, and Patrick Carraher, New York, N. Y. Valve for steam-pumps, &c	Sept. 19, 1871
113,053	Hopkins, Samuel S., assignor to the Hopkins & Allen Manufacturing Company, Norwich, Conn. Revolving fire arm	Mar. 28, 1871
115,911	Hopkins, Seth, Napoleon, Ohio. Chimney	June 13, 1871
110,657	Hopkins, William P., Lawrence, Mass. Caliper	Jan. 3, 1871
	Hopkinson, Emerson B., and David Shankland. (*See* Shankland & Hopkinson.)	
121,719	Hopper, Thomas C., Philadelphia, Pa. Apparatus for mixing air and gas	Dec. 12, 1871
111,062	Hopping, Eugene C., and Eugene A. Ely, Madison, N. J. Combined seed-drill, manurer, and potato-digger	Jan. 17, 1871
116,311	Hopson, George, Bridgeport, Conn. Manufacture of spring-heads	June 27, 1871
110,504	Hopson, O. L., Waterford, Conn., and H. P. Brooks, Wolcottville, Conn., assignors to the Excelsior Needle Company. Needle for sewing-machines	July 4, 1871
116,445	Hopwood, William C., Fillmore, Ind. Water-gate	June 27, 1871
119,359	Horack, Carl L., Hastings, Minn. Car-coupling	Sept. 26, 1871
112,810	Horn, Henry, assignor to John O. Fairbairn, Milwaukee, Wis. Cord-guide for sewing-machines	Mar. 21, 1871
	Horner Brothers. (*See* Crabtree, Jonathan, assignor...(Two cases.) (Design.)	
118,136	Horner, William K., Ypsilanti, Mich. Hydrocarbon-torch	Aug. 15, 1871
114,561	Hornig, Julius L., Chicago, Ill. Propulsion of canal-boats	May 9, 1871
118,014	Horsey, Harvey C., Rome, Iowa. Washing-machine	Aug. 15, 1871
111,456	Horstmann, William J., Philadelphia, Pa. Fastening for epaulettes	Feb. 7, 1871
	Horton, A., and Jonathan Moore. (*See* Moore & Horton.) (Eight cases.) (Design.)	
112,811	Horton, Benjamin F., Ithaca, N. Y. Thill-coupling	Mar. 21, 1871
119,360	Horton, John M., assignor to self and Hiram W. Foote, Milwaukee, Wis. Device for locking nuts	Sept. 26, 1871
115,330	Horton, Marcus L., Windsor, Vt. Wash-boiler	May 30, 1871
111,936	Horton, Peter D., and Ezra T. Bryan, Marengo Township, Mich. Fly-trap	Feb. 21, 1871
119,767	Horton, William P., assignor to self and John B. Smith, Milwaukee, Wis. Lock-nut for railway-joints	Oct. 10, 1871
121,874	Hoesler, Hiram B., New Berlin, Ohio. Horse-power fastening	Dec. 12, 1871
113,885	Hotchkiss, Albert G., Wolcottville, Conn. Machine for reducing or pointing wire	April 18, 1871
111,745	Hotchkiss, Asahel A., Sharon, Conn. Animal-trap	Feb. 14, 1871
112,042	Hotchkiss, Bennet, New Haven, Conn. Window-sash lock	Feb. 21, 1871
112,144	Hotchkiss, B. B., New York, N. Y. Projectile for ordnance	Feb. 28, 1871
115,207	Hotchkiss, Burritt M., Naugatuck, Conn., and George M. Allerton, New York, N. Y. Vulcanizing-apparatus	May 23, 1871
118,721	Hotchkiss, Charles A., Bridgeport, Conn. Mouse-trap	Sept. 5, 1871
	Hotchkiss, Edward H. (*See* Cook, Thomas K., assignor) ..... (Design.)	
4,850	Hotchkiss, Frederick E., Gloversville, N. Y. Palm and back-piece of gloves. (Design)	May 9, 1871
116,958	Hothersall, James, and Joseph Banks, New York, N. Y. Carpet-beater	July 11, 1871
113,343	Houchin, Thomas W., Morrisania, N. Y. Taper-holder	Mar. 7, 1871
120,197	Same.....Vermin-exterminator	Oct. 24, 1871
110,916	Houcke, Louis, Springfield, Ohio. Coffee-roaster	Jan. 10, 1871
121,369	Hough, John O., De Witt County, Ill. Sawing-machine	Nov. 28, 1871
113,458	Hough, Walter A., South Butler, N. Y. Feed-bag for horses	Mar. 7, 1871
111,845	Hough, William S., Johnstown, Pa., Spike-extractor	Feb. 21, 1871
117,420	Same.....same	July 25, 1871
	Houghton, Byron K. (*See* Nelson, James H., assignor.)	
111,542	Houghton, Charles, Roxbury, Mass. Automatic steam water-elevator	Feb. 14, 1871
5,027	Houghton, Stillman, Worcester, Mass. Display-card.....(Design)	June 20, 1871
5,044	Same.....Garter and armlet card.....(Design)	June 27, 1871
111,937	Houpt, John, Springtown, Pa. Steam-engine	Feb. 21, 1871
4,374	Same.....same.....(Reissue)	May 9, 1871
115,308	Same.....same	May 23, 1871
116,312	Same.....same	June 27, 1871
120,430	House, Garrett Z., New York, N. Y. Cooking-stove	Oct. 31, 1871
113,344	House, Henry A., Bridgeport, Conn. Metallic garter	Mar. 7, 1871
113,345	Same.....Bobbin-winder	Mar. 7, 1871
113,346	Same.....Method of knitting stockings, &c	Mar. 7, 1871
113,054	Same.....Ventilator for hats	Mar. 28, 1871
114,204	House, James A. and Henry A., assignors to Wheeler & Wilson Manufacturing Company, New York, N. Y. Sewing-machine	May 2, 1871
112,479	House, Mark W., Cleveland, Ohio. Shade-holder for lamps	Mar. 7, 1871
112,480	House, Mark W., assignor to the Cleveland Non-Explosive Lamp Company, Cleveland, Ohio. Lamp-chimney	Mar. 7, 1871
121,321	Same.....Lamp	Dec. 5, 1871
	Houston, William H., Peabody, Mass. Machine for composing and distributing type.....(Extension)	Mar. 23, 1871
	Same.....Machine for composing and distributing type....(Disclaimer)	Mar. 23, 1871
120,676	Houston, Winfield S., Mansfield, Ohio. Hog-ringing device	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,123	Hovenden, Edwin, Bushnell, Ill. Feed-trough guard	Jan. 24, 1871
	Hovey, Asa E., and David Kerr. (*See* Kerr & Hovey) .....(Two cases.)	
112,708	Hovey, Francis, assignor to self and John Albert Brown, Ipswich, Mass. Swing	Mar. 14, 1871
4,306	Hovey, Francis, assignor to E. W. Frost, New York, N. Y. Copying-press. (Reissue)	Mar. 21, 1871
112,812	Hovey, Philo B., New London, Conn. Sash-holder	Mar. 21, 1871
4,904	Hovey, Samuel D., Brooklyn, N. Y. Rubber-eraser .....(Design)	May 16, 1871
116,446	Hovis, John T., Clintonville, Pa. Plow-attachment for cutting stubble	June 27, 1871
116,959	How, George C., Haverhill, Mass. Shoe	July 11, 1871
113,168	How, James W. F., Douglas County, Oreg. Animal-trap	Mar. 28, 1871
117,288	Howard, Alonzo J. F., Milford, Mass. Boot-crimper rub-stick	July 25, 1871
111,938	Howard, Charles, Warren, Ohio. Roofing-tile	Feb. 21, 1871
120,440	Howard, Charles A., Pontiac, Mich. Horse hay-fork	Oct. 31, 1871
	Howard, E., & Co. (*See* Goodell, Bardwell A., assignor) .....(Design.)	
113,669	Howard, Elijah Leavitt, assignor to George Augustus Whiting, Malden, Mass. Ruffle-guide and band-holder for sewing-machines	April 11, 1871
116,056	Same.....Band and edging guide sewing-machine	June 20, 1871
119,930	Same.....Hingham, Mass. Mechanism for operating sewing-machines	Oct. 17, 1871
120,817	Same.....Malden, Mass. Ruffling-device for sewing-machines	Nov. 14, 1871
116,960	Howard, Eugene, Milford, Mass. Child's nursery-gate	July 11, 1871
112,145	Howard, George C., Philadelphia, Pa. Belt-gearing	Feb. 28, 1871
114,562	Howard, Hiland, assignor to self, James Fowks, and George Howard, Leeds, N. Y. Fringe-twister	May 9, 1871
112,461	Howard, James, and Edward T. Bousfield, England. Horse hay-rake	Mar. 7, 1871
113,298	Same.....Tubular steam-boiler	April 4, 1871
117,076	Howard, James Leland, Hartford, Conn. Railroad-car ventilator	July 18, 1871
117,289	Same.....same	July 25, 1871
119,147	Same.....Urinal for railroad-cars	Sept. 19, 1871
118,015	Howard, John R., Boston, Mass. Blacking-brush	Aug. 15, 1871
111,746	Howard, Leonard D., Spruce Hill, Pa. Machine for cutting staves	Jan. 31, 1871
117,421	Howard, Oliver B., Westbrook, Me. Razor-strap	July 25, 1871
121,586	Howard, Oscar S., Bangor, Me. Piston-head for steam-engines	Nov. 7, 1871
118,942	Howard, Warren A., Dugway, N. Y. Door-fastener	Sept. 12, 1871
117,779	Howard, William H., Philadelphia, Pa. Let-off mechanism	Aug. 8, 1871
113,886	Howard, William T., Baltimore, Md. Broiler	April 18, 1871
112,347	Howarth, John, Salem, Mass. Apparatus for evaporating and concentrating liquids	Mar. 7, 1871
112,348	Same.....Apparatus for evaporating and concentrating liquids	Mar. 7, 1871
114,295	Same.....Apparatus for evaporating liquids	May 2, 1871
116,711	Same.....Apparatus for evaporating saline and other liquids	July 4, 1871
117,290	Same.....Apparatus for evaporating, concentrating, and super-heating salt-brine	July 25, 1871
	Howarth, John, and John H. Mills. (*See* Mills & Howarth.)	
110,762	Howe, Archelaus M., Worcester, Mass. Device for cutting soles for boots and shoes	Jan. 3, 1871
122,018	Howe, George A., Niles, Mich. Abrasive-paper holder. (Antedated Dec. 9, 1871).	Dec. 19, 1871
112,709	Howe, Henry, Council Bluffs, Iowa. Truss	Mar. 14, 1871
116,595	Howe, Henry R., Hartwick, N. Y. Car-coupling	July 4, 1871
112,710	Howe, Henry S., Rutland, Vt. Confectioners' mold	Mar. 14, 1871
117,885	Howe, Irving A., Boston, Mass. Drawers	Aug. 8, 1871
120,069	Howe, James H., Utica, N. Y. Tobacco-dressing machine	Oct. 17, 1871
117,886	Howe, John M., Rochester, N. Y. Knitting-machine	Aug. 8, 1871
4,315	Howe, Ozial A., assignor to the Howe Horseshoe and Machine Company, Jersey City, N. J. Machine for making horseshoes.....(Reissue)	Mar. 28, 1871
116,057	Howe, Patrick, Boston, Mass. Cloth-pressing machine	June 20, 1871
119,708	Same.....same	Oct. 10, 1871
121,790	Same.....Machine for pressing cloth	Dec. 12, 1871
110,917	Howe, Zadok, Lowell, Mich. Broom-holder	Jan. 10, 1871
	Howell & Brothers. (*See* Wilson, William, assignor.)	
111,457	Howell, Amyntas J., and James Murphy, Spruce Hill, Pa. Machine for cutting staves	Jan. 31, 1871
117,897	Same.....Stave-jointer	Aug. 8, 1871
122,019	Howell, De Witt C., Goshen, N. Y. Sectional steam-generator	Dec. 19, 1871
121,104	Howell, George W., Covington, Ky. Stove-pipe elbow	Nov. 21, 1871
113,670	Howell, Hamilton, Salem, Ohio. Machine for sharpening horseshoe-calks	April 11, 1871
121,052	Howell, John Adams, United States Navy. Propulsion of marine torpedoes	Nov. 21, 1871
120,877	Howell, Nathan S., Tualitin, Oreg. Animal-trap	Nov. 14, 1871
113,867	Howell, Thomas, Morgantown, W. Va. Hand seed-sower	April 18, 1871
	Howes, Lewis A. (*See* Prusha & Wales, assignors.)	
	Howes, Simeon, and Henry Montgomery. (*See* Montgomery & Howes.)	
113,433	Howland, Edmund S., Batavia, Ill. Grinding-plate	April 4, 1871
	Howland, William H. (*See* Norman, John, assignor.)	
113,297	Howland, William M., Topsham, Me. Wood-pulp machine	April 4, 1871
119,612	Howland, William M. and George L., Topsham, Me. Derrick	Oct. 3, 1871
	Howson, Richard, *et al.* (*See* Jones, Howson & Gjers.)	
114,823	Hoxie, Horace S., Raisin Centre, Mich. Plow-colter	May 16, 1871
	Hoxworth, W. J. (*See* La Rue, Silas H., assignor.)	
116,058	Hoxworth, William Jenkins, and Silas Hoffman La Rue, Allentown, Pa. Cooking-stove	June 20, 1871
	Hoyer, I. Wellington. (*See* White, William H., assignor.)	
	Hoyt, Asa. (*See* Hallock, Charles C., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,057	Hoyt, Benaiah C., Fort Atkinson, Wis. Riding-plow	May 23, 1871
117,780	Hoyt, Charles N., Providence, R. I. Combination-apparatus for games	Aug. 8, 1871
	Hoyt, George A. (*See* McGregor, Frazee B., assignor.)	
121,623	Hoyt, Isaac N., Wayland, Mich. Wagon body and rack	Dec. 5, 1871
112,598	Hoyt, Jonathan J., Chelmsford, Mass., and John E. Crane, Lowell, Mass., assignors to Jonathan J. Hoyt and the Lowell Oil-Cup Company. Construction of lamps	Mar. 14, 1871
4,886	Hubbard, Calvin L., assignor to the New Haven Steam-Heating Company, New Haven, Conn. Screen for a steam-heater (Design)	May 9, 1871
	Hubbard, Charles W., and George Palmer. (*See* Palmer & Hubbard.)	
118,388	Hubbard, David B., Wheeling, W. Va. Sofa-bedstead	Aug. 22, 1871
111,930	Hubbard, Eber, Seneca Falls, N. Y. Snow-shovel tip	Feb. 21, 1871
111,310	Hubbard, Edwin C., Green Bay, Wis. Brick-machine	Feb. 7, 1871
120,441	Hubbard, George M., assignor to the Parker & Whipple Company, New Haven, Conn. Fastener for meeting-rails of sashes	Oct. 31, 1871
4,814	Hubbard, George R., assignor to Bradley & Hubbard, New York, N. Y. Match-safe (Design)	April 18, 1871
115,056	Hubbard, Isaac G., Nokomis Ill. Motor-machine	May 23, 1871
117,077	Hubbard, Lucius, Ottawa, Ohio. Iron rim for wagon-wheels	July 18, 1871
121,370	Hubbard, Maria C., Troy, N. Y. Wash-boiler	Nov. 28, 1871
121,785	Hubbard, Thomas R. and William L., Brooklyn, N. Y. Sash-holder	Dec. 12, 1871
116,719	Hubbard, William C., assignor to self, Jerome J. Robbins, and William W. Carner, Hubbardston, Mich. Spring bed-bottom	July 4, 1871
117,781	Hubbard, William Penn, assignor to self and James H. Fegans, Farmland, Ind. Water-gate	Aug. 8, 1871
110,918	Hubbell, Algernon S., Norwich, Conn. Joint for frames of folding-umbrellas	Jan. 10, 1871
115,475	Hubbell, William Wheeler, Philadelphia, Pa. Pavement	May 30, 1871
120,646	Huber, Berthold, Williamsburgh, N. Y. Printing-press	Nov. 7, 1871
	Huber, Joseph. (*See* Perrault, Louis A., assignor.)	
121,171	Huckins, Isaac S., Wenona, Mich. Show-case for watches	Nov. 21, 1871
111,123	Huddle, Lewis and Jacob K., Tiffin, Ohio. Railway-car coupling	Jan. 24, 1871
112,920	Huddleston, Martha, Jackson, Tenn. Medical compound or salve	Mar. 21, 1871
111,124	Hudgin, Robert Henry, Fairfield, Canada. Gate	Jan. 24, 1871
111,543	Hudgin, Wescom, Athens, Ga. Wheel and axle for railway-cars	Feb. 7, 1871
113,169	Hudnett, John T., Reaville, N. J., and Holloway W. Mathews, assignors to J. W. Priestly & Co., Frenchtown, N. J. Land-roller	Mar. 28, 1871
122,173	Hudnut, Theodore, Terre Haute, Ind. Hominy-mill	Dec. 26, 1871
116,191	Hudson, Charles H., New York, N. Y. Self-propelling sleigh. (Antedated June 7, 1871)	June 20, 1871
116,313	Same Mode of propelling sleighs. (Antedated June 15, 1871)	June 27, 1871
117,291	Same Clothes-wringer. (Antedated July 14, 1871)	July 25, 1871
110,851	Hudson, Edward J., Golconda, Ill. Fire-escape	Jan. 10, 1871
120,043	Hudson, Orvis D., Waupun, Wis. Hydrostatic scale	Feb. 21, 1871
121,875	Hudson, Sylvester M., Saint Louis, Mo. Wrecking-frog for railways	Dec. 12, 1871
114,893	Hudson, Thomas, Troy, N. Y. Presser-foot for sewing-machines	May 16, 1871
4,705	Hudson, Thomas S., East Cambridge, Mass. Inkstand (Design)	Mar. 14, 1871
113,509	Huegler, Anthony, Sullivan, Mo. Securing wheel-tires	Mar. 14, 1871
	Huey, Samuel B., *et al.* (*See* Wilson, Joseph B., assignor) (Two cases.)	
120,158	Huey, William, Galena, Md. Step-ladder	Oct. 24, 1871
113,898	Huff, Chauncey F. H., New York, N. Y. Water-wheel	April 18, 1871
114,894	Same Sofa-bedstead	May 9, 1871
	Huffington, John W. (*See* Buckman, Alexander, assignor.)	
	Huffington, John W., and Alexander Buckman. (*See* Buckman & Huffington.) (Design.)	
117,633	Huffman, A. Ogden, Springfield, Ohio. School-desk	Aug. 1, 1871
113,711	Huffman, David, Luray, Va. Saw-gummer	Mar. 14, 1871
	Huffsey, Henry, and William H. Keppel. (*See* Keppel & Huffsey.)	
121,105	Hughes, Elisha, assignor to G. Miller Aylesworth, Gowie, Canada. Shingle-machine	Nov. 21, 1871
	Hughes, Frank, *et al.* (*See* Boon & Mills, assignors.)	
113,170	Hughes, John, New Berne, N. C. Cotton-picker	Mar. 28, 1871
113,671	Same Cotton-planter	April 11, 1871
115,309	Same Process for utilizing immature cotton-bolls	May 30, 1871
112,712	Hughes, John A., assignor to John A. Hughes & Co., Somerville, Mass. Show-case	Mar. 14, 1871
116,447	Hughes, John B., Terre Haute, Ind. Tile-machine	June 27, 1871
116,448	Same same	June 27, 1871
121,024	Same Tile for roofing	Dec. 5, 1871
111,940	Hughes, Joseph M., and Andrew J. Mapes, Independence, Mo. Excavating-machine	Feb. 21, 1871
114,695	Hughes, Robert, Dangerfield, Tex. Rotary engine	May 9, 1871
120,972	Hughes, Samuel, assignor to self and James J. Grace, Chester, S. C. Ore-crushing machine. (Antedated Nov. 4, 1871)	Nov. 14, 1871
114,143	Hughes, Seymour, Hudson, N. Y. Self-heating pocket-flask	April 25, 1871
115,735	Hughes, William E., Aylmer, Canada. Pruning-shears	June 6, 1871
112,947	Hughes, William M., San Francisco, Cal. Anchor	Feb. 28, 1871
111,063	Hughes, William W., Philadelphia, Pa. Beam or girder for fire-proof structures	Jan. 17, 1871
122,689	Hughs, Joseph H., and Absalom, Wautoma, Wis. Cow-bell strap	Dec. 19, 1871
114,948	Hugunin, Robert B., New York, N. Y. Sash-holder	May 16, 1871
4,629	Hugunin, Robert B., assignor to Albert H. Spencer, Cleveland, Ohio. Clothes-wringer (Reissue)	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,680	Hugunin, Robert B., assignor to Albert H. Spencer, Cleveland, Ohio. Roller and fastening for clothes-wringers (Reissue)	Dec. 26, 1871
	Hugus, Paul, *et al.* (*See* Gillett, Webster, assignor.)	
120,364	Huie, James M., and Elisha Card, San Francisco, Cal. Gang-plow	Oct. 31, 1871
117,634	Hurlbert, Edwin J., and Aime N. N. Aubin, assignors through mesne assignments to the American Peat-Fuel Company, Rutland, Conn. Peat-elevator	Aug. 1, 1871
120,538	Hulbert, Edwin J., and Aime Nicholas N. Aubin, Portland, Conn. Hoisting-bucket	Oct. 31, 1871
122,173	Same Treatment of peat for fuel	Dec. 26, 1871
122,252	Hulbert, Francis R., Grand Rapids, Mich. Steam-boiler tube-bushing	Dec. 26, 1871
115,331	Hulbert, Jerome B., Hermon, N. Y. Self loading and dumping cart	May 30, 1871
116,192	Hulbert, Lester T., Painesville, Ohio, and Albert P. Teachout, Madison, Ohio. Corn-sheller	June 20, 1871
	Hulbert, Thomas W., and Henry Pudder. (*See* Pudder & Hulbert.)	
120,973	Hull, Aaron J., Sterling, Ill. Pump	Nov. 14, 1871
4,521	Hull, Daniel H., assignor to self and J. R. Savage, Plantsville, Conn. Boiler and washing-machine (Reissue)	Aug. 22, 1871
	Hull, Henry. (*See* Garvin, Benjamin, assignor.)	
119,361	Hull, Henry H., Bergen, N. Y. Clod breaking and pulverizing machine	Sept. 26, 1871
119,518	Hull, Jerome J., and Joseph Kaufman, Brooklyn, N. Y. Lantern	Oct. 3, 1871
111,544	Hull, John W., and Albert G. Stiffler, Alquina, Ind. Clover-harvester	Feb. 7, 1871
112,713	Hull, Lemuel L., Oskaloosa, Iowa. Pad for horse-collars	Mar. 14, 1871
118,722	Hull, Liverus, Charlestown, Mass. Connecting joint and cock of gas-brackets	Sept. 5, 1871
112,246	Hull, Thomas, and Nicholas Thomas, Chicago, Ill. Bolt-heading machine	Feb. 28, 1871
	Hulse, William T., and John Marvin. (*See* Marvin & Hulse.)	
	Hulskamp, G. Henry, New York, N. Y. Metallic bridge for piano-fortes. (Extension)	July 21, 1871
115,857	Humphrey, Daniel W. G., assignor to self and Eugene Humphrey, Chelsea, Mass. Button-hole stitching-machine	June 13, 1871
115,323	Humphrey, Harriet A., Milwaukee, Wis. Caster for stove-legs, &c	May 30, 1871
115,310	Humphrey, Hugh H., and Henry Bickford, assignors to Henry Bickford, Cincinnati, Ohio. Scroll-saw	May 23, 1871
119,031	Humphrey, James L., Syracuse, N. Y. Evaporating salt-water	Sept. 19, 1871
	Humphrey, John, Keene, N. H. Machine for cutting slots in clothes-pins. (Extension)	Mar. 30, 1871
111,748	Humphrey, John, assignor to James Wilson, Keene, N. H. Pump	Feb. 14, 1871
120,070	Humphrey, John, assignor to Bridgeport Manufacturing Company, Keene, N. H. Pump-piston	Oct. 17, 1871
116,030	Humphreys, Henry Temple, Ireland. Railway	June 20, 1871
114,144	Humphreys, William, Waterford, N. Y. Attachment to gas service-pipe for automatically cutting off the gas in case of fire	April 25, 1871
	Humphries, James, & Sons. (*See* Cowell, Albert, assignor.) (Twelve cases.) (Design.)	
	Same (*See* Silcox, Josiah Mark, assignor) (Two cases.) (Design.)	
119,084	Humphries, Joseph, Washington, D. C. Boat hoisting, lowering, and detaching apparatus. (Antedated Oct. 10, 1871)	Oct. 17, 1871
119,148	Hungerford, George Whitney, Chicago, Ill. Process for polishing coffee	Sept. 19, 1871
119,149	Same Machine for cleaning coffee, grain, &c	Sept. 19, 1871
119,085	Hunsaker, George T., Carthage, Ill. Culinary shelves	Oct. 17, 1871
113,580	Hunt, Almon, Macomb, Ill. Cultivator	April 11, 1871
113,921	Hunt, Frank M., Macon, Ga. Fan and fly driver	Mar. 21, 1871
	Hunt, Frederick S. (*See* Stone, Samuel, assignor.)	
119,768	Hunt, George, Springfield, Mass. Dust-ring for watches	Oct. 10, 1871
112,044	Hunt, George G., Chicago, Ill. Base-burning stove	Feb. 21, 1871
117,392	Same same	July 25, 1871
112,949	Hunt, George W., assignor to self, George Place, and Charles F. Hardwick, New York, N. Y. Printing-press	Feb. 28, 1871
	Hunt, Henry C., and Thomas Ward. (*See* Ward & Hunt.)	
115,476	Hunt, James G., Cincinnati, Ohio. Open-front stove and fire-place	May 30, 1871
	Hunt, Joshua. (*See* Macon, Hezekiah, assignor.)	
	Hunt, Joshua, *et al.* (*See* Evans, Thomas & Hunt.)	
117,293	Hunt, Leander B., assignor to self and Roswell W. Turner, Hyde Park, Mass. Knitting-machine	July 25, 1871
111,911	Hunt, Lewis B., New York, N. Y. Railway-car wheel	Jan. 24, 1871
116,961	Same Car-wheel	July 11, 1871
	Hunt, Samuel H., and Frederick D. Dellinger. (*See* Dellinger & Hunt.)	
116,193	Hunt, Willis M., New York, N. Y. Wheel for vehicles	June 20, 1871
114,943	Hunt, Zebulon, Hudson, N. Y. Base-burning stove	May 16, 1871
111,941	Hunter, Charles E., Hinsdale, N. H. Machine for straightening bolts	Feb. 21, 1871
112,250	Hunter, Charles R., Douglas, Ill. Flood-fence	Feb. 28, 1871
114,911	Hunter, David James, Somerville, Mass. Brick-machine	April 25, 1871
	Hunter, James, and Paul Wilson. (*See* Wilson & Hunter.)	
119,362	Hunter, James B., Ashley, Ill. Motive-power	Sept. 26, 1871
114,145	Hunter, John M., New York, N. Y. Shoe-sole	April 25, 1871
114,944	Hunter, Robert, Cincinnati, Ohio. Flexible-propeller	May 16, 1871
	Hunter, Swift McG., and James Terry, jr. (*See* Terry & Hunter.)	
111,749	Hunter, Thomas, Philadelphia, Pa. Lithographic press	Feb. 14, 1871
	Hunter, William, & Sons. (*See* Kerr, William, assignor.) (Three cases.) (Design.)	
120,878	Huntington, David W., and William A. Hempstead, South Coventry, Conn. Balanced valve for steam-engines	Nov. 14, 1871
122,174	Same Liquid-meter	Dec. 26, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,116	Huntington, Frank A., San Francisco, Cal. Saw-collar	Dec. 26, 1871
122,117	Same.....Shingle-machine	Dec. 26, 1871
114,563	Huntington, William S., assignor to self and Ansel M. Kellogg, Byron, Mich. Railway-track gauge	May 9, 1871
111,345	Huntley, Curtis, Lowell, Mass. Flour-sifter	Feb. 7, 1871
	Huntley, George William. (*See* Trump, George, assignor) .....(Two cases.)	
121,106	Huntley, Merritt G., assignor to self and Harvey Bissell, Grand Rapids, Mich. Lining oil-barrels	Nov. 21, 1871
	Huntoon, David, *et al.* (*See* Foster, Calvin, A., assignor.)	
	Huntoon, George A., and Charles L. Sweatt. (*See* Sweatt & Huntoon.)	
111,647	Huntoon, George W., and Edwina Simonds, Lowell, Mass. Tap-wrench	Feb. 7, 1871
	Huntoon, Hazen P., and John J. Kenyon. (*See* Kenyon & Huntoon.)	
121,347	Huntoon, James W., Saint Louis, Mo. Grain-separator for thrashing-machines	Jan. 31, 1871
112,251	Same .....Horse-power	Feb. 28, 1871
114,396	Huntoon, Reuben K., Boston, Mass. Engine-governor	May 2, 1871
116,596	Same.....Governor for steam-engines	July 4, 1871
	Same.....(*See* Pottle, George F., assignor.)	
	Hupfel, Adolph G., and Louis L. Hyatt. (*See* Hyatt & Hupfel.)	
120,647	Hurd, Artemas B., Painted Post, Mo. Dash-board for carriages	Nov. 7, 1871
118,016	Hurd, Charles W., Comstock Landing, N. Y. Mechanical movement	Aug. 15, 1871
121,172	Hurd, Edwin F., deceased, by Henry H. Parsons, administrator, Hoosick Falls, N. Y. Machine for making axes	Nov. 21, 1871
120,648	Hurd, George H., Memphis, Tenn. Treadle-brace	Nov. 7, 1871
	Hurd, George H., *et al.* (*See* Finley, Hurd & Tatem.)	
	Hurd, Orlando and Bradford C., *et al.* (*See* Cauldwell, James A., assignor.)	
112,252	Hurd, Reuben, Morrison, Ill. Wagon-brake	Feb. 28, 1871
116,449	Hurlburt, Benjamin, assignor to self and Noble G. Olds, Fort Wayne, Ind. Manufacture of backs for carriage-seats	June 27, 1871
110,656	Hurlburt, Hiram E., Hammondsport, N. Y. Thrashing-machine	Jan. 3, 1871
	Hurlbut, Hiram H., and James G. Wilbur. (*See* Wilbur & Hurlbut.)	
113,290	Huse, Ralph C., jr., Georgetown, Mass. Automatic apparatus for operating the valve of the exhaust-pipe of locomotives	April 4, 1871
	Huson, Edgar, Ithaca, N. Y. Wagon .....(Extension)	Mar. 2, 1871
	Huson, Isaiah A. (*See* Fitzgerald, Walter H., assignor.)	
115,858	Huss, John Adam, assignor to Bowling Green Improved Cylinder and Pump-Packing Company, Bowling Green, Ky. Piston for steam-engines and pumps	June 13, 1871
112,253	Hussey, Daniel, Lowell, Mass. Machine for warping yarn	Feb. 28, 1871
119,032	Same .....Spindle for spinning-machines	Sept. 19, 1871
	Hussey, D. J., *et al.* (*See* Devore, Leonard, assignor.)	
	Hussey, Elisha C., and John W. Boughton. (*See* Boughton & Hussey.)	
117,078	Hussey, Frank H. A., assignor to self and Aaron F. Smith, Lynn, Mass. Gaiter-shoe	July 18, 1871
	Hutchings, Timothy, *et al.* (*See* Shears, Albert L., assignor.)	
115,962	Hutchings, William, Newark, N. J. Toy-ring	June 13, 1871
110,852	Hutchins, Carleton B., Ann Arbor, Mich. Artificial stone for pavements, walks, floors, &c	Jan. 10, 1871
112,045	Same.....Manufacture of paper and leather board	Feb. 21, 1871
116,397	Same.....Manufacture of potato-starch	July 4, 1871
	Hutchins, Charles, deceased, by G. F. Hutchins, administrator, East Douglass, Mass. Machine for making axes .....(Extension)	Mar. 2, 1871
120,745	Hutchins, James, deceased, by Charlotte Ayre Hutchins, administratrix, Syracuse, Iowa. Fanning-mill	Nov. 7, 1871
112,922	Hutchins, Seth T., North Anson, Me. Cattle-tie	Mar. 21, 1871
119,769	Hutchinson, Charles H., Concord, N. H. Balance-slide valve	Oct. 10, 1871
111,064	Hutchinson, Elias S., Baltimore, Md. Apparatus for separating oil from grain and other materials	Jan. 17, 1871
112,046	Same.....Manufacture of flour	Feb. 21, 1871
112,349	Same.....Apparatus for removing oil from vegetable and other matter	Mar. 7, 1871
112,350	Same.....Apparatus and process for removing oil from grain, seeds, &c	Mar 7, 1871
117,079	Hutchinson, Samuel, Griggsville, Ill. Harrow and marker combined	July 18, 1871
113,300	Hutchinson, William, England. Brick and tile machine	April 4, 1871
110,975	Hutchison, Robert, assignor to William B. Gould, Newark, N. J. Stair-rod fastening	Jan. 17, 1871
118,455	Hutson, Charles E., Saint Louis, Mo. Rotary pump. (Antedated Aug. 18, 1871)	Aug. 29, 1871
	Huttner, Henry J. (*See* Trapp, Edward A., assignor.)	
117,341	Huy, Jacob, Bakerstown, Pa. Horse hay-fork	Aug. 1, 1871
	Huyck, Aaron. (*See* Gale, Daniel J., assignor) .....(Design.)	
119,709	Hyams, Hiram Jacob, assignor of one-half interest to N. B. Hatch, Pittsburgh, Pa. Water-meter. (Antedated Sept. 23, 1871)	Oct. 10, 1871
113,035	Hyatt, Isaiah S., and John W. and Jesse A. Perkins, Albany, N. Y. Dental plates from pyroxyline	Mar. 28, 1871
114,945	Hyatt, John W., jr., Albany, N. Y. Process of coating billiard-balls, knife-handles, and other articles	May 16, 1871
119,710	Hyatt, John W., jr., assignor to Embossing Company, Albany, N. Y. Inlaying	Oct. 10, 1871
121,522	Hyatt, John W., jr., and Isaiah S., assignors to Albany Dental Plate Company, Albany, N. Y. Apparatus for molding dental plates	Dec. 5, 1871
113,771	Hyatt, Lewis L., New York, and Adolph G. Hupfel, Morrisania, N. Y. Barrel-rolling apparatus	April 18, 1871
121,371	Hyde, Charles E., Oswego, N. Y. Clothes-drier and awning combined	Nov. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,521	Hyde, Dwight, and Ephraim H. Andrews, Bridgeport, N. Y. King-bolt for carriages	April 11, 1871
	Hyde, George, and Joseph P. Adams. (*See* Adams & Hyde) .....(Design.)	
	Hyde, George Warren, and Thomas Wallace. (*See* Wallace & Hyde.)	
4,530	Hyde, James R., assignor to Eddy, Corse & Co., Troy, N. Y. Cooking-stove. (Reissue)	Aug. 29, 1871
111,212	Hyde, Oliver, Oakland, Cal. Operating-cutter for steam-plows	Jan. 24, 1871
111,213	Same.....Elastic tire for friction-engines	Jan. 24, 1871
113,523	Same.....Seed-drilling machine	April 11, 1871
117,174	Same.....Traction-wheel	July 18, 1871
117,422	Same.....Elastic tire for traction-engines	July 25, 1871
118,613	Same.....Tubular steam-boiler	Aug. 29, 1871
120,071	Same.....Steam-plow	Oct. 17, 1871
114,894	Hyland, Amasa, Hingham, Mass. File	May 16, 1871
	Hyland, John. (*See* Lewis, George W., assignor.)	
121,372	Hyle, Henry A., Shamburgh, Pa. Pipe-wrench	Nov. 28, 1871
122,118	Hyndman, William G., Cincinnati, Ohio. Rotary blower	Dec. 26, 1871
	Hynds, George A., and Nathaniel Parks. (*See* Parks & Hynds.)	
110,763	Hynes, Michael T., Boston, Mass. Broiler	Jan. 3, 1871
118,535	Hynes, Patrick J., Stoughton, Wis. Fence	Aug. 29, 1871
120,746	Ibeck, Lawrence, Kickapoo, Ill. Railway-car coupling	Nov. 7, 1871
114,440	Ide, Albert L., Springfield, Ill. Steam-heater	May 2, 1871
115,477	Same .....same	May 30, 1871
116,968	Same.....Draught-regulator	July 11, 1871
121,373	Ide, Samuel, Medina, N. Y. Scroll-saw guide	Nov. 28, 1871
116,080	Ide, Truman H., Claremont, N. H. Printing-press	June 20, 1871
114,441	Illingworth, Benjamin, Le Roy, Minn. Harvester-rake	May 2, 1871
122,175	Illingworth, Frederick A., Waltham, Mass. Car-coupling	Dec. 26, 1871
5,029	Ils, John G., San Francisco, Cal. Grate-hearth .....(Design)	June 20, 1871
117,635	Same.....Slop-hopper	Aug. 1, 1871
	Ilsley, Silas A., and Charles L. Northrup. (*See* Chace, John K., assignor.) (Reissue.)	
	Ingalls, Helen M. (*See* Norton, Marcus P., assignor.)	
117,888	Ingalsbe, Homer H., South Hartford N. Y., and Gustavus A. Prescott, Sandy Hill, N. Y. Pruning-shears	Aug. 8, 1871
120,649	Ingebrigtson, Bendix, Cambridge, Wis. Corn-planter	Nov. 7, 1871
	Ingersoll, Adeline M., *et al.* (*See* Scott, Thomas R., assignor.)	
114,564	Ingersoll, Platt C., Greenpoint, N. Y. Revolving and rocking chair	May 9, 1871
112,254	Ingersoll, Simon, Brooklyn, N. Y. Rock-drill	Mar. 7, 1871
115,478	Same.....Valve-motion	May 30, 1871
120,279	Same.....Rock-drill	Oct. 24, 1871
119,549	Ingersoll, Stephen H., New York, N. Y. Wood-pavement	Oct. 3, 1871
	Ingham, Warren Roland, *et al.* (*See* Race, Washburn, assignor.)	
112,462	Ingle, Mark W., Indianapolis, Ind. Tongs for rolling barrels	Mar. 7, 1871
111,546	Inglefield, Edward Augustus, England. Steering-apparatus	Feb. 7, 1871
113,772	Ingraham, Elias, Bristol, Conn. Application of bronze and gilding to plate-glass	April 25, 1871
4,948	Same.....Clock-case sash .....(Design)	May 30, 1871
4,979	Same.....Clock-case .....(Design)	June 6, 1871
4,441	Same .....Embellishment of glass .....(Reissue)	June 27, 1871
	Ingram, Nelson. (*See* Bragaw, John A., assignor.)	
112,146	Ingrham, Amer, assignor to William L. Boyer & Brother, Philadelphia, Pa. Lawn-mower	Feb. 28, 1871
114,012	Inman, Peter H., and Charles B. Withington, Janesville, Wis. Coffee-pot	April 25, 1871
	Innes & Magill. (*See* Zeuner, Charles, assignor) .....(Design.)	
117,294	Innes, David K., and Wesley W. Magill, Cincinnati, Ohio. Mantel and front for fire-places	July 25, 1871
4,612	Same.....Mantel and front for fire-places .....(Division A, reissue)	Oct. 31, 1871
4,613	Same.....same.....(Division B, reissue)	Oct. 31, 1871
115,479	Ireland, George H., Somerville, Mass. Safe	May 30, 1871
	Iron Manufacturing and Coal Company. (*See* Reese, William R., assignor.)	
	Irvine, Robert, *et al.* (*See* Richardson, Lundy & Irvine) .....(Reissue.)	
120,870	Irwin, Amanda M., Brooklyn, N. Y. Medical compound, or pile-ointment	Nov. 14, 1871
120,747	Irwin, George M., Birmingham, Pa. Glass globe for lamps	Nov. 7, 1871
120,748	Same.....Top for molasses-pitchers	Nov. 7, 1871
	Irwin, James, *et al.* (*See* Godfrey, Joseph S., assignor.)	
115,059	Irwin, John H., Philadelphia, Pa. Lantern-globe holder	May 23, 1871
115,613	Isbell, Charles W., New York, N. Y. Rotary pump. (Antedated June 1, 1871)	June 6, 1871
	Isham, Frank W., and Elizabeth Yielding. (*See* Yielding, Richard, assignor.) (Reissue.)	
120,818	Isham, George B., Burlington, Vt. Broom and mop holder	Nov. 14, 1871
115,614	Isherwood, Thomas, Stonington, Conn. Loom-shuttle	June 6, 1871
115,850	Same.....England. Woven fabric	June 13, 1871
4,522	Same.....Stonington, Conn. Loom-shuttle .....(Reissue)	Aug. 22, 1871
	Isherwood, Thomas, *et al.* (*See* Tucker, Frederick O., assignor.)	
113,656	Ishe, Anthony, assignor to Daniel H. Lintner, Lancaster, Pa. Refrigerator and water-cooler	Mar. 28, 1871
121,450	Ishe, Anthony, assignor of one-half interest to Hilaire Zaepfel, Lancaster, Pa. Dumping-wagon	Dec. 5, 1871
	Ithaca Agricultural Works. (*See* Jessup & Sharp, assignors.)	
114,146	Ivens, William H., Trenton, N. J. Steam-generator	April 6, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,397	Ivens, William H., and William E. Brooke, Trenton, N. J. Combined punching and shearing machine	May 2, 1871
114,686	Ivens, William H., assignor to self and William E. Brooke, Trenton, N. J. Insertible saw-teeth	May 9, 1871
114,147	Ives, Eldridge W., Hamden, Conn. Carriage-axle	April 25, 1871
114,149	Same.....Carriage-axle box	April 25, 1871
116,260	Ives, Ellsworth D., Philadelphia, Pa. Hub for wheels of vehicles	Aug. 22, 1871
	Ives, Franklin B. (*See* Clark & Clark, assignors.)	
115,660	Ives, George and Hiram, Detroit, Mich. Bent sleigh-knee, bench, and brace	June 13, 1871
	Ives, George N., and Francis D. Kellogg. (*See* Kellogg & Ives.)	
110,919	Ives, Hubert R., New Haven, Conn. Sad-iron	Jan. 10, 1871
	Ives, Hubert R., and Roger N. Allen. (*See* Scott, George, assignor.)	
111,767	Ives, James, Mount Carmel, Conn. Mode of fastening hub-bands, &c	Feb. 7, 1871
114,398	Same.....Mode of lubricating axles	May 2, 1871
110,920	Ives, William A., New Haven, Conn. Auger-handle	Jan. 10, 1871
111,648	Same.....Auger	Feb. 7, 1871
111,649	Same.....Bit-brace	Feb. 7, 1871
112,255	Same.....Method of forming spur-lips of auger-bits	Feb. 28, 1871
113,211	Same.....Bung-borer	May 23, 1871
119,770	Ives, William H., Luzerne, N. Y. Spike-extractor	Oct. 10, 1871
112,714	Ivory, John, New York, N. Y. Fire-escape	Mar. 14, 1871
117,782	Jaccard, Samuel and Justin J., assignors to D. Constant Jaccard, Switzerland. Stem-winding watch	Aug. 8, 1871
114,149	Jack, Robert, Des Moines, Iowa. Vehicle	April 25, 1871
	Jackson & Wiley. (*See* Durfee, William F., assignor.)	
118,133	Jackson, Amariah W., Napoleon, Ohio. Steam-engine	Aug. 15, 1871
114,849	Jackson, Charles A., Boston, Mass. Folding-chair	Oct. 10, 1871
	Jackson, Charles A., *et al.* (*See* Burleigh, Leroy G., assignor.)	
119,363	Jackson, Henry, Brooklyn, N. Y. Propulsion of vessels	Sept. 26, 1871
116,714	Jackson, James L., New York, N. Y. Frame for sashes, roof-skylights, &c	July 4, 1871
118,017	Same.....Table for emery-grinders	Aug. 15, 1871
5,369	Same.....Manger (Design)	Nov. 21, 1871
5,370	Same.....same (Design)	Nov. 21, 1871
5,397	Same.....Harness saddle-bracket (Design)	Dec. 5, 1871
5,398	Same.....Manger (Design)	Dec. 5, 1871
5,399	Same.....Hook for harness (Design)	Dec. 5, 1871
5,400	Same.....Saddle and bridle bracket (Design)	Dec. 5, 1871
5,414	Same.....Harness-bracket (Design)	Dec. 12, 1871
5,415	Same.....Hook to hang harness on (Design)	Dec. 12, 1871
5,416	Same.....Hook for hanging harness on (Design)	Dec. 12, 1871
122,253	Same.....Table for emery-grinders	Dec. 26, 1871
	Jackson, James L., & Bro. (*See* Nuhn, Michael, assignor.)	
116,194	Jackson, John, Coopersville, Mich. Churn	June 20, 1871
118,134	Jackson, John, jr., Chatsworth, Ill. Corn-planter	Aug. 15, 1871
118,536	Jackson, John H., and Samuel Leak, Putnam, Conn. Machine for twisting yarn	Aug. 29, 1871
121,374	Jackson, Peter H., New York, N. Y. Iron girder	Nov. 28, 1871
116,061	Jackson, Richard A., assignor to self, Francis G. Walker, and Patrick Fetherstone, Alliance, Ohio. Rocker for cradles, &c	June 20, 1871
119,850	Jackson, Richard A., and Samuel Gissinger, Pittsburgh, Pa. Concrete pavement	Oct. 10, 1871
	Jackson, Silas E., and Morgan P., Boonville, N. Y. Mowing-machine. (Extension)	Dec. 26, 1871
	Jackson, Thomas, *et al.* (*See* Brooks, Thomas, assignor.)	
116,847	Jackson, William N., Muncie, Ind. Sash-cord fastener	Feb. 14, 1871
111,845	Jackson, William N., assignor to self and Benjamin F. Jackson, Muncie, Ind. Threshing-machine	Feb. 14, 1871
111,846	Jacobs, Isaac, New York, N. Y. Pen-holder	Feb. 14, 1871
118,943	Jacobs, William E., Columbus, Ohio. Sugar-evaporator	Sept. 12, 1871
112,351	Jacobsen, Charles F., New York, N. Y. Chandelier	Mar. 7, 1871
122,254	Jacobus, Peter N., Montague, N. J. Dental forceps	Dec. 26, 1871
113,057	Jacobus, Pierson, Romulus, N. Y. Sawing-machine	Mar. 28, 1871
4,964	Jacoby, Jacob, Johnstown, Pa. Weather-boarding (Design)	May 30, 1871
121,625	Jacquin, James L., New York, N. Y. Parasol	Dec. 5, 1871
111,849	Jaeger, Gustave L., New York, N. Y. Machine for lining pasteboard	Feb. 14, 1871
117,423	Same.....Paper box	July 25, 1871
113,672	Jaeger, Julius, Tompkinsville, N. Y. Machine for dressing and punching slate	April 11, 1871
	Jagel, Julius M., *et al.* (*See* Bolz, Grebner & Jagel.)	
121,375	Jager, Gottfried, Indianapolis, Ind. Compound for coloring leather. (Antedated Nov. 13, 1871)	Nov. 28, 1871
117,889	Jagielski, Victor Appollinaris, England. Dietetic compound for milk	Aug. 8, 1871
120,395	James, Henry B., Trenton, N. J. Compensation-pendulum	Oct. 31, 1871
118,774	James, John Williamson, and Josiah Streit, Centre Town, Mo. Washing-machine	Sept. 5, 1871
	James, Jonathan H., *et al.* (*See* Boswell, Palmer & James.)	
118,944	James, Remington, Lockport, N. Y., and John W. Currier, Springfield, Mass. Vegetable-slicer	Sept. 12, 1871
115,736	James, Thomas J., Petersburgh, Va. Water-cooler	June 6, 1871
117,080	James, Willard C., Fisherville, N. H. Construction of doors	July 18, 1871
117,175	Same.....Belt-fastener	July 18, 1871
120,899	Same.....Music-stand	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,045	James, William Collier, England. Black-lead block (Design)	June 27, 1871
111,850	James, W. G., Richmond Centre, Wis. Stove-oven grate	Feb. 14, 1871
4,128	Jameson, Jacob, Philadelphia, Pa. Manufacture of iron and steel (Reissue)	Nov. 7, 1871
	Jamison, George. (*See* Nash, George W., assignor.)	
	Jamison, Hugh S., and Turner Barns. (*See* Barns & Jamison.)	
121,376	Jamison, Samuel S., jr., Saltsburgh, Pa. Steam and water injector	Nov. 28, 1871
115,615	Janes, Charles P., Boston, Mass. Atomizer	June 6, 1871
119,613	Janney, Nathan L., assignor to self and William L. Gilbert, Wilmington, Del. Egg-packing box	Oct. 3, 1871
115,912	Janson, Bernhard, Effingham, Ill. Velocipede	May 23, 1871
	Jaques, John S., and Frank T. (*See* Smith, Charles E., assignor.)	
111,125	Jaquess, James F., Commerce, Miss. Harrow and cultivator	Jan. 24, 1871
121,377	Jaquith, Frederick P., Hoosick Falls, N. Y. Thrashing-machine	Nov. 28, 1871
115,861	Jaquith, Frederick P., assignor to self, Lyman W. Wilder, William Chapman, and Alvin Willey, Hoosick Falls, N. Y. Mechanism for transmitting power	June 13, 1871
112,600	Jaquith, Gilman, West Concord, Mass. Machine for dressing yarn or thread	Mar. 14, 1871
122,021	Jarvis, Charles, New York, N. Y. Line-connector	Dec. 19, 1871
117,890	Jarvis, Charles B., and James W. Goff, Cincinnati, Ohio. Still for beer, &c	Aug. 8, 1871
119,580	Jarvis, Granville E., Grafton, W. Va. Railway-rail chair	Oct. 3, 1871
114,150	Jarvis, Oliver S., Xenia, Ill. Horse hay-rake	April 25, 1871
112,463	Jason, George W., Lodi, Ohio. Pitman	Mar. 7, 1871
114,290	Jay, Pierre E., and John A. Rafter, Montreal, Canada. Manufacture of cast-steel	May 2, 1871
110,650	Jeanneau, John S., Bangor, Me. Double hinge	Jan. 3, 1871
115,616	Jedkins, James W., Monmouth, Me. Shutter-worker	June 6, 1871
120,072	Jeffers, A. Perley M., assignor to self, Milton C. Jeffers, and Eugene F. Beecher, Allegan, Mich. Panoramic school-apparatus	Oct. 17, 1871
	Jeffery, Edward T., and Samuel J. Hayes. (*See* Hayes & Jeffery.)	
111,548	Jeffery, Edwin A., New York, N. Y. Batter-pot	Feb. 7, 1871
120,974	Jeffery, Robert, assignor to self, James L. Shute, and William T. Merchant, Gloucester, Mass. Fishing-seine	Nov. 14, 1871
121,626	Jeffery, Thomas B., assignor to Horace Wickham, jr., Chicago, Ill. Pneumatic motor	Dec. 5, 1871
118,370	Jeffords, Mortimer W., Muskegon, Mich. Saw	Aug. 22, 1871
111,126	Jenkins, Ebenezer C., jr., Worcester, Mass. Ash-screen	Jan. 24, 1871
110,976	Jenkins, Edward T., Brooklyn, N. Y. Pump	Jan. 17, 1871
115,737	Jenkins, James, Bethlehem, Pa. Apparatus for separating and concentrating ores and other materials	June 6, 1871
121,378	Jenkins, Jesse, assignor of one-third interest to Abner C. P. Shoemaker, Sligo, Md. Wagon	Nov. 28, 1871
113,523	Jenkins, Nelson, Detroit, Mich. Balance-valve for steam-engines	April 11, 1871
120,073	Jenkins, Philip R., Cottonville, Iowa. Cultivator	Oct. 17, 1871
116,598	Jenkins, Richard, Newark, Ohio. Furnace for puddling iron, &c	July 4, 1871
115,738	Jenkins, Robert, and Theodore Woods, Allegheny County, Pa. Apparatus for dumping coal	June 6, 1871
	Jenks, Alvin F. and Stephen A., *et al.* (*See* Wilmarth, Moses P., assignor.) (Reissue.)	
	Jenks, Barton H. (*See* Craven, Thomas C., assignor.)	
	Jenks, Henry F. (*See* Marsh, Thomas, assignor.)	
115,862	Jenks, Henry F., and Thomas Marsh, Pawtucket, R. I. Egg-beater	June 13, 1871
115,863	Jenks, Robert V., and William A. Miller, Paterson, N. J. Bed-bottom	June 13, 1871
111,214	Jenks, Samuel B., and Frederick A. Holcomb, Grand Rapids, Mich. Manufacture of leather	Jan. 24, 1871
114,442	Jenks, Thomas Masterson, New York, N. Y. Bobbin-winder for sewing-machines	May 2, 1871
120,749	Jenks, William S., assignor to self and Orrin L. Jenks, Port Huron, Mich. Head-block for saw-mills	Nov. 7, 1871
	Jenner, Charles H., and Samuel Johnston. (*See* Johnston & Jenner.)	
118,456	Jenner, Louis J., Chicopee Falls, Mass. Combined watch-key and cork-screw	Aug. 29, 1871
	Jennings, Abraham G. (*See* Slack, John, assignor) (Design.)	
117,636	Jennings, Edmund, Sherman, N. Y. Washing-machine	Aug. 1, 1871
116,314	Jennings, Edwin, Candor, N. Y. Reversible plow	June 27, 1871
118,857	Jennings, Herbert Thomas and Thomas, England. Steam-engine	Sept. 12, 1871
116,963	Jennings, John H., New Bedford, Mass. Thill-coupling	July 11, 1871
120,975	Jennings, J. Henry, New Bedford, Mass. Hydraulic motor	Nov. 14, 1871
120,976	Jennings, Ralph S., Philadelphia, Pa. Moth-proof clothing-chest	Nov. 14, 1871
114,013	Jennings, Royal, Shelbyville, Ind. Drum for heating and ventilating	April 25, 1871
113,301	Jennison, George, and Merrick F. Otis, Westborough, Mass. Window-blind operator	April 4, 1871
119,851	Jenny, Ferdinand, Parkersburgh, W. Va. Key-hole guard	Oct. 10, 1871
	Jensen, James L. (*See* Sloan, Thomas J., assignor.)	
117,637	Jensen, Jens, Racine, Wis. Standard for wagons	Aug. 1, 1871
5,371	Jenson, John, assignor to the Meriden Britannia Company, West Meriden, Conn. Pickle-jar (Design)	Nov. 21, 1871
118,856	Jeralds, Silas E., Horace A. Nettleton, and Edwin B. Lawton, West Cheshire, Conn. Method of manufacturing ferrules	Sept. 12, 1871
119,715	Jerauld, Henry F., assignor to Jerauld & Stolle, Vandalia, Ill. Draught-equalizer for three horses	Mar. 14, 1871
119,716	Jeremiah, George A., New York, N. Y. Bedstead	Mar. 14, 1871
	Jerome, Edgar, and Seth Wheeler. (*See* Wheeler & Jerome.)	
113,584	Jervey, William E., New Orleans, La. Packing-tube for vapor-lamps	April 11, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,332	Jessup, Carrie, New Haven, Conn. Culinary vessel	Mar. 7, 1871
117,295	Jessup, Gilbert, Shortsville, N. Y., and Dennis P. Sharp, Ithaca, N. Y., assignors to Ithaca Agricultural Works. Seed and plaster sower	July 25, 1871
	Jessup, Isaac. (*See* Polles, Henry, assignor.)	
113,150	Jewell, Robert R., Dunkirk, N.Y. Lateral-motion center-pin for railway-trucks.	Sept. 19, 1871
119,614	Jewett, Abram, Sanford Corners, N. Y. Portable fence	Oct. 3, 1871
	Jewett, Stanley A., Cleveland, Ohio. Melodeon (Extension)	Oct. 9, 1871
4,312	Jillson, William C., and Amos B. Palmer, Willimantic, Conn. Machine for opening cotton (Reissue)	Mar. 28, 1871
114,443	Jimo, Joseph, assignor to self and E. H. Landon, Vergennes, Vt. Shingle-machine	May 2, 1871
117,543	Jils, William W., Hamilton, Mo. Earth-boring auger	Aug. 1, 1871
118,944	Jochum, John, Brooklyn, N. Y. Propelling canal and other vessels	Aug. 22, 1871
4,690	Joeckel, William H., New York, N. Y. School-seat (Design)	Feb. 28, 1871
4,669	John, James, Chicago, Ill. Stucco center-piece (Design)	Feb. 21, 1871
119,615	Same. Foundation for plastering	Oct. 3, 1871
	John, Lewis A., and Thomas H. Coate. (*See* Coate & John.)	
116,851	Johns, William Burr, Philadelphia, Pa. Treating bones, horns, hoofs, &c., for the manufacture of fertilizers	Feb. 14, 1871
116,964	Johnson, Charles G. New Orleans, La. Cotton-bale tie	July 11, 1871
	Johnson & Bassett. (*See* Wright, Edward, assignor.)	
	Johnson, Albert F., Parkville, N. Y. Sewing-machine (Extension)	Jan. 13, 1871
112,601	Johnson, Albert W., assignor to self, Rufus Baker, and Oscar D. Lee, Middletown, Conn. Embroidering-attachment for sewing-machine	Mar. 14, 1871
122,022	Johnson, Anson B., Washington, Ind. Chimney-cap	Dec. 19, 1871
	Johnson, Armory K., and Gustavus H. Wright. (*See* Wright & Johnson.)	
	Johnson, Asa, Brooklyn, N. Y. Mode of fastening sheet-metal on roofs, &c. (Extension)	May 16, 1871
	Same. New York, N. Y. Machine for rolling cornices (Extension)	Dec. 21, 1871
112,924	Johnson, Asa, assignor to self and William H. Johnson, Brooklyn, N. Y. Rolling-mill	Mar. 21, 1871
114,300	Same. Steam-engine	May 2, 1871
111,943	Johnson, Benjamin F., Glasgow, Mo. Lifting-jack	Feb. 21, 1871
119,089	Johnson, Bradbury M., assignor to self and William H. M. Pye, Brooklyn, N. Y. Direct-acting engine	Sept. 19, 1871
120,567	Johnson, Charles, Chicago, Ill. Bed-bottom	Nov. 7, 1871
115,480	Johnson, Charles Fred., jr., Owego, N. Y. Machine for cutting off horseshoe-nails	May 30, 1871
115,664	Johnson, Charles L., Omaha, Nebr. Power for small machinery	June 13, 1871
113,773	Johnson, Charles P., Jamaica Plains, Mass. Inner sole for boots and shoes	April 18, 1871
119,850	Johnson, Daniel, Ashland, Ohio. Pump-piston	Oct. 10, 1871
113,525	Johnson, Daniel A., Boston, Mass. Thill-coupling	April 11, 1871
4,681	Same. same (Reissue)	Dec. 26, 1871
114,565	Same. Wheel-rim. (Antedated May 1, 1871)	May 9, 1871
	Johnson, Earl W. (*See* Abbott & Sherburne, assignors.)	
	Johnson, Edward W., and John L. Moss. (*See* Moss & Johnson.)	
5,377	Johnson, Ephraim S., New York, N. Y. Pen or pencil case (Design)	Nov. 21, 1871
121,627	Same. Jersey City, N. J. Ornamenting pencil-cases	Dec. 5, 1871
	Same. (*See* Clark, James M., assignor.)	
119,616	Johnson, Erastus D., and Edward A. Cowan, Thorntown, Ind. Thill-coupling	Oct. 3, 1871
113,506	Johnson, Ezra A., assignor to self and Alexander Warfield, Philadelphia, Pa. Soap for polishing metals, &c	April 11, 1871
	Johnson, Frank L. and George, *et al.* (*See* Cauldwell, James A., assignor.)	
118,614	Johnson, George E., and William Boston, Biddeford, Me. Drill-rest for chucking-lathe	Aug. 29, 1871
110,764	Johnson, George H., New York, N. Y. Hollow brick	Jan. 3, 1871
112,925	Same. Hollow-tile wall	Mar. 21, 1871
112,926	Johnson, George H., and Balthazar Kretscher, New York, N.Y. Hollow-tile floor	Mar. 21, 1871
112,927	Same. Reservoir for grain and other materials	Mar. 21, 1871
121,736	Johnson, George H., and Fred. Bottner, Bridgeport, Conn. Trunk-lid support	Dec. 12, 1871
115,665	Johnson, Hiram R., Detroit, Mich. Apparatus for heating and drying sand, gravel, &c	June 13, 1871
	Johnson, Ianthus G., and Sennitt A. Wing. (*See* Wing & Johnson.)	
112,147	Johnson, Isaac A., assignor to self and Frederick M. Manny, Rockford, Ill. Harvester	Feb. 28, 1871
121,731	Johnson, Isaac D., Kennett Square, Pa. Lifting-jack	Dec. 12, 1871
117,296	Johnson, James G., Carthage, Ill. Hand corn-husker	July 25, 1871
4,309	Johnson, Jesse, Cochransville, Pa. Device for cutting bolts and rivets (Reissue)	Mar. 14, 1871
119,931	Same. Bolt-cutter	Sept. 26, 1871
112,047	Johnson, John, Brooklyn, N. Y. Valve	Feb. 21, 1871
115,866	Johnson, John, Berry, Ill. Clothes-drier	June 13, 1871
120,681	Johnson, John, Hartford, Conn. Spring-bed	Nov. 14, 1871
122,178	Johnson, John, Boston, Mass. Corn-harvester	Dec. 26, 1871
	Johnson, John J., and Dennis D. Foley. (*See* Foley & Johnson.)	
113,089	Johnson, Jesse, New York, N. Y. Peanut-huller	April 18, 1871
113,090	Same. Apparatus for cleaning coffee, &c	April 18, 1871
	Johnson, J. Perrin. (*See* Hicks, Levi S., assignor.)	
117,824	Johnson, Lawrence J., Cleveland, Ohio. Bedstead	July 25, 1871
119,151	Johnson, Leonard A., assignor to self and John O. Frost, Candor, N. Y. Clamp for making picture-frames	Sept. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,379	Johnson, Moses, Three Rivers, Mich. Potato-digger	Nov. 28, 1871
115,213	Johnson, Moses, assignor of half interest to John G. Ott, Three Rivers, Mich. Cultivator and weeding-machine	May 23, 1871
4,547	Johnson, Moses A., assignor to Horace B. Shattuck, Lowell, Mass. Insole for boots and shoes (Reissue)	Sept. 12, 1871
113,302	Johnson, Nelson and Ransom E., Jasper, N. Y. Milk-cooler	April 4, 1871
	Johnson, Norman C., and Charles W. Peeler. (*See* Peeler & Johnson.)	
111,853	Johnson, Ross, Lawrence, Kans. Attachment to plows for subsoiling	Feb. 14, 1871
118,945	Same. Plow	Sept. 12, 1871
117,891	Johnson, Samuel B., Philadelphia, Pa. Fire-extinguisher	Aug. 8, 1871
117,638	Johnson, Sidney, England. Velocipede	Aug. 1, 1871
117,892	Johnson, Thomas E., Indianapolis, Ind. Peach-stone extractor	Aug. 8, 1871
4,531	Johnson, Thomas W., jr., and Anthony W. Goodell, Windsor, Canada. Apparatus for evaporating and concentrating bark-extract (Reissue)	Aug. 29, 1871
114,014	Johnson, William, Edisto Island, S. C. Pendulum, lever, and clinometer	April 25, 1871
121,787	Johnson, William, New York, N. Y. Manufacture of soap	Dec. 12, 1871
121,944	Johnson, William, Haverhill, Mass. Hemmer for sewing-machines	Dec. 19, 1871
116,715	Johnson, William, assignor to self and Hosea B. Carter, Haverhill, Mass. Ruffling and hemming attachment for sewing-machines	July 4, 1871
113,171	Johnson, William C., Philadelphia, Pa. Hub for wheels	Mar. 28, 1871
116,599	Johnson, William J., Newton, Mass. Garden-syringe	July 4, 1871
116,600	Johnson, William J., assignor to self and Henry A. Hildreth, Newton, Mass. Corn-popper	July 4, 1871
117,630	Johnson, William Nevins, assignor to C. H. McCormick & Brother, Oxford, Wis. Harvester	Aug. 1, 1871
114,825	Johnson, Willis, Waterbury, Conn. Rack-pulley shade-fixture	May 16, 1871
113,891	Johnston, Algernon K., Brooklyn, N. Y. Pipe for water, gas, &c	April 18, 1871
111,456	Johnston, Allen and William T., Ottumwa, Iowa. Gathering-attachment for sewing-machines	Jan. 31, 1871
116,716	Johnston, Benjamin, Sterling, Ill. Harrow	July 4, 1871
113,173	Johnston, Columbus, Clarksville, Mo. Churn-dasher	Mar. 28, 1871
116,062	Johnston, David, Eddyville, Iowa. Hand-car	June 20, 1871
5,427	Johnston, James C., Scarborough, N. Y. Carpet-pattern (Design)	Dec. 19, 1871
5,029	Same. New York, N. Y. Carpet-pattern (Design)	June 20, 1871
114,946	Johnston, James J., Columbiana, Ohio. Artificial stone for buildings	May 16, 1871
117,425	Same. Allegheny, Pa. Apparatus for distilling hydrocarbons. (Antedated July 13, 1871)	July 25, 1871
117,426	Same. Process and apparatus for treating hydrocarbon oils. (Antedated July 13, 1871)	July 25, 1871
118,018	Johnston, John, Hartford, Conn. Spring-bed	Aug. 15, 1871
	Johnston, Leslie, and Alexander Anderson. (*See* Anderson & Johnston.)	
118,019	Johnston, Revel P., Steubenville, Ohio. Metal carpet-binding	Aug. 15, 1871
116,063	Johnston, Samuel, and Charles H. Jenner, assignors through mesne assignments to James S. Thayer, Brockport, N. Y. Harvester	June 20, 1871
116,315	Johnston, Samuel, assignor to James S. Thayer, Brockport, N. Y. Mowing-machine	June 27, 1871
120,977	Johnston, Wilbur F. and William A., Brooklyn, N. Y. Apparatus for liquefying nitrous oxide and other gases	Nov. 14, 1871
120,978	Same. Method of compressing and liquefying nitrous oxide and other gases	Nov. 14, 1871
114,566	Johnston, William, Decatur, Mich. Car-coupling	May 9, 1871
115,867	Johnston, William M., Wilmot, Ohio. Driving-attachment to washing-machines	June 13, 1871
115,963	Johnstone, John Stewart, North Britain. Motive-power engine	June 13, 1871
	Joline, Truman W., and Jacob W. Androvatt. (*See* Androvatt & Joline.)	
116,316	Jonais, Alfred Courvoisier, Switzerland. Calendar-watch	June 27, 1871
122,023	Jones, Albert L., New York, N. Y. Paper for packing	Dec. 19, 1871
4,949	Jones, Alfred F., New York, N. Y. Bellows (Design)	May 30, 1871
116,317	Same. Journal-bearing	June 27, 1871
117,783	Same. Bellows	Aug. 8, 1871
114,444	Jones, Amos, Lebanon, N. H. Potato-baking pan	May 2, 1871
113,892	Jones, Campbell and Albert, Santa Anna, Ill. Beehive	April 18, 1871
121,563	Jones, Charles L., Pedler Township, Va. Medical compound for the cure of hog cholera	Dec. 5, 1871
119,232	Jones, Daniel, Boston, Mass. Sucker-rod	Sept. 26, 1871
119,462	Jones, David, Allegheny, Pa. Saw-set	Oct. 3, 1871
122,024	Jones, Edward, Boston, Mass. Coal-gas apparatus	Dec. 19, 1871
122,025	Same. Apparatus for the manufacture of gas	Dec. 19, 1871
116,450	Jones, Edward, assignor to the American Coal Gas-Light Improvement Company, Boston, Mass. Apparatus for the manufacture of illuminating-gas	June 27, 1871
115,214	Jones, Edward F., Foxborough, Mass. Molder-flask	May 23, 1871
111,215	Jones, Edward L., Memphis, Tenn. Combined feed-water heater and circulator	Jan. 24, 1871
116,318	Jones, Elias, Grand River, Iowa. Safety-pocket	June 27, 1871
119,931	Same. Pierrepont, N. Y. Fire-extinguisher	Oct. 17, 1871
118,946	Jones, Ezekiel Pickard, and James Lafayette Harrell, Hartford, N. C. Cultivator	Sept. 12, 1871
121,389	Jones, Francis M., Independence, Miss. Monument	Nov. 28, 1871
119,158	Jones, Franklin, Terre Haute, Ind. Potato-digger	Sept. 19, 1871
115,481	Jones, George A., New York, N. Y., and Horace H. Warner, Bristol, Conn., assignors to George A. Jones. Striking-mechanism of clocks	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,358	Jessup, Carrie, New Haven, Conn. Culinary vessel	Mar. 7, 1871
117,205	Jessup, Gilbert, Shortsville, N. Y., and Dennis P. Sharp, Ithaca, N. Y., assignors to Ithaca Agricultural Works. Seed and plaster sower	July 25, 1871
	Jessup, Isaac. (*See* Polley, Henry, assignor.)	
119,150	Jewell, Robert B., Dunkirk, N. Y. Lateral-motion center-pin for railway-trucks	Sept. 19, 1871
119,614	Jewett, Abram, Sanford Corners, N. Y. Portable fence	Oct. 3, 1871
	Jewett, Stanley A., Cleveland, Ohio. Melodeon (Extension)	Oct. 9, 1871
4,312	Jillson, William C., and Amos B. Palmer, Willimantic, Conn. Machine for opening cotton (Reissue)	Mar. 28, 1871
114,443	Jimo, Joseph, assignor to self and E. H. Landon, Vergennes, Vt. Shingle-machine	May 2, 1871
117,542	Jiis, William W., Hamilton, Mo. Earth-boring auger	Aug. 1, 1871
118,944	Jocham, John, Brooklyn, N. Y. Propelling canal and other vessels	Aug. 22, 1871
4,690	Joeckel, William H., New York, N. Y. School-seat (Design)	Feb. 28, 1871
4,689	John, James, Chicago, Ill. Stucco center-piece (Design)	Feb. 21, 1871
119,615	Same. Foundation for plastering	Oct. 3, 1871
	John, Lewis A., and Thomas H. Coate. (*See* Coate & John.)	
118,851	Johns, William Burr, Philadelphia, Pa. Treating bones, horns, hoofs, &c., for the manufacture of fertilizers	Feb. 14, 1871
116,984	Johnson, Charles G. New Orleans, La. Cotton-bale tie	July 11, 1871
	Johnson & Bassett. (*See* Wright, Edward, assignor.)	
	Johnson, Albert F., Parkville, N. Y. Sewing-machine (Extension)	Jan. 13, 1871
112,091	Johnson, Albert W., assignor to self, Rufus Baker, and Oscar D. Lee, Middletown, Conn. Embroidering-attachment for sewing-machine	Mar. 14, 1871
122,022	Johnson, Anson B., Washington, Ind. Chimney-cap	Dec. 19, 1871
	Johnson, Armory K., and Gustavus H. Wright. (*See* Wright & Johnson.)	
	Johnson, Asa, Brooklyn, N. Y. Mode of fastening sheet-metal on roofs, &c. (Extension)	May 16, 1871
	Same. New York, N. Y. Machine for rolling cornices (Extension)	Dec. 21, 1871
112,924	Johnson, Asa, assignor to self and William H. Johnson, Brooklyn, N. Y. Rolling-mill	Mar. 21, 1871
114,370	Same. Steam-engine	May 2, 1871
111,942	Johnson, Benjamin F. Glasgow, Mo. Lifting-jack	Feb. 21, 1871
119,088	Johnson, Bradbury M., assignor to self and William H. M. Pye, Brooklyn, N. Y. Direct-acting engine	Sept. 19, 1871
120,567	Johnson, Charles, Chicago, Ill. Bed-bottom	Nov. 7, 1871
115,480	Johnson, Charles Fred., jr., Owego, N. Y. Machine for cutting off horseshoe-nails	May 30, 1871
115,864	Johnson, Charles L., Omaha, Nebr. Power for small machinery	June 13, 1871
113,773	Johnson, Charles P., Jamaica Plains, Mass. Inner sole for boots and shoes	April 18, 1871
119,859	Johnson, Daniel, Ashland, Ohio. Pump-piston	Oct. 10, 1871
113,525	Johnson, Daniel A., Boston, Mass. Thill-coupling	April 11, 1871
4,681	Same. same (Reissue)	Dec. 26, 1871
114,565	Same. Wheel-rim. (Antedated May 1, 1871)	May 9, 1871
	Johnson, Earl W. (*See* Abbott & Sherburne, assignors.)	
	Johnson, Edward W., and John L. Moss. (*See* Moss & Johnson.)	
5,377	Johnson, Ephraim S., New York, N. Y. Pen or pencil case (Design)	Nov. 21, 1871
121,697	Same. Jersey City, N. J. Ornamenting pencil-cases	Dec. 5, 1871
	Same. (*See* Clark, James M., assignor.)	
119,616	Johnson, Erastus D., and Edward A. Cowan, Thorntown, Ind. Thill-coupling	Oct. 3, 1871
113,526	Johnson, Ezra A., assignor to self and Alexander Warfield, Philadelphia, Pa. Soap for polishing metals, &c	April 11, 1871
	Johnson, Frank L. and George, *et al.* (*See* Cauldwell, James A., assignor.)	
118,614	Johnson, George E., and William Boston, Biddeford, Me. Drill-rest for chucking-lathe	Aug. 29, 1871
110,764	Johnson, George H., New York, N. Y. Hollow brick	Jan. 3, 1871
112,925	Same. Hollow-tile wall	Mar. 21, 1871
112,926	Johnson, George H., and Balthazar Kreischer, New York, N. Y. Hollow-tile floor	Mar. 21, 1871
112,927	Same. Reservoir for grain and other materials	Mar. 21, 1871
121,786	Johnson, George H., and Fred. Bottner, Bridgeport, Conn. Trunk-lid support	Dec. 12, 1871
115,865	Johnson, Hiram R., Detroit, Mich. Apparatus for heating and drying sand, gravel, &c	June 13, 1871
	Johnson, Ianthus G., and Sennitt A. Wing. (*See* Wing & Johnson.)	
112,147	Johnson, Isaac A., assignor to self and Frederick M. Manny, Rockford, Ill. Harvester	Feb. 28, 1871
121,791	Johnson, Isaac D., Kennett Square, Pa. Lifting-jack	Dec. 12, 1871
117,296	Johnson, James G., Carthage, Ill. Hand corn-husker	July 25, 1871
4,299	Johnson, Jesse, Cochranaville, Pa. Device for cutting bolts and rivets (Reissue)	Mar. 14, 1871
119,231	Same. Bolt-cutter	Sept. 26, 1871
112,047	Johnson, John, Brooklyn, N. Y. Valve	Feb. 21, 1871
115,686	Johnson, John, Berry, Ill. Clothes-drier	June 13, 1871
120,881	Johnson, John, Hartford, Conn. Spring-bed	Nov. 14, 1871
122,176	Johnson, John, Boston, Mass. Corn-harvester	Dec. 26, 1871
	Johnson, John J., and Dennis D. Foley. (*See* Foley & Johnson.)	
113,689	Johnson, Jesse, New York, N. Y. Peanut-huller	April 18, 1871
113,690	Same. Apparatus for cleaning coffee, &c	April 18, 1871
	Johnson, J. Perrin. (*See* Hicks, Levi S., assignor.)	
117,294	Johnson, Lawrence J., Cleveland, Ohio. Bedstead	July 25, 1871
119,151	Johnson, Leonard A., assignor to self and John O. Frost, Candor, N. Y. Clamp for making picture-frames	Sept. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,379	Johnson, Moses, Three Rivers, Mich. Potato-digger	Nov. 28, 1871
115,213	Johnson, Moses, assignor of half interest to John G. Ott, Three Rivers, Mich. Cultivator and weeding-machine	May 23, 1871
4,547	Johnson, Moses A., assignor to Horace B. Shattuck, Lowell, Mass. Insole for boots and shoes (Reissue)	Sept. 12, 1871
113,308	Johnson, Nelson and Ransom E., Jasper, N. Y. Milk-cooler	April 4, 1871
	Johnson, Norman C., and Charles W. Peeler. (*See* Peeler & Johnson.)	
111,859	Johnson, Ross, Lawrence, Kans. Attachment to plows for subsoiling	Feb. 14, 1871
118,945	Same. Plow	Sept. 12, 1871
117,891	Johnson, Samuel B., Philadelphia, Pa. Fire-extinguisher	Aug. 8, 1871
117,638	Johnson, Sidney, England. Velocipede	Aug. 1, 1871
117,892	Johnson, Thomas E., Indianapolis, Ind. Peach-stone extractor	Aug. 8, 1871
4,531	Johnson, Thomas W., jr., and Anthony W. Goodell, Windsor, Canada. Apparatus for evaporating and concentrating bark-extract (Reissue)	Aug. 29, 1871
114,014	Johnson, William, Edisto Island, S. C. Pendulum, lever, and clinometer	April 25, 1871
121,787	Johnson, William, New York, N. Y. Manufacture of soap	Dec. 12, 1871
121,944	Johnson, William, Haverhill, Mass. Hemmer for sewing-machines	Dec. 19, 1871
116,715	Johnson, William, assignor to self and Hosea B. Carter, Haverhill, Mass. Ruffling and hemming attachment for sewing-machines	July 4, 1871
113,171	Johnson, William C., Philadelphia, Pa. Hub for wheels	Mar. 28, 1871
116,599	Johnson, William J., Newton, Mass. Garden-syringe	July 4, 1871
116,600	Johnson, William J., assignor to self and Henry A. Hildreth, Newton, Mass. Corn-popper	July 4, 1871
117,639	Johnson, William Nevins, assignor to C. H. McCormick & Brother, Oxford, Wis. Harvester	Aug. 1, 1871
114,825	Johnson, Willis, Waterbury, Conn. Rack-pulley shade-fixture	May 16, 1871
113,891	Johnston, Algernon K., Brooklyn, N. Y. Pipe for water, gas, &c	April 18, 1871
111,456	Johnston, Allen and William T., Ottumwa, Iowa. Gathering-attachment for sewing-machines	Jan. 31, 1871
116,716	Johnston, Benjamin, Sterling, Ill. Harrow	July 4, 1871
113,172	Johnston, Columbus, Clarksville, Mo. Churn-dasher	Mar. 28, 1871
116,062	Johnston, David, Eddyville, Iowa. Hand-car	June 20, 1871
5,427	Johnston, James C., Scarborough, N. Y. Carpet-pattern (Design)	Dec. 19, 1871
5,029	Same. New York, N. Y. Carpet-pattern (Design)	June 20, 1871
114,046	Johnston, James J., Columbiana, Ohio. Artificial stone for buildings	May 16, 1871
117,495	Same. Allegheny, Pa. Apparatus for distilling hydrocarbons. (Antedated July 13, 1871)	July 25, 1871
117,496	Same. Process and apparatus for treating hydrocarbon oils. (Antedated July 13, 1871)	July 25, 1871
118,018	Johnston, John, Hartford, Conn. Spring-bed	Aug. 15, 1871
	Johnston, Leslie, and Alexander Anderson. (*See* Anderson & Johnston.)	
118,019	Johnston, Reuel P., Steubenville, Ohio. Metal carpet-binding	Aug. 15, 1871
116,063	Johnston, Samuel, and Charles H. Jenner, assignors through mesne assignments to James S. Thayer, Brockport, N. Y. Harvester	June 20, 1871
116,715	Johnston, Samuel, assignor to James S. Thayer, Brockport, N. Y. Mowing-machine	June 27, 1871
120,977	Johnston, Wilbur F. and William A., Brooklyn, N. Y. Apparatus for liquefying nitrous oxide and other gases	Nov. 14, 1871
120,978	Same. Method of compressing and liquefying nitrous oxide and other gases	Nov. 14, 1871
114,566	Johnston, William, Decatur, Mich. Car-coupling	May 9, 1871
115,867	Johnston, William M., Wilmot, Ohio. Driving-attachment to washing-machines	June 13, 1871
115,963	Johnstone, John Stewart, North Britain. Motive-power engine	June 13, 1871
	Joline, Truman W., and Jacob W. Androvatt. (*See* Androvatt & Joline.)	
116,316	Jonais, Alfred Courvoisier, Switzerland. Calendar-watch	June 27, 1871
122,023	Jones, Albert L., New York, N. Y. Paper for packing	Dec. 19, 1871
4,949	Jones, Alfred F., New York, N. Y. Bellows (Design)	May 30, 1871
116,317	Same. Journal-bearing	June 27, 1871
117,783	Same. Bellows	Aug. 8, 1871
114,444	Jones, Amos, Lebanon, N. H. Potato-baking pan	May 2, 1871
113,892	Jones, Campbell and Albert, Santa Anna, Ill. Beehive	April 18, 1871
121,593	Jones, Charles L., Pedler Township, Va. Medical compound for the cure of hog cholera	Dec. 5, 1871
119,338	Jones, Daniel, Boston, Mass. Sucker-rod	Sept. 26, 1871
119,462	Jones, David, Allegheny, Pa. Saw-set	Oct. 3, 1871
122,024	Jones, Edward, Boston, Mass. Coal-gas apparatus	Dec. 19, 1871
122,025	Same. Apparatus for the manufacture of gas	Dec. 19, 1871
116,450	Jones, Edward, assignor to the American Coal Gas-Light Improvement Company, Boston, Mass. Apparatus for the manufacture of illuminating-gas	June 27, 1871
115,214	Jones, Edward F., Foxborough, Mass. Molder-flask	May 23, 1871
111,815	Jones, Edward L., Memphis, Tenn. Combined feed-water heater and circulator	Jan. 24, 1871
116,318	Jones, Elias, Grand River, Iowa. Safety-pocket	June 27, 1871
119,931	Same. Pierrepont, N. Y. Fire-extinguisher	Oct. 17, 1871
118,946	Jones, Ezekiel Pickard, and James Lafayette Harrell, Hartford, N. C. Cultivator	Sept. 12, 1871
121,386	Jones, Francis M., Independence, Miss. Monument	Nov. 28, 1871
119,152	Jones, Franklin, Terre Haute, Ind. Potato-digger	Sept. 19, 1871
115,481	Jones, George A., New York, N. Y., and Horace H. Warner, Bristol, Conn., assignors to George A. Jones. Striking-mechanism of clocks	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Jones, George H., and Louis D. Boyce. (*See* Boyce & Jones.)	
117,176	Jones, Griffith W., Nashville, Tenn. Hollow-grate feed-water heater	July 18, 1871
115,060	Jones, Harry, Richmond, Ind. Caster for sewing-machines	May 23, 1871
	Jones, Herbert C. (*See* Cole, Andrew Norton, assignor.)	
113,656	Jones, Horace C., Dowagiac, Mich. Former for baskets	Mar. 28, 1871
113,659	Same. Stave-basket	Mar. 28, 1871
	Jones, Hugh A., and James W. Reed. (*See* Reed & Jones.)	
115,482	Jones, James, Rochester, N. Y. Rocking-grate bar	May 30, 1871
120,198	Jones, James H., assignor of one-third interest to Joseph S. Parrott, Yellow Springs, Ohio. Bran-duster and flour-bolt	Oct. 24, 1871
4,313	Jones, James P., assignor to Jason Crane, Bloomfield, N. J. Muff and collar box (Reissue)	Mar. 28, 1871
112,464	Jones, John, assignor to self and Henry A. Smith, New York, N. Y. Paste for paper-hangings	Mar. 7, 1871
114,151	Jones, John A., Richard Howson, and John Gjers, assignors to Theodore Fox, Jeremiah Head, and Charles M. Newcomer, England. Puddling and other furnaces	April 25, 1871
119,771	Jones, John B., Williamsburgh, N. Y. Press for stamping pans, dishes, &c	Oct. 10, 1871
114,567	Jones, John E., Watertown, N. J. Elastic tackle-block	May 9, 1871
117,040	Jones, John T., Ilion, N. Y. Sewing-machine	Aug. 1, 1871
114,015	Jones, John W., of Philip De Catesby, Hereford, Md. Car-coupling	April 25, 1871
110,765	Jones, Joseph, Newark, N. J. Carpenters' shooting-board	Jan. 3, 1871
118,945	Jones, Joseph, assignor to self and Peter Welch, New Orleans, La. Preserving wood	Aug. 22, 1871
111,943	Jones, J. Evans, Tidioute, Pa. Lock-stop cock	Feb. 21, 1871
113,049	Jones, Llewellyn E., and Theodore M. Barber, Syracuse, N. Y. Halter, buckle, and ring	Feb. 21, 1871
110,660	Jones, Marquis R., Walworth, Wis. Subsoil-plow	Jan. 3, 1871
5,370	Jones, Melville D., Boston, Mass. Iron post (Design)	Nov. 21, 1871
	Jones, Melvin A. (*See* Crane, Thomas, assignor.)	
116,319	Jones, Nathaniel, Buffalo, N. Y. Railroad-car ventilator	June 27, 1871
119,233	Same. Syracuse, N. Y. Truss	Sept. 26, 1871
111,944	Jones, Owen W., Columbus, Wis. Draught device for three horses	Feb. 21, 1871
113,060	Jones, Richard E., Goldsborough, N. C. Adjustable seat for vehicles	Mar. 28, 1871
110,661	Jones, Richard W., and John B. Baker, Syracuse, N. Y. Milking stool	Jan. 3, 1871
	Jones, Richard W., and Hiram R. Olmstead. (*See* Eames, Horace N., assignor.) (Reissue.)	
117,297	Jones, Rollin L., Cleveland, Ohio. Post-hole digger and ditcher	July 25, 1871
111,340	Jones, Solomon, New Orleans, La. Electro-motor for cars	Jan. 31, 1871
121,173	Same. Electro-magnetic engine	Nov. 21, 1871
118,537	Jones, Solomon, assignor to self and E. D. Lawrence, New Orleans, La. Electro-motor for sewing-machines	Aug. 29, 1871
118,020	Jones, Stephen D., Blue Island, Ill. Lifting-jack	Aug. 15, 1871
117,298	Jones, Thomas, Washington, D. C. Submarine excavator	July 25, 1871
121,620	Jones, Thomas B., Hiawatha, Kans. Combined pulverizer and corn-marker	Dec. 5, 1871
	Jones, Thomas M. (*See* Doan, Wallis & Moreland, assignors.)	
111,340	Jones, Thomas O., Galesburgh, Ind. Pump	Jan. 31, 1871
120,698	Jones, William, Chelsea, Mass. Gas-burner regulator	Nov. 14, 1871
	Jones, William Brooks. (*See* Brooks, William F., assignor.)	
114,016	Jones, William F., Easton, Kans. Churn-dasher	April 25, 1871
115,338	Same. same	May 30, 1871
120,883	Same. Mechanical movement	Nov. 14, 1871
111,750	Jones, William G., Marshall, Tex. Washing-machine	Feb. 14, 1871
113,303	Jones, William G., and Samuel M. Rankin, Long Green, Md. Sash-holder	April 4, 1871
114,947	Jones, William M., Horicon, Wis. Base-burning stove	May 16, 1871
118,457	Jones, William R., Cambridge, Mass. Steam-boiler	Aug. 29, 1871
118,859	Jonson, Julius, Baltimore, Md. Pump	Sept. 12, 1871
119,364	Jonson, Julius, assignor to Joseph G. Harrison, New York, N. Y. Valve-arrangement for liquid-meters	Sept. 26, 1871
120,970	Jordan, Augustus, Washington, D. C. Deodorizing-apparatus for water-closets	Nov. 14, 1871
114,898	Jordan, George F., Gardiner, Me. Washing-machine	May 16, 1871
118,450	Jordan, Henry, assignor to Fred. W. Fuller, England. Construction of ships	Aug. 29, 1871
110,853	Jordan, Hugh P., Victoria, Tex. Sulky-cultivator	Jan. 10, 1871
115,806	Jordan, James C., assignor of one-fourth interest to Thomas Baxter, and one-half interest to J. W. Mathes, Watertown, Wis. Combined machine for cutting, punching, and bending tires	June 13, 1871
119,947	Jordan, John, England. Gas-furnace	Sept. 12, 1871
122,096	Jordan, John A., Shelbyville, Tenn. Churn	Dec. 19, 1871
113,434	Jordan, John Joseph, assignor to self and George T. Carter, Philadelphia, Pa. Steam-trap	April 4, 1871
122,037	Same. Steam-generator	Dec. 19, 1871
113,435	Jordan, P. L., Lexington, Miss. Apparatus for operating churns	April 4, 1871
117,543	Jordan, Thomas and Waldo H., New York, N. Y. Carpet-beating machine	Aug. 1, 1871
116,389	Jordan, William A., New Orleans, La. Earth-closet	June 27, 1871
114,017	Jordan, William M., assignor to Charles D. Weld, Cambridge, Mass. Paint	April 25, 1871
121,391	Jordan, W. Thomas, Newnan, Ga. Cultivator	Nov. 28, 1871
112,148	Jordeson, Christopher Coatsworth, Montreal, Canada. Ship's windlass	Feb. 28, 1871
113,304	Jörgenson, Ib, and Rasmus Olsen, Racine, Wis. Combined chair and step-ladder	April 4, 1871
5,236	Joseph, Nathan, San Francisco, Cal. Badge (Design)	Aug. 29, 1871
5,237	Same. same (Design)	Aug. 29, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,463	Joslyn, Benjamin F., assignor to Tomes, Melvain & Co., New York, N. Y. Revolving fire-arm	May 30, 1871
113,698	Joyce, Humphreys and Anthony Ernest, Troy, N. Y. Dinner-pail	April 18, 1871
120,650	Joyce, Thomas, H., assignor to self and Jacob Cohen, New York, N. Y. Cat-ball	Nov. 7, 1871
4,630	Judd, Albert D., New Haven, Conn. Match-safe (Design)	Feb. 7, 1871
112,717	Same. Window-button	Mar. 14, 1871
114,158	Same. Cupboard-latch	April 25, 1871
114,948	Same. Bird-cage bracket	May 16, 1871
119,373	Same. Flower-pot	Sept. 26, 1871
121,788	Same. Match-box	Dec. 12, 1871
112,465	Judd, Edward M., New Haven, Conn. Twine-holder	Mar. 7, 1871
116,195	Judd, Frank, S., and John G. Powell, Philadelphia, Pa. Binder for sewing-machines	June 20, 1871
5,238	Judd, Hubert, L., Brooklyn, N. Y. Picture-nail head (Design)	Sept. 5, 1871
119,373	Same. Picture-nail	Sept. 26, 1871
119,463	Judd, James A., Newton, Mass. Transom or king-bolt and rocker-plate for carriages	Oct. 3, 1871
	Judd, Jesse L., *et al.* (*See* Fisher, Willet, assignor.)	
	Judd Manufacturing Company. (*See* Adt, John, assignor) (Two cases.)	
113,673	Judd, Morton, New Haven, Conn. Sash-holder	April 11, 1871
117,177	Judge, James, New York, N. Y. Wood-pavement	July 18, 1871
119,049	Judge, James L., Toronto, Canada. Steam-generator	Feb. 21, 1871
115,730	Judson, Agur, Newark, N. J. Oil-cake trimmer	June 6, 1871
117,641	Same. Oil-press	Aug. 1, 1871
4,639	Same. Mechanism for cutting and sewing oval seams (Reissue)	Nov. 21, 1871
4,655	Judson, Julius, Rochester, N. Y. Governor for steam-engines	Dec. 5, 1871
	Same. (*See* Cogswell, William A., assignor) (Two cases.)	
118,135	Judson, Lyman P., Rose, N. Y. Fence	Aug. 15, 1871
119,153	Judson, William B., Poughkeepsie, N. Y. Spring for mattresses, &c	Sept. 19, 1871
119,853	Same. same	Oct. 10, 1871
110,854	Judson, William B., assignor to J. P. Nelson, jr., Poughkeepsie, N. Y. Bed-bottom	Jan. 10, 1871
110,668	Juhler, John J., Natrona, Pa. Apparatus for the manufacture of bromine	Jan. 3, 1871
	Jungerman, John, *et al.* (*See* Rost, Gotlieb, assignor.)	
4,334	Jurgensen, Jules, Switzerland. Stem-setting watch (Reissue)	April 11, 1871
118,615	Justin, Asahel A., Buffalo, N. Y. Hose-carriage	Aug. 29, 1871
120,980	Justison, Daniel C., Wilmington, Del. Railroad-car ventilator	Nov. 14, 1871
113,173	Justus, William R., assignor to Shoenberger & Co., Pittsburgh, Pa. Horseshoe-machine	Mar. 28, 1871
113,804	Kaestner, Charles, Chicago, Ill. Steam-bath	April 18, 1871
116,717	Same. Grist-mill	July 4, 1871
4,691	Kagy, Henry, assignor to Thomas Potter, Son & Co., Philadelphia, Pa. Oil-cloth pattern (Design)	Feb. 28, 1871
5,179	Same. Oil-cloth (Design)	Aug. 8, 1871
5,180	Same. same (Design)	Aug. 8, 1871
5,181	Same. same (Design)	Aug. 8, 1871
5,182	Same. same (Design)	Aug. 8, 1871
122,028	Kahnweiler, David, New York, N. Y. Feed-device for hulling-machines	Dec. 19, 1871
	Kahre, Edward. (*See* Gernert, Charles, assignor.)	
	Kamman, Frank, and Christopher Ahrens. (*See* Ahrens & Kamman.)	
111,350	Kamp, Louis, Vanderburgh County, Ind. Corn shelling and cleaning machine	Jan. 31, 1871
	Kane, Matthew T. (*See* Siefert, William, assignor.)	
116,664	Kapple, John L., Chicago, Ill. Wall or wainscot chair	June 20, 1871
	Karr, H. C., *et al.* (*See* Lawrence, William H., assignor.)	
110,855	Karr, Jacob, Washington, D. C. Needle setter and threader for sewing-machines	Jan. 10, 1871
110,977	Karr, James M., Buffalo, N. Y. Attaching door-knobs to their spindles	Jan. 17, 1871
121,630	Kasson, Harvey Z., and Alexander J., Gloversville, N. Y. Glove	Dec. 5, 1871
113,081	Kast, Charles, Williamsport, Pa. Police-button	Mar. 28, 1871
117,784	Katse, Silas, Bossardsville, Pa. Hollow auger	Aug. 8, 1871
113,895	Kauffman, David W., Sterling, Ill. Double-tree	April 18, 1871
	Kaufman, Joseph, and J. James Hull. (*See* Hull & Kaufman.)	
111,816	Kaufmann, Charles, Oconomowoc, Wis. Die for ornamenting sheet-metal	Jan. 31, 1871
	Kavanagh & Decker. (*See* Decker, Levi, assignor.)	
113,327	Kavanagh, Michael S., Detroit, Mich. Chimney-top	April 11, 1871
117,544	Same. Oil-can	Aug. 1, 1871
117,290	Kavanaugh, Luke, Waterford, N. Y. Burr for knitting-machines	July 25, 1871
5,046	Kay, Alexander, assignor to Mackellar, Smiths & Jordan, Philadelphia, Pa. Type (Design)	June 27, 1871
118,021	Kay, John A., Saint Charles, Mo. Metallic column	Aug. 15, 1871
115,061	Kay, William V., Chicago, Ill. Check-hook and terret for harness	May 23, 1871
115,062	Same. Harness-pad tree	May 23, 1871
115,617	Kaylar, Isaac, Jersey City, N. J. Soldering-apparatus	June 6, 1871
	Kayser, Augustus, and John C. Leistner. (*See* Leistner & Kayser.)	
114,687	Kea, James E., Magnolia, N. C. Railroad-switch	May 9, 1871
112,149	Keagy, Abraham S., Harristown, Ill. Harrow and feed-roller	Feb. 28, 1871
111,559	Kean, William, Chicago, Ill. Coupling for shafts for mills	Feb. 7, 1871
111,945	Keane, Michael J. A., New York, N. Y. Compound for plating and polishing	Feb. 21, 1871
117,893	Keane, Patrick, assignor to self and Samuel Bilrough, Cohoes, N. Y. Self-acting jack for spinning	Aug. 6, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,599	Kearney, Francis, and Luke F. Tronson, Newark, N. J. Spark-arrester for locomotives	April 11, 1871
116,718	Kearns, John C., Lewistown, Pa. Fruit-gatherer	July 4, 1871
111,551	Kearsing, Edward G. and Leonzo, Spring Valley, N. Y. Preparation of platinum for filling teeth	Feb. 7, 1871
122,029	Same.....Process for preparing gold for dental purposes	Dec. 19, 1871
119,617	Keating, Daniel E., Oswego Falls, N. Y. Mechanical movement	Oct. 3, 1871
	Keating, Maurice J. (*See* Morgan, James B., assignor.)	
	Keech, Thomas, *et al.* (*See* Pickles, John, assignor).....(Reissue.)	
122,119	Keech, Thomas A. B., Bladensburgh, Md. Calf-weaner. (Antedated Dec. 19, 1871)	Dec. 26, 1871
	Keefer, Samuel. (*See* Manson, George W., assignor.)	
115,740	Keegan, Vincent E., New York, N. Y. Process of reducing wood and other fibrous substances to pulp	June 6, 1871
112,719	Keeler, David L., Norwalk, Ohio. Brush	Mar. 14, 1871
120,280	Keeling, John, New York, N. Y. Gas-regulator	Oct. 24, 1871
118,028	Keely, John W., assignor to Nathan and Allen Middleton, jr., Philadelphia, Pa. Fly-wheel	Aug. 15, 1871
118,246	Keen, George, North McGregor, Iowa. Steam-boiler	Aug. 22, 1871
114,301	Keen, Morris L., assignor to self and Samuel A. Walsh, Jersey City, N. J. Apparatus for the manufacture of paper-pulp	May 2, 1871
117,497	Keen, Morris L., assignor to Samuel A. Walsh, Jersey City, N. J. Boiler for preparation of paper-stock from wood	July 25, 1871
119,464	Same.....Manufacture of paper-pulp	Oct. 3, 1871
119,465	Same.....Manufacture of paper-pulp or stock	Oct. 3, 1871
121,723	Keene, George A., assignor to self and Martin C. Heald, Lynn, Mass. Clothes-drier	Dec. 12, 1871
118,247	Keeney, Hamlin F., West Salem, Ohio. Thrashing-machine	Aug. 22, 1871
115,215	Keep, James M., New York, N. Y. Roach or bug trap	May 23, 1871
4,396	Keep, William J., Troy, N. Y. Base-burning stove.....(Reissue)	May 16, 1871
121,876	Same.....Cooking-stove	Dec. 12, 1871
121,877	Same.....Stove-pipe damper	Dec. 12, 1871
	Keeper, Samuel. (*See* Manson, George W., assignor.)	
112,406	Keeports, Amos L., and William Yount, Littlestown, Pa. Clothes pin or clasp	Mar. 7, 1871
	Keeton, John J., and Ansell P. Routt. (*See* Routt & Keeton.)	
115,063	Keffer, Peter, assignor to self and John Droxel, Reading, Pa. Shutter-fastener	May 23, 1871
117,081	Kehl, Anthony, Indianapolis, Ind. Peg-sharpener	July 18, 1871
	Kehoe, John J. (*See* Dailey, Patrick, assignor.)	
	Keighley, Charles. (*See* Pitt, James, Joseph, Edward, and William, assignors.)	
120,074	Keiser, Joseph, York, Pa. Medical compound for cure of rheumatism, &c	Oct. 17, 1871
112,353	Keith, Aberdeen, North Bridgewater, Mass. Machine for cutting leather	Mar. 7, 1871
114,949	Keith, Asa B., Braintree, Mass. Machine for leveling boot-heel treads	May 16, 1871
	Same.....(*See* Packard, Henry F., assignor).....(Two cases.)	
	Same.....(*See* Linnell, William N., assignor.)	
	Same.....(*See* Reed, Timothy K., assignor.)	
117,300	Keith, Henry D. and John T., Mansfield, Ohio. Wagon-wheel	July 25, 1871
121,302	Keith, Horace M., Commerce, Mich. Plow. (Antedated Nov. 17, 1871)	Nov. 28, 1871
110,921	Keith, Jeremiah, Charlton, Mass. Hat	Jan. 10, 1871
112,719	Same.....Machine for making and setting blind-staples	Mar. 14, 1871
121,303	Keith, N. Shepard, New York, N. Y. Nickel-plating	Nov. 28, 1871
122,030	Kelleher, Patrick, and James C. Randlett, Bangor, Me. Moccasin boot and shoe	Dec. 19, 1871
	Keller, Adam. (*See* Bergman, William, assignor.)	
112,354	Keller, John F., and Nathaniel Sehner, Hagerstown, Md. Attaching knobs to their spindles	Mar. 7, 1871
4,039	Keller, John H., assignor through mesne assignments of part interest to Daniel F. Luse and J. F. Seiberling Reaper Company, Boalsburgh, Pa. Harvester-reel.....(Reissue)	Nov. 7, 1871
121,107	Keller, John H., Boalsburgh, and Daniel F. Luse, Centre Hall, Pa. Adjustable reel and cut off for harvesters	Nov. 21, 1871
115,424	Keller, John M., Evansville, Ind. Compound for staining wood	May 30, 1871
5,204	Keller, Joseph, Lowry's Station, Pa. Tongue-support.....(Design)	Aug. 15, 1871
116,321	Keller, Peter, assignor to self and Charles A. Martin, New York, N. Y. Gas-regulator. (Antedated June 17, 1871)	June 27, 1871
4,965	Kellett, Samuel, San Francisco, Cal. Center-piece.....(Design)	May 30, 1871
4,966	Same.....same.....(Design)	May 30, 1871
120,981	Kelley, Austin, New York N. Y. Ladies' dress	Nov. 14, 1871
	Kelley, Ebenezer L. (*See* Brown, George A., assignor.)	
4,373	Kelley, Edward G., New York, N. Y., and Augustus H. Tait, Jersey City, N. J., assignors through mesne assignments to Charles Pratt. Process and apparatus for distilling, separating, and purifying petroleum.....(Reissue)	May 9, 1871
115,644	Kelley, Edward Watson, Scotland. Machine for making horseshoe-nails	May 23, 1871
119,854	Same.....Horse-nail machine	Oct. 10, 1871
119,033	Kelley, Francis M., Hart County, Ky. Brake for wagons	Sept. 19, 1871
114,302	Kelley, Henry, and William H. Locke, Boston, Mass. Lamp-collar	May 2, 1871
112,150	Kelley, Lewis, assignor to self and Joel Andrews, Saranac, Mich. Animal-poke	Feb. 28, 1871
	Kelley, Libni, and Elmer Hause. (*See* Hause & Kelley.)	
	Kellogg, Ansel N. (*See* Huntington, William S., assignor.)	
110,978	Kellogg, Daniel J., Toledo, Ohio. Fountain paint-brush	Jan. 17, 1871
113,305	Same.....same	April 4, 1871
114,897	Kellogg, Dennis A., Valparaiso, Ind. Harvester-rake	May 16, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,601	Kellogg, Dennis A., Valparaiso, Ind. Harvester	July 4, 1871
114,688	Kellogg, Erastus H., Mukwonago, Wis. Grain cleaner and scourer	May 9, 1871
121,988	Kellogg, Francis D., and George N Ives, New Haven, Conn. Covered bucket	Nov. 28, 1871
119,531	Kellogg, Henry, Milford, Conn. Machine for rolling tapering forms	Oct. 3, 1871
4,631	Kellogg, J. Dwight, jr., Northampton, Mass. Dove-tail.....(Design)	Feb. 7, 1871
112,050	Kellogg, James Franklin, North Bridgewater, Mass. Tuck-marker for sewing-machines	Feb. 21, 1871
117,642	Same.....Stove-pipe cleaner	Aug. 1, 1871
117,428	Kellogg, Luke L., Leon, N. Y. Butter-worker	July 25, 1871
	Kellogg, W. W. (*See* Watrous, Richard N., assignor.)	
116,837	Kelly, Daniel, Muskegon, Mich. Boring-bit	July 11, 1871
117,545	Kelly, Ebenezer L., Reading, Mich. Grain-separator	Aug. 1, 1871
	Kelly, I. Hal. (*See* Maxon, Thomas, assignor.)	
119,274	Kelly, James C., Groveland, N. Y. Water-wheel	Sept. 26, 1871
118,616	Kelly, James M., Ellison, Ill. Field-roller	Aug. 29, 1871
121,524	Kelly, John S., New York, N. Y. Pavement	Dec. 5, 1871
116,322	Kelly, Peter J., and Elisabeth Thompson, New York, N. Y. Rubber compound for bearings, &c. (Antedated May 29, 1871)	June 27, 1871
112,467	Kelly, Samuel Edward, Philadelphia, Pa. Putting up hams	Mar. 7, 1871
120,819	Kelly, Solomon W., Nashville, Tenn. Rotary pump	Nov. 14, 1871
112,813	Kelly, Washington J., Commerce, Mich. Bee-hive	Mar. 21, 1871
	Kelly, William, Louisville, Ky. Manufacture of iron.....(Extension)	June 15, 1871
122,255	Same.....Making steel castings	Dec. 26, 1871
121,174	Kelsey, Cyrus M., Mount Vernon, Ohio. Vulcanizing rubber for dental plates, &c.	Nov. 21, 1871
	Kelsey, H. C. (*See* Gillam, John W., assignor.)	
	Kelsey, Mary L., administratrix. (*See* Gale, William S.).....(Extension.)	
	Kelso, George R. (*See* Alcorn, James, assignor.)	
	Kelty, Gibbons L. (*See* Lloyd, William, assignor.)	
111,731	Kelty, Richard A., Lambertville, N. J. Rubber roller for paper-machines	Feb. 14, 1871
111,459	Kemmer, Charles T., Cleveland, Ohio. Coating and decorating walls, ceilings, &c.	Jan. 31, 1871
	Kemon, Solon C., *et al.* (*See* Darrell, Armistead M., assignor.)	
111,065	Kemper, Christoph, Herman, Mo. Feed-cutter	Jan. 17, 1871
114,568	Kemper, Simon, Berger, Mo. Saw-mill	May 9, 1871
118,023	Kendal, Kendrick, and Lewis Henry Starke, assignors to Samuel C. Forsaith, Goffstown, N. H. Blind-slat machine	Aug. 15, 1871
116,838	Kendall, Francis B., Monmouth, Ill. Corn-ground marker	July 11, 1871
114,445	Kendall, George N., Wooster, Ohio. Sash-holder	May 2, 1871
	Kendall, John J., and William C. Baine. (*See* Baine & Kendall.)	
4,514	Kendall, John S., assignor through mesne assignments to the National Cattle-Car Company, Saint Louis, Mo. Railway stock-car.....(Reissue)	Aug. 15, 1871
4,650	Kendrick, Hiland H., Fulton, N. Y. Flower-stand	Feb. 14, 1871
	Kendrick, John. (*See* Crowell, John H., assignor.)	
115,741	Keniston, Charles, assignor to self, William Butterfield, and Charles E. Woodman, Somerville, Mass. Welt and strap cutter	June 6, 1871
116,323	Same.....Punching-machine	June 27, 1871
111,460	Kennard, Amos, Clearfield, Pa. Cant-hook	Jan. 31, 1871
113,306	Kennedy, Albert H., Oberlin, Ohio. Cultivator	April 4, 1871
5,183	Kennedy, Charles, Philadelphia, Pa. Slate pencil sharpener	Aug. 8, 1871
116,839	Kennedy, Charles W., Brooklyn, E. D., N. Y. Drain-pipe machine	July 11, 1871
110,856	Kennedy, De Lancy, New York, N. Y. Device for securing the tines of hay-tedders	Jan. 10, 1871
114,089	Kennedy, Edward S., Buchanan, Pa. Device for securing collars to lamps, &c.	May 9, 1871
118,948	Kennedy, John P., New York, N. Y. Wrought-iron column	Sept. 12, 1871
119,618	Kennedy, Martin, Chicago, Ill. Combined plow and stock for cultivators	Oct. 3, 1871
113,589	Kennedy, Michael, New York, N. Y. Platform-scale	April 11, 1871
121,631	Kennedy, Simon H., Jamestown, N. Y. Medical extract from hemlock-bark	Dec. 5, 1871
122,256	Kennedy, Theodore W., New York, N. Y. Presser-foot lifter for sewing-machines	Dec. 26, 1871
112,814	Kennedy, William C., Commerce, Mich. Curtain-fixture	Mar. 21, 1871
4,992	Kennedy, William T., New York, N. Y. Fork or spoon handle.....(Design)	June 13, 1871
120,281	Kenney, Lester Bradner, Charlotte, Mich. Shutter-worker	Oct. 24, 1871
114,446	Kenney, Thomas, Lynn, Mass. Awl	May 2, 1871
120,563	Kenny, Nicholas, assignor to self and Frederick A. Kurspeodt, New York, N. Y. Lock for spool-holders	Oct. 31, 1871
111,217	Kent, Hiram J., Palmyra, N. Y. Potato-planter	Jan. 24, 1871
118,860	Kent, Lawrence W., Cleveland, Ohio. Oil-can	Sept. 12, 1871
121,632	Kent, Robert, Brooklyn, N. Y. Device for pointing wire	Dec. 5, 1871
117,894	Kent, Trumble, and James S. Barker, Waukegan, Ill. Door-hanger	Aug. 8, 1871
	Kent, William J., and Charles E. Bacon. (*See* Bacon & Kent.)	
120,189	Kenworthy, James H., West Point, Ind. Car-coupling	Oct. 24, 1871
115,618	Kenworthy, William, and John H. Pollitt, Birmingham, Pa. Mode of lubricating axles and journals	June 6, 1871
112,928	Kenyon, Charles P., assignor to self and J. W. Sharp, Selma, N. C. Fire-escape	Mar. 21, 1871
	Kenyon, Edgar. (*See* Cummings, Patrick H., assignor.)	
118,948	Kenyon, John J., Boston, Mass., and Hazen P. Hunteon, assignors to John J. Kenyon, Cambridge, Mass. Washing-machine	Aug. 22, 1871
113,774	Kenyon, Orlando L., and Edwin B. Palmer, Rome, N. Y. Wash-boiler	April 18, 1871
113,174	Kenyon, Silas K., assignor to self and William D. Vernam, Greenville, R. I. Corn picking and husking machine	Mar. 28, 1871
121,394	Same.....same	Nov. 28, 1871
112,608	Kenyon, William G., Wakefield, R. I. Hay-tedder	Mar. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,173	Kenyon, William G., Wakefield, R. I. Harvester-cutter	Mar. 28, 1871
117,176	——— Same ——— Cutting-apparatus for harvesters	July 18, 1871
116,588	Keppel, William H., and Henry Huffsey, Tiffin, Ohio. Vehicle	June 27, 1871
115,065	Kepperling, Samuel B., and Thomas B. Kreiter, Neffsville, Pa. Artificial limb	May 23, 1871
122,257	Kerigan, Michael J., Boston, Mass. Mechanism for reed-organ swell	Dec. 26, 1871
116,196	Kern, Philip, Dayton, Ohio. Door and gate spring	June 20, 1871
121,460	Kernaul, Michael H., Prussia. Sewing-machine	Dec. 5, 1871
110,928	Kerns, John F., Baltimore, Md. Street-lamp	Jan. 10, 1871
	Kerper, John. (*See* Barr, Henry H., assignor.)	
	Same (*See* Sullenberger, William H., assignor.)	
113,069	Kerr, David, and Asa E. Hovey, San Francisco, Cal. Skate	Mar. 28, 1871
117,643	Same ——— Parlor-skate	Aug. 1, 1871
118,805	Kerr, Hugh S., Philadelphia, Pa. Blacking brush and box combined	Sept. 12, 1871
4,632	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	Feb. 7, 1871
4,633	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	Feb. 7, 1871
4,651	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	Feb. 14, 1871
4,652	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	Feb. 14, 1871
4,887	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	May 9, 1871
4,925	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	May 23, 1871
4,926	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	May 23, 1871
5,108	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	July 11, 1871
5,206	Kerr, Hugh S., assignor to Israel Foster, Philadelphia, Pa. Carpet-pattern. (Design)	Aug. 15, 1871
4,950	Kerr, William, assignor to William Hunter & Sons, Philadelphia, Pa. Carpet-pattern (Design)	May 30, 1871
4,951	Kerr, William, assignor to William Hunter & Sons, Philadelphia, Pa. Carpet-pattern (Design)	May 30, 1871
4,952	Kerr, William, assignor to William Hunter & Sons, Philadelphia, Pa. Carpet-pattern (Design)	May 30, 1871
5,130	Kerr, William, assignor to John Gay, Philadelphia, Pa. Carpet-pattern. (Design)	July 25, 1871
5,184	Kerr, William, assignor to John Gay, Philadelphia, Pa. Carpet-pattern. (Design)	Aug. 8, 1871
115,394	Kerr, William, jr., Boston, Mass. Check for watchmakers' lathes	May 30, 1871
113,896	Kesselberger, August, Springfield, Ill. Wagon-axle	April 18, 1871
116,394	Kesseler, Frank, San Francisco, Cal. Furnace for roasting ore	June 27, 1871
	Ketcham, E., & Co. (*See* Hodgetts, Charles, assignor.)	
5,030	Ketcham, George W., assignor to E. Ketcham & Co., New York, N. Y. Cake-pan	June 20, 1871
120,442	Ketcham, Horace C. and Willis W., Newark, N. J. Dinner-pail	Oct. 31, 1871
121,633	Ketchen, Thomas, New York, N. Y. Chimney-top	Dec. 5, 1871
121,769	Ketchum, Amos, Estherville, Iowa. Pitman-connection	Dec. 12, 1871
121,053	Ketchum, Seymour, Macon, Ill. Cooking-stove	Nov. 21, 1871
4,494	Ketchum, William F., assignor through mesne assignments to the Ketchum Harvesting-Machine Company, Buffalo, N. Y. Harvester (Reissue)	July 25, 1871
4,672	Same ——— Harvester (Reissue)	Dec. 12, 1871
4,673	Same ——— same (Reissue)	Dec. 12, 1871
	Keyes, Daniel A., and Eli R. Hall. (*See* Hall & Keys.)	
113,720	Keys, Eben W., Charlestown, Mass. Treadle-motion	Mar. 14, 1871
120,200	Keys, Eben W., Charlestown, Mass., and Charles K. Bradford, Boston, Mass. Treadle-motion	Oct. 24, 1871
121,383	Keys, Winfield S., and Albert Arenta, Eureka, Nev. Furnace for smelting lead and other ores	Nov. 28, 1871
4,816	Keyser, John H., New York, N. Y. Stove (Design)	April 18, 1871
4,817	Same ——— Oven (Design)	April 18, 1871
114,019	Same ——— Cooking-stove	April 25, 1871
117,546	Kibler, Frederick, Baltimore, Md. Combined rubber and copper-wire joint for pipe-coupling	Aug. 1, 1871
119,778	Kicherer, Carl R., assignor to Doscher & Co., Brooklyn, N. Y. Soap	Oct. 10, 1871
110,857	Kidd, Joshua, New York, N. Y. Apparatus for generating and burning vapor from hydrocarbons	Jan. 10, 1871
118,430	Same ——— Apparatus for the manufacture of hydrocarbon-gas	Aug. 29, 1871
119,034	Same ——— Manufacture of illuminating-gas	Sept. 19, 1871
4,706	Kidd, William, Duncan's Mills, Cal. Saw (Design)	Mar. 14, 1871
116,197	Kidder, Jerome, New York, N. Y. Sponge-holder for electro-medical apparatus	June 20, 1871
116,451	Same ——— Galvanic battery	June 27, 1871
119,635	Same ——— same	Oct. 10, 1871
120,750	Same ——— Battery-current manipulator	Nov. 7, 1871
122,031	Same ——— Needle-electrode for electro-surgical uses	Dec. 19, 1871
117,301	Kidder, Moses W., Lowell, Mass. Paint	July 25, 1871
120,994	Kidwell, George W., Elwood, Ind. Telegraph-insulator	Nov. 14, 1871
	Kieffer, John. (*See* Guider, John W., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Kiengle, Jacob, and Charles Diebold. (*See* Obernesser, Jacob, assignor.)	
112,051	Kievlan, James, assignor to self and William Wisdom, Chicago, Ill. Lathe	Feb. 21, 1871
116,385	Kiff, Thomas F., Fairbury, Ill. Hand-truck	June 27, 1871
	Kihlberg, John, and Michael Mesmer. (*See* Stanton, Joseph, assignor.)	
116,602	Kikendall, John N., jr., Virginia, Ill. Machine for laying out sash	July 4, 1871
	Kile, Jasper, *et al.* (*See* Short, Short, Short & Kile.)	
110,766	Killam, Henry, New Haven, Conn. Carriage-axle	Jan. 3, 1871
	Kimball, Austin G. (*See* Comins, John M., assignor.)	
113,775	Kimball, Charles P., Portland, Me. Shifting-top for basket-phaetons	April 18, 1871
	Kimball, Daniel A. (*See* Halladay, William H., assignor.)	
111,752	Kimball, Eben A., Abingdon, Mass. Sewing-machine	Feb. 14, 1871
	Kimball, Frank I. (*See* Bradley, John, assignor.)	
114,303	Kimball, Frederick J., Philadelphia, Pa. Machine for crushing and grinding rock, phosphates, &c	May 2, 1871
114,304	Same ——— Apparatus for drying phosphates	May 2, 1871
118,530	Same ——— Machine for making spikes	Aug. 29, 1871
	Kimball, George P. (*See* Bachelier, William, assignor.)	
121,634	Kimball, Hervey, Poughkeepsie, N. Y. Stenciling-apparatus	Dec. 5, 1871
112,256	Kimball, Hiram, Randolph, Vt. Low-water indicator	Feb. 28, 1871
114,305	Kimball, James M., Woodstock, Ill. Washing-machine	May 2, 1871
117,644	Kimball, John, Boston, Mass. Tension-apparatus for wax-thread sewing-machine	Aug. 1, 1871
114,306	Kimball, John J., Naperville, Ill. Churn	May 2, 1871
118,733	Same ——— Mechanical movement	Sept. 5, 1871
	Kimball, Lewis, jr. (*See* Cummings, Daniel M., assignor.)	
	Kimball, Luther E. (*See* Hayward, Samuel, assignor.)	
110,858	Kimball, Matthew, assignor to self and James Garvey, San Francisco, Cal. Roller-skate	Jan. 10, 1871
	Kimball, Reuel W., *et al.* (*See* Close, Walter R., assignor.)	
116,065	Kimball, William H., Boston, Mass. Refining iron and steel	June 20, 1871
4,634	Kimbel, Anton, New York, N. Y. Chair (Design)	Feb. 7, 1871
4,635	Same ——— same (Design)	Feb. 7, 1871
118,861	Kimberly, Lewis A., New Haven, Conn. Boys' stilt	Sept. 12, 1871
119,998	Kimble, Thomas V., Indianapolis, Ind. Garden-hoe	Oct. 17, 1871
111,650	Kindel, James, Wilmington, Ohio. Feed-water apparatus	Feb. 7, 1871
	King, Abraham A., *et al.* (*See* Beebe, Baynes & King.)	
115,316	King, Abraham B., Camden, Ohio. Fire-kindler	May 23, 1871
112,815	King, Alexander, Philadelphia, Pa. Clothes-wringer	Mar. 21, 1871
	King, Alonzo P. B. (*See* Taylor, Zalmon A., assignor.)	
120,731	King, Benjamin F., Annapolis Junction, Md. Paint	Nov. 7, 1871
120,075	King, Charles A., Springfield, Mass. Means for uncapping cartridges	Oct. 17, 1871
4,457	King, Ferdinand, Richmond, Va. Manufacture of illuminating-gas (Reissue)	July 4, 1871
117,645	Same ——— Washington, D. C. Manufacture of illuminating-gas	Aug. 1, 1871
	King, Henry, *et al.* (*See* Rauk, King & Sharp.)	
	Same ——— same (Reissue.)	
112,151	King, Henry James, and Daniel Charles Mulock, Middletown, N. Y. Steam and water engines	Feb. 28, 1871
120,076	King, Hillery R., Poplar Bluff, Ark. Well-auger (Antedated Oct. 14, 1871)	Oct. 17, 1871
115,066	King, Homer, A., New York, N. Y. Machine for making comb-guides for bee-hives	May 9, 1871
121,108	King, Jesse, Oswego, N. Y. Excavating-cart	Nov. 21, 1871
113,530	King, Lewis, East Cleveland, Ohio. Lightning-rod	April 11, 1871
4,355	King, Lewis, assignor of two-thirds interest to Newell E. Smith, East Cleveland, Ohio. Lightning-rod (Reissue)	April 25, 1871
112,003	King, Osman S., Painesville, Ohio. Washing-machine	Mar. 14, 1871
113,531	King, Phineas F. and Edwin A., Saint Louis, Mo. Sawing-machine	April 11, 1871
4,443	King, Robert, assignor to T. Prosser & Son, Brooklyn, N. Y. Boiler-flue brush (Reissue)	June 27, 1871
111,651	King, Sampson B., Starkville, Ga. Plow. (Antedated Feb. 3, 1871)	Feb. 7, 1871
	King, Samuel, and George R. Long. (*See* Long & King.)	
112,038	King, Sidney D., Middletown, N. Y. Dumping-car	Feb. 21, 1871
119,856	Same ——— same	Oct. 10, 1871
112,355	King, Theodore E., Boston, Mass. Miter-machine	Mar. 7, 1871
	King, Walter D., and Algernon S., *et al.* (*See* Sebring, Thompson C., assignor.)	
114,569	King, William C., Pittsburgh, Pa. Machine for operating glass-molds	May 9, 1871
4,571	Same ——— same (Reissue)	Sept. 26, 1871
4,753	King, William C., assignor to King, Son & Co., Pittsburgh, Pa. Ornamentation of table-glassware (Design)	April 4, 1871
111,946	King, William Haskell, Newark, N. J., and Jared Rowland, Williamsburgh, N. Y., assignors to William Haskell King. Sash-holder	Feb. 21, 1871
114,690	King, William R., Shelbyville, Ky. Bee-hive	May 9, 1871
	Kingsland, Allen B., *et al.* (*See* Sparks, John assignor.)	
4,553	Kingsland, Samuel, assignor to Henry Ocorr, Council Bluffs, Iowa. Wood-bending machine (Reissue)	Sept. 12, 1871
115,385	Kinne, Benjamin, Syracuse, N. Y. Washing-machine	May 30, 1871
	Kinne, Charles W. (*See* Langdon, Orrin H., assignor) (Two cases.)	
120,366	Kinne, Erastus M., Cuba, N. Y. Snap-hook	Oct. 31, 1871
120,568	Kinne, George O., assignor to Colt's Patent Fire-Arms Manufacturing Company, Hartford, Conn. Operating machine-guns	Nov. 7, 1871
116,024	Kinnear, William E., Upper Sandusky, Ohio. Wash-boiler	Aug. 15, 1871
12,152	Kinney, Jesse, assignor to self and Cyrus Kinney, London, Canada. Stubble-attachment for plows	Feb. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Kinsey, Joseph, and James Tranter. (*See* Tranter & Kinsey.)	
112,604	Kinsey, Moses, Newark, N. J. Skate	Mar. 14, 1871
111,672	Kinsey, Oliver B., Newark, N. J. Ice-crusher. (Antedated Jan. 28, 1871)	Feb. 7, 1871
113,025	Kinsey, William, Cincinnati, Ohio. Composition-roofing	Aug. 15, 1871
116,458	Kinsman, John H., Salem, Mass. Door-lock	June 27, 1871
118,240	Kintz, George W., Rochester, N. Y. Game-board	Aug. 22, 1871
112,816	Kintz, Joseph, assignor to self and P. J. Clark, West Meriden, Conn. Drawer-pull	Mar. 21, 1871
115,619	Same.....Caster	June 6, 1871
5,185	Same.....Drawer-pull.....(Design)	Aug. 8, 1871
119,365	Same.....Melting copper	Sept. 26, 1871
119,773	Same.....Chandelier-center	Oct. 10, 1871
5,42[illegible]	Same.....Match-box.....(Design)	Dec. 19, 1871
4,485	Kinyon, Alonzo, Amboy, Ill. Corn-cultivator.....(Reissue)	July 25, 1871
112,605	Kinyon, David R., assignor to self and Job C. Kinyon, Raritan, N. J. Harvester rake	Mar. 14, 1871
	Kinyon, L. C. (*See* Tempio, James, assignor.)	
111,351	Kirby, Josiah, Cincinnati, Ohio. Bung-extractor	Jan. 31, 1871
111,358	Same.....same	Jan. 31, 1871
119,154	Kircher, Julius, New York, N. Y. Ink for printing	Sept. 19, 1871
4,754	Kirchner, William M., Pittsburgh, Pa. Jelly-glass.....(Design)	April 4, 1871
4,755	Same.....same.....same	April 4, 1871
4,756	Same.....same.....same	April 4, 1871
4,757	Same.....same.....same	April 4, 1871
4,758	Same.....same.....same	April 4, 1871
4,759	Same.....same.....same	April 4, 1871
115,396	Same.....Glass jar	May 30, 1871
5,206	Same.....Jelly-glass.....(Design)	Aug. 15, 1871
116,066	Kirk, John L., Mattoon, Ill. Magazine fire-arm	June 20, 1871
119,542	Kirk, Joseph, assignor to George Jordan Firmin, England. Alarm-apparatus for steam-boilers	Oct. 3, 1871
116,199	Kirk, Robert, Clarksville, Ohio. Violin tail-piece	June 20, 1871
112,153	Kirk, Solomon W., Philadelphia, Pa. Separating metal from ore	Feb. 28, 1871
4,314	Kirk, Solomon W., assignor of part interest to Henry Thomas, Philadelphia, Pa. Manufacture of steel.....(Reissue)	Mar. 28, 1871
112,469	Kirk, Thomas A., Kansas City, Mo. Lime-kiln	Mar. 7, 1871
112,257	Kirk, William A. L., Hamilton, Ohio. Head-block for saw-mills	Feb. 28, 1871
	Kirk, William A. L., and Martin R. Lemman. (*See* Lemman & Kirk.)	
111,353	Kirkham, George B., New York, N. Y. Car-starter	Jan. 31, 1871
113,778	Same.....Treadle	April 18, 1871
121,525	Same.....Foot-power	Dec. 5, 1871
4,554	Kirkham, William, Springfield, Mass. Egg-steamer.....(Design)	Jan. 3, 1871
120,382	Kirkup, Lancelot, Brooklyn, N. Y. Bridge	Oct. 24, 1871
113,063	Kirkwood, Alexander, Toronto, Canada. Meat-biscuit	Mar. 28, 1871
118,460	Same.....Jackson County, Miss. Log-cart	Aug. 29, 1871
112,892	Kirkwood, Henry, assignor to Alexander Kirkwood, Americus, Miss. Revolving steelyard-beam	Sept. 12, 1871
113,777	Kirkwood, Milton W., and Solomon H. Riley, Iowa City, Iowa. Mop	April 18, 1871
121,945	Kirsch, Ernst, South Amesbury, Mass. Rocking horse	Dec. 19, 1871
	Kissam, William Wilmot, *et al.* (*See* Winant, William K., assignor.)	
	Kistler, Willoughby F., and Joseph H. Dennis. (*See* Dennis & Kistler.)	
	Kitchell, David T., and Orlando McKnight Reynolds. (*See* Reynolds & Kitchell.)	
117,429	Kitchen, Ebenezer D., Pineville, Pa. Washing-machine	July 25, 1871
111,947	Kitson, Richard, Lowell, Mass. Securing steel or iron pins in wood	Feb. 21, 1871
116,440	Same.....Feed-regulating mechanism of cotton-lappers	July 11, 1871
116,441	Same.....Waste-picker	July 11, 1871
119,466	Kittinger, Levi, Massillon, Ohio. Iron-arch bridge	Oct. 3, 1871
118,724	Kettleman, William W., Bloomfield, Iowa. Trace-buckle	Sept. 5, 1871
112,154	Kleemann, Carl J. H. F., assignor of one-half interest to Arnold C. Franck, New York, N. Y. Composition for polishing	Feb. 28, 1871
	Klein, J. Augustus, and Ferdinand C. Schoenstein. (*See* Schoenstein & Klein.)	
113,178	Klein, Rudolph C., Saint Louis, Mo. Composition for lubricating journals	Mar. 28, 1871
122,032	Kleiner, Gott-Hard, Georgetown, Mo. Apparatus for distilling spirits	Dec. 19, 1871
119,366	Klepper, Alfred H., Muscatine, Iowa. Bee-hive	Sept. 26, 1871
	Kley, John A., and David M. Ford. (*See* Ford & Kley.)	
117,765	Klinck, Frederick, assignor to John Weidig and Charles Yeckel, Philadelphia, Pa. Glass-molders' press	Aug. 8, 1871
121,160	Kline, Aaron K., Readington, N. J. Steam-engine governor	Nov. 21, 1871
116,199	Klingbeil, William, Champaign City, Ill. Medical compound, or eye-balsam	June 20, 1871
121,110	Klingenburg, Adolph, assignor to Herman C. Drexel and D. Lammont, jr., Baltimore, Md. Mechanical-dice apparatus	Nov. 21, 1871
114,950	Klinkerfues, Wilhelm, Prussia. Apparatus for igniting gas and other lights	May 16, 1871
111,753	Klotz, Philip, assignor to Bentley C. Bibb, Baltimore, Md. Base-burning fire-place heater	Feb. 14, 1871
118,725	Knapp, A. Hayden, Newton Centre, Mass. Curtain-fixture	Sept. 5, 1871
116,453	Knapp, George S., Winona, Minn. Machine for joining tubular lighting-rods	June 27, 1871
119,987	Same.....Machine for making lightning rods	Oct. 17, 1871
	Knapp, George S., and David A. Foot. (*See* Foot & Knapp.)	
122,238	Knapp, John, Prattsburgh, N. Y. Preserving eggs	Dec. 26, 1871
112,469	Knapp, John G., and John F. Robertson, assignor of one-third interest to James H. Holly, Warwick, N. Y. Fastening for seats for wagons or sleighs	Mar. 7, 1871
	Knapp, John G., *et al.* (*See* Robertson, John F., assignor.)	
121,054	Knapp, Joseph, Coloma, Mich. Platform or handle for fruit-baskets	Nov. 21, 1871
114,153	Knapp, Judson N., Syracuse, N. Y. Milking-stool	April 25, 1871
	Knapp, Lucien. (*See* Getty, Henry, assignor.)	
4,443	Knapp, Myron H., assignor of one-half interest to Edward F. York, Fulton, N. Y. Fluting and sad iron.....(Reissue)	June 27, 1871
114,826	Knapp, Robert P., New York, N. Y. Umbrella	May 16, 1871
122,120	Knauss, Thomas E., Zaleski, Ohio. Stock-car	Dec. 26, 1871
	Kneeland, Orlando A. (*See* Wright, Daniel, assignor.)	
120,283	Knell, George, Philadelphia, Pa. Sofa-bed	Oct. 24, 1871
117,646	Knetzer, James A., Fillmore, Ind. Corn-planter	Aug. 1, 1871
112,817	Knickerbocker, Darius and Samuel, Allegan, Mich. Shaft-coupling	Mar. 21, 1871
117,786	Kniffen, Daniel S., West Camden, N. Y. Plug-cutter for wood-workers	Aug. 8, 1871
112,791	Knight, Ebenezer, assignor to self, R. S. Mitchell, and Edward S. Compton, Elizabeth, Ind. Machine for cutting splints	Mar. 14, 1871
114,570	Knight, George William, and George Draper, Hopedale, Mass. Spindle-step	May 9, 1871
	Knight, Henry, *et al.* (*See* Goodwin, William, assignor.)	
120,443	Knight, Hiram, Westminster, Mass. Clothes-drier	Oct. 31, 1871
119,367	Knight, Jacob B., Detroit, Mich. Cotton press	Sept. 26, 1871
	Knight, Joseph H. (*See* Denison, Wellington, assignor).....(Design.)	
115,742	Knight, Josiah J., Long Point, Ill. Fence	June 6, 1871
116,843	Knight, Margaret E., Boston, Mass. Paper-bag machine	July 11, 1871
114,447	Knight, Silas P., Brooklyn, N. Y. Electrotype-mold	May 2, 1871
119,388	Knight, William, Covington, Ky. Slate-frame	Sept. 26, 1871
	Knisely, O. F. (*See* Segar, Garret, assignor.)	
115,067	Knoche, August, Saint Louis, Mo. Meat-safe	May 23, 1871
116,326	Knoche, John, Cincinnati, Ohio. Faucet	June 27, 1871
113,064	Knock, Edwin, Vermont, Ill. Washing-machine	Mar. 28, 1871
116,387	Knowland, William, and Kearnes Collings, Henryville, Ind. Seed-planter	June 27, 1871
118,026	Knowles, Collins, Boston, Mass. Wash-bowl	Aug. 15, 1871
119,035	Knowles, Daniel M., New Bedford, Mass. Metal-binding for oil-cloth, &c	Sept. 19, 1871
116,965	Knowles, David, Philadelphia, Pa. Hay and cotton press	July 11, 1871
114,307	Knowles, Jacob Haskell, Lawrence, Mass. Weft-fork for looms	May 2, 1871
113,897	Knowles, Lucius J., Worcester, Mass. Steam-pump	April 18, 1871
114,508	Same.....Steam-pumping engine	May 2, 1871
114,507	Same.....Steam-pump	May 2, 1871
116,454	Same.....Pump	July 27, 1871
118,949	Same.....Blowing-engine	Sept. 12, 1871
122,259	Same.....Screw-press	Dec. 26, 1871
116,455	Knowles, Wilson W., Plantsville, Conn. Die for forming carriage-clips	June 27, 1871
117,179	Same.....Body-loop for carriages	July 18, 1871
116,456	Knowles, Wilson W., and Le Roy S. White, Plantsville, Conn. Die for forming carriage-clips	June 27, 1871
118,250	Knowlton, Albion, Boston, Mass. Machine for distributing nails	Aug. 22, 1871
112,470	Knowlton, George, assignor of one-half interest to N. Haynes, Johnstown, Pa. Potato-planter	Mar. 7, 1871
120,920	Knowlton, John C., Providence, R. I. Ratlin-attachment for rigging	Nov. 14, 1871
115,217	Knowlton, John J., Saccarappa, Me. Turbine water-wheel	May 23, 1871
119,774	Knox, James W., Winona, Miss. Horse-power	Oct. 10, 1871
117,430	Knox, Richard F., and Joseph Osborn, San Francisco, Cal. Furnace for roasting ores. (Antedated July 5, 1871)	July 25, 1871
119,467	Knull, John, and Jason P. Pence, Paris, Ohio. Corn-planter	Oct. 3, 1871
	Knutsford, William, jr., *et al.* (*See* Thurston, Levi P., assignor.)	
4,636	Koch, Christian J., assignor to John Bromley & Sons, Philadelphia, Pa. Carpet-pattern.....(Design)	Feb. 7, 1871
118,950	Koch, George, Cass, Pa. Drilling machine	Sept. 12, 1871
114,691	Koch, Philippe, assignor to James Buckingham, England. Nut-machine	May 9, 1871
117,302	Kock, William, Cincinnati, Ohio. Tumbler for permutation-locks	July 25, 1871
122,177	Koegler, Adolph, Newark, N. J. Apparatus for closing barrels and casks	Dec. 26, 1871
116,859	Koehler, John, Warren, Ohio. Roofing-tile press. (Antedated Jan. 6, 1871)	Jan. 10, 1871
114,839	Kohl, William M., Cincinnati, Ohio. Box-stereoscope	May 16, 1871
121,111	Kohn, Morris, assignor to self and Albert L. Munson, Hartford, Conn. Bed-bottom	Nov. 21, 1871
121,112	Same.....Chair-seating	Nov. 21, 1871
	Kohn, Tobias. (*See* Fisher, Cyrus assignor).....(Design.)	
119,155	Kolb, Mathias, New York, N. Y. Screw-propeller	Sept. 19, 1871
	Kolbl, Ludwig. (*See* Hoffmann, Michael, assignor.)	
	Koll, Daniel. (*See* Estill, James L., assignor.)	
110,767	Komp, Albert, New York, N. Y. Eyeleting machine	Jan. 3, 1871
113,177	Komp, A., New York, N. Y. Fastening for neck-ties	Mar. 28, 1871
116,067	Kook, Jacob B., and John S. Shrawder, Fairviewville, Pa. Trace-hook attachment	June 20, 1871
121,289	Kops, Helena P. De Bruyn, New York, N. Y. Apparatus for the development of the muscles of the hand. (Antedated Nov. 18, 1871)	Nov. 28, 1871
117,431	Kosht, William H., Ashland, Ohio. Gate	July 25, 1871
117,303	Kosinski, Wladyslaw T., Philadelphia, Pa. Forge	July 25, 1871
116,863	Kraatz, David K., assignor of one-half interest to A. S. Bare, Ephrata, Pa. Vertical-screw water-wheel	Sept. 12, 1871
117,062	Kraus, Joseph J., Menasha, Wis. Wood-boring tool	July 18, 1871
4,607	Krausch, Theodore, New York, N. Y. Cooling and ventilating buildings. (Reissue)	Oct. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,386	Krausch, Theodore, New York, N. Y. Hoisting-apparatus. (Antedated Nov. 18, 1871)	Nov. 28, 1871
121,387	Same.....Malt-house. (Antedated Nov. 13, 1871)	Nov. 28, 1871
113,770	Krause, Daniel H., assignor to self and Joseph C. Bright, Pottsville, Pa. Combined cider mill and press	April 18, 1871
116,660	Kreger, Simon, Philadelphia, Pa. Crutch-handle	July 4, 1871
114,448	Krehbiel, John, Williamsville, N. Y. Wagon-tongue support	May 2, 1871
117,438	Same.....Trip-hammer	July 25, 1871
	Kreider, Zindgraf & Co. (*See* Fries, Manasseh, assignor.)	
	Kreidler, Henry, *et al.* (*See* Hedrick, Tash & Kreider.)	
4,260	Kreischer, Balthasar, New York, N. Y. Burning-kiln.....(Reissue)	Feb. 14, 1871
112,929	Same.....Composition-tiles for fire-proof buildings	Mar. 21, 1871
112,930	Same.....Hollow tiles	Mar. 21, 1871
114,449	Same.....Manufacture of fire-brick	May 2, 1871
5,140	Same.....Hollow tiles.....(Design)	July 25, 1871
5,186	Same.....Filling up tiles.....(Design)	Aug. 8, 1871
	Kreischer, Balthasar, and George H. Johnson. (*See* Johnson & Kreischer.) (Two cases.)	
	Kreiter, Thomas B., and Samuel B. Kepperling. (*See* Kepperling & Kreiter.)	
119,156	Kremser, Martin, Indianapolis, Ind. Metal-planing machine	Sept. 19, 1871
112,053	Krenkel, Kasimir, New York, N. Y. Folding-bedstead	Feb. 21, 1871
4,735	Kreusberger, Louis, assignor to Braner & Co., Philadelphia, Pa. Bed-quilt. (Design)	Mar. 28, 1871
	Krickl, Moritz. (*See* Rath, Emil, assignor.)	
119,573	Krieger, John G., Washington, D. C. Children's carriage	Oct. 3, 1871
	Kripa, Charles. (*See* Miller, James H., assignor).....(Design.)	
	Same.....same.....(Design.)	
113,307	Krisch, Julius, and Charles Thoener, New York, N. Y. Rolling-bed	April 4, 1871
4,430	Krom, Stephen R., New York, N. Y. Machine for separating ores.....(Reissue)	June 20, 1871
121,586	Same.....Machine for separating and treating ores	Dec. 5, 1871
119,036	Kromer, Theodore, Baden. Bolts for locks	Sept. 19, 1871
113,880	Kromer, Volney, assignor to self and Warren T. Reaser, Grand Rapids, Wis. Hydraulic motor	June 13, 1871
120,444	Kroninger, Daniel and Noah, Eagle Point, Pa. Adjustable buggy-seat	Oct. 31, 1871
110,923	Kubitschky, Oswald, Chicago, Ill. Lounge	Jan. 10, 1871
115,218	Kucker, John L., Philadelphia, Pa. Brick-machine	May 23, 1871
4,815	Kuechler, Jacob Louis, assignor to Orr, Painter & Co., Reading, Pa. Cooking-stove.....(Design)	April 18, 1871
118,726	Kugler, Charles, Barnesville, Ohio. Horse hay-rake	Sept. 5, 1871
5,230	Kuhlmann, Jerome, assignor to self and Henry Kuhlmann, Cincinnati, Ohio. Cushion for backs of chairs, &c.....(Design)	Aug. 29, 1871
	Kuhn, Jonathan, and Peter J. Morse. (*See* Morse & Kuhn.)	
111,853	Kuhns, Benjamin, Dayton, Ohio. Grain-drill	Feb. 14, 1871
116,719	Same.....same	July 4, 1871
	Kunkle, Erastus B. (*See* Bostwick, Emanuel, assignor).....(Design.)	
118,727	Kunkle, Erastus B., assignor to self and Emanuel Bostwick, Fort Wayne, Ind. Egg-beater	Sept. 5, 1871
119,136	Kunnecke, Erastus C. L., Dayton, Ohio. Grist-mill	Aug. 15, 1871
117,304	Kunstler, John, Collinsville, Conn. Crimping-clamp	July 25, 1871
110,679	Kunta, Philip, deceased, by John Reichelderfer, Cridersville, Ohio. Corn-planter	Jan. 3, 1871
	Kunze, Henry H., and Frederick W. Eager. (*See* Eager & Kunze).....(Design.)	
	Kunzel, Charles Maurice, and George Montefiore Levi. (*See* Levi & Kunzel.) (Two cases.)	
113,674	Kuper, Richard H., Lockport, N. Y. Coffee-pot	April 11, 1871
	Kurspeedt, Frederick A. (*See* Kenny, Nicholas, assignor.)	
116,328	Kurtz, Jacob C., Wooster, Ohio. Flax-brake	June 27, 1871
114,154	Kurtz, John L., York, Pa. Water-wheel	April 25, 1871
111,948	Kurz, John, Philadelphia, Pa. Passenger-register for cars	Feb. 21, 1871
112,350	Kuttner, Julius, New York, N. Y. Take-up for corset-looms	Mar. 7, 1871
114,155	Same.....Shuttle for looms	April 25, 1871
	Kwoczalla, Alois, *et al.* (*See* Smith, Kwoczalla & Ripley).....(Design.)	
117,547	Kynett, Henry P., Lisbon, Iowa. Cultivator	Aug. 1, 1871
116,329	Kysor, John A., Leon, N. Y. Fence	June 27, 1871
	Labarre, John W. (*See* Currier, John W., assignor.)	
	Same.....(*See* Hitchcock, Marcus T., assignor).....(Reissue.)	
121,363	La Breche Viger, Louis, Montreal, Canada. Converting articles made of wrought-iron into steel. (Antedated Nov. 13, 1871)	Nov. 28, 1871
111,216	Lacey, Edward, Chicago, Ill. Device for bending wood	Jan. 24, 1871
118,864	Lacey, Edward, assignor to self, John Phillips, and Henry Liebenstein, Chicago, Ill. Machine for bending wood	Sept. 12, 1871
118,617	Lacey, John, and George B. Cornell; said Lacey assignor to said Cornell, Chicago, Ill. Combined bush and wrench for bungs	Aug. 29, 1871
112,357	Lackore, Timothy W., Worth, Ill. Elevator and carrier	Mar. 7, 1871
113,538	Lacman, Jacob, Philadelphia, Pa. Doll	April 11, 1871
113,533	Lacy, Erasmus D., assignor to self and Barnes C. Sears, Rockford, Ill. Steam-generator	April 11, 1871
112,663	Ladd, Alexander, Saint Lawrence, N. Y. Check-rein hook	Mar. 28, 1871
	Ladd, Charles D., *et al.* (*See* Vincent, George, assignor.)	
	Ladd, Frederick R. (*See* Ellis, Marshall M., assignor.)	
113,327	Ladd, William F., New York, N. Y. Boiler or digester for making paper-pulp	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,707	Ladner, Frederick, assignor to Ladner & Bird, Philadelphia, Pa. Ornamentation of glassware.....(Design)	Mar. 14, 1871
113,666	La Dow, Charles, South Galway, N. Y. Combined hay-rake and tedder	Mar. 28, 1871
119,157	Same.....Grapple	Sept. 19, 1871
116,720	Laemmel, Moritz, Bay Ridge, N. Y. Producing colored prints on paper and other fabrics	July 4, 1871
113,308	Laffetra, Joseph P., Shrewsbury, N. J. Potato-digger	April 4, 1871
4,247	Lafferty, Hugh W. and Robert, Gloucester City, N. J. Centrifugal sugar-draining machine.....(Division A, reissue)	Jan. 31, 1871
4,248	Same.....Centrifugal sugar-draining machine.....(Division B, reissue)	Jan. 31, 1871
118,806	Lafferty, Robert M., and Edward P. Smith, Three Rivers, Mich. Auger	Sept. 12, 1871
4,678	Lafferty, Robert M., assignor to self and Edward P. Smith, Three Rivers, Mich. Pump.....(Reissue)	Dec. 19, 1871
113,309	La France, Truckson S., Elmira, N. Y. Rotary steam-engine	April 4, 1871
122,033	Same.....Rotary engine	Dec. 19, 1871
115,870	Lagoree, Gabriel H., Newcastle, Pa. Blast-heating furnace or oven	June 13, 1871
	Lagowitz, Jacob. (*See* Myers & Eunson, assignors).....(Disclaimer.)	
	Lague, Timothy. (*See* Bernard, Cleophas, assignor.)	
116,721	Lahaye, John J., Reading, Pa. Car-axle box	July 4, 1871
	Lahaye, John J., and James M. Lyons, Reading, Pa. Cigar-mold	Dec. 19, 1871
114,156	Laidlaw, Robert, and John Thompson, Great Britain. Apparatus for exhausting gas, &c.	April 25, 1871
	Laidlow, George. (*See* Gilmore & Forrest, assignors.)	
120,284	Lair, Jacob, and Jacob F. Rawsell, Indianapolis, Ind. Toy-gun	Oct. 24, 1871
118,865	Laird, Peter B., Saint Johnsbury, Vt. Composition for staining stone	Sept. 12, 1871
122,269	Lake, Eliza J., Washington, D. C. Method of cutting cloth	Dec. 26, 1871
121,249	Lake, Ezra B., Mauricetown, N. J. Oyster-dredge	Nov. 28, 1871
117,433	Lake, James B., jr., Baltimore, Md. Tablet index-book	July 25, 1871
	Lalance & Grosjean Manufacturing Company. (*See* Raymond, Francois, assignor.)	
	Same.....(*See* Chaumont, Jules, assignor.)	
115,485	Lally, Michael, East Palestine, Ohio. Bedstead	May 30, 1871
114,157	Laman, Carrie R., Painted Post, N. Y. Lubricating railway-journals	April 25, 1871
118,371	Lamar, Mirovbeau B., Atlanta, Ga. Cotton-cultivator. (Antedated Aug. 11, 1871)	Aug. 22, 1871
	Lamason, Benjamin P., and Samuel W. Murray. (*See* Murray & Lamason.)	
122,261	Lamb, Daniel Martin, assignor to self and Van Rensselaer Warren, Strathroy, Canada. Plow	Dec. 26, 1871
117,083	Lamb, Israel L., Darien, Wis. Molding-machine	July 18, 1871
	Lamb, Salem T., New Albany, Ind. Self-acting rake for harvesters.....(Extension)	June 14, 1871
121,175	Same.....Lock-nut	Nov. 21, 1871
121,176	Same.....same	Nov. 21, 1871
121,325	Same.....Link for chain-couplings	Nov. 21, 1871
	Lamb, Salem T., and William N. Whiteley. (*See* Whiteley & Lamb.)	
118,728	Lamb, Thomas, Philadelphia, Pa. Sewing-machine	Sept. 5, 1871
4,397	Lambe, Frederick, England. Process and apparatus for purifying paraffine and other substances.....(Reissue)	May 23, 1871
115,871	Same.....Treating solid and liquid hydrocarbons	June 13, 1871
111,066	Lambert, Francois, Los Angeles, Cal. Mode of making bricks	Jan. 17, 1871
117,955	Lambert, Richard C., Quincy, Mass. Heel-burnishing machine	Aug. 8, 1871
115,219	Lambert, Richard C., assignor to self and John R. Folsom, Quincy, Mass. Machine for trimming boot and shoe heel and sole edges	May 23, 1871
	Lambrix, George J., and Augustus Altenburg. (*See* Altenburg & Lambrix.)	
119,360	Lamburn, Jonathan, Boundary City, Ind. Clover-harvester	Sept. 26, 1871
111,754	Lamkin, Josiah B., Campaign, Ill. Combination tool	Feb. 14, 1871
	Lamkin, William S., and Thomas D. Simpson. (*See* Simpson & Lamkin.)	
121,597	Lamm, Emile, New Orleans, La. Feeder for ammoniacal-gas engines	Dec. 5, 1871
	Lammont, D., jr., *et al.* (*See* Klingenburg, Adolph, assignor.)	
111,940	Lamon, Daniel L., Boston, Ga. Horse-power	Feb. 21, 1871
121,946	La Monte, George, George G. Saxe, and Charles H. Clayton, New York, N. Y. Colored paper	Dec. 19, 1871
	Lampert, Henry. (*See* Dobson, William H., assignor).....(Two cases.)	
122,035	Lamplugh, Isaac, Peoria, Ill. Coal-mining tool	Dec. 19, 1871
116,457	Lampman, Benjamin N., Rutland, Vt. Sifting-machine. (Antedated June 7, 1871)	June 27, 1871
119,619	Lampman, John C., Baltimore, Mich. Horse hay-fork	Oct. 3, 1871
	Lamson, E. G. (*See* Plumer, William, assignor).....(Disclaimer.)	
4,407	Lamson, Ebenezer G., assignor to the Windsor Manufacturing Company, Shelburne Falls, Mass. Machine for channeling rock.....(Reissue)	May 30, 1871
	Lance, William L. (*See* Cohen, Robert L., assignor.)	
	Same.....(*See* Hatcher, William Z., assignor.)	
4,555	Landenberger, Charles H., Philadelphia, Pa. Shawl.....(Design)	Jan. 3, 1871
4,240	Landenberger, Martin, Philadelphia, Pa. Shawl.....(Reissue of design)	Jan. 31, 1871
4,670	Same.....same.....(Design)	Feb. 21, 1871
4,869	Same.....Knitted trimming.....(Design)	May 2, 1871
	Landenberger, Martin, & Co. (*See* Weiler, Charles, assignor.)	
115,496	Lander, George, New York, N. Y. Machine for washing coal	May 30, 1871
113,310	Landers, Henry B., Williamsburgh, N. Y. Feeder for nail-machines	April 4, 1871
119,979	Landfear, William R., Hartford, Conn. Manufacture of eyelet-blanks. (Antedated Jan. 5, 1871)	Jan. 17, 1871
118,461	Landis, Henry H., Lancaster, Pa. Fence	Aug. 29, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Landis, Jacob H., and Daniel E. McSherry. (*See* McSherry & Landis.)	
	Landon, E. H. (*See* Jimo, Joseph, assignor.)	
	Landry, Charles C. (*See* Malone, Patrick, assignor.)	
117,787	Landry, Marcelin, Iberville Parish, La. Apparatus for defecating and bleaching cane-juice, &c	Aug. 8, 1871
122,368	Landvoigt, Dorus W., Washington, D. C. Railing-machine	Dec. 26, 1871
	Lane & Bodley. (*See* Myers & Smith, assignors.)	
122,263	Lane, Dennis, Montpelier, Vt. Head block for saw-mills	Dec. 26, 1871
115,066	Lane, George W., Chichester, N. H. Machine for sharpening calks	May 23, 1871
111,067	Lane, George W., assignor to self and John Allen, Portland, Me. Combined steamer and condenser	Jan. 17, 1871
116,986	Lane, James M., South Norwalk, Conn. Combined skid and truck	July 11, 1871
110,820	Lane, John, assignor to Hapgood & Co., Chicago, Ill. Plow-share	Jan. 10, 1871
111,854	Same.....Plow	Feb. 14, 1871
113,436	Lane, John, jr., Chicago, Ill. Plow	April 4, 1871
	Lane, Samuel B., and Martin Summers. (*See* Summers & Lane.)	
5,253	Lane, Wilbur F., Boston, Mass. Burial casket (Design)	Sept. 5, 1871
112,155	Lang, Charles, assignor of one-half interest to Henry G. Clagstone, Jersey City, N. J. Patching, punching, and embossing button-holes of paper-collars	Feb. 28, 1871
112,034	Lang, Edward M., Portland, Me. Casting solder-wire	Feb. 21, 1871
120,387	Lang, George P., and Peter Lauster, Allegheny, Pa. Top for sirup-pitchers	Oct. 31, 1871
	Lang, John H. B., *et al.* (*See* Wiley, Moses H., assignor) (Design.)	
112,931	Langdon, George W., assignor to self and Lewis Seneare, Greene, N. Y. Stove-pipe shelf and clothes-drier	Mar. 21, 1871
115,328	Langdon, Orrin H., assignor to Charles W. Kinne, Homer, N. Y. Hand-saw	May 30, 1871
116,909	Langdon, Orrin H., assignor to self and Charles W. Kinne, Homer, N. Y. Valve-operating mechanism for water-meters	June 20, 1871
122,178	Langford, Charles F., Brooklyn, N. Y. Device for supporting drawers	Dec. 26, 1871
	Langhoff, William, *et al.* (*See* Thurston, John A., assignor.)	
117,548	Langley, Clark M., Lowell, Mass. Governor for steam-engines. (Antedated July 18, 1871)	Aug. 1, 1871
117,647	Langley, Thomas J., assignor to self and C. P. Conant, East Cambridge, Mass. Composition for coating shingles	Aug. 1, 1871
115,487	Lank, Beecher M., Oswego, Kans. Skate	May 30, 1871
119,370	Lannert, John A., Cleveland, Ohio. Hold-back for carriages	Sept. 26, 1871
119,371	Same.....Whiffletree	Sept. 26, 1871
	Lansing, Henry S. (*See* Lovegrove, Thomas J., assignor.)	
121,250	Lansingh, Killian V. R., jr., Albany, N. Y. Men's drawers	Nov. 28, 1871
115,489	Lanston, Tolbert, Washington, D. C. Comb and brush. (Antedated May 27, 1871)	May 30, 1871
115,964	Same.....Car-coupling	June 13, 1871
113,055	Same.....Dumb-waiter	Feb. 21, 1871
117,084	Lanstrom, Reinhold, Cincinnati, Ohio. Composition-steatite pencil	July 18, 1871
115,640	Lants, Jesse, Wheeling, W. Va. Smut-machine	June 6, 1871
	Lape, Rufus, *et al.* (*See* Staats, William H., assignor.)	
120,383	Lapham, Daniel W., assignor to Josephine M. Lapham, Baltimore, Md. Brush	Oct. 31, 1871
	Lapish, William, and John C. Walker. (*See* Walker & Lapish.)	
113,534	La Port, Franklin H., Clarinda, Iowa. Grinding-mill	April 11, 1871
111,354	Lapsley, Thomas J., Nashville, Tenn. Pump	June 31, 1871
119,690	Larkin, James E., Newark, N. J. Medical compound for cure of consumption	Oct. 3, 1871
	Larman, J. Q., *et al.* (*See* Maloney, James A., assignor.)	
4,736	Larner, John B., Washington, D. C. Salt-cellar (Design)	Mar. 28, 1871
112,932	Laroye, Auguste, Belgium. Bell-hanging	Mar. 21, 1871
	Larrabee, Benjamin F. (*See* Thomas, James H., assignor.)	
	Same.....(*See* Pratt, James H., assignor.)	
	Same.....same.....(Reissue.)	
	Same.....(*See* Hodges, Samuel H., assignor.)	
121,461	Larrabee, Charles, assignor of three-fourths interest to John Yule, Haywood, Cal. Washing-machine	Dec. 5, 1871
116,201	Larson, Carl G., Sweden. Apparatus for heating the converters and other vessels used in the Bessemer process of treating iron	June 20, 1871
113,535	La Rue, Silas Hoffman, assignor to self and William J. Hoxworth, Allentown, Pa. Base-burning stove. (Antedated April 1, 1871)	April 11, 1871
	La Rue, Silas Hoffman, and William Jenkins Hoxworth. (*See* Hoxworth & La Rue.	
	Lascell, George W., and Abraham Coates. (*See* Coates & Lascell.)	
	Lash, Abram. (*See* Wheat, John J., assignor) (Reissue.)	
115,965	Lash, John S., assignor to self and Jonathan R. Seltzer, Philadelphia, Pa. Shutter-fastener	June 13, 1871
113,779	Latham, Cyrus H., Lowell, Mass. Machine for making wire cylinders	April 18, 1871
4,619	Latham, Cyrus H., and George D. Dudley, assignors to Woods, Sherwood & Latham, Lowell, Mass. Bottle-stand (Design)	Jan. 31, 1871
116,728	Latham, Cyrus H., and John S. Lugg, assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, Lowell, Mass. Revolving caster	July 4, 1871
4,636	Same.....Revolving caster (Division A, reissue)	Dec. 5, 1871
4,657	Same.....same.....(Division B, reissue)	Dec. 5, 1872
5,131	Latham, Cyrus H., assignor to self, Edward P. Woods, and Daniel Sherwood, Lowell, Mass. Table-caster (Design)	July 18, 1871
116,097	Same.....Cake and fruit basket	Aug. 15, 1871
	Latham, Cyrus H., *et al.* (*See* Sherwood & Dudley, assignors) (Design.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Latham, Cyrus H., *et al.* (*See* Dudley, George D., assignor) (Design.)	
	Same.....(*See* Goodhue, Charles W., assignor) (Design.)	
	Same.....same.	
119,857	Lathrop, Chancy H., Jersey City, N. J. Truck for locomotive-engines	Oct. 10, 1871
122,264	Same.....Railway-car brake	Dec. 26, 1871
118,275	Lathrop, Levi B., San José, Cal. Lamp-wick adjuster	Sept. 26, 1871
122,121	Latimer, John H., Crystal Lake, Ill. Hand-planter	Dec. 26, 1871
119,372	Latshaw, Hezekiah, McKnightstown, Pa. Fence	Sept. 26, 1871
	Latta, A. B., deceased, by Finley Latta, administrator, Cincinnati, Ohio. Steam-generator (Extension)	Oct. 9, 1871
	Latta, Emmit G. (*See* Thornton, James, assignor.)	
	Latta, Emmit G., and James Thornton. (*See* Thornton & Latta) (Four cases.)	
111,219	Laub, George H., West Lebanon, Ind. Pump	Jan. 24, 1871
117,895	Laubach, William H., Philadelphia, Pa. Rotary measuring-faucet. (Antedated Aug. 2, 1871)	Aug. 8, 1871
	Laughland, G. L. (*See* Smith, Benjamin F., assignor) (Two cases.)	
115,329	Laughlin, Henry H., assignor to Mary A. Laughlin, Philadelphia, Pa. Lamp	May 30, 1871
115,080	Laughlin, John L., Peru, Ill. Attaching handles to plows	May 23, 1871
115,070	Laurence, Henry, New Orleans, La. Dental-file holder and polisher	May 23, 1871
120,077	Same.....Neck-tie retainer	Oct. 17, 1871
115,743	Laurence, William E., New York, N. Y. Curry-comb	June 6, 1871
119,858	Laurent, Jacques, New York, N. Y. Stem-winding watch	Oct. 10, 1871
	Lauster, Peter, and George P. Lang. (*See* Lang & Lauster.)	
118,540	Laux, Thomas, Bucyrus, Ohio. Wagon-reach	Aug. 29, 1871
	Lavinia, William H., and Edward H Clinton. (*See* Clinton & Lavinia.)	
118,372	Lavroff, Alexandre Etienne, Russia. Alloy of copper and tin	Aug. 22, 1871
	Lavy, John T. (*See* Smyth, D. M., assignor.)	
117,305	Lawler, Edward, Hartford, Conn. Regulator for burners	July 25, 1871
118,720	Lawless, Levi N., Geneseo, Ill. Carriage-shackle	Sept. 5, 1871
118,730	Same.....Weather-strip for doors	Sept. 5, 1871
5,306	Lawrence, Alexander W., Raleigh, N. C. Sash-holder (Design)	Oct. 10, 1871
121,878	Lawrence, Benjamin, Lowell, Mass. Lathe	Dec. 12, 1871
115,744	Lawrence, Charles L., New York, N. Y. Fluid for writing on checks, drafts, &c	June 6, 1871
	Lawrence, E. D. (*See* Jones, Solomon, assignor) (Two cases.)	
114,158	Lawrence, Franklin, Philadelphia, Pa. Tuyere for cupola-furnaces	April 25, 1871
117,085	Lawrence, Harry, New York, N. Y. Wheelbarrow. (Antedated July 7, 1871)	July 18, 1871
117,086	Same.....same.	July 18, 1871
122,179	Lawrence, John E., and John S. Young, Philadelphia, Pa. Folding-bureau	Dec. 26, 1871
116,967	Lawrence, Samuel, New York, N. Y. Stench-trap	July 11, 1871
122,180	Lawrence, Stephen B., Scarsdale, N. Y. Hemmer for sewing-machines	Dec. 26, 1871
114,450	Lawrence, William H., Williamsburgh, N. Y. Self-extinguishing safety-can for combustible materials	May 2, 1871
113,178	Lawrence, William H., assignor to self, J. K. P. Sweeting, Jonathan P. Creager, and William W. Brigg, Baltimore, Md. Vapor-burner	Mar. 28, 1871
120,265	Lawrence, William H., assignor of one-half interest to D. A. Edie and one-fourth interest to H. C. Karr, Baltimore, Md. Grain-separator	Oct. 24, 1871
116,339	Lawrence, William H. S., and Charles I. Collamore, Bangor, Me. Pan-lifter	June 27, 1871
111,068	Laws, Albert D., Bridgeport, Conn. Oiler	Jan. 17, 187
112,722	Same.....Meter	Mar. 14, 1871
115,745	Laws, Albert D., and James C. Cooke, Bridgeport, Conn. Pump	June 6, 1871
116,968	Lawson, Benjamin S., Brooklyn, N. Y. Steam-engine governor	July 11, 1871
120,922	Lawson, Benjamin S., assignor to self and Handren & Ripley, Brooklyn, N. Y. Engine-governor	Nov. 14, 1871
5,074	Lawson, James A., Troy, N. Y. Hot-air furnace (Design)	July 4, 1871
5,075	Same.....same.....(Design)	July 4, 1871
116,733	Same.....same.....(Design)	July 4, 1871
116,734	Same.....same.....(Design)	July 4, 1871
118,618	Lawson, John, Humboldt, Kans. Washing-machine	Aug. 29, 1871
120,445	Lawton, Arthur W., Rochester, N. Y. Harness. (Antedated Oct. 21, 1871)	Oct. 31, 1871
113,780	Lawton, Christopher P., assignor to self and Eben A. Day, Webster, Mass. Neck-tie retainer	April 18, 1871
	Lawton, Edwin R., *et al.* (*See* Jeralds, Nettleton & Lawton.)	
115,330	Lawton, George C., Algona, Iowa. Catch for gate and door latches	May 30, 1871
110,980	Lawton, Hamilton B., Cropseyville, N. Y. Mode of forming balls of twine and cord	Jan. 17, 1871
	Lawton, Hiram. (*See* Patric, John S., assignor.)	
4,414	Layaux, Francois, Monroe, La. Bedstead and tester (Reissue)	June 6, 1871
116,456	Same.....Saw-mill	June 27, 1871
	Layman, Abraham K., *et al.* (*See* Campbell, James A., assignor.)	
113,311	Laynor, George, and Harry Helmling, Baltimore, Md. Fire-escape	April 4, 1871
119,089	Lea, Henry Elford, Half Moon Bay, Cal. Washing-machine	Sept. 19, 1871
111,653	Leach, Daniel P. and William F., Franklin, Ind. Portable stall	Feb. 7, 1871
120,246	Leach, George, Union, N. Y. Washing-machine	Oct. 24, 1871
119,373	Leach, George J., Rome, N. Y. Wash-boiler	Sept. 26, 1871
114,451	Leach, Joseph D., Penobscot, Maine. Match-hook	May 2, 1871
	Leach, Joseph D., and Isaiah W. Bowden. (*See* Bowden & Leach.)	
117,434	Leach, Leanders, Wilmington, Ill. Windmill	July 25, 1871
121,947	Leach, Rufus, assignor to self and Michael Schwartz, Bangor, Maine. Rotary engine	Dec. 19, 1871
	Leachman, William B., and George H. Nussey. (*See* Nussey & Leachman.)	
	Leak, Samuel, and John H. Jackson. (*See* Jackson & Leak.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Leake, Richard. (*See* Mills, John C., assignor) ..... (Two cases.)	
116,969	Lear, Frederick, Saint Louis, Mo. Preserving, coloring, and seasoning wood ..	July 11, 1871
112,258	Lear, Peter, Boston, Mass. Chest-protector	Feb. 28, 1871
119,691	Leas, Isaac, and William H. France, Terre Haute, Ind. Pipe-elbow	Oct. 3, 1871
	Leavitt, Alexander, and John T. O'Donoghue. (*See* O'Donoghue & Leavitt.)	
114,830	Leavitt, Charles P., New York, N. Y. Treadle	May 16, 1871
117,097	Same ..... Apparatus for making ice. (Antedated July 7, 1871)	July 18, 1871
118,028	Same ..... Gas-engine. (Antedated Aug. 3, 1871)	Aug. 15, 1871
121,635	Same ..... Car-starter. (Antedated Nov. 25, 1871)	Dec. 5, 1871
117,069	Leavitt, Thomas, Everett, Mass. Printing-press	July 18, 1871
122,181	Leavitt, Thomas H., Boston, Mass. Machine and process for manufacture of peat fuel. (Antedated Dec. 20, 1871)	Dec. 26, 1871
112,471	Leavycroft, Edwin S., assignor through mesne assignments to Colt's Patent Fire-Arms Manufacturing Company, Brooklyn, N. Y. Revolving fire-arm	Mar. 7, 1871
112,472	Same ..... Revolving fire-arm	Mar. 7, 1871
111,550	Le Blanc, Thomas, Philadelphia, Pa. Boiler-tube plug	Feb. 7, 1871
	Le Bosquet, Henry, *et al.* (*See* Tefft, James W., assignor.)	
114,831	Leckie, Robert Gilmour, Acton Vale, Canada. Apparatus for evaporating and concentrating brine and other liquids	May 16, 1871
116,970	Same ..... Apparatus for the manufacture of salt	July 11, 1871
122,265	Le Clerq, Arthur, New York, N. Y. Copying-press	Dec. 26, 1871
112,816	Lee, Archibald K., Galveston, Tex. Rectifying high wines	Mar. 21, 1871
117,549	Same ..... Apparatus for distilling turpentine	Aug. 1, 1871
121,177	Lee, Charles C., Falls Church, Va. Shaft-tug for harness	Nov. 21, 1871
117,089	Lee, Charles S., and William M. Baldwin, Troy, N. Y. Reflector for locomotive-head lights	July 18, 1871
116,459	Lee, Charles T., assignor to self and Lloyd H. Dean, Taunton, Mass. Flower-stand	June 27, 1871
119,775	Lee, Henry A., New York, N. Y. Flanged collar for brooms	Oct. 10, 1871
120,589	Lee, Henry A., Worcester, Mass. Planing-machine	Nov. 7, 1871
119,932	Lee, Henry B., Maryville, Mo. Brake for vehicles	Oct. 17, 1871
114,951	Lee, James, assignor to Philo Remington, Milwaukee, Wis. Breech-loading fire-arm	May 16, 1871
116,068	Same ..... Breech-loading fire-arm	June 20, 1871
112,358	Lee, James R., Grass Valley, Cal. Apparatus for burning hydrocarbon oils	Mar. 7, 1871
114,150	Lee, John, jr., and John, sr., Du Quoin, Ill. Band-cutting attachment for thrashing-machines	April 25, 1871
119,374	Lee, John H., Marshall, Tex. Gate-latch	Sept. 26, 1871
119,830	Same ..... Washing-machine	Oct. 10, 1871
118,251	Lee, Leroy E., assignor of one-half interest to Louis Gertics, New Orleans, La. Rice hulling and polishing machine	Aug. 22, 1871
116,460	Lee, Lewis L., Milwaukee, Wis. Low-water detector	June 27, 1871
	Lee, Oscar D., *et al.* (*See* Johnson, Albert W., assignor.)	
112,359	Lee, Robert, Cincinnati, Ohio. Burglar-alarm	Mar. 7, 1871
118,462	Lee, Samuel, Taunton, Mass. Culinary vessel	Aug. 29, 1871
4,619	Same ..... Combined gridiron, griddle, and frying utensil ..... (Reissue) ..	Oct. 31, 1871
114,832	Lee, Sverre, assignor to self and James D. Reymert, New York, N. Y. Marine locomotive	May 16, 1871
122,182	Lee, Thomas, Westport, Conn. Retractor for revolving fire-arms	Dec. 26, 1871
	Leedom, Shaw & Stewart. (*See* Crabtree, Jonathan, assignor.) (Twenty-eight cases.) (Design.)	
116,069	Leeper, John E., Godfrey, Ill. Construction of cars	June 20, 1871
4,225	Leete, Urania L., New Haven, Conn. Instrument for draughting garments ..... (Division A, reissue) ..	Jan. 3, 1871
4,226	Same ..... Instrument for draughting garments .... (Division B, reissue) ..	Jan. 3, 1871
	Le Favour, Heber. (*See* Garland, James, assignor.)	
120,446	Lefever, James, and George W. Shults, Cambridge City, Ind. Earth pulverizer and harrow. (Antedated Oct. 21, 1871)	Oct. 31, 1871
114,571	Leffel, Thomas, assignor to Barnett, Herrman & Co., Springfield, Ohio. Water-wheel.	May 9, 1871
114,699	Lefferts, Marshall, New York, N. Y. Chemical electric telegraph	May 9, 1871
	Same ..... (*See* Edison, Thomas A., assignor) ..... (Three cases.)	
119,138	Legg, Joshua D., Long Eddy, N. Y. Curtain-fixture	Sept. 19, 1871
112,833	Leggo, William Augustus, Montreal, Canada. Leggotyping	Mar. 21, 1871
113,087	Same ..... Photographic camera	Mar. 28, 1871
115,489	Same ..... Granulated photograph	May 30, 1871
119,022	Same ..... Electrotyping	Oct. 3, 1871
115,490	Leggo, William Augustus, assignor to self and George Edward Desbarats, Montreal, Canada. Process for obtaining molds for electrotyping purposes ..	May 30, 1871
	Legler, Friedrich and John Fanning. (*See* Fanning & Legler.)	
110,861	Le Goullon, Philip, Pittsburgh, Pa. Gravel and sand heater	Jan. 10, 1871
115,746	Lehman, Bernhard E., and Robert Ross, Bethlehem, Pa. Gauge-cock	June 6, 1871
119,860	Lehman, John A., Philadelphia, Pa. Breast-pin fastener	Oct. 10, 1871
113,089	Lehmann, Otto, Columbus City, Iowa. Steaming-apparatus	Mar. 28, 1871
119,150	Lehnert, Isaac, Lima, Ind. Windmill	Sept. 19, 1871
121,790	Lehnert, Carl, Boston, Mass. Chime for reed and pipe organs, &c	Dec. 19, 1871
	Lehr, Ferdinand A. (*See* Okey, Joseph B., assignor.)	
	Leibenstein, Henry, *et al.* (*See* Gustafson, Gustaf, assignor.)	
	Leibold, Jacob F., and Christian Bickel. (*See* Bickel & Leibold.)	
	Leidy, James C., *et al.* (*See* Babcock, Stilson & Leidy.)	
	Leidy, Joel B. (*See* Adams, James T., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,868	Leigh, William, Bridgeport, Conn. Ornamentation of piano-fronts .. (Design) ..	May 9, 1871
	Leighton, William, jr., *et al.* (*See* Hobbs, Brookemier & Leighton.)	
119,637	Leistner, John C., and Augustus Kayser, Cincinnati, Ohio. Low-water alarm ..	Sept. 19, 1871
120,651	Leland, Edwin J., Worcester, Mass. Galvanic battery	Nov. 7, 1871
113,536	Leland, Frederick C., and Samuel W. Poland, Lowell, Mass. Depurator	April 11, 1871
111,127	Leland, James, Springfield, Mass. Car-spring	Jan. 24, 1871
114,938	Leland, William P., Mendon, Mich. Grain-bag holder	May 16, 1871
119,881	Lemke, Carl, Cincinnati, Ohio. Bread-cutter	Oct. 10, 1871
110,981	Lemman, John, Cincinnati, Ohio. Machine for molding chair-bottoms	Jan. 17, 1871
113,898	Same ..... Machine for molding chair-backs	April 18, 1871
117,896	Lemman, John, assignor to Hamilton and Daniel L. Bates, Cincinnati, Ohio. Drilling-machine	Aug. 8, 1871
112,934	Lemman, Martin R., Hamilton, Ohio. Hinge	Mar. 21, 1871
119,234	Lemman, Martin R., and William A. L. Kirk, Hamilton, Ohio. Crimping-machine	Sept. 26, 1871
122,122	Lenhart, Adam L., assignor through mesne assignments to Daniel B. Felter, New Brunswick, N. J. Toy-gun	Dec. 26, 1871
116,331	Lenher, George H., Elizabeth, N. J. Shuttle for sewing-machines	June 27, 1871
121,948	Lennig, Charles, Philadelphia, Pa. Removing tin from tin-scrap	Dec. 19, 1871
	Lent, Andrew, and Edgar Hitt. (*See* Hitt & Lent.)	
	Lents, Moses A., *et al.* (*See* Royal, Lents & Deibert.)	
	Leonard, Andrew, deceased, by John Benedict, administrator, Kenosha, Wis. Mode of casting seamless skeins for wagons. (Extension of Division A)	Feb. 23, 1871
	Same ..... Cast seamless thimble-skeins for wagons. (Extension of Division B)	Feb. 23, 1871
	Leonard, Daniel M., and Calvin F. Manuel. (*See* Manuel & Leonard.)	
119,868	Leonard, George D., Chicago, Ill. Bed-bottom	Oct. 10, 1871
116,070	Leonard, George W., Middle Valley, Pa. Side-hill plow	June 20, 1871
116,071	Same ..... Water-wheel	June 20, 1871
110,994	Leonard, John M., Marshall, Mich. Plow	Jan. 10, 1871
116,461	Leonard, John N., Rockville, Conn. Machine for stretching silk	June 27, 1871
121,879	Same ..... Guide for silk-winding	Dec. 12, 1871
5,443	Same ..... Sample-case for thread and sewing-silk ..... (Design) ..	Dec. 19, 1871
118,137	Leonard, William and William E., Chelsea, Mass. Harness-saddle	Aug. 15, 1871
118,951	Leonhard, Frank A., Columbia, Tenn. Cotton chopper, scraper, and cultivator ..	Sept. 12, 1871
120,987	Lepage, Antoine, Woodhaven, N. Y. Coffee-mill	Oct. 24, 1871
121,178	Same ..... Sash-pulley	Nov. 21, 1871
	Leseman, Ernest, and Joseph T. Woods. (*See* Woods & Leseman.)	
	Lesley, William W., and Madison Buell. (*See* Buell & Lesley) ..... (Design.)	
112,819	Leslie, Andrew M., Saint Louis, Mo. Physicians' saddle-bag	Mar. 21, 1871
118,373	Leslie, Benjamin J., Irvine, Ky. Fly-trap	Aug. 22, 1871
120,078	Leslie, Thomas, Brooklyn, N. Y. Revolving flower-stand	Oct. 17, 1871
121,251	Leslie, Whitman, Gray, Me. Sleigh. (Antedated Nov. 13, 1871)	Nov. 28, 1871
118,731	Lesner, Alexander C., assignor to self and Abram B. Davis, Fonda, N. Y. Water-wheel	Sept. 5, 1871
120,983	Lessig, Samuel, sr., Reading, Pa. Grain-separator	Nov. 14, 1871
121,949	Lessler, Joseph, Buffalo, N. Y. Lawn-sprinkler	Dec. 19, 1871
111,950	Lester, John H., Niantic, Conn. Refrigerator	Feb. 21, 1871
115,873	Lester, John H., Brooklyn, N. Y. Sewing-machine	June 13, 1871
117,649	Lesuer, Augustus S., assignor to self and G. M. Wentworth, Milltown, Me. Blind-fastening	Aug. 1, 1871
116,725	Letchworth, George J., Auburn, N. Y. Hame	July 4, 1871
5,980	Letchworth, Josiah, Buffalo, N. Y. Hame-loop ..... (Design) ..	Sept. 19, 1871
	Same ..... (*See* Cooper, Edward A., assignor.)	
116,462	Letord, Joseph S., Sedalia, Mo. Compound for dyeing hair	June 27, 1871
117,897	Letson, Johnson, New Brunswick, N. J. Rubber shoe	Aug. 8, 1871
112,820	Letterman, Charles, assignor to John W. Throop, Syracuse, N. Y. Wash-board ..	Mar. 21, 1871
	Letts, Thomas W., and Samuel Hollabaugh. (*See* Hollabaugh & Letts.)	
	Levake, George J., *et al.* (*See* Phillips, George B., assignor.)	
112,821	Levey, Charles, Toronto, Canada. Planing-machine	Mar. 21, 1871
118,463	Same ..... Steam-engine	Aug. 29, 1871
115,490	Levi, George Montefiore, and Charles Maurice Kunzel, Belgium. Alloy of bronze	May 23, 1871
120,984	Levi, George M., and Charles M. Kunzel, assignors to Charles James Adolph Dick, Belgium. Bronze alloy	Nov. 14, 1871
117,650	Levinees, John, assignor to Joseph S. Sanborn, Brooklyn, N. Y. Paper-cutting machine	Aug. 1, 1871
111,461	Levis, Cyrus, Philadelphia, Pa. Letter-box	Jan. 31, 1871
4,300	Levis, Samuel G., assignor to James C. Beach, Kellysville, Pa. Making thick paper ..... (Reissue) ..	Mar. 14, 1871
118,341	Levy, Joseph, Wolcottville, Conn. Machine for examining and replacing cigars .	Aug. 29, 1871
119,776	Lewelling, Elisha D., San Lorenzo, Cal. Fruit-packing box	Oct. 10, 1871
113,312	Lewis, Albert C., assignor to self, H. A. Richardson, and H. A. Boynton, New York, N. Y. Covering for melting-pots	April 4, 1871
113,766	Lewis, Benjamin B., assignor to self and Solomon C. Spring, Bristol, Conn. Clock-movement	April 18, 1871
120,650	Lewis, Charles Carrington, Gainesville, Ala. Twine-cutter	Nov. 7, 1871
114,833	Lewis, Charles E., Bay City, Mich. Saw-mill	May 16, 1871
119,933	Lewis, Eli F., Winsted Lake, Minn. Wash-boiler	Oct. 17, 1871
120,985	Lewis, Ellery Channing, Glasgow, Me. Honey-box for bee-hives	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,331	Lewis, Fitch B., Tiffin, Ohio. Flour-bolting reel	May 30, 1871
112,606	Lewis, George T., Philadelphia, Pa. Process of refining and whitening the products from sulphurets of lead and zinc	Mar. 14, 1871
112,607	Same.....Refining and whitening the products from ores of lead and zinc	Mar. 14, 1871
112,608	Same.....Manufacture of carbonate of lead, &c	Mar. 14, 1871
114,603	Same.....Grinding phosphatic substances	May 9, 1871
116,094	Same.....Desulphurizing and volatilizing lead and silver ores	July 4, 1871
113,717	Lewis, George W., Winchester, Ky. Corn-planter	April 11, 1871
116,736	Lewis, George W., assignor to self and John Hyland, Dansville, N. Y. Punching-machine	July 4, 1871
121,636	Lewis, Ira B., Belvidere, Ill. Sawing-machine	Dec. 5, 1871
112,056	Lewis, Jacob S., Baltimore, Md. Boot	Feb. 21, 1871
116,695	Lewis, James, assignor to self and Edward J. Cuyler, Chicago, Ill. Exhaust-nozzle	July 4, 1871
114,372	Lewis, Joseph, England. Valve	May 9, 1871
119,934	Lewis, Lewis, assignor of one-half interest to George M. Barber, Vicksburgh, Miss. Cotton-press	Oct. 17, 1871
120,886	Lewis, Mary E., Mansfield, Ohio. Dish-washer	Nov. 14, 1871
114,308	Lewis, Miles K., and Joseph Munger, Malcom, Iowa. Stalk-cutter	May 2, 1871
121,389	Lewis, Oscar P., Cincinnati, Ohio. Engine and pump	Nov. 28, 1871
113,675	Lewis, Reuben, New York, N. Y. Machine for covering cord	April 11, 1871
118,950	Lewis, Samuel, Williamsburgh, N. Y. Slat-matting for car-floors, &c	Sept. 12, 1871
115,231	Lewis, Samuel S. B., and William H. Sterling, Troy, N. Y. Safe	May 23, 1871
118,250	Lewis, Sylvester, assignor to self and Henry Churchill, Rochester, N. Y. Metal hoop	Aug. 22, 1871
	Lewis, Thomas, and John C. Maxcy. (*See* Maxcy & Lewis.)	
118,374	Lewis, Tristram S., Buxton, Me. Washing-machine	Aug. 22, 1871
116,971	Lewis, William, Webster, N. Y. Washing-machine	July 11, 1871
	Lewis, William, *et al.* (*See* While, Lewis, Strickland & Caddick.)	
121,880	Lewis, William, assignor to self and David T. Way, Astoria, N. Y. Stocking for horses	Dec. 12, 1871
119,863	Lewis, William A., assignor to Hollow Axle Manufacturing Company, Chicago, Ill. Hollow axle for wagons and carriages. (Antedated Sept. 29, 1871)	Oct. 10, 1871
119,864	Same.....Process of making hollow metallic axles and other hollow metallic articles	Oct. 10, 1871
119,865	Same.....Apparatus for welding	Oct. 10, 1871
119,866	Same.....Hollow axle for railroad-cars	Oct. 10, 1871
119,867	Same.....Car-wheel	Oct. 10, 1871
119,868	Same.....Wrought-metal axle for wagons and carriages	Oct. 10, 1871
119,869	Same.....Tubular double-arch axle for wagons	Oct. 10, 1871
4,584	Same.....Wagon-axle.....(Reissue)	Jan. 17, 1871
110,982	Lewis, William E., Princeton, Iowa. Siding-gauge	Jan. 17, 1871
110,983	Lewis, William F., assignor to Benedict & Burnham Manufacturing Company, Waterbury, Conn. Machine for manufacturing hinges	Jan. 17, 1871
119,000	Lewis, William H., assignor to the Scovill Manufacturing Company, New York, N. Y. Photographic posing-chair	Sept. 19, 1871
111,755	Lewis, William J., Pittsburgh, Pa. Wagon-bound, coupling-box, and plate	Feb. 14, 1871
111,756	Same.....Rubber block-holder for wagon-brakes	Feb. 14, 1871
114,019	Same.....Machine for making strap-hinges	April 25, 1871
120,887	Lewitt, William H., assignor to Thomas M. Cochrane, Saint Louis, Mo. Attachment for sewing-machines	Nov. 14, 1871
118,464	Ley, George W., England. Manufacture of ornamental articles in wood in imitation of carving	Aug. 29, 1871
114,824	Leyburn, William C., Sparta, Wis. Thrasher and grain-separator	May 16, 1871
	Libbey, William Landon. (*See* Webb, William George, assignor.)	
	Libby, Nelson F. (*See* Stimson, Lucius S., assignor.)	
120,733	Liddard, John, Great Britain. Railway-chair	Nov. 7, 1871
	Liebenroth, A., and Von Auw. (*See* Schleicher, Charles, assignor.)	
	Liebenstein, Henry, *et al.* (*See* Lacey, Edward, assignor.)	
117,648	Lieberknecht, Gustav, North German Confederation. Apparatus for arranging hair	Aug. 1, 1871
	Liebermann, Charles, and Charles Graebo. (*See* Graebo & Liebermann.) (Two cases.) (Reissue.)	
120,734	Liebmann, Charles, Brooklyn, R. D., N. Y. Ice-house	Nov. 7, 1871
	Light, Joseph F., *et al.* (*See* Warren, William H., assignor.)	
120,901	Lightbody, George, New York, N. Y. Thermometric steam-gauge	Oct. 24, 1871
111,654	Lightfoot, John, England. Dyeing and printing textile fabrics	Feb. 7, 1871
116,727	Lighthall, William A., New York, N. Y. Heating feed-water for steam-boilers	July 4, 1871
116,728	Same.....Compound surface-condenser	July 4, 1871
117,898	Lightner, Henry, Neff's Mills, Pa. Cider-mill	Aug. 8, 1871
116,338	Likes, Michael, Mansfield, Ohio. Gang-plow	June 27, 1871
116,843	Liles, Francis M. C., Roanoke, Ala. Horse-power	July 11, 1871
4,671	Lilley, Charles S., assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet-pattern.....(Design)	Feb. 21, 1871
4,672	Same.....same.....(Design)	Feb. 21, 1871
5,187	Same.....same.....(Design)	Aug. 8, 1871
	Lilley, John W., and Louis Siebert. (*See* Siebert & Lilley.)	
	Lilley, Miel E., and Abner W. Owen. (*See* Owen & Lilley.)	
117,899	Lillie, Lewis, Newark, N. J. Burglar-proof safe	Aug. 8, 1871
117,435	Lillie, S. Morris, Elizabeth, N. J. Protecting safes	July 25, 1871
117,900	Same.....Fire-extinguisher	Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Lilly, Henry F., and James Walker. (*See* Walker & Lilly.)	
4,940	Liming, John, assignor to self and Charles C. Savery, Philadelphia, Pa. Refrigerative bucket.....(Design)	May 23, 1871
5,031	Same.....Water-cooler and refrigerator.....(Design)	June 20, 1871
116,844	Same.....Butter-kettle	July 11, 1871
	Lindemann, Frederick, *et al.* (*See* Dewey, Dudley & Lindemann.)	
5,220	Lindemann, Otto, New York, N. Y. Bird-cage.....(Design)	Aug. 29, 1871
120,755	Same.....Bottom of bird-cages	Nov. 7, 1871
4,564	Linder, Christian, Wurtemberg. Coal-hod.....(Design)	Jan. 10, 1871
111,355	Lindhorst, Hermann Henry, Saint Louis, Mo. Carpet-cleaner	Jan. 31, 1871
117,180	Lindley, Noah H., Bridgeport, Conn. Earth-anger	July 18, 1871
	Lindsay, James C. (*See* Calhoun, Robert, assignor.)	
114,694	Lindsay, John P., New York, N. Y. Water-meter	May 9, 1871
112,380	Lindsey, Landy T., Jackson, Tenn. Telegraph-apparatus	Mar. 7, 1871
119,623	Lindsey, Landy T., and Horace H. Curtiss, Jackson, Tenn. Printing-telegraph	Oct. 3, 1871
111,757	Lindsley, Aaron E., Paw Paw, Mich. Post-hole digger	Feb. 14, 1871
119,276	Lindsley, Isaac, Pawtucket, R. I. Loom for weaving hair-cloth, and fabric produced thereon	Sept. 26, 1871
119,277	Same.....Loom for weaving hair-cloth	Sept. 26, 1871
119,278	Same.....same	Sept. 26, 1871
	Lindsley, Isaac, and Chase A. Stevens. (*See* Stevens & Lindsley.)	
120,302	Lindsley, Thales, New York, N. Y. Brick-kiln	Oct. 24, 1871
121,179	Same.....same	Nov. 21, 1871
113,676	Lingenfelter, Jacob, Bloody Run, Pa. Mill-stone exhaust	April 11, 1871
115,747	Same.....same	June 6, 1871
	Lingenfelter, Theodore S., and Jacob S. Biddle. (*See* Biddle & Lingenfelter.)	
119,870	Link, William H., Shanesville, Ohio. Churn	Oct. 10, 1871
119,375	Linn, Robert M., Lookout Mountain, Tenn. Photographic filtering-apparatus	Sept. 26, 1871
117,436	Linnell, William N., assignor to Asa B. Keith, Cambridge, Mass. Peg-wood	July 25, 1871
116,138	Linn, Charles E., Ashland, Pa. Rubber-boot	Aug. 15, 1871
113,537	Linscott, Charles F., Chicago, Ill. Window-screen	April 11, 1871
116,606	Same.....Clothes-drier	July 4, 1871
111,128	Linscott, Charles F., assignor to Edward S. and Joseph Torrey, New York, N. Y. Method of securing joints of frames, &c	Jan. 24, 1871
121,389	Linsley, Newton, assignor to self and William Clement, Lena, Ill. Machine for rolling leather	Nov. 28, 1871
	Lintner, Daniel H. (*See* Ilse, Anthony, assignor.)	
116,463	Linton, William, Baltimore, Md. Filter	June 27, 1871
112,783	Linnville, Joseph L., and William Shimanour, Findlay, Ohio. Mode of attaching seats to wagons	Mar. 14, 1871
	Lippincott, Charles D., *et al.* (*See* Wood, James A., assignor.)	
118,130	Lippold, Heinry, assignor to self, Leroy Andrus, and George Haman, Silver Creek, N. Y. Machine for shelling corn	Aug. 15, 1871
111,356	Lipsey, Andrew B., New York, N. Y. Hoisting-apparatus	Jan. 31, 1871
112,935	Same.....West Hoboken, N. J. Wood-screw	Mar. 21, 1871
113,313	Same.....Clothes-pin	April 4, 1871
5,277	Lis, Andreas, Covington, Ky. Cigar-box.....(Design)	Sept. 26, 1871
119,160	Liemann, Abraham, Germany. Machine for rolling metal	Sept. 19, 1871
111,655	Lister, Henry, Houston, Tex. Medical compound	Feb. 7, 1871
112,936	Litchfield, Lyman, assignor to self and Horace K. Osborne, Gouverneur, N. Y. Base-burning stove	Mar. 21, 1871
	Little, Alvin H., *et al.* (*See* Colby, Calvin M., assignor.)	
4,673	Little, Andrew, New York, N. Y. Type.....(Design)	Feb. 21, 1871
5,450	Same.....same.....(Design)	Dec. 26, 1871
	Little, B. F., *et al.* (*See* Cary, Albert, assignor.)	
113,179	Little, Edwin D. and Edgar C., Shabbonas Grove, Ill. Grinding-mill	Mar. 28, 1871
113,437	Little, Ezekiel C., and David H. Nation, Saint Louis, Mo. Cooking-stove	April 4, 1871
115,966	Little, George, Rutherford Park, N. J. Switch for galvanic batteries	June 13, 1871
115,967	Same.....Relay telegraph-instrument	June 13, 1871
115,968	Same.....Circuit-closing roller for telegraphic apparatus	June 13, 1871
115,969	Same.....Apparatus for perforating paper for telegraphic purposes	June 13, 1871
115,970	Same.....Arrangement of circuits for telegraphic purposes	June 13, 1871
4,532	Same.....Telegraph-apparatus.....(Reissue)	Aug. 29, 1871
120,286	Same.....Automatic telegraphic transmitter	Oct. 24, 1871
120,289	Same.....Telegraph-recording instrument	Oct. 24, 1871
120,290	Same.....Telegraph-apparatus	Oct. 24, 1871
120,291	Same.....Automatic circuit-closer for telegraph apparatus	Oct. 24, 1871
122,966	Same.....Electro-magnetic apparatus	Dec. 26, 1871
122,967	Same.....Rheostat, or resistance-coil	Dec. 26, 1871
114,573	Little, Halsted W., assignor to self, John L. and William L. Little, Muncie, Ind. Sewing-machine	May 9, 1871
118,375	Little, Matthew, assignor to Amanda M. Starker, East Saginaw, Mich. Sad-iron heater	Aug. 22, 1871
114,953	Little, Robert, Freeport, Ill. Boring-machine. (Antedated May 12, 1871)	May 16, 1871
122,036	Little, Robert B., assignor to Henry Blundell, agent, Providence, R. I. Lifting-jack for dumping-carts	Dec. 19, 1871
117,181	Little, Thomas C., Dixon, Ill. Wind-mill	July 18, 1871
	Little, Thomas C., and Giles Mabie. (*See* Mabie & Little.)	
	Little, William D. (*See* Cumberworth, Anthony, assignor.)	
117,182	Little, William H. and George H., Peabody, Mass. Car-truck	July 18, 1871
111,951	Littlefield, Dennis G., Albany, N. Y. Base-burning stove	Feb. 21, 1871
4,585	Same.....Base-burner.....(Division A, reissue)	Oct. 10, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,586	Littlefield, Dennis G., Albany, N. Y. Grate.....(Division B, reissue)..	Oct. 10, 1871
	Same.....Base-burning stove .....(Disclaimer filed)..	Sept. 11, 1871
121,950	Littlepage, Caleb V., Austin, Tex. Saw	Dec. 19, 1871
121,951	Same .....Method of forming saw-teeth	Dec. 19, 1871
	Littmann, Franz, and Albert Vasse. (*See* Vasse & Littmann.)	
120,292	Livingston, Fred. D., Norwich, Conn. Stop-valve	Oct. 24, 1871
	Livingston, John F., ar l Thomas F. Halley. (*See* Halley & Livingston.)	
117,901	Livingston, Matthew E., Manchester, Ill. Gate	Aug. 8, 1871
120,903	Livingston, Robert, Albany, N. Y. Hydraulic punching-machine	Oct. 24, 1871
	Lloyd, George A., and John H. Mooney. (*See* Mooney & Lloyd.)	
122,037	Lloyd, William, assignor to Gibbons L. Kelty, New York, N. Y. Cornice for window-curtains. (Antedated Dec. 16, 1871)	Dec. 19, 1871
114,160	Lloyd, William D. C., Louisville, Ky. Cooking-stove	April 25, 1871
116,607	Lloyd, William M., New York, N. Y. Hoisting-machine	July 4, 1871
114,453	Lobdell, George G., Wilmington, Del. Mechanism for adjusting and securing car-wheels to axles	May 2, 1871
121,180	Lobdell, George G., and Jarrett Megraw, Wilmington, Del. Method of finishing chilled rolls	Nov. 21, 1871
	Lobdell, Jacob B., and Parley Upton. (*See* Upton & Lobdell.)	
	Locher, Theophilus, and Albert H. Hall. (*See* Hall & Locher.)	
110,925	Lochhead, William, Brooklyn, N. Y. Billiard-table	Jan. 10, 1871
5,940	Lochhead, William, assignor to Firth, Williams & Co., England. Carpet. (Design).	Aug. 29, 1871
5,941	Same .....same .(Design).	Aug. 29, 1871
5,942	Same.....same .(Design).	Aug. 29, 1871
120,293	Lochner, Martin, Newark, N. J. Automatic fan	Oct. 24, 1871
111,952	Locke, Edward C., Providence, R. I. Method of attaching handles to scrapers..	Feb. 21, 1871
4,683	Locke, Henry H., assignor to Douglas Bly, Pleasantville, Pa. Pump-rod attachment.....(Reissue)..	Dec. 26, 1871
118,543	Locke, John, Lewisburgh, Pa. Beef-steak mangle.....	Aug. 29, 1871
112,957	Locke, John C., Rochester, N. Y. Traveling-trunk.....	Mar. 21, 1871
115,748	Locke, John J., Whitestone, N. Y. Sheet-metal	June 6, 1871
113,069	Locke, Nathaniel C., Salem, Mass. Steam and water pressure regulator.....	Mar. 28, 1871
111,069	Locke, Sylvanus D., Janesville, Wis. Grain-binder.....	Jan. 17, 1871
121,290	Same.....same.....	Nov. 28, 1871
113,899	Locke, William H., Canton, Pa. Horse hay-rake.....	April 18, 1871
	Locke, William H., and Henry Kelley. (*See* Kelley & Locke.)	
4,515	Lockhart, Charles, and John Gracie, Pittsburgh, Pa. Still for hydrocarbons. (Reissue)	Aug. 15, 1871
	Lockhart, Frew & Co. (*See* Gracie, John, assignor.)	
	Lockhead, James, and Thomas Roddick. (*See* Roddick & Lockhead.)	
117,651	Lockwood, Hamilton D., Charlestown, Mass. Atomizer	Aug. 1, 1871
120,756	Lockwood, Hayden J., Wayne, Pa. Clothes-drier.....	Nov. 7, 1871
120,945	Lockwood, Henry C., Baltimore, Md. Railway-car wheel	Nov. 14, 1871
122,036	Same.....Adjustable and detachable strap for garments.....	Dec. 19, 1871
116,078	Lockwood, James F., Taylorville, Ill. Roof-gutter	June 20, 1871
115,071	Lockwood, J. George, West Davenport, N. Y. Horse hay-rake.....	May 23, 1871
122,030	Same.....same.....	Dec. 19, 1871
114,161	Lockwood, Philo, Auburn, Ind. Envelope	April 25, 1871
	Lockwood, Radcliffe B., *et al.* (*See* Williams, George L., assignor.)	
	Same .....(*See* Woodhouse, John V., assignor) .....(Two cases.)	
115,971	Lockwood, Zephaniah, Saratoga Springs, N. Y. Sash-holder	June 13, 1871
118,140	Loeb, Peter, Dayton, Ohio. Ladle for pouring wax	Aug. 15, 1871
	Loeffelholz & Prier. (*See* Prier, Anton, assignor.)	
113,070	Loeffelholz, Adam, and Anton Prier, Milwaukee, Wis. Sash-holder for railroad-cars	Mar. 28, 1871
4,444	Loewenberg, Henry, New York, N. Y. Imitation braid, trimming, leather, &c. (Reissue)	June 27, 1871
119,376	Loewenstein, Joseph M., New Orleans, La. Earth-closet.....	Sept. 26, 1871
122,193	Same.....same	Dec. 26, 1871
	Same .....(*See* Bull, Henry C., assignor.)	
113,782	Loftus, Robert G., Chelsea, Mass. Purification of oils and fats by acids.....	April 18, 1871
117,183	Lofvendahl, Joseph, Woonsocket, R. I. Loom-shuttle.....	July 18, 1871
	Logan, John P., and John L. Stewart. (*See* Stewart & Logan.)	
	Logan, Thomas, and John W. Cherry. (*See* Devenport, Frank P., assignor.)	
	Logan, Thomas, *et al.* (*See* Cherry, John Wesley, assignor.)	
	Logue, W. (*See* Doubler, John W. H., assignor) .....(Three cases.)	
114,453	Lohsand, Ernest, La Porte, Ind. Stove-damper	May 2, 1871
121,791	Lohse, William, New York, N. Y. Transparent cornucopia.....	Dec. 12, 1871
115,352	Lomas, John R., assignor to B. Shoninger, New Haven, Conn. Music-stool and book-rack combined	May 30, 1871
117,550	Same .....Tremolo for organs and melodeons	Aug. 1, 1871
117,789	Same.....Tremolo for reed-organs, &c	Aug. 8, 1871
5,317	Same.....Organ-case .....(Design)..	Oct. 17, 1871
121,390	Same .....Motor for tremolos of musical instruments.....	Nov. 28, 1871
119,777	Lomax, Alfred, La Porte, Ind. Double-tree	Oct. 10, 1871
112,156	Lombard, George W., Westminster, Mass. Sawing-machine.....	Feb. 28, 1871
113,314	Long, Charles R., Worcester, Mass. Machine for tapping gas and water fittings.	April 4, 1871
115,229	Long, Christopher, Newark, Ohio. Animal-trap	May 23, 1871
112,833	Long, Eli W., and Isaac N. Patten, Memphis, Tenn. Cotton-press	Mar. 21, 1871
119,968	Long, George R., and Samuel King; said King assignor to said Long, Lanark, Ill. Hoisting-machine	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,524	Long, Hezekiah E., assignor of one-half interest to Burroughs & Co., Decatur, Ill. Machinists' vise	Oct. 31, 1871
	Long, James, and Ezra R. Brown. (*See* Brown & Long).....(Two cases.)	
117,000	Long, John, and Eugene Convers, Oswego, N. Y. School-desk. (Antedated July 3, 1871)	July 18, 1871
116,302	Long, Nathan, Muncie, Ind. Gate	June 20, 1871
120,294	Long, Richard, Pittsburgh, Pa. Water-cooler, filter, and ice-chest combined. (Antedated Oct. 11, 1871)	Oct. 24, 1871
118,739	Long, William A. N., assignor to self and George H. Coates, Worcester, Mass. Milling-machine.....	Sept. 5, 1871
116,845	Look, James H., jr., Rochester, Mass. Roofing-bracket	July 11, 1871
112,157	Loomis, David, Joy Winters, and Albert Stark, Clyde, Ohio. Pump	Feb. 28, 1871
118,465	Loomis, George W., Tarrington, Conn. Brake for vehicles.....	Aug. 29, 1871
118,466	Loomis, John S., Brooklyn, N. Y. Machine for smoothing moldings.....	Aug. 29, 1871
114,574	Loomis, Kellogg H., New York, N. Y. Device for operating cut-off valves. (Antedated April 14, 1871).....	May 9, 1871
114,102	Loomis, Kellogg H., assignor to James M. Boyd, New York, N. Y. Balance-valve. (Antedated April 19, 1871).....	April 25, 1871
	Loop, Robert, and John N. Stow. (*See* Stow & Loop.)	
112,250	Looe, Henry, Lawrence, Kans. Soap-compound.....	Feb. 28, 1871
118,141	Lord, Allen P., assignor to self and James E. Wisner, Friendship, N. Y. Wrench.	Aug. 15, 1871
119,694	Lord, Allen P., assignor to self and Johnson Higgins, Friendship, N. Y. Railway-rail chair. (Antedated Sept. 30, 1871).....	Oct. 3, 1871
118,089	Lord, Edward, England. Mechanism for adjusting the rollers of carding-machines	Aug. 15, 1871
	Lord, John. (*See* Sladdin, Joseph, assignor.)	
	Lord, John, and John E. Carroll. (*See* Carroll & Lord.)	
118,467	Lord, Joseph A., Sanford, Me. Thread-cutter for sewing-machines.....	Aug. 29, 1871
112,158	Lord, Joseph E., Quincy, Ill. Spring bed-bottom.....	Feb. 28, 1871
121,113	Lord, Samuel L., New York, N. Y. Hoisting-machine	Nov. 21, 1871
110,984	Lorde, Ivory, Moline, Ill. Burial-case	Jan. 17, 1871
115,072	Lorens, Jacob, Hamilton, Ohio. Apparatus for preserving and cooling beer.....	May 23, 1871
116,846	Loryea, Abram M., Portland, Oreg. Medical compound or bitters	July 11, 1871
4,604	Loth, Henry, Philadelphia, Pa. Sewing-machine stand .....(Design)..	Jan. 24, 1871
4,431	Lothrop, Henry O., assignor of one-half interest to Albert H. Gilman, Milford, Mass. Machine for making wire ferrules .....(Reissue)..	June 20, 1871
	Lothrop, Horace A. (*See* Watson, Jeremiah M., assignor.)	
121,799	Lothrop, Llewellyn D., Dover, N. H. Shipper-saddle.....	Dec. 12, 1871
111,953	Lough, John, Buckingham, Canada. Saw-tooth swage.....	Feb. 21, 1871
	Loughead, William T., and Henry Smiley. (*See* Smiley & Loughead.)	
117,902	Loughridge, James H., Key West, Fla. Carriage-wheel	Aug. 8, 1871.
4,486	Louis, Lafayette, deceased, by El Dora Louis, administratrix, New York, N. Y. Melodeon .....(Reissue)..	July 25, 1871
111,656	Love, George C., English Centre, Pa. Potato-digger.....	Feb. 7, 1871
	Love, John K., *et al.* (*See* Rice, Henry J., assignor.)	
121,391	Love, Louise R., New York, N. Y. Infants' head-dress.....	Nov. 28, 1871
111,553	Love, Robert C., Augusta, Me. Carpenters' work-bench.....	Feb. 7, 1871
121,637	Lovegrove, Thomas J., Philadelphia, Pa. Water-elevator	Dec. 5, 1871
118,030	Lovegrove, Thomas J., assignor to self and George H. Myers, Philadelphia, Pa. Steam-boiler.....	Aug. 15, 1871
121,793	Lovegrove, Thomas J., assignor of one-half interest to Henry S. Lansing, Philadelphia, Pa. Rotary pump, or water-elevator.....	Dec. 12, 1871
	Lovejoy, Daniel, and George F. Butterfield, deceased, by Elizabeth S. Butterfield, administratrix, Lowell, Mass. Grinding and polishing machine.....(Extension)..	Oct. 24, 1871
	Same.....Grinding and polishing machine.....(Disclaimer filed)..	Oct. 23, 1871
112,057	Lovejoy, William H., assignor to self and Christopher Robinson, Lowell, Mass. Mode of lasting shoes	Feb. 21, 1871
115,873	Loveless, Charles B., Syracuse, N. Y. Apparatus for carbureting hydrogen-gas.....	June 13, 1871
	Lovell, Edward Bovine, *et al.* (*See* Ellis, George Henry, assignor.)	
114,575	Lovell, Joseph J., assignor of three-fourths interest to George W. Millar, New York, N. Y. Hose-coupling	May 9, 1871
	Loveridge, Sears M. (*See* Godfrey, Joseph S., assignor).....(Four cases.)	
	Same.....(*See* Hainsworth, William, assignor).....(Reissue.)	
113,677	Lovett, Charles W., jr., Boston, Mass. Shot-cartridge	April 11, 1871
	Lovett, James. (*See* Buck, Chauncey S., assignor.)	
	Lovett, James, and Chauncey S. Buck. (*See* Buck & Lovett.)	
	Lovewell, Sewall K., *et al.* (*See* Foster, Calvin A., assignor.)	
121,528	Low, John B., Homerville, Ohio. Bridle-blinder for horses.....	Dec. 5, 1871
111,657	Low, Peter, Cleveland, Ohio. Cooking-stove.....	Feb. 7, 1871
120,500	Lowden, George, Brooklyn, N. Y. Portable gas-apparatus.....	Nov. 7, 1871
122,040	Lowe, Alexander, Nashville, Tenn. Uterine supporter	Dec. 19, 1871
	Lowe, David H., and Levi H. Colborne. (*See* Colborne & Lowe.)	
120,821	Lowe, Garrett C., New York, N. Y Bottle-stopper.....	Nov. 14, 1871
117,789	Lowe, Gilbert B., Janesville, N. Y. Elevator.....	Aug. 8, 1871
116,799	Lowe, James, Guilford County, N. C. Drying and preserving fruit.....	July 4, 1871
	Lowe, Oliver D., and Sherman Corsett. (*See* Corsett & Lowe.)	
	Lowell Manufacturing Company. (*See* Campbell, Robert R., assignor.) (Fifty-one cases.) (Design.)	
	Same.....(*See* Lilley, Charles S., assignor) ....(Three cases.) (Design.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Lowell Manufacturing Company. (*See* McNair, David, assignor).....(Design.)	
	Lowell Oil-Cup Company. (*See* Gates, Stephen F., assignor.)	
	Same .....(*See* Hoyt & Crane, assignors.)	
117,091	Lowen, Seth, Temperanceville, Pa. Machine for flanging boiler-heads	July 18, 1871
111,357	Lowenstein, Joseph M., New Orleans, La. Fertilizing compound	Jan. 31, 1871
	Same.....(*See* Bull, Henry C., assignor.)	
116,730	Lowerse, William W., and George A. Sanderson, Auburn, N. Y. Piston-facing machine	July 4, 1871
115,621	Lowey, Robert G., assignor to George H. Sanborn, Brooklyn, N. Y. Book-binding machine	June 6, 1871
117,092	Lowth, Michael F., and Orlean H. Porter, Wabashaw, Minn. Attaching cultivator-teeth to beams	July 18, 1871
	Lowthrop, Francis C., Trenton, N. J. Iron-truss frame for bridges. (Extension)	June 24, 1871
112,734	Loyd, Samuel, New York, N. Y. Permutation-lock	Mar. 14, 1871
112,823	Same.....Toy-puzzle	Mar. 21, 1871
113,316	Same.....Combination-lock	April 4, 1871
4,793	Same.....Puzzle-block .....(Design)	April 11, 1871
120,822	Same.....Permutation padlock	Nov. 14, 1871
	Lucas, George E. (*See* Hawkes, David B., assignor.)	
115,628	Lucas, Robert B. and William W., Cleveland, Ohio. Process of separating oil and naphtha from paraffine, wax, &c	June 6, 1871
111,656	Lucas, William W., Cleveland, Ohio. Apparatus for extracting oil from bone-dust	Feb. 7, 1871
118,031	Lucius, Albert, New York, N. Y. Hydraulic hoisting-apparatus	Aug. 15, 1871
119,161	Luckenbach, Henry and George, assignors to William F. Warburton, Philadelphia, Pa. Fire-escape ladder	Sept. 19, 1871
119,935	Ludden, William A., Flushing, N. Y. Pencil-case	Oct. 17, 1871
113,180	Ludington, Zalmon, Fayette County, Pa. Peat-machine	Mar. 28, 1871
119,378	Ludlow, Henry G., Troy, N. Y. Sliding-stop valve	Sept. 26, 1871
110,926	Ludlow, Henry G., assignor to Ludlow Valve Manufacturing Company, Troy, N. Y. Sliding-stop valve	Jan. 10, 1871
4,250	Ludlow, Henry G., 2d, assignor to Ludlow Valve Manufacturing Company, Troy, N. Y. Sliding-stop valve.....(Reissue)	Jan. 31, 1871
121,181	Ludlow, Washington I., Cleveland, Ohio. Gate	Nov. 21, 1871
122,041	Same.....Postal card	Dec. 19, 1871
	Ludwig, Roth, and William Pryor. (*See* Pryor & Ludwig.)	
116,464	Lufkin, Amos D., Cleveland, Ohio. Sewing-machine treadle	June 27, 1871
119,594	Lufkin, Charles M., Unity, N. H. Wagon-brake. (Antedated Sept. 25, 1871)	Oct. 3, 1871
113,678	Lugenbell, Peter, and William A. Ford, Greensburgh, Ind. Slate-frame	April 11, 1871
	Lugg, John S., and Cyrus H. Latham. (*See* Latham & Lugg.) (Two cases.) (Reissue.)	
	Same.....(*See* Latham & Lugg.)	
112,725	Lugo, Orazio, Baltimore, Md. Manufacture and treatment of alcoholic spirits	Mar. 14, 1871
112,726	Lugo, Orazio, and James B. McPherson, Baltimore, Md. Cooling air, and in the manufacture of ice	Mar. 14, 1871
	Lugo, Orazio, and David K. Tuttle. (*See* Tuttle & Lugo.)	
110,985	Lugrin, Horatio N. H., Chelsea, Mass. Door-check	Jan. 17, 1871
115,073	Lull, Harvey, Hoboken, N. J. Auxiliary spring for treadles	May 23, 1871
118,253	Same.....Shade-rack	Aug. 22, 1871
119,778	Lull, Philo, Norwich, N. Y. Tanners' rinsing-wheel	Oct. 10, 1871
119,025	Lum, Henry B., Sandusky, Ohio. Blind-slat operator	Oct. 3, 1871
112,727	Lum, William F., Waterloo, Wis. Combined bag holder and filler	Mar. 14, 1871
121,529	Same.....Bag holder and filler	Dec. 5, 1871
117,306	Lumpkin, George B., Lexington, Ga. Device for detaching horses from vehicles	July 25, 1871
112,728	Lundy, John James, North Britain. Compound for lubricating wool	Mar. 14, 1871
113,679	Same.....Lubricating wool during the process of manufacture. (Antedated April 4, 1871)	April 11, 1871
	Lundy, John J., *et al.* (*See* Richardson, Lundy & Irvine).....(Reissue.)	
114,605	Lungley, Charles, England. Apparatus for cleaning tubes, flues, &c	May 9, 1871
116,608	Lungren, William H., Baltimore, Md. Hot-water heater	July 4, 1871
	Lusc, Daniel F., *et al.* (*See* Keller, John H., assignor).....(Reissue.)	
	Luse, Daniel F., and John H. Keller. (*See* Keller & Luse.)	
	Lusk, Robert L., *et al.* (*See* Peregoy, Dabney N. M., assignor.)	
111,220	Luther, James H., Petroleum Centre, Pa. Tool for cutting off pipes in oil-wells	Jan. 24, 1871
111,221	Same.....Tool for cutting off auger-stems in oil-wells	Jan. 24, 1871
	Luther, Jonathan, *et al.* (*See* Skinner, Henry A., assignor.)	
116,333	Luther, Joseph O., and Peter Staab, Grafton, Wis. Clothes-drying machine	June 27, 1871
113,317	Lutkewitte, Francis H., Saint Louis, Mo. Apparatus for carbureting air and gas	April 4, 1871
118,733	Luttenchlager, Joseph, New York, N. Y. Inner-sole for boots and shoes	Sept. 5, 1871
120,079	Luttgens, Henry Augustus, Paterson, N. J. Body-loop for carriages. (Antedated Oct. 5, 1871)	Oct. 17, 1871
119,162	Lutz, Herman, New York, N. Y. Children's carriage	Sept. 19, 1871
120,757	Same.....Folding-carriage for children	Nov. 7, 1871
112,200	Lutz, William H., assignor to self and William Boss, Lancaster, Pa. Stove-pipe damper	Feb. 28, 187
116,609	Lyall, James, New York, N. Y. Shuttle for looms	July 4, 1871
111,242	Lyford, Benjamin F., San Francisco, Cal. Embalming	Jan. 24, 1871
111,358	Same.....Disinfecting and ventilating burial-vaults	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Lyford, Francis (*See* Day, Alfred, assignor.)	
	Lyle, Henry R. (*See* Stine, William, assignor.)	
	Lyman, Azel S., New York, N. Y. Accelerating fire-arm.....(Extension)	Feb. 2, 1871
121,530	Same.....Refrigerating-car. (Antedated Nov. 24, 1871.)	Dec. 5, 1871
4,683	Same.....Method of cooling and ventilating rooms.....(Reissue)	
	Lyman, Azel S., assignor to the Accelerating Fire-Arms Company, New York, N. Y. Accelerating fire-arms.....(Disclaimer filed)	Dec. 26, 1871
117,184	Lyman, Benjamin Smith, Philadelphia, Pa. Solar compass	Dec. 15, 1871
111,954	Lyman, Josiah, Lenox, Mass. Beam-compass	July 18, 1871
110,986	Lyman, Myron W., Chicago, Ill. Cutlery	Feb. 21, 1871
110,987	Lyman, Myron W., and Franklin C. Wyman, Chicago, Ill. Shoemakers' tool. (Antedated Jan. 14, 1871)	Jan. 17, 1871
111,070	Lyman, William L., East Hampton, Mass. Hub for vehicles	Jan. 17, 1871
121,531	Lyman, William W., West Meriden, Conn. Sash-holder	Jan. 17, 1871
113,680	Lyman, John T., Jeffersonville, Ind. Bit-brace	Dec. 5, 1871
121,055	Lynch, Charles, assignor to self, Daniel A. Matthews, and Henry McGraw, Detroit, Mich. Lubricator for steam-engines	April 11, 1871
	Lynch, John, and David Smith. (*See* Smith & Lynch.)	
4,653	Lynch, John Augustus, Boston, Mass. Engine-governor case.....(Design)	Nov. 21, 1871
112,150	Same.....Governor for steam-engines	Feb. 14, 1871
4,794	Same.....Steam-engine governor-case.....(Design)	Feb. 28, 1871
112,058	Lynde, John D., Philadelphia, Pa. Engine-governor	April 11, 1871
117,903	Same.....Governor for steam-engines	Feb. 21, 1871
110,862	Lynn, M. N., New Albany, Ind. Steam-generator	Aug. 8, 1871
122,042	Same.....Steam-generator and feed-water heater	Jan. 10, 1871
116,610	Lynn, M. N., assignor to self and E. H. Mann, New Albany, Ind. Steam-plow	Dec. 19, 1871
116,611	Same.....Water-gauge, with feeder-attachments	July 4, 1871
117,307	Same.....Steam-carriage for plows	July 4, 1871
113,181	Lyon, James W., Brooklyn, N. Y. Shade-holder for lamps. (Antedated March 18, 1871)	July 25, 1871
4,620	Lyon, John H., New York, N. Y. Lock and detector.....(Reissue)	Mar. 28, 1871
110,988	Lyon, John M. P., Bellefonte, Ala. Cotton scraper and harrow. (Antedated Jan. 9, 1871)	Oct. 31, 1871
122,268	Lyon, Joseph W., Chicago, Ill. Mechanism for operating attachments in sewing-machines	Jan. 17, 1871
	Lyon, Robert W., *et al.* (*See* Reese, Abram, assignor.)	Dec. 26, 1871
114,696	Lyon, Thomas W., Bennett, Pa. Reverberatory furnace and heating rims of car-wheels	May 9, 1871
113,318	Lyon, William, Camp Halleck, Nev. Swivel-pin for tethering animals	April 4, 1871
115,074	Lyon, William M., Salem, Ohio. Railway stock-car	May 23, 1871
	Lyons, James M., and John J. Lahaye. (*See* Lahaye & Lyons.)	
4,953	Lyons, Thomas, assignor to Russell & Erwin Manufacturing Company, Hartford, Conn. Oven-shovel.....(Design)	May 30, 1871
115,333	Lyons, Thomas M., New York, N. Y. Sheave and rail for sliding-doors	May 30, 1871
121,723	Maas, Jacob, Westfield, Mass. Mattress	Dec. 12, 1871
114,309	Mabie, Giles, and Thomas C. Little; said Mabie assignor to said Little; Dixon, Ill. Windmill	May 2, 1871
121,392	Mabie, Giles, Dixon, Ill. Wind-wheel	Dec. 5, 1871
121,539	Macauley, James A., assignor to self and John Macauley, sr., Wheeling, W. Va. Motor for sewing-machines	Dec. 5, 1871
111,139	Macaulay, T. A., New York, N. Y. Sewing-machine	Jan. 24, 1871
111,576	MacCartney, William N., assignor to John Cinnamon, Scotland. Reducing rubber. (Antedated April 27, 1871)	May 9, 1871
122,260	Macdonald, John C., Saint Louis, Mo. Valve-gear for steam-engines	Dec. 26, 1871
114,029	MacDonald, John C., and J. Calverly, England. Printing-press	April 25, 1871
116,203	Macfarlane, James, Mansfield, Conn. Silk-winding apparatus	June 20, 1871
115,749	Machen, James P., Centreville, Va. Broad-cast fertilizer-distributer	June 6, 1871
115,750	Same.....same	June 6, 1871
117,551	Machen, William H. and Henry P. L., jr., Toledo, Ohio. Brick-machine	Aug. 1, 1871
114,454	Mack, Charles H., Portland, Oreg. Securing dental fillings	May 2, 1871
117,904	Same.....Dental instrument	Aug. 8, 1871
112,160	Mack, Orville F., Charlestown, Mass. Urn for stoves	Feb. 28, 1871
111,071	Mack, William A., Norwalk, Ohio. Embroidering-attachment for sewing-machines	Jan. 17, 1871
111,130	Same.....Gathering-attachment for sewing-machines	Jan. 24, 1871
111,359	Same.....Sewing-machine	Jan. 31, 1871
118,734	Mack, William B., England. Injector for steam-boilers	Sept. 5, 1871
113,783	Mackay, Donald D., Whitestone, N. Y., and Cyrus Butler, New York, N. Y. Plumbago-oil can	April 18, 1871
120,653	Same.....Oil-can	Nov. 7, 1871
112,261	Mackay, John C., Ionia, Mich. Lath-machine	Feb. 28, 1871
111,659	Mackay, John R., assignor of one-third interest to George Gibbons, Meriden, Conn. Faucet	Feb. 7, 1871
	Mackellar, Smiths & Jordan. (*See* Smith, Richard, assignor.) (Five cases.) (Design.)	
	Same.....(*See* Kay, Alexander, assignor).....(Design.)	
	Macken, James, and James Thornton. (*See* Thornton & Latta, assignors.)	
114,163	Mackenzie, Philip W., Blauveltville, N. Y. Blast by steam-jet for furnaces, &c	April 25, 1871
115,334	Same.....Exhaust-apparatus for gas-works	May 30, 1871
	Same.....Cupola and other furnace.....(Extension)	Aug. 17, 1871
121,533	Same.....Pneumatic water-elevator. (Antedated Nov. 18, 1871)	Dec. 5, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,538	Mackinnon, Hector, Cleveland, Ohio. Bureau traveling-trunk	April 11, 1871
	Mackintosh, Charles H. (*See* Griffith, Collins W., assignor.)	
	Same.....(*See* Milner, Edward, assignor.)	
115,335	Macomb, John, Chicago, Ill. Elevator	May 30, 1871
118,468	Same.....same	Aug. 29, 1871
	Macomber, Dennis. (*See* Chappell, John W., assignor.)	
114,310	Macon, Hezekiah, assignor to Joshua Hunt, Providence, R. I. Belt-shipping device for self acting mules	May 2, 1871
111,360	Macqueen, Charles D., Philadelphia, Pa. Lamp	Jan. 31, 1871
	Same.....(*See* Oat, Alfred A., assignor.)	
121,056	Maddana, Oscar. Kite	Nov. 21, 1871
111,609	Madden, De Marcus, assignor of one-half interest to Ralph T. Wood and Farley Holmes, Penn Yan, N. Y. Base-burning stove	Mar. 14, 1871
	Madden, Edward M., and Shattiece D. Roberts, administrators. (*See* Roberts, Thomas D.)	
121,501	Madden, James W., Buffalo, N. Y. Fluting-machine	Nov. 7, 1871
	Madder Color Company. (*See* Paraf, Alfred, assignor).....(Two cases.)	
120,986	Maddy, John, Clearfield, Pa. Grafting-tool	Nov. 14, 1871
114,164	Madeley, Thomas, Rochester, N. Y. Mold for sewer-pipe	April 25, 1871
114,577	Same.....Artificial stone	May 9, 1871
116,978	Madge, Oscar D., Washington, D. C. Padlock	July 11, 1871
113,319	Magee, Bernard J., and James F. Wall, Watertown, Mass. Paper-box	April 14, 1871
5,032	Magee, John, assignor to Bigelow Carpet Company, New York, N. Y. Carpet. (Design)	June 20, 1871
5,033	Same.....Carpet.....(Design)	June 20, 1871
5,034	Same.....same.....(Design)	June 20, 1871
5,035	Same.....same.....(Design)	June 20, 1871
5,047	Same.....same.....(Design)	June 27, 1871
5,109	Same.....Carpet-pattern.....(Design)	July 11, 1871
5,110	Same.....Mat.....(Design)	July 11, 1871
5,111	Same.....same.....(Design)	July 11, 1871
5,300	Same.....Carpet-pattern.....(Design)	Oct. 3, 1871
119,091	Magee, William, Jamaica, N. Y. Alloy for the manufacture of plow mold-boards	Sept. 19, 1871
4,664	Same.....Copper alloy for plow mold-boards, and for other purposes. (Reissue)	Dec. 26, 1871
	Magill, Wesley W., and David K. Innes. (*See* Innes & Magill.)	
117,308	Magoon, Israel P., Saint Johnsbury, Vt. Locomotive	July 25, 1871
112,936	Magrath, Michael, New York, N. Y. Chain for hanging sash	Mar. 21, 1871
111,361	Magruder, Elias, Cap Au Gris, Mo. Hoisting-fork	Jan. 31, 1871
115,874	Mahan, Ariel H., Hamden, N. Y. Feeding-device for cattle-stalls	June 13, 1871
117,437	Mahan, Frank M., assignor of one-half interest to Primus Emerson, Memphis, Tenn. Propulsion of canal-boats	July 25, 1871
	Maher, William T. (*See* Smith, William T., assignor.)	
116,847	Mahlon, James W., Brooklyn, N. Y. Ratchet-drill	July 11, 1871
118,610	Same.....New York, N. Y. Wrench	Aug. 29, 1871
	Mahoney, John B., *et al.* (*See* Vaughan, Daniel, assignor.)	
	Mahurin, Henry C. (*See* Russell, Titus H., assignor).....(Two cases.)	
	Maidhof, W. J. (*See* Boch, Nicholas, assignor.)	
115,875	Maier, Philip, Mapleton, Wis. Cultivator	June 13, 1871
111,402	Main, Thomas, Green Point, N. Y. Propulsion of canal-boats	Jan. 31, 1871
114,455	Maish, Lewis, Minneapolis, Minn. Spindle-step box	May 2, 1871
120,295	Maitland, John, Newburgh, Ohio. Railway-rail	Oct. 24, 1871
121,794	Same.....Device for locking nuts	Dec. 12, 1871
114,311	Maitland, Jones R., Little Rock, Ark. Machine for cutting and bending sheet-metal	May 2, 1871
	Maitland, Thomas, *et al.* (*See* Berndt & Barsch, assignors.)	
115,491	Makechney, John, Trenton, N. J. Roller for wringers	May 30, 1871
115,751	Makely, Wesley, Alexandria, Va. Still for spirits, &c. (Antedated June 2, 1871)	June 6, 1871
118,620	Malhoit, Charles, Sutton, Mass. Shoulder-tool for shoemakers	Aug. 29, 1871
119,711	Malick, Wesley, Erie, Pa. Staple-machine	Oct. 10, 1871
4,760	Malkin, Loir G., assignor to Hartford Carpet Company, New York, N. Y. Carpet-pattern.....(Design)	April 4, 1871
4,761	Same.....same.....(Design)	April 4, 1871
4,762	Same.....same.....(Design)	April 4, 1871
4,763	Same.....same.....(Design)	April 4, 1871
4,764	Same.....same.....(Design)	April 4, 1871
4,765	Same.....same.....(Design)	April 4, 1871
4,766	Same.....same.....(Design)	April 4, 1871
4,767	Same.....same.....(Design)	April 4, 1871
4,889	Same.....same.....(Design)	May 9, 1871
5,076	Same.....same.....(Design)	July 4, 1871
113,182	Mallett, Francis W., New Haven, Conn. Machine for securing needles	Mar. 28, 1871
119,525	Mallett, Francis W., assignor to the Mallett Manufacturing Company, New Haven, Conn. Machine for polishing needles	Oct. 13, 1871
114,319	Mallin, John, Chicago, Ill. Coal and wood box	May 2, 1871
5,334	Mallinson, William, assignor to Joseph Wild & Co., England. Carpet-pattern.....(Design)	Oct. 31, 1871
5,335	Same.....Carpet-pattern.....(Design)	Oct. 31, 1871
5,336	Same.....same.....(Design)	Oct. 31, 1871
4,737	Mallinson, William, assignor to W. & I. Sloane, England. Carpet-pattern..(Design)	Mar. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,794	Mallon, James, and Henry Von Phul, jr., Holly Wood, La. Cultivator	Dec. 12, 1871
	Mallory, Amos, *et al.* (*See* Tucker, Frederick O., assignor.)	
	Mallory, Burton. (*See* Andrews, William H., assignor.)	
112,059	Mallory, David D., Mystic Bridge, Conn. Quartz-mill	Feb. 21, 1871
112,939	Mallory, George W., Mystic Bridge, Conn. Boat-lowering apparatus	Mar. 21, 1871
112,473	Mallory, James H., La Porte, Ind. Railroad cattle-guard gate	Mar. 7, 1871
120,296	Same.....Ironing-table. (Antedated Oct. 13, 1871)	Oct. 24, 1871
117,438	Malmstrom, Peter E., and Paul Dummer, New York, N. Y. Stop-cock	July 25, 1871
110,989	Malone, Patrick, assignor to self and Charles C. Landry, New Orleans, La. Earth-closet	Jan. 17, 1871
118,776	Malone, Thomas W., Mason City, W. Va. Apparatus for forcing fluids	Sept. 5, 1871
119,626	Maloney, James A., Georgetown, D. C. Metallic sieve for grain-separators	Oct. 3, 1871
120,987	Maloney, James A., assignor of two-thirds interest to J. Q. Larman and Riley A. Shinn, Georgetown, D. C. Grain cleaning, scouring, and decorticating machine	Nov. 14, 1871
112,610	Maloney, Thomas, Des Moines, Iowa. Manufacture of bottled mineral-water	Mar. 14, 1871
121,291	Manard, Alpheus B., Rockford, Ill. Copy-holder	Nov. 28, 1871
	Manch, Lewis H. (*See* Wunderlich, Gennaro, assignor.)	
119,627	Mandigo, Jeremiah, Wayland, Mich. Hay-rack	Oct. 3, 1871
	Manhattan Brush Manufacturing Company. (*See* Rogers & Wilkins, assignors).....(Reissue.)	
	Same.....(*See* Harvey, Hayward A., assignor.)	
	Manhattan Packing Manufacturing Company. (*See* Murfey, Eliza D., assignor.)	
113,539	Manier, Benjamin F., assignor to self and Thomas R. Smith, Green Island, N. Y. Berth for sleeping-cars	April 11, 1871
110,768	Mann, Austin S., Saint Louis, Mo. Metallic heel	Jan. 3, 1871
116,973	Same.....same	July 11, 1871
113,183	Mann, Charles B., assignor to self and Stephen S. Mann, Baltimore, Md. Lamp-burner	Mar. 28, 1871
114,954	Mann, Charles B. and Stephen S., Baltimore, Md. Lamp	May 16, 1871
4,573	Same.....same.....(Reissue)	Sept. 26, 1871
	Mann, Edward H. (*See* Lynn, Mirabeau N., assignor).....(Three cases.)	
4,981	Mann, Jacob J. and Henry F.; said Jacob J. Mann assignor to said Henry F. Mann, Pittsburgh, Pa. Harvester.....(Reissue)	Feb. 28, 1871
118,735	Mann, John, Tuscola, Ill. Steam-generator	Sept. 5, 1871
5,291	Mann, John Henry, Syracuse, N. Y. Trolling-spoon.....(Design)	Sept. 26, 1871
121,182	Same.....same.....(Design)	Nov. 21, 1871
	Mann, Joseph. (*See* Ridout, Moses T., assignor.)	
4,637	Mann, Robert J., Dallas City, Ill. Sieve.....(Design)	Feb. 7, 1871
113,184	Same.....same	Mar. 28, 1871
117,790	Same.....Burlington, Iowa. Method of constructing sieves	Aug. 8, 1871
111,463	Manneck, Henry, New York, N. Y. Box	Jan. 31, 1871
118,866	Same.....Muff and collar box	Sept. 12, 1871
119,936	Manning, John H., assignor to Edwin L. Buttrick, Chicago, Ill. Fire-extinguisher	Oct. 17, 1871
117,905	Manning, John J., assignor to self, William N. Manning, F. Tarr, jr., F. W. Homans, and Friend & Smith, Rockport, Mass. Drying glue	Aug. 8, 1871
121,114	Manny, Abram M., Lena, Ill. Cultivator	Nov. 21, 1871
121,115	Same.....same	Nov. 21, 1871
	Manny, Frederick H. (*See* Younglove, M. C., assignor).....(Reissue.)	
	Same.....(*See* Johnson, Isaac A., assignor.)	
112,361	Manny, John Pells, Rockford, Ill. Harvester	Mar. 7, 1871
112,362	Same.....same	Mar. 7, 1871
112,363	Same.....Harvester-rake	Mar. 7, 1871
112,940	Same.....same	Mar. 21, 1871
112,941	Same.....same	Mar. 21, 1871
112,942	Same.....Harvester	Mar. 21, 1871
114,165	Same.....Harvester-rake	April 25, 1871
114,166	Same.....same	April 25, 1871
	Manny, John P., Rockford, Ill. Harvester.....(Extension)	July 6, 1871
	Same.....same.....(Extension)	July 6, 1871
	Same.....same.....(Extension)	July 6, 1871
	Same.....same.....(Extension)	July 6, 1871
	Same.....same.....(Extension)	July 6, 1871
	Same.....same.....(Extension)	Oct. 20, 1871
121,881	Same.....Harvester-gearing. (Antedated Nov. 30, 1871)	Dec. 12, 1871
	Same.....(*See* Holly, Solomon T., assignor.)	
	Mansell, Richard. (*See* De Poe, James H., assignor.)	
119,163	Mansfield, George H., Concord, N. H. Planing-machine	Sept. 19, 1871
114,021	Mansfield, Martin H., Ashland, Ohio. Discharge-spout for thrashing, hulling, and separating machines	April 25, 1871
114,313	Same.....Thrashing-machine	May 2, 1871
115,223	Same.....Thrashing-machine and separator	May 23, 1871
4,566	Same.....Machine for thrashing, hulling, and cleaning clover-seed...(Reissue)	Sept. 19, 1871
120,988	Mansir, Job, Richmond, Me. Watchmakers' chuck	Nov. 14, 1871
114,314	Manson, Charles, Boston, Mass. Bit-stock	May 2, 1871
120,654	Manson, George W., assignor to self and Samuel Keefer, New York, N. Y. Device for operating sewing-machines	Nov. 7, 1871
121,638	Manson, George W., assignor of one-half interest to Samuel Keefer, New York, N. Y. Motor for sewing-machines	Dec. 5, 1871
113,071	Manton, George W., Fredonia, N. Y. Machine for cutting veneering into strips	Mar. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,552	Manton, Joseph, Montreal, Canada. Breech-loading fire-arm	Aug. 1, 1871
116,848	Manton, Joseph P., Providence, R. I. Attachment for ratlins	July 11, 1871
	Manton, Joseph P., and George H. Babcock. (*See* Babcock & Wilcox, assignors) (Reissue.)	May 16, 1871
114,935	Manuel, Calvin F., and Daniel M. Leonard, La Crosse, Wis. Spring bed-bottom	
	Mapes, Andrew J., and Joseph M. Hughes. (*See* Hughes & Mapes.)	
	Maquet, Francis. (*See* Solari, Antonio, assignor.)	
120,297	Marable, Thomas E., assignor to self, Joseph B. Dunn, and Starke A. Plummer, Petersburgh, Va. Baling-press	Oct. 24, 1871
111,464	Marble, Ezra P., Sutton Centre, Mass. Manufacture of brooms	Jan. 31, 1871
114,167	Same ..... Shuttle for looms	April 25, 1871
	Marble, E. T., *et al.* (*See* Pitts, Aldrich & Marble.)	
112,060	Marchant, Robert Mudge, England. Air-pump	Feb. 21, 1871
115,876	Same ..... Steam and other motive-power engines	June 13, 1871
115,877	Same ..... Process of obtaining motive-power	June 13, 1871
120,398	Same ..... Steam and other engines	Oct. 24, 1871
4,795	Marcile, Eugene, New York, N. Y. Watch-plate (Design)	April 11, 1871
117,652	Marcotte, Maxime J., Saint Louis, Mo. Composition for journals and bearings	Aug. 1, 1871
116,731	Marcy, Isaac S., Nashua, N. H. Hair-curler	July 4, 1871
114,168	Marden, Daniel G., Memphis, Tenn. Horse-power	April 25, 1871
	Margedant, William C., *et al.* (*See* McBeth, Bentel & Margedant) ..... (Design.)	
	Same ..... (*See* McBeth, Bentel, Margedant & Climer.)	
114,315	Margerum, Mahlon R., assignor to Benjamin L. Disbrow and James G. Van Cleeve, Trenton, N. J. Corpse-preserver	May 2, 1871
	Margesson, William, & Son, *et al.* (*See* Close, Walter R., assignor.)	
118,039	Mariner, George A., and Folsom Dorsett, assignors to the United States Pipe-Protecting Company, Chicago, Ill. Coating for iron, &c	Aug. 15, 1871
115,336	Markham, Cameron P. and William H., Rogersville, N. Y. Bag-tie	May 30, 1871
112,364	Markham, Homer C., Collinsville, N. Y. Cheese-curd sink	Mar. 7, 1871
112,365	Markham, Homer C. and De Witt C., Collinsville, N. Y. Mowing-machine	Mar. 7, 1871
118,641	Markham, Solomon, Flat Rock, Kans. Grain-drill	Aug. 29, 1871
115,752	Markle, Henry, Spencer, Ind. Miter-box	June 6, 1871
117,430	Markley, Charles, New York, N. Y. Hair-curler	July 25, 1871
114,316	Marks, Lewis, San Francisco, Cal. Carbureter for air and gas	May 2, 1871
117,791	Marks, Myer, assignor to William A. Pond, England. Digitorium	Aug. 8, 1871
116,612	Marks, Robert, and Andrew C. Behne, Connersville, Ind. Grain-drill	July 4, 1871
	Marks, S. A. H., *et al.* (*See* Frey, John A., assignor.)	
111,855	Marland, Obadiah, Boston, Mass. Machine for bending wood	Feb. 14, 1871
120,399	Marlow, George, Chicago, Ill. Gas and smoke consuming apparatus	Oct. 24, 1871
121,882	Marmaduke, Marion H., and Benjamin F. Stewart, Santa Fé, Mo. Horse-power	Dec. 12, 1871
	Marmon, Daniel W., and Addison H. Nordyke. (*See* Nordyke & Marmon.) (Two cases.)	
115,075	Marquard, Frank, Newburyport, Mass. Composition boot and shoe heel, sole, &c	May 23, 1871
	Marquett, S. M. (*See* Garner, Samuel E., assignor.)	Nov. 7, 1871
120,655	Marquis, John, San Francisco, Cal. Pump	
115,076	Marr, William C., and Joseph S. Maughlin, Onawa City, Iowa. Washing-machine	May 23, 1871
118,543	Marr, William C., Joseph S. Maughlin, and George A. Davis, Onawa City, Iowa, Washing-machine	Aug. 29, 1871
118,953	Marriott, Ambrose, Saint Louis, Mo. Hot-water apparatus for heating buildings	Sept. 12, 1871
121,639	Same ..... Ventilator	Dec. 5, 1871
116,304	Marriott, Frederick, Detroit, Mich. Apparatus for sugar-coating pills	June 20, 1871
	Marriott, William, and John Sherman. (*See* Sherman & Marriott.)	
122,124	Marsden, Franklin P., Galena, Ill. Combination-lock	Dec. 26, 1871
116,613	Marsden, Robert, England. Pulley-block	July 4, 1871
119,871	Marsh, Christopher C., New York, N. Y. Balance	Oct. 10, 1871
120,309	Same ..... Wash-basin	Oct. 24, 1871
113,161	Marsh, Cyrus, 2d, Natchez, Miss. Corn and cotton scraper, &c	Feb. 28, 1871
113,320	Same ..... Cotton-scraper, hiller, and cultivator	April 4, 1871
114,578	Marsh, Ellezer J., Leominster, Mass. Knife and fork scourer	May 9, 1871
113,268	Marsh, Gideon, Steamburg, N. Y. Bee-hive	Feb. 28, 1871
113,263	Marsh, James S., Lewisburgh, Pa. Harvester	Feb. 28, 1871
119,379	Marsh, Joseph B., Brooklyn, N. Y. Truss-pad	Sept. 26, 1871
	Marsh, Peletiah J. (*See* Hermance, Levi, assignor) (Two cases.)	
113,611	Marsh, Stewart C., Newark, N. J. Safety-valve	Mar. 14, 1871
118,632	Marsh, Thomas, North Providence, R. I. Supporter for spinning-rings	Aug. 29, 1871
118,544	Marsh, Thomas, assignor to self and Henry F. Jenks, North Providence, R. I. Holder for spinning-rings	Aug. 29, 1871
	Marsh, Thomas, and Henry F. Jenks. (*See* Jenks & Marsh.)	
111,758	Marsh, William, Waterford, Pa. Butter-tub, &c	Feb. 14, 1871
121,640	Marsh, William S., Raymond, Wis. Preserving eggs	Dec. 5, 1871
	Marsh, W. W. (*See* Whitney, John H., assignor.)	
	Marsh, William W., and John H. Whitney. (*See* Whitney & Marsh.)	
112,366	Marshall, Alexander J., Warrenton, Va. Propeller. (Antedated March 3, 1871)	Mar. 7, 1871
	Marshall, Andrew H., and Horatio Cornell. (*See* Cornell & Marshall.)	
118,736	Marshall, Augustus F., Black River, N. Y. Machine for bending wood	Sept. 5, 1871
114,956	Marshall, Caleb, assignor to Marshall, Philips & Co., Philadelphia, Pa. Manufacture of sheet-iron, and removing scale from iron for coating with other metals	May 16, 1871
110,663	Marshall, Calvin, North Easton, Mass. Rat-leveler	Jan. 3, 1871
113,900	Marshall, Charles K., New Orleans, La. Cotton and hay press	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,901	Marshall, Charles K., New Orleans, La. Cotton press and tramper. (Antedated April 10, 1871)	April 18, 1871
110,769	Marshall, Daniel M., Pawtucket, R. I. Ironing-table	Jan. 3, 1871
122,270	Marshall, George M., New Haven, Wis. Shears for cutting metal. (Antedated Dec. 23, 1871)	Dec. 26, 1871
119,279	Marshall, James, New Orleans, La. Horse-power	Sept. 26, 1871
	Marshall, James. (*See* Rider, Leman P., assignor.)	
117,185	Marshall, John, Brooklyn, N. Y. Cask or barrel	July 18, 1871
	Marshall, John, *et al.* (*See* St. John, Roswell H., assignor.)	
	Marshall, John L., *et al.* (*See* Harwood, William P., assignor.)	
111,955	Marshall, Joseph, Brooklyn, N. Y. Bathing-brush. (Antedated Feb. 17, 1871)	Feb. 21, 1871
111,223	Marshall, Joseph T., Wilmington, Del. Grate-bar	Jan. 24, 1871
116,614	Marshall, Moses S., assignor to John T. and John S. Folsom, Somerville, Mass. Washing-machine	July 4, 1871
119,779	Marshall, Robert, Hobart, N. Y. Sap-bucket cover	Oct. 10, 1871
112,943	Marshall, Thomas P., Trenton, N. J. Saw with detachable teeth	Mar. 21, 1871
114,169	Marston, Dudley Jefferson, Amesbury, Mass. Machinery for dressing wheel-felloes	April 25, 1871
114,579	Marston, Frank W., Philadelphia, Pa. Reversible hinge	May 9, 1871
121,641	Marston, Henry C., assignor to self and Franklin W. Brooks, New York, N. Y. Stair-rod	Dec. 5, 1871
	Marston, Thomas, jr., *et al.* (*See* Anderson, James K., assignor) ... (Two cases.)	
	Marston, William G., and Thomas H. Chubb. (*See* Chubb & Marston.)	
115,623	Martienssen, George, Brooklyn, N. Y. Children's carriage	June 6, 1871
111,750	Martin, Alexander, Allegheny City, Pa. Bakers' oven	Feb. 14, 1871
	Martin, A. C., and M. M. Wombaugh, deceased, by William H. S. Ewell, administrator, Cincinnati, Ohio. Method of governing the cut of circular sawing-machinery (Extension)	Dec. 6, 1871
119,165	Martin, Benjamin H., assignor to self and Oliver M. Martin, Ann Arbor, Mich. Provision and milk safe	Sept. 19, 1871
	Martin, Charles A. (*See* Keller, Peter, assignor.)	
121,795	Martin, Charlie H., Chapinsville, N. Y. Fruit-drier	Dec. 12, 1871
	Martin, Cyrus B. (*See* Guernsey, William B., assignor) (Reissue.)	
121,292	Martin, Daniel D., Cincinnati, Ohio. Coffee-roaster	Nov. 28, 1871
116,334	Martin, David N., assignor to D. N. and C. M. Martin, Lawrence, Mass. Stove-door	June 27, 1871
111,856	Martin, Edwin, assignor to self, Samuel W. Porter, and James F. Cranston, Springfield, Mass. Metallic cartridge	Feb. 14, 1871
	Martin, Francis J. (*See* Auchey, Ephraim D., assignor.)	
119,628	Martin, George W., William G. Parrish, and James A. Petrie, Elizabeth, N. J. Ground marker and furrower	Oct. 3, 1871
112,612	Martin, Henry, Louisville, Ky. Machine for cutting screw-threads on bolts	Mar. 14, 1871
113,072	Same ..... Machine for threading bolts	Mar. 28, 1871
113,540	Martin, Henry, Brooklyn, N. Y. Brick and other mold	April 11, 1871
115,492	Martin, Henry R., Hillsborough, N. H. Head-block	May 30, 1871
115,878	Martin, Isaac, and Daniel B. Perrow, Lone Jack, Mo. Slide-valve	June 13, 1871
	Martin, Jacob, *et al.* (*See* Conlon, Frederick, assignor.)	
	Martin, John, and Daniel Hayes. (*See* Hayes & Martin.)	
114,580	Martin, John F., Harrisburgh, Oreg. Buckle	May 9, 1871
112,061	Martin, John H., Columbus, Ohio. Harness saddle-tree	Feb. 21, 1871
113,541	Same ..... same	April 11, 1871
113,902	Same ..... Buckle	April 18, 1871
117,309	Same ..... Harness saddle-tree	July 25, 1871
118,033	Martin, John W., Saint Joseph, Mo. Electro-magnetic fire-alarm telegraph	Aug. 15, 1871
122,125	Martin, Mark, Rockford, Ill. Gate	Dec. 26, 1871
117,553	Martin, Mark M., Cochran, Ind. Railway-car seat	Aug. 1, 1871
116,205	Martin, Michael, New York, N. Y. Velocipede	June 20, 1871
114,581	Martin, Milo, assignor to self and Jasper Stowe, Charlotte, N. C. Machine for adjusting cotton-bale ties	May 9, 1871
110,664	Martin, Peter, Cincinnati, Ohio. Hot-air furnace	Jan. 3, 1871
114,697	Martin, Robert Y., assignor to Eli P. Cooley, New York, N. Y. Whisk-broom	May 9, 1871
119,629	Martin, William, Oxford, Iowa. Washing-machine	Oct. 3, 1871
122,371	Martin, William L., Rienzi, Miss. Railway-switch	Dec. 26, 1871
113,903	Martin, William Nelson, Boston, Mass. Hemming and tucking attachment for sewing-machines	April 18, 1871
4,376	Same ..... Binder for sewing-machines (Reissue)	May 9, 1871
	Martin, William P., and Urban R. Williams. (*See* Williams & Martin.)	
113,542	Martine, Charles F., Boston, Mass. Needle setter and threader	April 11, 1871
4,818	Martins, John, and John Currie, assignors to Orr, Painter & Co., Philadelphia, Pa. Parlor-stove (Design)	April 18, 1871
	Martratt, Cornelius, Waterford, N. Y. Method of securing the doors of hay-presses, &c (Extension)	April 19, 1871
111,660	Martz, Nicholas, Lykens, Pa. Scaffold	Feb. 7, 1871
114,456	Marvil, Joshua H., Laurel, Del. Fruit and berry box or basket	May 2, 1871
119,872	Same ..... Fruit-box	Oct. 10, 1871
118,545	Marvin, John, and William T. Hulse, Port Jefferson, N. Y. Bung-spout	Aug. 29, 1871
	Marvin, Tasker H. (*See* Clay, Robert J., assignor.)	
116,073	Maschmann, Conrad, Watertown, N. Y. Baby-walker	June 20, 1871
118,034	Masck, Wenzel, Nashville, Tenn. Apparatus for tanning in vacuo	Aug. 15, 1871
	Maseth, Joseph. (*See* Smith, James W., assignor.)	
	Same ..... (*See* Nelson, Franklin, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Mason & Hamlin Organ Company. (*See* Hamlin, Emmons, assignor.) (Two cases.)	
118,954	Mason, Alfred W. J., New Orleans, La. Grain-drier	Sept. 12, 1871
120,447	Same.....Drier	Oct. 31, 1871
115,294	Mason, Arnold P., assignor to William H. Bard, Franklinville, N. Y. Check-rein swivel	May 23, 1871
115,753	Mason, Arnold P., assignor of one-half interest to William H. Bard, Franklinville, N. Y. Slide-bar for bridle-bits	June 6, 1871
116,465	Same.....Collar-cap for harness	June 27, 1871
112,944	Mason, Benjamin A., assignor to Thomas L. Carpenter, New York, N. Y. Apparatus for manufacturing wire	Mar. 21, 1871
	Mason, George J., and James A. Rose. (*See* Rose & Mason.)	
112,523	Mason, James M., Washington, D. C. Breech-loading fire-arm	Mar. 7, 1871
117,906	Same.....same	Aug. 8, 1871
112,729	Mason, James M., assignor to Alexander & Mason, Washington, D. C. Dress-sword	Mar. 14, 1871
120,301	Mason, John, Buffalo, N. Y. Sliding-gauge	Oct. 24, 1871
115,972	Mason, John J., Girdletree, Md. Mode of reefing sails	June 13, 1871
115,754	Mason, John L., New York, N. Y. Screw-cap and ring for fruit-jars	June 6, 1871
116,306	Mason, Joseph H., New Haven, Conn. Die for forging carriage-spring heads	June 20, 1871
120,080	Mason, Matthew B., and John S. McCrum, Kansas City, Mo. Cylinder-cock	Oct. 17, 1871
111,554	Mason, Nicholas, Lincoln, Mass. Spring-bed	Feb. 7, 1871
117,093	Mason, Ralph and Sidney, Burgh Hill, Ohio. Curd-strainer	July 18, 1871
112,474	Mason, Richard, assignor to self and Matthew Ely, Newark, N. J. Back-reflecting mirror	Mar. 7, 1871
114,835	Mason, Sylvester G., Rochester, N. Y. Scroll-sawing machine	May 16, 1871
112,613	Mason, William, Providence, R. I. Mode of making wells	Mar. 14, 1871
118,035	Massey, Gideon B., New York, N. Y. Vegetable-cutter. (Antedated Aug. 3, 1871)	Aug. 15, 1871
118,737	Massey, Gideon B., assignor to Massey Low-Water Detector Company, New York, N. Y. Low-water detector	Sept. 5, 1871
116,615	Massey, Orren Webb, Macon, Ga. Cotton-gin	July 4, 1871
111,760	Massey, Pleasant H., South Bend, Ind. Mill-stone feeder and grain-scourer	Feb. 14, 1871
117,792	Massie, Thomas A., Plattsburgh, Mo. Washing-machine	Aug. 8, 1871
120,388	Massie, Thomas James, Arrington, Va. Gun-lock	Oct. 31, 1871
	Massing, Charles Louis, *et al.* (*See* Altenburg & Lamboix, assignors.)	
	Mast, Phineas P. (*See* Thomas, John H., assignor.)	
	Mast, Phineas P., and John H. Thomas. (*See* Thomas & Mast.)	
119,630	Masten, Cornelius E., Boston, Mass. Rocket	Oct. 3, 1871
120,081	Masters, Samuel O., Corning, N. Y. Seeding-machine	Oct. 17, 1871
111,956	Masury, John W., Brooklyn, N. Y. Millstone	Feb. 21, 1871
117,793	Mater, Daniel, jr., assignor to self and Ira Mater, Bellmore, Ind. Horseshoe-nail clincher	Aug. 8, 1871
120,759	Mater, Daniel, jr., Bellmore, Ind. Wagon	Nov. 7, 1871
111,957	Matheis, John, Ottawa, Ill. Leather-punching machine	Feb. 21, 1871
	Matheney, Elijah C. (*See* Schroyer, Joseph J., assignor.)	
114,317	Mather, Cotton, Steubenville, Ohio. Lubricator	May 2, 1871
118,807	Mather, Emmett, assignor to Frank Sturges & Co., Chicago, Ill. Coal-scuttle	Sept. 12, 1871
118,867	Mather, Henry W., New York, N. Y. Liquid-meter	Sept. 12, 1871
118,854	Mather, Samuel, New Braunfels, Tex. Cotton-tie stretchers	Aug. 22, 1871
	Mathes, J. W., *et al.* (*See* Jordan, James C., assignor.)	
121,057	Matheson, George, assignor to the National Tube Works Company, Boston, Mass. Machine for bending tube-skelps	Nov. 21, 1871
	Mathews, Daniel A., *et al.* (*See* Lynch, Charles, assignor.)	
114,023	Mathews, Ebenezer, Harrisville, W. Va. Paddle-wheel	April 25, 1871
	Mathews, Holoway, and John T. Hudnet. (*See* Hudnet & Mathews.)	
115,755	Mathews, Rodney H., Nebraska City, Nebr. Corn and seed planter	June 6, 1871
	Mathews, S. R. C., and Washburn Race. (*See* Race & Mathews).....(Reissue.)	
	Mathiesen, Carl A., and John C. Schrader. (*See* Schrader & Mathiesen.)	
120,304	Mathison, James, Fremont, Nebr. Harrow	Oct. 24, 1871
118,036	Mathivet, Jean Victor, Cleveland, Ohio. Machine for bottling liquids	Aug. 15, 1871
113,073	Mathushek, Frederick, New York, N. Y. Piano	Mar. 28, 1871
113,074	Same.....Piano-forte action	Mar. 28, 1871
114,582	Matier, Henry, Belfast, Ireland. Paper-box	May 9, 1871
115,077	Matt, Lorenzo, and Bernard Gruetor, Boston, Mass. Piano-action	May 23, 1871
121,952	Matt, Lorenzo, Boston, Mass. Piano-forte action	Dec. 19, 1871
118,376	Mattern, Frederick W., Chicago, Ill. Device for extracting pens from holders	Aug. 22, 1871
121,293	Matteson, Sarah O., Chicago, Ill. Attachment for sewing-machines	Nov. 28, 1871
118,736	Matthews, Colin P., England. Composition for coating ale-casks, &c	Sept. 25, 1871
114,170	Matthews, Elbridge G., Oakham, Mass. Machine for forming plow-handles	April 25, 1871
114,171	Same.....Wood-bending machine	April 25, 1871
	Matthews, Elbridge G., *et al.* (*See* Small, Matthews & Holbrook.)	
114,172	Matthews, Frederick E., Chicago, Ill. Composition for pavements	April 25, 1871
111,131	Matthews, James D., Niles, Mich. Sawing-machine	Jan. 24, 1871
121,116	Matthews, Jeremiah, Lincoln, Ill. Corn-planter	Nov. 21, 1871
	Matthews, John, firm of. (*See* Taylor, Esau D., assignor.)	
118,037	Matthews, John, jr., New York, N. Y. Refrigerator	Aug. 15, 1871
	Matthews, Marcellus S. (*See* Bassett, John T., assignor.)	
	Matthews, Solomon. (*See* Miles, Charles M., assignor.)	
	Matthews, William F. (*See* Doe, Horatio W., assignor.)	
	Matthews, William N., and Samuel B. Hindman. (*See* Hindman & Matthews.) (Design.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,554	Matthias, Joseph, New York, N. Y. Washing-machine	Aug. 8, 1871
120,585	Mattison, Horatio N., New York, N. Y. Syringe	Oct. 31, 1871
	Mattock, John H., and John E. Fell. (*See* Fell & Mattock.)	
4,282	Mattson, Morris, New York, N. Y. Breast-pump.....(Reissue)	Feb. 28, 1871
	Mauger, Marie A. (*See* Dick, Dundas, assignor).....(Design.)	
	Same.....same.	
116,616	Mauger, Victor E., New York, N. Y. Gripper for cylinder printing-presses	July 4, 1871
121,117	Same.....Machine for cutting and assorting playing-cards, &c	Nov. 21, 1871
	Same.....(*See* Plunket, Thomas J., assignor.)	
	Same.....(*See* Von Briesen, Arthur, assignor.)	
	Maughlin, Joseph S., and William C. Marr. (*See* Marr & Maughlin.)	
	Maughlin, Joseph S., *et al.* (*See* Marr, Maughlin & Davis.)	
118,142	Mauldin, Ransom, Marietta, Miss. Cotton-press	Aug. 15, 1871
	Maurer, George H., and Thomas S. Baylie. (*See* Baylie & Maurer.)	
116,335	Maurice, Charles C., New York, N. Y. Lithographic press	June 27, 1871
118,623	Maxey, John C., and Thomas Lewis, Springfield, Ill. Sad-iron	Aug. 29, 1871
119,631	Maxfield, Charles A., New York, N. Y. Paper-box machine	Oct. 3, 1871
122,972	Maxim, Hiram S., Brooklyn, N. Y. Steam-trap	Dec. 26, 1871
120,302	Maxim, Hiram S., assignor to Myron H. Strong, Brooklyn, N. Y. Gas-machine	Oct. 24, 1871
118,955	Maxon, Thomas, Springfield, Ohio. Lifting-jack	Sept. 12, 1871
111,362	Maxson, Erwin W., Scranton, Pa. Spring bed-bottom	Jan. 31, 1871
111,956	Same.....Washing-machine	Feb. 21, 1871
111,857	Maxton, John, Seybrook, Ill. Combined cultivator and harrow	Feb. 14, 1871
111,363	Maxwell, Alonzo S., Dixon, Ill. Cover for bins	Jan. 31, 1871
114,583	Maxwell, James M., Webster, W. Va. Railway-switch	May 9, 1871
5,304	Maxwell, James R., Cincinnati, Ohio, and Ezra Cope, Covington, Ky. Steam-engine cylinder and frame.....(Design)	Oct. 24, 1871
117,186	Maxwell, John, and Thomas Gray, Philadelphia, Pa. Ladder	July 18, 1871
114,584	May, Edwin, Indianapolis, Ind. Prison-grating	May 9, 1871
116,074	May, George W., assignor to self and Daniel L. Thompson, Baldwinsville, Mass. Saw-set. (Antedated June 8, 1871)	June 20, 1871
119,945	May, Gordon A., Chicago, Ill. Wood-pavement	Mar. 21, 1871
115,493	May, William, Binghamton, N. Y. Machine for piercing side-seams of boots, &c	May 30, 1871
116,466	May, William L., Philadelphia, Pa. Portable fare-box	June 27, 1871
111,465	Mayall, John C., Boston, Mass. Carpet-lining	Jan. 31, 1871
116,467	Same.....Machine for folding carpet-linings	June 27, 1871
111,224	Mayben, John, Milroy, Pa. Car-coupling	Jan. 24, 1871
122,183	Mayer, John, Philadelphia, Pa. Detachable hair-curl, and apparatus for manufacturing the same	Dec. 26, 1871
121,642	Mayer, William H., Newark, N. J. Apparatus for fitting and laying out garments	Dec. 5, 1871
116,974	Mayfield, Isaac, Mayfield, Ky. Plant-protector	July 11, 1871
119,380	Same.....Water-elevator	Sept. 26, 1871
110,927	Mayfield, Isaac and William D., Mayfield, Ky. Grinding-mill	Jan. 10, 1871
110,928	Mayher, John, East Hampton, Mass. Regulating the discharge of water from pumps	Jan. 10, 1871
113,681	Mayhew, Lorenzo, Greenfield, N. Y. Axle-skein	April 11, 1871
118,377	Same.....same	Aug. 22, 1871
120,303	Same.....Rock City Falls, N. Y. Axle-skein	Oct. 24, 1871
115,624	Mayhew, Oscar F., assignor to self and William H. Weeks, Indianapolis, Ind. Vegetable and fruit peeler	June 6, 1871
	Mayhew, William B., and William C. Adams. (*See* Adams & Mayhew.)	
112,624	Maynard, James A., Newtonville, Mass. Boiler for heating purposes	Mar. 21, 1871
119,038	Same.....Sectional tubular steam-boiler	Sept. 19, 1871
118,956	Maynard, William, Salem, Mass. Apparatus for the manufacture of extracts from hemlock and other barks	Sept. 12, 1871
122,043	Maynard, William C., Marathon, N. Y. Clothes-drier	Dec. 19, 1871
	Mayo, Israel C. (*See* Plouff, John W., assignor.)	
	Mayo, Urial K. (*See* Brockway, Josephus, assignor).....(Two cases.)	
112,264	McAdams, John, Brooklyn, N. Y. Paper-folding machine	Feb. 28, 1871
119,381	McAdams, William, Newton, Mass. Calendar	Sept. 26, 1871
122,184	McAllister, Edward, Rochester, N. Y. Kneading-machine	Dec. 26, 1871
115,494	McAllister, Harry W., Chicago, Ill. Electric advertising-cabinet	May 30, 1871
116,336	McAlonan, James, New York, N. Y. Piston-packing	June 27, 1871
	McAndrews, John. (*See* Aab, George, assignor.)	
111,466	McAnulty, John Armstrong, Gilpin, Pa. Bee-hive	Jan. 31, 1871
113,321	McArthur, Alexander, Boonville, Mo. Harvester-rake	April 4, 1871
111,364	McArthur, William, Philadelphia, Pa. Bedstead and spring bed-bottom	Jan. 31, 1871
111,365	Same.....Combined rocking-sofa and bedstead	Jan. 31, 1871
	McAuliffe, John, and Edward Hewitt. (*See* Hewitt & McAuliffe.)	
119,632	McBeth, Charles, Hamilton, Ohio. Cutter-head	Oct. 3, 1871
	McBeth, Charles E., and Henry Climer. (*See* Climer & McBeth.)	
5,048	McBeth, Charles E., Frederick Beutel, and William C. Margedant, Hamilton, Ohio. Boring-machine.....(Design)	June 27, 1871
120,448	McBeth, Charles E., Frederick Beutel, and William C. Margedant, Hamilton, Ohio, and Henry Climer, Muscatine, Iowa. Planing-machine	Oct. 31, 1871
121,183	McBride, Alexander, Lowell, Mich. Arch for lime-kilns	Nov. 21, 1871
111,555	McBride, James, Ithaca, N. Y. Churn	Feb. 7, 1871
115,879	McBride, Peter, New York, N. Y. Refrigerator	June 13, 1871
120,304	McBride, Thomas D., Philadelphia, Pa. Wrench	Oct. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,880	McBurney, Charles, Boston, Mass. Finishing vulcanized India-rubber belting	June 13, 1871
4,603	Same Finishing vulcanized rubber-belting (Reissue)	Dec. 5, 1871
118,994	McBurney, Charles, and Lyman Hollingsworth, assignors to Charles McBurney, Boston, Mass. Paper-machine deckel	Aug. 29, 1871
112,940	McCahey, John, and Stephen B. Salisbury, assignors to the New England Butt Company, Providence, R. I. Braiding-machine	Mar. 21, 1871
114,173	McCaleb, Samuel D. and William, Louisville, Ky. Dumping-wagon	April 25, 1871
122,205	McCall, Edwin Robert, Simcoe, Canada. Harvester-cutter grinder	Oct. 24, 1871
	McCallen, Francis A., and Gustavus A. Brown. (*See* Brown & McCallen.)	
4,736	McCallum, Archibald, assignor to W. & I. Sloane, England. Carpet-pattern. (Design)	Mar. 28, 1871
4,739	Same Carpet-pattern (Design)	Mar. 28, 1871
4,740	Same same (Design)	Mar. 28, 1871
4,9?0	Same same (Design)	June 6, 1871
4,905	McCallum, Archibald, assignor to Joseph Wild, England. Carpet-pattern. (Design)	May 16, 1871
5,417	McCallum, Archibald, assignor to Joseph Wild & Co., England. Carpet-pattern (Design)	Dec. 12, 1871
5,418	Same Carpet-pattern (Design)	Dec. 12, 1871
5,419	Same same (Design)	Dec. 12, 1871
5,4?0	Same same (Design)	Dec. 12, 1871
5,421	Same same (Design)	Dec. 12, 1871
5,422	Same same (Design)	Dec. 12, 1871
	McCallum, Crease & Sloan. (*See* Heald, Alfred, assignor.) (Nine cases.) (Design.)	
111,225	McCallum, James, assignor of one-third interest to Henry R. Gillam, Rochester, N. Y. Stove-pipe shelf	Jan. 24, 1871
120,206	McCallum, John, and Jacob Hartzell, Alliance, Ohio. Fire-lighter	Oct. 24, 1871
5,378	McCallum, William, assignor to Joseph Wild & Co., England. Carpet-pattern (Design)	Sept. 26, 1871
5,379	Same Carpet-pattern (Design)	Sept. 26, 1871
	McCambridge, Andrew. (*See* Gordon, William, assignor.)	
114,836	McCammon, George W., Manheim, N. Y., and David H. Burrell, Little Falls, N. Y.; said McCammon assignor to Rodney S. Whitman. Dairy-heater for heating water	May 16, 1871
116,617	McCamy, James H., Wytheville, Va. Mechanical movement	July 4, 1871
117,653	McCandless, James, New York, N. Y. Market-stall, &c	Aug. 1, 1871
113,?45	McCann, John, Albany, N. Y. Hydrant. (Antedated March 2, 1871)	Mar. 21, 1871
118,469	McCann, Robert H., Zanesville, Ohio. Stud for suspending driving-wheels for sewing-machines. (Antedated Aug. 24, 1871)	Aug. 29, 1871
120,?98	McCarroll, Herschel P., Pittsburgh, Pa Piston-packing	Nov. 14, 1871
118,340	McCarter, Samuel, Norristown, Pa. Cut-off valve for steam-engines	Aug. 23, 1871
113,185	McCarthy, James M., Canal Dover, Ohio. Brick-kiln	Mar. 28, 1871
115,756	McCarthy, Joseph, Woburn, Mass. Tension-roller for sewing-machines	June 6, 1871
	McCartney, John. (*See* Penny, Charles E., assignor.)	
118,038	McCarver, Thomas J., Oregon City, Oreg. Sash-holder	Aug. 15, 1871
	McCauley, James, and Samuel C. Myers. (*See* Myers & McCauley.) (Two cases.)	
116,849	McCauley, Reuben A., Baltimore, Md. Household implement	July 11, 1871
111,858	McCausland, John, Alexander, and William J. A., Providence, R. I. Book-support	Feb. 14, 1871
121,643	McClain, George M., Rockport, Mass. Traveler for vessels	Dec. 5, 1871
114,457	McCleary, David, Allegheny City, Pa. Wash-boiler	May 2, 1871
118,868	McClelland, James, Geneva, N. Y. Hub-clamp	Sept. 12, 1871
115,498	McClelland, John, Washington, D. C. Fire-plug	May 30, 1871
4,382	McClelland, Robert W., Springfield, Ill. Carriage-wheel (Reissue)	April 4, 1871
115,078	Same Whiffletree	May 23, 1871
113,6?2	McClelland, Robert W., assignor to self and John McCreery, Springfield, Ill. Wheel for vehicles	April 11, 1871
114,458	Same same	May 2, 1871
115,225	McClintock, James R., and John Cumberland, deceased, by James R. McClintock, legal representative; assigned to James R. McClintock, New Orleans, La. Cotton-bale tie	May 23, 1871
112,265	McClinton, James B. and William, Galion, Ohio. Feed-cutter	Feb. 28, 1871
112,266	McClure, Charles W., and William A. Shepard, Wooster, Ohio. Tea-kettle	Feb. 28, 1871
116,732	McClure, Jacob, Nashua, N. H. Combined knife and pencil-sharpener	July 4, 1871
115,496	McClure, Jacob W., Saint Louis, Mo. Churn-dasher	May 30, 1871
119,492	McClure, William B., Alexandria, Va. Cart-saddle	Sept. 26, 1871
121,644	Same Stirrup for cart and dray shafts	Dec. 5, 1871
121,1?4	McClure, William B., assignor of two-thirds interest to John C. Graham and H. O. Claughton, Alexandria, Va. Traveler for cart and dray shafts	Nov. 21, 1871
4,779	Same Back-chain for cart-saddles (Reissue)	Dec. 19, 1871
117,167	McCollam, Andrew, New Orleans, La. Plow-clevis	July 18, 1871
	McCollum, Richard P., and William H. Carman. (*See* Carman & McCollum.)	
118,957	McComas, De Los, Calhoun, Mo. Car-coupling	Sept. 12, 1871
	McComb, Marshall, and Arthur W. Bush. (*See* Bush & McComb.)	
117,310	McCann, John, Philadelphia, Pa. Steam-heater	July 25, 1871
117,311	Same Sectional steam-boiler	July 25, 1871
	McConnell, Andrew, and Edward Watkins. (*See* Watkins & McConnell.)	
114,174	McConnell, David W., and William W. Pierce, Buffalo, N. Y. Apparatus for making roofing-fabrics	April 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,075	McConnell, Edgar, Sharon, Pa. Chisel for mortising-machines	Mar. 28, 1871
111,081	McConnell, James H., Springfield, Ill. Manufacture of paper, cordage, twine, &c	Feb. 7, 1871
	Same (*See* Draper, Henry V. P., assignor.)	
111,226	McConnell, John R., Marengo, Iowa. Gang-plow. (Antedated Jan. 18, 1871)	Jan. 24, 1871
113,804	McConnell, William, Philadelphia, Pa. Shade-cord retainer	April 18, 1871
114,175	McConnell William P., Washington, D. C. Extracting metal from ores	April 25, 1871
	McCord & Wheatley (*See* Donnellan, Charles E., assignor.)	
	McCord, George. (*See* Benson, John, assignor.)	
117,535	McCord, Samuel M., Springfield, Ohio. Chimney	Aug. 1, 1871
117,188	McCord, William, Sing Sing, N. Y. Washing-machine. (Antedated July 13, 1871)	July 18, 1871
	McCormick, C. H., & Brother. (*See* Johnson, William Nevins, assignor.)	
119,712	McCormick, Leander J., and William R. Baker, assignors to C. H. McCormick & Brother, Chicago, Ill. Harvester	Oct. 10, 1871
119,737	Same Harvester	Oct. 17, 1871
115,543	McCormick, William H., assignor to self and John T. Williams, Muncie, Ind. Weighing attachment to wagons	April 11, 1871
115,079	McCoy, John, assignor of one-half interest to Samuel Traquar Tyson, Philadelphia, Pa. Heating-stove	May 23, 1871
118,039	McCoy, William D., assignor to Miller's Falls Manufacturing Company, Erving, Mass. Bit-stock	Aug. 15, 1871
114,318	McCracken, Asa South Byron, N. Y. Harness	May 2, 1871
120,082	McCracken, Edwin D, assignor to Lucius A. Bigelow, trustee, New York, N. Y. Means for lighting gas	Oct. 17, 1871
120,083	Same Gas-lighting apparatus	Oct. 17, 1871
115,757	McCrary, William H., Kingston, Ga. Fire-kindler	June 6, 1871
	McCrea, James A. and Augustus L. *et al.* (*See* Rowland, Charles, assignor.)	
	McCree, William, *et al.* (*See* Rawson, Ovender, Wylde, McCree & Hill.)	
115,497	McCreery, John, Springfield, Ill. Carriage-wheel Same (*See* McClelland, Robert W., assignor) (Two cases.)	May 10, 1871
	McCrum, John S., and Matthew B. Mason. (*See* Mason & McCrum.)	
	McCuaig, Robert Charles Wilkins. (*See* Grant, James A., assignor.)	
121,796	McCullen, George D, New Orleans, La. Portable fire-escape	Dec. 12, 1871
116,618	McDonald, Ephraim, Boston, Mass., and Nathan H Cole, Swampscott, Mass. Clutch for feeding-mechanism for sewing-machines	July 4, 1871
	McDonald, Henry H., and Zenas B Putnam. (*See* Putnam & McDonald.)	
4,548	McDonald, Hiram, Shortsville, N. Y. Wood-bending machine (Reissue)	Sept. 12, 1871
120,305	Same same	Oct. 24, 1871
120,306	Same same	Oct. 24, 1871
4,614	Same same (Reissue)	Oct. 31, 1871
	McDonald, Isaac C. and James Hoagland. (*See* Hoagland & McDonald.)	
	McDonald, James M., and Ernest Von Jeinsen. (*See* Von Jeinsen & McDonald.) (Two cases.)	
121,643	McDonald, John, Kankakee, Ill. Compound for hardening iron and steel	Dec. 5, 1871
113,544	McDonald, Thomas E., Trenton, N. J. Spindle for wringer-rolls	April 11, 1871
119,245	Same Spindle for clothes-wringer rolls	Sept. 26, 1871
120,307	Same Spindle for wringer-rolls	Oct. 24, 1871
4,561	McDonough, James W., Chicago, Ill. Folding-lounge (Reissue)	Feb. 14, 1871
116,650	Same Folding-safe	July 11, 1871
113,614	McDougall, Samuel T., Brooklyn, N. Y. Combined clothes-receptacle, ironing-board, and drier	Mar. 14, 1871
111,959	McDowell, John, Washington, Pa. Burglar-alarm	Feb. 21, 1871
114,857	McDowell, William L., Philadelphia, Pa. Fire-box for heating stoves	May 16, 1871
114,858	Same Cooking-stove	May 16, 1871
121,185	Same Base-burning fire-place heater	Nov. 21, 1871
112,367	McDuff, Edward, and Emory D. Farrow, Warwick, R. I. Oiler	Mar. 7, 1871
120,656	McElcheran, William Henry, Hamilton, Canada. Ornamenting and lettering hard and uneven surfaces	Nov. 7, 1871
115,881	McElrath, Robert B., Newburgh, N. Y. Combined crank, ratchet, and brake	June 13, 1871
120,526	McEuen, George W., and Chandler Eves, Millville, Pa. Railway-car coupling	Oct. 31, 1871
117,654	McFall, Andrew, Yonkers, N. Y. Book-holder and leaf-turner	Aug. 1, 1871
115,?41	McFall, Sylvester, Blandinsville, Ill. Weather-strip for doors	June 6, 1871
115,758	McFarland, Thomas A., Erie, Pa. Wagon-spring	June 6, 1871
117,440	Same Invalid-bedstead	July 25, 1871
	McGarvey, Michael. (*See* Van Wormer, Jasper, assignor.)	
	McGarvey, Michael, and Jasper Van Wormer. (*See* Vedder & Heister, assignors.) (Design.)	
120,657	McGavran, William H., Connotton, Ohio. Burial-apparatus	Nov. 7, 1871
117,169	McGee, Joseph, Lancaster, N. H. Neck-tie fastener	July 18, 1871
5,016	McGill, George W., New York, N. Y. Car-suspension clip (Design)	June 20, 1871
111,900	McGill, William C., Cincinnati, Ohio. Lamp-burner	Feb. 21, 1871
116,469	McGill, William C., assignor to A. J. Woodworth, Cincinnati, Ohio. Hasp-lock	June 27, 1871
116,537	McGillahan, John W., Montreal, Canada. Hot-air register	June 27, 1871
117,159	Same Railway-car brake	July 18, 1871
	McGonegal, Margaretta M. (*See* Fowler, Edgar M., assignor.)	
116,733	McGonigel, Alexander B., Helena, Ark. Cotton-press	July 4, 1871
120,208	McGovern, Hugh D., Brooklyn, N. Y. Sun-shield for horses	Oct. 24, 1871
118,?0?	McGovern, Peter, Lawrence, Mass. Self-acting mule for spinning	Sept. 12, 1871
113,784	McGovern, Peter, assignor to George L. Davis, John A. Wiley, Joseph M. Stone, George G. Davis, Joseph H. Stone, and James H. Davis, Lawrence, Mass. Self-acting jack for spinning	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	McGowan Brothers Pump and Machine Company. (*See* Morton, John, assignor) (Reissue.)	
113,475	McGowan, James, assignor to self and Daniel H. Waring, New York, N. Y. Ventilator and chimney-top	Mar. 7, 1871
117,655	McGowan, John, Lebanon Church, Pa. Steam and water jet rotary engine	Aug. 1, 1871
117,656	Same. Mifflin Township, Pa. Rotary engine	Aug. 1, 1871
111,227	McGowan, John H., Cincinnati, Ohio. Pump	Jan. 24, 1871
5,049	Same. Steam-pump piston (Design)	June 27, 1871
113,312	McGowan, John H., and David B. Caldwell, Cincinnati, Ohio. Steam-engine	Sept. 19, 1871
	McGowan, Theodore J., assignor to McGowan Brothers Pump and Machine Company, Cincinnati, Ohio. Crank-gearing	July 25, 1871
	McGowan, Thomson, and Hiram W. Fancett. (*See* Fancett & McGowan.)	
117,794	McGowen, Alexander, Houston, Tex. Cotton and hay press	Aug. 8, 1871
120,449	McGown, Samuel F., Rockville, Ind. Fly-trap	Oct. 31, 1871
121,646	McGrane, Thomas, New York, N. Y. Fastening for mail-bags	Dec. 5, 1871
117,907	McGrath, Patrick, Plattsburgh, N. Y. Gauge-cock	Aug. 8, 1871
114,698	McGrath, Robert, Philadelphia, Pa. Sad-iron	May 9, 1871
115,750	McGrath, Robert M., La Fayette, Ind. Dumping-apparatus	June 6, 1871
	McGraw, Henry, *et al.* (*See* Lynch, Charles, assignor.)	
113,785	McGregor, Frazee B., assignor to self and George A. Hoyt, Pontiac, Mich. Piano-forte action	April 18, 1871
	McGrew, Findley. (*See* Pomeroy, Douglas F., assignor.)	
119,586	McHardy, Robert, assignor of one-half interest to John Coatsworth, Scotland. Mode of harnessing horses to shafts of vehicles	Oct. 3, 1871
118,255	McHenry, George S., Kansas City, Mo. Street-carriage	Aug. 22, 1871
117,313	McIlvaine, Charles, Philadelphia, Pa. Printers' ink	July 25, 1871
117,314	Same. Copying-ink for ruling and printing. (Antedated July 12, 1871)	July 25, 1871
110,929	McIlwain, Henry C., and Alonzo Brumfiel, Connersville, Ind. Rotary blower	Jan. 10, 1871
112,368	McInnes, John, Oxford, Pa. Wash-boiler	Mar. 7, 1871
	McIntire, Dougle. (*See* Walton, Lucius A., assignor.)	
121,725	McIntire, Joseph H., Crestline, Ohio. Link	Dec. 12, 1871
118,025	McIntire, William C., Washington, D. C. Hair-blowing attachment for shears	Aug. 29, 1871
	McIntosh, Elmer D., and Franklin D. Ford. (*See* Ford & McIntosh.)	
	McIntosh, George W. and Herman Camp. (*See* Camp & McIntosh.)	
118,378	McIntosh, Lyman D., Wasseca, Minn. Uterine-supporter	Aug. 22, 1871
	McKay Heeling Machine Association. (*See* Glidden, Charles W., assignor.)	
111,662	McKay, John A., Fort Wayne, Ind. Truss-bridge	Feb. 7, 1871
118,958	McKay, John E., New York, N. Y. Variable cut-off gearing	Sept. 12, 1871
4,640	Same. same (Reissue)	Nov. 21, 1871
113,438	McKay, John R., Rockton, Ill. Apparatus for cooling milk	April 4, 1871
	McKay Sewing-Machine Association. (*See* Richardson, Everett P., assignor.)	
	McKee, J. F., *et al.* (*See* Morgan, Edward, assignor.)	
122,044	McKee, James W., Brooklyn, E. D., N. Y. Implement for embossing fabrics	Dec. 19, 1871
119,468	McKee, John, New Orleans, La. Medical compound or corn-salve	Oct. 3, 1871
	McKee, William, *et al.* (*See* Beatty, James H., assignor.)	
	McKee, William, and William H. Doane. (*See* Doane & McKee.)	
112,730	McKeehan, Benjamin F., Clarksburgh, W. Va. Pumps	Mar. 14, 1871
121,594	McKelfresh, Nathan, Elizabeth, Ind. Medical compound for cure of cancer	Dec. 5, 1871
116,975	McKenney, Almeron, Maumee City, Ohio. Railroad-rail	July 11, 1871
117,657	Same. Device for locking bolts	Aug. 1, 1871
117,658	Same. Railway-rail	Aug. 1, 1871
118,256	Same. Device for locking nuts	Aug. 22, 1871
119,166	McKenzie, Alexander, England. Carriage-top	Sept. 19, 1871
115,626	McKenzie, Duncan, Brooklyn, N. Y. Oven	June 6, 1871
113,905	McKenzie, George, Scotland. Combining carbonaceous matter for the manufacture of gas	April 18, 1871
121,118	McKenzie, James, and J. Monroe Stebbins, Philadelphia, Pa. Cement, and in apparatus for preparing and using the same	Nov. 21, 1871
112,367	McKesson, John M., Lincoln, Nebr. Combined harvester and binder	Feb. 28, 1871
120,159	McKibbin, William, San Francisco, Cal. Wheelbarrow	Oct. 24, 1871
116,976	McKim, James T., Remington, Ind. Composition for preserving eggs	July 11, 1871
111,761	McKinley, Jerome B., Spencer County, Ky. Steam land-carriage	Feb. 14, 1871
119,040	McKenney, Martin V., assignor of one-half interest to Henry U. Frankel, Louisville, Ky. Machine for making cigars	Sept. 19, 1871
117,650	McKnight, John J., Tarrytown, N. Y. Extension-table	Aug. 1, 1871
113,546	McLaughlin, Daniel, Baltimore, Md. Machine for trimming boots and shoes	April 11, 1871
	McLaughlin, Henry. (*See* Power, Martin, assignor.)	
	McLean, James P., and Edward B. Phelps. (*See* Phelps & McLean.)	
5,342	McLeester, Alexander, assignor to Collins & McLeester, Philadelphia, Pa. Type (Design)	Oct. 31, 1871
	McLeod, Charles A., *et al.* (*See* Staats, William H., assignor.)	
	Same. (*See* Geissenhainer, Charles P., assignor) (Reissue.)	
113,906	McLowee, Frederick, New York, N. Y. Revolving gas-burner	April 18, 1871
119,383	McLoughlin, James J., Nashville, Tenn. Thread-cutter	Sept. 26, 1871
	McLure, John, and Joseph H. Connelly. (*See* Connelly & McLure.)	
117,795	McMahan, Charles E., assignor to Albert G. Crane, Elizabeth, N. J. Envelope. (Antedated July 28, 1871)	Aug. 8, 1871
4,967	McMahon, John, assignor to self and Benjamin Scott, Wooster, Ohio. Clawbar (Design)	May 30, 1871
116,997	McMaster, Alonzo D., assignor of one-half interest to John W. Stebbins, Rochester, N. Y. Coal-sifter	June 20, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
116,851	McMaster, Alonzo D., assignor to self and Orrin Morse, Rochester, N. Y. Hinge for gates, &c	July 11, 1871
121,647	McMaster, Alonzo D., Rochester, N. Y. Bed-bottom	Dec. 5, 1871
118,809	McMaster, Joseph M., Rochester, N. Y. Blacking-apparatus and boot-jack combined	Sept. 12, 1871
120,833	Same. Propulsion of canal-boats	Nov. 14, 1871
121,393	McMaster, William J., Dixmont, Pa. Whiffletree-clip	Nov. 28, 1871
115,226	McMeekin, Francis M., Morrison's Mills, Fla. Cotton-gin	May 23, 1871
112,947	McMillan, Duncan, assignor to Abram Rowan, Webster City, Iowa. Buckle	Mar. 21, 1871
	McMillen, John A., and Erasmus D. Gaines. (*See* Gaines & McMillen.)	
120,834	McMillen, William T., Richmond, Ind. Gas-machine	Nov. 14, 1871
	McMillin, John S. (*See* Sullivan, Edward, assignor.)	
	McMullan, James H., and Eustis P. Morgan. (*See* Morgan & McMullan.)	
116,734	McMullen, Edgar, Montreal, Canada. Wood-pavement	July 4, 1871
115,760	McMurray, Louis, and Robert J. Hollingsworth, Baltimore, Md. Soldering-tool	June 6, 1871
	McNabb, John H. (*See* Wright, Abram and George F., assignors.)	
5,444	McNair, David, assignor to Lowell Manufacturing Company, Lowell, Mass. Carpet-pattern (Design)	Dec. 19, 1871
122,185	McNalley, Michael, Houston, Tex. Combined axle-box, sand-band, and casing for carriage-wheel hubs	Dec. 26, 1871
120,658	McNally, Daniel, Mount Savage, Md. Manufacture of picks and rammers	Nov. 7, 1871
115,080	McNamee, John T., assignor of one-half interest to Jacob L. Schoch, Baltimore, Md. Coffee-pot	May 23, 1871
	McNary, George H., *et al.* (*See* Reese, Abram, assignor.)	
115,081	McNaught, Archibald, Alliance, Ohio. Thrashing-machine. (Antedated May 16, 1871)	May 23, 1871
111,663	McNaughton, William, assignor of one-half interest to John H. Trumbull, Chicago, Ill. Type-holder	Feb. 7, 1871
	McNeill, Henry, and Stephen Williams. (*See* Williams & McNeill.) (Two cases.)	
122,273	McNeill, William H., West Orange, N. J. Deodorizing the gases from lard-boiling, &c	Dec. 26, 1871
115,761	McNichol, John, Pontiac, Ill. Foot-measure for shoemakers	June 6, 1871
115,337	McNiel, Eugene, Groton, N. Y. Centering-machine	May 30, 1871
114,176	McPheeters, Archibald A. and Robert P., Arbor Hill, Va. Water-elevator	April 25, 1871
117,714	McPheeters, Walter, and Charles Pearce, Harmony, Ind. Manufacture of coke	Aug. 1, 1871
	McPherson, James B., and Orazio Lugo. (*See* Lugo & McPherson.)	
4,708	McPherson, William H., assignor to self and William N. Carr, sr., Nashville, Tenn. Fastening for bedsteads (Design)	Mar. 14, 1871
121,726	McPherson, William H., assignor to James E. Stacy and Merrill G. Phillips, Nashville, Tenn. Bedstead-fastening	Dec. 12, 1871
116,075	McQuaid, Andrew C., assignor to Edward L. Mouser, Wenona, Ill. Tenoning-machine	June 20, 1871
4,383	McQuiston, Thomas, Morning Sun, Ohio. Cultivator (Reissue)	May 16, 1871
	McRae, F. (*See* Decker, James, assignor.)	
111,132	McSherry, Daniel E., Dayton, Ohio. Grain-drill	Jan. 24, 1871
117,191	Same. same	July 18, 1871
121,648	McSherry, Daniel E., and Jacob H. Landis; said Landis assignor to said McSherry, Dayton, Ohio. Grain-drill	Dec. 5, 1871
116,619	McSteen, Edward, Pittsburgh, Pa. Valve	July 4, 1871
118,959	McVay, Thomas, Braddock's Field, Pa. Dumping-car	Sept. 12, 1871
116,977	McWilliams, James H., New York, N. Y. Padlock	July 11, 1871
	Same. (*See* Brown, Daniel T., assignor.)	
112,826	McWilliams, Patrick H., Detroit, Mich. Railway shifting-truck	Mar. 21, 1871
4,630	Meacham, George F., assignor to James W. Tufts, Newton, Mass. Soda-fountain (Design)	Jan. 31, 1871
4,768	Same. Soda-fountain (Design)	April 4, 1871
	Mead, Albert G., *et al.* (*See* Hawkins, Mead & Spear.)	
119,324	Mead, Charles V., Trenton, N. J. Clothes-wringer	Sept. 26, 1871
117,094	Mead, John, Charlestown, Mass. Liquid-meter	July 18, 1871
4,255	Mead, Melville E., Darien Depot, Conn. Ventilator (Reissue)	Feb. 7, 1871
118,869	Mead, Nathaniel, Oil City, Pa. Wagon-axle	Sept. 12, 1871
119,780	Meah, John, assignor to Meriden Malleable Iron Company, Meriden, Conn. Chandelier-center	Oct. 10, 1871
	Meals, Jacob, and Reuben M. Weider. (*See* Weiden & Meals.)	
120,989	Mears, Benjamin F., Washington, Ind. Fence	Nov. 14, 1871
112,476	Meaney, Frederick, assignor to self and Henry D. Fling, Philadelphia, Pa. Apparatus for rectifying spirits	Mar. 7, 1871
111,298	Medaris, James A., Sullivan, Ind. Combined gang-plow and cultivator	Jan. 24, 1871
117,660	Medlock, Henry, and William Bailey, England. Preserving animal substances	Aug. 1, 1871
118,870	Mee, Henry, Crown Point, Ind. Fan and fly-brush combined	Sept. 12, 1871
112,360	Meech, Harrison B., Fort Edward, N. Y. Propelling canal-boats. (Antedated Feb. 25, 1871)	Mar. 7, 1871
116,978	Same. Paper-pulp engine	July 11, 1871
116,979	Same. Manufacture of paper-pulp	July 11, 1871
116,980	Same. Troy, N. Y. Process and apparatus for the manufacture of paper-pulp	July 11, 1871
	Meeker, John S., *et al.* (*See* Hopkins, Reid, Raymond & Meeker.)	
121,797	Meeker, Ross B. Fence	Dec. 12, 1871
	Meeker, William Lewis, and Andrew Jackson Wight. (*See* Wight & Meeker.)	
112,988	Megaw, Joseph W., Wilmington, Del. Sash-holder	Feb. 28, 1871
115,762	Same. Shutter-fastener	June 6, 1871
112,827	Megill, Edward L., Brooklyn, N. Y. Platen feed-guide	Mar. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,186	Megratten, James, Wilmington Del. Earth-closet	Mar. 28, 1871
	Megraw, Jarrett, and George G. Lobdell. (*See* Lobdell & Megraw.)	
117,908	Meharg, James Metier, Montreal, Canada. Self-closing cock	Aug. 8, 1871
118,960	Mehrer, Charles W., New York, N. Y. Safety-attachment for watch chains or guards	Sept. 12, 1871
115,627	Meier, Edward D., Saint Louis, Mo. Railway-car coupling	June 6, 1871
119,092	Meier, Theodore G., assignor to Adolphus Meier & Co., Saint Louis, Mo. Coke-oven	Sept. 19, 1871
121,535	Meikle, Thomas, Sanford's Corners, N. Y. Shovel-plow	Dec. 5, 1871
	Meilink, Bernard, and Deloy F. Sutton. (*See* Sutton & Meilink.)	
117,005	Meinig, Julius, Cincinnati, Ohio. Machine for cutting oval tin-bottoms	July 18, 1871
	Melcher, John A., *et al.* (*See* Shields, George W., assignor.)	
120,450	Melder, Joseph, Bavaria. Self-heating sad-iron	Oct. 31, 1871
111,702	Melendy, Bryant H., Manchester, N. H. Combined key-ring and door-fastener	Feb. 14, 1871
119,938	Mellish, Henry, Walpole, N. H. Clothes-pin	Oct. 17, 1871
111,556	Meloney, William B., Smyrna, Del. Thill-coupling	Feb. 7, 1871
111,366	Meloy, Edward, and Abram A. Stanley, Shullsburgh, Wis. Sulky-plow	Jan. 31, 1871
110,065	Melvin, Jerome B., Lowell, Mass. Composition for roofing	Jan. 3, 1871
116,470	Melvin, Jerome B., assignor to self, James H. Pindar, and John E. Crane, Lowell, Mass. Machinery for making roofing-felt	June 27, 1871
4,323	Mende, Francis C. and Theodore F., Philadelphia, Pa. Manufacture of German hand-cheese (Reissue)	April 4, 1871
117,796	Mendelson, Leopold, New York, N. Y. Apparatus for bleaching fabrics	Aug. 8, 1871
	Mendham, William, and Cyrus Chambers, jr. (*See* Chambers & Mendham.)	
114,584	Mencely, Clinton H., Troy, N. Y. Bell-yoke attachment	May 9, 1871
116,859	Mengel, Charles C., Brooklyn, N. Y., and Alois P. von Pohrnhoff, Saint Catherine's, Canada. Converting the residuum of petroleum into oil	July 11, 1871
114,319	Menzer, Frederick, assignor to self and William Tracey, Flint, Mich. Extension-table	May 2, 1871
120,739	Menzer, Louis, Goodrich, Mich. Table	Nov. 7, 1871
120,760	Same Extension-table	Nov. 7, 1871
119,469	Menzies, William J., England. Apparatus for grinding rock, quarts, &c.	Oct. 3, 1871
113,683	Mercer, Sophia H., Washington, D. C. Extensible shelving	April 11, 1871
	Merchant, William T., *et al.* (*See* Jeffery, Robert, assignor.)	
4,227	Mercier, Ariadna B., Providence, R. I. Clothes-washer (Reissue)	Jan. 3, 1871
120,598	Mercier, Edward, assignor to self and Little & Stanton, Springfield, Mass. Railway-switch	Nov. 7, 1871
114,177	Meredith, Job L., Bloomingsburgh, Ind. Gate	April 25, 1871
	Meredith, Peter P., Stevensville, Montana Ter. Butter-worker	Sept. 26, 1871
	Meriden Britannia Company. (*See* Wilcox, Horace C., assignor.)	
	Same same (Three cases.) (Design.)	
	Same (*See* Smith, William M., assignor) (Design.)	
	Same (*See* Jepson, John, assignor) (Design.)	
	Meriden Malleable Iron Company. (*See* Wolf, Leopold, assignor.)	
	Same (*See* Village, Thomas, assignor) (Two cases.) (Design.)	
	Same (*See* Meah, John, assignor.)	
	Meriden Silver-Plate Company. (*See* Casper, Charles, assignor.) (Two cases.) (Design.)	
	Same (*See* Hill, John, assignor) (Design.)	
113,322	Merkel, George, and Charles H. Meyer, New York, N. Y. Padlock	April 4, 1871
	Merret, Henry J., and Thomas T. Bishop. (*See* Bishop & Merret.)	
110,771	Merriam, Charles Rollin, assignor to self and W. H. Merriam, Middlebury, Vt. Horse hay-rake	Jan. 3, 1871
117,900	Merriam, George H., assignor to self and Cyrus S. Clark, Portland, Me. Railway-car coupling	Aug. 8, 1871
113,547	Merriam, John C., Olneyville, R. I. Packing pistons of steam-engines, &c	April 11, 1871
120,307	Merriam, John Q., and Abram J. Dietrick, Fort Scott, Kans. Lime-kiln	Oct. 24, 1871
121,186	Merriam, Lincoln A., assignor to self and Elisha P. Wheeler, New York, N. Y. Sewing-machine	Nov. 21, 1871
112,269	Merrick, William H., Philadelphia, Pa. Device for transmitting and reversing rotary motion	Feb. 28, 1871
115,882	Merrie, Hugh, Cincinnati, Ohio. Non-freezing hydrant	Jan. 13, 1871
	Merrihew, P. E. (*See* Nott, Aaron B., assignor.)	
114,699	Merriken, Joseph S., Baltimore, Md. Gas-regulator	May 9, 1871
	Merrill, C. H. and A. W., *et al.* (*See* Poitras, Zephire, assignor.)	
111,763	Merrill, Charles L., Watertown, N. Y. Pump-valve	Feb. 14, 1871
111,961	Same Pump	Feb. 21, 1871
113,439	Merrill, Edgar C., Charleston, Vt. Manufacture of emery-wheels and artificial stone	April 4, 1871
118,626	Merrill, Edward Annis, New York, N. Y. Packing-bag	Aug. 29, 1871
119,930	Merrill, George, East Orange, N. J. Breech-loading fire-arm	Oct. 17, 1871
119,940	Same same	Oct. 17, 1871
118,379	Merrill, Helem, Brooklyn, N. Y. Separator for gold-ore. (Antedated Aug. 16, 1871)	Aug. 22, 1871
	Merrill, Herbert S. (*See* Annan, Charles F., assignor) (Two cases.)	
	Merrill, Horace, and Herman S. Gurney. (*See* Gurney & Merrill.)	
4,954	Merrill, John F., Cincinnati, Ohio. Fruit-can (Design)	May 30, 1871
112,477	Merrill, John F., assignor to self and Alexander Stewart, Cincinnati, Ohio. Tin can	Mar. 7, 1871
	Merrill, Rufus S. (*See* White, Lewis, assignor) (Reissue.)	
	Same (*See* Halvorson, Halvor, assignor) (Reissue.)	
121,304	Same Boston, Mass. Lamp-burner	Nov. 28, 1871
111,073	Merrill, Rufus S., assignor to self, William B., and Joshua Merrill, Boston, Mass. Lamp	Jan. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,073	Merrill, Rufus S., assignor to self, William B. and Joshua Merrill, Boston, Mass. Lamp-chimney	Jan. 17, 1871
111,074	Same Lamp-burner	Jan. 17, 1871
	Merrill, Rufus S., and Charles E. Abbott. (*See* Abbott & Merrill.)	
	Merrill, Rufus S., William B., and Joshua. (*See* North, Albert H., assignor.) (Reissue.)	
	Same (*See* Halvorson, Halvor, assignor) (Reissue.)	
115,092	Merriman, Alanson H., West Meriden, Conn. Water-wheel	May 23, 1871
115,973	Merriman, Alfred, assignor to self and Freeman Carleton, Plantsville, Conn. Molders' flask	June 13, 1871
4,264	Merriman, Andrews T., and Thomas Ross, assignors through mesne assignments to Thomas Ross and Rockwood Barrett, Rutland, Vt. Machine for channeling stone (Reissue)	Feb. 14, 1871
116,853	Merriman, Edward, assignor to self and Hugh Coll, Allegheny City, Pa. Steam-piston	July 11, 1871
4,638	Merriman, Julius E., assignor to Foster, Merriam & Co., West Meriden, Conn. Drawer-pull (Design)	Feb. 7, 1871
114,586	Merritt, Franklin S., Boston, Mass. Japanned leather	May 9, 1871
115,063	Same Manufacture of Japanned leather	May 23, 1871
117,910	Merry, Charles T., and Marlin A. Dunton, Norwalk, Ohio. Corn-planter	Aug. 8, 1871
4,644	Mershon, Albert H., Philadelphia, Pa. Mode of regulating the draught of hot-air furnaces (Reissue)	Nov. 21, 1871
4,796	Mershon, Augustus H., East Saginaw, Mich. Box (Design)	April 11, 1871
118,470	Mervesp, John J., New York, N. Y. Horseshoe-calk	Aug. 29, 1871
110,772	Merwin, Abel, Saint Joseph, Mich. Corn-husker	Jan. 3, 1871
	Merwin, Charles, *et al.* (*See* Thompson, James M., assignor.)	
	Mesmer, Michael, and John Kihlberg. (*See* Stanton, Joseph, assignor.)	
	Messenger, Austin E. (*See* Nash, Stephen B., assignor.)	
120,389	Messenger, Charles A., Syracuse, N. Y. Rein-holder	Oct. 31, 1871
112,615	Messinger, Joseph. Mop-head	Mar. 14, 1871
118,961	Mesteer, John R., Galveston, Tex. Railway-car truck	Sept. 12, 1871
	Metallic Art Works. (*See* Smith, John Joseph Charles, assignor.)	
	Metallic Union Spring Company. (*See* Rich, Charles, assignor) (Reissue.)	
	Same same.	
	Metcalf, Aaron and John, *et al.* (*See* Parkinson, Metcalf & Heald.)	
120,990	Metcalfe, Henry, New York, N. Y. Metallic cartridge	Nov. 14, 1871
113,187	Metherd, John F., and Solomon Young, Union City, Ind. Bee-hive	Mar. 28, 1871
	Metropolitan Washing-Machine Company. (*See* Bailey, Alfred M., assignor.) (Two cases.)	
	Same (*See* Whitney, Washington, assignor) (Reissue.)	
	Same (*See* Cummings & Swallow, assignors) (Reissue.)	
	Meta, Elisha, and Merrill E. Carter. (*See* Carter & Meta) (Reissue.)	
110,770	Metten, George R., Cleveland, Ohio, and Oscar S. Pease, Xenia, Ohio, said Metten assignor to said Pease. Fare-recorder for cars, &c	Jan. 3, 1871
116,735	Mettler, James I., Mendota, Ill. Corn-harvester	July 4, 1871
117,441	Same Combined ditcher and pipe-layer	July 25, 1871
5,429	Metz, Bernhard, New York, N. Y. Water-proof goods (Design)	Dec. 19, 1871
5,430	Same same (Design)	Dec. 19, 1871
5,431	Same same (Design)	Dec. 19, 1871
5,432	Same same (Design)	Dec. 19, 1871
117,661	Metz, David, Mahanoy, Pa. Pump-valve	Aug. 1, 1871
118,730	Metz, Edward A., Cincinnati, Ohio. Method and apparatus for making cigars	Sept. 5, 1871
119,633	Metz, John W., Stouts, Ohio. Ditching-machine	Oct. 3, 1871
114,837	Metzger, Joseph, East Cambridge, Mass. Apparatus for aerating beer-barrels	May 16, 1871
117,472	Meyer, Anton, Germany. Watchman's time-check	July 25, 1871
	Meyer, Charles H., and George Merkel. (*See* Merkel & Meyer.)	
4,654	Meyer, Charles T., assignor to Edward C. Sampson, Newark, N. J. Floor-cloth pattern (Design)	Feb. 14, 1871
4,655	Same Floor oil-cloth pattern (Design)	Feb. 14, 1871
4,656	Same same (Design)	Feb. 14, 1871
4,657	Same same (Design)	Feb. 14, 1871
4,658	Same same (Design)	Feb. 14, 1871
4,659	Same same (Design)	Feb. 14, 1871
4,660	Same same (Design)	Feb. 14, 1871
4,661	Same same (Design)	Feb. 14, 1871
4,890	Same Carpet-pattern (Design)	May 9, 1871
4,891	Same same (Design)	May 9, 1871
4,892	Same same (Design)	May 9, 1871
4,893	Same same (Design)	May 9, 1871
4,894	Same same (Design)	May 9, 1871
5,112	Same Floor oil-cloth pattern (Design)	July 11, 1871
5,113	Same same (Design)	July 11, 1871
5,114	Same same (Design)	July 11, 1871
5,115	Same same (Design)	July 11, 1871
5,116	Same same (Design)	July 11, 1871
5,309	Same Lyons Farm, N. J. Floor oil-cloth pattern (Design)	Oct. 10, 1871
5,310	Same same (Design)	Oct. 10, 1871
5,311	Same same (Design)	Oct. 10, 1871
4,769	Meyer, Christopher, New York, N. Y. Ornamentation of rubber shoes (Design)	April 4, 1871
4,861	Same Rubber-shoe (Design)	May 2, 1871
4,862	Same same (Design)	May 2, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,962	Meyer, Christopher, New York, N. Y., and John Evans, New Brunswick, N. J. India-rubber shoe	Feb. 21, 1871
	Meyer, Ferdinand. (*See* Hodgins, Samuel, assignor.)	
115,338	Meyer, Frederick, New York, N. Y. Culinary boiler	May 30, 1871
122,015	Same.....Newark N. J. Machine for forming scale-pans	Dec. 19, 1871
5,149	Meyer, Jeremiah, assignor to D. Powers & Sons, Newark, N. J. Floor oil-cloth pattern (Design)	Aug. 1, 1871
111,075	Meyer, L. Otto P., Newtown, Conn. Manufacture of safety-matches	Jan. 17, 1871
118,027	Same.....Match-box. (Antedated Aug. 24, 1871)	Aug. 29, 1871
118,628	Same.....Match-holder. (Antedated Aug. 25, 1871)	Aug. 29, 1871
120,889	Same.....Match-box	Nov. 14, 1871
120,890	Same.....Match-holder	Nov. 14, 1871
120,891	Same.....same	Nov. 14, 1871
120,892	Same.....Pocket match-case	Nov. 14, 1871
4,927	Meyer, Victor E., assignor to Samuel W. Dunn, Lansingburgh, N. Y. Floor oil-cloth pattern (Design)	May 23, 1871
4,968	Meyer, Victor E., assignor to Deborah, Albert E., and Nathaniel B. Powers, Lansingburgh, New York, N. Y. Floor-cloth pattern (Design)	May 30, 1871
114,459	Meyer, William E., New York, N. Y. Sail-hank	May 2, 1871
	Meyer, William H., *et al.* (*See* Evens, Julien T., assignor.)	
	Meyers, George H. (*See* Lovegrove, Thomas J., assignor.)	
117,797	Meyers, Nicholas, Buffalo, N. Y. Sewing-machine	Aug. 8, 1871
116,732	Michael, Philip, Frostburgh, Md. Weeding tool	July 4, 1871
122,186	Michales, James, jr., and Richard J. Combs, Bergen, N. J. Brush. (Antedated Dec. 23, 1871)	Dec. 26, 1871
	Méchaut, Alfred, and Charles de Frondat. (*See* Prud'homme, Pierre D., assignor.)	
	Michigan Bolt and Nut Company. (*See* Briscoe, Benjamin and Joseph A., assignors.)	
112,478	Michna, John, and George Fischer, New York, N. Y. Take-up mechanism for looms	Mar. 7, 1871
120,451	Mickel, Joseph, East Birmingham, Pa. Medical compound or salve for the cure of rheumatism	Oct. 31, 1871
122,046	Mickle, Charles, Guelph, Canada. Propulsion of vessels	Dec. 19, 1871
118,810	Mickle, William H., Utica, N. Y. Hay-tedder. (Antedated Aug. 24, 1871)	Sept. 12, 1871
	Middleton, Elijah C. (*See* Winchell, James P., assignor.)	
110,666	Middleton, John W., Philadelphia, Pa. Purification of cast-iron	Jan. 3, 1871
110,990	Same.....Producing refined cast-iron, steel, and malleable iron. (Antedated Jan. 8, 1871)	Jan. 17, 1871
112,848	Same.....Manufacture of iron and steel	Mar. 21, 1871
112,849	Same.....Crane	Mar. 21, 1871
116,630	Middleton, Nathan, and Stephen Morris, Philadelphia, Pa. Hot-water heater	July 4, 1871
	Middleton, Nathan and Allen, jr. (*See* Keely, John W., assignor.)	
	Middleton, Samuel E. and Daniel W. (*See* Egerton, Charles C., assignor.)	
117,192	Middleton, William A., assignor to self and George Winters, Harrisburgh, Pa. Broom	July 18, 1871
120,308	Middleton, William A., Harrisburgh, Pa. Fence-post	Oct. 24, 1871
	Same.....(*See* Sterick, Charles W., assignor.)	
115,974	Middleton, William R., Cleveland, Ohio. Crozing-machine	June 13, 1871
114,321	Middleton, William R. and Edward, Cleveland, Ohio. Barrel-machine	May 2, 1871
112,830	Mielisch, Hermann, Racine, Wis. Peat-machine	Mar. 21, 1871
113,440	Mihills, Merrick A., Lodi, Ohio. Apparatus for drawing water from wells	April 4, 1871
114,332	Mihills, Uriah D., Fond du Lac, Wis. Shingle-machine	May 2, 1871
115,498	Milbank, Isaac M., Greenfield Hill, Conn. Cartridge. (Antedated May 26, 1871)	May 30, 1871
121,536	Miles, Alexander, Toledo, Ohio. Compound for cleansing the hair	Dec. 5, 1871
118,546	Miles, Charles M., assignor to self and Solomon Matthews, Milford, Del. Water-wheel	Aug. 29, 1871
111,859	Miles, Frederick B., assignor to Ferris & Miles, Philadelphia, Pa. Turning-lathe	Feb. 14, 1871
	Miles, Frederick B., and Oscar C. Ferris. (*See* Ferris & Miles.)	
112,616	Miles, George W., Lynn, Mass. Treadle for sewing and other machines	Mar. 14, 1871
118,649	Miles, Hiram C., Saint Joseph, Mich. Heating-stove	Aug. 29, 1871
111,860	Miles, Stephen S., Delta, N. Y. Wash-boiler	Feb. 14, 1871
120,390	Miles, William H., jr., New York, N. Y. Lather-brush	Oct. 31, 1871
	Milford, Robert W., *et al.* (*See* Salvo, Christopher, assignor.)	
	Millar, George W. (*See* Lovell, Joseph J., assignor.)	
	Miller, Absalom, Daleville, Ala. Gun-lock	Sept. 26, 1871
115,330	Miller, Benjamin F., New York, N. Y. Ventilator	May 30, 1871
111,664	Miller, Charles H., and William Ascough, Buffalo, N. Y. Vent-plug	Feb. 7, 1871
118,811	Same.....Vent-bung	Sept. 12, 1871
113,070	Miller, Curtis, assignor to self and Jeremiah R. Rogers, Lincoln, Pa. Separator for thrashing-machines	Mar. 28, 1871
116,471	Miller, Curtis, assignor to self and J. R. Royer, Lincoln, Pa. Binders' platform for harvesters	June 27, 1871
	Miller, Daniel. (*See* Zoller, Daniel, assignor.)	
120,452	Miller, Daniel, assignor to self and Jacob Miller, Marietta, Ohio. Clothes-drier	Oct. 31, 1871
121,953	Same.....Clothes-rack	Dec. 19, 1871
	Miller, Daniel, and Robert May Caffall. (*See* Caffall & Miller.)	
110,991	Miller, David, Allegheny City, Pa. Lunch-box	Jan. 17, 1871
116,737	Miller, D. K., Reading, Pa. Permutation-lock. (Antedated June 23, 1871)	July 4, 1871
	Miller, Elias, and John Sowder. (*See* Sowder & Miller.)	
120,761	Miller, Franklin, Pittsburgh, Pa. Water-ram	Nov. 7, 1871
120,991	Miller, Frederick L., Brooklyn, N. Y. Soldering-apparatus	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,630	Miller, Friend, assignor to Simpson, Hall, Miller & Co., Wallingford, Conn. Ice-pitcher	Aug. 29, 1871
113,077	Miller, George, and Phillip Hannah, assignors to selves and John Gorton, jr., Rochester, N. Y. Folding-chair	Mar. 28, 1871
	Miller, George W. (*See* Weicker, Henry W., assignor.)	
121,883	Miller, Gideon H., Belvidere, Ill. Washing-machine	Dec. 12, 1871
5,226	Miller, Henry S., assignor to self and Samuel H. Davis, jr., Philadelphia, Pa. Saw (Design)	Aug. 22, 1871
115,499	Miller, Henry S., assignor of one-half interest to Samuel H. Davis, Philadelphia, Pa. Saw-frame	May 30, 1871
115,500	Same.....same	May 30, 1871
116,143	Miller, Herman, Bellville, Tex. Steam-plow	Aug. 15, 1871
120,309	Miller, Isaac M., Huntsville, Ala. Apparatus for exhibiting cards, &c	Oct. 24, 1871
115,227	Miller, James, and Napoleon Dubriel, Joliet, Ill. Machine for shelling corn	May 23, 1871
119,987	Miller, James B., assignor to self and Thomas W. Bell, Pittsburgh, Pa. Reaming tool	Oct. 17, 1871
5,150	Miller, James H., assignor to self and Charles Krips, Philadelphia, Pa. Medallion head of Washington (Design)	Aug. 1, 1871
5,433	Same.....Medallion head of Jackson (Design)	Dec. 19, 1871
117,798	Miller, James S., Terre Haute, Ind. Joist-hook	Aug. 8, 1871
	Miller, James W. (*See* Talbott, Ezra W., assignor.)	
120,453	Miller, Joel B., Rondout, N. Y. Cigar-lighter	Oct. 31, 1871
117,911	Miller, John, Swan, Ind. Harvester-reel	Aug. 8, 1871
4,283	Miller, John, jr., Marshalltown, Iowa. Lock-nut (Reissue)	Feb. 28, 1871
114,700	Miller, John C., Danville, Conn. Lathe-chuck	May 9, 1871
119,634	Miller, John D., assignor to Detroit Stove Works, Detroit, Mich. Heating-stove	Oct. 3, 1871
5,301	Same.....Heating-stove (Design)	Oct. 3, 1871
5,261	Miller, John Ernest, assignor to Sweeny, McCluney & Co., Birmingham, Pa. Ornamentation of glassware (Design)	Sept. 12, 1871
120,593	Miller, John Ernest, assignor to self and Washington Beck, Birmingham, Pa. Lathe-attachment for chasing designs on molds	Nov. 7, 1871
4,495	Miller, John P., Somerville, N. J. Fruit-drier (Reissue)	Aug. 1, 1871
111,467	Miller, John V. R., Richmond, Ind. Fruit-drier	Jan. 31, 1871
120,762	Miller, Jonathan, Watkins, N. Y. Hinge	Nov. 7, 1871
114,023	Miller, Joseph, Detroit, Mich. Grain-separator	April 25, 1871
118,962	Miller, Joseph A., Providence, R. I. Grate-bar	Sept. 12, 1871
111,367	Miller, Joseph H., Arcadia, N. C. Thrashing-machine. (Antedated Jan. 23, 1871)	Jan. 31, 1871
113,907	Miller, Louis, Baltimore, Md. Scroll-saw	April 18, 1871
111,229	Miller, Lumon C., Humphrey, N. Y. Brace for carriage and other springs	Jan. 24, 1871
119,873	Miller, Martha J., Bloomington, Ill. Combined table, bureau, cupboard, and sink	Oct. 10, 1871
115,628	Miller, Max, Brooklyn, N. Y. Toy whistle	June 6, 1871
118,257	Miller, Michael, Waterloo, Ind. Wagon	Aug. 22, 1871
110,773	Miller, Robert R., Plantsville, Conn. Method of forming body-loops for carriages	Jan. 3, 1871
116,472	Same.....Body-loop	June 27, 1871
115,340	Miller, Rutger B., Utica, N. Y. Eves-trough and conductor	May 30, 1871
117,912	Miller, Samuel, Gratis, Ohio. Combination-lock	Aug. 8, 1871
111,764	Miller, Samuel H., Hamilton, Ill. Plow-beam	Feb. 14, 1871
115,084	Miller, Solomon, and Edward Claringdon; said Miller assignor to Samuel Thomas, Waterloo, N. Y. Excavator	May 23, 1871
	Miller, Thomas, *et al.* (*See* Wiley, Moses H., assignor) (Design.)	
120,310	Miller, Thomas W., Montezuma, Ind. Washing-machine	Oct. 24, 1871
111,881	Miller, Watson J., assignor to Simons & Miller, Middletown, Conn. Coffee-pot	Feb. 14, 1871
115,341	Miller, William, Boston, Mass. Lock for meeting-rails of sashes	May 30, 1871
112,002	Miller, William, assignor to self and C. E. Woodman, Boston, Mass. Carpenters' plane	Feb. 21, 1871
	Miller, William A., and Robert V. Jenks. (*See* Jenks & Miller.)	
112,479	Miller, William H., Brandenburgh, Ky. Combined baker and broiler	Mar. 7, 1871
119,936	Miller, William Hartley, Philadelphia, Pa. Fender for gas-brackets	Sept. 26, 1871
4,567	Same.....Piston-rod packing (Reissue)	Oct. 10, 1871
	Miller's Falls Manufacturing Company. (*See* McCoy, William H., assignor.)	
	Same.....(*See* Sawyer, Samuel, assignor.)	
	Millett, Nathaniel J., and Erastus Woodward. (*See* Woodward & Millett.)	
112,144	Millett, Thomas M., sr., Savannah, Ga. Wine and cider press	Aug. 15, 1871
111,076	Millholland, James A., Mount Savage, Md. Brick-press	Jan. 17, 1871
115,085	Milligan, Henry C., assignor to Florian Grosjean, South Orange, N. J. Spoon	May 23, 1871
122,126	Milligan, James T., assignor to self and Joseph W. Branch, Duquoin. Stove-leg. (Antedated Dec. 20, 1871)	Dec. 26, 1871
	Milligan, Julia M., New Albany, Ind. Abdominal-supporter (Extension)	Feb. 10, 1871
118,963	Milliken, David, New York, N. Y. Machine for splitting wood	Sept. 12, 1871
121,954	Milliken, William H., Baltimore, Md. Whip-socket	Dec. 19, 1871
110,930	Millingar, Henry, Pittsburgh, Pa. Valve for oil-pumps. (Antedated Dec. 30, 1870)	Jan. 10, 1871
4,902	Millington, Norman, assignor through mesne assignments to the Eagle Square Company, Shaftsbury, Vt. Machine for figuring carpenters' squares. (Reissue)	Feb. 14, 1871
4,523	Millington, Norman, assignor to the Eagle Square Company, Shaftsbury, Vt. Machine for graduating squares and rules (Reissue)	Aug. 22, 1871
115,533	Millner, George W., Charlottetown, Prince Edward Island. Seed-drill	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,831	Millechau, Adolph, New York, N. Y. Apparatus for refining metals	Mar. 21, 1871
115,348	Millechau, Adolph, assignor to Joseph W. Richards, New York, N. Y. Lubricating compound	May 30, 1871
110,067	Mills, Cassius A., Bridgeport, Conn. Motive-power apparatus	Jan. 3, 1871
113,546	Mills, Charles W., Chicago, Ill. Folding-table top	April 11, 1871
	Mills, E. Lyman. (*See* McGlashan, John W., assignor.)	
112,168	Mills, Francis E., San Francisco, Cal. Treadle for sewing-machines	Feb. 28, 1871
117,443	Mills, Isaac, Hamilton, Canada. Cloth-measuring machine	July 25, 1871
113,441	Mills, James R., Macon City, Mo. Wheel for vehicles	April 4, 1871
	Mills, Jesse C., and Achille Extein. (*See* Extein & Mills.)	
112,063	Mills, John C., assignor to self and Richard Leake, Rochester, N. Y. Auger-bit	Feb. 21, 1871
112,617	Same.....Potato-planter	Mar. 14, 1871
110,608	Mills, John H., Boston, Mass., and John Howarth, Salem, Mass. Hot-water feeder for steam-boilers	Jan. 3, 1871
121,395	Mills, John H., Boston, Mass. Sectional steam-boiler	Nov. 28, 1871
114,840	Mills, Lawrence R., Tekonsha, Mich. Washing-machine	May 16, 1871
	Mills, Lucien, and Alonzo T. Boon. (*See* Boon & Mills.)	
115,928	Mills, Richard L., Springfield, Ohio. Coffee-roaster	May 23, 1871
111,765	Mills, Thomas and George M., Philadelphia, Pa. Machine for making candy	Feb. 14, 1871
112,163	Mills, William, New York, N. Y. Explosive compound	Feb. 28, 1871
115,501	Millward, Frank, Cincinnati, Ohio. High and low water indicator for steam-boilers	May 30, 1871
121,058	Milner, Edward, Strathroy, Canada. Bent cutter bench and knee	Nov. 21, 1871
111,133	Milner, Edward, assignor to Charles H. Mackintosh, Marquette, Mich. Compound for preserving drain-tiles, bricks, &c	Jan. 24, 1871
	Milner, Wesley, and Milton Durnell. (*See* Durnell & Milner.)	
121,306	Milnor, Joseph K., Baltimore, Md. Sawing-machine	Nov. 28, 1871
	Miltimore, George W., and Ellis Doty. (*See* Doty & Miltimore.)	
111,230	Milwain, John, Nashville, Tenn. Folding-desk	Jan. 24, 1871
115,629	Miner, James G., Nashville, Tenn. Plow	June 6, 1871
117,662	Same.....same	Aug. 1, 1871
121,884	Miner, Stephen H., Winona, Minn. Lightning-rod	Dec. 12, 1871
116,871	Minetree, James, Petersburgh, Va. Brush	Sept. 12, 1871
113,540	Mingay, Edward, Boston, Mass. Fire-pot for stoves and furnaces	April 11, 1871
117,096	Same.....Cooking-range	July 18, 1871
111,963	Minnies, Nathan S., Oil City, Pa. Cooking-stove attachment	Feb. 21, 1871
116,964	Minor, John W., Middleborough, Mass. Picket-pointer	Sept. 12, 1871
114,370	Minor, Peter E., Schenectady, N. Y. Water-proof compound for coating cloth, wood, metals, &c	Mar. 7, 1871
117,663	Minott, Levi E., Sheboygan, Wis. Wood-bending machine	Aug. 1, 1871
117,664	Same.....Retaining-strap for bending timber	Aug. 1, 1871
4,641	Minter, James, assignor to self, Jonathan Hope, and Robert H. Butcher, Lowell, Mass. Bolt-heading machine (Reissue)	Nov. 21, 1871
116,208	Mitchell, Andrew W., assignor to self and Henry W. Yates, Detroit, Mich. Scroll-sawing machine	June 20, 1871
117,097	Mitchell, Augustus F., Valparaiso, Ind. Brick-machine	July 18, 1871
116,981	Mitchell, Charles K., Greenville, Mich. Bag-holder	July 11, 1871
120,084	Mitchell, Chauncey L., assignor of one-half interest to William Heckle, Westborough, Mass. Flocked fabric for hats, bonnets, &c	Oct. 17, 1871
118,872	Mitchell, George E., Lowell, Mass. Medicated plaster	Sept. 12, 1871
	Mitchell, Harvey J. (*See* Nevenger, George, assignor.)	
	Mitchell, John C., and Abraham H. Stark. (*See* Stark & Mitchell.)	
114,841	Mitchell, John M., Cincinnati, Ohio. Keeper for bolts	May 16, 1871
	Mitchell, Michael L., *et al.* (*See* Shields, George W., assignor.)	
	Mitchell, Robert. (*See* Plumb, Charles, assignor.)	
112,948	Mitchell, Robert B., Chicago, Ill. Steaming-attachment for kerosine stoves. (Antedated March 10, 1871)	Mar. 21, 1871
	Mitchell, Rufus S., *et al.* (*See* Knight, Ebenezer, assignor.)	
117,709	Mitchell, Samuel, assignor to self and Stephen B. Tidd, Lima, N. Y. Socket for connecting spokes and fellies	Aug. 8, 1871
110,774	Mitchell, Thomas W., assignor to self and Robert P. Briscoe, Richmond, Tex. Compound for destroying worms in the cotton-plant	Jan. 3, 1871
	Mitchell, Vance & Co. (*See* Vance, Samuel B. H., assignor) (Reissue.)	Jan. 24, 1871
111,231	Mitchell, Walter G., Holliston, Mass. Portable escritoir	Jan. 24, 1871
111,312	Mithoff, Edward T., and Jesse W. Dann, Columbus, Ohio. Buggy-seat	Aug. 8, 1871
4,506	Mix, Garry L., Yalesville, Conn. Iron spoon (Reissue)	Oct. 13, 1871
	Same.....same (Extension)	Sept. 19, 1871
119,041	Mix, John W., Batavia, N. Y. Pruning-shears	
	Mize, Jefferson. (*See* Harrison, Marshall, assignor.)	
	Modica, Frank B. (*See* Crabill, Joseph R., assignor.)	
121,039	Moeller, Heinrich F., and Hermann P. Brandt, Davenport, Iowa. Tool for boring cigar-molds	Nov. 21, 1871
111,663	Moffitt, Alexander, Washington, D. C. Wagon	Feb. 7, 1871
116,854	Moffitt, David J., Thorntown, Ind. Water-gate	July 11, 1871
	Same.....(*See* Edgerton, Joseph W., assignor.)	
113,393	Moffitt, Simon, Minneapolis, Minn. Awning for animals	April 4, 1871
116,040	Molfino, Angle, assignor to the United States Cartridge Company, New York, N. Y. Gunpowder	Aug. 15, 1871
118,631	Moltz, Adam, New York, N. Y. Sewing-machine	Aug. 29, 1871
122,047	Monaghan, Joseph, New York, N. Y., and Thomas Flynn, Brooklyn, N. Y., assignors to Joseph Monaghan. Pen and pencil case	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,502	Moncrief, Alexander, Scotland. Mounting and working ordnance	May 30, 1871
116,855	Monfort, Oscar F., Dearborn, Mich. Churn	July 11, 1871
	Monitor Shield Company. (*See* Foster, Samuel C., assignor.)	
121,463	Monk, John, Norwich, Conn. Metallic hub for wheels	Dec. 5, 1871
	Monk, William Gowers. (*See* Caffall & Miller, assignors.)	
113,188	Monnet, Francisque, New York, N. Y. Vegetable-cutter	Mar. 28, 1871
121,798	Monnier, Alfred, Philadelphia, Pa. Manufacture of sulphuric acid (Extension)	July 25, 1871
	Same.....Separating metals from a mixture of metallic and alkaline sulphates	Dec. 12, 1871
121,799	Same.....Treating metallic and alkaline sulphates to separate copper, &c	Dec. 12, 1871
121,885	Monroe, Charles W., assignor to Susan M. and Julia H. Monroe, Chicago, Ill. Glossing and fluting iron	Dec. 12, 1871
116,338	Monroe, Henry, Baldwinsville, N. Y. Machine for washing and bleaching paper-stock	June 27, 1871
118,380	Monroe, John S., Mitchell, Ind. Sample-frame for merchants	Aug. 22, 1871
	Monson, Charles, New Haven, Conn. Extension gas-tube (Extension)	Aug. 23, 1871
112,164	Montague, Dwight B., Springfield, Mass. Portable furnace	Feb. 28, 1871
118,873	Montfort, James, Newburgh, N. Y. Cut-off valve-gear for steam-engines	Sept. 12, 1871
4,546	Montgomery, Henry and Simeon Howes, assignors through mesne assignments to Simeon Howes, Alpheus and Norman Babcock, and Carlos Ewell, Silver Creek, N. Y. Grain-separator (Reissue)	Sept. 12, 1871
119,367	Montgomery, Henry H., Greensburgh, Ind. Churn	Sept. 26, 1871
111,862	Montgomery, James, Croton Landing, N. Y. Construction of car-axles and shafts	Feb. 14, 1871
121,187	Same.....New York, N. Y. Constructing axles. (Antedated Nov. 9, 1871)	Nov. 21, 1871
	Montigny, Joseph, and Louis Christophe. (*See* Christophe & Montigny.)	
	Moody, James C., and Nicholas J. Allen. (*See* Allen & Moody.)	
115,763	Moody, Joseph G., New York, N. Y. Hand-stamp	June 6, 1871
119,470	Moody, Nelson B., assignor to self and John Murray, Woodman, Wis. Corn-planter	Oct. 3, 1871
112,833	Moody, Theodore F., Toledo, Ohio. Apparatus for removing paint, varnish, &c. (Antedated March 14, 1871.)	Mar. 21, 1871
116,339	Moore, Hazen, Chicago, Ill. Hot-air furnace	June 27, 1871
117,098	Moon, Benjamin, Coventry, R. I. Drawing-frame	July 18, 1871
117,193	Mooney, Charles M., Scotch Plains, N. J. Water-wheel	July 18, 1871
	Mooney, John H., and Hannah G. Suplee. (*See* Suplee & Mooney.)	
119,237	Mooney, John H., and George A. Lloyd, San Francisco, Cal. Animal-trap	Sept. 26, 1871
	Mooney, Stephen W. (*See* Riouff, Henry L., assignor.)	
111,077	Moore, Albert L., and Norman S. Parker, El Dorado, Oreg. Water-wheel	Jan. 17, 1871
	Moore, Alexander I. (*See* Grim, Louis, assignor.)	
113,078	Moore, Arthur F., Florence, Ind. Machine for turning axles	Mar. 28, 1871
116,340	Moore, Charles, New York, N. Y. Automatic governor and cut-off device for steam-engines	June 27, 1871
111,134	Moore, Charles, assignor to Jose F. de Navarro, New York, N. Y. Meter	Jan. 24, 1871
111,233	Moore, Charles, assignor to William Tobin, New York, N. Y. Fluid-meter	Jan. 24, 1871
111,234	Same.....Liquid-meter	Jan. 24, 1871
119,990	Moore, Charles A., assignor to self and M. Hartley, Westbrook, Conn. Glass clock-case	Oct. 17, 1871
112,165	Moore, Charles C., New York, N. Y. Portable book-holder	Feb. 28, 1871
115,764	Same.....Folding-box	June 6, 1871
121,650	Same.....Window-awning	Dec. 5, 1871
118,041	Moore, Charles D., Lawrence, Mass. Jig-saw	Aug. 15, 1871
4,993	Moore, Charles E., New York, N. Y. Long comb (Design)	June 13, 1871
114,460	Moore, Charles E., assignor to self and Martin L. Wyman, Boston, Mass. Elevator	May 2, 1871
119,635	Same.....same	Oct. 3, 1871
114,957	Moore, Charles E., assignor to Hiram B. Nickerson, Boston, Mass. Feeding-mechanism for file-cutting machines. (Antedated May 6, 1871)	May 16, 1871
117,665	Moore, Charles F., Snedikerville, Pa. Blacksmiths' hardy	Aug. 1, 1871
111,368	Moore, Charles S. and Silas A.; said Silas A. Moore assignor to Harland Boyd, Worcester, Mass. Lamp-chimney and dish-washer	Jan. 31, 1871
121,055	Moore, Charles S., and Harland P. Boyd, assignors to Washington Whitney, Worcester, Mass. Crockery and lamp-chimney mop. (Antedated Nov. 29, 1871)	Dec. 19, 1871
4,276	Moore, Daniel and Edwin, assignors to the Bissell & Moore Manufacturing Company, New York, N. Y. Saw-frame (Reissue)	Feb. 21, 1871
120,763	Moore, Daniel, assignor to Eugene Bissell, Brooklyn, N. Y. Ferrule (Antedated Oct. 28, 1871)	Nov. 7, 1871
4,831	Moore, Edward C., assignor to Tiffany & Co., Yonkers, N. Y. Spoon or fork handle (Design)	April 18, 1871
5,077	Same.....Spoon or fork handle (Design)	July 4, 1871
119,782	Moore, Francis M., Chico, Cal. Medical compound for sore-throat, &c	Oct. 10, 1871
	Moore, Gabriel, and John W. Wood. (*See* Wood & Moore.)	
121,294	Moore, George H., Norwich, Conn. Concrete-pavement	Nov. 28, 1871
121,397	Same.....Composition for pavements, &c	Nov. 28, 1871
121,651	Same.....Inlaying plastic pavements	Dec. 5, 1871
113,394	Moore, George R., Philadelphia, Pa. Furnace-grate	April 4, 1871
113,908	Same.....Fire-grate	April 18, 1871
117,099	Same.....Steam-trap	July 18, 1871
117,194	Same.....Stove-grate	July 18, 1871
118,874	Same.....same	Sept. 12, 1871
116,473	Moore, George W., Newark, N. J. Pliers	June 27, 1871
	Moore, Henry. (*See* Broughton, John, assignor) (Reissue.)	
	Moore, Henry and Charles B. (*See* Newton, Jason, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,913	Moore, Henry J., Topeka, Kans. Potato-digger	Aug. 8, 1871
5,227	Moore, James B., and John P. Robitzer, Pittsburgh, Pa. Sign (Design)	Aug. 22, 1871
112,420	Moore, James D., Grinnell, Iowa. Shuttle for sewing-machines	Mar. 7, 1871
116,962	Moore, James L., Bridgeport, Conn. Watch-key	July 11, 1871
118,321	Moore, John C., Madison, Ind. Thill-coupling	Aug. 22, 1871
4,804	Moore, Jonathan, and William Wilkinson, assignors to Jonathan Moore and A. Horton, Brooklyn, N.Y. Ornament for fountains, &c (Design)	April 11, 1871
4,805	Same same (Design)	April 11, 1871
4,806	Same same (Design)	April 11, 1871
4,807	Same same (Design)	April 11, 1871
4,808	Same same (Design)	April 11, 1871
4,809	Same same (Design)	April 11, 1871
4,906	Same Ornament for fountains (Design)	May 16, 1871
4,907	Same same (Design)	May 16, 1871
4,846	Moore, Jonathan, jr., Brooklyn, N. Y. Clock-front (Design)	April 25, 1871
119,874	Moore, Joshua H., Deep River, Conn., and James B. Clark, Chester, Conn. Rudder-attachment	Oct. 10, 1871
117,800	Moore, J. Owen, Albany, N. Y. Burial-casket. (Antedated Aug. 2, 1871)	Aug. 8, 1871
114,178	Moore, Levi, Baraboo, Wis. Fence	April 25, 1871
116,474	Moore, Louis L., and R. B. S. Whayre; said Moore assignor to said Whayre, Calhoun, Ky. Composition for the cure of piles	June 27, 1871
122,187	Moore, Reneslaer R., Cortland, N. Y. Gun-barrel	Dec. 26, 1871
4,709	Moore, Roswell A., Kensington, Conn. Garden-tool (Design)	Mar. 14, 1871
117,914	Moore, Samuel C., Patonsburgh, Mo. Bee-hive	Aug. 8, 1871
111,863	Moore, Stephen, assignor to self and Homer Rogers, Sudbury, Mass. Manufacture of shoe-shanks	Feb. 14, 1871
121,800	Same Paper-calendering machine	Dec. 12, 1871
	Moore, Stillman. (*See* Bidwell, Henry M., assignor.)	
111,606	Moore, Thomas, Bloomington, Ill., and James O'Donald, Clinton, Ill. Vapor-burner	Feb. 7, 1871
119,527	Moore, Thomas, England. Apparatus for raising and lowering weights	Oct. 3, 1871
120,650	Moore, Thomas, Boston, Mass. Machine for enameling moldings	Nov. 7, 1871
	Same (*See* Johnson, John, assignor.)	
118,547	Moore, Thomas G., Albia, Iowa. Harness saddle-tree. (Antedated Aug. 25, 1871)	Aug. 29, 1871
121,398	Moore, Thomas H., Alexandria, Va. Steam-boiler furnace draught-regulator	Nov. 28, 1871
116,856	Moore, Thomas W., assignor to Elric L. Nichols, New York, N. Y. Folding-cradle	July 11, 1871
120,893	Moore, Thomas W., assignor to Francis U. Moore, New York, N. Y. Bedstead-fastening	Nov. 14, 1871
112,371	Moore, William N., Neenah, Wis. Cooking-stove	Mar. 7, 1871
110,775	Moores, William C., assignor of two-thirds interest to Gilbert Pullen, Washington, D. C. Street-sprinkler	Jan. 3, 1871
111,078	Moorhous, Albert, Indianapolis, Ind. Tile-machine	Jan. 17, 1871
120,160	Moose, Peter J., and Jonathan Kuhn, Dansville, N. Y. Horse hay-fork	Oct. 24, 1871
121,399	Morahan, Bernard, Brooklyn, N. Y. Pepper and spice box. (Antedated Nov. 13, 1871)	Nov. 28, 1871
111,557	Moran, James, Auburn, N. Y., and Casper D. Wallace, Corry, Pa., assignors to selves and Hiram K. Needham. Harvester	Feb. 7, 1871
	Moran, Thomas, *et al.* (*See* Nimmo, Archibald, assignor.)	
	Same (*See* Nimmo, Alexander, assignor.)	
116,341	Moraud, Augustus, Brooklyn, N. Y. Brick-machine	June 27, 1871
111,389	Morandi, Francis, Malden, Mass. Culinary vessel	Jan. 31, 1871
114,958	Morange, James K., and Napoleon B., Pittsburgh, Pa. Casting car-wheels	May 16, 1871
111,468	More, John, New York, N. Y. Sliding-door	Jan. 31, 1871
110,660	Moreau, Eugene, assignor to self, James W. Haggerty, and Samuel Hill, San Francisco, Cal. Sewing-machine for working button-holes	Jan. 3, 1871
112,618	Morehead, James M., Brooklyn, N. Y. Pipe-connection	Mar. 14, 1871
110,670	Morehouse, Aaron, Hartford, Conn. Tucking-device for sewing-machines	Jan. 3, 1871
114,956	Morehouse, Clark, assignor to self and John W. Doughty, Wayland, N. Y. Current-wheel	May 16, 1871
	Morehouse, Myron, and Collester M. Ballard. (*See* Ballard & Morehouse.)	
122,048	Morehouse, Thomas H. B., Lansing, Mich. Bed-bottom	Dec. 19, 1871
111,135	Morehouse, William, Buffalo, N. Y. Chair-clamp for railway-rails	Jan. 24, 1871
	Moreland, George D., *et al.* (*See* Doan, Wallis & Moreland.)	
121,727	Morey, Nathan D., Saratoga Springs, N. Y. Machine for pressing and finishing leather, skins, &c	Dec. 12, 1871
111,370	Morfit, Campbell, Baltimore, Md. Manufacture of superphosphate of lime	Jan. 31, 1871
111,245	Morgan, Edward, assignor of two-thirds interest to J. F. McKee and Charles Fair, Washington, D. C. Measuring-attachment for packaged fabrics	Jan. 24, 1871
	Morgan, Edward H., and William F. Nolker. (*See* Nolker & Morgan.)	
120,909	Morgan, Eustis P., Saco, Me., and James H. McMullan, Biddeford, Me. Roving-frame	Oct. 24, 1871
4,903	Morgan, George, Brooklyn, N. Y. Machine for cutting stone (Reissue)	Feb. 14, 1871
115,765	Morgan, George C., Chicago, Ill. Railway-rail	June 6, 1871
118,256	Same Bridge	Aug. 22, 1871
119,398	Same Rotating drop-pipe	Sept. 26, 1871
121,256	Morgan, Henry H., and Albert Gerry, San Francisco, Cal. Car-coupling	Nov. 28, 1871
119,040	Morgan, James B., Davenport, Iowa. Dust-pan	Sept. 19, 1871
112,853	Morgan, James B., assignor to self and Morris J. Keating, Davenport, Iowa. Snah-holder	Mar. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,444	Morgan, John, jr., Wheeling, W. Va. Burglar-alarm	July 25, 1871
	Morgan, John, jr., and Archie W. Paull. (*See* Paull & Morgan) (Two cases.)	
116,738	Morgan, Thomas, Marquette, Mich. Car-coupling	July 4, 1871
119,783	Morgan, Thomas G., Murfreesborough, Tenn. Flour-bolt	Oct. 10, 1871
118,965	Moritz, David, Buffalo, N. Y. Jack for replacing cars	Sept. 12, 1871
121,801	Same Carmanaville, New York, N. Y. Painters' trestle	Dec. 12, 1871
117,195	Morley, John F., Lansing, Mich. Safety-trace fastener	July 18, 1871
118,875	Morrell, James A., assignor to self, James H. Wheatley, L. P. Williams, and George W. Baxter, New York, N. Y. Refining sugars	Sept. 12, 1871
116,983	Morrie, Harrie, Rockford, Ill. Rooting compound	July 11, 1871
116,076	Morrill, Charles, New York, N. Y. Fastening for meeting-rails of sashes	June 20, 1871
110,904	Morrill, Charles, assignor to George H. Bidwell, New York, N. Y. Attaching knobs to their spindles	Jan. 17, 1871
121,400	Morrill, Charles E., Deering, Me. Process of manufacturing shoe-binding	Nov. 28, 1871
113,180	Morrill, Charles E., Westbrook, Me., John E. Coffin, Portland, Me., and George F. Hall, Westbrook, Me.; said Coffin and Hall assignors to Charles E. Morrill. Machine for stripping and cutting leather	Mar. 28, 1871
113,325	Morrill, Franklin H., Philadelphia, Pa. Machine for winding bobbins	April 4, 1871
121,886	Morrill, Levi H., and Elbridge G. P. Smith, Portland, Me. Desk, table, and shelf combined. (Antedated Dec. 2, 1871)	Dec. 12, 1871
118,966	Morris, Abraham, New York, N. Y. Sofa-bed	Sept. 12, 1871
112,949	Morris, Ellis H., Canton, Ohio. Molding-plane	Mar. 21, 1871
115,630	Morris, George E., and Charles W. Gregory, Danville, Ill. Railway-rail joint	June 6, 1871
116,021	Morris, James A., Greenbush, N. Y. Door-fastener	July 4, 1871
117,445	Morris, John E., Baltimore, Md. Spirit-still	July 25, 1871
114,461	Morris, John H., Paxton, Ill. Buckle	May 2, 1871
113,190	Morris, Joseph R., Houston, Tex. Rotary subsoil-plow	Mar. 28, 1871
113,191	Same Furnace for producing hydrogen and treating ores	Mar. 28, 1871
120,764	Same Gas-furnace and forge	Nov. 7, 1871
	Morris, Martin. (*See* Robinson, William S., assignor.)	
116,900	Morris, Matthias K., Louisville, Ky. Washing-machine	June 20, 1871
	Morris, Stephen, and Nathan Middleton. (*See* Middleton & Morris.)	
	Morris, Thomas C. (*See* Faucitt, William N., assignor.)	
	Morris, Thomas S., and Edwin Rus. (*See* Batchelor, William, assignor.)	
119,238	Morris, William, Philadelphia, Pa. Apparatus and process for tanning	Sept. 26, 1871
4,496	Morris, William H., New York, N. Y., and C. L. Brown, Sing Sing, N. Y., assignors of part interest to Rollin White. Repeating fire-arm (Reissue)	Aug. 1, 1871
	Morris, William H. H., and William W. Eastman. (*See* Eastman & Morris.)	
4,398	Morrison, David H., Dayton, Ohio. Iron bridge (Reissue)	May 23, 1871
115,503	Morrison, Duncan, assignor of one-half interest to Samuel Calderwood and F. F. Hall, Portland, Me. Rock-drill	May 30, 1871
115,975	Morrison, Enoch R., New York, N. Y. Machine for felling trees	June 13, 1871
121,802	Morrison, George, Palmyra, Wis. Plate for artificial teeth	Dec. 12, 1871
114,701	Morrison, George W., New Albany, Ind. Lenticular globe for lamps. (Antedated May 4, 1871)	May 9, 1871
115,086	Morrison, Hackley T., Lawrenceville, Va. Lifting-jack	May 23, 1871
111,804	Morrison, Jacob, assignor to Matilda D. Morrison, Indianapolis, Ind. Portable laundry	Feb. 14, 1871
117,915	Morrison, Jacob, assignor to self and Calvin A. Elliott, Indianapolis, Ind. Chair	Aug. 8, 1871
116,077	Morrison, James A., Brady's Bend, Pa. Wrench and pipe-tongs	June 20, 1871
111,667	Morrison, James B., Saint Louis, Mo. Dental engine	Feb. 7, 1871
121,188	Morrison, James D., Richfield, Ill. Gate	Nov. 21, 1871
	Morrison, James W., and Henry S. Wood. (*See* Wood & Morrison.)	
117,801	Morrison, Samuel D., Dennis A., and Joseph B., Fort Madison, Iowa. Plow	Aug. 8, 1871
117,196	Morrison, Samuel G., Williamsport, Pa. Composition for roofs, pavements, &c	July 18, 1871
114,934	Morrison, Thomas F., assignor to Morrison & Fay, Bryan, Ohio. Furnace for steam-boilers	April 25, 1871
113,550	Morrison, William, Carlisle, Pa. Corn-planter	April 11, 1871
4,559	Same same (Reissue)	Sept. 19, 1871
	Morrow, Robert T. (*See* Nelson, John, assignor.)	
	Morse, Benjamin, *et al.* (*See* Hancock, John, jr., assignor.)	
111,865	Morse, Charles H., assignor to self and William A. Brown, Boston, Mass. Mechanism for operating punching and eyeleting machines	Feb. 14, 1871
111,556	Morse, Edmund A., Rutland, Vt. Tongue for children's carriages	Feb. 7, 1871
111,668	Morse, Francis B., assignor to H. D. Smith & Co., Plantsville, Conn. Die for forging, trimming, and shaping spring-clips for carriages	Feb. 7, 1871
111,866	Same Whiffletree-plate	Feb. 14, 1871
112,950	Same Keep and brace for fifth-wheels	Mar. 21, 1871
113,551	Same Carriage-step	April 11, 1871
114,025	Same Method of making carriage-steps	April 25, 1871
114,179	Same Wrench	April 25, 1871
115,504	Same Felly-plate	May 30, 1871
115,976	Same Die for forging king-bolts	June 13, 1871
118,632	Same Carriage-step	Aug. 29, 1871
121,803	Same Die for making carriage-steps	Dec. 12, 1871
114,587	Morse, George F., Portland, Me. Railway car and engine truck	May 9, 1871
115,343	Same Changeable gauge car-truck	May 30, 1871
121,119	Morse, George F., New York, N. Y. Ornamenting and dressing glass and metal surfaces, &c	Nov. 21, 1871
	Morse, George Frederic, and William Henry Harding. (*See* Harding & Morse.)	
111,371	Morse, Henry T., assignor to L. Morse & Son, Athol, Mass. Folding-settee	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,315	Morse, Henry T., assignor to Laban and Leander B. Morse, Athol, Mass. Folding-settee	July 25, 1871
114,842	Morse, John H., Peoria, Ill. Sash-holder	May 16, 1871
121,253	Same ....Combined latch and lock. (Antedated Nov. 18, 1871)	Nov. 28, 1871
122,127	Morse, Lewis, Attleborough, Mass. Snap-hook	Dec. 26, 1871
114,568	Morse, Monroe and Charles H., Franklin, Mass. Flock-cutting machine	May 9, 1871
	Morse, Orrin. (*See* McMaster, Alonzo D., assignor.)	
121,537	Morse, Russell S., East Dixfield, Me. Scissors-grinding attachment for sewing-machines	Dec. 5, 1871
116 342	Morse, Stephen H., North Jay, Me. Paring and chopping machine	June 27, 1871
117,100	Morse, William A., Philadelphia, Pa. Button-hole cutter	July 18, 1871
110,761	Morse, William H., West Newbury, Mass. Carriage-curtain fastener	Jan. 10, 1871
114,097	Morse, Joab, and Franklin B. Abell, Philadelphia, Pa. Adjustable spirit-level	April 25, 1871
117,556	Morton, Albert, Salmon Falls, N. H. Spindle for loom-shuttles	Aug. 1, 1871
111,904	Morton, Benjamin, Fertility, Pa. Anti-rattling washer	Feb. 21, 1871
	Morton, Francis T., and Charles H. Drew. (*See* Wright, Benjamin F., assignor.)	
112,064	Morton, John, Thorville Mills, Mich. Fence	Feb. 21, 1871
4,543	Morton, John, assignor to McGowan Brothers Pump and Machine Company, Sedalia, Mo. Water-tank for railways (Reissue)	Sept. 5, 1871
115,505	Morton, John A., New Orleans, La. Fertilizer-distributor	May 30, 1871
118,966	Morton, Robert, England. Gas-apparatus	Sept. 12, 1871
118,042	Morton, Thomas, New York, N. Y. Device for suspending window-sashes	Aug. 15, 1871
117,557	Moschcowitz, Herman, New York, N. Y. Attachment for sewing-machines	Aug. 1, 1871
111,236	Moschcowitz, Schamu, New York, N. Y. Body-lining for ladies' dresses	Jan. 24, 1871
111,867	Moschcowitz, Schamu Moritz, New York, N. Y. Attachment for sewing-machines	Feb. 14, 1871
114,180	Moseley, Jerome S., Syracuse, N. Y. Scroll-sawing machine	April 25, 1871
114,702	Moseley, Thomas W. H., Hyde Park, Mass. Steam-generator	May 9, 1871
5,117	Same....Bell-tower (Design)	July 11, 1871
118,389	Same....Construction of buildings	Aug. 22, 1871
120,765	Moseley, William F., Brooklyn, N. Y. Surface-sized paper for paper-collars, &c	Nov. 7, 1871
121,481	Mosely, Daniel, Ozark, Ark. Cotton-chopper and grain-cultivator	Mar. 7, 1871
	Mosely, Jirah B. (*See* Motley, George, assignor.)	
114,843	Moser, Benjamin, Waltham, Mass. Curtain-fixture	May 16, 1871
116,343	Same....same	June 27, 1871
	Moses, Lewis, Bernard, and Gustave. (*See* Fisher, Charles P., assignor.)	
	Moses, William J. (*See* Palmer & Storke, assignors.)	
119,399	Mosher, David G., Mosherville, Mich. Insect-destroyer	Sept. 26, 1871
120,660	Mosman, David F., assignor to self and Leonard Atwood, Chelsea, Mass. Lubricator	Nov. 7, 1871
115,631	Moss, Alfred A., Philadelphia, Pa. Sole of boots and shoes	June 6, 1871
	Moss, Charles Le R. (*See* Hite, Joseph C., assignor.)	
	Moss, John E., and John M. Williams. (*See* Porter, Archibald A., assignor.)	
116,078	Moss, John L., and Edward W. Johnson, Columbus, Miss. Revolving fire-arm	June 20, 1871
112,065	Moss, Lewis H., Browningsville, Ky. Tobacco, hay, and cotton press	Feb. 21, 1871
120,998	Moss, Rees, assignor to self and Silas H. Emery, Philadelphia, Pa. Stove-grate. (Antedated Nov. 3, 1871)	Nov. 14, 1871
112,066	Mossholder, Joseph C., Lebanon, Oreg. Rotary steam-engine	Feb. 21, 1871
4,695	Mothershead, Alvin M., Indianapolis, Ind. Plate of a cooking stove (Design)	May 9, 1871
122,049	Motley, Francis, assignor through mesne assignments to James R. Teal, Phoenixville, Pa. Steam-engine	Dec. 19, 1871
113,079	Motley, George, assignor to self and Jirah B. Mosely, Rochester, N. Y. Making flour	Mar. 28, 1871
115,883	Mott, Gershom, Big Run, Ohio. Gate	June 13, 1871
119,390	Mott, Harcourt, Troy, N. Y. Office-desk	Sept. 26, 1871
111,372	Mott, James T., Pontville, Iowa. Seeder and cultivator	Jan. 31, 1871
	Mott, James S. (*See* Budd, Bern L., assignor) (Two cases.)	
	Mott, Jordan L. (*See* Demarest, John, assignor) (Three cases.)	
	Same....(*See* Burrows, William H., assignor)....(Two cases.) (Design.)	
	Same....(*See* Secrer & Ham, assignors)....(Four cases.) (Design.)	
116,984	Mott, Thomas H., New York, N. Y. Argand-lamp burner	July 11, 1871
114,960	Moule, Henry, and James Banner, assignors to Earth-Closet Company, England. Earth-closet	May 16, 1871
116,079	Moule, John J., Huntington, N. Y. Center-board for vessels	June 20, 1871
121,658	Moulton, Charles S., assignor through mesne assignments of one-half interest to Conrad Brotchi, Des Moines, Iowa. Picture-frame hanger	Dec. 5, 1871
116,210	Moulton, Eri Sewell, Chelsea, Mass. Pipe-cutter. (Antedated June 9, 1871)	June 20, 1871
	Moulton, Eri S., and William Chicken. (*See* Chicken & Moulton.)	
115,884	Moulton, Fordyce M., Ferrisburgh, Vt. Animal-poke	June 13, 1871
119,636	Moulton, Joel, Boston, Mass. Machine for covering wringer-rolls	Oct. 3, 1871
	Moulton, John B. (*See* Dodds, Lewis Z., assignor.)	
113 684	Moulton, John Q., Lynn, Mass. Heel-trimming machine	April 11, 1871
110,776	Mount, Joseph, Monroe Township, N. J. Car-coupling	Jan. 3, 1871
	Mouser, Edward L. (*See* McQuaid, Andrew C., assignor.)	
113,193	Moussard, Xavier, France. Producing gas from hydrocarbons	Mar. 28, 1871
	Moyer, Daniel, and Benjamin D. Brown. (*See* Brown & Moyer.)	
	Moyle, James W., and George Stevens. (*See* Stevens & Moyle.)	
113 080	Moyle, Richard M., New York, N. Y. Catarrhal douche	Mar. 28, 1871
121,491	Mozart, Don J., New York, N. Y. Watch escapement	Nov. 28, 1871
	Mudge, Carson. (*See* Myers, Elisha B., assignor.)	
	Mudge, Charles F. (*See* Wilson, Charles, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,887	Mudgett, Jacob H., Lynn, Mass. Skiving-machine	Dec. 12, 1871
118,043	Mueller, Charles F., Hamilton, Canada. Process for ornamenting sewing-machines, &c	Aug. 15, 1871
113,326	Mueller, David, assignor to self and Franz Wagner, New York, N. Y. Machine for corking bottles	April 4, 1871
121,402	Muhl, A., San Antonio, Tex. Apparatus for the manufacture of ice	Nov. 28, 1 71
121,888	Muhl, Andrew, Waco, Tex. Ice-machine	Dec. 12, 1871
	Muir, Allen and Henry. (*See* Burr, Theodore, assignor.)	
116,020	Muir, William, and Pierce Butler, Carbondale, Pa. Grate-bar	June 20, 1871
120,161	Muir, William Kerr, Hamilton, Canada. Turn-table and railway-track for changing gauge of cars	Oct. 24, 1871
117,802	Mulford, David H., Saratoga Springs, N. Y. Device for connecting blocks of wood-pavement	Aug. 8, 1871
118,471	Same....Wooden pavement	Aug. 29, 1871
117,446	Mulholland, Henry, assignor to self and John Mulholland, Union Mills, Pa. Churn-dasher	July 25, 1871
120,162	Mullen, Robert J., assignor to the Providence Tool Company, Providence, R. I. Punch	Oct. 24, 1871
116,211	Muller, Adolph, San Francisco, Cal. Dyeing and coloring furs	June 20, 1871
120,210	Muller, Adolph, Brooklyn, N. Y. Manufacture of wooden pipes from veneers	Oct. 24, 1871
118,259	Muller, Charles, Albany, N. Y. Tobacco-strippers	Aug. 22 1871
120,311	Muller, Hermann, assignor to Francis Telbinger, Austria. Stop-cock	Oct. 24, 1871
119,167	Muller, Jacob, Newark, N. J. Composition for coating the outside of buildings	Sept. 19, 1871
4,797	Muller, Nicholas, New York, N. Y. Clock-case (Design)	April 11, 1871
110,777	Muller, Teile H., assignor to Joseph Reckendorfer, New York, N. Y. Machine for cutting the ends of wooden pencils	Jan. 3, 1871
	Muller, Teile H., and Joseph Reckendorfer. (*See* Reckendorfer & Muller.) (Design.)	
	Mullin, Elwood B., and John Antrum. (*See* Antrum & Mullin.)	
116,081	Mullowny, John F., Pittsburgh, Pa. Clothes-drier	June 20, 1871
112,166	Mulock, Daniel, Mount Hope, N. Y. Harvester	Feb. 28, 1871
112,167	Same....Wheel for vehicles	Feb. 28, 1871
	Mulock, Daniel Charles, and Henry James King. (*See* King & Mulock.)	
113,786	Mumler, William H., Boston, Mass. Liquid receptacle and funnel	April 18, 1871
	Mundell, David and Alfred. (*See* Pratt, Elijah, assignor.)	
	Munger, Joseph, and Miles K. Lewis. (*See* Lewis & Munger.)	
	Munger, Lyman F., and James Sargent. (*See* Sargent & Munger.)	
	Munger, Lyman F., Rochester, N. Y. Lock (Extension)	June 30, 1871
	Same....same (Disclaimer filed)	July 5, 1871
4,596	Same....Permutation-lock (Reissue)	Oct. 17, 1871
4,674	Same....Lock (Reissue)	Dec. 12, 1871
111,136	Munger, Martin L., and Corodon D. W. Gibson, Grand Blanc, Mich. Machine for upsetting iron	Jan. 24, 1871
113,900	Munger, Wallace T., assignor to P. and F. Corbin, New Britain, Conn. Reversible-knob latch	April 18, 1871
113,910	Same....Door-latch	April 18, 1871
116,082	Same....Door-bell	June 20, 1871
112,270	Munro, George, Philadelphia, Pa. Apparatus for using electricity as a remedial agent	Feb. 28, 1871
113,911	Munro, George F., sr., Albany, Mo. Apparatus for vapor baths	April 18, 1871
	Munro, Nathan. (*See* Wolcott, Henry E., assignor.)	
116,344	Munroe, Charles E., Cambridge, Mass. Refrigerator	June 27, 1871
	Munson, Albert L. (*See* Kohn, Morris, assignor) (Two cases.)	
110,778	Munson, David, Indianapolis, Ind. Lightning-rod	Jan. 3, 1871
119,043	Same....same	Sept. 19, 1871
5,405	Munson, George, and Purmort and Charles H. Bradford, assignors to Sargent & Co., New Haven, Conn. Door handle (Design)	Dec. 5, 1871
111,669	Munson, George C., Empire City, Colo. Ter. Feeding quicksilver to stamps and amalgamators	Feb. 7, 1871
115,632	Munsinger, Peter, Philadelphia, Pa. Center-seal for gas-works	June 6, 1871
118,472	Same....Apparatus for exhausting and purifying gas	Aug. 29, 1871
119,941	Mur, Joseph M., New York, N. Y. Tobacco-pipe	Oct. 17, 1871
113,442	Murch, William H., Portland, Me. Culinary vessel	April 4, 1871
121,653	Murdoch, Samuel C., Pittsburgh, Pa. Machine for rolling harrow-teeth	Dec. 5, 1871
122,374	Murdoch, Samuel C., and Thomas H. Borland, Pittsburgh, Pa. Belt-pump	Dec. 26, 1871
116,083	Murdock, John, South Carver, Mass. Apparatus for steaming, filtering, &c	June 20, 1871
120,894	Same....Agricultural boiler	Nov. 14, 1871
117,558	Murfey, Eliza D., New York, N. Y. Bearing and packing. (Antedated July 21, 1871)	Aug. 1, 1871
121,804	Same....Journal-bearing	Dec. 12, 1871
121,805	Same....Material for packing and bearings	Dec. 12, 1871
121,806	Same....Packing or bearing for journals, &c	Dec. 12, 1871
116,475	Murfey, Eliza D., assignor to the Manhattan Packing Manufacturing Company, New York, N. Y. Bearing for railway-car axles	June 27, 1871
	Murphey, James, and Augustus J. Howell. (*See* Howell & Murphey.)	
4,556	Murphy, Albert L., Philadelphia, Pa. Railing for cemetery lots (Design)	Jan. 3, 1871
114,181	Murphy, Daniel, Richmond, Va. Stove-pipe cleaner	April 25, 1871
111,766	Murphy, Daniel, assignor to self and Timothy C. Murphy, Dubuque, Iowa. Riddle for thrashing-machines	Feb. 14, 1871
111,670	Murphy, Hugh B., Allegheny City, Pa. Meat-cutter	Feb. 7, 1871
	Murphy, James, and Amyntas J. Howell. (*See* Howell & Murphy.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,619	Murphy, Jeremiah, Boston, Mass. Burglar-alarm drawer	Mar. 14, 1871
117,447	Murphy, John, New York, N. Y. Manufacture of vulcanized rubber and combination hose and tubing	July 25, 1871
119,391	Same.....Billiard-cushion of rubber and gutta-percha	Sept. 26, 1871
116,857	Murphy, John M., Olympia, Wash. Ter. Printers' galley-rest	July 11, 1871
113,685	Murphy, John W., Philadelphia, Pa. Lubricating pivots for turn-tables	April 11, 1871
114,844	Murphy, Matthew, Charlotte, N. C. Globe-valve. (Antedated May 15, 1871)	May 16, 1871
116,730	Murphy, Michael D., Watkins, N. Y. Griddle-lifter. (Antedated June 28, 1871)	July 4, 1871
111,373	Murray, George, jr., assignor to self, George Murray, sr., and Henry E. Snow, Cambridgeport, Mass. Valve	Jan. 31, 1871
114,462	Murray, Jessie H., Kirkwood, N. Y. Washer and wringer combined	May 2, 1871
	Murray, John. (*See* Moody, Nelson B., assignor.)	
113,327	Murray, Peter H., Portsmouth, Ohio. Mode of preparing paper for photographic purposes	April 4, 1871
114,028	Murray, Samuel W., and Benjamin P. Lamason, Milton, Pa. King-bolt for railway-car trucks	April 25, 1871
113,081	Murry, John, Silveyville, Cal. Gang-plow	Mar. 28, 1871
114,323	Musgrove, Joseph, Newark, N. J. Sheet-metal match-safe	May 2, 1871
118,633	Mushet, Robert F. and Edward M., assignors to selves and Zoheth S. Durfee, England. Manufacture of cast-steel	Aug. 29, 1871
111,767	Musser, James W., and Ralph Carkhuff, Lewisburgh, Pa. Car-coupling	Feb. 14, 1871
120,766	Mutersbaugh, Abraham, Lewinsville, Va. Bee-hive	Nov. 7, 1871
121,060	Mutimer, Frederick, Rockford, Ill. Screw-bolt	Nov. 21, 1871
	Muzzey, David, and Milton Sessions. (*See* Sessions & Muzzey.)	
116,985	Muzzy, Franklin, Bangor, Me. Shingle-machine	July 11, 1871
	Myer, Henry. (*See* Pairan, Ferdinand, assignor.)	
115,506	Myer, Henry B., Philadelphia, Pa. Gas-burner	May 30, 1871
117,603	Myers, Anthony H., Hermon, Ill. Cultivator	Aug. 8, 1871
	Myers, Benjamin R. (*See* Ervien, John A., assignor.)	
122,128	Myers, Daniel, Baltimore, Md. Machine for pitching barrels	Dec. 26, 1871
116,858	Myers, Daniel F., New York, N. Y. Watch-chain fastening	July 11, 1871
122,188	Myers, Edmund B., York, Pa. Releasing-device for stables	Dec. 26, 1871
120,993	Myers, Edward, and Samuel R. Smith, assignors to Lane & Bodley, Cincinnati, Ohio. Mortising-machine	Nov. 14, 1871
121,049	Myers, Edwin James, Onawa, Iowa. Corn-planter	Dec. 5, 1871
118,876	Myers, Elisha B., assignor to self and Carson Mudge, Handsborough, Miss. Soda-fountain	Sept. 12, 1871
116,986	Myers, Ephraim, Croagertown, Md. Elastic chain-link. (Antedated July 4, 1871)	July 11, 1871
112,482	Myers, Frederick, New York, N. Y. Sad and fluting iron	Mar. 7, 1871
4,362	Same.....same.....(Reissue)	May 2, 1871
	Same.....Combined sad and fluting iron	Oct. 3, 1871
115,977	Myers, Henry, jr., McLean, Ill. Cut-off for water-conductors	June 13, 1871
113,193	Myers, Isaac Lamborn, Ferguson Township, Pa. Buggy-brake	Mar. 28, 1871
111,137	Myers, Isaac W., San Francisco, Cal. Boot-stretchers	Jan. 24, 1871
	Myers, John, and Robert G. Eunson, assignors of sectional interest to Jacob Lagowitz, of Newark, N. J. Machine for sawing thin boards, &c. (Disclaimer filed)	May 20, 1871
	Myers, John, and Robert G. Eunson, assignors of sectional interest to Eben Peck and Gilbert J. Bogert, of New York City. Machine for sawing thin boards, &c (Disclaimer filed)	May 20, 1871
	Myers, John, and Robert G. Eunson, assignors of sectional interest to Benjamin R. Smith and J. Campbell Harris. Machine for sawing thin boards, &c. (Disclaimer filed)	Dec. 8, 1871
122,139	Myers, John W., Lyons, Iowa. Feed-mill	Dec. 26, 1871
112,731	Myers, Lawrence, Philadelphia, Pa. Hose-tunnel for city railways	Mar. 14, 1871
	Myers, Lewis B. and Henry A., Elmore, Ohio. Seeding-machine.....(Extension)	Feb. 28, 1871
	Myers, Lewis M., *et al.* (*See* Campbell, James A., assignor.)	
113,443	Myers, Oliver D., Doylestown, Pa. Flour-sifter	April 4, 1871
112,271	Myers, Richard W., Glen Gardner Station, N. J. Cradle	Feb. 28, 1871
111,469	Myers, Samuel C., and James McCauley, McAllisterville, Pa. Combined band-cutter and feeder for thrashing-machines	Jan. 31, 1871
118,634	Same.....Attachment of band-cutter and thrashing-machine	Aug. 29, 1871
117,448	Myers, Thomas J., Philadelphia, Pa. Boiler for heating buildings	July 25, 1871
112,834	Myers, Valentine, assignor to self and John M. Phelps, Cogan Station, Pa. Wagon-seat	Mar. 21, 1871
113,553	Myers, William A., York, Pa. Horse hay-rake	April 11, 1871
114,463	Same.....Grain separating and cleaning attachment to thrashing-machines	May 2, 1871
113,092	Mygatt, John T., and John Downing, Binghamton, N. Y. Burglar-alarm. (Antedated March 15, 1871)	Mar. 28, 1871
118,260	Myrick, Elijah, Ayer, Mass. Bearing-plate for railway-rails	Aug. 22, 1871
	Nagle, Charles Frederick. (*See* Hill, George Jay, assignor.)	
120,312	Nagle, Henry, assignor of one-half interest to Benjamin Smelts, Carlisle, Pa. Shifting-seat for vehicles	Oct. 24, 1871
111,138	Nagler, Franz L., Irving Township, Mich. Hay-rack	Jan. 24, 1871
	Nahmmacher, Charles F., administrator. (*See* Evert, Henry.)	
122,189	Nalley, Franklin, Battle Ground, Ind. Car-coupling	Dec. 26, 1871
120,587	Napier, Robert David, England. Brake for machinery	Oct. 31, 1871
118,635	Nash, Francis M., assignor to self and William H. Stevens, Stockton, Minn. Stump-extractor	Aug. 29, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,229	Nash, George W., assignor to self and George Jamison, Columbus, Ohio. Corpse-preserver	May 23, 1871
113,553	Nash, Nathan E., Westerly, R. I. Steam-engine	April 11, 1871
115,087	Nash, Stephen B., assignor to Austin E. Messenger, Buffalo, N. Y. Extension-table slide	May 23, 1871
	Nashold, Elias, *et al.* (*See* Coulon, Frederick, assignor.)	
	Nass, Henry, *et al.* (*See* Wolff, David Ludwig, assignor.)	
	Nation, David H., and Ezekiel C. Little. (*See* Little & Nation.)	
	Nation, John. (*See* Stephens, George F., assignor.)	
	National Cattle-Car Company. (*See* Swearingen, Lee, assignor).....(Reissue.)	
	Same.....(*See* Shafer, John B., assignor).....(Reissue.)	
	Same.....(*See* Rank, Amos, assignor).....(Reissue.)	
	Same.....(*See* Rank, King & Sharp, assignors).....(Reissue.)	
	Same.....(*See* Kendall, John S., assignor).....(Reissue.)	
	National Manufacturing Company. (*See* Brooks, Franklin W., assignor.)	
	National Meter Company. (*See* Read, H. F., assignor)..(Two cases.) (Reissue.)	
	National Rubber Company. (*See* Bourn, Augustus O., assignor.) (Four cases.) (Design.)	
	Same.....(*See* Williams, Isaac F., assignor).....(Two cases.) (Design.)	
	National Tube Works Company. (*See* Matheson, George, assignor.)	
	National Water-Wheel Company. (*See* Case, Joel T., assignor)...(Two cases.)	
	Same.....(*See* Case, Joel T., assignor).....(Two cases.) (Reissue.)	
	National Wood Manufacturing Company. (*See* Groocock & Brassington, assignors.)	
120,085	Nauen, Otto, New York, N. Y. Sewing-machine case	Oct. 17, 1871
111,374	Nave, Andrew Jackson, Columbus, Tex. Washing-machine	Jan. 31, 1871
	Naylor, George J. (*See* Peirce, Charles R., assignor.)	
	Same.....(*See* Walton, William E., assignor.)	
115,685	Neal, David S., Lynn, Mass. Knife-scourer	June 13, 1871
118,636	Neal, James W., Big Lick, Va. Straw-cutter	Aug. 29, 1871
	Neale, Roswell A., *et al.* (*See* Fuller, George H., assignor.)	
117,336	Neall, Alfred C., Philadelphia, Pa. Pavement-washer	July 25, 1871
117,101	Necker, Carl, Prussia. Sewing-machine	July 18, 1871
110,671	Neeb, Peter, assignor through mesne assignments to Margaret Neeb, Buffalo, N. Y. Saw-table	Jan. 3, 1871
110,779	Needham, Chandler, Worcester, Mass. Casting car-wheels	Jan. 3, 1871
112,951	Needham, Elias P., New York, N. Y. Pencil-sharpener	Mar. 21, 1871
117,606	Same.....Tremolo-attachment for reed-instruments	Aug. 1, 1871
	Needham, Hiram K. (*See* Moran & Wallace, assignors.)	
	Needham, Hugh J., and Alfred Greenaway. (*See* Greenaway & Needham.)	
	Needham, John, jr. (*See* Brumby, Charles, assignor.)	
119,044	Needham, Orwell H., New York, N. Y. Combined breast-pump and nursing-bottle	Sept. 19, 1871
111,550	Neefus, Peter W., New York, N. Y. Mat	Feb. 7, 1871
112,168	Same.....Stair and floor plate	Feb. 28, 1871
115,344	Same.....Drainer for tumblers and dishes	May 30, 1871
115,345	Same.....Door-mat	May 30, 1871
117,317	Neely, Benjamin F., Yorktown, Ind. Fender for plows	July 25, 1871
4,955	Nef, John U., Housatonic, Mass. Bed-quilt.....(Design)	May 30, 1871
113,912	Neff, Frank M., and John E. Scrugge, Monroe, Iowa. Type setting and distributing machine	April 18, 1871
119,528	Negley, Peter L., Castleton, Ind. Hay and cotton press	Oct. 3, 1871
119,942	Neil, James R., Brooklyn, N. Y. Condenser or cooler for alcoholic and other liquids	Oct. 17, 1871
119,943	Same.....Apparatus for rectifying alcoholic spirits	Oct. 17, 1871
5,188	Neil, John, assignor to Bigelow Carpet Company, Clinton, Mass. Carpet. (Design)	Aug. 8, 1871
5,189	Same.....Carpet.....(Design)	Aug. 8, 1871
116,622	Neil, William T., Greensborough, Pa. Hay elevator and carrier	July 4, 1871
114,464	Neill, Edward Henry, assignor to self and Emlen Painter, San Francisco, Cal. Washing-fluid	May 2, 1871
	Neill, Michael. (*See* Norris, Daniel W., assignor.)	
117,197	Neill, Thomas B., Philadelphia, Pa. Washing-machine. (Antedated July 5, 1871)	July 18, 1871
114,845	Nellis, James, Ypsilanti, Mich. Whip-socket	May 16, 1871
115,346	Nellis, James, assignor to self and Sylvester W. Beach, Ypsilanti, Mich. Breast-collar for horses	May 30, 1871
118,473	Nelsen, Hermon, Jerome, N. Y. Padlock. (Antedated Aug. 23, 1871)	Aug. 29, 1871
118,303	Nelson, Alexander O., Boston, Mass. Thill-coupling	Aug. 22, 1871
111,139	Nelson, Franklin, assignor to self and Joseph Maseth, Wyandotte, Mich. Corn-sheller	Jan. 24, 1871
120,454	Nelson, James H., assignor to self and Byron K. Houghton, Little Falls, N. Y. Machine for wiring blinds	Oct. 31, 1871
121,189	Nelson, John, assignor to self and Robert T. Morrow, Oswego, N. Y. Tuyere-iron	Nov. 21, 1871
118,637	Nelson, John K., Mechanicstown, Md. Washing-machine	Aug. 29, 1871
	Nelson, J. P., jr. (*See* Judson, William B., assignor.)	
121,120	Nelson, Lycurgus, Smyrna, Tenn. Rock-drilling apparatus	Nov. 21, 1871
	Nelson, Oscar F. (*See* Boyden, Pardon, assignor.)	
114,182	Nelson, Richard L., Orange Court-House, Va. Corn-harvester	April 25, 1871
114,183	Same.....Machine for boring and mortising	April 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,978	Nelson, Richard L., Orange Court-House, Va. Corn-harvester	June 13, 1871
4,692	Nelson, William, Anderson, Ind. Window-fastener (Design)	Feb. 28, 1871
115,766	Nelson, William P., Saint Louis, Mo. Reversible-window sash	June 6, 1871
	Nelson, William P., *et al.* (*See* Blundell, William A., assignor.)	
	Nelson, Wolfred David Emelius, and Alfred Holme Balch. (*See* Balch & Nelson) (Two cases.)	Mar. 28, 1871
113,194	Nenninger, Robert, Newark, N. J. Breech-loading fire-arm	Feb. 21, 1871
112,067	Nenninger, Robert, and Frederick Brauer, Newark, N. J. Curtain	Feb. 21, 1871
112,068	Nes, Charles M., York, Pa. Manufacture of silicon steel	Dec. 12, 1871
121,880	Same Manufacture of steel in crucibles	April 11, 1871
113,686	Nesbitt, Moses T., Colora, Md. Machine for cleaning grain	Mar. 28, 1871
	Nettleton, Horace A., *et al.* (*See* Jerralds, Nettleton & Lawton.)	
113,195	Nettleton, John F., New Haven, Conn. Skirt-board	Nov. 16, 1871
	Nettleton, Wilford H., Bristol, Conn., Charles Raymond, Guelph, Canada, and Anson Hatch, New Haven, Conn. Machine for turning pillars for clock-movements (Extension)	Nov. 7, 1871
120,661	Neuert, Jacob, Sandusky, Ohio. Steam-engine	Sept. 26, 1871
119,392	Neuhausen, August, Wheeling, W. Va. Manufacture of candy whistles	Aug. 8, 1871
117,804	Neuman, John J., Middletown, Ohio. Ice-elevator	
	Neumann, Raphael, & Co. (*See* Steinmetz, Bernard, assignor) (Design.)	
121,890	Nevenger, George, assignor to Harvey J. Mitchell, Philadelphia, Pa. Out-haul band for booms	Dec. 12, 1871
114,394	Nevens, George H., assignor to self and R. N. Canghell, Livermore, Cal. Sand-cap for hubs of vehicles	May 2, 1871
114,465	Neville, John, Brooklyn, N. Y. Puddling-furnace	May 2, 1871
111,560	Nevin, David, Georgetown, Colo. Floor-clamp	Feb. 7, 1871
119,637	Nevins, John H., Williamsburgh, N. Y. Bronzing-machine. (Antedated Sept. 18, 1871)	Oct. 3, 1871
112,069	Nevins, William, Titusville, Pa. Apparatus for steaming oil-wells	Feb. 21, 1871
113,328	New, Tobias, Brooklyn, N. Y. Water-proof cellar	April 4, 1871
113,787	Same New York, N. Y. Water-proof floor	April 18, 1871
	Same (*See* Burnham, Manly A., assignor.)	Aug. 22, 1871
118,384	Same (*See* Barnham, Manly A., assignor.)	Oct. 24, 1871
120,313	Newberry, Elizur, Titusville, Pa. Topical heater for oil-wells	Mar. 14, 1871
112,640	Newbery, Robert W., New York, N. Y. Burglar-alarm	July 4, 1871
116,749	Newbery, Solomon D., Lansing, Mich. Earth-closet	Dec. 5, 1871
121,538	Newbrough, John B., New York, N. Y. Elevated railway	Dec. 5, 1871
121,539	Same same	May 9, 1871
4,991	Same Car for elevated railways (Design)	Oct. 3, 1871
	Newby, Henry, Cincinnati, Ohio. Thill-coupling (Design)	
	Same same (Reissue.)	
	Newcomb, George L., *et al.* (*See* Barnstead, James T., assignor)	
	Newcomb, George L., and James Perkins. (*See* Perkins & Newcomb.)	June 20, 1871
116,212	Newcomb, Wilson, Baltimore, Md. Tackle-hook	Nov. 7, 1871
120,767	Same Pump-piston	May 9, 1871
	Newcomen, Charles M., *et al.* (*See* Jones, Howson & Gjers, assignors.)	
114,580	Newcomer, Emanuel, Columbia, Pa. Chopping-machine	Mar. 7, 1871
	Newell, Alfred H., and Alfred B. Ashman. (*See* Ashman & Newell.)	May 9, 1871
112,483	Newell, Augustus, Chicago, Ill. Reed for organs and melodeons	Aug. 15, 1871
114,703	Newell, Joseph N., Adrian, Mich. Wrench. (Antedated April 29, 1871)	
118,044	Newell, William H., Hudson City, N. J. Billiard-marker	
	New England Butt Company. (*See* McCahey & Salisbury, assignors.)	
	New Haven Steam-Heating Company. (*See* Hubbard, Calvin L., assignor.) (Design.)	
	New Haven Wheel Company. (*See* Beach, William H., assignor.)	
	Newkirk, Charles. (*See* Gregg, William, assignor.)	Dec. 5, 1871
121,654	Newland, Vincent Campbell, Sparta, Wis. Gate	April 11, 1871
113,554	Newlove, Matthew, assignor to self and George Giebrick, Burlington, Iowa. Weather-board gauge	Aug. 22, 1871
118,385	Newman, Ambrose S., Plymouth, Ill. Spring-seat for wagons	Mar. 28, 1871
113,196	Newman, Ernst B., assignor to Newman Erb, Saint Louis, Mo. Molded saddle-tree and composition for the same	July 18, 1871
	Newman, James. (*See* Hancock, Leonard, assignor.)	
117,198	Newman, Thomas, New Orleans, La. Railway-switch	
	New Orleans Sanitary and Fertilising Company. (*See* Hamilton, William B., assignor.)	
	Newton, Alexander S., Brandon, Vt. Machine for turning wooden boxes. (Extension)	Nov. 16, 1871
117,916	Newton, Charles A., Providence, R. I. Button or stud	Aug. 8, 1871
118,261	Newton, Dudley, Newport, R. I. Curb-roof	Aug. 22, 1871
121,295	Newton, Earl C., Batavia, Ill. Carriage	Nov. 28, 1871
119,693	Newton, Edwin W., Franklin Grove, Ill. Submarine-telegraph cable	Sept. 19, 1871
114,325	Newton, Elisha P., Clintonville, Pa. Roofing-composition	May 2, 1871
115,633	Newton, Hial H., Cleveland, Ohio. Tidy-pin	June 6, 1871
111,671	Newton, Jason, Marengo Township, Mich. Animal-hoisting apparatus	Feb. 7, 1871
121,956	Newton, Jason, assignor of two-thirds interest to Henry and Charles B. Moore, Marengo, Mich. Mode of securing railway-rails to iron ties	Dec. 19, 1871
116,683	Newton, Jonah, New York, N. Y. Framing-joint	July 4, 1871
113,083	Newton, Jotham, Providence, R. I. Composition fuel	Mar. 28, 1871
118,968	Newton, Robert L., Warren, Ill. Ribbon and velvet case	Sept. 12, 1871
	Newton, William Harrison. (*See* Francis, Samuel W., assignor.)	
110,780	Newton, William Harrison, Newport, R. I. Car-starter	Jan. 3, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,070	Newton, William Harrison, assignor to self and Samuel W. Francis, Newport, R. I. Bottle-cork	Feb. 21, 1871
	New York Metal and Chemical Manufacturing Company. (*See* Ott, Adolph, assignor.)	
	New York Rubber Company. (*See* Bird, James R., assignor.)	
4,798	Ney, Elemir J., assignor to Robert Beattie & Sons, Dracut, Mass. Carpet-pattern (Design)	April 11, 1871
4,897	Ney, Elemir J., assignor to Pine Valley Company, Dracut, Mass. Carpet-pattern (Design)	May 9, 1871
4,898	Same Carpet-pattern (Design)	May 9, 1871
4,896	Ney, Elemir J., assignor to Hartford Carpet Company, Dracut, Mass. Carpet-pattern (Design)	May 9, 1871
4,928	Same Carpet-pattern (Design)	May 23, 1871
4,929	Same same (Design)	May 23, 1871
4,994	Same same (Design)	June 13, 1871
4,995	Same same (Design)	June 13, 1871
4,996	Same same (Design)	June 13, 1871
4,997	Same same (Design)	June 13, 1871
4,998	Same same (Design)	June 13, 1871
4,999	Same same (Design)	June 13, 1871
5,000	Same same (Design)	June 13, 1871
5,001	Same same (Design)	June 13, 1871
5,002	Same same (Design)	June 13, 1871
5,003	Same same (Design)	June 13, 1871
5,037	Same Carpet (Design)	June 20, 1871
5,078	Ney, Elemir J., assignor to Hartford Carpet Company, New York, N. Y. Carpet-pattern (Design)	July 4, 1871
5,079	Same Carpet-pattern (Design)	July 4, 1871
5,080	Same same (Design)	July 4, 1871
5,081	Same same (Design)	July 4, 1871
5,082	Same same (Design)	July 4, 1871
5,083	Same same (Design)	July 4, 1871
5,084	Same same (Design)	July 4, 1871
5,085	Same same (Design)	July 4, 1871
116,084	Neynaber, Adolphus F. W., Philadelphia, Pa. Safety-valve. (Antedated June 17, 1871)	June 20, 1871
112,169	Nichols, John H., Sumter, S. C. Combined cotton-planter and guano-distributer	Feb. 28, 1871
117,199	Nichols, Byron W., Coxsackie, N. Y. Welding steel	July 18, 1871
119,875	Nichols, Charles M., East Greenwich, R. I. Divider	Oct. 10, 1871
120,163	Nichols, Edgar G., Beaufort, S. C. Hat-ventilator	Oct. 24, 1871
	Nichols, Effingham H. (*See* Hogel, Hascal A., assignor.)	
	Nichols, Elric L. (*See* Moore, Thomas W., assignor.)	
113,329	Nichols, George H., Richmond, Va. Fire-escape	April 4, 1871
119,638	Nichols, Gorton W., Chicago, Ill. Apparatus for extinguishing fires	Oct. 3, 1871
113,197	Nichols, James R., Boston, Mass. Hot-air furnace	Mar. 28, 1871
	Nichols, James R., & Co. (*See* Clapp, Albion R., assignor.)	
117,102	Nichols, Philip, Troy, N. Y. Washing-machine	July 18, 1871
117,103	Same Arm-revolving shelf	July 18, 1871
	Nichols, Philip, and Alvah Traver. (*See* Traver & Nichols.)	
119,168	Nichols, Silas C., assignor of one-half interest to Charles N. Tyler, Buffalo, N. Y. Fur-box	Sept. 19, 1871
114,500	Nichols, Thomas, Vicksburgh, Miss. Stop for carpenters' plows	May 9, 1871
117,449	Nichols, Willard A., Mattawamkeag, Me. Railway-tie	July 25, 1871
115,507	Nichols, William, Centralia, Ill. Car-coupling	May 30, 1871
121,403	Nichols, William A., Zionsville, Ind. Wagon	Nov. 28, 1871
114,961	Nichols, William B., assignor to self and T. B. Carpenter, Seymour, Conn. Flour-sifter	May 16, 1871
116,085	Nichols, William H., assignor of one-half interest to Robert H. Hall, East Hampton, Mass. Sleigh-bell	June 20, 1871
112,835	Nichols, William T., Chicago, Ill. Road-scraper	Mar. 21, 1871
121,891	Nicholson, Ezra, assignor of two-thirds interest to Charles B. Stilwell and John J. Clause, Cleveland, Ohio. Steam-engine	Dec. 12, 1871
112,836	Nicholson, Henry C., Mount Washington, Ohio. Telegraph-apparatus	Mar. 21, 1871
121,463	Nicholson, Jesse, Monticello, Ind. Hoisting-apparatus	Dec. 5, 1871
121,464	Same Detachable draught-hook	Dec. 5, 1871
114,029	Nicholson, Zebedee, Haddonfield, N. J. Wire-fence	April 25, 1871
113,913	Nick, Henry, France. Sheave and pulley-block. (Antedated April 8, 1871)	April 18, 1871
114,968	Nickerson, Hiram B., Boston, Mass. File. (Antedated May 6, 1871)	May 16, 1871
116,859	Same Liquid-meter	July 11, 1871
	Same (*See* Moore, Charles E., assignor.)	
112,170	Nickerson, Powell F., Smyrna, Del. Steam-engine	Feb. 28, 1871
121,061	Nicola, Peter, Massillon, Ohio. Harvester	Nov. 21, 1871
113,084	Nicolle, Philip, Lindsay, Canada. Bee-hive	Mar. 28, 1871
115,089	Niles, Peter H., Boston, Mass. Tub, pail, &c. (Antedated May 9, 1871)	May 23, 1871
	Niles, Sinclair D. G., and William Goodwin. (*See* Goodwin & Niles.)	
116,213	Niles, William F., and Seth G. Pitts, Leominster, Mass. Manufacture of articles from pulverized horn	June 20, 1
113,087	Nimmo, Archibald, assignor to self, Thomas Moran, and Valentine Stausse, Philadelphia, Pa. Mechanical movement	April 11, 1871
115,508	Same Loom	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,608	Nimmo, George, assignor to Arthur Pickering, Charles R. Vickery, Charles R. Atwood, and the Phœnix Manufacturing Company, Jersey City, N. J. Crucible for melting steel and other metals (Reissue)	Oct. 24, 1871
	Nippes, Albert S., deceased, by Daniel S. Nippes, administrator, Upper Merion Township, Pa. Grinding saws (Extension)	April 3, 1871
112,952	Niswander, Jacob S., Oakland, Cal. Ankle-brace	Mar. 21, 1871
113,085	Same. Grinding-mill for ores	Mar. 28, 1871
	Niven, William B., and John Detrick. (*See* Detrick & Niven.)	
121,121	Nix, John Day, Noble, Ill. Cotton and hay press	Nov. 21, 1871
116,741	Nixon, Abel R., Polo, Ill. Combined cotton-planter and chopper	July 4, 1871
118,813	Nixon, Davis, Philadelphia, Pa. Medical compound, or apple-ginger	Sept. 12, 1871
115,089	Noble, Alanson F., Indianapolis, Ind. Vapor-burner	May 23, 1871
	Noble, Charles, & Co. (*See* Smith, Samuel, assignor) (Three cases.)	
	Same. (*See* Beesley & Ferris, assignors) (Design.)	
4,819	Noble, Charles, assignor to Charles Noble & Co., Philadelphia, Pa. Plate of a cooking-stove (Design)	April 18, 1871
	Same. Gridiron	Oct. 31, 1871
120,508		April 25, 1871
114,030	Noble, James M., Delhi, Iowa. Washing-machine	
117,318	Noble, Oscar W., assignor to self and Luke Agur, Darlington, Wis. Cover for the lenses of photographic cameras	July 25, 1871
116,345	Noble, Wilson, Derby, Conn. Die for making carriage-clips	June 27, 1871
120,768	Nobles, John C., Ilion, N. Y. Broiler	Nov. 7, 1871
120,169	Same. Culinary utensil for boiling and frying	Nov. 7, 1871
110,781	Nobles, William H., assignor to self and C. D. Williams, Saint Paul, Minn. Heating stove and drum	Jan. 3, 1871
120,211	Nobles, William Henry, Saint Paul, Minn. Fire-escape and hose-elevator	Oct. 24, 1871
115,090	Noel, Theodore, Memphis, Tenn. Watch-makers' gauge	May 23, 1871
121,123	Nolan, Nicholas, New York, N. Y. Feed-water regulator. (Antedated Nov. 6, 1871)	Nov. 21, 1871
119,630	Nolen, John S., Paulsborough, N. J. Cultivator	Oct. 3, 1871
119,529	Nolker, William F., and Edward H. Morgan, Cincinnati, Ohio. Machine for making staples	Oct. 3, 1871
	Nonotuck Silk Company. (*See* Dimock, Ira, assignor.)	
116,086	Norboe, Frederick, Chicago, Ill. Water-supply attachment to wash-basins	June 20, 1871
113,198	Norcross, John, West Newton, Pa. Medicine or powder for horses, &c	Mar. 28, 1871
113,688	Norcross, Joseph W., Boston, Mass. Pulley-block	April 11, 1871
113,689	Same. Tackle-hook	April 11, 1871
117,667	Nordyke, Addison H., and Daniel W. Marmon, Richmond, Ind. Grinding-mill same	Aug. 1, 1871
117,668	Same	Aug. 1, 1871
114,031	Norelius, Oliver, Minneapolis, Minn. Paper-feeding machine	April 25, 1871
115,347	Norman, James, Brooklyn, N. Y. Tassel	May 30, 1871
116,860	Same. same	July 11, 1871
116,894	Norman, James, assignor to Leah Anna Norman, Brooklyn, N. Y. Curtain-fixture	July 4, 1871
113,914	Norman, John, assignor to William H. Howland, Scotland. Machine for dressing millstones	April 18, 1871
121,404	Normando, Richard L., Higginsville, N. Y. Clothes-drier	Nov. 28, 1871
111,788	Norment, William Giles, Dyersburgh, Tenn. Step and tram-box for mill-spindles	Feb. 14, 1871
111,789	Norny, Elwood R., McDonough, Del. Hand-washing rubber	Feb. 14, 1871
113,915	Norris, Daniel W., assignor to Michael Neill, Paxton, Ill. Brace for carriage-springs	April 18, 1871
112,877	Norris, George S., Baltimore, Md. Sweeping-machine	Mar. 21, 1871
112,878	Norris, Richard H., Paterson, N. J. Spool show-case	Feb. 28, 1871
113,199	Norris, Stephen R., New York, N. Y. Oiler for loose pulleys	Mar. 28, 1871
4,284	North, Albert H., assignor through mesne assignments to Rufus S., William B., and Joshua Merrill, Hartford, Conn. Lamp (Reissue)	Feb. 28, 1871
115,886	North, Crandall J., Auburn, N. Y. Book-support	June 13, 1871
	North, Frederic H. (*See* Terwilliger, William, assignor.)	
	Same. (*See* Pillard, Oliver E., assignor) (Two cases.)	
121,540	North, John, assignor of one-half interest to Amos J. Osgood and George S. Plympton, New York, N. Y. Car-starter	Nov. 5, 1871
114,396	North, John, assignor to A. H. Harris, New York, N. Y. Millstone-dressing guide	May 2, 1871
	North, John. (*See* Delkescamp, Adolph, assignor.)	
	North, O. B., & Co. (*See* Bradley, Frederick A., assignor.)	
116,476	North, Thomas, Cincinnati, Ohio. Street-lamp	June 27, 1871
113,690	Northrop, Albert, Elyria, Ohio. Milk-cooler	April 11, 1871
114,387	Northrop, Jay, and James F. Emmons, Bridgeport, Conn. Implement for allurring hat-bodies	May 2, 1871
117,319	Northrup, Calvin M., New York, N. Y. Furnace-grate	July 25, 1871
	Northrup, Charles L., and Silas A. Ilsley. (*See* Chace, John K., assignor.) (Reissue.)	
111,140	Northrup, Henry J., Lansingburgh, N. Y. Clamp for carriage-seats	Jan. 24, 1871
119,530	Northup, Louis L., Johnston, R. I. Lobe-attachment for ear-drops	Oct. 3, 1871
117,104	Northup, Nelson G., Bloomington, Minn. Roof	July 18, 1871
121,898	Northway, Alonzo D., Kenosha, Wis. Gate for swing-bridges	Dec. 12, 1871
	North Western Fire-Extinguisher Company. (*See* Van Dyne, Jacob B., assignor.)	
114,406	Norton, Alfred, Kokomo, Ind. Sleigh-heater	May 2, 1871
121,807	Norton, Edwin, Chicago, Ill. Die for making blanks for stove-pipe elbows	Dec. 12, 1871
113,768	Norton, Edwin D., Cuba, N. Y. Hinge for gates	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date
115,509	Norton, Edwin D., Cuba, N. Y. Hinge	May 30, 1871
	Norton, Eugene L., Charlestown, Mass. Process of manufacturing leather shoe-binding (Extension)	May 17, 1871
110,864	Norton, Marcus P., assignor to Helen M. Ingalls, Troy, N. Y. Hand-stamp	Jan. 10, 1871
111,678	Norton, Russell W., New Haven, Conn. Clock pendulum-rod	Feb. 7, 1871
115,091	Norton, Samuel, Great Britain. Cock	May 23, 1871
	Norton, S. S. (*See* Davis, William M., assignor.)	
	Norville, William, *et al.* (*See* Phillips, George B., assignor.)	
	Norwalk Lock Company. (*See* Elwell, Henry H., assignor.)	
112,171	Norwood, Rufus F., Charlotte, N. C. Cotton-planter	Feb. 28, 1871
114,591	Notman, George, Deerfield, Ohio. Horse hay-rake	May 9, 1871
117,917	Same. Hay-rake	Aug. 8, 1871
112,621	Nott, Aaron B., assignor to self and P. R. Merrihew, Fair Haven, Mass. Mode of attaching pipes to sinks, drains, &c	Mar. 14, 1871
113,200	Nottingham, Thomas J., Cincinnati, Ohio. Lubricator	Mar. 28, 1871
121,541	Nourse, Benjamin B., Westborough, Mass. Folding plant-stand	Dec. 5, 1871
	Nourse, Gilbert D., *et al.* (*See* Duff, Roberts & Nourse.)	
110,672	Nourse, Lucy S., (formerly Lucy Sawyer,) Templeton, Mass. Flour-sifter. (Antedated Dec. 17, 1870)	Jan. 3, 1871
113,330	Noyes, Charles Horace, Brooklyn, N. Y. Comb	April 4, 1871
115,348	Noyes, Horatio J., Ashtabula, Ohio. Tin-grooving machine	May 30, 1871
	Noyes, James, and Frederick W. Bailey. (*See* Coffin, John E., assignor.)	
114,467	Noyes, Josiah H., Abington, Mass. Nozzle-stopper for oil-cans	May 2, 1871
	Noyes, Person, and Jacob Edson. (*See* Edson & Noyes.)	
	Nugent, Edward, and John Fanning, (*See* Fanning & Nugent.)	
5,423	Nuhn, Michael, assignor to James L. Jackson & Brother, New York, N. Y. Rack for robes (Design)	Dec. 12, 1871
111,141	Nussey, George H., and William B. Leachman, England. Machine for pressing fabrics	Jan. 24, 1871
114,328	Nutter, Grafton T., Jersey City, N. Y. Apparatus for lifting locomotives, trucks, and railroad-cars	May 2, 1871
118,045	Nutting, D. Chaplin, and Joseph D. Allen, Bowling Green, Ky. Reel for harvesters. (Antedated Aug. 10, 1871)	Aug. 15, 1871
111,237	Nutting, Rufus, Randolph, Vt. Lamp	Jan. 24, 1871
112,172	Same. Chandelier gas-burner	Feb. 28, 1871
114,329	Same. Protector for gas or vapor burners	May 2, 1871
4,487	Nyce, Benjamin Markley, Cleveland, Ohio. Building for preserving fruit and other substances (Reissue)	July 25, 1871
	Nyland, Henry, and John and George Heesen. (*See* Heesen & Nyland.)	
120,086	Oakley, John M., Green Point, N. Y. Shield and towel-rack for wash-stands	Oct. 17, 1871
121,190	Oakley, Joseph S., Passaic, N. J. Step-ladder	Nov. 21, 1871
120,994	Oakley, Joseph S., Passaic, N. J., and Oscar D. Wood, Newburgh, N. Y. Lawn-mower	Nov. 14, 1871
115,767	Oakley, Oliver B., assignor of one-half interest to Peter Thomas, San Francisco, Cal. Parlor-skate	June 6, 1871
117,320	Oakman, Samuel, Boston, Mass. Chimney	July 25, 1871
119,944	Oat, Alfred A., assignor of one-half interest to Charles D. Macqueen, Philadelphia, Pa. Hinge	Oct. 17, 1871
	Oatley, George D., and William C. Burch. (*See* Burch & Oatley.)	
	Obdyke, William, and William Austin. (*See* Austin & Obdyke.)	
122,275	Obenchain, Matthew W. and John T., Logansport, Ind. Turbine water-wheel	Dec. 26, 1871
117,660	Ober, Thomas K., Philadelphia, Pa. Hemmer for sewing-machines	Aug. 1, 1871
115,230	Oberneeser, Jacob, Cincinnati, Ohio. Permutation-lock	May 23, 1871
115,231	Oberneeser, Jacob, assignor to Charles Diebold and Jacob Kienzle, Cincinnati, Ohio. Permutation-lock	May 23, 1871
114,592	Obienis, Charles M., New York, N. Y. Carriage-window	May 9, 1871
116,346	O'Brian, Patrick, New York, N. Y. Scrubbing-brush. (Antedated June 15, 1871)	June 27, 1871
	O'Brien, Charles L. (*See* Thompson, Edwin C., assignor.)	
	O'Brien, Patrick, *et al.* (*See* Graham, Snyder & O'Brien.)	
114,330	Obst, Augustin, Cambridgeport, Mass. Coffee-roaster	May 2, 1871
118,474	Ochaner, Joseph, New Brighton, Pa. Shaft-coupling	Aug. 29, 1871
119,991	O'Connor, Elizabeth, Philadelphia, Pa. Bee-hive	Oct. 17, 1871
118,740	O'Connor, Francis B., New York, N. Y. Lifting-machine	Sept. 5, 1871
116,987	O'Connor, George and Haines, Mishawaka, Ind. Corn-sheller	July 11, 1871
114,846	O'Connor, Michael, Bangor, Mich. Spark-arrester	May 16, 1871
114,072	O'Connor, Patrick, Youngstown, Ohio. Newspaper-addressing machine	April 25, 1871
4,741	Ocorr, Henry, Sheboygan, Wis. Chair (Design)	Mar. 28, 1871
4,742	Same. same (Design)	Mar. 28, 1871
115,979	Same. Chair and stool iron	June 13, 1871
119,303	Same. Machine for bending wood	Sept. 26, 1871
	Same. (*See* Kingsland, Samuel, assignor) (Reissue.)	
115,634	Odiorne, Alfred, Springfield, Ill. Seal for hydraulic main of gas-works	June 6, 1871
	O'Donald, James, and Thomas Moore. (*See* Moore & O'Donald.)	
117,805	O'Donnell, James D., Washington, D. C. Apparatus for generating carbonic acid gas	Aug. 8, 1871
111,770	O'Donoghue, John T., and Alexander Leavitt, New York, N. Y. Blind-slat regulator	Feb. 14, 1871
114,468	Oehl, Charles A., assignor to Ernest Greenfield and Philip Strauss, New York, N. Y. Machine for rolling lozenge and other paste	May 2, 1871
120,087	Oehme, Adolf, Rock Island, Ill. Machine for bending and channeling horseshoes	Oct. 17, 1871
120,088	Same. Machine for punching the holes in and bending the calks in horseshoes	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Oehring, Ludwig, and Philip Diehl. (*See* Diehl & Oehring.)	Feb. 7, 1871
111,561	Oerter, John H., New York, N. Y. Invalid-bedstead	Nov. 21, 1871
121,191	Oesterle, Herman A., Philadelphia, Pa. Portable book-holder	Sept. 19, 1871
5,269	Oesterling, John, Wheeling, W. Va. Foot for glassware (Design)	Oct. 17, 1871
5,318	Same. Ornamentation of glassware (Design)	Dec. 5, 1871
121,655	Oeth, John P., Canton, Mo. Refrigerator	
	Ofeldt, Frans W., and August W. Almqvist. (*See* Almqvist & Ofeldt.)	Sept. 26, 1871
119,394	O'Friel, James, Brooklyn, N. Y. Manufacture of artificial stone	Jan 31, 1871
111,375	Ogborn, Harrison, assignor to Samuel T. Baker, Richmond, Ind. Fanning-mill	Sept. 19, 1871
119,169	Ogden, John S., Johnstown, Pa. Culinary steamer	Nov. 14, 1871
120,895	Ogden, Mancelia E., New York, N. Y. Apparatus for forcing liquids	May 2, 1871
114,331	O'Hara, Charles Melsom, Cincinnati, Ohio. Hand corn-sheller	July 18, 1871
117,105	Same. same	Aug. 1, 1871
117,670	Same. Hand corn-husker	May 23, 1871
115,092	Ohm, Henry P., Baltimore, Md. Sawing-machine	Aug. 29, 1871
118,475	Ojeda, Anthony V., San Francisco, Cal. Aerostatic jack	
112,071	Okey, Joseph B., assignor to self and Ferdinand A. Lehr, Indianapolis, Ind. Clod-crusher	Feb. 1, 1871
4,725	Old, Ansborn F., assignor to J. A. Bancroft & Co., Philadelphia, Pa. Side-frame of school-desks (Design)	Mar. 21, 1871
117,671	Oldberg, Oscar, Washington, D. C. Disinfecting compound	Aug. 1, 1871
118,813	Same. Solution of balsamic gums for medicinal purposes, cosmetics, perfumery, &c.	Sept. 12, 1871
	(Design)	Jan. 31, 1871
4,021	Oldfield, Edwin, Norwich, Conn. Suspender-link	Aug. 1, 1871
117,672	Same. Loom	Aug. 1, 1871
5,151	Oldham, George, Youngstown, Ohio. Shoe-clasp	April 25, 1871
114,184	Oldham, George, jr., Cuba, N. Y. Trace-buckle	Mar. 21, 1871
112,953	Olds, Henry H., New Haven, Conn. Pie-case	
	Olds, Noble G. (*See* Hurlburt, Benjamin, assignor.)	Oct. 10, 1871
119,714	O'Leary, Arthur, Iowa City, Iowa. Water-meter	July 11, 1871
5,188	O'Leary, Dennis, Hubbard, Ohio. Blacking-box (Design)	April 25, 1871
114,033	Oler, Joseph, Eagle Point, Ill. Gang-plow	Jan. 3, 1871
110,673	Oliver, Andrew V. D. H., Bethlehem, N. Y. Wagon-brake	Feb. 14, 1871
111,771	Oliver, Ebenezer, New York, N. Y. Animal-trap	Feb. 14, 1871
111,779	Oliver, Henry W., jr., Pittsburgh, Pa. Rolled bar for nut-blanks	Feb. 21, 1871
111,965	Oliver, James, South Bend, Ind. Plow	May 2, 1871
114,469	Same. Chill for plow-castings	Aug. 8, 1871
117,806	Oliver, James H., Baltimore, Md. Trunk-lock	Aug. 29, 1871
118,476	Same. Car-coupling	Aug. 29, 1871
118,548	Oliver, James L., Boston, Mass. Waste-pipe for sinks	
	Olmstead, Hiram R., and Richard W. Jones. (*See* Eames, Horace N., assignor.) (Reissue.)	Nov. 28, 1871
121,405	Olmsted, Marcellus, Alum Creek, Tex. Belt-fastener	July 11, 1871
116,988	Olmsted, Oliver A., Sebastopol, Cal. Shingle-machine	
	Olson, Rasmus, and Ib Jorgenson. (*See* Jorgenson & Olson.)	June 20, 1871
116,214	Olson, Tannis A., Beloit, Wis. Door-lock	
	Onderdonk, John P. (*See* Hebbard, Albert, assignor.) (Two cases.) (Reissue.)	Oct. 24, 1871
	Same. same.	
120,314	O'Neil, John K., Kingston, N. Y. Straw-cutter	April 4, 1871
113,331	O'Neil, Richard, New York, N. Y. Ornamenting the surface of metals by electro-depositions from solutions	Jan. 24, 1871
		April 18, 1871
111,238	O'Neill, Patrick, Murfreesborough, Tenn. Gate	Jan. 3, 1871
113,789	Onions, William, and Isaac Bagnall, Saint Louis, Mo. Extension-pulley	Aug. 22, 1871
110,782	Oppenheimer, Joseph D., Philadelphia, Pa. Hair puff or roll	
118,262	Oppermann, Ulrich, Washington, D. C. Combined lathe and gear-cutter	
	Orbeton, William W. S. (*See* Stockbridge, Lyman R., assignor.)	April 25, 1871
114,185	Orchard, Thomas, Sacramento, Cal. Earth-auger	May 2, 1871
114,470	Orcutt, Charles Henry, Leominster, Mass. Enameling boot and shoe heels	
	Orcutt, Jerome, and Albert C. Hobbs. (*See* Hobbs & Orcutt.)	Jan. 10, 1871
110,931	Ordway, Albert H., Haverhill, Mass. Cradle	
	O'Reilley, Farrell Jerome. (*See* Benton, Albert Frederick, assignor.)	July 11, 1871
116,861	Ormabee, Mansel A., Fairhaven, Vt. Invalid-bedstead	Oct. 17, 1871
120,089	Ormabee, Marcus, Brooklyn, N. Y. Life-preserver	Aug. 8, 1871
117,807	Orndorff, John S., Virginia City, Nev. Poultry-fountain	July 25, 1871
117,450	O'Rorke, Thomas, Pittsburgh, Pa. Siphon steam-pump	
114,471	Orphy, John, assignor to Horace Parmelee and William H. Bonnell, Buffalo, N. Y. Lantern	May 2, 1871
		Oct. 17, 1871
119,945	Orr, Galen, Needham, Mass. Machine for making blind-hinge hooks	
	Orr, Painter & Co. (*See* Kuechler, Jacob Louis, assignor) (Design.)	
	Same. (*See* Martino & Currie, assignors) (Design.)	
	Same. (*See* Steffe, Jacob, assignor) (Design.)	
	Same. (*See* Rose & Caicly, assignors) (Design.)	
	Orr, William, jr., and Charles H. Waters. (*See* Waters & Orr.) (Two cases.)	
	Orsborn, David M., *et al.* (*See* Boon, Orsborn & Geer.)	Aug. 15, 1871
118,046	Osborn, Addison M., Girard, Pa. Loop for harness	Aug. 22, 1871
118,380	Osborn, Francis M., Port Chester, N. Y. Dental tongue-holder	
114,593	Osborn, George R., and Benjamin A. Drayton, New York, N. Y. Construction of bird-cages	May 9, 1871
		Sept. 5, 1871
5,254	Same. Bird-cage (Design)	Sept. 5, 1871
5,255	Same. same (Design)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,877	Osborn, Isaiah P., and William A. Bayhan; said Bayhan assignor to said Osborn, Wilmington, Ohio. Halter for horses	Sept. 12, 1871
	Osborn, Joseph, and Richard F. Knox. (*See* Knox & Osborn.)	
118,741	Osborn, Milo, Cleveland, Ohio. Apparatus for raising sunken vessels	Sept. 5, 1871
116,477	Osborne, Henry B., and Noah W. Hammon, Des Moines, Iowa. School-desk	June 27, 1871
	Osborne, Horace K. (*See* Litchfield, Lyman, assignor.)	
111,376	Osborne, John W., Brooklyn, N. Y. Preserving compound for the hands, &c.	Jan. 31, 1871
114,186	Same. Photographers' steeping-tank	April 25, 1871
114,847	Same. Foot-brush	May 16, 1871
	Osgood, Amos J., *et al.* (*See* North, John, assignor.)	
111,079	Osgood, Charles M., assignor to L. M. Hills & Sons, Amherst, Mass. Hat-machine	Jan. 17, 1871
120,090	Osgood, James H., assignor to self and Samuel H. Hall, Boston, Mass. Brush and scraper for sinks. (Antedated Oct. 12, 1871)	Oct. 17, 1871
113,691	Osgood, Jason C., Troy, N. Y. Excavator	Feb. 11, 1871
	Osgood, Josiah A. (*See* Renwick, Thomas R., assignor.)	
114,704	Osgood, Otis S., Burlington, Iowa. Bed-bottom	May 9, 1871
120,315	Osgood, Otis S., assignor of one-half interest to S. B. Freeman, Mount Pleasant, Iowa. Bed-bottom	Oct. 24, 1871
119,992	Osgood, Robert R. and Ralph R., Troy, N. Y. Submarine excavator	Oct. 17, 1871
113,444	Osmun, John, and John Curl, Rockport, N. J. Washing-machine	April 4, 1871
116,087	Ostburg, John A., Boston, Mass. Button needle and fastener	June 20, 1871
	Ostergren, Charles, and Peter Rohdin. (*See* Rohdin & Ostergren.)	
112,622	Ostrander, Cornelius, assignor of one-half interest to Alson Ostrander, Poughkeepsie, N. Y. Fruit-gatherer	Mar. 14, 1871
117,918	Ostrander, Francis A., Troy, N. Y. Stopper for ladles	Aug. 8, 1871
	Ostrander, James. (*See* English, Samuel, assignor.)	
113,332	Ostrander, Jonathan, Manchester, Va. Machine for rolling hollow bars for nuts	April 4, 1871
114,187	Same. Pile for nut-blanks, tubes, &c	April 25, 1871
114,188	Same. same	April 25, 1871
112,173	O'Sullivan, Cornelius B., New Orleans, La. Faucet	Feb. 28, 1871
120,622	O'Sullivan, Jeremiah F. and Philip W., Jackson, Miss. Self-closing telegraph-key	Nov. 7, 1871
120,995	O'Sullivan, Mary M. J., New Haven, Conn. Dinner-plate cover	Nov. 14, 1871
118,878	O'Thayne, Patrick, New York, N. Y. Ironing-table	Sept. 12, 1871
110,993	Otis, Charles R. and Norton P., Yonkers, N. Y. Hoisting-apparatus	Jan. 17, 1871
113,555	Same. same	April 11, 1871
4,269	Otis, E. G., assignor to Otis, Brothers & Co., Yonkers, N. Y. Hoisting-apparatus (Division A, reissue)	Feb. 21, 1871
4,270	Same. Hoisting-apparatus (Division B, reissue)	Feb. 21, 1871
4,271	Same. same (Division C, reissue)	Feb. 21, 1871
117,321	Otis, James K., East Cambridge, Mass. Book-rack	July 25, 1871
114,189	Otis, Joel A., Watertown, N. Y. Fence-post	April 25, 1871
110,674	Otis, John L., Leeds, Mass. Belt-shippers	Jan. 3, 1871
113,838	Same. Machine for grinding saw-teeth	Mar. 21, 1871
	Otis, Merrick F., and George Jennisen. (*See* Jennisen & Otis.)	
121,656	Otis, Samuel A., Boston, Mass. Draught-pole for horse-cars. (Antedated Nov. 20, 1871)	Dec. 5, 1871
113,839	Ott, Adolph, assignor to New York Metal and Chemical Manufacturing Company, New York, N. Y. Preparing tin salts from tinners' waste	Mar. 21, 1871
118,477	Ott, Adolph, assignor of one-half interest to Thomas F. Wells, New York, N. Y. Manufacture of artificial stone	Aug. 29, 1871
	Ott, John G. (*See* Johnson, Moses, assignor.)	
	Ott, Stephen, and John C. Rupp. (*See* Rupp & Ott.)	
4,939	Ottner, Joseph, assignor to Hart Manufacturing Company, New Britain, Conn. Cupboard-latch (Design)	May 23, 1871
116,742	Otto, George, and George W. Bauer, Washington, D. C. Bottle-fastener	July 4, 1871
120,091	Oulton, James W., Amherst, Nova Scotia. Thill-coupling	Oct. 17, 1871
117,919	Outland, Josiah, Barnesville, Ohio. Lever-press	Aug. 8, 1871
116,743	Ovaitt, Amos, Unionville, Conn. Mouse-trap	July 4, 1871
	Ovenden, Philip, *et al.* (*See* Rawson, Ovenden, Wylde, McCree & Hill.)	
116,478	Owen, Abner W., and Miol E. Lilley, assignors to selves and A. J. Walter, East Canton, Pa. Bolt-cutter	June 27, 1871
117,773	Owen, Amos D., Thorntown, Ind. Stamp-canceler	Feb. 14, 1871
113,174	Owen, Charles N., Salem, Ohio. Gate	Feb. 28, 1871
121,123	Same. Track-clearer for harvesters	Nov. 21, 1871
113,273	Owen, George, Jacksonville, Ill. Coupling for plows	Feb. 28, 1871
118,638	Owen, George R., Rome, N. Y. Shoe-brush	Aug. 29, 1871
120,663	Same. Utica, N. Y. Blacking-brush	Nov. 27, 1871
	Owen, Jesse. (*See* Hall, Uriah S., assignor.)	
111,080	Owen, Silas R., Stewartsville, Mo. Window-frame	Jan. 17, 1871
118,549	Owens, George W., Fairfield, Iowa. Cultivator	Aug. 29, 1871
	Owens, Lane, Dyer & Co. (*See* Hamilton, Ira S., assignor) (Three cases.)	
119,170	Oxer, William James, Williamsport, Ind. Harvester-cutter	Sept. 19, 1871
112,840	Pabst, Charles, Wilmington, Del. Shutter-fastener	Mar. 21, 1871
112,175	Pack, William H., and Joseph S. Vanhorn, Jersey City, N. J. Mattress	Feb. 28, 1871
116,744	Packard, Henry F., assignor to Arza B. Keith, North Bridgewater, Mass. Welt and rand for boots and shoes	July 4, 1871
118,263	Same. Machine for randing boot and shoe heels	Aug. 22, 1871
4,474	Packard, Leonard, Galesburgh, Ill. Cultivator (Reissue)	July 18, 1871
120,092	Paddock, Charles, Alton, Ill. Thimble-skein	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Paddock, Harvlin, and Franklin Fairbanks. (*See* Fairbanks & Paddock.)	
	Paden, John S., and Samuel S. Hammond. (*See* Hammond & Paden.)	
116,068	Padgham, Amos, Syracuse, N. Y. Manufacture of cutter-bar heads for harvesters	June 20, 1871
4,588	Page, Charles Grafton, deceased, by Priscilla Webster Page, administratrix, assignor of one-half interest to the Western Union Telegraph Company, Washington, D. C. Induction-coil apparatus and circuit-breaker..(Reissue)..	Oct. 10, 1871
		Sept. 5, 1871
118,775	Page, Henry D., Morenci, Mich. Rein-holder.....(Design)..	May 23, 1871
4,941	Page, James T., Rochester, N. Y. Broiler	
	Page, Philip S., *et al.* (*See* Taber, Freeman Augustus, assignor.)	
	Page, Wilder & Co. (*See* Webster, John T., assignor)..(Two cases.) (Design.)	
	Same.....(*See* Paterson, James, assignor).....(Design.)	
121,102	Page, William, assignor of one-half interest to John Smith, England. Riddle or sieve	Nov. 21, 1871
4,736	Page, William H., assignor to William H. Page & Co., Norwich, Conn. Type. (Design)	Mar. 21, 1871
4,737	Same.....Type.....(Design)..	Mar. 21, 1871
4,738	Same.....Type-border.....(Design)..	Mar. 21, 1871
4,890	Same.....Type.....(Reissue.)	April 18, 1871
	Pagenstecher, Albert. (*See* Voelter, Henry, assignor).....(Reissue)..	April 4, 1871
4,324	Paget, Arthur, England. Machine for tightening ropes, &c	June 6, 1871
115,768	Pagett, George W., Oxford, Ind. Door-check	Mar. 14, 1871
112,732	Pagin, Lemuel, Niles, Mich. Compound for destroying potato-bugs	
	Paige, James H. (*See* French, Samuel, assignor.)	
	Paine, A. W., *et al.* (*See* Colby, Calvin M., assignor.)	
112,633	Paine, Charles, assignor to self and Cyril C. Child, Boston, Mass. Paper-cutting machine	Mar. 14, 1871
114,190	Paine, Halbert E., Milwaukee, Wis. Wood-pavement	April 25, 1871
4,237	Paine, Henry M., assignor through mesne assignments to the Paine Electro-Magnetic Engine Company, Newark, N. J. Construction of electro-magnets. (Reissue)	Jan. 24, 1871
112,841	Paine, Henry M., assignor to Mahlon S. Frost, Newark, N. J. Electro-magnetic motor	Mar. 21, 1871
113,333	Paine, John Shearer, Cambridge, Mass. Extension lounge	April 4, 1871
111,377	Paine, Seth White, Williamsport, Pa. Shot-cartridge	Jan. 31, 1871
112,274	Same.....Case-shot	Feb. 28, 1871
119,395	Same.....Tool-head for planing-machines	Sept. 26, 1871
	Painter, Emlen. (*See* Neill, Edward Henry, assignor.)	
118,550	Painter, Reuben, Baltimore Md. Machine for preparing metal for solder, printers' leads, &c	Aug. 29, 1871
113,916	Pairan, Ferdinand, assignor to self and Henry Myer, Dayton, Ohio. Gate for draw-bridges	April 18, 1871
111,230	Palen, Gilbert E., and Florello P. Avery, Tunkhannock, Pa. Bark-mill	Jan. 24, 1871
115,349	Palm, John H., Mansfield, Ohio. Letter-board for object-teaching	May 30, 1871
120,635	Palmenberg, Joseph R., New York, N. Y. Stand for show-windows	Nov. 14, 1871
	Palmer, Amos B., and William C. Jillson. (*See* Jillson & Palmer) .. (Reissue.)	
113,334	Palmer, Benoni F., Baraboo, Wis. Gate	April 4, 1871
111,470	Palmer, Charles H., Brooklyn, E. D., N. Y. Machine for molding knobs	Jan. 31, 1871
114,332	Same.....New York, N. Y. Manufacture of split-needles	May 2, 1871
119,876	Same.....same	Oct. 10, 1871
4,576	Palmer, Charles H., assignor to the Palmer Automatic Bobbin-Winder Company, New York, N. Y. Bobbin-winder for sewing-machines.....(Reissue)..	Oct. 3, 1871
4,847	Palmer, Cyrus F., Utica, N. Y. School-desk and seat.....(Design)..	April 25, 1871
	Palmer, Edwin B., and Orlando L. Kenyon. (*See* Kenyon & Palmer.)	
112,176	Palmer, Frank H., Foxcroft, Me. Countersink	Feb. 28, 1871
118,264	Palmer, George, and Charles W. Hubbard, Pittsburgh, Pa. Method of manufacturing axes	Aug. 22, 1871
113,917	Palmer, Isaac E., Hackensack, N. J. Machine for dressing worsted cord	April 18, 1871
114,333	Same.....Tackle-block. (Antedated April 22, 1871)	May 2, 1871
	Palmer, Isaac E., and John Turner. (*See* Turner & Palmer) ..... (Reissue.)	
112,024	Palmer, Jason J. and Franklin G., Pittsburgh, Pa. Globe holder and cooler combined for vapor-burners	Mar. 14, 1871
	Palmer, Jonathan, *et al.* (*See* Boswell, Palmer & James.)	
119,396	Palmer, Joseph H., Yonkers, N. Y. Washing-machine	Sept. 26, 1871
121,134	Palmer, Leeman C., Howard, Pa. Device for slitting and looping rags for carpets	Nov. 21, 1871
117,920	Palmer, Lemuel R., Belfast, Me. Stave-jointer	Aug. 8, 1871
118,387	Same.....same	Aug. 22, 1871
118,145	Palmer, Milton J., Syracuse, N. Y. Ruffling and cording attachment for sewing-machines	Aug. 15, 1871
116,025	Palmer, Samuel M., Glen's Falls, N. Y. Circular-saw mill	July 4, 1871
121,406	Palmer, Sidney W., and Elliott G. Storke, assignors to William J. Moses, Auburn, N. Y. Bench-plane	Nov. 28, 1871
	Palmer, Sidney W., and Munson C. Cronk. (*See* Cronk & Palmer)..(Reissue.)	
121,657	Palmer, Sidney W., and J. Foreman, Auburn, N. Y. Clothes-wringer	Dec. 5, 1871
115,510	Palmer, William, New York, N. Y. Chair for railroad-cars	May 30, 1871
116,745	Palmlund, Peter, Brooklyn, N. Y. Device for transmitting motion	July 4, 1871
	Pancake, John S., and William C. Hays. (*See* Hays & Pancake.)	
	Pancoast, Franklin. (*See* Still, John W., assignor.)	
117,809	Pangborn, James V., assignor to self and James T. Clark, Galesburgh, Ill. Balance-valve for steam-pumps	Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,050	Pangle, David, Belmont, Ohio. Fire-place grate	Dec. 19, 1871
114,963	Paquet, Anthony C., Philadelphia, Pa. Bank-check	May 16, 1871
112,954	Paradis, Joseph, assignor to self and Sarah Parker, Brooklyn, N. Y. Car brake and starter	Mar. 21, 1871
120,316	Paradis, Joseph, assignor to self, William H. Drew, and Charles Parker, Brooklyn, N. Y. Brake for railway-cars	Oct. 24, 1871
110,994	Paraf, Alfred, assignor to Edward Sabine Renwick, trustee, New York, N. Y. Material called "ole-izerine" for dyeing and printing	Jan. 17, 1871
110,995	Same.....Process of extracting the coloring-matter of madder	Jan. 17, 1871
111,142	Same.....Obtaining madder-extracts. (Antedated Dec. 29, 1870)	Jan. 24, 1871
113,918	Same.....Preparation of madder	April 18, 1871
113,919	Same.....Composition of madder for printing cloths, &c	April 18, 1871
4,363	Same.....Process of obtaining bright colors upon cloth by printing. (Reissue)	May 2, 1871
120,392	Paraf, Alfred, assignor to the Madder Color Company, New York, N. Y. Composition of madder for dyeing	Oct. 31, 1871
120,393	Same.....Dyeing and printing madder-colors	Oct. 31, 1871
112,372	Pardieck, John Henry, assignor to self and Samuel M. Brown, Acton, Ind. Boring-machine	Mar. 7, 1871
119,715	Pardy, George, San Francisco, Cal. Identifying-stamp	Oct. 10, 1871
119,784	Parham, Charles, Philadelphia, Pa. Means for mounting sewing-machines upon their tables	Oct. 10, 1871
113,086	Paris, Daniel E., Troy, N. Y. Cooking-stove	Mar. 28, 1871
113,556	Same.....same	April 11, 1871
113,790	Same.....same	April 18, 1871
119,045	Same.....same	Sept. 19, 1871
115,887	Parisen, William B., Newark, N. J. Concrete asphaltic pavement	June 13, 1871
112,484	Park, Amon, Germanville, Iowa. Straw-cutter	Mar. 7, 1871
116,347	Park, John, assignor through mesne assignments to Hale & Manley, Philadelphia, Pa. Bottle-stopper	June 27, 1871
111,471	Park, Robert W., Philadelphia, Pa. Vapor-burner	Jan. 31, 1871
112,373	Same.....same	Mar. 7, 1871
111,143	Park, Webster, Norwich, Conn. Water-meter	Jan. 24, 1871
	Park, William C., and Baxter Wright. (*See* Wright & Park.)	
113,791	Parke, Ira S., Virginia City, Nev. Amalgamating-pan for gold and silver ores	April 18, 1871
116,348	Parke, Thomas Bee, near Downieville, Cal. Churn	June 27, 1871
	Parker & Whipple Company. (*See* Cinquini, Pietro, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Hubbard, George M., assignor.)	
113,692	Parker, Anna and Lewis A., Girard, Kans. Combined bedstead, bureau, and stand	April 11, 1871
121,465	Parker, A. James, Lynn, Mass. Edge-plane for boot and shoe makers	Dec. 5, 1871
	Parker, Charles. (*See* Fosket, William, assignor.)	
	Same.....(*See* Cinquini, Pietro, assignor).....(Design.)	
	Same.....(*See* Boynton, Edward S., assignor.)	
	Parker, Charles, *et al.* (*See* Paradis, Joseph, assignor.)	
114,705	Parker, Charles H., Boston, Mass. Wrought iron and steel column	May 9, 1871
117,451	Parker, Charles W., Genesee Forks, Pa. Water-wheel	July 25, 1871
	Parker, Christopher C., and Oliver P. Reeve. (*See* Reeve & Parker.)	
117,800	Parker, David Otho, Liverpool, Nova Scotia. Cradle	Aug. 8, 1871
117,810	Same.....Combined chair and cane	Aug. 8, 1871
118,478	Same.....Folding wash-stand	Aug. 29, 1871
118,479	Same.....Children's high-chair and work-stand combined	Aug. 29, 1871
118,480	Same.....Excursion-chair	Aug. 29, 1871
110,783	Parker, Edward Lawley, Birmingham, England. Fastening for braces, &c	Jan. 3, 1871
112,072	Parker, Enos L., Painesville, Ohio. Clothes-drier	Feb. 21, 1871
112,842	Parker, George G., and William P. Dodge, Prospect, N. Y. Bit and drill-brace	Mar. 21, 1871
118,146	Parker, George H., Detroit, Mich. Machine for brushing and finishing leather	Aug. 15, 1871
117,106	Parker, George W., Watkins, N. Y. Photographic camera	July 18, 1871
111,378	Parker, Jerome M., Leicester, Mass. Loom-picker	Jan. 31, 1871
115,093	Parker, John Hanson, Waltham, Mass. Key-hole protector	May 23, 1871
116,479	Parker, John L., Worcester, Mass. Apparatus for tapering ferrules	June 27, 1871
112,843	Parker, Nosh, Trimble County, Ky. Gate	Mar. 21, 1871
	Parker, Norman S., and Albert L. Moore. (*See* Moore & Parker.)	
119,946	Parker, Sandford A., assignor to self and Frederick G. Cass., Cambridge, Mass. Apparatus for the manufacture of chocolate drops and other confections	Oct. 17, 1871
	Parker, Sarah. (*See* Paradis, Joseph, assignor.)	
119,171	Parker, Thomas, Shelby, N. C. Lubricator for picker-spindle in looms. (Antedated Sept. 16, 1871)	Sept. 19, 1871
112,275	Parker, Thomas U., Mifflintown, Pa. Wash-boiler	Feb. 28, 1871
114,334	Parker, William F., assignor to self, John R. Goldthwaite, and William H. Fryer, Troy, Ala. Plow	May 2, 1871
118,481	Parkhurst, Edward G., assignor to the Pratt & Whitney Company, Hartford, Conn. Machinery for feeding wire to machines	Aug. 29, 1871
	Parkhurst, Jonathan. (*See* Brockway, Damon W., assignor.)	
4,697	Parkin, William, assignor to Reed and Barton, Taunton, Mass. Table-caster. (Design)	Mar. 7, 1871
4,710	Same.....Spoon or fork handle.....(Design)..	Mar. 14, 1871
5,190	Same.....Cake-dish.....(Design)..	Aug. 8, 1871
5,445	Same.....Cake-tazza or flower-stand.....(Design)..	Dec. 19, 1871
	Parkins, Joseph, and George Polyblank. (*See* Polyblank & Parkins.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,445	Parkinson, Charles Braham, Aaron and John Metcalf, and William Hesketh Heald, England. Self acting mule for spinning	April 4, 1871
119,397	Parkman, Delbert A., Union City, Tenn. Harrow	Sept. 26, 1871
111,240	Parkman, Harrison, Philadelphia, Pa. Spade	Jan. 24, 1871
4,960	Same.....same.....(Design)	May 30, 1871
110,996	Parks, Caroline, Milan, Ohio. Tree-protector	Jan. 17, 1871
119,365	Parks, Nathaniel, and George A. Hynds, Rome, N. Y. Wash-boiler	Aug. 22, 1871
111,562	Parks, William, Meadville, Pa. Churn	Feb. 7, 1871
110,932	Parliman, Albert, Palmyra, N. Y. Neck-yoke of harness	Jan. 10, 1871
114,191	Parmelee, Dubois D., New York, N. Y. Electro-plating the interior of pipes and tubes with silver, nickel, &c	April 25, 1871
	Parmelee, Horace. (*See* Bonnell, William H., assignor.) (Two cases.) (Reissue.)	
	Parmelee, Horace, and William H. Bonnell. (*See* Orr hy, John, assignor.)	
113,201	Parmenter, Charles O., Amherst, Mass. Sewing-machine	Mar. 28, 1871
117,921	Parmeriee, James C., Bean Blossom, Ind. Machine for scouring and stretching leather	Aug. 8, 1871
	Parmly, S. P. (*See* Cannell, Robert A., assignor.)	Oct. 10, 1871
119,877	Parr, William G., Normal, Ill. Car-axle box	May 30, 1871
115,511	Parrish, Edward, Philadelphia, Pa. Paper for napkins and other articles	Feb. 7, 1871
111,673	Parrish, James C., Petersburgh, Va. Animal-trap	May 2, 1871
114,335	Same.....Coal-scuttle	Jan. 3, 1871
4,557	Parrish, John H., Greensborough, Ala. Land-mark	June 13, 1871
115,980	Parrish, William, Dayton, Oreg. Gang-plow	
	Parrish, William G., *et al.* (*See* Martin, Parrish & Petrie.)	
	Parrott, Joseph S. (*See* Jones, James H., assignor.)	May 30, 1871
115,350	Parry, George T., Philadelphia, Pa. Vapor-burner	
113,335	Parsels, Benjamin T., and John L. Hedges, Hanover, N. J. Platform-spring coupling	April 4, 1871
	Parsil, Edwin R., and Francis Degen. (*See* Degen & Parsil.)	
	Parsons, Alfred, *et al.* (*See* Thurston, Levi P., assignor.)	
110,997	Parsons C. Chauncy, New York, N. Y. Apparatus for distilling and concentrating liquids	Jan. 17, 1871
116,315	Parsons, Emogene L., Grand Lodge, Mich. Compound for curling hair. (Antedated June 10, 1871)	June 20, 1871
116,746	Parsons, Francis W., Cleveland, Ohio. Sleeping-car	July 4, 1871
114,964	Parsons, George W., and William S. Finney, Harrisburgh, Pa. Cultivator and shovel-plow	May 16, 1871
	Parsons, Henry H., administrator. (*See* Hurd, Edwin F.)	
	Parsons, James S. (*See* Graham, William W., assignor.)	Feb. 14, 1871
111,774	Parsons, John M., Charles City, Iowa. Corn-planter	
	Parsons, J. Russell. (*See* Dickinson, Charles G., assignor)	(Reissue.)
	Same.....(*See* Allen, Samuel S., assignor)	(Reissue.)
116,626	Parsons, Lewis K., Charles E. Getchell, and Samuel W. Fairfield, Salem, Mass. Tanners' sleeper	July 4, 1871
122,190	Parsons, Stephen, Saint Francisville, Mo. Tuyere	Dec. 26, 1871
	Parsons, Theodore, and Addison Davis. (*See* Davis & Parsons.)	
114,192	Partz, August F. W., Oakland, Cal. Refining sugar. (Antedated April 22, 1871)	April 25, 1871
116,480	Parus, Zeno F., assignor to George C. Hicks & Co., Baltimore, Md. Tile-machine	June 27, 1871
119,878	Parvin, Robert C., Philadelphia, Pa. Traction-engine	Oct. 10, 1871
116,069	Passel, George W., assignor to J. A. Fay & Co., Cincinnati, Ohio. Tenoning-machine	June 20, 1871
113,336	Passmore, Everett G., Philadelphia, Pa. Lawn-mower	April 4, 1871
111,563	Patch, Asahel H., Hamilton, Mass. Clothes-drier	Feb. 7, 1871
116,627	Same.....Corn-sheller	July 4, 1871
5,337	Patchett, Joseph James, assignor to Joseph Wild & Co., England. Carpet-pattern	Oct. 31, 1871
		(Design).. Oct. 31, 1871
5,338	Same.....Carpet-pattern	(Design).. Aug. 1, 1871
117,673	Paterson, Francis, Montreal, Canada. Apparatus for loading ships	
4,639	Paterson, James, assignor to Thomas Potter, Son & Co., Elizabeth, N. J. Oil-cloth pattern	(Design).. Feb. 7, 1871
4,674	Paterson, James, assignor to Richard H. and Benjamin C. Reeve, Elizabeth, N. J. Oil-cloth pattern	(Design).. Feb. 21, 1871
5,393	Paterson, James, assignor to Page, Wilder & Co., Elizabeth, N. J. Oil-cloth pattern	(Design).. Nov. 28, 1871
111,241	Paterson, John, Troy, N. Y. Stop-valve	Jan. 24, 1871
111,242	Same.....same	Jan. 24, 1871
5,289	Paton, David, assignor to Joseph Wild & Co., New York, N. Y. Carpet-pattern	(Design).. Sept. 26, 1871
5,291		(Design).. Sept. 26, 1871
	Same.....Carpet-pattern	(Design).. Mar. 28, 1871
113,067	Paton, Robert H., New York, N. Y. Reversible settee	May 23, 1871
115,084	Patont, Felix F., Iberia Parish, La. Cane-stubble shaver	Aug. 1, 1871
117,674	Patric, Charles E., Springfield, Ohio. Upholstery-spring	April 11, 1871
4,337	Patric, John S., Rochester, N. Y. Air-compressing apparatus	(Reissue).. Oct. 17, 1871
120,093	Same.....Vulcanizing rubber-sacks for stock-pumps	Oct. 17, 1871
120,094	Same.....Apparatus for compressing air. (Antedated Oct. 7, 1871)	Oct. 17, 1871
120,095	Same.....same. (Antedated Oct. 7, 1871)	Feb. 28, 1871
113,177	Patric, John S., assignor to Hiram Lawton, Rochester, N. Y. Pump	Nov. 21, 1871
121,125	Patric, Lewis, Springfield, Ohio. Windmill. (Antedated Nov. 4, 1871)	Jan. 10, 1871
110,933	Pattee, James H., and Hugh J. Graham, Monmouth, Ill. Steam-vacuum pump	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,446	Pattee, Lewis C., Lebanon, N. H. Circular-saw mill	Dec. 5, 1871
119,947	Patten, Isaac N., Memphis, Tenn. File	Oct. 17, 1871
	Patten, Isaac N., and Eli W. Long. (*See* Long & Patten.)	
120,317	Patterson, Chester R., Pittston, Pa. Suction and blast fan	Oct. 24, 1871
121,407	Patterson, James, assignor to William Betts, Scotland. Capsuling bottles	Nov. 28, 1871
119,239	Patterson, James H., Glen's Falls, N. Y. Boot and shoe blacking. (Antedated Sept. 23, 1871)	Sept. 26, 1871
121,126	Patterson, J. Willard, assignor to John Ashcroft and Sarah Ellen Patterson, New York, N. Y. Coffee-pot. (Antedated Nov. 20, 1871)	Nov. 21, 1871
119,472	Patterson, Newton A., assignor to self and M. L. Patterson, Knoxville, Tenn. Cider-mill. (Antedated Sept. 15, 1871)	Oct. 3, 1871
	Patterson, Robert, *et al.* (*See* Gridley, John B., assignor.)	Aug. 1, 1871
117,559	Patterson, Samuel, Newark, N. J. Toy	
119,240	Patterson, Samuel, Berlin Heights, Ohio. Method of bending wood for round boxes	Sept. 26, 1871
117,922	Patterson, William, Oneonta, N. Y. Animal-power	Aug. 8, 1871
111,564	Patterson, William W., and Edmond Bishop, Pittsburgh, Pa. Ratchet-coupling for barges, &c	Feb. 7, 1871
116,090	Pattin, William S., Portsmouth, Ohio. Extension-shank for boring-bits	June 20, 1871
114,193	Pattison, Charles S., assignor to Burleigh Rock-Drill Company, North Adams, Mass. Drill-cylinder	April 25, 1871
111,144	Pattison, Gurney C., Baltimore, Md. Anchor	Jan. 24, 1871
111,145	Same.....same	Jan. 24, 1871
122,051	Patton, William P., assignor of one-half interest to James R. Piper, Harrisburgh, Pa. Meat-chopper	Dec. 19, 1871
121,467	Paul, Philipp, Black Earth, Wis. Medical compound or eye-wash	Dec. 5, 1871
	Paul, R. C., *et al.* (*See* Ryan, Michael G., assignor.)	
	Same.....(*See* Barnard, John D., assignor.)	
116,747	Paull, Archibald W., and John Morgan, jr., Wheeling, W. Va. Nail-machine	July 4, 1871
116,091	Paull, Archie W., and John Morgan, jr., Wheeling, W. Va. Cut-nail machine	June 20, 1871
119,879	Paulson, Richard, Washington, D. C. Percussion-cap carrier	Oct. 10, 1871
121,957	Payne, Albert E., Jonesville, Mich. Potato-planter	Dec. 19, 1871
120,529	Payne, Alvin, Bridgeport, Conn. Metallic cartridge	Oct. 31, 1871
121,808	Same.....same	Dec. 12, 1871
	Payne, Edwin W., and Martin P. Warner. (*See* Warner & Payne.)	
118,047	Payne, Frederick C., New York, N. Y. Lounge-bedstead. (Antedated Aug. 9, 1871)	Aug. 15, 1871
119,398	Payne, James M., Benton, Ill. Harrow	Sept. 26, 1871
4,899	Payne, Sanford D., Kasota, Minn. Fruit-basket	(Design).. May 9, 1871
	Payton, Pat, and Benjamin P. Freeman. (*See* Freeman & Payton.)	
118,366	Peabody, Washburn, Orono, Me. Ax. (Antedated Aug. 5, 1871)	Aug. 22, 1871
	Peace, H. W., *et al.* (*See* Hankin, William, assignor.)	
117,923	Peacock, Daniel K., assignor to self and Joseph F. Thompson, Little Valley, N. Y. Trace-buckle	Aug. 8, 1871
118,551	Peacock, George, Selma, Ala. Mold-board for plows	Aug. 29, 1871
119,948	Peacock, George H., Webster, N. Y. Combination-lock	Oct. 17, 1871
121,408	Peairs, William H. H., Olathe, Kans. Baling-press	Nov. 28, 1871
113,202	Peake, John L., New York, N. Y. Method of scene-shifting for theatrical and analogous purposes	Mar. 28, 1871
113,337	Same.....Stop-valve	April 4, 1871
117,675	Same.....Steam-heater	Aug. 1, 1871
	Peake, John L., and Edward S. Dickinson. (*See* Dickinson & Peake.)	
	Pear, Isaac S., and Benjamin A. Pettingill. (*See* Turner, Joshua, assignor.)	
	Pearce, Charles, and Walter McPheeters. (*See* McPheeters & Pearce.)	
115,232	Peard, John, New York, N. Y. School-desk	May 23, 1871
117,200	Pearl, Adolph, Brooklyn, N. Y. Mold for shaping cigar-bunches	July 18, 1871
4,458	Pearl, Adolph, assignor to Henry Pearl, New York, N. Y. Apparatus for pressing, shaping, and drying cigar-bunches	(Reissue).. July 4, 1871
115,512	Pearl, Ahira E., Mansfield, Conn. Compound for exterminating vermin	May 30, 1871
	Pearl, Charles S. (*See* Ford, Frank M., assignor.)	
121,254	Pearl, Eugene T., Milwaukee, Wis. Crutch	Nov. 28, 1871
115,095	Pearl, Oliver, Lawrence, Mass. Guide-board for spinning-machines	May 23, 1871
115,233	Same.....Spindle-step and cover for spinning-machines	May 23, 1871
4,640	Pears, John P., Pittsburgh, Pa. Mold for lager-beer glasses	(Design).. Feb. 7, 1871
4,641	Same.....same	(Design).. Feb. 7, 1871
110,934	Pearsall, S. J., and Silas P. Briggs, Saratoga Springs, N. Y. Spring for wagons and carriages	Jan. 10, 1871
122,052	Pearse, John B., Saratoga Township, Pa. Plant for the manufacture of Bessemer steel	Dec. 19, 1871
116,481	Pearson, Alfred, Assonett, Mass. Apparatus for sizing the initial-coils of cops in spinning-machines	June 27, 1871
	Pearson, Francis R., *et al.* (*See* Stead, Holcroft & Pearson.)	
113,557	Pearson, Henry G., New York, N. Y. Metal screw and nut	April 11, 1871
116,989	Pearson, Preston C., assignor to self and T. E. C. Brinly, Louisville, Ky. Fence	July 11, 1871
117,452	Pearson, Richard, Allegheny City, Pa. Lamp-chimney cleaner	July 25, 1871
114,965	Pearson, William Everett, assignor to self and James C. Wilson, East Boston, Mass. Boiler-furnace draught-regulator	May 16, 1871
111,081	Pease, Claudius A., Astoria, N. Y. Machine for the manufacture of paper carpet-linings	Jan. 17, 1871
118,048	Pease, Dan, Floyd, N. Y. Smut-mill	Aug. 15, 1871
119,785	Pease, Julius A., Catskill, N. Y. Candle-burner	Oct. 10, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Pease, Oscar S., and George R. Metten. (*See* Metten & Pease.)	
	Peck, Eben, and Gilbert J. Bogert. (*See* Myers & Eunson, assignors.) (Disclaimer.)	
	Peck, Joseph C., *et al.* (*See* Davis, Blakeslee & Peck.)	
	Peck, Joseph R., and William Hoge. (*See* Hoge & Peck.)	
116,482	Peck, Napoleon B., Woonsocket, R. I. Bracket for warp-creels	June 27, 1871
	Peck, Walter L. and Clarence L., *et al.* (*See* Anderson, James H., assignor.) (Two cases.)	
	Peck, William A., jr., *et al.* (*See* Hoggson, Samuel J., assignor.)	
120,318	Peckham, Edgar, Antwerp, N. Y. Furnace for the manufacture of iron	Oct. 24, 1871
115,513	Peckham, John, New Haven, Conn. Buckle	May 30, 1871
114,336	Peckham, John S., Utica, N. Y. Cooking-stove and range	May 2, 1871
112,374	Pedder, John, and George Abel, West Pittsburgh, Pa. Machine for pointing blanks for cultivator-teeth	Mar. 7, 1871
118,482	Peddler, John, and George Abel, Temperanceville, Pa. Machine for grinding circular saws	Aug. 29, 1871
117,811	Peeler, Charles W., Chicago, Ill., and Norman C. Johnson, Springfield, Mass. Manufacture of seamless shoes	Aug. 8, 1871
113,630	Peelor, David, Johnstown, Pa. Self-recording barometer	April 11, 1871
120,664	Peet, Samuel J., Boston, Mass. Valve. (Antedated Oct. 21, 1871)	Nov. 7, 1871
111,906	Peet, Samuel J., and Daniel Sawyer, assignors to Samuel J. Peet, Boston, Mass. Device for grinding the flat faces of valve-seats. (Antedated Feb. 11, 1871)	Feb. 21, 1871
121,543	Peet, Samuel J., and Joseph W. Willis, assignors to Samuel J. Peet, Boston, Mass. Process of constructing water and steam valves	Dec. 5, 1871
112,485	Peiffer, Josiah, and Samuel Richards, Valonia, Pa. Apparatus for ageing whisky and other spirits	Mar. 7, 1871
117,994	Peirce, Charles R., assignor to George J. Naylor, Philadelphia, Pa. Vegetable-grater	Aug. 8, 1871
112,625	Peirce, Charles W., jr., Bristol, Pa. Skirt	Mar. 14, 1871
116,802	Peirce, George W., Boston, Mass. Bracket	July 11, 1871
120,665	Same.....Bracket and towel-rack combined	Nov. 7, 1871
117,676	Peirce, Horatio L., Taunton, Mass. Spinning-ring	Aug. 1, 1871
121,543	Peirce, Isaac Newton, Philadelphia, Pa. School-desk	Dec. 5, 1871
	Peirce, Otis W., and Joseph R. Wilber. (*See* Wilber & Peirce.)	
121,809	Peirce, Thomas L. and George, New Providence, Iowa. Seeder	Dec. 12, 1871
117,201	Peirce, Thomas W., Minneapolis, Minn. Hay rake and fork	July 18, 1871
114,594	Peirce, William H., Bangor, Me. Meat and vegetable chopper	May 9, 1871
113,446	Pelisse, Augustus, and George W. Stout, Newark, N. J. Machine for pouncing hats	April 4, 1871
113,920	Pell, Henry W., Rome, N. Y. Wash-boiler	April 18, 1871
115,234	Same.....same	May 23, 1871
119,399	Same.....Clothes-washer	Sept. 26, 1871
112,844	Pell, James D., New York, N. Y. Animal-trap	Mar. 21, 1871
113,339	Pelton, William Tilden, New York, N. Y. Portable apparatus for preserving wood	April 4, 1871
	Pence, Jason P., and John Knull. (*See* Knull & Pence.)	
	Pendleton, Edward B. (*See* Turner & Stevens, assignors.)	
	Same.....(*See* Switzer, John J., assignor.)	
120,504	Pennell, Oscar J., and George Zimmer, Williamsport, Pa. Dovetailing-machine	Nov. 7, 1871
5,038	Pennell, Thomas, assignor to Bigelow Carpet Company, Melrose, N. Y. Carpet	June 20, 1871 (Design)
5,119	Same.....Morrisania, N. Y. Carpet-pattern	July 11, 1871 (Design)
	Penney, Frank L. (*See* Whitney, Alfred, assignor.)	
120,770	Penney, William A., assignor to self and Samuel R. Horne, Morrisville, N. C. Gate	Nov. 7, 1871
	Penniman, Nicholas G., and Josias Pennington, jr. (*See* Sneider, Charles, assignor.)	
116,628	Pennington, Alexander W., assignor to Sarah A. Pennington and Chauncey Perry, Rochester, N. Y. Sash-holder	July 4, 1871
	Pennington, Josias, jr., and Nicholas G. Penniman. (*See* Sneider, Charles, assignor.)	
113,068	Pennington, Thomas D., assignor to self and R. G. Anderson, Forsyth, Ga. Horse-power	Mar. 28, 1871
	Penniston, George W., North Vernon, Ind. Cotton and hay press	Nov. 25, 1871 (Extension)
4,301	Pennock, Abraham L., Philadelphia, Pa. Steam-generator	Mar. 14, 1871 (Reissue)
116,483	Same.....Mechanism for operating ventilators	June 27, 1871
113,558	Pennoyer, Oliver A., Washington, D. C. Pen-holder	April 11, 1871
111,565	Penny, Benjamin F., assignor to Thaddeus B. Curtis, Rochester, N. Y. Artificial fuel	Feb. 7, 1871
120,505	Penny, Charles E., assignor to self and John McCartney, Fort Wayne, Ind. Insect-trap	Nov. 7, 1871
119,400	Penrose, William H., Fort Lyon, Mont. Military equipment	Sept. 26, 1871
120,530	Same.....Combined tent and cot. (Antedated Sept. 30, 1871)	Oct. 31, 1871
114,595	Pentland, Alexander C., Philadelphia, Pa. Hot-water heating-apparatus	May 9, 1871
111,566	Pentz, Albert D., New York, N. Y. Fountain blacking-brush	Feb. 7, 1871
122,376	Pepper, Nathaniel M., Danbury, N. C. Tobacco and other press	Dec. 26, 1871
110,998	Percival, George Gilman, assignor to Isabel B. Percival, Waterville, Me. Apparatus for extracting essential oils	Jan. 17, 1871
120,506	Percival, George Gilman, Waterville, Me. Process and apparatus for extracting essential oils. (Antedated Nov. 4, 1871)	Nov. 7, 1871
121,893	Percival, Thomas H., Harper's Ferry, W. Va. Mechanical movement	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,966	Peregoy, Dabney N. M., Elizabethton, Tenn. Flour-bolt	May 16, 1871
114,967	Same.....Mill stone-dress	May 16, 1871
110,784	Peregoy, Henry, Mount Carmel, Md. Milk-house	Jan. 3, 1871
112,276	Peregoy, William B., Baltimore, Md. Fire-escape ladder	Feb. 28, 1871
113,089	Perfater, George S., Camp Point, Ill. Churn	Mar. 28, 1871
117,500	Perkins, Charles H., assignor to American Horse-Nail Company, Providence, R. I. Device for pointing horseshoe-nails	Aug. 1, 1871
119,402	Same.....Apparatus for pointing horseshoe-nails	Sept. 26, 1871
122,277	Perkins, Dabney N. M., assignor to self, Robert I. Lusk, and Lorenzo D. Poteet, Johnson City, Tenn. Journal bearing and lubricating device	Dec. 26, 1871
119,401	Perkins, Francis B., assignor to self and Campbell, Whittier & Co., Boston, Mass. Elevator	Sept. 26, 1871
113,559	Perkins, George C., Hartford, Conn. Frame for wire mattresses	April 11, 1871
121,810	Perkins, George F., San Francisco, Cal. Pendent reading-desk	Dec. 12, 1871
	Perkins, James, *et al.* (*See* Barnstead, James T., assignor)	(Reissue.)
113,716	Perkins, James, assignor to self and Jacob Brandt, jr., Baltimore, Md. Surface blow-off pipe for boilers	April 11, 1871
122,130	Perkins, James, Peabody, Mass., and George L. Newcomb, Salem, Mass. Machine for removing grease from leather	Dec. 26, 1871
112,375	Perkins, James E., San Francisco, Cal. Bale-tie	Mar. 7, 1871
	Perkins, Jesse A., *et al.* (*See* Hyatt & Perkins.)	
	Perkins, N. S. C., and M. P. Smith. (*See* Reding, Royal, assignor.)	
112,733	Perkins, Sandford A., Topsham, Me. Machine for grinding wood-pulp	Mar. 14, 1871
112,734	Same.....Wood-pulp machine	Mar. 14, 1871
	Perkins, Stephen G. (*See* Clark, Alexander, assignor.)	
4,848	Perkins, William A., Salem, Mass. Saw-filing vise	April 25, 1871 (Design)
	Same.....(*See* Pratt, Albert W., assignor)	(Reissue.)
120,096	Perky, Henry D., Washington, D. C. Making rubber stereotypes	Oct. 17, 1871
	Perley, Charles, New York, N. Y. Compound capstan for ships	July 19, 1871 (Extension)
	Perley, Charles A., *et al.* (*See* Hastings, Emory B., assignor.)	
112,486	Perrault, Louis A., assignor to self and Joseph Huber, Natchez, Miss. Combined cotton and corn planter	Mar. 7, 1871
4,908	Perrin, Edward, assignor to W. & I. Sloane, England. Carpet-pattern. (Design)	May 16, 1871
4,909	Perrin, Edward, assignor to Joseph Wild, England. Carpet-pattern. (Design)	May 16, 1871
5,446	Perrin, Edward, assignor to Joseph Wild & Co., England. Carpet-pattern. (Design)	Dec. 19, 1871
116,863	Perrin, Marie Eulalie, Montreal, Canada. Medical compound for treating diseases of the lungs, chest, &c.	July 11, 1871
112,626	Perrin, Parley L., and Joseph L. Hewes, assignors to Parley L. Perrin, Taunton, Mass. Machine for tapping boilers	Mar. 14, 1871
	Perrine, Alfred T., Boston, Mass. Heel for boots and shoes	Oct. 3, 1871
	Perrine, John D., and John D. Phyfe. (*See* Phyfe & Perrine.)	
	Perrini, George P., Richmond, Va., and James E. Boyle, New York, N. Y. Hydrant	June 7, 1871 (Extension)
	Perrow, Daniel B., and Isaac Martin. (*See* Martin & Perrow.)	
101,658	Perry, Albert and George W. Steam-pump	Dec. 5, 1871
	Perry, Chauncey, and Sarah A. Pennington. (*See* Pennington, Alexander W., assignor.)	
114,337	Perry, Edward L., assignor to Combination Rubber Company, New York, N. Y. Rubber play-pipe for hose	May 2, 1871
	Perry, Edward L., and John Greacen, jr. (*See* Greacen & Perry.)	
4,799	Perry, Edwin Hathaway, Boston, Mass. Watch-plate	April 11, 1871 (Design)
115,351	Same.....Stem-winding watch	May 30, 1871
	Perry, Elkanah S., and Robert H. Dowling. (*See* Dowling & Perry.)	
119,786	Perry, Francis L., Canandaigua, N. Y. Cultivator	Oct. 10, 1871
118,367	Perry, George L., Berlin, Wis. Clod-fender	Aug. 22, 1871
	Perry, Henry, *et al.* (*See* Duxon & Perry.)	
117,561	Perry, John G., Kingston, R. I. Hay-tedder	Aug. 1, 1871
117,562	Same.....same	Aug. 1, 1871
121,958	Same.....same	Dec. 19, 1871
115,096	Perry, John P., Yarmouth Port, Mass. Key-board	May 23, 1871
119,949	Perry, John S., and Andrew Dickey, Albany, N. Y. Cooking-stove	Oct. 17, 1871
115,635	Perry, Joseph R. and Samuel R., Wilkesbarre, Pa. Reed-organ bellows	June 6, 1871
120,319	Perry, Oliver H., and William H. Allen, Beloit, Wis. Bridge	Oct. 24, 1871
113,792	Perry, Previze A., Perth Amboy, N. J. Grain-binder	April 18, 1871
119,880	Perry, William L., Jonesville, S. C. Machine for fitting and boring felloes	Oct. 10, 1871
117,453	Perry, William V., Beaver Dam, Wis. Car-coupling	July 25, 1871
115,514	Peteler, Alois, New Brighton, N. Y. Dumping-car	May 30, 1871
118,147	Petera Adolph, Austria. Extracting mercury from its ores	Aug. 15, 1871
116,629	Peters, Charles R., and William P. Taylor, San Francisco, Cal. Tilting-chair	July 4, 1871
4,408	Peters, George M., Columbus, Ohio. Adjustable metallic dasher for vehicles. (Reissue)	May 30, 1871
121,950	Same.....Whip-socket. (Antedated Dec. 9, 1871)	Dec. 19, 1871
111,146	Peters, Isaac S., Marshall, Mich. Tube-extractor	Jan. 24, 1871
	Peters, Isaac S., Silas, and William B. (*See* Warren, Edward, assignor.)	
111,472	Peters, Jacob, assignor to Simon J. Stine, Lebanon, Pa. Boring and mortising machine	Jan. 31, 1871
	Peters, Jacob G. (*See* Stoll, Michael, assignor.)	
122,053	Peters, John, Haverstraw, N. Y. Steam-boiler float-valve	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Peters, Norris. (*See* Rehn, Isaac, assignor.)	
121,960	Peters, Philip B., Marietta, Ohio. Water cut-off	Dec. 19, 1871
119,179	Petersen, Charles J. C., Port Chester, N. Y. Harvester	Sept. 19, 1871
121,961	Same.....Device for supporting pipe-cores	Dec. 19, 1871
122,054	Peterson, Herman N., Peoria, Ill. Flour-bolt	
	Peterson, James, and Peter Spreckles. (*See* Spreckles & Peterson.)	
	Peterson, Richard, and David Stuart. (*See* Bridge, Lewis, assignor.)	
	Same.....(*See* Stuart & Bridge, assignors) (Reissue.)	
120,906	Peting, John F., assignor to self and Joseph Weidner, Rochester, Ind. Prepared glue	Nov. 14, 1871
112,845	Petit, John Meek, Rochester, Ind. Preparing seed-corn	Mar. 21, 1871
111,567	Petre, N., New York, N. Y. Latch-lock	Feb. 7, 1871
121,410	Petrie, Horace, Chicago, Ill. Decorating in gilt upon japanned metal surfaces	Nov. 28, 1871
	Petrie, James A., *et al.* (*See* Martin, Parrish & Petrie.)	
	Petrikan, Reuben Winslow. (*See* Winslow, Reuben, assignor.)	
	Pettee, Simon E. (*See* Rupp, John C., assignor.)	
118,049	Pettengill, Charles B., Hebron, Maine. Reversible side-hill plow	Aug. 15, 1871
120,394	Petterson, Nils B., McGregor, Iowa. Dough-board	Oct. 31, 1871
119,531	Pettet, James A., Philadelphia, Pa. Thimble and thread-cutter	Oct. 3, 1871
116,864	Pettingell, Walter J., Lowell, Mass. Chimney-cap	July 11, 1871
	Pettingell, William, and William Henry Fowler. (*See* Fowler & Pettingell.)	
	Pettingill, Benjamin A., and Isaac S. Pear. (*See* Turner, Joshua, assignor.)	
114,034	Pettit, James D., Rochester, Ind. Scaffolding	April 25, 1871
121,409	Same.....Wagon-body	Nov. 28, 1871
	Pettit, James D., and Samuel Heffley. (*See* Heffley & Pettit.)	
117,563	Pettit, Thomas J., assignor to self and Thomas H. Combs, Brooklyn, N. Y. Hose-clamp	Aug. 1, 1871
4,238	Pettit, William, Philadelphia, Pa. Railway-car truck (Reissue)	Jan. 24, 1871
111,674	Pettitt, Edwin, England. Feeding-device for carding and other preparing-machines	Feb. 7, 1871
120,360	Peyroux, Arthur B., New Orleans, La. Cloth-strip bristles	Oct. 24, 1871
117,902	Peyton, Joseph I., assignor to self and J. E. F. Holmead, Washington, D. C. Band-tie	July 18, 1871
113,330	Pfaff, Ernest Constantine, assignor to Dobson & Barlow, Saxony. Apparatus for stripping the top-flats of carding-machines	April 4, 1871
	Pfanner, Jacob P. (*See* Wood & Morrison, assignors.)	
114,035	Pfau, John L., jr., Quincy, Ill. Hot-air furnace	April 25, 1871
121,894	Pfeifer, Charles, Saint Louis, Mo. Bridge	Dec. 12, 1871
115,888	Pfeifer, John, Philadelphia, Pa. Coal-scuttle	June 13, 1871
	Pfeifer, Peter, Durhamville, N. Y. Horse hay-rake (Reissue)	Oct. 3, 1871
4,533	Pfeil, John C., Arenzville, Ill. Plow	Aug. 29, 1871
119,487	Pfleger, Solomon, assignor to self and James Shoemaker Pfleger, Reading, Pa. Faucet	Mar. 7, 1871
117,677	Pfouts, David, Empire Mills, near Wincsburgh, Ohio. File-handle	Aug. 1, 1871
118,814	Phares, John J., Whitestown, Ind. Window-shade	Sept. 12, 1871
121,411	Phelps, Ebenezer W., Elizabeth, N. J. Mode of balancing pulleys	Nov. 28, 1871
112,840	Phelps, Edward B., and James P. McLean, Brooklyn, N. Y. Broiler	Mar. 21, 1871
	Phelps, Frederick A., and William Watts. (*See* Watts & Phelps.)	
110,675	Phelps, George M., assignor to the Western Union Telegraph Company, Brooklyn, N. Y. Printing-telegraph	Jan. 3, 1871
115,760	Phelps, Ira M., Chicago, Ill. Furnace for oxidizing ores	June 6, 1871
116,865	Same.....Apparatus for amalgamating gold and silver	July 11, 1871
115,515	Phelps, James Fisher, Huntsville, Ala. Grate	May 30, 1871
	Phelps, John M. (*See* Myers, Valentine, assignor.)	
122,055	Phelps, Myron D., Bristolville, Ohio. Lightning-rod	Dec. 19, 1871
121,412	Phelps, Samuel W., Sandusky, Ohio. Fruit-box	Nov. 28, 1871
121,413	Phelps, William E., Glenwood, Ill. Coal-chute	Nov. 28, 1871
	Philadelphia Patent and Novelty Company. (*See* Goodes, Ebenezer A., assignor.)	
120,771	Philip, Jacob, Germany. Manufacture of artificial sulphate of baryta	Nov. 7, 1871
112,735	Philip, Peter, Stockport, N. Y. Roll for husking corn	Mar. 14, 1871
119,173	Philippi, Pompeius, Beardstown, Ill. Drill-chuck	Sept. 19, 1871
	Philips, Samuel J. (*See* Croll, Sylvester, assignor.)	
110,785	Philips, William G., Newport, Del. Step-ladder	Jan. 3, 1871
120,395	Philips, William J., assignor to J. Bernard Brinton, Philadelphia, Pa. Fire-alarm and police signal-box	Oct. 31, 1871
119,941	Phillippi, Alexander, Saint Louis, Mo. Grain-binder	Sept. 26, 1871
112,277	Phillips, Alexander C., Chicago, Ill. Show-case for spool-threads	Feb. 28, 1871
111,775	Phillips, Enos B., Cambridge, Mass. Supporting-core	Feb. 14, 1871
117,678	Phillips, George, assignor to the Burleigh Rock-Drill Company, Allegheny, Cal. Rock-drilling engine	Aug. 1, 1871
113,203	Phillips, George B., assignor to self, Adrian M. Connell, and James V. Harbottle, Poughkeepsie, N. Y. Rock-drill	Mar. 28, 1871
117,679	Phillips, George B., assignor to Joshua E. Hall, George J. Levake, William Norville, and A. Ward Fenton, Cleveland, Ohio. Wrench	Aug. 1, 1871
117,564	Phillips, George W., Fresh Pond, N. Y. Button	Aug. 1, 1871
119,376	Phillips, James, Chicago, Ill. Lining walls with felt, &c	Mar. 7, 1871
120,391	Phillips, John, Chicago, Ill. Machine for bending wood	Oct. 24, 1871
	Phillips, John, *et al.* (*See* Lacey, Edward, assignor.)	
	Same.....(*See* Gustafson, Gustaf, assignor.)	
	Phillips, J. C. (*See* Smith, George C., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,848	Phillips, Josiah S., San Francisco, Cal. Amalgamating the precious metals and preventing the loss of mercury	May 16, 1871
	Phillips, Merrill G., and James E. Stacy. (*See* McPherson, William H., assignor.)	
117,322	Phillips, Moreau, assignor to self and Thomas Handy, Springfield, Ill. Loading and dumping machine	July 25, 1871
111,967	Phillips, Phineas W., assignor to James F. Almy, Salem, Mass. Curtain-fixture	Feb. 21, 1871
114,036	Same.....same	April 25, 1871
120,997	Phillips, Phineas W., Salem, Mass. Curtain-fixture	Nov. 14, 1871
121,544	Phillips, Robert C., Cincinnati, Ohio. Wooden pavement	Dec. 5, 1871
119,280	Phillips, Russell, Boston, Mass. Vise	Sept. 26, 1871
120,212	Same.....Carpenters' plane	Oct. 24, 1871
114,194	Phillips, William Eaton, Silver City, Nev. Lubricator	April 25, 1871
120,322	Phillips, William H., Staunton, Ind. Self-operating gate	Oct. 24, 1871
113,964	Phillips, William L., Normal, Ill. Stove-pipe drum	April 11, 1871
117,107	Phillips, William S., Chicago, Ill. Spool-thread case	July 18, 1871
113,447	Phinney, Hugh M., Boston, Mass. Hot-air register	April 4, 1871
120,998	Phinney, Sylvanus C., assignor to S. C. and J. C. Phinney, Stoughton, Mass. Cutting boot and shoe counters	Nov. 14, 1871
113,921	Phinney, Theodore William, Newport, R. I. Earth-mattress	April 18, 1871
118,639	Phipps, William, assignor to self and James D. Pierce, Milwaukee, Wis. Water cut-off	Aug. 29, 1871
115,889	Phipps, William H., Southborough, Mass. Nut-lock	June 13, 1871
	Phœbus, Harrison. (*See* Wright, William M., assignor.)	
121,062	Phœbus, Thomas B., assignor of one-half interest to John F. Titus, Memphis, Tenn. Smoke-stack for engines, &c	Nov. 21, 1871
	Phœnix Iron Company. (*See* Walters, George, assignor.)	
	Phœnix Manufacturing Company, *et al.* (*See* Nimmo, George, assignor.) (Reissue.)	
114,037	Phyfe, John D., and John D. Perrine, New York, N. Y. Shutter-fastener	April 25, 1871
120,531	Picculuga, Antoine, France. Apparatus for manufacturing sirup or cream and soda-water	Oct. 31, 1871
4,558	Pickens, Pulaski B., New York, N. Y. Collar-box cover (Design)	Jan. 3, 1871
	Pickering, Arthur, *et al.* (*See* Nimmo, George, assignor) (Reissue.)	
120,532	Pickering, George, Janesville, Wis. Machine for turning wood	Oct. 31, 1871
	Pickering, James, *et al.* (*See* Gardiner, Lowe, Wood & Pickering.)	
120,164	Pickering, Joseph, assignor to self and Joseph M. Pickering, Philadelphia, Pa. Brush-making machine	Oct. 24, 1871
4,524	Pickles, John, assignor to James S. Sturgis and Thomas Keech, England. Manufacture of paper-stock from certain plants (Reissue)	Aug. 22, 1871
113,340	Picot, Leonce, Hudson City, N. J. Comb	April 4, 1871
119,403	Pierce, Charles E., New York, N. Y. Alarm-lock	Sept. 26, 1871
	Pierce, E. B. (*See* Duff, James, assignor) (Reissue.)	
114,338	Pierce, George, Boston, Mass. Stop-cock valve	May 2, 1871
19,474	Pierce, George R., Grand Rapids, Mich. Breech-loading fire-arm	Oct. 3, 1871
120,323	Same.....Metallic cartridge	Oct. 24, 1871
115,235	Pierce, George V., Jersey City, N. J. Extension-bustle	May 23, 1871
	Pierce, James D. (*See* Phipps, William, assignor.)	
112,178	Pierce, James D., assignor to self and John B. Smith, Milwaukee, Wis. Stove-pipe thimble	Feb. 28, 1871
	Pierce, John N. (*See* Foss, John F., assignor.)	
	Pierce, Joseph A. (*See* Sturgis, Albert H., assignor.)	
115,981	Pierce, Joseph C., Bridgeport, Ill. Wheel for vehicles	June 13, 1871
118,148	Pierce, Josiah, and Augustin B. Curtis, New Haven, Conn. Spoke-lathe	Aug. 15, 1871
120,999	Pierce, Mason R., New York, N. Y. Drain-pipe machine	Nov. 14, 1871
121,193	Same.....Woodstock, N. Y. Hollow building-block	Nov. 21, 1871
121,063	Pierce, Osborne J., Worcester, Mass. Roofing	Nov. 21, 1871
112,377	Pierce, Samuel, Boston, Mass. Cooking-stove	Mar. 7, 1871
	Pierce, Thomas E., and David Reed. (*See* Reed & Pierce.)	
	Pierce, William W., and David W. McConnell. (*See* McConnell & Pierce.)	
111,243	Pierpent, Charles H., assignor to self and P. J. Clark, West Meriden, Conn. Drawer-pull	Jan. 24, 1871
110,677	Pierpont, Charles L., Durand, Wis. Spark-arrester	Jan. 3, 1871
4,931	Pierpont, Charles L., assignor to Samuel W. Dunn, Salem, N. J. Floor oil-cloth pattern (Design)	May 23, 1871
4,932	Same.....Floor oil-cloth pattern (Design)	May 23, 1871
5,152	Same.....same (Design)	Aug. 1, 1871
5,153	Same.....same (Design)	Aug. 1, 1871
5,154	Same.....same (Design)	Aug. 1, 1871
120,896	Pierson, James S., New York, N. Y. Frame for diking streets	Nov. 14, 1871
122,191	Pies, Joseph, Sparland, Ill. Corn-planter	Dec. 26, 1871
120,666	Pike, Charles F., Providence, R. I. Apparatus for cooling and preserving	Nov. 7, 1871
120,667	Same.....Smoke and spark arrester and consumer	Nov. 7, 1871
	Pike, John N. (*See* Savary, George T., assignor.)	
117,108	Pike, Ozi M., Chicopee, Mass. Steam-engine	July 18, 1871
114,596	Pile, George, assignor of one-half interest to W. D. Haynes, Blountsville, Tenn. Tanning	May 9, 1871
115,636	Pilkington, Joseph W., assignor to self and Charles H. Cole, Bridgeport, Conn. Toy-carriage	June 6, 1871
114,706	Pillard, Oliver E., assignor to Frederic H. North, New Britain, Conn. Permutation-lock	May 9, 1871
120,396	Same.....Permutation-lock	Oct. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,637	Pillsbury, Joseph L., Columbus, Ohio. Hydrant	June 6, 1871
114,849	Pillsbury, Joseph L., Columbus, and John S. Shorb, Canton, Ohio. Hydraulic pressure-alarm	May 16, 1871
	Pim, Jacob, *et al.* (*See* St. John, Roswell H., assignor.)	
112,955	Pinckney, Stephen R., New York, N. Y. Lifter for fruit-jars	May 21, 1871
	Pindar, James H., *et al.* (*See* Melvin, Jerome B., assignor.)	
	Pine, Benjamin F., *et al.* (*See* Hannen, Henry, assignor.)	
	Pine Valley Company. (*See* Ney, Elemir J., assignor.) (Two cases.) (Design.)	
	Pinkham, George F. (*See* Tirrell, Jacob P., assignor) (Two cases.)	
111,344	Pinkham, Joseph, New Market, N. H. Plow	Jan. 24, 1871
111,147	Piper, Edwin S., Rochester, N. Y. Machine for grinding hand-saws	Jan. 24, 1871
	Piper, James R. (*See* Patton, William P., assignor.)	
113,922	Pipes, James, Ripley, W. Va. Forging-machine	April 18, 1871
121,811	Pirrung, George and Felix, Chicago, Ill. Brush	Dec. 12, 1871
111,148	Pirs, Anthony, assignor to self and Henry Torstrick, Long Island, N. Y. Composition for coating wooden structures to protect them against fire. (Antedated Jan. 7, 1871)	Jan. 24, 1871
118,538	Pitcher, Hiram, assignor to self and H. and G. O. Trowbridge, Fond du Lac, Wis. Auger	Aug. 29, 1871
117,365	Pitcher, Jonathan E., Louisville, Ky. Combined chair and bed	Aug. 1, 1871
117,203	Pitt, James, Joseph, Edward, and William, assignors to selves and Charles Keighley, England. Sewing machine	July 18, 1871
115,516	Pittenger, David F., Trenton, N. J. Motive-power for sewing-machines	May 30, 1871
116,092	Pittman, George W., assignor to Samuel S. Thursby, and Todd & Rafferty, Brooklyn, N. Y. Hemp-hatcheling machine	June 20, 1871
121,414	Pittman, George W., Dartmouth, Nova Scotia. Hemp-drawing machine	Nov. 28, 1871
118,742	Pitts, Aurelius V., Chicago, Ill. Shaft-coupling. (Antedated Aug. 17, 1871)	Sept. 5, 1871
120,836	Same Thrashing-machine. (Antedated Oct. 27, 1871)	Nov. 14, 1871
121,415	Pitts, James, Millville, Mass., Robert Aldrich, Slatersville, R. I., and Edwin T. Marble, Worcester, Mass. Flock-cutting machine	Nov. 28, 1871
119,713	Pitts, Joseph Nelson, and John E. Russell, Niagara Falls, N. Y. Fire-alarm. (Antedated Sept. 30, 1871)	Oct. 10, 1871
	Pitts, Seth G., and William F. Niles. (*See* Niles & Pitts.)	Sept. 26, 1871
119,404	Pitts, Warren M., Hollen, Mo. Wheel-cultivator	July 25, 1871
117,353	Pitzler, James, New York, N. Y. Needle-wrapper	July 25, 1871
117,324	Same same	June 27, 1871
116,349	Place, Charles C., Boston, Mass. Gas-regulator	
	Place, George, *et al.* (*See* Hunt, George W., assignor.)	
4,525	Plagge, Charles, assignor to self and Theodore C. Glazier, New York, N. Y. Ice-machine (Reissue)	Aug. 22, 1871
	Plant, A. Clinton. (*See* Schliecker, Peter F., assignor.)	
	Plant, Amzi P., *et al.* (*See* Fuller, George H., assignor.)	
118,979	Plant, Ebenezer H., Plantsville, Conn. Die for forming the heads of screw eye-bolts	Sept. 12, 1871
115,007	Plants, William A., Iowa Falls, Iowa. Barrel-car	May 23, 1871
	Plastic Slate-Roofing Joint Stock Company. (*See* Potter, William L., assignor.) (Disclaimer.)	
118,149	Platt, Albert L., and Isaiah W. Wilmeth, Bloomington, Ill. Ice-cream freezer	Aug. 15, 1871
117,454	Platt, Alfred C., Sandusky, Ohio. Apparatus for accumulating power	July 25, 1871
118,640	Platt, Clark M., Waterbury, Conn. Eyelet for attaching buttons to textile fabrics	Aug. 29, 1871
121,000	Same Button	Nov. 14, 1871
122,131	Same Tin-lined iron pipe	Dec. 26, 1871
111,673	Platt, David B., Jeffersonville, Ind. Combined grain-drill and corn-cultivator	Feb. 7, 1871
117,109	Platt, Edwin, Charleston, S. C. Dredging-machine	July 18, 1871
	Platt, Francis W. (*See* Russell, Edwin, assignor.)	
	Platt, Francis W., and Edwin Russell. (*See* Russell & Platt.)	
117,455	Platt, Nathan C., Salisbury, N. Y. Process of separating tannin from solutions	July 25, 1871
115,890	Platt, Seabury B., Derby, Conn. Lamp-burner	June 13, 1871
118,743	Platt, William S., Waterbury, N. Y., and George J. Capewell, Cheshire, N. Y., assignors to William S. Platt and Samuel M. Porter. Machine for attaching buttons	Sept. 5, 1871
119,342	Pleasanton, Augustus L., Philadelphia, Pa. Accelerating the growth of plants and animals	Sept. 26, 1871
122,278	Pleukharp, James, Columbus, Ohio. Slide for extension-tables	Dec. 26, 1871
4,292	Plimpton, James L., New York, N. Y. Skate (Division A, reissue)	Mar. 7, 1871
4,293	Same same (Division B, reissue)	Mar. 7, 1871
121,818	Plouff, John W., assignor to Israel C. Mayo, Gloucester, Mass. Wash-boiler	Dec. 12, 1871
	Plumb & Burdict. (*See* Burdict, Orrin C., assignor.)	
119,881	Plumb, Charles, assignor to self and Robert Mitchell, Montreal, Canada. Smoke-consumer	Oct. 10, 1871
115,236	Plumb, Hiram, assignor to William A. Drown, jr., and Edward Evans, Philadelphia, Pa. Car-coupling	May 23, 1871
	Plume & Atwood Manufacturing Company. (*See* Atwood, Lewis J., assignor.) (Two cases.)	
	Plumer, William, Boston, Mass. Rock-channeling machine. (Extension of No. 3,360)	Sept. 23, 1871
	Same Rock-channeling machine. (Extension of No. 3,360)	Sept. 23, 1871
	Plumer, William, and E. G. Lamson, assignees of William Plumer, Boston, Mass. Rock-channeling machine (Disclaimer filed)	Sept. 21, 1871
119,533	Plummer, John E., Binghamton, N. Y. Finishing-jack for shoes, &c	Oct. 3, 1871
118,960	Plummer, Osgood, Worcester, Mass. Harness-operating mechanism for looms	Sept. 12, 1871
118,970	Same Towel-rack	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Plummer, Starke A., *et al.* (*See* Marable, Thomas E., assignor.)	
114,850	Plunket, Thomas J., New York, N. Y. Type-setting machine	May 16, 1871
117,586	Plunket, Thomas J., assignor to Victor E. Mauger, New York, N. Y. Gripper for printing-presses	Aug. 1, 1871
116,990	Plunkett, Jules, New York, N. Y. Cap for billiard-table bolt-heads	July 11, 1871
119,174	Plymate, Franklin H., deceased, by Alexander Plymate, administrator, Blue Earth County, Minn. Fan-mill	Sept. 19, 1871
	Plympton, George S., *et al.* (*See* North, John, assignor.)	
110,786	Poe, Fielding W., jr., Vandalia, Ill. Corn-planter	Jan. 3, 1871
113,923	Poitras, Zephire, assignor to C. H. Merrill, F. G. Tanner, and A. W. Merrill, Chicago, Ill. Fountain-brush	April 18, 1871
	Poland, Samuel W., and Frederick C. Leland. (*See* Leland & Poland.)	
	Polk, George T., and Godfrey Brenner. (*See* Brenner & Polk.)	
111,968	Pollard, James E., Franklin City, Mass. Felted fabric	Feb. 21, 1871
4,356	Pollard, William H., assignor to the Goulds Manufacturing Company, Seneca Falls, N. Y. Pump-valve (Reissue)	April 25, 1871
117,925	Same Gas-pump	Aug. 8, 1871
121,468	Polley, Henry, assignor to self and Isaac Jessup, San Francisco, Cal. Animal-trap	Dec. 5, 1871
	Pollitt, John H., and William Kenworthy. (*See* Kenworthy & Pollitt.)	
121,416	Pollock, James B., Port Richmond, N. Y. Apparatus for feeding white-lead, &c., from the mixing-tub to the millstones	Nov. 28, 1871
117,660	Pollock, John W., Bryan, Ohio. Clod crusher and pulverizer	Aug. 1, 1871
116,484	Pollock, Julius F. M., England. Brick-machine	June 27, 1871
	Pollock, Weaver & Co. (*See* Chapin, Harlow F., assignor.)	
	Pollok, Anthony, administrator. (*See* Russell, James.)	
111,245	Polsgrove, William, Saint Thomas, Pa. Boot-crimper	Jan. 24, 1871
119,640	Polson, James T., Laclede, Mo. Cutting-apparatus for harvesters	Oct. 3, 1871
118,641	Polson, Thomas J., Kilmichael, Miss. Motive-power	Aug. 29, 1871
119,046	Polyblank, George, and Joseph Parkins, Cleveland, Ohio. Fountain	Sept. 19, 1871
113,560	Pomeroy, David, assignor to Elander Heath, San Francisco, Cal. Dovetailing-machine	April 11, 1871
119,716	Pomeroy, Douglas F., assignor of one-half interest to Findley McGrew, Painesville, Ohio. Machine for bending tires	Oct. 10, 1871
115,098	Pomeroy, William, New York, N. Y. Truss	May 23, 1871
118,483	Same Hernial pad	Aug. 29, 1871
114,707	Pond, Joseph F., Cleveland, Ohio. Revolving-disk harrow	May 9, 1871
112,073	Pond, Martin W., Elyria, Ohio. Harness-pad	Feb. 21, 1871
114,472	Pond, Orlando M., Independence, Iowa. Combined plow and marker	May 2, 1871
122,193	Pond, Robert J., assignor to Hodenpyl, Tunison & Co., New York, N. Y. Jewelry-fastening	Dec. 26, 1871
	Pond, William A. (*See* Marks, Myer, assignor.)	
111,676	Pool, John, Elizabeth City, N. C. Gate	Feb. 7, 1871
120,533	Pool, John, assignor to self and Clinton L. Cobb, Elizabeth City, N. C. Door-check	Oct. 31, 1871
116,748	Pool, Josiah, Rio Vista, Cal. Rotary sod-cutter	July 4, 1871
113,793	Poole, Charles A., Sandwich, Ill. Ceiling and wall for buildings	April 18, 1871
116,749	Poole, Ezra, Gouverneur, N. Y. Water-wheel	July 4, 1871
	Poole, John H., *et al.* (*See* Wicks, Loren J., assignor.)	
	Poole, Samuel. (*See* Carpenter, William, assignor.)	
118,988	Poor, Chandler, Dubuque, Iowa. Dental drill	Aug. 22, 1871
	Poor, Josiah B., *et al.* (*See* Beatty, James H., assignor.)	
115,099	Poorman, Christian L., Bell Air, Ohio. Clothes-clamp	May 23, 1871
122,056	Pope, Joseph T., Scranton, Pa. Shutter-worker	Dec. 19, 1871
113,341	Pope, Samuel W., Louisville, Ky. Shovel-plow	April 4, 1871
116,050	Same Clevis	Aug. 15, 1871
	Pope, William P. (*See* Sanford, Addison V., assignor.)	
	Popham, Richard M., and Daniel P. Dieterich. (*See* Dieterich & Popham.)	
115,237	Popple, Hiram M., Warren, Pa. Head-block	May 23, 1871
115,100	Porcher, Francis P., Charleston, S. C. Preparation of material for tanning. (Antedated May 17, 1871)	May 23, 1871
	Portable Steam Engine and Manufacturing Company. (*See* Bradford, Gilbert, assignor.)	
122,132	Porteous, David, Baltimore, Md. Soldering-apparatus	Dec. 26, 1871
115,982	Porteous, John, Cincinnati, Ohio. Combined pressure and vacuum valve	Jan. 13, 1871
116,485	Same Cylinder-cock	June 27, 1871
116,486	Porter, Ahira S., North Bridgewater, Mass. Shaft-protector	June 27, 1871
115,517	Porter, Albert, Irving, Ill. Car-coupling	May 30, 1871
110,787	Porter, Ansel W., Union City, Ind. Window-shade	Jan. 3, 1871
115,352	Porter, Archibald A., assignor of one-half interest to John E. Moss and John M. Williams, Griffin, Ga. Handle for garden-implements	May 30, 1871
120,455	Porter, Archibald A., Griffin, Ga. Desk and chair combined	Oct. 31, 1871
119,378	Porter, Asahel A., New Haven, Conn. Tack. (Antedated Feb. 25, 1871)	Mar. 7, 1871
120,897	Porter, Benjamin F., assignor to George F. Garrison, Nashua, N. H. Fur-set box	Nov. 14, 1871
113,204	Porter, Edward N., and Israel J. Currier, Wolcott, Vt. Clothes-drier	Mar. 28, 1871
111,140	Porter, Frederick W., Springfield, Vt. Toy-carriage	Jan. 24, 1871
118,150	Porter, Frederick W., Winona, Minn. Slate-washer	Aug. 15, 1871
111,868	Porter, Henry G., Grand Rapids, Mich. Barrel	Feb. 14, 1871
4,879	Same same (Reissue)	Feb. 21, 1871
122,133	Same same	Dec. 26, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,473	Porter, James M., Frostburgh, Md. Lubricator for car-wheels	May 2, 1871
	Porter, Olean H., and Michael F. Lowth. (*See* Lowth & Porter.)	
111,473	Porter, Robert, Ottumwa, Iowa. Trace-carrier	Jan. 31, 1871
121,895	Porter, Rufus, assignor to self and G. W. and H. S. Bartholomew, Bristol, Conn. Vise. (Antedated Dec. 2, 1871)	Dec. 12, 1871
	Porter, Samuel M., *et al.* (*See* Platt & Capewell, assignors.)	
117,325	Porter, Samuel S., Broad Ford, Pa. Fence	July 25, 1871
	Porter, Samuel W., *et al.* (*See* Martin, Edwin, assignor.)	
	Porter Saw Company. (*See* Valentine, Samuel W., assignor.)	
117,456	Porter, Thomas G., Louisville, Ky. Dusting-brush	July 25, 1871
120,456	Porter, Thomas W., Boston, Mass. Thill-coupling. (Antedated Oct. 11, 1871)	Oct. 31, 1871
115,891	Porter, William, jr., New York, N. Y. Lantern	June 13, 1871
111,379	Porter, Willis, Orono, Me. Shingle-machine	Jan. 31, 1871
111,969	Portillo, Casimiro, New York, N. Y. Miniature war-game	Feb. 21, 1871
114,597	Post, Charles C., Hinesburgh, Vt. Smoke-pipe and base-plate for sugar-evaporator	May 9, 1871
117,326	Same.....Sap-spout	July 25, 1871
117,457	Same.....same	July 25, 1871
117,458	Post, Elting, Boston, Mass. Steam-engine	July 25, 1871
	Post, Jared W., and Henry F. Herkner. (*See* Herkner & Post.)	
119,736	Post, John L., Ashley, Pa. Device for preventing back-lash in machinery	Mar. 14, 1871
113,342	Postawka, Louis, East Cambridge, Mass. Adjustable-seat	April 4, 1871
111,988	Postlethwaite, George R., England. Machine for making bolts and nuts	Jan. 17, 1871
	Poston, Elisha W., and Orlando L. Starkey. (*See* Starkey & Poston.)	
	Potest, Lorenzo D., *et al.* (*See* Peregoy, Dabney N. M., assignor.)	
111,776	Potter, Charles, jr., Plainfield, N. J. Adjustable attachment of cams for fliers of printing-presses	Feb. 14, 1871
120,097	Potter, Henry S., Hawley, Pa. Churn-dasher	Oct. 17, 1871
	Potter, James, and Howard Smith. (*See* Smith & Potter.)	
119,405	Potter, Joseph B., Conneautville, Pa. Automatic governor-valve	Sept. 26, 1871
112,179	Potter, Nicholas, East Troy, Pa. Adjustable animal-power	Feb. 28, 1871
110,999	Potter, Thomas, Philadelphia, Pa. Oil-paint for coating oil-cloth	Jan. 17, 1871
	Same.....(*See* Washburn, Oliver C., assignor.)	
	Potter, Thomas, Son & Co. (*See* Paterson, James, assignor) (Design.)	
	Same.....(*See* Kagy, Henry, assignor) (Five cases.) (Design.)	
	Same.....(*See* Webster, John T., assignor) (Design.)	
116,003	Potter, Thomas O., and Joseph W. Smith, Boston, Mass. Combined suspender and shoulder-brace	June 20, 1871
119,993	Same.....Suspender and shoulder-brace combined	Oct. 17, 1871
	Potter, William L., assignor of sectional interest to Plastic Slate-Roofing Joint Stock Company, Newark, N. J. Composition for roofing and other purposes. (Disclaimer filed)	May 5, 1871
111,677	Pottle, George F., assignor to self and Reuben K. Huntoon, Boston, Mass. Governor for steam-engines	Feb. 7, 1871
114,038	Potts, Albert, Philadelphia, Pa. Wood-pavement	April 25, 1871
113,448	Potts, Mary Florence, Ottumwa, Iowa. Sad-iron	April 4, 1871
	Pouceiet, Matthias, *et al.* (*See* Wolff, David Ludwig, assignor.)	
122,057	Powell, Ashley G., Smithfield, N. C. Cotton-chopper	Dec. 19, 1871
119,697	Powell, Charles W., Bloomfield, Conn. Wash-boiler	Mar. 14, 1871
115,353	Same.....Yalesville, Conn. Wash-boiler	May 30, 1871
116,750	Powell, Elcanah, New London, Ind. Boot-crimper	July 4, 1871
4,338	Powell, James, Cincinnati, Ohio. Faucet (Reissue)	April 11, 1871
119,641	Same.....Pneumatic pump	Oct. 3, 1871
	Powell, James, and Joshua R. Gibson. (*See* Gibson & Powell.)	
115,518	Powell, James W., New York, N. Y. Electro-magnetic machine	May 30, 1871
115,519	Same.....Galvanic battery	May 30, 1871
114,598	Powell, John G., Philadelphia, Pa. Button-hole cutter	May 9, 1871
	Powell, John S., and Frank S. Judd. (*See* Judd & Powell.)	
111,860	Powell, Thomas J., Naples, N. Y. Elevator and conveyer	Feb. 14, 1871
111,083	Power, Benjamin F., assignor to Hugh M. Cochran and Joseph F. Sonnanstine, McConnellsville, Ohio. Track-clearer for mowing-machines	Jan. 17, 1871
121,127	Power, Martin, assignor to self and Henry McLaughlin, Chicago, Ill. Clothes-drier and ironing-board	Nov. 21, 1871
	Powers, Deborah, Albert E., and Nathaniel B. (*See* Meyer, Victor E., assignor) (Design.)	
	Powers, D., & Sons. (*See* Meyer, Jeremiah, assignor) (Design.)	
112,628	Powers, Joseph J., Memphis, Tenn. Treating cotton-seed	Mar. 14, 1871
114,339	Powers, Phineas F., Genoa, Nov. Hydraulic apparatus	May 2, 1871
115,893	Powers, Timothy J., New York, N. Y. Metallic cartridge	June 13, 1871
116,094	Same.....same	June 20, 1871
117,110	Powers, Titus, New York, N. Y. Sheet-metal key for locks	July 18, 1871
	Powers, W. Eugene, and Thomas M. Brintnall. (*See* Brintnall & Powers.)	
117,567	Powers, William Penn, North La Cresse, Wis. Boring-machine. (Antedated July 27, 1871)	Aug. 1, 1871
116,731	Prall, William E., Washington, D. C. Automatic steam-pump	July 4, 1871
120,567	Same.....Hydraulic air-compressor	Nov. 7, 1871
121,962	Same.....Automatic steam-trap	Dec. 19, 1871
116,732	Prall, William E., assignor to self and J. M. Blanchard & Co., Washington, D. C. Device for supplying locomotive tenders with water	July 4, 1871
121,469	Prall, William E., and John D. Defrees, Washington, D. C. Propulsion of canal-boats	Dec. 5, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,343	Prang, Louis, Boston, Mass. Printing silk and other textile fabrics	April 4, 1871
	Pratt & Whitney Company. (*See* Parkhurst, Edward G., assignor.)	
4,534	Pratt, Albert W., assignor through mesne assignments to William A. Perkins, Salem, Mass. Machine for buffing, whitening, and polishing leather. (Reissue)	Aug. 29, 1871
	Pratt, Charles. (*See* Tait & Avis, assignors) (Two cases.) (Reissue.)	
	Same.....(*See* Kelley & Tait, assignors) (Reissue.)	
	Same.....(*See* Bliss, Eliphalet W., assignor) (Reissue.)	
	Pratt, Charles, Manufacturing Company. (*See* Rogers, Henry H., assignor.) (Two cases.)	
	Same.....(*See* Rogers & Walter, assignors.)	
	Pratt, Daniel, Prattville, Ala. Cotton-gin (Extension)	June 20, 1871
4,664	Same.....same (Reissue)	Dec. 12, 1871
	Pratt, Daniel R., and Joseph M. Rice. (*See* Fay, Lyman, assignor) (Reissue.)	
113,561	Pratt, Elijah, assignor to self and David and Alfred Mundell, New York, N. Y. Paddle-wheel	April 11, 1871
	Pratt, E. C., Brother & Co. (*See* Farmer, George P., assignor.) (Two cases.) (Design.)	
112,379	Pratt, Francis A., assignor to the Pratt & Whitney Company, Hartford, Conn. Machine for shaping and cutting gear-cutters	Mar. 7, 1871
115,893	Pratt, George, West Roxbury, Mass. Raisin-seeder	June 13, 1871
116,216	Pratt, George H., Boston, Mass. Clipping-shears	June 20, 1871
111,678	Pratt, George M., Middletown, Conn. Shuttle for sewing-machines	Feb. 7, 1871
112,074	Pratt, James H., assignor to self and Benjamin F. Larrabee, Lynn, Mass. Clothes-wringing hook	Feb. 21, 1871
4,343	Same.....same (Reissue)	April 18, 1871
113,090	Pratt, John J., New York, N. Y. Electro-plating letters and numbers on metallic plates for signs, &c	Mar. 28, 1871
	Pratt, L. G., & Co. (*See* Duff, Roberts & Nourse, assignors.)	
	Pratt, Rufus N., and Robert Berryman. (*See* Berryman & Pratt.)	
119,475	Pratt, Seabred Dodge, Penn Yan, N. Y. Railway-car coupling	Oct. 3, 1871
121,296	Pratt, Thomas A., Marysville, Cal. Apparatus for amalgamating gold in tailings. (Antedated Nov. 11, 1871)	Nov. 28, 1871
114,039	Pratt, T. Willis, Boston, Mass. Truss-bridge	April 25, 1871
111,970	Pratt, William, New York, N. Y. Lard and butter box	Feb. 21, 1871
112,075	Same.....Paste-board box	Feb. 21, 1871
	Same.....Safety-lamp (Extension)	Nov. 15, 1871
110,677	Pratt, William, Providence, R. I., and N. Bangs Williams, assignors to Abby A. Williams, Williams, N. Y. Lubricator	Jan. 3, 1871
117,812	Pratt, William M., Chicago, Ill. Thrashing-machine	Aug. 8, 1871
113,924	Pratt, Zimri I., Chicago, Ill. Sleigh-runner attachment to wheel vehicles	April 18, 1871
118,815	Preist, Joram, Detroit, Mich. Wagon-wheel	Sept. 12, 1871
115,101	Prentice, John, assignor to Louis Prentice, New York, N. Y. Cigar-mold	May 23, 1871
121,659	Prescott, Andrew J., Catawissa, Pa. Safety-valve for steam-boilers	Dec. 5, 1871
119,994	Prescott, Daniel W., Edinburgh, Va. Manufacture of soluble phosphate for fertilizers. (Antedated Oct. 7, 1871)	Oct. 17, 1871
111,946	Prescott, George Bartlett, New York, N. Y. Connector for telegraph-wires	Jan. 24, 1871
	Prescott, Gustavus A., and Homer H. Ingalsbe. (*See* Ingalsbe & Prescott.)	
112,956	Prescott, Samuel A., Sutton, Mass. Gate for turbine water-wheels	Mar. 21, 1871
116,917	Prescott, Shubeal C., assignor to Howard Smith and Dora E. Brown, Jersey City, N. J. Combined wooden and concrete pavement	June 20, 1871
117,304	Preston, Almon J., East Guilford, N. Y. Combined hay rake and loader	July 18, 1871
114,851	Preston, Jonathan, Boston, Mass. Girder-rest for timbers	May 16, 1871
120,457	Preston, Othniel, South Danaville, N. Y. Lightning-conductor	Oct. 31, 1871
119,176	Prevost, Emile, New York, N. Y. Electro-magnet	Sept. 19, 1871
119,175	Same.....Galvanic battery	Sept. 19, 1871
119,177	Prevost, Emile, and Adrian Rablat, New York, N. Y. Magnetic scissors	Sept. 19, 1871
115,894	Prevot, Hellwig, New York, N. Y. Sun-stroke protector for head-coverings	June 13, 1871
	Price, Astley P., and David Forbes. (*See* Forbes & Price.)	
	Price, Edward A. (*See* Saunders, Hiram, assignor.)	
	Price, Henry W. (*See* Wattles, Hiram J., assignor.)	
	Price, James B. (*See* Bond, Howard B., assignor.)	
117,327	Price, James M., Nether Providence, Pa. Roof. (Antedated July 13, 1871)	July 25, 1871
111,870	Price, John A., Scranton, Pa. Cooking-range	Feb. 14, 1871
119,787	Same.....Stove-grate	Oct. 10, 1871
120,534	Price, John A., Beckleysville, Md. Milk-house	Oct. 31, 1871
118,051	Price, Norman L., Lynchburgh, Va. Funnel	Aug. 15, 1871
113,925	Price, Rezin M., Leesville, Ohio. Bedstead-fastening	April 18, 1871
112,180	Price, Virgil, New York, N. Y. Baldric	Feb. 28, 1871
112,181	Same.....Method of coating and finishing sword-scabbards	Feb. 28, 1871
119,642	Same.....Gauntlet-glove	Oct. 3, 1871
121,255	Prier, Anton, assignor to Loeffelholz & Prier, Milwaukee, Wis. Arm for railway-car seats	Nov. 28, 1871
	Prier, Anton, and Adam Loeffelholz. (*See* Loeffelholz & Prier.)	
121,417	Price, Albert, and Henry Arnd, Saint Louis, Mo. Wood-lathe	Nov. 28, 1871
	Priest, J. K., *et al.* (*See* Smith, Roswell T., assignor) (Reissue.)	
	Priest, Wallace H., and Henry T. Holmes. (*See* Holmes & Priest.)	
120,827	Priester, Robert L., Souder's Station, Md. Auger for boring boxes. (Antedated Nov. 4, 1871)	Nov. 14, 1871
	Priestly, J. W., & Co. (*See* Hudnet & Mathews, assignor.)	
117,813	Primmer, Robert M., Vinton, Iowa. Ditching-plow	Aug. 8, 1871
	Prince, George A. (*See* Bacon, Charles E., assignor) (Design.)	
117,328	Prindle, Franklin B., Southington, Conn. Thill-coupling	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,643	Prindle, Franklin B., assignor of one-half interest to John Deeble, Southington, Conn. Die for manufacturing clip king-bolts	Oct. 3, 1871
114,852	Prindle, L. Corydon, Chicago, Ill. Curtain-fixture	May 16, 1871
119,995	Same.....Card-rack	Oct. 17, 1871
116,005	Prindle, R. B., *et al.* (*See* Cary, Albert, assignor.)	
121,545	Pringle, Thomas G., New York, N. Y. Propelling boats by oars	June 20, 1871
111,247	Prior, Gilbert Stewart, Boston, Mass. Oil-can	Dec. 5, 1871
122,058	Pritchard, Jackson P., Conn Valley, Cal. Plow. (Antedated Jan. 14, 1871)	Jan. 24, 1871
113,488	Proctor, David R., Gloucester, Mass. Spark-arrester	Dec. 19, 1871
118,971	Proctor, George K., Salem, Mass. Treadle	Mar. 7, 1871
120,098	Same.....same	Sept. 12, 1871
114,500	Same.....Caster for sewing-machines	Oct. 17, 1871
	Proctor, George K., and Franklin D. Hamilton, assignors to George K. Proctor, Salem, Mass. Treadle	May 9, 1871
122,279	Proctor, James S., Franklin, Ky. Bee-hive	Dec. 26, 1871
	Prosser, T., & Son. (*See* King, Robert, assignor).....(Reissue.)	
110,865	Prosser, Treat T., assignor to self and Henry and W. S. Waller, Chicago, Ill. Traction-engine	Jan. 10, 1871
116,218	Prosser, Treat T., assignor to self, Charles E. Ramus, and Henry Waller, Chicago, Ill. Machine for forming spiral grooves on metallic rods	June 20, 1871
116,219	Same.....Machine for making metallic shoe-pegs	June 20, 1871
121,356	Prouty, George W., Charlestown, Mass. Printing-press	Nov. 28, 1871
	Prouty, Joshua B., administrator. (*See* Fay, Lucian).....(Extension.)	
	Providence Tool Company. (*See* Mullen, Robert J., assignor.)	
	Same.....(*See* Bartlett, Elbridge G. W., assignor.)	
	Provost, Phineas B. (*See* Brown, William Z., assignor.)	
4,357	Prudden, Condit, Philadelphia, Pa. Machine for bending wood.....(Reissue)	April 25, 1871
112,957	Prud'homme, Pierre Desiré, assignor to Charles de Froudat and Alfred Michant, France. Apparatus for establishing electrical communications in railroad-trains	Mar. 21, 1871
116,350	Prufrock, William, Saint Louis, Mo. Folding-lounge	June 27, 1871
115,520	Pruner, David L., Bellefonte, Pa. Horseshoe-machine	May 30, 1871
122,059	Prunty, John E., Baltimore, Md. Automatic double-puppet valve	Dec. 19, 1871
114,340	Prusha, William F., and Elisha L. Wales, assignors to selves and Lewis A. Howe, Marlborough, Mass. Boot and shoe	May 2, 1871
120,598	Prushaw, Thomas Henry, assignor to Taylor, Day & Co., Frodonia, N. Y. Road-wagon	Nov. 7, 1871
113,936	Pryibil, Paul, New York, N. Y. Sawing-machine	April 18, 1871
116,753	Pryor, William, and Roth Ludwick, Kellogg, Iowa. Farmers' boiler	July 4, 1871
115,983	Pudder, Henry, Dayton, Ky., and Thomas W. Hulbert, Cincinnati, Ohio. Knitting-machine	June 13, 1871
111,568	Puffer, Alvin Davis, Boston, Mass. Wine-sirup, and beverage	Feb. 7, 1871
118,978	Pugh, Edward D., Fort Plain, Iowa. Bee-hive	Sept. 12, 1871
119,178	Pugh, William A., and James F. Bigger, Rushville, Ind. Railway cattle-gate	Sept. 19, 1871
	Pullen, Gilbert. (*See* Moores, William C., assignor.)	
118,032	Pullin, Balzar H., McDowell, Va. Medicine or powder for treating cattle and hogs	Aug. 15, 1871
111,971	Pulsifort, William, Louisville, Ky. Fire-place grate	Feb. 21, 1871
117,111	Pulsifer, Frank H., Auburn, N. Y., and William C. Wheeler, Baltimore, Md. Steam-heater	July 18, 1871
120,772	Pulvermacher, Isac Louis, England. Electro-galvanic chain, band, &c.	Nov. 7, 1871
116,351	Purcell, William J., New York, N. Y. Copying-apparatus	June 27, 1871
	Purdie, H. L. (*See* Gridley, James H., assignor).....(Two cases.) (Reissue.)	
121,546	Purdie, Hadwen L., deceased, by John Purdie, administrator, Buffalo, N. Y. Nut-locking device	Dec. 5, 1871
121,547	Same.....Nut-locking device	Dec. 5, 1871
121,548	Same.....same	Dec. 5, 1871
121,549	Same.....same	Dec. 5, 1871
113,489	Purdy, Victory, Poughkeepsie, N. Y. Lubricating compound	Mar. 7, 1871
119,644	Purnelle, Richard H., Beulah, Miss. Cotton-cultivator. (Antedated Sept. 23, 1871)	Oct. 3, 1871
118,960	Purves, George, New York, N. Y. Cork-cutting machine	Aug. 22, 1871
118,484	Purvine, Smiley, and Harrison Smith, Salem, Oreg. Dental plate	Aug. 29, 1871
	Pusey, Joshua. (*See* Thomas, Lancaster, assignor.)	
113,695	Putman, John H., Gloversville, N. Y. Glove	April 11, 1871
111,679	Putnam, Abel, jr., Saratoga Springs, N. Y. Cast-iron barrel	Feb. 7, 1871
111,680	Same.....Water-cooler	Feb. 7, 1871
112,490	Putnam, Archibald, assignor to Elizabeth Putnam, Owego, N. Y. Fertilizer and seeding-machine	Mar. 7, 1871
112,491	Putnam, George W., South Glen's Falls, N. Y. Rotary pump	Mar. 7, 1871
121,660	Same.....Car-coupling	Dec. 5, 1871
116,220	Putnam, Henry M., Fitchburgh, Mass. Bench-hook	June 20, 1871
115,103	Putnam, Henry W., Bennington, Vt. Machine for bending wire fastenings for bottle-stoppers	May 23, 1871
115,354	Same.....Machine for forming wire bottle-stopper fastenings	May 30, 1871
115,355	Putnam, Leonard, Worcester, Mass. Washing-machine	May 30, 1871
118,642	Putnam, Perley, assignor of one-half interest to James M. Foss, Laconia, N. H. Changeable-gauge car wheel and axle	Sept. 19, 1871
111,248	Putnam, Salmon W., jr., Fitchburgh, Mass. Machine for cutting screw-threads on bolts	Jan. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,737	Putnam, Salmon W., jr., Fitchburg, Mass. Machine for slotting and cutting metal	Mar. 14, 1871
111,000	Putnam, Silas, and Thomas Burt, Rockville, Conn. Machine for mixing concrete, &c. (Antedated Jan. 5, 1871)	Jan. 17, 1871
122,280	Putnam, Zenas B., and Henry H. McDonald, Belfast, Me. Clothes-drier	Dec. 26, 1871
118,389	Putt, Joseph A., Marlborough, Ohio. Thill-holder for harness	Aug. 22, 1871
5,298	Pye, Henry, assignor to Fleming Brothers, Philadelphia, Pa. Stocking-fabric. (Design)	Aug. 22, 1871
	Pye, William H. M. (*See* Johnson, Bradbury M., assignor.)	
113,794	Pyle, Charles W., Wilmington, Del. Counting-register	April 18, 1871
114,040	Pyle, Isaac N., Pleasant Mills, Ind. Cultivator	April 25, 1871
121,194	Pyott, Louis T., Philadelphia, Pa. Combined wisp and flack	Nov. 21, 1871
4,230	Quackenbush, Abram I., and Gilford Hawn, Fort Plain, N. Y. Device for baking bread.....(Reissue)	Jan. 10, 1871
115,636	Quackenbush, Henry M., Herkimer, N. Y. Toy gun and pistol	June 6, 1871
122,193	Same.....Toy-pistol	Dec. 26, 1871
120,099	Quann, William, assignor to self, John W. Thackara, and Edward L. Spain, Philadelphia, Pa. Flux for reducing ore and refining metal	Oct. 17, 1871
120,165	Same.....Furnace for roasting and smelting ores	Oct. 24, 1871
	Queen, James W., & Co. (*See* Bergner, Theodore, assignor.)	
115,770	Quick, David R., New York, N. Y. Screw	June 6, 1871
115,639	Quick, William B., Belleville, Ill. Gang-plow	June 6, 1871
	Quinby, Jesse B., *et al.* (*See* Cherry, John Wesley, assignor.)	
112,076	Quinby, Johnson M., Westbrook, Me., and A. S. Dyer, Cape Elizabeth, Me. Door-lock	Feb. 21, 1871
113,091	Quinn, Abraham, Brooklyn, N. Y. Shoe-brake for wagons	Mar. 28, 1871
116,487	Quinn, Edmund, Brooklyn, N. Y. Crank-motion	June 27, 1871
	Quinn, Joseph, and Charles Stevenbanks. (*See* Stevenbanks & Quinn.)	
4,302	Quinn, Patrick, South New Market, N. H. Steam-boiler.....(Reissue)	Mar. 14, 1871
118,270	Quint, Herman H., Brookfield, Mo. Hay-elevator	Aug. 22, 1871
	Rabbeth, Francis J., *et al.* (*See* Wilmarth, Moses P., assignor).....(Reissue.)	
	Rablat, Adrien, and Emile Prevost. (*See* Prevost & Rablat.)	
121,418	Race, Washburn, and Sherman D. Hooper, Lockport, N. Y. Gauge for stave-jointers	Nov. 28, 1871
116,353	Race, Washburn, assignor to Warren Rowland Ingham, and Nancy M. Race, Lockport, N. Y. Rotary steam-engine	June 27, 1871
4,475	Race, Washburn, Lockport, N. Y., and S. R. C. Mathews, assignors to S. R. C. Mathews, Philadelphia, Pa. Hydrant.....(Reissue)	July 18, 1871
121,001	Racine, Lewin, Hillsdale, Mich. Stove-pipe drum	Nov. 14, 1871
112,492	Radcliffe, Robert D., Palmyra, N. Y. Hat-brush	Mar. 7, 1871
121,963	Radford, Benjamin F., Hyde Park, Mass. Manufacture of belt-knives	Dec. 19, 1871
113,449	Radley, John P., Albany, N. Y. Potato-digger	April 4, 1871
120,668	Radston, Jacob, San Francisco, Cal. Stop-cock	Nov. 7, 1871
111,001	Raecke, Louis. Filter	Jan. 17, 1871
113,927	Raenchle, William, assignor to self, George Rex, and Abraham R. Buckins, Philadelphia, Pa. Machine for cutting cloth, &c	April 18, 1871
	Raffensperger, Lewis, *et al.* (*See* Reiber, George, assignor.)	
114,600	Rafter, James, Winona, Miss. Cotton-seed planter and guano-distributer	May 9, 1871
	Rafter, John A., and Pierre E. Jay. (*See* Jay & Rafter.)	
115,238	Raiford, Philip H., Houston, Tex. Device for attaching napkins to the person	May 23, 1871
117,329	Raitz, Chris., San Francisco, Cal. Parlor-skate	July 25, 1871
116,991	Rakestraw, Roland, Wyoming, Ill. Rotary harrow	July 11, 1871
122,281	Rall, James M., assignor to William W. Thomas, Saint Louis, Mo. Composition for liquid soap	Dec. 26, 1871
	Ralston, David, *et al.* (*See* Ferguson, Ralston & Hildreth.)	
113,795	Ralya, John Jackson, Cleveland, Ohio. Machine for turning barrel-heads	April 18, 1871
	Ramey, Francis A., and Ransler R. Cross, Woodstock, Va. Corn-planter	Oct. 17, 1871
112,958	Ramp, Joseph B., Cuyahoga Falls, Ohio. Pipe-coupling	Mar. 21, 1871
117,459	Ramsay, Jonathan, jr., Middletown, Conn. Sewing-machine	July 25, 1871
116,754	Ramsay, Robert, New Wilmington, Pa. Railway-gate	July 4, 1871
	Ramus, Charles E., *et al.* (*See* Prosser, Treat T., assignor).....(Two cases.)	
113,092	Rancevan, John, Carthage, Ohio. Running-gear for carriages	Mar. 28, 1871
119,718	Rand, Alonzo C., Chicago, Ill. Heating-stove	Oct. 10, 1871
119,719	Same.....same	Oct. 10, 1871
119,720	Same.....Burning hydrocarbons on locomotives	Oct. 10, 1871
111,871	Rand, Charles R., Dubuque, Iowa. Combined agricultural implement	Feb. 14, 1871
112,978	Same.....Locking-device for window-cords	Feb. 28, 1871
117,905	Same.....Clamping-device for sash-cords	July 18, 1871
115,103	Rand, Jacob, Boston, Mass. Arbor for saws and grooved tools	May 23, 1871
120,397	Rand, Jacob B., Concord, N. H. Composition for polishing and scouring	Oct. 31, 1871
113,344	Rand, William H., Brooklyn, N. Y. Drill-stock	April 4, 1871
113,503	Rand, William J., jr., Brooklyn, E. D., N. Y. Article of food from algæ and sea-mosses	April 11, 1871
	Rand, Charles A., and Theodore M. Foote. (*See* Foote & Randall.) (Three cases.)	
114,853	Randall, Francis W., assignor to George W. White, Burlington, Mich. Device for securing horse-powers	May 16, 1871
117,814	Randall, Henry, Quincy, Ill. Hot-air furnace	Aug. 8, 1871
110,788	Randall, Jacob R., Camargo, Ill. Corn-planter	Jan. 3, 1871
	Randall, John L. (*See* Whitney, Artemus H., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,736	Randall, John T., Baltimore, Md. Polishing coffee	Mar. 14, 1871
111,777	Randall, Reuben W., Biddeford, Me. Clothes and hat hook	Feb. 14, 1871
	Same. (*See* Graham, Edmund H., assignor.)	
	Randall, Robert B., and William H. Clague. (*See* Clague & Randall.)	
	Randall, Robert B., *et al.* (*See* Andrews, Randall, & Clague.)	
119,906	Randall, Silas G., assignor to Amelia A. Randall, Providence, R. I. Electro-magnetic water-elevator	Oct. 17, 1871
110,866	Randell, Francis M., Greenburgh, N. Y. Apparatus for supplying naphtha to vapor-burning street-lamps	Jan. 10, 1871
119,179	Randell, Thomas B., New York, N. Y. Medical compound or liniment	Sept. 19, 1871
	Randlett, James C., and Patrick Kelleher. (*See* Kelleher & Randlett.)	
114,341	Randolph, Peter F., Jerseyville, Ill. Polishing-machine	May 2, 1871
114,474	Same. Nut-lock. (Antedated April 25, 1871)	May 2, 1871
	Randolph, William J., *et al.* (*See* Wagner, Alfred H., assignor.)	
109,535	Ranger, Bethuel, Brattleborough, Vt. Bracelet-fastening	Oct. 31, 1871
111,873	Rank, Amos, Salem, Ohio. Stock-car	Feb. 14, 1871
112,639	Same. Finger-beam for harvesters	Mar. 14, 1871
112,630	Same. Sleigh	Mar. 14, 1871
116,866	Same. Stock-car	July 11, 1871
120,669	Same. Harvester	Nov. 7, 1871
111,873	Rank, Amos, Henry King, and Joel Sharp, Salem, Ohio. Railway stock-car	Feb. 14, 1871
4,498	Rank, Amos, Henry King, and Joel Sharp, assignors to the National Cattle-Car Company, Salem, Ohio. Stock-car (Reissue)	Aug. 1, 1871
4,425	Rank, Amos, assignor to the National Cattle-Car Company, Salem, Ohio. Stock-car (Reissue)	June 13, 1871
	Rank, Amos, and Levi Wharton. (*See* Wharton & Rank.)	
112,162	Rankin, James M., jr., Brooklyn, N. Y. Lamp-chimney. (Antedated Feb. 24, 1871)	Feb. 28, 1871
121,470	Rankin, James S., Minneapolis, Minn. School desk and seat	Dec. 5, 1871
121,471	Same. Device for supporting and connecting school-desks	Dec. 5, 1871
	Rankin, Samuel M., and William G. Jones. (*See* Jones & Rankin.)	
112,493	Rankin, Thomas L., assignor to self and D. W. Rockwell, Lyndon, Kans. Refrigerating show-case	Mar. 7, 1871
116,630	Ranney, Orrin, Corry, Pa. Setting steam-boilers	July 4, 1871
119,539	Ransom, George B., assignor to self and James B. Clark, Chester, Conn. Sash-holder	Oct. 3, 1871
114,195	Ransom, Louis, Lansingburgh, N. Y. Trunk-fastening	April 25, 1871
114,041	Ransom, Squire, Kingsville, Ohio. Potato-digger	April 25, 1871
	Ransome, Robert Charles. (*See* Tenwick, John, assignor.)	
	Raper, William B. (*See* Yost, Peter C., assignor.)	
116,735	Rappleye, Joshua W., Farmer Village, N. Y. Constructing wire-fences	July 4, 1871
119,645	Rasmussen, Niels, assignor to self and William Hessemer, Chicago, Ill. Animal-trap	Oct. 3, 1871
120,536	Rasner, Albert, Dayton, Ohio. Mill-pick	Oct. 31, 1871
111,249	Rath, Emil, assignor to Moritz Krickl, New York, N. Y. Stair-rod fastening	Jan. 24, 1871
118,971	Same. Stair-rod	Aug. 22, 1871
115,356	Rathbone, Clarence, Albany, N. Y. Telegraph relay-instrument	May 30, 1871
	Rathmell, Thomas M., and George G. Wyland. (*See* Wyland & Rathmell.)	
112,380	Ratzell, Eaneas C., Philadelphia, Pa. Combination camera and developing-box	Mar. 7, 1871
120,773	Rau, John Adam, Bethlehem, Pa. Saw-filer	Nov. 7, 1871
	Rauch, Jonas E., and Jonathan Garrett. (*See* Garrett & Rauch.)	
	Raum, John O. (*See* Gosson, Louis C., assignor.)	
114,042	Ravenel, St. Julien, Charleston, S. C. Apparatus for making sulphuric acid	April 25, 1871
	Ravold, Michel, and Jean Segondy. (*See* Segondy & Ravold.)	
118,485	Rawson, Christopher, Philip Ovenden, James Wylde, William McCree, and Henry Hill, England. Deodorizing and purifying sewage, &c	Aug. 29, 1871
117,460	Rawson, Solomon and Isaac, Almond, N. Y. Harvester	July 25, 1871
	Rawthorne, Thomas. (*See* Smith, Joseph, assignor.)	
	Rawsell, Jacob F., and Jacob Lair. (*See* Lair & Rawsell.)	
120,398	Ray, D. Brainerd, New York, N. Y. Type-setting and distributing machine	Oct. 31, 1871
	Ray, Francis B. (*See* Waite, Enoch, assignor.)	
119,406	Ray, Henry H., Arena, Wis. Tempering apparatus. (Antedated Sept. 23, 1871)	Sept. 26, 1871
	Ray, Samuel, and Moses R. Shaltera. (*See* Shaltera & Ray.)	
115,104	Ray, Thomas, Pelham, Canada. Car-coupler	May 23, 1871
119,788	Ray, William F., Fort Wayne, Ind. Wheel for vehicles	Oct. 10, 1871
121,003	Rayment, William L., assignor to self and Ralph A. Day, Union City, Mich. Lifting-jack	Nov. 14, 1871
	Raymond, Charles, *et al.* (*See* Nettleton, Raymond & Hatch) (Extension.)	Mar. 21, 1871
112,959	Raymond, Ennis A., Waterloo, Iowa. Pressed-fruit lifter	Feb. 14, 1871
111,778	Raymond, Francois, assignor to the Lalance and Grosejean Manufacturing Company, Woodhaven, N. Y. Coffee-mill	
	Raymond, George N., *et al.* (*See* Hopkins, Reid, Raymond & Meeker.)	
114,196	Raymond, Peter V. M., Charles City, Iowa. Railway-switch	April 25, 1871
118,151	Raynale, Ebenezer, Birmingham, Mich. Propelling-mechanism for vessels	Aug. 15, 1871
118,116	Rayner, William H., Springfield, Mass. Slate-cutting machine	Sept. 12, 1871
119,407	Read, Charles A., Bridgeport, Conn. Heel for boots and shoes	Sept. 26, 1871
	Read, Daniel M. and Charles A. (*See* Webster, John T., assignor) (Design.)	
113,968	Read, Dwight Ripley, Lawrence, Kans. Bee-hive	April 18, 1871
121,798	Read, Elias P., Chicago, Ill. Bed-bottom	Dec. 12, 1871
121,799	Same. same	Dec. 12, 1871
121,813	Read, Fredric W., Marquette, Mich. Oil-can. (Antedated Dec. 9, 1871)	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,521	Read, Horatio, assignor to self and B. B. Hagerty, Jersey City, N. J. Insulator for telegraph-wires	May 30, 1871
4,391	Read, H. F., assignor to National Meter Company, New York, N. Y. Screw-propeller for water-meters (Division A, reissue)	May 23, 1871
4,392	Same. Molding propellers for water-meters (Division B, reissue)	May 23, 1871
111,250	Read, William Benjamin, Gallatin, Tenn. Cultivator	Jan. 24, 1871
	Read, William T. B., Chicago, Ill. Harvester (Extension)	May 23, 1871
121,195	Read, Willis, Patterson, N. Y. Water-wheel	Nov. 21, 1871
	Reading, Randolph G., *et al.* (*See* Worthman, John E., assignor.)	
120,100	Reading, William, Offutt's Cross-Roads, Md. Cow-milker	Oct. 17, 1871
	Ream, Robert L., assignor to the Ream Pavement Company, New York, N. Y. Wooden pavement (Disclaimer filed)	Mar. 15, 1871
		Jan. 17, 1871
111,084	Reaney, Thomas, Chester, Pa. Table for drilling-machines	
111,085	Same. Reaming and countersinking tool	
	Reaser, Warren T. (*See* Kromer, Volney, assignor.)	
114,475	Rebstock, Lawrence, Hollidaysburgh, Pa. Life-preserving trunk	May 2, 1871
	Reckendorfer, Joseph. (*See* Wickham, Horace J., assignor.)	
	Same. same (Design.)	
	Same. (*See* Muller, Teile H., assignor.)	
	Same. (*See* Bartholomew, William N., assignor.)	
4,642	Reckendorfer, Joseph, and Teile H. Muller, assignor to Joseph Reckendorfer, New York, N. Y. Lead-pencil (Design)	Feb. 7, 1871
	Reddel, Robert. (*See* Clary, Nathan G., assignor.)	
121,472	Redding, Benjamin, assignor to David M. Dickie, Kentville, Nova Scotia. Water-wheel	Dec. 5, 1871
	Redding, Jerome, and Charles Williams, jr. (*See* Williams & Redding.)	
	Rederer, Adolph, *et al.* (*See* Evens, Julius T., assignor.)	
115,357	Redgrave, Montague, Cincinnati, Ohio. Bagatelle	May 30, 1871
118,553	Redick, John, Butler, Ohio. Scaffold	Aug. 29, 1871
113,093	Reding, Loyal, assignor to N. S. C. Perkins and M. P. Smith, Norwalk, Ohio. Button-hole clamp and guide	Mar. 28, 1871
116,902	Redway, Albert J., assignor to Redway & Burton, Cincinnati, Ohio. Cooking-stove	July 11, 1871
117,681	Reece, Nehemiah, Hemlock Township, Pa. Machine for cleaning grain	Aug. 1, 1871
110,935	Reece, William R., assignor to self and the Iron Manufacturing and Coal Company, Tremont, Pa. Valve-gear	Jan. 10, 1871
	Reed & Barton. (*See* Parkin, William, assignor) (Four cases.) (Design.)	
	Same. (*See* Gill, George, assignor) (Four cases.) (Design.)	
112,279	Reed, David, and Thomas E. Pierce, Sullivan, Ind. Spoke and felloe machine	Feb. 28, 1871
113,563	Reed, David, and Amos Shaeffer, Medway, Ohio. Clothes-line conductor	April 11, 1871
119,180	Reed, Edward F., and John C. Grundy, Chelsea, Mass. Shutter-fastener	Sept. 19, 1871
	Reed, Henry G. (*See* Reilly, James H., assignor.)	
112,077	Reed, Henry G., assignor to Reed & Barton, Taunton, Mass. Mode of manufacturing gold, silver, or plated ware	Feb. 21, 1871
118,486	Reed, James C., Boston, Mass. Bouquet-holder	Aug. 29, 1871
120,324	Same. Attachment for protecting sleeves and cuffs of garments	Oct. 24, 1871
115,771	Reed, J. Eugene, Mineville, N. Y. Cultivator	June 6, 1871
110,678	Reed, James H., La Fayette, Ind. Churn	Jan. 3, 1871
119,408	Reed, James L., Hastings, Mich. Shifting-rail for wagon-seats	Sept. 26, 1871
118,372	Reed, James W., and Hugh A. Jones, Pittsburgh, Pa. Clothes-drier. (Antedated Aug. 10, 1871)	Aug. 22, 1871
111,973	Reed, Samuel H. and George A., Fredericktown, Ohio. Car-coupling	Feb. 21, 1871
118,643	Reed, Thomas, Plainwell, Mich. Ironing-table	Aug. 29, 1871
120,101	Same. same	Oct. 17, 1871
116,867	Reed, Timothy K., assignor to Arza B. Keith, East Bridgewater, Mass. Boot and shoe heel trimming and burnishing machine	July 11, 1871
118,373	Reed, William, Allentown, Pa. Treadle-power	Aug. 22, 1871
118,274	Same. Saw-gummer	Aug. 22, 1871
118,389	Reed, William A., Deep River, Conn. Piano-key	Aug. 22, 1871
4,273	Reedy, Henry J., Cincinnati, Ohio. Hoisting-machine (Reissue)	Feb. 21, 1871
116,096	Same. same	June 20, 1871
121,064	Rees, Edward H., Mansfield, Ohio. Steam-engine	Nov. 21, 1871
114,601	Rees, James, Pittsburgh, Pa. Adjustable cut-off for steam-engines	May 19, 1871
116,353	Same. Steam-engine piston-head	June 27, 1871
114,854	Reese, Abram, Pittsburgh, Pa. "Fix" for puddling and other purposes	May 16, 1871
115,358	Reese, Abram, assignor to self, Robert W. Lyon, and George H. McNary, Pittsburgh, Pa. Pinch-bar	May 30, 1871
115,895	Reese, Adam R., Phillipsburgh, N. J. Hose-pipe	June 13, 1871
118,053	Reese, Edwin, assignor to C. M. Reese, Eutaw, Ala. Cultivator	Aug. 15, 1871
112,280	Reese, Henry, Baltimore, Md. Nail-machine	Feb. 28, 1871
118,744	Same. same	Sept. 5, 1871
117,815	Reeve, Oliver P., and Christopher C. Parker, Central City, Mo. Bee-hive. (Antedated Aug. 3, 1871)	Aug. 8, 1871
	Reeve, Richard H. and Benjamin C. (*See* Paterson, James, assignor) (Design.)	April 18, 1871
113,796	Reeves, Alfred B., Knightstown, Ind. Cant-hook	Mar. 28, 1871
113,094	Reeves, Benjamin M., Franklin, Pa. Machine for pulling flax. (Antedated March 16, 1871)	Aug. 8, 1871
117,926	Same. Flax-puller	Nov. 7, 1871
120,774	Reeves, Henry T., Beaver Falls, Pa. Cutlery. (Antedated Nov. 1, 1871)	Mar. 21, 1871
119,847	Reeves, Tapping, Little River, Cal. Lubricator	Oct. 17, 1871
119,951	Regan, John F., Chicago, Ill. Shifting-rail for buggy-top	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,631	Regester, Joshua, Baltimore, Md. Bell	Mar. 14, 1871
117,118	Same.....Cock	July 18, 1871
	Rehbein, William G., and Christian L. Schurr. (*See* Schurr & Rehbein.)	
114,197	Rehfuss, George, assignor to American Button-Hole Overseaming and Sewing-Machine Company, Philadelphia, Pa. Sewing-machine	April 25, 1871
121,896	Same.....same	Dec. 12, 1871
114,968	Rehn, Isaac, assignor to self and Norris Peters, Washington, D. C. Copying colored and defective drawings, &c	May 16, 1871
121,128	Rehn, Isaac, Washington, D. C. Mode of producing designs for knit and woven fabrics	Nov. 21, 1871
118,390	Reiber, George, assignor to self, Lewis Raffensperger, and Samuel Reiber, Dover, Pa. Hay-knife	Aug. 22, 1871
116,097	Reichard, Henry C., assignor to Sol Foster, jr., Pottsville, Pa. Police-baton	June 20, 1871
	Reichelderfer, John, administrator. (*See* Kuntz, Philip.)	
116,756	Reichert, Adam, West Lodi, Ohio. Spring vehicle	July 4, 1871
	Reichert, Louis P., and Andrew Fuller. (*See* Fuller & Reichert) ...(Reissue.)	
5,139	Reid, Adam, Buffalo, N. Y. Cake-pan .....(Design)..	July 18, 1871
	Reid, Charles H., *et al.* (*See* Hopkins, Reid, Raymond & Meeker.)	
112,900	Reid, Charles L., Louisville, Ky. Broom	Mar. 21, 1871
	Reid, Charles L., and Ambrose E. Camp. (*See* Camp & Reid.)	
	Reid, Peter B. (*See* Clark, George Homer, assignor.)	
114,709	Reid, Robert, assignor to Henry Disston & Son, Philadelphia, Pa. Handle for cross-cut saws	May 9, 1871
	Reid, William L., and Myron H. Strong. (*See* Strong & Reid.)	
111,380	Reid, William O., Vienna, N. C. Invalid-bedstead	Jan. 31, 1871
114,198	Reiff, William H., Philadelphia, Pa. Advertising device	April 25, 1871
121,196	Same.....Advertising show-case	Nov. 21, 1871
	Reifsnieder, John P. (*See* Hartzell, George, assignor) .....(Design.)	
	Reifsnieder, John P., and George Hartzell. (*See* Hartzell & Reifsnieder.)	
	Reiley, William P., *et al.* (*See* Bennett & Barsch, assignors.)	
111,066	Reilly, James H., assignor to Henry G. Reed, Brooklyn, N. Y. Matting-apparatus	Jan. 17, 1871
117,330	Reimers, Frederick P. L., and Hans Asbahr, Davenport, Iowa. Sulky-harrow	July 25, 1871
118,054	Rein, Bernard, Marietta, Ohio. Rain-water cut-off	Aug. 15, 1871
113,939	Reinhard, Philip H., and Ernest F. M. Fachtz, Washington, D. C. Wood-pavement	April 18, 1871
	Reinshagen, Peter W. (*See* Buckman, John H., assignor) .....(Reissue.)	
113,930	Reisinger, George W., Harrisburgh, Pa. Sash-holder	April 18, 1871
118,275	Rembert, Samuel S., Memphis, Tenn. Cotton-press	Aug. 22, 1871
118,554	Same.....Apparatus for transmitting motion	Aug. 29, 1871
111,569	Remer, John A., assignor to self and Henry Ascenheimer, New York, N. Y. Kiln for drying malt	Feb. 7, 1871
115,105	Remington, Chauncey P., Smith's Mills, N. Y. Washing-machine	May 23, 1871
	Remington, E., & Sons. (*See* Smoot, William S., assignor) .....(Two cases.)	
111,002	Remington, Horatio A., Anthony, R. I. Let-off mechanism for looms	Jan. 17, 1871
119,721	Remington, Martin C., Weedsport, N. Y. Horse hay-rake	Oct. 10, 1871
	Remington, Philo. (*See* Lee, James, assignor).....(Two cases)	
	Same.....(*See* Gibbs, Lucius H., assignor.)	
	Remsen, Henry R., Albany, N. Y. Mill for cleaning castings .....(Extension)..	April 4, 1871
115,359	Same.....Newtonville, N. Y. Base-burning stove	May 30, 1871
113,305	Remy, Benjamin W. and Noah T., Brookville, Ind. Corn-drill	Mar. 28, 1871
113,306	Same.....Corn-plow	Mar. 28, 1871
111,874	Rennyson, William, Norristown, Pa. Chimney for lime-kilns	Feb. 14, 1871
118,973	Same.....Harrow	Sept. 12, 1871
121,003	Same.....same	Nov. 14, 1871
113,564	Rentchler, Daniel, Belleville, Ill. Grain-drill	April 11, 1871
	Renwick, Edward Sabine, trustee. (*See* Paraf, Alfred, assignor)..(Five cases.)	
	Same.....same.....(Reissue.)	
119,646	Renwick, Thomas R., assignor through mesne assignments to self, Josiah A. Osgood, and Charles M. Weiss, Grand Rapids, Mich. Stove-pipe drum	Oct. 3, 1871
116,868	Rens, Robert and Andrew, Naugatuck, Conn. Manufacture of shears and scissors	July 11, 1871
111,681	Repetti, Joseph, Philadelphia, Pa. Propelling-apparatus for boats. (Antedated Feb. 4, 1871)	Feb. 7, 1871
118,817	Rerdell, Mont C., Clinton, Ark. Steam-valve	Sept. 12, 1871
	Reuschel, William, and William Sooy Smith. (*See* Smith & Reuschel.)	
	Reversible Boot-Heel Company. (*See* Richardson & Hacker, assignors.) (Two cases.)	
113,565	Rewrick, Assaria, San Francisco, Cal. Machine for sawing staves	April 11, 1871
114,709	Rex, George, Philadelphia, Pa. Apparatus for carbureting air	May 9, 1871
112,681	Reybert, Sarah A., Plainfield, N. J. Hair-tonic	Mar. 14, 1871
	Reybold, Anthony. (*See* Doyle, John assignor.)	
	Same.....same.....(Two cases.) (Reissue.)	
111,381	Reyman, Jacob B., assignor of one-half interest to Donald W. Campbell, Springfield, Me. Water-wheel	Jan. 31, 1871
	Reymert, James D. (*See* Lee, Sverre, assignor.)	
117,306	Reynolds, Baker W., Evansville, Ind. Blower-tube for furnaces	July 18, 1871
111,570	Reynolds, Daniel M., Chicago, Ill. Portable swing	Feb. 7, 1871
121,419	Reynolds, Ezekiel F., Saint Joseph, Mich. Switch-stand	Nov. 28, 1871
112,183	Reynolds, George H., assignor to self, Cornelius H. Delamater, and Alexander K. Rider, New York, N. Y. Valve for condensers	Feb. 28, 1871
114,360	Same.....Piston and piston-packing	May 16, 1871
116,098	Same.....Tube-fastening of condensers	June 20, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Reynolds, G. H., *et al.* (*See* Rider, Alexander K., assignor.).....(Four cases.)	
113,566	Reynolds, George S., Lebanon, N. H. Friction-clutch	April 11, 1871
116,757	Reynolds, Ira, assignor to Reynolds & Reynolds, Dayton, Ohio. Book-binding apparatus	July 4, 1871
112,961	Reynolds, Jesse, Philadelphia, Pa. Portable furnace	Mar. 21, 1871
	Same.....(*See* Steffe, William, assignor) .....(Reissue.)	
120,166	Reynolds, John C. Soldering-iron	Oct. 24, 1871
	Reynolds, Martin M. (*See* Groom, George, assignor.)	
113,567	Reynolds, Orlando McKnight, and David T. Kitchell, Oil City, Pa. Gas-heater	April 11, 1871
	Reynolds, Samuel, Ellisburgh, N. Y. Water-wheel .....(Extension)..	Mar. 8, 1871
116,993	Reynolds, Samuel, Pittsburgh, Pa. Back-band hook for harness	July 11, 1871
121,129	Reynolds, Samuel D., Rochelle, N. Y. Road-dresser	Nov. 21, 1871
113,696	Reynolds, Samuel L. and John W., Pittsburgh, Pa. Whiffletree	April 11, 1871
114,855	Reynolds, Thomas H., Rome, Ga. Plow	Mar. 16, 1871
111,003	Reynolds, William, Manchester, N. H. Burglar-alarm	Jan. 17, 1871
113,297	Reynolds, William, and Joseph V. Brooks, Lexington, Ill. Bee-hive	Mar. 28, 1871
116,869	Reynolds, William H., New Orleans, La. Press for hay, &c	July 11, 1871
121,420	Reynolds, William W., Brandon, Vt. Machine for graduating scale-beams	Nov. 28, 1871
117,235	Rhett, Benjamin, Abbeville, S. C. Ditching-machine	July 18, 1871
112,494	Rhoads, Philip, Carlisle, Pa. Device for starting and stopping cars	Mar. 7, 1871
119,047	Rhodes, David, Fredericktown, Mo. Fence	Sept. 19, 1871
	Rhodes, John, *et al.* (*See* Young & Doll, assignors.)	
112,381	Rhodes, John C., South Abington, Mass. Punching-machine	Mar. 7, 1871
119,647	Same.....Machine for making eyelets	Oct. 3, 1871
115,640	Rhodes, Joseph, Dunkirk, N. Y. Coal-chute	June 6, 1871
113,797	Rhodes, Leonidas M., Warrenton, Ga. Guano and seed drill	April 18, 1871
119,722	Rhodes, Washington H., Lancaster, Pa. Frame for the glasses of carriage-curtains	Oct. 10, 1871
114,476	Riblet, George J., Bootheville, W. Va. Tire-bending machine	May 2, 1871
	Rice, Barton & Fales Machine and Iron Company. (*See* Barton, George S., assignor.)	
	Rice, Benjamin F., deceased, by Roxanna Rice, executrix, South Lancaster, Mass. Machine for making paper-bags .....(Extension)..	April 21, 1871
121,004	Rice, Charles E., Jersey City, N. J. Main-spring attachment for watches	Nov. 14, 1871
	Rice, Channcy. (*See* Gridley, John B., assignor.)	
121,005	Rice, Eli B., assignor of one-third interest to John H. Garnhart, Madison, Wis. Harvester	Nov. 14, 1871
	Rice, George S., and James M. Crossman. (*See* Crossman & Rice.)	
117,331	Rice, Henry J., assignor to self, John K. Love, James S. Smith, and William B. Smith, Cincinnati, Ohio. Gas hand-lamp	July 25, 1871
111,973	Rice, Israel L. G., Cambridge, Mass. Machine for bronzing	Feb. 21, 1871
	Rice, Joseph M., and Daniel R. Pratt. (*See* Fay, Lyman, assignor) ..(Reissue.)	
5,050	Rice, Matthias Joslyn, Boston, Mass. Photographic card-frame .....(Design)..	June 27, 1871
110,680	Rice, Nathaniel B., East Saginaw, Mich. Manufacture of acid phosphates for use in baking-powder	Jan. 3, 1871
114,602	Same.....Obtaining gelatine from bones, horn, pith, &c	May 9, 1871
119,997	Rice, Thomas C., Worcester, Mass. Fire-escape	Oct. 17, 1871
111,974	Rich, Charles, Poughkeepsie, N. Y. Spring bed-bottom, seat, &c	Feb. 21, 1871
4,985	Rich, Charles, assignor to the Metallic Union Spring Company, Poughkeepsie, N. Y. Spring for beds, &c .....(Reissue)..	Feb. 28, 1871
116,520	Same.....Spring bed-bottom, sofa, and chair-seat	June 27, 1871
5,303	Rich, Charles, Henry Crow, and Marcus Rich, New York, N. Y. Hood. (Design)	Oct. 3, 1871
113,095	Rich, John, Painesville, Ohio. Chuck for lathes. (Antedated March 27, 1871)	Mar. 28, 1871
118,055	Rich, Thomas, South Seekonk, Mass. Suspender	Aug. 15, 1871
4,450	Richard, Albert C., assignor through mesne assignments to Aury G. Coes, Worcester, Mass. Wrench .....(Reissue)..	June 27, 1871
121,061	Richard, Jean Elie, Columbia, S. C. Water-gauge	Dec. 5, 1871
111,668	Richards, Albert D., assignor to Tufts, Groevenor & Co. Medicated plaster	Feb. 7, 1871
	Richards, Allen C. (*See* Hall, John C., assignor.)	
116,870	Richards, Celius E., assignor to self, William H., and Daniel H. Robinson, North Attleborough, Mass. Swivel-hook	July 11, 1871
117,692	Richards, Charles B., Hartford, Conn. Bearing for machinery	Aug. 1, 1871
117,451	Richards, Charles B., assignor to the Colt's Patent Fire-Arms Manufacturing Company, Hartford, Conn. Revolving fire-arm	July 25, 1871
119,048	Same.....same	Sept. 19, 1871
118,391	Richards, Hezekiah H., Fond du Lac, Wis. Thimble-skein for wagons	Aug. 22, 1871
115,360	Richards, Ira A., Middletown, Conn. Boat-detaching apparatus	May 30, 1871
4,238	Richards, Isaac P., Whitinsville, Mass. Punch .....(Reissue)..	Jan. 3, 1871
114,043	Richards, John, Philadelphia, Pa. Saw-mill	April 25, 1871
114,710	Same.....Band-sawing machine	May 9, 1871
	Richards, Joseph W. (*See* Millochau, Adolph, assignor.)	
117,927	Richards, Phillip W., Boston Highlands, Mass. Stuffing-box	Aug. 8, 1871
117,928	Same.....Stuffing-box and stuffing-box packing	Aug. 8, 1871
121,897	Same.....Stuffing-box	Dec. 12, 1871
	Richards, Samuel, and Josiah Peiffer. (*See* Peiffer & Richards.)	
110,867	Richards, Thomas C., New York, N. Y. Picture-nail	Jan. 10, 1871
119,648	Same.....same. (Antedated Sept. 30, 1871)	Oct. 3, 1871
114,348	Richards, William, England. Chimney-top	May 2, 1871
	Richardson, Abijah. (*See* Stevens, Chase A., assignor).....(Four cases.)	
	Same.....(*See* Stevens & Lindsley, assignors.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
122,060	Richardson, Andrew, New Brunswick, N. J. Vault-cover lock	Dec. 19, 1871
121,197	Richardson, Charles, Philadelphia, Pa. Flour-sifter	Nov. 21, 1871
	Richardson, Edward P., and John C. Hancock. (*See* Hancock & Richardson.)	
117,207	Richardson, Everett P., assignor through mesne assignments to McKay Sewing-Machine Association, Lawrence, Mass. Sewing-machine for boots and shoes	July 18, 1871
114,199	Richardson, Frederic W., assignor to Christian A. Walcheid, New York, N. Y. Folding-chair	April 25, 1871
112,963	Richardson, Frederick, and Francis Hacker, assignors to Reversible Boot-Heel Company, Providence, R. I. Reversible boot-heel	Mar. 21, 1871
116,758	Same.....same	July 4, 1871
114,477	Richardson, Frederick C., assignor to self and William Helline, New York, N. Y. Hair-clipping device. (Antedated April 27, 1871)	May 2, 1871
113,495	Richardson, George, Milwaukee, Wis. Pipe-molding machine	Mar. 7, 1871
118,644	Same.....Woven-wire bed-bottom	Aug. 29, 1871
118,745	Same.....Bed-bottom. (Antedated Aug. 18, 1871)	Sept. 5, 1871
118,880	Same.....Drain-pipe machine	Sept. 12, 1871
111,282	Richardson, George W., Troy, N. Y. Balance slide valve for steam-engines	Jan. 31, 1871
	Richardson, H. A., *et al.* (*See* Lewis, Albert C., assignor.)	
116,488	Richardson, Horace L., Lyndon, Ill. Washing-machine	June 27, 1871
	Richardson, J. Hubert. (*See* Seimel, Conrad, assignor.)	
114,343	Richardson, James H., Westport, Me. Animal and game trap	May 2, 1871
118,645	Richardson, Jeannie V., Milwaukee, Wis. Abdominal supporter	Aug. 29, 1871
117,308	Richardson, John Thomas Haden, England. Apparatus for cutting glass-globes	July 18, 1871
	Richardson, Josiah C. and Edward P., *et al.* (*See* Hancock & Richardson.)	
114,970	Richardson, Milo A., Sherman, N. Y. Boot-jack	May 16, 1871
117,929	Richardson, Nathan, Gloucester, Mass. Steering-apparatus	Aug. 8, 1871
	Richardson, Solon, jr., *et al.* (*See* Dinsmore, Alfred S., assignor.)	
119,049	Richardson, Thomas and John W., and Adam Spencer, England. Construction of piles for railway-rails	Sept. 19, 1871
4,630	Richardson, Thomas, John J. Lundy, and Robert Irvine, assignors to John H. Wingfield, England. Extraction and manufacture of oils from vegetable and mineral substances (Reissue)	Nov. 7, 1871
111,004	Richardson, William, England. Machine for burring wool, &c	Jan. 17, 1871
116,631	Richey, George W., and Horace E. Bixby, Saint Louis, Mo. Binnacle for mariners' compasses	July 4, 1871
5,141	Richmond, Apollos, Brooklyn, N. Y., and Sampson G., Norwich, Conn. Cooking range or stove (Design)	July 25, 1871
114,200	Richmond, Archibald M., New York, N. Y. Button-fastener	April 25, 1871
111,383	Richmond, George G., Peekskill, N. Y. Mica frame for stoves	Jan. 31, 1871
	Richmond, Henry B. (*See* Berrey, William, assignor) (Reissue.)	
114,856	Richmond, Henry P., and Thomas E. Carpenter, Providence, R. I. Finger-ring	May 16, 1871
111,251	Richmond, James, Lockport, N. Y. Machine for transmitting and distributing motive-power	Jan. 24, 1871
116,221	Same.....Means for transmitting motive-power	June 20, 1871
117,930	Richmond, John D., jr., New Liberty, Ky. Medical compound for coughs, colds, &c	Aug. 8, 1871
112,963	Richmond, Seelye, assignor of one-half interest to Joseph E. Dickson, Annapolis, Md. Fruit-drier and food-warmer	Mar. 21, 1871
	Richmond, Seelye, and Joseph E. Dickson. (*See* Dickson & Richmond.)	
116,489	Richter, Ernst H., Taunton, Mass. Composition-fuel	June 27, 1871
110,868	Richter, Joseph, Cincinnati, Ohio. Lubricator	Jan. 10, 1871
111,975	Rickard, Alexander, Schoharie, N. Y. Plow	Feb. 21, 1871
117,468	Rickard, William T., New Monitor, Cal. Compound for preventing incrustation in steam-boilers	July 25, 1871
115,522	Rickards, William, jr., Franklin, Pa. Car-coupling. (Antedated May 25, 1871)	May 30, 1871
119,050	Rickel, James F., Byron, Ill. Sash-holder	Sept. 19, 1871
112,382	Ricker, John W., Chelsea, Mass. Washing-machine	Mar. 7, 1871
118,487	Same.....same	Aug. 29, 1871
	Ricketts, Thomas H. (*See* Diehl, George H., assignor.)	
119,094	Rickey, Daniel B., San Francisco, Cal. Bung and bung-inserter	Sept. 19, 1871
117,663	Riddell, William, England. Disintegrating vegetable fiber for paper-pulp, &c	Aug. 1, 1871
111,352	Rideout, John P., Bowdoinham, Me. Hay-loader	Jan. 24, 1871
111,087	Rider, Alexander K., assignor to self, Cornelius H. Delamater, and George H. Reynolds, New York, N. Y. Hot-air engine	Jan. 17, 1871
111,088	Same.....same	Jan. 17, 1871
114,344	Same.....Slide-valve	May 2, 1871
116,099	Same.....same	June 20, 1871
118,302	Rider, Alexander K., assignor to self and Cornelius H. Delamater, New York, N. Y. Piston-valve for fluid meters and motors	Aug. 22, 1871
120,265	Same.....Air-engine	Oct. 24, 1871
	Rider, Alexander K., *et al.* (*See* Reynolds, George H., assignor).. (Three cases.)	
113,796	Rider, John F. C., and Emerson P. Brownell, South New Market, N. H. Lathe. (Antedated April 10, 1871)	April 18, 1871
118,150	Rider, Joseph, Newark, Ohio. Magazine fire-arm	Aug. 15, 1871
114,044	Rider, Leman P., assignor to self and James Marshall, Pittsburgh, Pa. Plow mold-board. (Antedated April 12, 1871)	April 25, 1871
121,814	Rider, Oliver J., and John C. Bryant, Wellington, Mo. Washing-machine. (Antedated Nov. 25, 1871)	Dec. 12, 1871
118,370	Rider, William, Almont, Mich. Oil-cup	Aug. 22, 1871
117,113	Rider, Zerah, Painesville, Ohio. Steam-plowing machine	July 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,646	Ridgway, Charles L., Boston, Mass. Beer-cooler	Aug. 29, 1871
117,684	Ridley, James Cartmell, England. Manufacture of malleable iron and steel	Aug. 1, 1871
121,815	Ridley, Henry A., Jacksonport, Ark. Cotton-planter	Dec. 12, 1871
114,857	Ridley, William H., Pittsburgh, Pa. Toggle-pin for nail-machines	May 16, 1871
120,898	Ridout, Moses T., assignor to self and Joseph H. Mann, Sun Prairie, Wis. Grain-binder	Nov. 14, 1871
111,976	Riedel, Frank, San Francisco, Cal. Privy	Feb. 21, 1871
115,230	Same.....same	May 23, 1871
121,421	Rieger, Henry, Beaufort, S. C. Fire-shield	Nov. 28, 1871
113,345	Rieke, George, Cairo Township, Minn. Field thrashing-machine	April 4, 1871
120,167	Ries, Henry, Norwalk, Ohio. Combined thrashing and hulling machine. (Antedated Oct. 14, 1871)	Oct. 24, 1871
114,858	Rigby, John, assignor through mesne assignments to self, Joseph Davis, and A. Filson Dalzell, Pittsburgh, Pa. Housing for rolls	May 16, 1871
119,789	Rigby, John, and Joseph Holt, Marquette, Mich. Balanced slide-valve	Oct. 10, 1871
	Rigby, John, *et al.* (*See* Davis, Joseph, assignor.)	
	Riggs, John F., and David A. Constable. (*See* Constable & Riggs.)	
4,589	Riggs, John W., assignor of one-half interest to John J. Diefendorf, Brooklyn, N. Y. Truss-spring (Reissue)	Oct. 10, 1871
113,568	Riggs, Joseph H., Chelsea, Mass. Whiffletree (Extension)	May 11, 1871
121,662	Riggs, J. W., Brooklyn, N. Y. Truss	Nov. 18, 1871
121,663	Same.....Tire for wheels of vehicles. (Antedated Nov. 28, 1871)	Dec. 5, 1871
119,998	Riker, De Witt, assignor to self and Frederick W. Runge, San Francisco, Cal. Saw. (Antedated Sept. 30, 1871)	Dec. 5, 1871
111,253	Riker, William, Newark, N. J. Setting stones, &c	Oct. 17, 1871
5,086	Same.....Banner-pin (Design)	Jan. 24, 1871
115,896	Rilo, John L., New York, N. Y. Book-binding (Reissue)	July 4, 1871
4,577	Same.....Binding invoice-books	June 13, 1871
121,964	Riley, Edward, Cleveland, Ohio. Manufacture of cutters for barbed nails	Oct. 3, 1871
111,474	Riley, James and Patrick, New York, N. Y. Machine for drilling and tapping water and gas mains	Dec. 19, 1871
114,711	Riley, John, assignor to the United States and Foreign Salamander Felting Company, Troy, N. Y. Composition for covering steam-boilers, &c	Jan. 31, 1871
	Riley, O. Matthew. (*See* Batchelder, William W., assignor.)	May 9, 1871
	Riley, Solomon H., and Milton W. Kirkwood. (*See* Kirkwood & Riley.)	
116,632	Riley, Thomas, Williamsburgh, N. Y. Clothes-line supporter. (Antedated June 28, 1871)	July 4, 1871
114,201	Riley, William G., Sullivan, Ind. Trace-buckle (Disclaimer filed)	April 25, 1871
114,971	Ring, Aaron, Wiscasset, Me. Seeding-machine	Aug. 21, 1871
	Ring, John, Saint Louis, Mo. Lard-package	May 16, 1871
	Ringwalt, Samuel. (*See* Clayton, Gregg, assignor.)	
113,208	Riotte, Eugene N., assignor of five-sevenths interest to Charles A. Stetefeldt and John H. Boalt, San Francisco, Cal. Chloridizing silver ores	Mar. 28, 1871
117,114	Riouff, Henry L., assignor to self and Stephen W. Moody, Pleasant Ridge, Ohio. Carriage	July 18, 1871
	Ripley, Daniel C., *et al.* (*See* Smith, Kwoczalla & Ripley) (Design.)	
114,345	Ripley, William J., Cincinnati, Ohio. Clothes-line protector and stretcher	May 2, 1871
110,869	Risbel, Elias C., White Haven, Pa. Dental lathe. (Antedated Dec. 31, 1870)	Jan. 10, 1871
116,228	Risley, Martin, assignor to Samuel D. Burbank, Springfield, Mass. Spectacle-frame	June 20, 1871
	Ritchel, Charles F., and Frank S. Allen. (*See* Allen & Ritchel)...(Two cases.)	
114,859	Ritchey, John B., Pomeroy, Ohio. Dovetailing-machine	May 16, 1871
117,332	Same.....same	July 25, 1871
111,254	Ritchie, Edward S., Brookline, Mass. Card for mariners' liquid-compasses	Jan. 24, 1871
	Ritchie, Francis, and Nicholas S. Vedder. (*See* Vedder & Ritchie.) (Four cases.) (Design.)	
118,818	Ritchie, James, assignor to self and William J. Walsh, Detroit, Mich. Tool for plugging leaky boiler-tubes	Sept. 12, 1871
115,523	Riter, John L., Brownsville, Ind. Grain-drill	May 30, 1871
119,882	Same.....Frame for school desks and seats	Oct. 10, 1871
114,346	Rittenhouse, Aaron, Smithville, Ohio. Saw-guide. (Antedated April 28, 1871)	May 2, 1871
113,096	Ritter, Henry M., Cincinnati, Ohio. Reversible knob-latch	Mar. 28, 1871
113,097	Same.....same	Mar. 28, 1871
120,326	Ritter, Isaac R., assignor to self and Jacob R. Ritter, Reading, Pa. Scroll-saw	Oct. 24, 1871
120,537	Ritter, Samuel S., Philadelphia, Pa. Truss	Oct. 31, 1871
4,933	Rivers, Thomas L., Newark, N. J. Cap for trunk-handles (Design)	May 23, 1871
120,670	Same.....Caster for trunks	Nov. 7, 1871
114,347	Robb, Alexander R., Brooklyn, N. Y. Plumbers' water-boiler	May 2, 1871
119,981	Robbins, Benjamin F., Harwich, Mass. Axle-shield for carriages	Sept. 26, 1871
112,964	Robbins, Edward Y., Cincinnati, Ohio. Tile-stove. (Antedated March 13, 1871)	Mar. 21, 1871
114,348	Robbins, Eugene H., Pittsfield, Mass. Pipe-wrench	May 2, 1871
114,712	Robbins, George W., Dubuque, Iowa. Spring bed-bottom	May 9, 1871
112,739	Robbins, Henry R., Baltimore, Md. Wash-boiler	Mar. 14, 1871
114,349	Same.....Railroad-car heater	May 2, 1871
119,409	Same.....Car-coupling	Sept. 26, 1871
119,649	Same.....Trap for wash-boilers	Oct. 3, 1871
114,860	Robbins, Horace T., Hyde Park, Mass. Kettle-handle	May 16, 1871
115,594	Same.....Lamp-wick	May 30, 1871
	Robbins, H. W., *et al.* (*See* Hawkes, Albert G., assignor.)	
	Robbins, Jerome J., *et al.* (*See* Hubbard, William C., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,569	Robbins, Joseph A., Medford, Mass. Medical compound	April 11, 1871
120,327	Same.....Galvanic battery	Oct. 24, 1871
112,633	Robbins, Joseph A., assignor to self and Martin W. Ford, Medford, Mass. Carpet-fastening	Mar. 14, 1871
112,634	Robbins, Joseph A., assignor to self and Francis V. Holmes, Medford, Mass. Mold for suppositories	Mar. 14, 1871
115,897	Robbins, Julius, Auburn, N. Y. Snap-hook	June 13, 1871
4,578	Robbins, Louis S., assignor to Ann D. Brewton, Rye, N. Y. Process of extracting oily and fatty matters.....(Reissue)	Oct. 3, 1871
111,371	Robbins, Richard B., Adrian, Mich. Potato-digger. (Antedated Jan. 25, 1871)	Feb. 7, 1871
112,496	Same.....Sulky-cultivator	Mar. 7, 1871
120,775	Same.....Potato-digger	Nov. 7, 1871
115,585	Robbins, William E., and George Enderton, assignors of one-third interest to Abram B. Enderton, Sterling, Ill. Harrow	May 30, 1871
112,281	Robbins, Zenas C., Washington, D. C. Insulator for telegraph-wires	Feb. 28, 1871
118,555	Same.....Wooden horse-collar	Aug. 29, 1871
	Robellas, Jean G., and Louis A. G. Vielle. (*See* Vielle & Robellas.)	
4,605	Roberts, Albert E., Des Moines, Iowa. Frame of school-desks.....(Design)	Jan. 24, 1871
119,181	Roberts, Albert F., Lexington, Ky. Corn-harvester	Sept. 19, 1871
115,240	Roberts, Alfred, France. Grain-drier. (Antedated May 19, 1871)	May 23, 1871
111,005	Roberts, Benjamin F., Lacona, Iowa. Lock for doors, &c	Jan. 17, 1871
114,713	Same.....Stove-leg	May 9, 1871
	Roberts, C. C., *et al.* (*See* Veber, William F., assignor.)	
121,730	Roberts, Carlton W., Chicago, Ill. Striking-mechanism of clocks. (Antedated Dec. 2, 1871)	Dec. 12, 1871
112,848	Roberts, Edward A. L., Titusville, Pa. Manufacture of nitro-glycerine	Mar. 21, 1871
112,849	Same .....same	Mar. 21, 1871
112,850	Same.....Electric and other fuse head	Aug. 1, 1871
117,685	Same.....Wood and concrete pavement	Oct. 10, 1871
119,884	Same.....Preventing the clogging of oil-wells	Oct. 10, 1871
119,885	Same.....Process of preventing the clogging of oil-wells	Nov. 7, 1871
120,776	Same.....Explosive compound	Dec. 12, 1871
121,898	Same.....Manufacture of nitro-glycerine	Oct. 17, 1871
119,999	Roberts, George, Montreal, Canada. Cooking-stove	June 13, 1871
115,898	Roberts, George S., Meredith Village, N. H. Adjustable mirror	
	Roberts, Henry, *et al.* (*See* Duff, Roberts & Nourse.)	
118,277	Roberts, Henry A., Boston, Mass. Ice-house for packing and curing meats	Aug. 22, 1871
119,650	Roberts, John, New Madison, Ohio. Pump	Oct. 3, 1871
121,422	Roberts, Jonathan M., Burlington, N. J. Furnace for the manufacture of iron and steel	Nov. 28, 1871
	Same.....(*See* English, James, assignor.)	
117,860	Roberts, Joseph, Worcester, Mass. Corner-posts for wagon and carriage seats	Aug. 8, 1871
110,870	Roberts, Robert J., New York, N. Y. Drawer for stores	Jan. 10, 1871
114,902	Roberts, Thomas, assignor to self and Edward F. Folger, Baltimore, Md. Admission of feed-water to steam-boilers	April 25, 1871
116,100	Roberts, Thomas B., Franklin, Ill. Cultivator	June 20, 1871
116,499	Roberts, Thomas D., deceased, by Edward M. Madden and Shattiece D. Roberts, administrators, Middletown, N. Y. Buck-saw frame	June 27, 1871
119,051	Roberts, Webster, Cleveland, Ohio. Machine for making horseshoes	Sept. 19, 1871
114,603	Roberts, William R., Philadelphia, Pa. Apparatus for generating hydrocarbon vapor	May 9, 1871
118,278	Roberts, William S., and Egbert H. Fiske, East Greenwich, R. I. Signal-lantern	Aug. 22, 1871
114,972	Robertson, Absalom, Seymour, Ind. Preserving and smoking meat	May 16, 1871
	Robertson, Alexander. (*See* Henry, John, assignor.)	
114,714	Robertson, Archie, East Rupert, Vt. Butter-pail, &c	May 9, 1871
	Robertson, Daniel M. *See* Buckminster, Ansel, assignor.)	
	Same.....(*See* Glines, Dearborn P., assignor.)	
111,572	Robertson, D. M., East Boston, and Jason A. Bidwell, Boston, Mass. Machine for threading screws	Feb. 7, 1871
117,568	Robertson, Harriet C., East Saginaw, Mich. Dish-washing machine	Aug. 1, 1871
	Robertson, John F., and John G. Knapp. (*See* Knapp & Robertson.)	
110,789	Robertson, John F., assignor of two-thirds interest to James H. Holly and John G. Knapp, Warwick, N. Y. Wrench	Jan. 3, 1871
113,931	Robertson, John H., New York, N. Y. Car-door	April 18, 1871
	Robertson, John W., and Nathan C. Burson. (*See* Burson & Robertson.)	
113,346	Robertson, Judah Touro, New York, N. Y. Printing-press	April 4, 1871
4,930	Robertson, Louis F., New York, N. Y. Compound to increase the friction between belts and pulleys.....(Reissue)	Jan. 24, 1871
118,153	Robertson, Reps O., Barnesville, Va. Tobacco-elevator. (Antedated Aug. 4, 1871)	Aug. 15, 1871
120,108	Robertson, Richard L., jr., New Orleans, La. Steam-boiler	Oct. 17, 1871
	Robertson, T. J. W., Washington, D. C. Hand-stamp.....(Extension)	Sept. 26, 1871
4,675	Same.....same.....(Reissue)	Dec. 12, 1871
112,293	Robertson, William D., Knoxville, Tenn. Sad and fluting iron	Feb. 28, 1871
112,965	Same.....Portable furnace	Mar. 21, 1871
112,283	Robes, Andrew, Somerville, and John C. Chapman, Cambridgeport, Mass. Safety-plug attachment to steam-boilers	Feb. 28, 1871
117,817	Robeson, Robert I., Oskaloosa, Iowa. Life-boat	Aug. 8, 1871
122,061	Robie, Henry W., Binghamton, N. Y. Latch for gates	Dec. 19, 1871
111,475	Robie, Jacob C., Binghamton, N. Y. Fluting-tongs	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Robil, Richard, *et al.* (*See* Colby, Calvin M., assignor.)	
119,363	Robin, Charles, Chester, Conn. Curtain-fixture	Mar. 7, 1871
121,423	Robinson, Augustus W., Providence, R. I. Fair-leader for steering rods or chains	Nov. 28, 1871
	Robinson, Augustus W., and Calvin G. Cahoone. (*See* Cahoone & Robinson.)	
113,347	Robinson, Charles, Boston, Mass. Clothes-wringing press	April 4, 1871
112,966	Robinson, Charles A., Florence, Ind. Hay and cotton press	Mar. 21, 1871
110,790	Robinson, Charles E., Boston, Mass. Machine for sewing or working button-holes	Jan. 3, 1871
114,604	Same.....Tuck-creaser for sewing-machines	May 9, 1871
112,635	Robinson, Charles E., assignor to self and Charles W. Brunner, Boston, Mass. Safety hasp or latch	Mar. 14, 1871
	Robinson, Christopher. (*See* Lovejoy, William H., assignor.)	
121,550	Robinson, Fayette S., Boston, Mass. Lamp-burner	Dec. 5, 1871
117,333	Robinson, Francis W., Richmond, Ind. Safety-coupling	July 25, 1871
5,051	Robinson, George B., Derby, Conn. Carriage-spring.....(Design)	June 27, 1871
116,354	Robinson, George W., Galesburgh, Ill. Bed-bottom	June 27, 1871
5,339	Robinson, Herbert, assignor to Joseph Wild & Co., England. Carpet-pattern. (Design)	Oct. 31, 1871
5,340	Same.....Carpet-pattern.....(Design)	Oct. 31, 1871
5,341	Same.....same.....(Design)	Oct. 31, 1871
	Robinson, James A. (*See* Sager, Daniel, assignor.)	
114,715	Robinson, Job, Lawrence, Kans. Washing-machine	May 9, 1871
121,297	Robinson, Joshua C., Hamilton, Nev. Tramway-saddle	Nov. 28, 1871
115,641	Robinson, Norman W., Burlington, Vt. Rock-drilling machine	June 6, 1871
122,194	Robinson, Peter, Harrisburgh, Ill. Apparatus for evaporating sugar, &c	Dec. 26, 1871
	Robinson, Richard, *et al.* (*See* Wilcock, Robinson & Wilcock.)	
	Robinson, Robert M., *et al.* (*See* Winner, Joseph L., assignor.)	
5,451	Robinson, Samuel P., assignor to Robinson & Fowler Foundery Company, Plainfield, Conn. Cooking-range.....(Design)	Dec. 26, 1871
114,861	Robinson, Stillman W., Champaign, Ill. Regulating cut-off valve-gear. (Antedated May 12, 1871)	May 16, 1871
120,198	Same.....Photograph-cutter. (Antedated Nov. 18, 1871)	Nov. 21, 1871
114,350	Robinson, Thomas C., assignor to George H. Sanborn, Boston, Mass. Paper-cutting machine	May 2, 1871
4,274	Robinson, William, Brooklyn, N. Y. Electro-magnetic gate-opening apparatus. (Antedated July 8, 1870).....(Reissue)	Feb. 21, 1871
117,463	Robinson, William F., Bellaire, Ohio. Pump	July 25, 1871
	Robinson, William H. and Daniel H. (*See* Richards, Celius E., assignor.)	
117,464	Robinson, William S., assignor to self and Martin Morris, Oskaloosa, Iowa. Portable oven	July 25, 1871
111,006	Robinson, William W., Ripon, Wis. Joint for railway-rails	Jan. 17, 1871
	Robitzer, John P., and James B. Moore. (*See* Moore & Robitzer).....(Design.)	
4,711	Robley, Joseph, assignor to William M. Brasher & Co., Brooklyn, N. Y. Floor oil-cloth pattern.....(Design)	Mar. 14, 1871
4,712	Same.....Floor oil-cloth pattern.....(Design)	Mar. 14, 1871
4,713	Same.....Same	Mar. 14, 1871
	Robnett, Lorenzo D., and Hiram R. Bowen. (*See* Bowen & Robnett.)	
	Roby, Samuel F., *et al.* (*See* Applegate, Jacobs & Roby.)	
112,851	Roche, Edward P., Bath, Me. Chafe-iron for wheeled vehicles	Mar. 21, 1871
114,045	Roche, Patrick M., Cleveland, Ohio. Fire-place	April 25, 1871
112,284	Rock, Adolphe, New Orleans, La. Ice-machine	Feb. 28, 1871
112,285	Same.....Process and apparatus for curing hides	Feb. 28, 1871
118,746	Same.....Process of treating and preserving hides	Sept. 5, 1871
115,106	Rock, Eugene, Greenvale, N. Y. Hay and cotton press	May 23, 1871
	Rock Island Stove Company. (*See* White, Alexander, assignor).....(Reissue.)	
111,150	Rockafellow, Samuel, Moline, Ill. Horse hay-rake	Jan. 24, 1871
122,282	Same.....same	Dec. 26, 1871
	Rockwell, D. W. (*See* Rankin, Thomas L., assignor.)	
	Rockwell, Samuel O., and William H. Saint John. (*See* Saint John & Rockwell.)	
111,573	Rodden, William Henry, Toronto, Canada. Ferrule	Feb. 7, 1871
120,458	Same.....Fork-tine	Oct. 31, 1871
120,213	Roddick, Thomas, and James Lockhead, Scotland. Lubricator and anti-friction bearing. (Antedated Oct. 11, 1871)	Oct. 24, 1871
4,432	Rodefer, Joseph, deceased, by Ann M. Rodefer, administratrix, Springfield, Ohio. Bedstead-fastening.....(Extension)	May 10, 1871
	Rodefer, Joseph, deceased, by Ann M. Rodefer, administratrix, assignor to James L. Haven & Co., Springfield, Ohio. Bedstead-fastening.....(Reissue)	June 20, 1871
116,355	Roden, Alfred, Mumford, Ohio. Plow	June 27, 1871
4,590	Rodenhausen, Leonhard, Philadelphia, Pa. Street-sprinkling cart.....(Reissue)	Oct. 10, 1871
112,636	Rodgers, Alexander, and Esau Tarrant, Muskegon, Mich. Machine for feeding fuel to furnaces	Mar. 14, 1871
116,223	Rodgers, Amos Charles, assignor to self and James A. Hamilton, Suffield, Conn. Station-indicator	June 20, 1871
113,346	Rodgers, Augusta M., Brooklyn, N. Y. Railroad-car heater	April 4, 1871
114,605	Same.....Conveyor of smoke and cinders for locomotives	May 9, 1871
119,790	Same.....same	Oct. 10, 1871
117,334	Rodkey, Jacob M., Indiana, Pa. Machine for laying out mortises	July 25, 1871
115,984	Roe, David E., Elmira, N. Y. Broiler	June 13, 1871
4,651	Same.....same.....(Division A, reissue)	Nov. 28, 1871
4,652	Same.....same.....(Division B, reissue)	Nov. 28, 1871
121,731	Roe, Giles Bolivar, Ogle County, Ill. Cattle-pump	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,465	Roehrs, Henry, Washington, D. C. Pile-driver	July 25, 1871
120,538	Roelofs, Anthony, Philadelphia, Pa. Curtain-fixture	Oct. 31, 1871
120,168	Roelofs, Anthony, assignor to self and Daniel Bergin, Philadelphia, Pa. Curtain-fixture	Oct. 24, 1871
	Roelofs, John H., *et al.* (*See* Shrieves, Charles D., assignor.)	
110,791	Roemer, William, Newark, N. J. Frame for traveling-bags, &c	Jan. 3, 1871
121,424	Rogers, Androse, Freeport, Ill. Field-roller	Nov. 28, 1871
5,229	Rogers, Benjamin F. Cambridge, Mass. Post-office bulletin-board	Aug. 22, 1871
4,459	Rogers, Charles D., Utica, N. Y., and Monroe P. Wilkins, Jersey City, N. J., assignors to the Manhattan Brush-Manufacturing Company. Method of holding bristles in brush-stocks (Reissue)	July 4, 1871
119,723	Rogers, Edward F., assignor to self, Stoughton B. and Luther L. Holden, Chelsea, Mass. Composition for fire-brick	Oct. 10, 1871
120,430	Rogers, Edward F., Chelsea, Mass. Cooking-range	Oct. 31, 1871
	Rogers, Edwin, and Moses G. Crane. (*See* Crane & Rogers) (Reissue.)	
115,241	Rogers, Ezekiel, assignor to self and H. A. Brown, Waterford, Conn. Device for attaching booms to masts	May 23, 1871
122,283	Rogers, George S., Thetford, Vt. Machine for tentering cloth	Dec. 26, 1871
113,349	Rogers, George W., New York, N. Y. Ash-sifter	April 4, 1871
118,154	Rogers, Henry H., assignor to Charles Pratt Manufacturing Company, Brooklyn, N. Y. Nozzle for liquid-packages	Aug. 15, 1871
120,539	Same. Distilling naphtha and other hydrocarbon liquids	Oct. 31, 1871
118,155	Rogers, Henry H., and George F. Walters, assignors to Charles Pratt Manufacturing Company, Brooklyn, N. Y. Screw-nozzle for liquid-packages	Aug. 15, 1871
	Rogers, Henry M. (*See* Gilmore, William, assignor.)	
	Rogers, Hiram D. (*See* Gilliland, Ezra T., assignor) (Two cases.)	
	Rogers, Hiram D., and William Smith. (*See* Smith & Rogers) (Reissue.)	
	Rogers, Homer. (*See* Moore, Stephen, assignor) (Two cases.)	
	Rogers, Jeremiah. (*See* Miller, Curtis M., assignor.)	
4,714	Rogers, John, New York, N. Y. Group of statuary (Design)	Mar. 14, 1871
5,142	Same. same (Design)	July 25, 1871
5,143	Same. same (Design)	July 25, 1871
118,489	Rogers, John G., assignor to self and James C. Crandall, Van Buren County, Mich. Stamp-holder	Aug. 29, 1871
4,981	Rogers, John K., Brookline, Mass. Type (Design)	June 6, 1871
120,898	Rogers, Noah, assignor to William H. Rogers, Thomasville, Ga. Fire-kindler	Nov. 14, 1871
4,535	Rogers, Robert E., and James Black, Philadelphia, Pa. Steam-generator. (Reissue)	Aug. 29, 1871
118,974	Rogers, Silas P., assignor to self, J. H., J. W., and Stewart Watt, Belmont, Ohio. Device for operating sashes	Sept. 12, 1871
120,328	Rogers, Timothy, Fredericktown, Ohio. Blower	Oct. 24, 1871
	Rogers, William, *et al.* (*See* Fitts, B. Berkeley, assignor.)	
118,556	Rogers, William L., Rochefort, Mo. Gutter-fastening	Aug. 29, 1871
113,938	Rogerson, W. Bolton, and Harvey Beyea, Paterson, N. J. Car-coupling	April 18, 1871
114,046	Rohdin, Peter, and Charles Ostergren, Chicago, Ill. Heating-stove	April 25, 1871
	Rohdin, Peter, and August Sahlstrom. (*See* Sahlstrom & Rohdin.)	
122,284	Rohrer, Abraham P. and Christian F., and John H. Blose, Clark County, Ohio. Furrowing-plow	Dec. 26, 1871
121,899	Rohrer, Jeremiah, Lancaster, Pa. Refrigerator	Dec. 12, 1871
118,156	Rohrer, John, Springfield, Ohio. Fence	Aug. 15, 1871
122,062	Rohrer, John L., Upper Leacock, Pa., and Charles E. Roper, Canton, Ohio; said Roper assignor to E. Ball & Co. Harvester	Dec. 19, 1871
114,203	Rohrer, Martin, Polo, Ill. Tongue for harvesters	April 25, 1871
	Rohs, Hermann, and David Bogga. (*See* Bogga & Rohs.)	
115,649	Rollhaus, Philip, jr., New York, N. Y. Range	June 6, 1871
	Rollings, John H., *et al.* (*See* Starr, William M., assignor.)	
4,891	Rollins, La Forist, Bangor, Me. Stove (Design)	April 18, 1871
	Romans, Joseph, and Gardner B. Gray. (*See* Gray & Romans.)	
5,191	Rommelka, Louis, Newark, N. J. Ornament on harness-saddles (Design)	Aug. 8, 1871
113,570	Rommel, Charles, Elizabeth, N. J. Oil-cloth printing-machine	April 11, 1871
113,098	Roney, Hamilton, Dayton, Ohio. Plow	Mar. 28, 1871
111,476	Ronning, Even, Brodhead, Wis. Apparatus for preserving milk	Jan. 31, 1871
110,871	Rood, Ira, Elyria, Ohio. Lathe for turning wood	Jan. 10, 1871
117,686	Rook, Jesse H., Thomas S., and John S., York, Ill. Machine for tenoning spokes	Aug. 1, 1871
111,875	Rooks, Emery, Trenton, Tenn. Device for obstructing ants	Feb. 14, 1871
	Roome, Henry C., and Edwin Holmes. (*See* Holmes & Roome) (Three cases.)	
112,079	Rooney, Thomas F., Chicago, Ill. Lifting-shovel	Feb. 21, 1871
114,351	Same. Dust-pan	May 2, 1871
115,899	Same. Mop	June 13, 1871
117,115	Root, Charles, Cleveland, Ohio. Fly-wheel	July 18, 1871
118,393	Root, Hezekiah, Union City, Ind. Gate	Aug. 22, 1871
	Root, Joseph, *et al.* (*See* Baker, Root & Case.)	
111,384	Root, Parley D., Weston, N. Y. Portable shelf and support	Jan. 31, 1871
116,356	Roper, Charles E., Canton, Ohio. Thrashing-machine	June 27, 1871
	Roper, Charles E., and John L. Rohrer. (*See* Rohrer & Roper.)	
117,831	Roper, Sylvester H., Roxbury, Mass. Knitting-machine, &c	Aug. 8, 1871
119,651	Same. Boston, Mass. Knitting-machine needle	Oct. 3, 1871
111,385	Ropes, Julius, Ishpenning, Mich. Postage-stamp holder	Jan. 31, 1871
112,235	Rosbeck, Joshua A., Herman, N. Y. Cattle-stanchion. (Antedated Jan. 18, 1871)	Jan. 24, 1871
113,933	Rose, Gervase E., Philadelphia, Pa. Welding-powder for iron, &c	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,256	Rose, H. Martin, Clinton, Ill. Cultivator	Jan. 24, 1871
120,460	Rose, James A., and George J. Mason, assignors to selves and Adam Harshberger, Prairie City, Ill. Shoe	Oct. 31, 1871
116,101	Rose, James C., and John F. Silversmith, Albany, N. Y. Feather-renovator	June 20, 1871
114,973	Rose, John J., Elmwood, Ill. Wagon-brake	May 16, 1871
4,902	Rose, John R., and Edward L. Caley, assignors to Cox, Whiteman & Cox, Philadelphia, Pa. Plate of a cooking-stove (Design)	May 9, 1871
4,910	Rose, John R., and Edward L. Caley, assignors to Orr, Painter & Co., Philadelphia, Pa. Cooking-stove (Design)	May 16, 1871
117,335	Rose, Montgomery P., Napa, Cal. Plow	July 25, 1871
	Rose, William J., and Britton Capell. (*See* Helm, Shelby W., assignor.)	
117,687	Rosebrooks, John M., Hoosick Falls, N. Y. Harvester-rake	Aug. 1, 1871
120,777	Same. same	Nov. 7, 1871
	Rosebrooks, John M., *et al.* (*See* Wood, Wood & Rosebrooks) (Three cases.)	
	Rosello, Antonio. (*See* Craft, John Crew, assignor.)	
114,352	Rosenbaum, Albert S., New York, N. Y. Smoking-tobacco	May 2, 1871
115,361	Rosenstein, Moritz, Boston, Mass. Ice-cream freezer	May 30, 1871
120,329	Rosenthal, Gustav, Pittsburgh, Pa. Gas-fittings	Oct. 24, 1871
118,747	Rosentreter, Frank L., Des Moines, Iowa. Automatic fly-trap	Sept. 5, 1871
112,637	Rosenwax, Mark, New York, N. Y. Gas-burner	Mar. 14, 1871
118,489	Rosin, Henry C., Chicago, Ill. Device for cutting concaves	Aug. 29, 1871
114,862	Rosinsky, Nathan M., New York, N. Y. Sewing-machine for boots and shoes	May 16, 1871
4,488	Rosner, George, assignor to Halbert S. Greenleaf, Rochester, N. Y. Permutation-lock (Reissue)	July 25, 1871
118,395	Ross, Abbott Q., Cincinnati, Ohio. Machine for rolling and ramming roads	Aug. 22, 1871
120,399	Ross, Abbott Q., assignor to Alfred H. Brooks, Cincinnati, Ohio. Burglar-alarm	Oct. 31, 1871
	Ross, Alexander, and Maurice H. Utley. (*See* Utley & Ross.)	
115,985	Ross, Frederick A., and Silas De La Mater, Terre Haute, Ind. Buckle	June 13, 1871
112,286	Ross, George, Newport, Ky. Mode of molding and casting pipe-elbows	Feb. 28, 1871
118,379	Ross, Henderson, and John H. Clemens, Pittsburgh, Pa. Furnace for the manufacture of iron and steel	Aug. 22, 1871
4,609	Same. Furnace for the manufacture of iron and steel (Reissue)	Oct. 24, 1871
113,350	Ross, John G., Philadelphia, Pa. Machine for channeling and beveling the soles for boots and shoes	April 4, 1871
116,491	Same. Heel-burnisher for boots and shoes	June 27, 1871
113,571	Ross, John J., Hernando, Miss. Dentists' instrument-stand	April 11, 1871
123,134	Ross, Joseph L., and Frederick C. Hanson, Charlestown, Mass. Drawing-table	Dec. 26, 1871
118,975	Ross, Oliver B., Bowen's Prairie, Iowa. Grain-binder	Sept. 12, 1871
	Ross, Robert, and Hosea Willard. (*See* Willard & Ross.) (Four cases.) (Extension.)	
	Same. same (Disclaimer.)	
	Ross, Robert, and Bernhard E. Lehman. (*See* Lehman & Ross.)	
117,466	Ross, Robert P., Bethlehem, Pa. Stop-valve	July 25, 1871
120,914	Ross, Samuel, Washington, D. C. Lamp-burner	Oct. 24, 1871
	Ross, Samuel. (*See* Gray, William H., assignor) (Reissue.)	
	Ross, Samuel, and William H. Gray. (*See* Gray & Ross.)	
	Ross, Samuel P. (*See* Dunham & Widney, assignors.) (Two cases.) (Reissue.)	
110,681	Ross, Thomas, Rutland, Vt. Steam-engine	Jan. 3, 1871
120,109	Same. Stone-dressing machine	Oct. 24, 1871
	Ross, Thomas, and Francis M. Strong. (*See* Strong & Ross) (Disclaimer.)	
	Same. same (Extension.)	
	Ross, Thomas, and Andrews T. Merriman. (*See* Merriman & Ross.) (Reissue.)	
119,535	Ross, William Frazier, Davenport, Iowa. Heating-stove	Oct. 3, 1871
120,330	Rossnagel, William, Newark, N. J. Hair-cloth	Oct. 24, 1871
120,331	Same. Imitation hair-cloth	Oct. 24, 1871
111,386	Rost, Gottlieb, assignor to self, William Austin, jr., and John Jungermann, Union Hill, N. J. Hand-stamp	Jan. 31, 1871
113,450	Rote, John F., Reading, Pa. Ice-cream freezer	April 4, 1871
116,357	Roth, Charles F., Osceola, Iowa. Rotary steam-engine	June 27, 1871
115,900	Roth, Frederick, and Bernhard Furst, Lacon, Ill. Roller and marker for planting	June 13, 1871
111,683	Roth, Henry, Virginia City, Nev. Pen-holder	Feb. 7, 1871
119,885	Roth, John G., New York, N. Y. Chimney-cowl. (Antedated Sept. 25, 1871)	Oct. 10, 1871
121,130	Rothe, Julius A., assignor to Simon J. Stiner, Philadelphia, Pa. Manufacture of paper-pulp from straw, &c	Nov. 21, 1871
112,636	Rouard, Joseph, San Francisco, Cal. Bootjack	Mar. 14, 1871
111,477	Roulstone, Edward A. G., Boston, Mass. Street-sweeping machine	Jan. 31, 1871
116,492	Same. Trunk	June 27, 1871
118,557	Rousculp, Solomon, Thornville, Ohio, and Isaac B. Shambaugh, Scio, Ohio. Dumping-car	Aug. 29, 1871
4,325	Rouse, John, Palmyra, N. Y. Harness for horses (Reissue)	April 4, 1871
114,606	Rouse, Wanton, assignor to George Draper & Son, Taunton, Mass. Loom take-up	May 9, 1871
	Rousseau, Achille J., *et al.* (*See* Gubbins, Richard R., assignor.)	
112,852	Rousillon, Jean, France. Wine-basket	Mar. 21, 1871
112,387	Routt, Ansell P., and John J. Keeton, Liberty Mills, Va. Self-loading scraper	Feb. 28, 1871
118,881	Roux, Frederick, Stryker, Ohio. Sorghum-stripper	Sept. 12, 1871
	Rowan, Abram, and Duncan McMillan. (*See* McMillan & Roux.)	
	Rowand, Archibald H., Allegheny City, Pa. Binding books (Extension)	April 26, 1871
114,607	Rowe, Arthur C., Chicago, Ill. Automatic liquor-discharge	May 9, 1871
121,551	Rowe, Enoch J., Eureka, Cal. Mortising-machine. (Antedated Nov. 27, 1871)	Dec. 5, 1871
117,688	Rowe, George, England. Paper-file	Aug. 1, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,060	Rowe, James, Paterson, N. J. Telegraph-apparatus	Oct. 17, 1871
111,574	Rowe, Lewis S., assignor to self and U. T. Sheafe, Derby Line, Vt. Thill-coupling	Feb. 7, 1871
	Rowe, Oscar D. (*See* Buzzell, Freeman P., assignor.)	
	Rowell, Calvin C. (*See* Duncan, William, assignor.)	
113,934	Rowell, Guilford D., Menomonee Falls, Wis. Horse-hoe and cultivator	April 18, 1871
114,394	Rowland, Charles, Washington, D. C., and Nathan F. English, Hartland, Vt. Thread for sewing leather	April 25, 1871
117,818	Rowland, Charles, assignor to James A. and Augustus L. McCrea and Harry Cox, Washington, D. C. Card-envelope	Aug. 8, 1871
	Rowland, Jared, and William Haskell King. (*See* King & Rowland.)	
	Rowley, James F. (*See* Woodruff, James P., assignor.)	
	Rowley, Salmon B. (*See* Bissell, Melville R., assignor.)	
115,242	Royal, John, Moses A. Lentz, and Jeremiah M. Deibert, La Fayette, Ind. Car-coupling	May 23, 1871
118,748	Royce, Marvin Oven, East Cambridge, Mass. Miter-box	Sept. 5, 1871
118,976	Royce, Phineas A., Suspension Bridge, N. Y. Generating ozone	Sept. 12, 1871
	Royce, William A., Newburgh, N. Y. Machinery for compressing gaseous bodies (Extension)	May 12, 1871
	Royer, J. R. (*See* Miller, Curtis, assignor.)	
114,974	Royer, Lewis C., Royerton, Ind. Grain-separator	May 16, 1871
115,368	Royer, Reuben R., Ephrata, Pa. Water-wheel	May 30, 1871
	Royle, Charles. (*See* Whitehouse, Isaac, assignor.)	
115,167	Rosenbury, Alexander Y., Waterloo, Iowa. Composition for stupefying bees	May 23, 1871
120,778	Ruddock, Asahel D., assignor of one-half interest to T. L. Terry, Berlin, Wis. Windmill	Nov. 7, 1871
	Rude, Perry C., *et al.* (*See* Tefft, James W., assignor.)	
117,909	Rudiger, J. Max, Brooklyn, N. Y. Folding-chair and life-preserver	July 18, 1871
111,876	Rudisill, Abraham, and Manrow Sell, Sell Station, Pa. Horse and cattle powder	Feb. 14, 1871
112,497	Rue, Nelson, Harrodsburgh, Ky. Hand-plow	Mar. 7, 1871
114,975	Rufe, Morgan, Doylestown, Pa. Skinning-knife	May 16, 1871
115,363	Ruge, William H., Holstein, Mo. Tobacco-pipe	May 30, 1871
118,280	Same. Lamp-extinguisher	Aug. 22, 1871
113,799	Rugg, K. Julius, Cincinnati, Ohio. Brick-lifter	April 18, 1871
115,528	Ruggles, Caleb F., Henderson, Ky. Garden-cultivator	May 30, 1871
112,853	Ruggles, Stephen P., Boston, Mass. Steam-engine	Mar. 21, 1871
121,900	Rukenbrod, Jonathan K., Salem, Ohio. Addressing-machine	Dec. 12, 1871
117,589	Rulon, Henry M. and Jesse F., assignor to selves and William C. Clark, Monmouth, Ill. Steam-generator	Aug. 1, 1871
119,652	Rummell, E. H., Glen Beulah, Wis. Steam-boiler	Oct. 3, 1871
	Rumsey & Co. (*See* Eggleston, Leonard, assignor) (Design.)	
113,697	Rumsey, George, Watkins, N. Y. Sliding-door hanger	April 11, 1871
116,102	Rundle, George L., Greenville, N. Y. Treatment of saccharine liquids	June 20, 1871
114,863	Rundquist, Peter, New York, N. Y. Steam-mangle	May 16, 1871
5,406	Runey, John, Somerville, Mass. Hanging-vase (Design)	Dec. 5, 1871
	Runge, Frederick W. (*See* Riker, De Witt, assignor.)	
111,257	Runk, George W., Franklin, La. Belt-tightener. (Antedated Jan. 14, 1871)	Jan. 24, 1871
116,493	Runstetler, Andrew, assignor to Samuel D. Cochran, Peoria, Ill. Convertible corn-planter	June 27, 1871
120,103	Runyon, Lewis, Newark, N. Y. Churn. (Antedated Oct. 13, 1871)	Oct. 17, 1871
121,199	Rupertus, Jacob, Philadelphia, Pa. Revolving fire-arm	Nov. 21, 1871
115,643	Rupp, John C., and Stephen Ott, Newark, Del. Car-coupling	June 6, 1871
116,494	Rupp, John C., assignor to Simon E. Pettee, Newark, Del. Rail joint or splice	June 27, 1871
120,104	Rusling, Joseph F., Lawrenceville, Pa. Bale-tie	Oct. 17, 1871
111,684	Russ, Charles E., Boston, Mass. Box for packing and transporting sheet-metal cans	Feb. 7, 1871
117,938	Same. Die for making covers of sheet-metal boxes	Aug. 8, 1871
	Russ, Edwin, and Thomas S. Morris. (*See* Batchelor, William, assignor.)	
116,495	Russ, James J., Worcester, Mass. Knife-sharpener	June 27, 1871
116,496	Same. Planing-machine	June 27, 1871
	Russell & Erwin Manufacturing Company. (*See* Lyons, Thomas, assignor.) (Design.)	
115,108	Russell, Albert J., Baltimore, Md. Invalid-bedstead	May 23, 1871
111,977	Russell, Daniel A., Vineland, N. J. Implement for slitting and looping rags for carpets, &c	Feb. 21, 1871
117,089	Russell, Edmund, Brooklyn, N. Y. Stop-valve	Aug. 1, 1871
112,499	Russell, Edward G., Ravenna, Ohio. Mechanical movement	Mar. 7, 1871
115,327	Russell, Edwin, assignor to self and Francis W. Platt, Waterbury, Conn. Lamp-shade supporter	May 30, 1871
116,224	Russell, Edwin, and Francis W. Platt, Waterbury, Conn. Lamp-supporter	June 20, 1871
113,099	Russell, Elijah H., Providence, R. I. Soldering spiral bands	Mar. 28, 1871
111,770	Russell, Ephraim, Minneapolis, Minn. Machine for cleaning and scouring wheat	Feb. 14, 1871
112,967	Russell, Jacob, Brooklyn, N. Y. Machine for husking corn	Mar. 21, 1871
117,467	Russell, James, Plymouth, Ind. School-desk	July 25, 1871
119,182	Russell, James, deceased, by Anthony Pollok, administrator, Washington, D. C. Puddling and other furnaces	Sept. 19, 1871
4,934	Russell, James B., Wheeling, W. Va. Lamp-shade (Design)	May 23, 1871
	Russell, John, and Francis L. Daniels. (*See* Daniels & Russell.)	
	Russell, John E., and Joseph Nelson Pitts. (*See* Pitts & Russell.)	
112,490	Russell, Lyman Alphonzo, Shrewsbury, Vt. Railway-car brake	Mar. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,900	Russell, Nathaniel, Plymouth, Mass. Planing-tool	April 18, 1871
	Russell, Rufus A. (*See* Ellis, Willard C., assignor.)	
	Russell, Shepard, *et al.* (*See* Hatch, Warren D., assignor.)	
121,064	Russell, Titus H., Lebanon, N. H. Saw-mill carriage	Dec. 5, 1871
118,056	Russell, Titus H., assignor to self, Henry C. Mahurin, and Frederick A. Hatch, Lebanon, N. H. Horse-power. (Antedated Aug. 2, 1871)	Aug. 15, 1871
119,157	Russell, Titus H., assignor to self and Henry C. Mahurin, Lebanon, N. H. Device for fastening neck-yokes to poles. (Antedated Aug. 4, 1871)	Aug. 15, 1871
113,935	Rust, August, Egg Harbor City, N. J. Shoemakers' jack	April 18, 1871
116,871	Rust, Jacob L., Keithburgh, Ill. Churn	July 11, 1871
	Ruth, Aaron. (*See* Whitaker, Samuel, assignor.)	
	Same. same. (Reissue.)	
	Ruth, Davis T. (*See* Gray & Romans, assignors.)	
4,415	Rutherford, Clementine D., assignor to David H. Fanning, Brooklyn, N. Y. Corset (Reissue)	June 6, 1871
	Rutledge, Edward C., and William K. Wallace. (*See* Wallace & Rutledge.)	
116,497	Ruze, Alfred, assignor to Simon H. Sibley, France. Process of manufacturing cloth	June 27, 1871
116,498	Same. Woven cloth	June 27, 1871
119,653	Ryan, John, Detroit, Mich. Cigar mold and press	Oct. 3, 1871
118,057	Ryan, John A., Cleveland, Ohio. Letter-box	Aug. 15, 1871
111,387	Ryan, Joseph, Saint Louis, Mo. Water-grate	Jan. 31, 1871
	Ryan, Michael, and Felix W. Tally. (*See* Tally & Ryan.)	
114,716	Ryan, Michael G., assignor to self, R. C. Paul, and J. J. Hoblitzell, Frostburgh, Md. Lubricator	May 9, 1871
116,499	Rycroft, John, and Lucius A. White, Millbury, Mass. Shuttle-guard for looms	June 27, 1871
113,573	Ryder, Benjamin, jr., South Orrington, Me. Fish-net supporter	April 11, 1871
112,740	Ryder, Benjamin F., assignor to Sargent & Co., New York, N. Y. Caster for sewing-machines	Mar. 14, 1871
4,849	Ryder, Edward P., New York, N. Y. Toy steam-engine (Design)	April 25, 1871
5,004	Same. Brooklyn, N. Y. Toy steam-engine (Design)	June 13, 1871
120,105	Ryder, Henry, New Bedford, Mass. Candle	Oct. 17, 1871
114,864	Ryder, James F., Cleveland, Ohio. Non-corrosive metal-coated plate-holder	May 16, 1871
119,183	Ryder, Truman H., Newton, Ohio. Thill-coupling	Sept. 19, 1871
118,261	Ryding, Elmina C., Tully, N. Y. Truss-hoop	Aug. 22, 1871
	Rynerson, James H., and John Worrell. (*See* Worrell & Rynerson.) (Three cases.)	
116,994	Sabbaton, Frederick A., Troy, N. Y. Manufacture of hydrocarbon-gas	July 11, 1871
116,995	Sabin, Randolph E., West Springfield, Mass. Fish-nursery	July 11, 1871
119,289	Saffer, Anton, New York, N. Y. Machine for stone-polishing. (Antedated Sept. 11, 1871)	Sept. 26, 1871
	Saffod, Levi, and Miles H. Card. (*See* Card & Saffod.)	
114,205	Safford, Albert Gallatin, Boston, Mass. Pole-adjuster for horse-cars	April 25, 1871
118,490	Safford, James B., Poughkeepsie, N. Y. Stop for sewing-machines	Aug. 29, 1871
117,408	Safford, Mark, assignor to Jonathan Holbrook, Melrose, Mass. Screw-press	July 25, 1871
117,210	Sage, Franklin L., Cromwell, Conn. Water-wheel	Oct. 3, 1871
119,654	Sager, Daniel, assignor to James A. Robinson, New York, N. Y. Corn-husker	Oct. 3, 1871
119,655	Sager, Henry, Penn Station, Pa. Wagon-brake	Oct. 3, 1871
113,936	Sager, William J., Milesburgh, Pa. Corn-planter	April 18, 1871
113,351	Sahlstrom, August, Chicago, Ill. Foot-scraper	April 4, 1871
116,500	Same. Comb-cleaner	June 27, 1871
116,501	Sahlstrom, August, and Peter Rohdin, Chicago, Ill. Egg-detector	June 27, 1871
121,665	Saint-Cyr, Edelmar De Hays, Lowell, Mass. Medical compound or coffee-antidote	Dec. 5, 1871
111,780	Saladee, Cyrus W., Saint Catharine's, Canada. Gate	Feb. 14, 1871
113,451	Same. Spring for wheeled-vehicles	April 4, 1871
117,819	Same. Spring for vehicles	Aug. 8, 1871
120,001	Same. Thill-coupling	Oct. 17, 1871
120,002	Same. same	Oct. 17, 1871
120,106	Same. Carriage	Oct. 17, 1871
120,107	Same. Top prop and joint for carriages	Oct. 17, 1871
122,063	Same. Top joints and their connections	Dec. 19, 1871
113,573	Saladee, Cyrus W., assignor to C. W. Saladee & Co., Saint Catharine's, Canada. Spring for wheeled vehicles	April 11, 1871
113,574	Same. same	April 11, 1871
119,243	Salgee, Oliver, Brooklyn, N. Y. Coupling-faucet	Sept. 26, 1871
5,052	Same. Bobbin-score (Design)	June 27, 1871
	Salisbury, John, Scituate, R. I. Bobbin-score	
	Salisbury, Stephen B., and John McCahey. (*See* McCahey & Salisbury.)	
	Salladay, Lemuel, and Adolph Brase. (*See* Brase & Salladay.)	
111,978	Salmon, Adolphe, assignor to Cahn & Salmon, New York, N. Y. Shirt	Feb. 21, 1871
111,685	Salvo, Christopher, assignor to self, Joseph C. Brower, and Robert W. Milford, Columbus, Ga. Fertilizer-distributer	Feb. 7, 1871
	Sames, Peter, and Theophilus F. Bertrand. (*See* Bertrand & Sames.) (Two cases.) (Reissue.)	
113,601	Sammer, Richard, Vineland, N. J. Apparatus for converting rotary into reciprocate motion by means of friction	April 18, 1871
119,411	Sample, John, Franklin County, Miss. Seed-planter and fertilizer-distributer. (Antedated Sept. 23, 1871)	Sept. 26, 1871
111,007	Sample, Newton C., Penningtonville, Pa. Open link for coupling double and whiffletrees	Jan. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Sampson, Edward C. (*See* Meyer, Charles T., assignor.) (Twenty-one cases.) (Design.)	
121,200	Sampson, Elnathan, deceased, (by Amanda A. Sampson, administratrix,) assignor to self, Stephen R., and Hiram Andres, Nassau, N. Y. Platform-scale	Nov. 21, 1871
112,079	Sampson, Orestes, Peterburgh, Ill. Combined gang-plow and cultivator. (Antedated Feb. 20, 1871)	Feb. 21, 1871
	Sampson, Thomas, *et al.* (*See* Thurston, John A., assignor.)	
120,108	Sampson, William S., assignor to self, Ruth Ann and Harriet Van Buneschoten, New York, N. Y. Ventilating grain-vessels	Oct. 17, 1871
120,109	Same.....Ventilating grain-cars	Oct. 17, 1871
115,598	Samuels, Marks, San Francisco, Cal. Lamp	May 30, 1871
	Sanborn, George H. (*See* Glass, John, assignor.)	
	Same.....(*See* Robinson, Thomas E., assignor.)	
	Same.....(*See* Tregurtha, James, assignor.)	
	Same.....(*See* Lowey, Robert G., assignor.)	
120,170	Sanborn, Jesse K., Sandy Hill, N. Y. Machine for edging boards	Oct. 24, 1871
	Sanborn, Joseph S. (*See* Neirness, John, assignor.)	
117,933	Sanborn, Rufus S., Rockford, Ill. Railway-rail	Aug. 8, 1871
121,732	Same.....same	Dec. 12, 1871
	Sandell, John L., *et al.* (*See* Shears, Albert L., assignor.)	
111,877	Sander, Enno, Saint Louis, Mo. Fire-extinguisher	Feb. 14, 1871
114,608	Sanders, Henry, Utica, N. Y. Door-latch. (Antedated May 2, 1871)	May 9, 1871
120,699	Sanders, Martin R., Cambria Township, Pa. Bee-hive	Nov. 14, 1871
	Sanderson, George A., and William W. Lowerree. (*See* Lowerree & Sanderson.)	
114,865	Sanderson, Robert, Cleveland, Ohio. Steam-valve and governor	May 16, 1871
120,900	Same.....Roofing	Nov. 14, 1871
120,901	Same.....Bakers' oven	Nov. 14, 1871
	Sanderson, William. (*See* Smith, Isaac, assignor) (Two cases.)	July 25, 1871
117,469	Sandoe, Daniel, Orangeville, Ill. Water-wheel	June 20, 1871
116,103	Sands, William T., New York, N. Y. Safety-apparatus for hoisting-machines	April 4, 1871
113,359	Sandt, Jacob S. Washing and wringing machine	Oct. 31, 1871
120,540	Sanford, Addison V., assignor to self and William P. Pope, Binghamton, N. Y. Sash-holder	Mar. 7, 1871
112,500	Sanford, David, Ashton, Ill. Stove-pipe cleaner	Dec. 26, 1871
122,285	Sanford, Gelston, Bergen Point, N. J. Machine for untwisting and picking hair-rope	June 6, 1871
	Sanford, John E. M., *et al.* (*See* Close, Walter R., assignor.)	Aug. 22, 1871
115,649	Sanford, Watson, Brooklyn, N. Y. Fire-place range	Dec. 12, 1871
4,526	Same.....Cooking-range (Reissue)	
121,733	Same.....Stove-grate	
	Sanford, Whiting S., *et al.* (*See* Hoggson, Samuel J., assignor.)	
	Sanner, James B. (*See* Smith, Robert H., assignor.)	
110,872	Sansom, John D., Peoria, Ill. Man-hole plate for steam-boilers	Jan. 10, 1871
112,184	Sapp, Leo W., Cleveland, Ohio. Sewing-machine treadle	Feb. 28, 1871
	Sargent & Co. (*See* Sparkes, William E., assignor) (Two cases.)	
	Same.....(*See* Ryder, Benjamin F., assignor.)	
	Same.....(*See* Wunder, Adolph, assignor) (Six cases.) (Design.)	
	Same.....(*See* Bradford, Purmort, assignor) (Design.)	
	Same.....same (Two cases.)	
	Same.....(*See* Sparks, William E., assignor) (Two cases.) (Design.)	
	Same.....(*See* Brocksieper, Frederick W., assignor) (Design.)	
	Same.....(*See* Munson & Bradford, assignors) (Design.)	
114,048	Sargent, Charles G., Westford, Mass. Machine for oiling wool, &c	April 25, 1871
118,156	Same.....Graniteville, Mass. Machine for burring and cleaning wool, &c.	Aug. 15, 1871
114,047	Sargent, Charles R., Newburyport, Mass. Seed-planter	April 25, 1871
121,201	Sargent, James, and Lyman F. Munger, Rochester, N. Y Bottle-faucet	Nov. 21, 1871
115,645	Sargent, Joseph B., New Haven, Conn. Door-bolt	June 6, 1871
5,192	Same.....Drawer-pull (Design)	Aug. 8, 1871
118,447	Same.....Journal-box	Aug. 29, 1871
5,263	Same.....Bird-cage hook (Design)	Sept. 12, 1871
112,501	Sargent, Joseph B., and Purmort Bradford, assignors to Sargent & Co., New Haven, Conn. Twine-holder	Mar. 7, 1871
	Sargent, Joseph F., and Sumner Holmes. (*See* Holmes & Sargent.)	Mar. 28, 1871
113,100	Sargent, Ransom T., Norwich, Vt. Suspension toilet-mirror	
	Sargent, T. P., *et al.* (*See* Bird, Charles, assignor.)	
114,353	Sartwell, Samuel S., Camden, N. Y. Car-coupling	May 2, 1871
	Sarven, James C., New Haven, Conn. Carriage-wheel (Extension)	June 6, 1871
121,006	Sater, John D., assignor to Sater & Son, Greensburgh, Ind. Line-holder	Nov. 14, 1871
110,682	Sattison, Jacob, Ripley Township, Ohio. Cultivator	Jan. 3, 1871
121,007	Sattler, David, Napoleon, Ohio. Saw	Nov. 14, 1871
111,781	Sattley, Marshall, Taylorville, Ill. Cultivator	Feb. 14, 1871
116,303	Saul, Sarah E., Brooklyn, N. Y. See-saw. (Antedated June 19, 1871)	June 27, 1871
119,412	Sault, John, South Manchester, Conn. Self-oiling journal-box	Sept. 26, 1871
113,101	Sault, Thomas, New Haven, Conn. Cut-off attachment to slide-valves	Mar. 28, 1871
116,633	Saunders, Benjamin, Claverack, N. Y. Seed-planter	July 4, 1871
119,476	Saunders, Hiram, assignor to Edward A. Price, Chester, Pa. Composition for paving	Oct. 3, 1871
122,064	Saunders, Isaac C., Trenton, Mich. Apparatus for sharpening harvester-knives	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,100	Saurman, Mary A. H., Philadelphia, Pa. Laundry-box	May 23, 1871
111,686	Sauter, Charles, assignor to self and G. Schutz, New York, N. Y. Machine for degerminating malt	Feb. 7, 1871
	Savage, Elliot, West Meridon, Conn. Machine for cutting and bending sheet-metal (Extension)	Mar. 14, 1871
118,982	Same.....Hardening steel	Sept. 12, 1871
	Savage, J. B. (*See* Hull, Daniel H., assignor) (Reissue.)	
111,958	Savary, George T., deceased, by N. Jennie Savary, administratrix, assignor to John N. Pike, Newburyport, Mass. Mowing-machine	Jan. 24, 1871
	Savery, Charles C. (*See* Liming, John, assignor) (Two cases.) (Design.)	
	Same.....same.	
4,685	Savery, Thomas H., Wilmington, Del. Expanding-pulley (Reissue)	Dec. 26, 1871
110,683	Savoral, Edvard, New York, N. Y. Wind-mill. (Antedated Dec. 31, 1870)	Jan. 3, 1871
120,902	Sawtell, Henry H., Randolph, N. Y. Fountain	Nov. 14, 1871
	Sawyer, Daniel, and Samuel J. Peet. (*See* Peet & Sawyer.)	
	Sawyer, Edwin, *et al.* (*See* Hastings, Emory B., assignor.)	
120,215	Sawyer, Francis A., 2d, Boston, Mass. Process of restoring waste indigo	Oct. 24, 1871
114,717	Sawyer, Harvey, assignor to C. H. Sawyer, Wilson, N. C. Medical compound for the cure of rheumatism, &c	May 9, 1871
118,819	Sawyer, Henry, Boston, Mass. Putting up powders	Sept. 12, 1871
114,354	Sawyer, Henry A. and Ransom G., Milwaukee, Wis. Leather-polish	May 2, 1871
113,375	Sawyer, Jacob H., Lowell, Mass. Ring-spinning machines	April 11, 1871
117,924	Same.....Fastening for spinning-rings	Aug. 8, 1871
118,282	Same.....Spindle-bearing for spinning-machines	Aug. 22, 1871
119,283	Same.....same	Sept. 26, 1871
116,996	Sawyer, Lodowick L., San Francisco, Cal. Curtain-fixture	July 11, 1871
114,049	Sawyer, Parker W., Gray, Me. Water-elevator	April 25, 1871
118,058	Sawyer, Samuel, assignor to Miller's Falls Manufacturing Company, Erving, Mass. Bit-stock	Aug. 15, 1871
117,690	Sawyer, William K., Three Oaks, Mich. Bee-hive	Aug. 1, 1871
	Saxe, George G., *et al.* (*See* La Monte, Saxe & Clayton.)	
113,452	Saylor, Daniel, and Laurits Anderson, Chicago, Ill. Table-leaf support	April 4, 1871
119,413	Saylor, David O., Allentown, Pa. Manufacture of cement	Sept. 26, 1871
	Saylor, Oliver, and Clement S. Foster. (*See* Foster & Saylor.)	
	Sayre, Charles H., Utica, N. Y. Cultivator (Extension)	Aug. 17, 1871
	Scaife, Oliver P. (*See* Hill & Thumm, assignors.)	
111,478	Scaife, William B., Pittsburgh, Pa. Method of flanging boiler-heads	Jan. 31, 1871
4,393	Same.....Kitchen-boiler (Reissue of design)	May 23, 1871
4,467	Same.....Boiler for ranges, stoves, &c (Reissue)	July 11, 1871
114,609	Scarlett, William, Aurora, Ill. Lamp	May 9, 1871
121,008	Same.....same	Nov. 14, 1871
116,874	Schaefer, Charles W., Philadelphia, Pa. Knapsack	July 11, 1871
113,453	Schafbirt, Adolph J., Washington, D. C. Apparatus for spreading medical plasters	April 4, 1871
111,151	Scharf, Samuel R., assignor to self and Hugh M. Funston, Baltimore, Md. Asphaltic pavement	Jan. 24, 1871
114,355	Schenck, Charles S., New York, N. Y. Bird-cage mat	May 2, 1871
118,394	Schenck, Junius, Brooklyn, N. Y. Packing for pistons, cylinders, valves, &c	Aug. 22, 1871
111,878	Schepler, John, assignor to self and Samuel Stockton, Lambertville, N. J. Bedstead-fastening	Feb. 14, 1871
119,791	Scherer, Gottlieb, South Boston, Mass. Pan-scraper	Oct. 10, 1871
118,648	Scherich, Christian, Lisburn, Pa. Check-spring for vehicles	Aug. 29, 1871
118,558	Schermerhorn, John, Waterford, Pa. Washing-machine	Aug. 29, 1871
111,479	Schieder, John, New York, N. Y. Journal-box	Jan. 31, 1871
121,131	Schilling, Charles, Auburn, N. Y. Let-off mechanism for looms	Nov. 21, 1871
116,503	Schilling, Conrad, Pekin, Ill. Molding-machine	June 27, 1871
119,792	Schilling, Cornelius, New York, N. Y. Propulsion of canal-boats	Oct. 10, 1871
111,480	Schillinger, John J., New York, N. Y. Concrete-block for paving	Jan. 31, 1871
111,879	Same.....Concrete-pavement	Feb. 14, 1871
4,364	Same.....same (Reissue)	May 2, 1871
119,793	Schindler, Charles A., West Hoboken, N. J. Piano-stool	Oct. 10, 1871
120,110	Same.....Photographic posing-chair	Oct. 17, 1871
5,053	Schindler, Louis, Saint Peter, Minn. Buckle (Design)	June 27, 1871
119,794	Schlag, August, Brooklyn, N. Y. School-desk	Oct. 10, 1871
111,254	Schleicher, Charles, Louisville, Ky. Lath-machine	Jan. 24, 1871
115,590	Schleicher, Charles, assignor to A. Liebenroth & Von Auw, Prussia. Needle-wrapper	May 30, 1871
118,059	Schlesser, Nickolas, Chicago, Ill. Hydrant	Aug. 15, 1871
114,986	Schley, John, Savannah, Ga. Mode of applying motive-power	May 16, 1871
118,060	Same.....Cotton-press	Aug. 15, 1871
120,339	Same.....Street-crossing	Oct. 24, 1871
112,185	Schlich, Fredrich, assignor to self and Adrian Feyh, New York, N. Y. Bottle-stopper	Feb. 28, 1871
119,058	Schlicher, Philipp, Louisville, Ky. Medical compound for the hair	Sept. 19, 1871
116,759	Schliecker, Peter F., assignor to self and A. Clinton Plant, Baltimore, Md. Paper-pulp	July 4, 1871
118,749	Schlosser, John, Piqua, Ohio. Clod-crusher	Sept. 5, 1871
119,414	Schmackers, Anton, assignor to J. A. Fay & Co., Cincinnati, Ohio. Clamp for mortising-machines	Sept. 26, 1871
	Schmid, Paul Henry, New York, N. Y. Medical compound for purifying the blood	Oct. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
5,230	Schmidlin, Charles, Memphis, Tenn. Cigar-box.....(Design)..	Aug. 29, 1871
117,470	Schmidlin, William G., Hoboken, N. J., and Jeremiah W. Driscoll, New York, N. Y. Street-lamp	July 25, 1871
121,065	Schmidt, August F., Davenport, Iowa. Wine-filter	Nov. 21, 1871
120,671	Schmidt, August G., New York, N. Y. Clothes-rack	Nov. 7, 1871
113,454	Schmidt, Augustus T., Pittsburgh, Pa. Treating paper and vegetable fibrous substances	April 4, 1871
117,935	Schmidt, Ferdinand C., Newark, N. J. Satchels, &c	Aug. 8, 1871
119,536	Schmidt, Friedrich and William, Cincinnati, Ohio. Curtain-rack	Oct. 3, 1871
115,773	Schmidt, George F., assignor to Rudolph Schmidt, Prussia. Riding-saddle	June 6, 1871
122,195	Schmidt, Johann, assignor to Samuel Hirschl, Austria. Liquid-measuring apparatus	Dec. 26, 1871
119,944	Schmidt, John H., Stockertown, Pa. Washing-machine	Sept. 26, 1871
	Schmidt, Waldimer A., *et al.* (*See* Taylor, Thomas, assignor.)	April 11, 1871
113,576	Schmitt, Charles C., New York, N. Y. Sofa-bed	Jan. 24, 1871
111,260	Schmults, Eide H., and Jacob Baker, New York, N. Y. Ice pick and hook	
111,261	Schnabel, Adolph, and Theodore Henning, Grand Duchy of Baden. Railway-switch and signal-apparatus	Jan. 24, 1871
111,389	Schnantz, Elias, New York, N. Y. Roll for hair-dressing. (Antedated Jan. 21, 1871)	Jan. 31, 1871
120,903	Schneider, Charles, Newark, N. J. Machine for threading bolts	Nov. 14, 1871
	Schneider, Louis, *et al.* (*See* Windhausen, Franz, assignor). .....(Two cases.)	
	Same.....same.....(Reissue.)	July 25, 1871
117,336	Schneider, Willhelm, Davenport, Iowa. Carrousel	
114,610	Schnell, John C., assignor to self and Eberhard Cammerer, Cincinnati, Ohio. Combined rectifier and filter	May 9, 1871
120,541	Schnepf, Charles, Marietta, Ohio. Alarm-lock	Oct. 31, 1871
	Schock, Jacob L. (*See* McNamee, John T., assignor.)	
112,630	Schoeller, Earnest A., assignor to self and Christian Balsley, Connellsville, Pa. Window for railway-cars	Mar. 14, 1871
110,684	Schoenberg, Abraham, New York, N. Y. Casting bar-solder	Jan. 3, 1871
112,384	Schoenberg, Isaac, jr., New York, N. Y. Machine for making printers' leads	Mar. 7, 1871
119,184	Schoenbrun, Sigmund, New York, N. Y. Attachment for piano-pedals	Sept. 19, 1871
114,718	Schoeney, Lazarus, New York, N. Y. Fountain	May 9, 1871
120,400	Schoenstein, Ferdinand R., and J. August Klein, San Francisco, Cal. Grape-crusher	Oct. 31, 1871
116,225	Schofield, George W., United States Army. Breech-loading fire-arm	June 20, 1871
119,656	Same.....Screw-driver for fire-arms	Oct. 3, 1871
122,286	Same.....Combined band-punch and screw-driver	Dec. 26, 1871
120,779	Schofield, John, Worcester, Mass. Rein-check, &c	Nov. 7, 1871
121,203	Same.....Automatic check-rein attachment	Nov. 21, 1871
4,256	Schofield, Silas C., Chicago, Ill. Shaft-coupling.....(Reissue)..	Feb. 7, 1871
115,646	Same.....Corn-sheller	June 6, 1871
111,089	Scholfield, Socrates, Providence, R. I. Cigar-filling. (Antedated Jan. 7, 1871)	Jan. 17, 1871
121,393	Same.....Cigar-machine. (Antedated Nov. 11, 1871)	Nov. 28, 1871
118,750	Scholl, George, New Philadelphia, Ohio. Bathing-apparatus	Sept. 5, 1871
121,816	Scholl, Peter, Cashtown, Pa. Clamp for holding timber	Dec. 12, 1871
121,901	Schonberg, David Louis, New York, N. Y. Signal for railroad-trains	Dec. 12, 1871
110,792	Schooley, John C., New York, N. Y. Target-game	Jan. 3, 1871
112,854	Schoonmaker, John H., assignor to self and Alexander Selkirk, Bethlehem, N. Y. Horse hay-rake. (Antedated March 10, 1871)	Mar. 21, 1871
111,979	Schott, Joseph, Peoria, Ill. Corn-planter. (Antedated Feb. 6, 1871)	Feb. 21, 1871
111,421	Schottky, Herman A., Stapleton, N. Y., and Theodore Simendinger, New York, N. Y. Lamp	Jan. 31, 1871
110,793	Schrader, John C., and Carl A. Mathiesen, New York, N. Y. Steering-apparatus	Jan. 3, 1871
116,504	Schreiber, Adolph, New York, N. Y. Treating saccharine liquids	June 27, 1871
112,640	Schreiner, Henry, Philadelphia, Pa. Horse-car starter	Mar. 14, 1871
110,886	Schroeder, Julius, assignor to L. Weinrich, Austria. Process of obtaining sugar from molasses	Oct. 10, 1871
121,666	Schroeder, Theodore A., and Herman Wuest, Hoboken, N. J. Life-detector for coffins	Dec. 5, 1871
121,903	Schroyer, Joseph J., assignor of one-half interest to Elijah C. Matheny, Springfield, Ill. Washing-machine	Nov. 21, 1871
122,196	Schucht, John H., assignor to Charles F. L. Goffric, England. Sounding-board for musical instruments	Dec. 26, 1871
111,482	Schuckers, Jacobs W., assignor to Isaac A. Sheppard, Philadelphia, Pa. Harvester	Jan. 31, 1871
112,289	Schuckers, Jacobs W., assignor to Jonathan W. Grubb, Philadelphia, Pa. Harvester	Feb. 28, 1871
114,050	Schultdrees, Henri, Brookville, Ind. Churn	April 25, 1871
5,054	Schultz, F. Augustus, Mount Pleasant, Iowa. Buckle and ring.....(Design)..	June 27, 1871
116,505	Schultz, F. Willheim, Mount Pleasant, Iowa. Wagon-brake	June 27, 1871
113,577	Schultz, Gustav Adolph, Louisville, Ky. Button	April 11, 1871
116,907	Schultz, Joseph, assignor to self and Leopold Hecht, New York, N. Y. Compound for coating textile fabrics	July 11, 1871
118,661	Schulz, Albert B., Baltimore, Md. Gutter-strap	Aug. 15, 1871
4,294	Schulze, Louis, Baltimore, Md. Apparatus for pitching barrels.....(Reissue)..	Mar. 7, 1871
115,539	Same.....Apparatus for pitching barrels, casks, &c	May 30, 1871
117,471	Schumacher, Paul, San Francisco, Cal. Machine for making blind-slats. (Antedated July 24, 1871)	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,009	Schurr, Christian L., and William G. Rehbein, Baltimore, Md. Welding copper.	Nov. 14, 1871
	Schussler, August, and Charles F. Dieterich. (*See* Dieterich & Schussler.)	
114,206	Schutte, Henry, Kansas City, Mo. Gas-regulator	April 25, 1871
116,760	Schutz, Charles M., East Cambridge, Mass. Traveling-bag, &c	July 4, 1871
	Schutz, G. (*See* Sauter, Charles, assignor.)	
121,067	Schuyler, Daniel, Titusville, Pa. Stove-bottom	Dec. 5, 1871
115,531	Schwagerl, Edward O., Saint Louis, Mo. Tree-box	May 30, 1871
4,675	Schwagerl, Edward O., assignor to self and Shickle, Harrison & Co., Saint Louis, Mo. Park-seat.....(Design)..	Feb. 21, 1871
111,880	Schwandt, Henry, New Orleans, La. Spur-attachment to overshoes	Feb. 14, 1871
110,685	Schwaner, John W., Egg Harbor City, N. J. Die for forming horse-collar shells.	Jan. 3, 1871
113,802	Same.....Horse-collar	April 18, 1871
	Schwartz, Michael. (*See* Leach, Rufus, assignor.)	
113,578	Schwartz, Theodore, New York, N. Y. Kindling-material	April 11, 1871
120,780	Schwenkel, Ludwig F., New York, N. Y. Extension-chair	Nov. 7, 1871
116,634	Schwerin, Morris, Newark, N. J. Device for fastening handles to satchels, &c	July 4, 1871
119,053	Scidmore, Oscar, Albany, N. Y. Medical compound for cure of fever and ague	Sept. 19, 1871
116,998	Scofield, Levi, Watertown, Wis. Seed-tube for corn-planters	July 11, 1871
111,687	Scofield, Levi, assignor to self and Justin B. Wait, Watertown, Wis. Corn-planter	Feb. 7, 1871
112,741	Same.....Seed-tube for corn-planters	Mar. 14, 1871
121,204	Same.....Corn-planter	Nov. 21, 1871
122,065	Scollay, George W., New York, N. Y. Medical compound of vegetable alkaloids	Aug. 16, 1871
5,349	Scorer, Robert, and Robert Ham, assignors to J. L. Mott, Troy, N. Y. Heating-stove.....(Design)..	Dec. 19, 1871
5,394	Same.....Stove.....(Design)..	Nov. 7, 1871
5,395	Same.....Parlor-stove.....(Design)..	Nov. 28, 1871
115,647	Scott, Augustus R., Albany, N. Y. Locking-device for dog-collars	Nov. 28, 1871
	Scott, Benjamin. (*See* McMahon, John, assignor) .....(Design.)	June 6, 1871
113,309	Scott, Charles Roe, New York, N. Y. Wardrobe or hat hook	Mar. 28, 1871
112,289	Scott, Francis B., Lancaster, N. Y. Harvester-rake	Feb. 28, 1871
116,999	Scott, George, assignor to Hubert R. Ives and Roger N. Allen, Montreal, Canada. Weighing-scales	July 11, 1871
120,672	Scott, Henry Y. D., England. Preparation of mortar, cement, &c	Nov. 7, 1871
121,066	Scott, James H., Kickapoo, Ill. Tonic and diatonic mutation-scales. (Antedated Nov. 2, 1871)	Nov. 21, 1871
112,290	Scott, Jerome D. Stove-pipe shelf	Feb. 28, 1871
112,855	Scott, John, Pontiac, Mich. Hoisting-machine	Mar. 21, 1871
120,171	Scott, John, Philadelphia, Pa. Burial-casket	Oct. 24, 1871
	Scott, John D., and William C. Hays. (*See* Hays & Scott.)	
114,976	Scott, John W., Broad Top City, Pa. Sleigh-brake	May 16, 1871
114,867	Scott, Robert P., Cadiz, Ohio. Fruit-parer	May 16, 1871
121,132	Scott, Thomas R., assignor through mesne assignments to Mary A. Scott and Adaline M. Ingersoll, New York, N. Y. Life-preserver	Nov. 21, 1871
	Scott, William A., *et al.* (*See* Williams, George L., assignor.)	
	Same.....(*See* Woodhouse, John V., assignor).....(Two cases.)	
111,980	Scott, William J., Albany, N. Y. Revolving show-case	Feb. 21, 1871
114,207	Scougale, George H., Carson City, Nev. Railway-switch chair	April 25, 1871
114,356	Scovil, Edward G., St. John, N. B. Machine for charging iron-furnaces	May 2, 1871
	Scovill Manufacturing Company. (*See* Lewis, William H., assignor.)	
117,337	Scoville, Charles F., Chicago, Ill. Truck for moving mounted car-axles	July 25, 1871
115,110	Scow, Anton F., Chicago, Ill. Machine for cutting splints	May 23, 1871
113,455	Scrannage, Matthew and Edward, jr., assignors to Scrannage, Bate & Co., Boston, Mass. Safety-valve	April 4, 1871
115,111	Scripter, Timothy P., Des Moines, Iowa. Furnace	May 23, 1871
122,066	Scriven, William H., and William K. Taylor, Flatbush, N. Y. Swing for children	Dec. 19, 1871
	Scrugga, John E., and Frank M. Neff. (*See* Neff & Scruggs.)	
111,688	Scrymgeour, David, Foxborough, Mass. Electrotype die or mold for molding plastic materials	Feb. 7, 1871
121,668	Same.....Hat or bonnet	Dec. 5, 1871
	Same.....(*See* Curtis, Francis, assignor.)	
113,456	Seabold, Anthony, Florence, Ohio. Corn-salve	April 4, 1871
	Seabury, Samuel, *et al.* (*See* Ellsworth, Wilcox & Seabury.)	
121,617	Seabury, Thomas S., Saint James, N. Y. Sulky	Dec. 12, 1871
116,358	Seaman, John H., Brooklyn, N. Y. Gasalier	June 27, 1871
116,359	Same.....same	June 27, 1871
116,360	Same.....same	June 27, 1871
113,579	Seaman, Joseph, Chicago, Ill. Feed-cutter	April 11, 1871
	Seaman, Robert, *et al.* (*See* Burnett, Durrant, assignor.)	
	Same.....(*See* Chappel, John H., assignor.)	
	Seaman, Robert, and H. W. Shepard. (*See* Burnett, Durrant, assignor.)	
121,669	Searing, Theodore, South Norwalk, Conn. Fruit and vegetable parer	Dec. 5, 1871
111,389	Searle, John Q. C., New Albany, Kans. Base-burning stove	Jan. 31, 1871
	Sears, Barnas C. (*See* Lacy, Erasmus D., assignor.)	
118,649	Sears, James E., Waco, Tex. Apparatus for the manufacture of ice	Aug. 29, 1871
115,532	Sears, James M., Vandalia, Ill. Ax-handle	May 30, 1871
122,067	Seat, James L., Nashville, Tenn. Flood-fence	Dec. 19, 1871
121,670	Sebring, Thompson C., assignor to Byron G. Stout, Walter D. and Algernon S. King, Milford, Mich. Wheel-cultivator	Dec. 5, 1871
	Secomb Manufacturing Company. (*See* Holt & Secombe, assignors.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Secombe, William W., and Horace Holt. (*See* Holt & Secombe.)	
116,761	Secor, Jerome B., Chicago, Ill. Binding-guide for sewing-machines	July 4, 1871
5,155	Same.....Sewing-machine leg (Design)	Aug. 1, 1871
5,331	Same.....Treadle for sewing-machines (Design)	Aug. 22, 1871
5,407	Same.....Sewing-machine frame (Design)	Dec. 5, 1871
121,965	Same.....Sewing-machine	Dec. 19, 1871
121,966	Same.....Check-lever for sewing-machines	Dec. 19, 1871
121,967	Same.....Needle-holding device for sewing-machines	Dec. 19, 1871
117,570	See, Horace, Pottsville, Pa. Valve-gear of pumping-engines	Aug. 1, 1871
114,478	See, Julius M., Griffin, Ga. Churn-dasher	May 2, 1871
116,635	Seeberger, Joseph, assignor to self and Alexander Shiland, West Troy, N. Y. Knife-cleaner	July 4, 1871
114,479	Seebold, Jacob, Kants, Pa. Bridge	May 2, 1871
122,902	Seeger, Jacob, and John Boyd, Baltimore, Md. Preserving and using hops in brewing	Dec. 12, 1871
114,886	Seeley, Edmund A., Scotch Plains, N. J. Manufacture of paper-board	May 16, 1871
114,977	Seeley, Hurlbert H., Hudson, Mich. Fanning-mill	May 16, 1871
118,396	Seely, Charles A., New York, N. Y. Extract of hops	Aug. 22, 1871
119,795	Same.....Ice-machine	Oct. 10, 1871
	Seely, Charles A., and Charles J. Eames. (*See* Eames & Seely).....(Reissue.)	June 6, 1871
115,777	Seely, David B., Sterling, Ill. Pruning-shears	
	Segar, Charles T., and Frederick P. Baldwin. (*See* Baldwin & Segar.)	
115,113	Seger, Garret, assignor to self and O. F. Knisely, Humberstone, Canada. Cider-mill	May 23, 1871
114,306	Segondy, Jean, and Michel Ravold, Saint Louis, Mo. Cooking-stove	April 25, 1871
114,719	Sehner, Nathaniel, Hagerstown, Md. Spring-hinge	May 9, 1871
117,691	Same.....same	Aug. 1, 1871
	Sehner, Nathaniel, and John F. Keller. (*See* Keller & Sehner.)	
117,692	Seiberling, John F., Akron, Ohio. Harvester	Aug. 1, 1871
	Seiberling, J. F., Reaper Company. (*See* Keller, John H., assignor)..(Reissue.)	Feb. 14, 1871
111,881	Seibert, Nicholas, San Francisco, Cal. Lubricator	
4,770	Seidensticker, Frederick R., assignor to Bradley & Hubbard, West Meriden, Conn. Lamp-bracket (Design)	April 4, 1871
5,005	Same.....Chandelier (Design)	June 13, 1871
5,343	Same.....same (Design)	Oct. 31, 1871
5,344	Same.....same (Design)	Oct. 31, 1871
119,415	Seiffert, Rudolph, Chicago, Ill. Horseshoe	Sept. 26, 1871
113,893	Seimel, Conrad, assignor to self and Hubert Richardson, Green Point, N. Y. Soldering-furnace	April 18, 1871
111,008	Seipel, Jacob D., and Cyrus B. Alsover, Easton, Pa. Case for odometers	Jan. 17, 1871
116,236	Seipt, A. H., Philadelphia, Pa. Spittoon-tongs	June 20, 1871
118,283	Seitzinger, Charles P., Scranton, Pa. Apparatus for crimping wire	Aug. 22, 1871
	Selby, William G., and John Bowman. (*See* Bowman & Selby.)	
116,636	Selden, George, Erie, Pa. Machine for turning the flanges on the heads of oil-tanks	July 4, 1871
117,936	Same.....Saw-mill carriage	Aug. 8, 1871
113,457	Selden, Samuel, and Matthew Griswold, jr., Erie, Pa. Mop-head	April 4, 1871
119,185	Selden, William C., Brooklyn, N. Y. Feed-water apparatus for steam-boilers	Sept. 19, 1871
4,863	Seldin, Raphael M., New York, N. Y. Muff and collar box (Design)	May 2, 1871
4,867	Same.....same (Design)	July 4, 1871
120,904	Seldin, Raphael M., assignor to Jason Crane, New York, N. Y. Moth-proof box	Nov. 14, 1871
122,009	Seldin, Raphael Morris, assignor to John H. Trusty, New York, N. Y. Sash-holder	Dec. 19, 1871
	Selkirk, Alexander. (*See* Schoonmaker, John H., assignor.)	Mar. 14, 1871
112,742	Sell, Hugo, New York, N. Y. Beer-cooler for beer on draught	
	Sell, Manrow, and Abraham Rudisill. (*See* Rudisill & Sell.)	May 16, 1871
114,978	Sellara, John Carrington, England. Metal-founders' blacking	Sept. 12, 1871
118,890	Selle, Ferdenand, Detroit, Mich. Whip-socket	
119,385	Sellers, Coleman, assignor to William Sellers & Co., Philadelphia, Pa. Slide-valve for steam-riveting machines	Mar. 7, 1871
111,575	Sellers, William, Philadelphia, Pa. Riveting-machine	Feb. 7, 1871
113,856	Same.....Hoisting-machine	Mar. 21, 1871
	Seller, William, Philadelphia, Pa. Machine for threading bolts...(Extension)	Nov. 15, 1871
118,977	Sellers, William, New York, N. Y. Single-wheel toy-propeller	Sept. 12, 1871
114,869	Sellman, Henry G., North Newburgh, Mich. School desk and seat	May 16, 1871
120,781	Sells, Hugh, Vienna, Canada. Straw-cutter	Nov. 7, 1871
	Selser, William, C. N., and J. A., *et al.* (*See* Wicks, Loren J., assignor.)	Feb. 21, 1871
113,060	Selsor, George, Philadelphia, Pa. Grinding-mill	
	Seltzer, Jonathan R. (*See* Lash, John S., assignor.)	
	Same.....(*See* Groom, Patrick W., assignor).....(Design.)	
112,386	Semple, Samuel, sr., John, Samuel, jr., and Robert A., Mount Holly, N. J. Machine for polishing thread	Mar. 7, 1871
4,536	Senderling, Martin L., Jersey City, N. J. Apparatus and process for mixing sugar (Reissue)	Aug. 29, 1871
	Seneare, Lewis. (*See* Langdon, George W., assignor.)	Mar. 21, 1871
112,988	Sener, John Frederick, Lancaster, Pa. End-gate for wagons	July 11, 1871
116,873	Senn, Francois, Forestville, N. Y. Boot and shoe	Aug. 22, 1871
5,330	Senne, August, Newark, N. J. Lady's satchel (Design)	
	Senseman, Hiram, and Tandy S. Collins. (*See* Collins & Senseman.)	
	Sensitized Paper Company. (*See* Coffin, John George, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,302	Sergeant, Henry C., assignor to José F. de Navarro, Newark, N. J. Liquid-meter	Jan. 24, 1871
114,480	Same.....Liquid-meter	May 2, 1871
	Sergeant, Henry C., and José F. de Navarro. (*See* De Navarro & Sergeant.)	
113,936	Servant, William, assignor to self and Josiah A. Whitman, Providence, R. I. Percussion-match	April 18, 1871
117,820	Servoss, Charles W., Chicago, Ill. Heating-drum	Aug. 8, 1871
122,060	Sessions, Milton, and David Muzzey, Saint Albans, Vt. Car-axle box	Dec. 19, 1871
116,873	Setchel, John H., assignor to self and John Durand, Cincinnati, Ohio. Blast-protector for exhaust-nozzles	July 11, 1871
122,135	Setchell, George C., and Cebra L. Taylor, assignors to selves and Chester W. Converse, Norwich, Conn. Fastener for bags, &c	Dec. 26, 1871
116,361	Seuff, Charles H., New York, N. Y. Apparatus for cooling bone-black	June 27, 1871
117,116	Sevey, Hiram B., Vienna, Me. Machine for cutting, punching, and upsetting tires	July 18, 1871
120,111	Sevy, Edmund F., Saint John's, Mich. Milk-safe	Oct. 17, 1871
118,397	Sewall, Joseph A., Normal, Ill. Compound for coating iron	Aug. 22, 1871
112,743	Seward, Moses, New Haven, Conn. Carriage-clip	Mar. 14, 1871
114,051	Same.....Die for forging carriage-clips	April 25, 1871
111,981	Sewell, George, Brooklyn, N. Y. Hose-ring	Feb. 21, 1871
114,052	Same.....Method of reducing pressure in steam-boilers. (Antedated April 22, 1871)	April 25, 1871
114,979	Same.....Self-adjusting car-wheel gear	May 16, 1871
112,081	Sexton, Samuel B., Baltimore, Md. Hot-air furnace	Feb. 21, 1871
111,782	Sexton, Sarah A., New York, N. Y. Sewing-machine seat	Feb. 14, 1871
117,211	Seyl, Peter, Peter Fischer, and Philipp Bremer, Chicago, Ill. Anti-friction axle-box	July 18, 1871
115,364	Seymour, Albert P., Hecla Works, N. Y. Shutter-fastener	May 30, 1871
	Seymour, Daniel A., *et al.* (*See* Derby, John K., assignor.)	
115,943	Seymour, Edward L., New York, N. Y. Preparing and treating iron-ores in the manufacture of steel. (Antedated May 11, 1871)	May 23, 1871
	Seymour, James, administrator. (*See* Colley, William H.).....(Reissue.)	Mar. 7, 1871
112,502	Seymour, James M., Newark, N. J. Dovetailing-machines	Nov. 7, 1871
120,673	Seymour, Jonathan H., Hagerstown, Md. Spittoon	May 23, 1871
4,935	Seymour, Joseph L., Washington, D. C. Bundle of kindling-wood ...(Design)	
	Seymour, Pierpont, East Bloomfield, N. Y. Machine for spreading lime and other fertilizers (Extension)	Nov. 15, 1871
	Seymour, R. M., and James B. Sharp. (*See* Sharp & Seymour) .....(Reissue.)	Jan. 31, 1871
111,483	Seymour, William H., Brockport, N. Y. Harvester reel and rake	Nov. 14, 1871
121,010	Seyter, Hermann, Wurtemberg. Feed-regulator for liquids	June 13, 1871
115,986	Shaaber, Daniel, Reading, Pa. Draw-head and bumper for railroad-cars	
	Shackell, Samuel and Henry, *et al.* (*See* Tisdale, Charles D., assignor.) (Reissue.)	
	Shackell, Samuel. (*See* Tisdale, Charles D., assignor.)	May 30, 1871
115,533	Shackleton, Joseph, Rahway, N. J. Railroad-car heater	April 4, 1871
113,353	Shackleton, William S., Cleveland, Ohio. Coal-delivering sack	
117,472	Shadbolt, Charles T., Attica, N. Y. Washing-machine. (Antedated July 18, 1871)	July 25, 1871
	Shaeffer, Amos, and David Reed. (*See* Reed & Shaeffer.)	
113,458	Shaeffer, Lewis W., Elizabethtown, Ky. Wagon-bolster stake	April 4, 1871
4,368	Shafer, John B., assignor to the National Cattle-Car Company, Salem, Ohio. Railway cattle-car (Reissue)	May 2, 1871
113,580	Shaffer, Abraham, Vandalia, Mich. Churn	April 11, 1871
114,053	Shaffer, Edward P., Rochester, N. Y. Carpet-stretcher	April 25, 1871
4,460	Shaffer, Henry E., Rochester, N. Y. Fruit-jar (Reissue)	July 4, 1871
	Shaffer, Joseph, and George B. Hall. (*See* Hall & Shaffer.)	
118,731	Shaler, Ira W., Brooklyn, N. Y. Torch	Sept. 5, 1871
119,657	Same.....Can for hydrocarbon liquids	Oct. 3, 1871
119,887	Same.....Lamp	Oct. 10, 1871
114,611	Shalters, Moses R., Alliance, Ohio. Plow	May 9, 1871
118,284	Shalters, Moses R., and Samuel Ray, Alliance, Ohio. Mowing-machine. (Antedated Aug. 11, 1871)	Aug. 22, 1871
	Shambaugh, Isaac B., and Solomon Rousculp. (*See* Rousculp & Shambaugh.)	
114,980	Shamp, David, Perry, N. Y. Flour-bolting reel	May 16, 1871
121,496	Shand, James, England. Steam-boiler	Nov. 28, 1871
112,082	Shaneman, Joseph S., and Joseph S. Hoon, Beaver Falls, Pa. Fruit-can	Feb. 21, 1871
118,159	Shank, Samuel R., Millersville, Pa. Cultivator	Aug. 15, 1871
113,581	Shankland, David, and Emerson B. Hopkinson, Nevada City, Cal. Fly-brush	April 11, 1871
116,875	Shannon, Albert F., Quincy, Ill. Medical compound	July 11, 1871
120,674	Shannon, James S., Lena, Ill. Uterine-supporter	Nov. 7, 1871
121,671	Shannon, John A., Perrysburgh, Ohio. Paper-file	Dec. 5, 1871
110,686	Share, Philip T., Baltimore, Md. Shutter-fastening	Jan. 3, 1871
	Shares, Daniel W., Hamden, Conn. Harrow (Extension)	Jan. 26, 1871
	Sharp, Dennis P., and Gilbert Jessup. (*See* Jessup & Sharp.)	
4,715	Sharp, George, Philadelphia, Pa. Spoon or fork handle (Design)	Mar. 14, 1871
4,348	Sharp, James B., and R. M. Seymour, deceased, by William Seymour, administrator, New York, N. Y. Suspender (Reissue)	April 18, 1871
	Sharp, Joel, *et al.* (*See* Rank, King & Sharp.)	
	Same.....same (Reissue.)	Feb. 21, 1871
111,982	Sharp, Joel, and Joseph W. Thompson, Salem, Ohio. Steam-engine	
	Sharp, J. W. (*See* Kenyon, Charles P., assignor.)	
	Sharp, Thomas. (*See* Griffing, Charles S. S., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,804	Sharp, William A., Tama City, Iowa. Dumping-car	April 18, 1871
121,011	Sharp, William A., and George Hollenbeck, Tama City, Iowa. Fire-escape. (Antedated Oct. 28, 1871)	Nov. 14, 1871
	Sharpless, W. C. (*See* Watts, David H., assignor.)	
118,736	Sharps, Christian, Philadelphia, Pa. Revolving fire-arm	Sept. 5, 1871
119,204	Shattuck, Alvin, Buffalo, N. Y. Tuck-marker for sewing-machines	Sept. 26, 1871
	Shattuck, Horace B. (*See* Johnson, Moses A., assignor.)	
116,763	Shaver, Isaac H., Cedar Rapids, Iowa. Oven	July 4, 1871
117,881	Shaver, Jacob, Lawrence, Ill. Churn	Aug. 8, 1871
113,210	Shaw, Ai B., Medford, Mass. Treadle	Mar. 28, 1871
120,461	Same.....same. (Antedated Oct. 18, 1871)	Oct. 31, 1871
	Same.....(*See* Glover, Warren, assignor) .....(Reissue.)	
114,337	Shaw, Calvin, Milledgeville, Pa. Sled-knee	May 2, 1871
120,543	Shaw, Duncan, Cincinnati, Ohio. Saw-set	Oct. 31, 1871
112,503	Shaw, Eton, Portland, Me. Wooden pavement	Mar. 7, 1871
113,311	Shaw, Elijah, Milwaukee, Wis. Punch and eyeleting-machine	Mar. 28, 1871
111,983	Shaw, George F. and Henry F., West Roxbury, Mass. Pump	Feb. 21, 1871
	Shaw, George W. (*See* Wardwell, Simon W., jr., assignor.)	
112,969	Shaw, Henry, Nevada City, Cal. Hydraulic nozzle	Mar. 21, 1871
121,968	Shaw, Henry F., West Roxbury, Mass. Governor. (Antedated Dec. 2, 1871)	Dec. 19, 1871
112,083	Shaw, John, Whitby, Canada. Kitchen-table	Feb. 21, 1871
115,113	Shaw, John H., Inlet, Ill. Clevis	May 23, 1871
115,774	Shaw, Lorenzo Dow Butters, Boston, Mass. Water-wheel	June 6, 1871
121,427	Same.....Steam or water engine	Nov. 28, 1871
121,969	Shaw, Samuel J., Marlborough, Mass. Mode of cutting boot and shoe soles	Dec. 19, 1871
120,334	Shaw, Sylvanus H., Lynn, Mass. Sash-holder	Oct. 24, 1871
	Shaw, S. W., *et al.* (*See* Heath, Elander, assignor.)	
115,365	Shaw, Thomas, Philadelphia, Pa. Hydraulic disk	May 30, 1871
121,672	Shaw, Thomas F., and John Bringman, Tiffin, Ohio. Washing-machine	Dec. 5, 1871
112,970	Shaw, Thomas L., Omaha, Nebr. Saw set and filer	Mar. 21, 1871
111,000	Shaw, Walter L., Etna, Pa. Fruit-picker	Jan. 17, 1871
120,905	Shaw, William, Albany, N. Y. Portable heating-apparatus	Nov. 14, 1871
116,763	Shaw, William Crowther, Philadelphia, Pa. Apparatus and process for separating, concentrating, and amalgamating ores	July 4, 1871
110,794	Shaw, William E., Portland, Me. Street-pavement	Jan. 3, 1871
117,212	Same.....Wood-pavement	July 18, 1871
	Same.....(*See* Brown, Samuel P., assignor.)	
120,906	Shaw, Winfield S., and Marcus B. Gould, Buffalo, N. Y. Feed-box	Nov. 14, 1871
	Shaw, Winfield S. (*See* Gould, Marcus B., assignor.)	
118,285	Shawen, Warren M., Bellaire, Ohio. Safety-frog for railways. (Antedated Aug. 17, 1871)	Aug. 22, 1871
112,291	Shay, James, Cincinnati, Ohio. Vapor-burner	Feb. 28, 1871
	Sheafe, U. T. (*See* Rowe, Lewis S., assignor.)	
114,870	Shear, Abram, Plymouth, Mich. Mechanical movement	May 16, 1871
111,963	Shearer, Frank B., Columbus, Ohio. Burial-case	Jan. 24, 1871
112,387	Shearer, Frederick S., Washington, Ill. Paint-brush	Mar. 7, 1871
117,000	Shears, Albert L., assignor to self, Timothy Hutchings, and John L. Sandell, Saint Louis, Mich. Thimble-skein for wagons	July 11, 1871
121,673	Shears, Albert L., Flint, Mich. Sled-knee	Dec. 5, 1871
119,477	Shears, Henry, Merton, Wis. Water-wheel	Oct. 3, 1871
113,212	Sheble, Samuel, Philadelphia, Pa. Fork, hoe, &c.	Mar. 28, 1871
	Shedd, Thomas, and Royal E. Deane. (*See* Deane & Shedd.)	
	Shedd, William B., and George E. Hopkins. (*See* Hopkins & Shedd.) (Reissue.)	
113,213	Shedlock, Alfred, New York, N. Y. Machine for repairing hose, &c. (Antedated March 23, 1871)	Mar. 28, 1871
122,136	Shedlock, Alfred, assignor of one-half interest to Claudius P. Beatty, New York, N. Y. Machine for dicing leather	Dec. 26, 1871
121,013	Sheere, David J., Belmont, Wis. Corn-planter	Nov. 14, 1871
116,976	Sheffield, George V., assignor to self and Lyman A. Cook, Boston, Mass. Submarine excavator	July 11, 1871
	Sheldon, James, *et al.* (*See* Frowen, Hemmings & Sheldon.)	
111,576	Sheldon, James T., Chicopee, Mass. Feather-renovator	Feb. 7, 1871
115,114	Sheldon, Julius, Newark, N. J. Machine for stretching the brims of hats	May 23, 1871
117,622	Sheldon, Nathaniel P., San Francisco, Cal. Paddle-wheel	Aug. 8, 1871
110,936	Sheldon, Nathaniel P., assignor to self and William H. Hall, San Francisco, Cal. Pump	Jan. 10, 1871
118,891	Sheldon, Richard B., Canastota, N. Y. Seed-drill	Sept. 12, 1871
112,971	Sheldon, Samuel D., Fitchburgh, Mass. Turning-lathe	Mar. 21, 1871
120,675	Shelley, George A., Madison, Conn. Spirit-level	Nov. 7, 1871
111,669	Shelley, Jacob, Mahanoy Township, Pa. Rock-drill	Feb. 7, 1871
115,115	Shelley, Jacob, Mahanoy, Pa., and Milan C. Bullock, Pottsville, Pa. Sinking shafts and excavating tunnels and cuttings	May 23, 1871
116,637	Shelmidine, Charles, Summit, N. Y. Shingle-machine	July 4, 1871
118,160	Sheltman, Edward F., Christiansburgh, Va. Speed-recording apparatus	Aug. 15, 1871
117,473	Shelton, Gillum, Normal, Ill. Device for pulverizing the soil	July 25, 1871
112,857	Shenfield, Abraham, New York, N. Y. Buckle for suspenders	Mar. 21, 1871
121,428	Shepard, Edwin R., Binghamton, N. Y. Fluting-tongs. (Antedated Nov. 23, 1871)	Nov. 28, 1871
112,641	Shepard, Freedom G., Battle Creek, Mich. Shaft-coupling	Mar. 14, 1871
114,481	Shepard, Henry W., Mannsville, N. Y. Bottom for sheet-metal ware	May 2, 1871
	Shepard, H. W., *et al.* (*See* Burnett, Durrant, assignor.)	
	Same.....(*See* Chappel, John H., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Shepard, H. W., and Robert Seaman. (*See* Burnett, D., assignor.)	
116,877	Shepard, Ira, Dowagiac, Mich. Sewing-machine	July 11, 1871
119,886	Shepard, Josiah, New Britain, Conn. Umbrella	Oct. 10, 1871
	Shepard, William A., and Charles W. McClure. (*See* McClure & Shepard.)	
117,117	Shepardson, Elijah O., Saint Louis, Mo. Extension-ladder. (Antedated July 7, 1871)	July 18, 1871
118,062	Shepherd, William, New York, N. Y. Drop-grate for furnaces	Aug. 15, 1871
114,619	Shepler, John, assignor of one-half interest to William H. Slack, Lambertville, N. J. Car-coupling	May 9, 1871
	Sheppard, Isaac A. (*See* Schuckers, Jacobs W., assignor.)	
118,286	Sheppard, John L., Charleston, S. C. Bale-tie	Aug. 22, 1871
	Sherburne, Joseph A., and Levi Abbott. (*See* Abbott & Sherburne.)	
	Sherburne, Norman H. (*See* Smith, Elizabeth P., assignor.)	
114,720	Sherman, Arthur, Poughkeepsie, N. Y. Machine for tenoning spokes	May 9, 1871
118,650	Sherman, David H., Waukegan, Ill. Motor for sewing-machines	Aug. 29, 1871
119,416	Sherman, George C., Chicago, Ill. Railway-car coupling	Sept. 26, 1871
120,599	Sherman, Jason H., Galesburgh, Ill. Bed-bottom	Nov. 7, 1871
113,214	Sherman, John, and William Marriott, Cleveland, Ohio. Stave-jointers	Mar. 28, 1871
5,293	Sherman, Joseph, Burlington, N. J. Fruit-box.....(Design)	Sept. 26, 1871
117,571	Sherman, Nehemiah, Cincinnati, Ohio. Blow-off pipe for steam-boilers	Aug. 1, 1871
113,698	Sherman, Samuel S., and Hiram B. Gunn, Eau Claire, Wis. Sawing-machine	April 11, 1871
117,001	Sherman, Seeley M., Fort Dodge, Iowa. Window-blind	July 11, 1871
111,090	Sherman, Wesley W., Saint Charles County, Mo. Fence	Jan. 17, 1871
113,459	Sherman, William T., Marengo, Ohio. Compound for cure of foot-rot in sheep	April 4, 1871
	Sherrick, Martin. (*See* Smith, Egbert, assignor.)	
121,674	Sherriff, Charles, Newark, N. J. Imitation hair-cloth	Dec. 5, 1871
112,972	Sherry, James, Watertown, N. Y. Shaft-coupling	Mar. 21, 1871
	Sherwin, Albert, *et al.* (*See* Clarkson, George, assignor.)	
111,577	Sherwood, Calvin W., Chicago, Ill. Portable book-holder	Feb. 7, 1871
	Sherwood, Daniel, *et al.* (*See* Goodhue, Charles W., assignor).....(Design.)	
	Same.....(*See* Latham & Lugg, assignors.)	
	Same.....(*See* Latham, Cyrus H., assignor).....(Design.)	
	Same.....(*See* Goodhue, Charles W., assignor.)	
	Same.....(*See* Latham, Cyrus H., assignor.)	
	Same.....(*See* Latham & Lugg, assignors) ..... (Two cases.) (Reissue.)	
	Same.....(Design.)	
	Same .....(*See* Dudley, George D., assignor) .....(Four cases.)	
5,312	Sherwood, Daniel, and George D. Dudley, assignors to Edward P. Wooda, Daniel Sherwood, and Cyrus H. Latham, Lowell, Mass. Table-caster...(Design)	Oct. 10, 1871
5,293	Sherwood, Henry M., Chicago, Ill. Frame for church, hall, and lawn seats. (Design)	Sept. 26, 1871
117,002	Sherwood, John P., Fort Edward, N. Y. Sewing-machine	July 11, 1871
113,938	Sherwood, William T., Ripon, Wis. Medical compound, or bitters	April 18, 1871
121,905	Shewell, Elizabeth Angelina, Boston, Mass. Medical compound for the cure of cutaneous diseases	Nov. 21, 1871
	Shickle, Harrison & Co. (*See* Schwagerl, Edward O., assignor).....(Design.)	
119,945	Shields, Francis M., Sacramento, Cal. Manufacture of dental plates	Sept. 26, 1871
118,287	Shields, George W., assignor to self, Michael L. Mitchell, and John A. Melcher, Louisville, Ky. Globe and check valve	Aug. 22, 1871
121,206	Shields, James H., Louisville, Ky. Coffin-receptacle	Nov. 21, 1871
119,537	Shiland, Alexander, Albany, N. Y. Machine for producing stereotype matrices	Oct. 3, 1871
	Same.....(*See* Seeberger, Joseph, assignor.)	
	Shimanour, William, and Joseph L. Linville. (*See* Linville & Shimanour.)	
	Shiner, Andrew. (*See* Hamlin, Cornelius, assignor.)	
	Shinn, Riley A., *et al.* (*See* Maloney, James A., assignor.)	
111,264	Shipley, Nicholas H., Baltimore, Md. Apparatus and process for canning and preserving meat, fruit, vegetables, &c	Jan. 24, 1871
112,642	Same.....Sealing cans and other vessels for preserving fruit, meat, &c	Mar. 14, 1871
112,504	Shipman, George W., Ischua, N. Y, Guard for circular-saws	Mar. 7, 1871
	Shock, A. C. (*See* Stuckey, Henry, assignor.)	
114,054	Shockley, Richard C., Fayette, Wis. Wagon-brake	April 25, 1871
	Shoemaker, Abner C. P. (*See* Jenkins, Jesse, assignor.)	
112,265	Shoemaker, Henry and John, Putneyville, Pa. Rock-drill	Jan. 24, 1871
121,257	Shoemaker, Solomon B., Willoughby, Ohio. Feather-renovator	Nov. 28, 1871
	Shoenberger & Co. (*See* Justus, William R., assignor.)	
114,981	Shoenberger, Edwin F., Philadelphia, Pa. Faucet or supply cock	May 16, 1871
114,982	Shoenberger, Edwin F., assignor to George K. Shoenberger, Germantown, Pa. Hitching-post	May 16, 1871
118,491	Sholes, C. Latham, Milwaukee, Wis. Mechanical typographer	Aug. 29, 1871
118,978	Sholes, C. Latham, assignor to James Densmore, Milwaukee, Wis. Numbering-machine	Sept. 12, 1871
	Shoninger, B. (*See* Lomas, John R., assignor) .....(Four cases.)	
	Same.....same.....(Design.)	
114,055	Shontz, Absalom S., Quincy, Ill. Heating-stove	April 25, 1871
119,538	Shopbell, Elias, Ashland, Ohio. Boot-pattern	Oct. 3, 1871
	Shorb, John S., and John L. Pillsbury. (*See* Pillsbury & Short.)	
114,909	Shorey, John, and William D. Butler, Lowell, Mass. Slat for window-shades	April 25, 1871
112,388	Short, Samuel A., Frederick J., and John B., and Jasper Kile, Decatur, Ala. Bee-hive	Mar. 7, 1871
4,850	Short, William H., Brooklyn, N. Y. Sash-weight	April 25, 1871
116,287	Short, William Hamilton, Montreal, Canada. Fire-proof safe. (Antedated June 6, 1871)	June 20, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,822	Shortridge, William P., Easton, Mo. Bee-hive	Sept. 12, 1871
116,228	Shortt, Edward G., assignor to self, Levi Wood, Minor Guyot, George Gilbert, and A. Irving Sternberg, Carthage, N. Y. Method of fastening pulley and wheel hubs to shafts	June 20, 1871
117,823	Shortt, Edward G., assignor to self, Levi Wood, Minor Guyot, A. Irving Sternberg, and George Gilbert, Carthage, N. Y. Shaft-coupling	Aug. 8, 1871
115,366	Shoudler, Jacob, Scottsville, N. Y. Wagon-gearing	May 30, 1871
117,213	Showalter, Isaac, Chester County, Pa. Self-adjusting cart and brake. (Antedated July 15, 1871)	July 18, 1871
	Shrawder, John S. and Jacob B. (*See* Kook & Shrawder.)	
116,229	Shreiner, Martin, Carlisle, Pa. Grain-separator	June 20, 1871
115,534	Shrieves, Charles D., assignor to self, Alfred B. Davis, and John H. Roeloss, Philadelphia, Pa. Shade roller and fixture	May 30, 1871
117,474	Shrote, John H., Baltimore, Md. Machine for sheeting dough	July 25, 1871
119,054	Shryock, Daniel, Hannibal, Mo. Chart-holder	Sept. 19, 1871
115,116	Shuler, Isaac C., Amsterdam, N. Y. Burial-case	May 23, 1871
	Shuler, L. S. (*See* Smith, James K. P., assignor.)	
	Schulta, George W., and James Lefever. (*See* Lefever & Schulta.)	
113,460	Shults, Horatio N., Mechanicstown, Md. Fire-alarm	April 4, 1871
	Shults, Walter F., *et al.* (*See* Foster & Saylor, assignors.)	
	Shunk, Christian, Philadelphia, Pa. Refining iron ..... (Disclaimer filed)	Mar. 3, 1871
114,462	Shurtleff, Asahel M., Boston, Mass. Apparatus for atomizing liquids	May 2, 1871
	Shute, James L., *et al.* (*See* Jeffery, Robert, assignor.)	Mar. 28, 1871
113,215	Shute, Samuel, jr., Richmond, Ind. Fastener for carriage-curtains, &c	Aug. 1, 1871
117,693	Sibert, Lorenzo, Staunton, Va. Flux for the manufacture of iron and steel	Mar. 14, 1871
112,744	Sibley, John J., New York, N. Y. Sewing-machine needle	Jan. 24, 1871
111,260	Sibley, Lyman W., Ames, Iowa. Gate ..... (Two cases.)	Feb. 7, 1871
111,690	Sibley, Solomon, Boston, Mass. Shirt	Oct. 31, 1871
120,402	Same ..... Shirt-bosom	July 18, 1871
117,118	Sibley, Stephen, Chelsea, Mass. Ventilated horse-cover	Mar. 11, 1871
	Sickels, Theophilus E., Omaha, Nebr. Steam-brake for railroad-cars. (Extension)	Nov. 14, 1871
120,829	Siddons, John, Rochester, N. Y. Metallic roofing	Nov. 7, 1871
120,600	Side, Edgar, Brooklyn, N. Y. Neck-tie fastener	Mar. 14, 1871
112,745	Sidenberg, William, New York, N. Y. Sewing-machine	May 23, 1871
115,117	Same ..... same	
	Sidney, Shepard, & Co. (*See* Tripp, Augustus F., assignor) ..... (Reissue.)	April 11, 1871
113,582	Siebcke, John H., Ann Arbor, Mich. Wash-boiler	July 4, 1871
116,638	Siebel, John E., Chicago, Ill. Depilating hides and preserving wood	Sept. 12, 1871
4,549	Same ..... Depilating hides ..... (Division A, reissue)	Sept, 12, 1871
4,550	Same ..... Preserving wood ..... (Division B, reissue)	
111,390	Siebert, Louis, and John W. Lilley, assignors to John R. Hool & Son, Columbus, Ohio. Heater for paper-ruling machines	Jan. 31, 1871
113,102	Siefert, William, assignor to self and Matthew T. Kane, New York, N. Y. Anti-friction balanced valve	Mar. 28, 1871
113,583	Siegfried, Alexander H., assignor to self and George B. Garman, South Bend, Ind. Refining iron and steel	April 11, 1871
4,307	Same ..... Refining and tempering iron and steel ..... (Reissue)	Aug. 8, 1871
113,584	Siemens, Charles William, England. Process and apparatus for the production of cast-steel from ores	April 11, 1871
111,691	Siemens, Charles William, Edward Alfred Cowper, and Charles Cochrane; said Siemens and Cochrane assignors to said Cowper, England. Hot-blast stove for heating air, steam, &c	Feb. 7, 1871
115,987	Siemers, Frenzes G., Winona, Minn. Meat-cutter	June 13, 1871
118,979	Silber, Albert Marcius, and Frederick White, England. Apparatus for lighting and heating purposes	Sept. 12, 1871
5,361	Silcox, Josiah, assignor to James Humphries & Sons, England. Carpet-pattern ..... (Design)	Nov. 7, 1871
5,362	Same ..... Carpet-pattern ..... (Design)	Nov. 7, 1871
119,417	Silsby, Eugene W., Ottumwa, Iowa. Fifth-wheel and coupling for vehicles	Sept. 26, 1871
	Silver, A. R. (*See* Deming, John, assignor) ..... (Reissue.)	
117,003	Silver, Albert R., assignor to self and John Deming, Salem, Ohio. Meat and vegetable cutter	July 11, 1871
113,585	Silver, Thomas, New York, N. Y. Hoisting-apparatus	April 11, 1871
	Silversmith, John F., and James C. Rose. (*See* Rose & Silversmith.)	
119,389	Sim, Thomas, Baltimore, Md. Apparatus for removing oil from vegetable and other matters	Mar. 7, 1871
119,390	Same ..... Retort for producing bisulphide of carbon	Mar. 7, 1871
121,903	Same ..... Apparatus for separating fatty matter from vegetable substances	Dec. 12, 1871
	Simendinger, Theodore, and Hermann A. Schottky. (*See* Schottky & Simendinger.)	
115,367	Simmons, Alonzo J., Indianapolis, Ind. Device for removing lime, dirt, and sediment from boiling liquids	May 30, 1871
120,003	Same ..... Packing for steam-engines, gas-pipes, water-pipes, &c	Oct. 17, 1871
117,338	Simmons, Cicero A., Waldo, Fla. Medical compound for liver and other diseases	July 25, 1871
117,339	Same ..... Lifting-machine	July 25, 1871
121,904	Same ..... Medical compound for treating constipation, &c	Dec. 12, 1871
115,369	Simmons, Daniel W., Lynn, Mass. Carpenters' gauge	May 30, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,056	Simmons, Franklin, New Orleans, La. Cotton-press	April 25, 1871
	Simmons, Isaac. (*See* Smith, Francis H., assignor) ..... (Reissue.)	
	Simon, Edward, & Brothers. (*See* Decker, Frederick E., assignor.)	
120,335	Simon, Simon B., New York, N. Y. Replaceable pivot for watches	Oct. 24, 1871
	Simonds, Edwin, and George W. Huntoon. (*See* Huntoon & Simonds.)	
115,775	Simonds, George F., Fitchburgh, Mass. Machine for bending and hardening horse-rake teeth	June 6, 1871
115,118	Simonds, Nathan J., Woburn, Mass. Cutting-press	May 23, 1871
115,648	Same ..... Shoe ..... (Reissue.)	June 6, 1871
	Simonds, N. J. (*See* Whitney, Joel, assignor)	Mar. 28, 1871
113,103	Simonds, Samuel M., Lynn, Mass. Baby-tender	May 2, 1871
114,358	Simonds, Warren A., Boston, Mass. Gas-machine	
4,508	Simonin, Charles F. A., Philadelphia, Pa., and Edward W. Coffin, Glendale, N. J., assignors through mesne assignments to William Adamson. Process of extracting fatty substances ..... (Reissue)	Aug. 8, 1871
119,186	Simonin, Charles F. A., assignor to William Adamson, Philadelphia, Pa. Treating tarred rope, cordage and the like for the manufacture of paper stock, &c	Sept. 19, 1871
119,187	Same ..... Process for treating textile fabrics with hydrocarbons	Sept. 19, 1871
119,188	Same ..... Process and apparatus for extracting fatty substances	Sept. 19, 1871
	Simonin, Charles F. A., and William Adamson. (*See* Adamson & Simonin.) (Two cases.)	
	Simons & Miller. (*See* Miller, Watson J., assignor.)	
113,354	Simons, Norris W., Williamsfield, Ohio. Hold-back for vehicles	April 4, 1871
119,189	Simonson, John Q., Graniteville, N. Y. Filtering-cisterns	Sept. 19, 1871
120,830	Simpers, Charles F., Philadelphia, Pa. Cork-puller. (Antedated Nov. 10, 1871)	Nov. 14, 1871
117,824	Simpson, Charles G. C., Montreal, Canada. Apparatus for disintegrating substances	Aug. 8, 1871
121,818	Simpson, Francis M., Pittsville, Mo. Riding-saddle	Dec. 12, 1871
	Simpson, Hall, Miller & Co. (*See* Miller, Friend, assignor.)	
119,656	Simpson, John, Cleveland, Ohio. Vise	Oct. 3, 1871
4,637	Same ..... same ..... (Reissue)	Nov. 14, 1871
114,483	Same ..... Cultivator	May 2, 1871
112,391	Simpson, Michael H., Boston, Mass. Utilizing the silky down of the wild cotton	Mar. 7, 1871
113,355	Simpson, Thomas D., Mount Vernon, Ohio. Feed-water heater	April 4, 1871
122,197	Simpson, Thomas D., and William S. Lamkin, Marshall, Tex. Cotton-press	Dec. 26, 1871
121,675	Sims, Lewis C., Martinsburgh, Ohio. Coupling for vehicles	Dec. 5, 1871
116,764	Sims, Zachariah B., Bonham, Tex. Cotton-cleaner	July 4, 1871
119,418	Same ..... Cotton-hoe	Sept. 26, 1871
110,873	Sinclair, George, Scotland. Apparatus for boiling and treating paper-stock	Jan. 10, 1871
111,578	Sinclair, Hector, New York, N. Y. Portable fence	Feb. 7, 1871
113,586	Sinclair, Heman B., Paw Paw, Mich. Current water-wheel	April 11, 1871
115,776	Sinclair, James A., assignor to self and Warren Hollister, Woodsfield, Ohio. Pump	June 6, 1871
118,753	Sinclair, James P., Mottville, N. Y. Mill-pick holder	Sept. 5, 1871
119,190	Sinclaire, Thomas R., New York, N. Y. Boiler-fire extinguisher	Sept. 19, 1871
120,907	Same ..... Blacking-box	Nov. 14, 1871
120,908	Same ..... Apparatus for filtering liquids	Nov. 14, 1871
112,292	Sine, Alpheus C., assignor to Lorenzo D. Sire, Cincinnati, Ohio. Numbering and paging machine	Feb. 28, 1871
113,461	Singer, Isaac A., New York, N. Y. Bird-cage mat	April 4, 1871
111,579	Singer, Jasper H., New York, N. Y. Paper for use in the bottom of bird-cages	Feb. 7, 1871
111,391	Singer, Joseph, Mendota, Ill. Cultivator-plow. (Antedated Jan. 14, 1871)	Jan. 31, 1871
110,795	Singleton, Thomas, England. Warping-machine	Jan. 3, 1871
120,463	Sink, Thomas P., Fairton, N. J. Oyster-dredge	Oct. 31, 1871
114,057	Sisson, Arnold C., Factoryville, Pa. Wire-fence	April 25, 1871
110,937	Sisson, Luther S., West Edmeston, N. Y. Bee-hive	Jan. 10, 1871
	Sisson, Samuel A., and E. D. Buckman, executors. (*See* Allen, S. S.) (Extension.)	
	Same ..... (*See* Allen, S. S.) ..... (Reissue.)	
114,359	Sisson, William, Fulton, N. Y. Machine for cutting staves	May 2, 1871
113,939	Sisum, William H. H., Newark, N. J. Belt-shifter	April 18, 1871
114,058	Sitton, James Y., Due West, S. C. Carriage-wheel	April 25, 1871
121,133	Sivley, John J., Clarksville, Tex. Hay and cotton press	Nov. 28, 1871
120,782	Sizer, Emerson, Westfield, Mass. Whip-braiding machine	Nov. 7, 1871
112,186	Skeen, Jacob, Mound City, Ill. Lumber-wagon	Feb. 28, 1871
115,244	Same ..... Dumping-wagon	May 23, 1871
115,245	Same ..... Fifth-wheel	May 23, 1871
115,246	Same ..... Fifth-wheel and attachment	May 23, 1871
117,004	Same ..... Wagon	July 11, 1871
	Skelton, Jacob D. (*See* Victor, Edward, assignor.)	
122,070	Skidmore, William H., Secor, Me. Car-coupling	Dec. 19, 1871
116,104	Skiffington, William P., New York, N. Y. Boiler	June 20, 1871
113,356	Skillman, George R., assignor to self and James Beatty, Baltimore, Md. Cracker-machine	April 4, 1871
120,676	Skinner, David F., and Joseph Arnold, Albany, N. Y. Elevator	Nov. 7, 1871
120,783	Skinner, Henry A., assignor to self, Jonathan Luther, and Moses W. Wheeler, Worcester, Mass. Caster for sewing-machines	Nov. 7, 1871
112,187	Skinner, John, Hadley, Mich. Gearing and ungearing pinions and wheels	Feb. 28, 1871
120,004	Skinner, Justin P., Plantsville, Conn. Carriage-nut	Oct. 17, 1871
111,360	Skinner, Le Grand, Chittenango, N. Y. Boiler-furnace	Feb. 7, 1871
120,677	Skinner, Smith A., Hoosick Falls, N. Y. Oil-hole cover for lubricators	Nov. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,419	Skinner, William W. and David D., Des Moines, Iowa. Rolled steel-plate for making cultivator-teeth	Sept. 26, 1871
	Slack, James C. H., and John Holmes. (*See* Holmes & Slack.)	
5,270	Slack, John, assignor to Abraham G. Jennings, Brooklyn, N. Y. Net-fabric. (Design)	Sept. 19, 1871
117,937	Slack, Simon, Lebanon Centre, N. H. Thill-coupling	Aug. 8, 1871
	Slack, William H. (*See* Shepler, John, assignor.)	
4,509	Sladdin, Joseph, Lawrence, Mass. Machine for making loom-harness. (Division A, reissue)	Aug. 8, 1871
4,510	Same.....Machine for making loom-harness.....(Division B, reissue)	Aug. 8, 1871
121,956	Sladdin, Joseph, assignor to self and John Lord, Lawrence, Mass. Machine for making loom-harness. (Antedated Nov. 13, 1871)	Nov. 28, 1871
112,858	Slade, Dana, Chicago, Ill. Compound for treating catarrh, &c., by inhalation	Mar. 21, 1871
4,445	Same.....same.....(Reissue)	June 27, 1871
113,587	Slade, Fred. J., Trenton, N. J. Manufacture of steel	April 11, 1871
122,287	Slatcher, John, Bridgeport, Conn. Shoe-fastening	Dec. 26, 1871
110,697	Slater, George A., Benton Harbor, Mich. Gate. (Antedated Dec. 30, 1870)	Jan. 3, 1871
116,369	Slaughter, Joel C., New York, N. Y. Water-meter	June 27, 1871
4,340	Slawson, John B., New York, N. Y. Passenger fare-box.....(Reissue)	Jan. 24, 1871
	Same.....same.....(Extension)	July 18, 1871
4,648	Same.....(Reissue)	Nov. 28, 1871
121,259	Same.....Fare-box for vehicles	Nov. 28, 1871
5,401	Slaymaker, William A., Atlanta, Ga. Hinge for seats.....(Design)	Dec. 5, 1871
115,649	Sleeper, Nehemiah, Burlington, N. J. Bottle	June 6, 1871
	Sleeth, Robert, assignor to Bagaley, Young & Co., Pittsburgh, Pa. Manufacture of metallic rolls for rolling iron, steel, &c	Oct. 17, 1871
120,112	Sleight, Frederick, Warren County, N. J. Seed-dropper	Oct. 17, 1871
	Slemmer, Jacob C. (*See* Allebaugh & Cuffell, assignors.)	
122,071	Sleppy, William A., Berwick, Pa. Clothes-drier	Dec. 19, 1871
115,777	Slingerland, John T., New York, N. Y. Type-distributing machine	June 6, 1871
114,210	Sloan, Thomas J., Bronxville, N. Y. Porcelain-knob machine	April 25, 1871
122,073	Sloan, Thomas J., assignor to James L. Jensen, Bronxville, N. Y. Machine for making porcelain knobs, &c	Dec. 19, 1871
	Sloan, William D., New York, N. Y. Automatic lathe for turning irregular forms.....(Extension)	Mar. 30, 1871
116,765	Sloan, William W., Jefferson, Tex. Apparatus for photographing children	July 4, 1871
	Sloane, W. and I. (*See* Holdsworth, George, assignor).....(Design.)	
	Same.....(*See* Mallinson, William, assignor).....(Design.)	
	Same.....(*See* McCallum, Archibald, assignor.) (Four cases.) (Design.)	
	Same.....(*See* Perrin, Edward, assignor).....(Design.)	
	Same.....(*See* Charlton, Richard, assignor).....(Design.)	
	Same.....(*See* Gueritte, Victor, assignor).....(Design.)	
115,309	Sloper, Byron, Saint Louis, Mo. Apparatus for generating, carbureting, and burning hydrogen-gas	May 30, 1871
115,986	Same.....Apparatus for carbureting air	June 13, 1871
4,476	Same.....same.....(Reissue)	July 18, 1871
115,980	Sloper, Joseph, England. Hand-stamp	June 13, 1871
118,550	Smade, Hiram N., Manistee, Mich. Wrench	Aug. 29, 1871
119,823	Same.....Instrument for extracting packing from stuffing-boxes	Sept. 12, 1871
	Small, Charles O., and Alonzo P., and Elisa B. Allen. (*See* Allen & Small.)	
113,940	Small, Charles W., Worcester, Mass. Reverberating reed-cells for organs or melodeons	April 18, 1871
114,211	Small, Ephraim L., Urbana, Ohio. Water-wheel	April 25, 1871
121,429	Small, James, Washington, D. C. Hydrant	Nov. 28, 1871
111,393	Small, James H., Buffalo, N. Y. Registering ticket-punch	Jan. 31, 1871
115,119	Same.....same	May 23, 1871
	Same.....(*See* Hoffman, Austin D., assignor.)	
	Same.....same.....(Reissue.)	
114,212	Small, Josiah B., and Elbridge G. Matthews, Boston, Mass., and Franklin F. Holbrook, Oakham, Mass. Swivel-clevis for plows	April 25, 1871
116,630	Smart, Don Carlos, Cambridgeport, Mass. Clothes-drier	July 4, 1871
118,063	Same.....Door-check	Aug. 15, 1871
	Smart, Emon C., *et al.* (*See* Close, Walter R., assignor.)	
118,754	Smart, Luther T., assignor to self and Samuel H. Smith, Centre Ossipee, N. H. Planing-machine	Sept. 5, 1871
119,055	Smeaton, George, Brooklyn, N. Y. Window-cleaner	Sept. 19, 1871
	Smelts, Benjamin. (*See* Naglo, Henry, assignor.)	
119,392	Smiley, Frank, Batavia, N. Y. Pruning-shears	Mar. 7, 1871
118,492	Same.....same	Aug. 29, 1871
116,878	Smiley, Henry, and William T. Loughead, Boston, Mass. Automatic fastener for meeting-rails of sashes	July 11, 1871
	Smiley, James Harvey, Caroline, N. Y. Churn-thermometer	Oct. 31, 1871
	Smiley, Robert, *et al.* (*See* Guttridge, David C., assignor.)	
117,340	Smith, Aaron E., Libertyville, Ill. Sawing-machine	July 25, 1871
	Smith, Aaron F. (*See* Hussey, Frank H. A., assignor.)	
120,909	Smith, Abia B., Wellsburgh, W. Va. Corn-sheller	Nov. 14, 1871
113,216	Smith, Albert S., Boston, Mass. Locomotive	Mar. 28, 1871
115,190	Smith, Alexander, Hoosick Four Corners, N. Y. Apparatus for unloading and moving hay	May 23, 1871
118,396	Smith, Alexander H., Elkhorn, Wis. Fence	Aug. 29, 1871
112,393	Smith, Alfred J., San Francisco, Cal. Water-closet valve	Mar. 7, 1871
120,831	Smith, Alpheus D., Grafton, Ohio. Wash-board	Nov. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,430	Smith, Alpheus D., Grafton, Ohio. Faucet	Nov. 28, 1871
4,365	Smith, Amor, Cincinnati, Ohio. Machine for reducing cracklings, &c., for fertilizers.....(Reissue)	Feb. 14, 1871
117,825	Smith, Amos M., Chicago, Ill. Compressed-air engine	Aug. 8, 1871
110,874	Smith, Andrew H., New York, N. Y. Piston	Jan. 10, 1871
114,213	Smith, Andrew V., San Francisco, Cal. Store-truck	April 25, 1871
120,113	Smith, Arthur C., Fayetteville, N. C. Cultivator	Oct. 17, 1871
120,784	Smith, Austin H., Brooklyn, N. Y. Stone-crushing apparatus	Nov. 7, 1871
117,005	Smith, Barton C., Pekin, Ill. Animal-trip	July 11, 1871
	Smith, Benjamin and Adam. (*See* Arkell, James, assignor.)	
118,883	Smith, Benjamin F., New Orleans, La. Smoke-stack for furnaces	Sept. 12, 1871
118,884	Same.....Furnace-grate	Sept. 12, 1871
118,885	Same.....Condensing escape-pipe	Sept. 12, 1871
111,984	Smith, Benjamin F., assignor of one-half interest to G. L. Laughland, New Orleans, La. Non-conducting material for covering steam-boilers, &c	Feb. 21, 1871
117,572	Same.....Refrigerating and ventilating apparatus	Aug. 1, 1871
4,303	Smith, Benjamin M., assignor to Charles Goodyear, jr., and Leonard A. Sprague, New York, N. Y. Button-hole	Mar. 14, 1871
111,967	Smith, Benjamin R., and John C. Harris, Philadelphia, Pa. Plaster for walls	Jan. 24, 1871
	Smith, Benjamin R., *et al.* (*See* Myers & Eunson, assignors).....(Disclaimer.)	May 16, 1871
114,983	Smith, Calvin A., Jersey City, N. J. Car-brake	Dec. 19, 1871
121,970	Smith, Charles, assignor to Smith, Winchester & Co., South Windham, Conn. Paper-pulp engine	Oct. 24, 1871
120,336	Smith, Charles, Brooklyn, N. Y. Coal-hod	Feb. 28, 1871
112,293	Smith, Charles Bridges, Griffin, Ga. Automatic fan	Dec. 12, 1871
121,905	Smith, Charles B., assignor to self, Lysander Wright, and William L. Chase, Newark, N. J. Valve for steam-engines	Sept. 19, 1871
119,056	Smith, Charles D., Chicago, Ill. Furnace for steam-boilers	Mar. 14, 1871
112,643	Smith, Charles E., assignor to self, and John S. and Frank T. Jaques, Lowell, Mass. Shuttle for looms	Sept. 19, 1871
119,191	Smith, Charles F., Aurora, Ill., and Augustus Haerther, Chicago, Ill. Clothes-drier	Jan. 17, 1871
111,010	Smith, C. Shaler, assignor to the Baltimore Bridge Company, Baltimore, Md. Iron viaduct	Oct. 24, 1871
120,337	Smith, Cyrus, Irwin's Station, Pa. Lubricating car-wheels	Oct. 17, 1871
119,958	Smith, Daniel, Gilsum, and Elbridge Smith, Keene, N. H. Sap-bucket cover	May 16, 1871
	Smith, Daniel D. (*See* Crowell, Calvin, assignor.)	July 11, 1871
4,911	Smith, Daniel H., Attleborough, Mass. Bracelet.....(Design)	June 13, 1871
117,006	Smith, David, Albany, N. Y. Base-burning stove	May 30, 1871
115,901	Smith, David, and John Lynch, Boston, Mass. Water-heater	Feb. 7, 1871
115,370	Smith, Dexter, Springfield, Mass. Shot-gun	Sept. 19, 1871
112,505	Smith, Dexter, and Martin J. Chamberlin, Springfield, Mass. Breech-loading fire-arm	Oct. 25, 1871
	Smith, Dillwyn. (*See* Deacon, George Frederick, assignor.)	Oct. 17, 1871
113,805	Smith, Dolphin G., Columbus, Ohio. Ferrule	Mar. 7, 1871
114,214	Smith, Earle A. and Dwight L., Waterbury, Conn. Buckle	April 18, 1871
115,535	Same.....same	April 25, 1871
111,581	Smith, Earle H., Bergen, N. J. Printing-press	May 30, 1871
119,095	Same.....Bergen Heights, N. J. Fur-set box	Feb. 7, 1871
	Same.....Sewing-machine.....(Extension)	Sept. 19, 1871
120,114	Smith, Edgar M., New York, N. Y. Chandelier	Oct. 25, 1871
120,465	Smith, Edward H., assignor of one-half interest to Robert Gibson, Whitestown, N. Y. Blind-stile boring-machine	Oct. 17, 1871
	Smith, Edward P., and Robert M. Lafferty. (*See* Lafferty & Smith.)	Oct. 31, 1871
	Smith, Edward P. (*See* Lafferty, Robert M., assignor).....(Reissue.)	
111,393	Smith, Edward T., and Joseph S. Winston, assignor to selves and C. H. Gwyer, New York, N. Y. Burial-casket	Jan. 31, 1871
115,536	Smith, Edward T., and Joseph S. Winston, New York, N. Y. Device for making ends of burial-cases	May 30, 1871
110,938	Smith, Egbert, assignor to self and Martin Sherrick, Adams County, Ill. Universal cog-wheel coupling	Jan. 10, 1871
	Smith, Elbridge G. P., and Levi H. Morrill. (*See* Morrill & Smith.)	
114,871	Smith, Elbridge J., Washington, D. C. Envelope	May 16, 1871
121,431	Same.....Stair-rod	Nov. 28, 1871
4,839	Smith, Elizabeth P., assignor to self and Norman H. Sherburne, Chicago, Ill. Pattern for cutting dress-waists.....(Design)	April 18, 1871
4,468	Smith, Francis H., assignor of one-half interest to Isaac Simmons, Baltimore, Md. Drying fruit, vegetable, and meat.....(Reissue)	July 11, 1871
112,084	Smith, Frederick H., Baltimore, Md. Manufacture of metal tubes and columns	Feb. 21, 1871
121,439	Same.....Metallic column	Nov. 28, 1871
4,833	Smith, Frederick J., Chicago, Ill. Public urinal and water-closet.....(Design)	April 18, 1871
119,490	Smith, Fridolin, Tiffin, Ohio. Wagon-hound	Sept. 26, 1871
118,493	Smith, Gad, assignor to self and Dickinson & Brothers, Woodstown, N. J. Broom-head	Aug. 29, 1871
113,806	Smith, George, Rochester, N. Y. Milking-stool	April 18, 1871
115,371	Smith, George, Stratford, Canada. Invalid-bedstead	May 30, 1871
118,288	Smith, George, Detroit, Mich. Billiard-table	Aug. 22, 1871
116,230	Smith, George, assignor to John C. De Lany, Rochester, N. Y. Carrier for unloading hay	June 20, 1871
116,231	Same.....Sling for hay-elevators	June 20, 1871
121,997	Smith, George B., Shopiere, Wis. Stubble-turner for plows	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,357	Smith, George C., and Frank M. Burrows, Baltimore, Md. Fire-escape	April 4, 1871
117,007	Same.....same	July 11, 1871
119,539	Smith, George C., assignor of one-half interest to J. C. Phillips, Hamilton, Ohio. Clothes-drier	Oct. 3, 1871
120,785	Smith, George C., and Charles H. Dietrich, Middleville, Mich. Clothes-drier	Nov. 7, 1871
115,247	Smith, George E., Fitchburgh, Mass. Lubricator for machinery	May 23, 1871
120,543	Same.....Sash-balance	Oct. 31, 1871
119,478	Smith, George E., New York, N. Y. Self-closing gas-burner	Oct. 3, 1871
118,909	Smith, George H., Guilford, Me. Machine for making excelsior	Aug. 29, 1871
	Smith, G. L. (*See* Cook, John, assignor.)	
113,104	Smith, George L., assignor to the Bridgeport Brass Company, Bridgeport, Conn. Lamp-burner	Mar. 28, 1871
115,337	Smith, George M., Pittsburgh, Ind. Sulky-attachment to plows	May 30, 1871
115,903	Smith, George W., New York, N. Y. Door for stoves	June 13, 1871
122,198	Smith, George W., New Haven, Conn. Adjustable cut-off valve	Dec. 26, 1871
	Smith, George W., and John A. Younce. (*See* Younce & Smith.)	
111,783	Smith, Guilford, South Wyndham, Conn. Weaving tubular fabrics	Feb. 14, 1871
115,373	Smith, Hamilton E., assignor to Mary Jane Smith, New-York, N. Y. Clothes-wringer	May 30, 1871
	Smith, Harrison, and Smiley Purvine. (*See* Purvine & Smith.)	
119,889	Smith, Harry B., and Rufus Folsom, Cincinnati, Ohio. Stem-winding watch	Oct. 10, 1871
121,200	Same.....Stem winding and setting watch	Nov. 28, 1871
120,678	Smith, Hemphill, Shelby Station, Tenn. Horse-power	Nov. 7, 1871
115,940	Smith, Henry, assignor of one-half interest to Fred. R. Gibbs, Providence, R. I. Pulley-block	May 23, 1871
120,316	Smith, Henry, assignor to self and Frederick Sutliff, Southington, Conn. Well-bottom	Oct. 24, 1871
	Smith, Henry A. (*See* Jones, John, assignor.)	
119,734	Smith, Henry C., Cleveland, Ohio. Sewing-machine treadle	Oct. 10, 1871
	Same.....Treadle for sewing-machine	Oct. 31, 1871
	Smith, H. D., & Co. (*See* Morse, Francis B., assignor).....(Ten cases.)	
114,484	Smith, Henry G., assignor of one-half interest to Elijah D. Castelow, Meriden, Conn. Stove-pipe thimble	May 2, 1871
113,650	Smith, Henry Julius, Boston, Mass. Electric fuse. (Antedated March 7, 1871)	Mar. 21, 1871
115,121	Smith, Henry M., New York, N. Y. Medicine-case	May 23, 1871
123,389	Smith, Hiram, Titusville, Pa. Sash-balance	Dec. 26, 1871
110,688	Smith, Hiram Moore, Richmond, Va. Seed-dropper	Jan. 3, 1871
119,199	Smith, Hosli B., Tremont, Ill. Gang-plow	Sept. 19, 1871
	Smith, Horace, and D. B. Wesson. (*See* Dodge, William C., assignor.) (Reissue.)	
112,065	Smith, Howard, and James Potter, Portland, Me. Spring bed-bottom	Feb. 21, 1871
	Smith, Howard, and Dora E. Brown. (*See* Prescott, Shubael, assignor.)	
119,639	Smith, Howard C., Coxsackie, N. Y. Curry-comb and brush	Oct. 3, 1871
119,660	Smith, Hugh, West Gray, Me. Sleigh	Oct. 3, 1871
	Smith, Hugh, and John Vanluvance. (*See* Vanluvance & Smith.)	
	Smith, Hugh H., and George W. Bishop. (*See* Bishop & Smith.)	
119,899	Smith, Isaac, New York, N. Y. Lamp-chimney cleaner)	Oct. 10, 1871
117,119	Smith, Isaac, assignor of one-half interest to William Sanderson, New York, N. Y. Mold for composition articles	July 18, 1871
117,896	Same.....Die-mold for composition articles. (Antedated July 25, 1871)	Aug. 8, 1871
120,115	Smith, Jacob W., Dixon, Iowa. Wagon-standard	Oct. 17, 1871
113,506	Smith, James, Altoona, Pa. Spark-arrester	Mar. 7, 1871
118,161	Smith, James, Richmond, Ind. School-desk	Aug. 15, 1871
114,873	Smith, James H., Newark, Ohio. Gas-retort	May 16, 1871
114,613	Smith, James K. P., assignor to self and L. S. Shuler, Jeffersonville, Ind. Plane	May 9, 1871
115,129	Smith, James P., assignor to self and J. S. Black, Hillsborough, Ohio. Fifth-wheel for vehicles	May 23, 1871
119,891	Smith, James S., Middletown, Conn. Office time-indicator	Oct. 10, 1871
	Smith, James S. and William B., *et al.* (*See* Rice, Henry J., assignor.)	
116,233	Smith, James W., assignor to self and Joseph Maseth, Orion, N. Y. Lifting-jack	June 20, 1871
114,315	Smith, James W., Columbus, Ga. Combined grist-mill and cotton-seed huller	April 25, 1871
4,446	Same.....Combined grist-mill and cotton-seed huller.....(Reissue)	June 27, 1871
123,188	Smith, John, Brantford, Canada. Fire-place	Feb. 28, 1871
114,984	Smith, John, Burlington, Wis. Thrashing-machine and grain-separator	May 16, 1871
	Smith, John. (*See* Page, William, assignor.)	
	Smith, John, and Silent Constant. (*See* Constant & Smith.)	
	Smith, John A. V., and Theodore T. Abbot. (*See* Abbot & Smith.)	
121,819	Smith, John B., Bowensburgh, Ill. Grinding-mill	Dec. 12, 1871
	Smith, John B. (*See* Pierce, James D., assignor.)	
	Same.....(*See* Horton, William P., assignor.)	
118,494	Smith, J. Boardman, assignor to G. Edward Cleeton, New Haven, Conn. Coop for fowls. (Antedated Aug. 16, 1871)	Aug. 29, 1871
	Smith, John C. (*See* Arden, Henry, assignor).....(Two cases.)	
117,939	Smith, John Crawford, assignor to self, Samuel Bradford Smith, and Nathaniel Stuart, Zanesville, Ohio. Flour-belt	Aug. 8, 1871
4,808	Smith, John E., Waterbury, Conn. Buckle-frame.....(Design)	Mar. 7, 1871
117,094	Same.....Slide for suspenders	Aug. 1, 1871
120,116	Smith, John E., New York, N. Y. Printing-telegraph	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,479	Smith, John F., Boston, Mass. Shutter-fastener. (Antedated Sept. 16, 1871)	Oct. 3, 1871
120,679	Smith, John Harry, assignor to Florean Grosjean, Brooklyn, N. Y. Spoon	Nov. 7, 1871
4,771	Smith, John H., assignor to Hartford Carpet Company, Enfield, Conn. Carpet-pattern.....(Design)	April 4, 1871
4,772	Same.....Carpet-pattern.....(Design)	April 4, 1871
4,956	Same.....same.....(Design)	May 30, 1871
5,068	Same.....same.....(Design)	July 4, 1871
5,373	Same.....same.....(Design)	Nov. 21, 1871
113,699	Smith, John Joseph Charles, assignor to Metallic Art Works, Somerville, Mass. Die for taking impressions from cloth, &c	April 11, 1871
4,511	Smith, John R., Salem, Mass. Grate-bar.....(Reissue)	Aug. 8, 1871
	Smith, John S. (*See* Drake, Ellis, assignor.)	
110,875	Smith, John W., Keokuk, Iowa. Ceremonial-bell	Jan. 10, 1871
120,005	Smith, John Y., Pittsburgh, Pa. Metallurgic furnace. (Antedated Oct. 3, 1871)	Oct. 17, 1871
120,006	Same.....Lining for metallurgic furnaces	Oct. 17, 1871
120,007	Same.....Apparatus for feeding fuel into furnaces	Oct. 17, 1871
120,008	Same.....Apparatus for feeding pulverized fuel to metallurgical and other furnaces	Oct. 17, 1871
120,680	Same.....Apparatus for feeding pulverized fuel to furnaces. (Antedated Nov. 4, 1871)	Nov. 7, 1871
120,832	Smith, Joseph, Ridgeville, Ohio. Potato-digger	Nov. 14, 1871
114,059	Smith, Joseph, assignor to Thomas Rawsthorne, England. Faller for spinning-mules	April 25, 1871
5,055	Smith, Joseph H., Birmingham, Pa., Alois Kwoczalla, Lawrenceville, Pa., and Daniel C. Ripley, Birmingham, Pa. Jelly glass and cup.....(Design)	June 27, 1871
111,602	Smith, Joseph T., Louisville, Ky. Railroad-ticket. (Antedated Feb. 4, 1871)	Feb. 7, 1871
	Smith, Joseph W., and Thomas O. Potter. (*See* Potter & Smith).....(Two cases.)	
116,506	Smith, Julius, Philadelphia, Pa. Jewelry-case	June 27, 1871
121,676	Smith, Justin M., Haddam Neck, Conn. Plow	Dec. 5, 1871
	Smith, J. Willard, and Ira T. Curtis. (*See* Curtis & Smith.)	
116,879	Smith, Kilburn, Lowell, Mass. Musical instrument	July 11, 1871
	Smith, Lemuel. (*See* Soley, William H., assignor.)	
	Smith, Louis P., Middletown, Pa. Lifting-jack	Oct. 31, 1871
115,940	Smith, Loyst J., assignor to self and Henry D. Blake, New York, N. Y. Lock-nut	May 23, 1871
	Smith, Luke Albert, Kansas City, Mo. Soldering-apparatus	Oct. 31, 1871
111,985	Smith, Marcus B., Mattoon, Ill. Railway-car coupling	Feb. 21, 1871
116,233	Smith, Milo, Clinton, Mich. Stove-pipe shelf	June 20, 1871
	Smith, M. P., and N. S. C. Perkins. (*See* Roding, Loyal, assignor.)	
	Smith, Newell E. (*See* King, Lewis, assignor).....(Reissue.)	
	Smith, Newton J. (*See* Stone, William H., assignor.)	
116,766	Smith, Noah, McAllisterville, Pa. Tan-vat	July 4, 1871
121,908	Smith, Obadiah S., and Clark R. Hopkins, Middletown, Conn. Clothes-drier	Nov. 21, 1871
115,650	Smith, Olney L., Providence, R. I. Attaching knobs to their spindles	June 6, 1871
118,894	Smith, Olney L., and James F. Ulton, Providence, R. I. Car-coupling	Sept. 12, 1871
116,767	Smith, Orren M., Philadelphia, Pa. Umbrella runner or notch	July 4, 1871
119,892	Smith, Othniel J., Wauwatosa, Wis. Broiler	Oct. 10, 1871
115,193	Smith, Peter E., Scotland Neck, N. C. Cotton-seed planter	May 23, 1871
119,893	Smith, Rachel P., Dubuque, Iowa. Fire-kindler	Oct. 10, 1871
121,473	Smith, Reuben A., assignor of one-half interest to Thomas R. V. Bradley, East Weare, N. H. Bed-bottom	Dec. 5, 1871
4,550	Smith, Richard, assignor to Mackellar, Smiths & Jordan, Philadelphia, Pa. Type.....(Design)	Jan. 3, 1871
4,560	Same.....same.....(Design)	Jan. 3, 1871
4,561	Same.....same.....(Design)	Jan. 3, 1871
4,743	Same.....same.....(Design)	Mar. 28, 1871
5,056	Same.....same.....(Design)	June 27, 1871
115,124	Smith, Robert H., assignor to self and James B. Sanner, Baltimore, Md. Bobbin-winder for sewing-machines	May 23, 1871
120,786	Smith, Robert M., Baltimore, Md. Revenue-stamp protector	Nov. 7, 1871
	Smith, Robert R., *et al.* (*See* Brodie, Smith & Tyler.)	
	Smith, Robert R., and Anthony T. Brodie. (*See* Brodie & Smith.)	
116,234	Smith, Roland H., Pittsburgh, Pa. Street-lamp	June 20, 1871
4,633	Smith, Roswell T., assignor to self, John G. Blunt, William Earl, and J. K. Priest, Nashua, N. H. Transmitting motive-power.....(Reissue)	Nov. 7, 1871
118,162	Smith, Samuel, Bourbon, Ind. Washing-machine	Aug. 15, 1871
110,689	Smith, Samuel, assignor to self and Charles Noble & Co., Philadelphia, Pa. Pattern for molding stove-lids	Jan. 3, 1871
113,807	Same.....Cooking-stove	April 18, 1871
114,614	Same.....Heating-stove	May 9, 1871
	Smith, Samuel H. (*See* Smart, Luther T., assignor.)	
	Smith, Samuel J. (*See* Chapman, James W., assignor.)	
114,721	Smith, Samuel K., Newark, N. J. Machine for measuring, stretching, and skeining silk	May 9, 1871
	Smith, Samuel R., Cincinnati, Ohio. Method of feeding lumber laterally in sawing-machines.....(Extension)	Jan. 19, 1871
	Same.....Method of feeding lumber laterally in sawing-machines. (Disclaimer filed)	Jan. 28, 1871
4,409	Same.....Circular-saw mill.....(Reissue)	May 30, 1871
	Smith, Samuel R., and Edward Myers. (*See* Myers & Smith.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,152	Smith, Scott A., assignor to Cresson & Smith, Philadelphia, Pa. Coupling for shafting	Jan. 24, 1871
111,561	Same.....Pulley	Feb. 7, 1871
112,507	Smith, Solomon P., Waterford, N. Y. Horse hay-rake	Mar. 7, 1871
	Smith, Solomon S., *et al.* (*See* Elliott, H. T., assignor)	(Reissue.)
111,883	Smith, Stephen N., Providence, R. I. Japanning eyelets, buttons, &c	Feb. 14, 1871
112,973	Same.....Manufacture of eyelet-stock	Mar. 21, 1871
112,086	Smith, Stephen N., and Solomon W. Young, assignors to Union Eyelet Company, Providence, R. I. Device for separating eyelets	Feb. 21, 1871
112,746	Smith, Sydney E., assignor to self and Frederic G. Ford, Washington, D. C. Suspender	Mar. 14, 1871
4,643	Smith, Theron L., North Attleborough, Mass. Bracelet	Feb. 7, 1871
4,644	Same.....same	(Design). Feb. 7, 1871
119,193	Same.....same	(Design). Sept. 19, 1871
	Smith, Thomas C., and Norton L. Francis, Oquawka, Ill. Churn	
	Smith, Thomas J., *et al.* (*See* Decker, John N., assignor.)	
	Smith, Thomas R. (*See* Manier, Benjamin T., assignor.)	
	Smith, Waterman. (*See* Brooks, Benjamin G., assignor.)	
111,304	Smith, Wesley D., Washington, D. C. Electro-magnetic indicator	Jan. 31, 1871
113,217	Smith, W. Dean, and Andrew J. Chase; said Chase assignor to said Smith, Union, N. Y. Saw-mill	Mar. 28, 1871
115,373	Smith, Willard H., New York, N. Y. Device for igniting gas and other lights	May 30, 1871
111,091	Smith, William, Pittsburgh, Pa. Collapsing core-barrel	Jan. 17, 1871
115,125	Smith, William, assignor to self and H. Grebe, Tomah, Wis. Stump-pulling machine	May 23, 1871
4,447	Smith, William, and Hiram D. Rogers, assignors through mesne assignments to Hiram D. and Lebbeus H. Rogers, Cincinnati, Ohio. Producing prices current, bulletins, &c	June 27, 1871 (Reissue).
118,200	Smith, William D., Homerville, Ga. Hand garden-plow	Aug. 22, 1871
121,013	Smith, William F. H., Milwauke, Wis. Railway-car brake	Nov. 14, 1871
114,360	Smith, William H., assignor to the Heath & Smith Manufacturing Company, Portland, Me. Grocers' canister	May 2, 1871
115,126	Smith, William M., Augusta, Ga. Cotton and hay press	May 23, 1871
5,319	Smith, William M., assignor to the Meriden Britannia Company, West Meriden, Conn. Socket for lifting-handles	Oct. 17, 1871 (Design).
120,767	Smith, William Robert, Seaforth, Canada. Curtain-fixture	Nov. 7, 1871
111,992	Smith, William Sooy, and William Reuschel; said Reuschel assignor to said Smith, Chicago, Ill. Machine for sinking screw-piles	Jan. 17, 1871
112,160	Smith, William T., assignor to self and William T. Maher, West Zanesville, Ohio. Sewing-machine	Feb. 28, 1871
121,014	Smith, William T., West Zanesville, Ohio. Binding-guide for sewing-machines	Nov. 14, 1871
	Smith, Winchester & Co. (*See* Hatch, Jonathan, assignor.)	
114,615	Smitley, John, White Cottage, Ohio. Surgical bandage	May 9, 1871
116,105	Smoot, William S., Ilion, N. Y. Metallic cartridge	June 20, 1871
116,106	Same.....Breech-loading fire-arm	June 20, 1871
120,330	Same.....Metallic cartridge	Oct. 24, 1871
120,788	Smoot, William S., assignor to self and E. Remington & Sons, Ilion, Ill. Breech-loading fire-arm	Nov. 7, 1871
110,690	Smyser, Jacob H., Pittsburgh, Pa. Lubricating compound	Jan. 3, 1871
113,588	Same.....Roofing-composition	April 11, 1871
4,694	Same.....same	(Reissue). Nov. 7, 1871
122,289	Same.....Disintegrating and vulcanizing substances	Dec. 26, 1871
119,658	Smyth, David M., assignor to Joseph W. Stickler, Theodore C. Elliott, and William H. Wilson, Orange, N. J. Electro-magnetic sewing-machine	Aug. 29, 1871
119,946	Smyth, David M., assignor to Joseph W. Stickler and Theodore C. Elliott, Orange, N. J. Feeding-mechanism for sewing-machines	Sept. 26, 1871
118,651	Smyth, David M., assignor to Henry G. Thompson, Orange, N. J. Electro-magnetic sewing-machine	Aug. 29, 1871
119,894	Smyth, D. M., assignor through mesne assignments to Henry G. Thompson, Orange, N. J. Book-binding	Oct. 10, 1871
119,061	Smyth, Samuel, East Bridgewater, Pa. Gate	Oct. 3, 1871
	Smyth, William A. S. and Robert L. (*See* Ware, Edmund R., assignor.)	
111,784	Smyth, William H., Steubenville, Ohio. Apparatus for injecting preservative liquids into wood	Feb. 14, 1871
111,966	Smythe, Horner S., Darlington, Wis. Heel of boots and shoes	Feb. 21, 1871
1)3,644	Sneed, Charles S., Louisville, Ky. Sky-light	Mar. 14, 1871
4,339	Snedaker, Warren B., Phœnix, N. Y. Car-coupling	April 11, 1871 (Reissue).
112,363	Snodden, William Tait, Johnstown, Pa. Breech-loading fire-arm	June 27, 1871
112,364	Same.....same	June 27, 1871
111,928	Snediker, William E., assignor to José F. de Navarro, New York, N. Y. Liquid-meter	Jan. 24, 1871
116,640	Sneider, Charles E., assignor to self, Josiah Pennington, jr., and Nicholas G. Penniman, Baltimore, Md. Shot-cartridge for breech-loading fire-arm	July 4, 1871
5,207	Snell, Charles Edwin, Chatham, Canada. Reed-organ pipe	Aug. 15, 1871 (Design).
114,616	Snell, Daniel, Clark County, Ohio. Tumbling-shaft	May 9, 1871
	Snell, J. H. D. (*See* Carpenter, Milo, assignor.)	
120,833	Snell, Peter M., Oscar, and Ainsworth S., Williamsburgh, Ohio. Chair. (Antedated Oct. 26, 1871)	Nov. 14, 1871
116,365	Snider, George B., New York, N. Y. Base-burning fire-place heater	June 27, 1871
	Snider, John F., *et al.* (*See* Edwards, Wesley, assignor.)	
112,974	Snider, John Vaughan, Philadelphia, Pa. Holder for drinking-glasses	Mar. 21, 1871
120,789	Snider, Samuel, assignor to self, A. P. Harcourt, and G. H. Stone, Taylorsville, Ky. Cultivator	Nov. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,790	Snively, Charles H., Millersburgh, Pa. Camera-stand	Nov. 7, 1871
	Snook, Jonathan, and Abraham Freed. (*See* Freed & Snook.)	
122,220	Snow, Charles P., Freeport, Ill. Lightning-rod. (Antedated Dec. 23, 1871)	Dec. 26, 1871
118,886	Snow, George H., New Haven, Conn., and Edwin H. Hawley, Kalamazoo, Mich., assignors to Edwin H. Hawley. Air-pistol. (Antedated Aug. 25, 1870)	Sept. 12, 1871
	Snow, Henry E., *et al.* (*See* Murray, George, jr., assignor.)	
121,552	Snow, Lexor B., Cleveland, Ohio. Dumping-wagon	Dec. 5, 1871
5,120	Snow, Marcus Leonard, West Sterling, Mass. Hanging-vase	July 11, 1871 (Design).
118,064	Snow, William B., Brooklyn, N. Y. Valve for steam-pumps and engines. (Antedated Aug. 3, 1871)	Aug. 15, 1871
118,065	Same.....Adjustable-gauge car-wheel	Aug. 15, 1871
111,785	Snowden, George, Hudson, N. J. Bedstead	Feb. 14, 1871
	Snowden, Henry A. (*See* Ayres & Cole, assignors.)	
121,677	Snowhill, Daniel, and John D. Brown, Spottswood, N. J. Rotary valve	Dec. 5, 1871
119,057	Snyder, August, Allegheny City, Pa. Stop-valve	Sept. 19, 1871
119,491	Snyder, Byron, Clinton, Wis. Gate	Sept. 26, 1871
115,538	Snyder, Henry F., Williamsport, Pa. Roll for gang saw-mills	May 30, 1871
114,361	Snyder, Henry F. and George S., Williamsport, Pa., and Antes Snyder, Freeport, Pa. Oil-tank	May 2, 1871
115,127	Same.....same	May 23, 1871
116,366	Same.....same	June 27, 1871
113,569	Snyder, James P., Brooklyn, N. Y. Electro-magnetic burglar-alarm	April 11, 1871
118,399	Snyder, John H., Richmond, Va. Machine for making horseshoes	Aug. 22, 1871
121,678	Snyder, John H., assignor to self and George Hepburn, Rockford, Ill. Bellows	Dec. 5, 1871
	Snyder, John W. (*See* Wells, Gabriel J., assignor.)	
	Snyder, Milton J., *et al.* (*See* Densmore, Myron H., assignor.)	
120,117	Snyder, Peter, Grand Rapids, Mich. Hub-mortising machine	Oct. 17, 1871
115,250	Snyder, Peter A., Jersey City, N. J. Towel-rack	May 23, 1871
117,214	Snyder, Philip A., Butlerville, Ohio. Halter-buckle	July 18, 1871
120,015	Snyder, Philip A., assignor of one-half interest to Samuel Guetin, Butlerville, Ohio. Snap and buckle combined	Nov. 14, 1871
	Snyder, Theophilus, and David Frank. (*See* Frank & Snyder.)	
110,796	Snyder, William, Bullskin Township, Pa. Hydraulic engine	Jan. 3, 1871
	Snyder, William, *et al.* (*See* Graham, Snyder & O'Brien.)	
119,194	Snyder, William H., Phelps, N. Y. Water-wheel case	Sept. 19, 1871
115,374	Sohier, William, Boston, Mass. Fly-net	May 30, 1871
111,395	Solari, Antonio, assignor of one-half interest to Francis Maquet, Louisville, Ky. Composition for floors, pavements, &c	Jan. 31, 1871
112,860	Soley, George B., Philadelphia, Pa. Hand-tool for carving and engraving	Mar. 21, 1871
	Soley, William H., and William Downing. (*See* Downing & Soley.)	
115,375	Soley, William H., assignor to Lemuel Smith, Philadelphia, Pa. Apparatus for drying paper	May 30, 1871
113,941	Solmans, Alden, New York, N. Y. Hat-ventilator	April 18, 1871
112,294	Somes, Daniel E., Washington, D. C. Cooling, freezing, and preserving solids, liquids, and gases	Feb. 28, 1871
117,341	Same.....Lamp-chimney. (Antedated July 12, 1871)	July 25, 1871
114,985	Somes, Daniel E. and Frank C., Washington, D. C. Apparatus for cooling and preserving milk and other liquids	May 16, 1871
115,251	Sommer, Henry, and Charles Bauer, Newark, N. J. Fluting-machine	May 23, 1871
118,495	Sommer, Henry, and Albert Weiss, assignors to Henry Sommer & Co., Massillon, Ohio. Manufacture of yeast	Aug. 29, 1871
117,573	Sontag, Hugo, Germany. Jar-movement for rock-drills	Aug. 1, 1871
120,544	Sorey, James H., Flora, Ill. Cotton-seed planter	Oct. 31, 1871
	Sortman, Benjamin F., and Frank C. Doran. (*See* Doran & Sortman.)	
	Souder, James D. (*See* Sparks, William H., assignor.)	
115,376	Souder, John, and Elias Miller, Litiz, Pa. Harvester	May 30, 1871
	Southwick, Charles F., and Harlow Gilson. (*See* Gilson & Southwick.) (Design.)	
115,128	Southwick, James M. K., Newport, R. I. Hammock-support	May 23, 1871
117,342	Southwick, Mass Branch, Mont Saint Hillaire, Canada. Flax-brake	July 25, 1871
	Southworth, Consider, and George A. Cooper. (*See* Cooper & Southworth.)	
116,880	Southworth, Luther, and Sewell G. Cushing, Stoughton, Mass. Machine for making screws	July 11, 1871
114,722	Souweine, F., New York, N. Y. Extension-table	May 9, 1871
	Sowden, Adam, and Patrick J. Hogan. (*See* Hogan & Sowden.)	
	Sowers, Henry M., *et al.* (*See* Tennant, Hanson P., assignor.)	
116,307	Sowle, John, Boston, Mass. Double headed and pointed dowell-brad	June 27, 1871
	Spadone & Fitzgerald. (*See* Fitzgerald, Walter H., assignor.)	
	Spain, Edward L., *et al.* (*See* Quann, William, assignor)	(Two cases.)
116,641	Spalding, Enos, Plainfield, N. H. Cart-body fastening	July 4, 1871
118,163	Spalding, Warren A., Waterbury, Conn. Toilet-bottle for tooth-powder	Aug. 15, 1871
113,462	Spangler, George C., assignor to self and Simpson H. Daft, Allegheny City, Pa. Car-coupling	April 4, 1871
117,215	Spangler, Jacob W., Jackson Township, Pa. Cultivator	July 18, 1871
114,617	Spangler, Jacob W., Jackson Township, Pa., and William L. Boyd, York, Pa. Rock-drilling machine	May 9, 1871
118,164	Spanier, Adam, Saint John, Ind. Hay-press	Aug. 15, 1871
	Spark, Charles, *et al.* (*See* Altenbury & Lambrix, assignors.)	
118,496	Sparks, John, assignor of one-half interest to Allen B. Kingsland and William H. Eddy, Rouseville, Pa. Petroleum-pump	Aug. 29, 1871
117,475	Sparks, Theodore Warren, Rochester, N. Y. Car-coupling. (Antedated July 13, 1871)	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,693	Sparks, William E., assignor to Sargent & Co., New Haven, Conn. Spring-bolt	Feb. 7, 1871
113,400	Same.....Knob for picture-nails.....(Design)	Aug. 22, 1871
5,345	Same.....Cupboard-latch.....(Design)	Oct. 31, 1871
5,346	Same.....Chest-handle	Oct. 31, 1871
122,074	Sparks, William H., assignor to self and James D. Souder, Absecom, N. J. Axle for vehicles	Dec. 19, 1871
	Spaulding, Albert F., and William Aldrich. (*See* Aldrich & Spaulding.)	
120,217	Spaulding, George F., Broadhead, Wis. Stove-drum	Oct. 24, 1871
111,987	Spaulding, George H., Rockford, Ill. Harvester	Feb. 21, 1871
115,778	Spaulding, Henry W., Chelsea, Vt. Axle-gauge	June 6, 1871
118,693	Spaulding, Leander, and Elias E. Guy, Norfolk, Va. Device for tapping gas and water pipes	Oct. 10, 1871
118,226	Spayd, George, Alma, N. Y. Churn	Sept. 12, 1871
116,768	Speaker, Jacob, and William Dorn, Chicago, Ill. Cooking-stove	July 4, 1871
119,056	Spear, Bennett P., Charlestown, Mass. Operating water-closet cocks	Sept. 19, 1871
121,209	Spear, Hatherly, Portland, Me. Pump	Nov. 21, 1871
114,368	Spear, John I., San Francisco, Cal. Garden-sprinkler. (Antedated April 27, 1871)	May 2, 1871
		Sept. 26, 1871
119,423	Spear, Vivian K., Lynn, Mass. Sole and heel burnishing machine	Sept. 26, 1871
115,651	Spear, Vivian K., assignor to Tapley Heel-Burnisher Machine Company, Lynn, Mass. Machine for burnishing boot and shoe heels	June 6, 1871
	Spear, Vivian Kimball, *et al.* (*See* Hawkins, Mead & Spear.)	
111,694	Spear, William, Ferry Village, Me. Device for reefing and furling sails	Feb. 7, 1871
	Specker, Carl A., *et al.* (*See* Waisenix & Specker.)	
114,618	Speckner, George, Madison, Wis. Spring bed-bottom. (Antedated May 6, 1871)	May 9, 1871
119,796	Speer, Alfred, Passaic, N. J. Endless traveling side-walk	Oct. 10, 1871
119,423	Speer, William W., Allegheny City, Pa. Combined subsoil-drill and side-hill plow	Sept. 26, 1871
117,216	Spellman, William C., Hartford, Conn. Hard-rubber trunk	July 18, 1871
120,791	Same.....Broom	Nov. 7, 1871
111,309	Spenard, Theiesaphore, Coaticoke, Canada. Steel glass cutter and knife	Jan. 24, 1871
	Spence, Jacob, *et al.* (*See* Tenant, Hanson P., assignor.)	
	Spencer, Adam, *et al.* (*See* Richardson & Spencer.)	Jan. 31, 1871
111,484	Spencer, Albert H., Providence, R. I. Wringing-machine	Mar. 14, 1871
	Same.....(*See* Hugunin, Robert R., assignor) . (Two cases.) (Reissue.)	May 23, 1871
112,645	Spencer, Benjamin M., Newark, N. J. Boiler-flue brush	Oct. 24, 1871
115,252	Spencer, Charles F., Cleveland, Ohio. Trap-ball	
120,339	Same.....Dredge-box	
	Spencer, Isaac M. (*See* Drury, Charles H., assignor.).....(Reissue)	April 25, 1871
4,356	Spencer, Robert, Newark, N. J. Saddle or sweat cloth	Aug. 22, 1871
118,291	Spengler, Christian George, Hoboken, N. J. Dumping-engine	June 20, 1871
114,197	Sperling, William H., Washington, N. J. Bottle-capping machine	
	Sperry, David R., and Richard W. Thickins. (*See* Thickins & Sperry.)	
113,580	Sperry, Ebenezer, Chicago, Ill. Apparatus for evaporating cane-juice, &c	April 11, 1871
117,476	Same.....Cooking-apparatus	July 25, 1871
111,270	Sperry, Timothy S., Chicago, Ill. Bolster and pillow	Jan. 24, 1871
116,507	Sperry, Timothy S., assignor to Charles C. Carpenter, Chicago, Ill. Hoop-skirt	June 27, 1871
	Sperry, William D., and William C. Broyhill. (*See* Broyhill & Sperry.)	
117,827	Sperry, Zealous, Midland, Mich. Saw-sharpening machine	Aug. 8, 1871
111,786	Spicer, Andrew J., Galesburgh, Mich. Prairie-plow jointer	Feb. 14, 1871
	Spicer, Pratt A., and Montgomery Crossman. (*See* Crossman & Spicer.) (Two cases.)	
5,963	Spicer, William A., Providence, R. I. Cooking-stove.....(Design)	Sept. 12, 1871
115,652	Spiess, Frederick Ch., New York, N. Y., and Anton Dobler, Brooklyn, N. Y. Malt-reservoir	June 6, 1871
121,210	Spigelmyer, Linda, Easton, Pa. Combined corset and skirt-supporter	Nov. 21, 1871
116,368	Spillmann, Henry, New Orleans, La. Supporter and pessary	June 27, 1871
	Spinney, William N. (*See* Dunbrack, Charles S., assignor).....(Reissue.)	
121,433	Spitzmiller, August, assignor to self and Norman H. Galusha, Buffalo, N. Y. Base-burning stove. (Antedated Nov. 11, 1871)	Nov. 28, 1871
113,591	Spooner, D. Brainard, Syracuse, N. Y. Liquid and gas meter	April 11, 1871
118,755	Same.....Fluid-meter	Sept. 5, 1871
121,211	Same.....Liquid-meter	Nov. 21, 1871
120,118	Spooner, Jonas C., Houlton, Me. Harness	Oct. 17, 1871
111,485	Spoor, Stephen, Phelps, N. Y. Base-burning stove	Jan. 31, 1871
115,189	Spore, Isaac W., New Scotland, N. Y. Brake-block for vehicles. (Antedated May 15, 1871)	May 23, 1871
		May 23, 1871
115,190	Spore, William L., New Scotland, N. Y. Wagon-brake	
111,396	Sprague, Edwin, assignor to self and John R. Blakeslee, Allegheny City, Pa. Bench-vise for wood-work	Jan. 31, 1871
112,861	Sprague, Franklin L., assignor to William H. Loane, Keene, N. H. Gauge for saw-tables	Mar. 21, 1871
116,760	Sprague, George, South Addison, N. Y. Hoisting-apparatus	July 4, 1871
119,682	Sprague, Henry A., Charlotte, Me. Horse-holder for sleighs	Oct. 3, 1871
119,540	Sprague, James H., Providence, R. I. Bracelet	Oct. 3, 1871
122,199	Sprague, Lewis and Charles H., Henderson, N. Y. Clothes-pin. (Antedated Dec. 16, 1871)	Dec. 26, 1871
116,935	Spreckels, Peter, and James Peterson, assignors to Claus and Peter Spreckels, San Francisco, Cal. Machine for molding, pressing, and cutting sugar	June 20, 1871
113,608	Spring, John M., assignor to P. and F. Corbin, New Britain, Conn. Hook for bird-cages	April 18, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Spring, Solomon C. (*See* Lewis, Benjamin B., assignor.)	
121,734	Springer, Samuel, Chicago, Ill. Bedstead	Dec. 12, 1871
112,975	Springer, Theodore G., Saint Louis, Mo. Gas-machine. (Antedated March 10, 1871)	Mar. 21, 1871
119,663	Same.....Fayette City, Pa. Gas-machine	Oct. 3, 1871
121,679	Same.....Manufacture of illuminating-gas	Dec. 5, 1871
114,060	Springwoter, Moritz, Louisville, Ky. Passenger-register	April 25, 1871
121,820	Sprinkel, George, North Leverett, Mass. Stone-puller	Dec. 12, 1871
112,199	Sprogle, Daniel M., and Joseph E. Dickson, Annapolis, Md. Ventilator	Feb. 28, 1871
115,653	Sprogle, Daniel M., Annapolis, Md. Coping for walls	June 6, 1871
117,343	Same.....Mold	July 25, 1871
120,834	Same.....Kiln for the manufacture of artificial stone	Nov. 14, 1871
117,344	Sproul, Eleanor C., Green Point, N. Y. Braid-guiding attachment for sewing-machines	July 25, 1871
113,105	Sproul, Frank, Doniphan, Kans. Portable fence	Mar. 28, 1871
	Squier, George L. (*See* Stevens, Henry B., assignor.)	
114,363	Sreeves, Charles, Atchison, Kans. Bridge	May 2, 1871
	Staab, Peter, and Joseph O. Luther. (*See* Luther & Staab.)	
110,797	Stasta, William H., assignor of one-half interest to Rufus Lape and Charles A. McLeod, Crescent, N. Y. Railway-rail chair	Jan. 3, 1871
112,747	Stackpole, Greenleaf, Elizabeth, N. J. Sewing-machine	Mar. 14, 1871
112,976	Same.....Whisk-broom	Mar. 21, 1871
4,729	Same.....same.....(Design)	Mar. 21, 1871
113,358	Same.....same	April 4, 1871
	Stacy, George, and Harley D. Cowles. (*See* Cowles & Stacy.)	
	Stacy, James E., and Morrill G. Phillips. (*See* McPherson, William H., assignor.)	
115,377	Stadelmann, Carl, Pittsburgh, Pa. Glass-mold	May 30, 1871
115,779	Stafford, Charles F., and Lemuel Stansberry, Evansville, Ind. Sewing-machine caster	June 6, 1871
	Stafford, Emmet, *et al.* (*See* Burgess, Clossen P., assignor.)	
	Stafford, John W., and William Cottingham. (*See* Cottingham & Stafford.)	
116,369	Stagg, David I., New York, N. Y. School-seat	June 27, 1871
	Stainfield, William, and James A. Bryan. (*See* Bryan & Stainfield.)	
113,700	Stallings, Reuben, Louisburgh, N. C. Cotton and hay press	April 11, 1871
115,760	Stallins, Noah H., Windsor, N. C. Washing-machine	June 6, 1871
	Stamm Brothers. (*See* Storle, Ole O., assignor.)	
111,397	Stamm, Frederick, East Lampeter, Pa. Bark-mill	Jan. 31, 1871
111,398	Stancliff, George, New York, N. Y. Boat-detaching apparatus	Jan. 31, 1871
	Same.....(*See* Green, Joseph, assignor.)	
	Standish, John M., *et al.* (*See* Barnard, John D., assignor.)	
	Standlick, William, *et al.* (*See* Colby, Calvin M., assignor.)	
	Stanley, Abram R., and Edward Meloy. (*See* Meloy & Stanley.)	
120,601	Stanley, Daniel O., South Attleborough, Mass. Joint of breast-pins	Nov. 7, 1871
111,486	Stanley, Ira N., Brooklyn, N. Y. Manufacture of illuminating gas	Jan. 31, 1871
113,942	Same.....Gas-condenser	April 18, 1871
115,378	Stanley, James D., Baltimore, Md. Apparatus for extracting tar, &c., from pine wood	May 30, 1871
115,131	Stanley, Linnæus H., and Gamaliel B. Draper, assignors through mesne assignments to selves, Nathaniel Faubrother, and George S. Fales, Attleborough, Mass. Machine for softening hides, leather, &c	May 23, 1871
	Stanley Rule and Level Company. (*See* Traut, Justus A., assignor.)	
	Stansberry, Lemuel, and Charles F. Stafford. (*See* Stafford & Stansberry.)	
	Stansbury, Joseph A., and Nathan Ball. (*See* Ball & Stansbury.)	
120,119	Stansel, George, Saint Johnsville, N. Y. Horseshoeing-rest	Oct. 17, 1871
113,218	Stanton, Bradley W., Almena, Mich. Wind-mill	Mar. 28, 1871
114,216	Stanton, John, Philadelphia, Pa. Low-water alarm	April 25, 1871
114,217	Stanton, Joseph, assignor through mesne assignments to John Kihlberg and Michael Meamer, Buffalo, N. Y. Trunk-lock	April 25, 1871
114,485	Stanton, Joseph, assignor to self and Adolphus Hagelin, Buffalo, N. Y. Trunk	May 2, 1871
113,701	Stanton, Samuel, New York, N. Y. Variable eccentric for steam-engine governors	April 11, 1871
111,893	Staples, Edmund L., Chillicothe, Ohio. Corn-dropping attachment for hoes	Feb. 14, 1871
113,592	Staples, John H., assignor to John H. Ferguson and Samuel Clark, Wells, Me. Water-wheel	April 11, 1871
	Starbuck, Thomas. (*See* Boswell, Palmer & James, assignors.)	
120,340	Stark, Abraham H., and John C. Mitchell, Nevada, Iowa. Corn-planter	Oct. 24, 1871
	Stark, Albert, *et al.* (*See* Loomis, Winters & Stark.)	
	Stark, Lewis Henry, and Kendrick Kendal. (*See* Kendal & Stark.)	
121,212	Stark, William, White Pigeon, Mich., and Joseph G. Fisher and Simeon Fitch, Toledo, Ohio. Railway stock-car	Nov. 21, 1871
121,213	Same.....same	Nov. 21, 1871
121,214	Same.....Apparatus for feeding and watering stock on cars	Nov. 21, 1871
113,219	Stark, William, and Joseph G. Fisher, Toledo, Ohio. Grain-drier	Mar. 28, 1871
113,230	Same.....Heating-stove	Mar. 28, 1871
118,980	Starke, Friedrich, Dayton, Ohio. Carpenters' bench	Sept. 12, 1871
117,574	Starke, Patrick Henry, Richmond, Va. Plow	Aug. 1, 1871
	Starker, Amanda M. (*See* Little, Matthew, assignor.)	
119,066	Starkey, Orlando L., and Elisha W. Poston, assignors to Orlando L. Starkey, Fort Wayne, Ind. Paper-trimming machine	Aug. 15, 1871
5,194	Starr, Eli T., assignor to Samuel S. White, Philadelphia, Pa. Dentists' upper-impression tray.....(Design)	Aug. 6, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,298	Starr, Isaac, Wooster, Ohio. Horse-power	Aug. 22, 1871
111,487	Starr, Nicholas, Homer, N. Y. Umbrella	Jan. 31, 1871
	Starr, Thomas W. (*See* Waters, Frank, assignor) (Design.)	Aug. 22, 1871
118,431	Starr, William M., Washington, D. C. Steam-engine	
120,341	Starr, William M., assignor of one-eighth interest to John A. Rollings and George W. Wright, and one-fourth interest to William Penn Clarke, Washington, D. C. Car brake and starter	Oct. 24, 1871
111,695	Starrett, Lamy S., Athol, Mass. Car-coupling	Feb. 7, 1871
112,646	Standt, Manasse, Summit Hill, Pa. Velocipede	Mar. 14, 1871
	Stanase, Valentine, *et al.* (*See* Nimmo, Archibald, assignor) (Two cases.)	
114,619	Stead, Isaac, Philadelphia, Pa., Henry Holcroft, Media, Pa., and Francis R. Pearson, Germantown, Pa. Self-acting mule for spinning	May 9, 1871
		Dec. 15, 1871
	Stealey, Thomas L., Middlebourne, W. Va. Harvester (Extension)	
115,379	Stearns, David E., assignor to self, Samuel M. Burr, and William D. Fowler, Beres, Ohio. Motive-power for sewing-machines	May 30, 1871
111,093	Stearns, Edward H., Erie, Pa. Edging-machine	Jan. 17, 1871
115,903	Same Saw-mill	June 13, 1871
117,828	Same Machine for turning logs (Reissue)	Aug. 8, 1871
4,551	Same Head-block for saw-mills (Reissue)	Sept. 12, 1871
4,625	Same Head-block (Reissue)	Nov. 7, 1871
121,299	Same Machine for handling logs in saw mills	Nov. 28, 1871
116,108	Stearns, John N., New York, N. Y. Bobbin	June 20, 1871
111,696	Stearns, Monroe J., Galesville, Wis. Bee-hive	Feb. 7, 1871
118,887	Stearns, Silas D., and George Ellsworth, Weston, Ohio. Bee-hive	Sept. 12, 1871
118,477	Stebbins, Carlos, Pike, N. Y. Sewing-machine	Aug. 15, 1871
117,008	Stebbins, Charles H., Circleville, Ohio. Steam-boiler fine-cleaner	July 11, 1871
	Stebbins, J. Monroe, and James McKenzie. (*See* McKenzie & Stebbins.)	
	Stebbins, John W. (*See* McMaster, Alonzo D., assignor.)	
	Stebbins, Samuel H., and Joseph L. Hannum. (*See* Hannum & Stebbins.)	
113,106	Steehschult, August, Glendorf, Ohio. Clothes-drier	Aug. 29, 1871
121,016	Steck, George, and Franklin Arnold, Hugheaville, Pa. Pump	Nov. 14, 1871
116,109	Steck, George, New York, N. Y. Grand piano	June 20, 1871
117,695	Stedman, Edward E., Randolph, Ohio. Clothes-drier	Aug. 1, 1871
	Steed, Robert P. (*See* Earnest, William H., assignor.)	
	Steele & Johnson Button Company. (*See* Washbourne, Frank, assignor.)	
116,110	Steele, Albert J., Brooklyn, N. Y. Electro-magnetic medical apparatus	June 20, 1871
114,873	Steele, Ben. H., Barnesville, Ohio. Churn	May 16, 1871
4,628	Steele, Elbridge J., assignor to Turner, Seymour & Judds, New Britain, Conn. Drawer-pull (Design)	April 18, 1871
115,781	Same Fastening for window-shutters	June 6, 1871
5,374	Same Wolcottville, Conn. Plate of shutter and tassel hooks. (Design) (Design)	Sept. 19, 1871
5,375	Same Caster-ring (Design)	Sept. 19, 1871
117,009	Steele, Elijah F., Wallingford, Conn. Furnace-grate	July 11, 1871
114,986	Steen, Knud, Rochester, N. Y. Adjustable square	May 16, 1871
4,623	Steffe, Jacob, assignor to Orr, Painter & Co., Philadelphia, Pa. Cooking-stove. (Design)	April 18, 1871
4,401	Steffe, William, assignor to self and Jesse Reynolds, Philadelphia, Pa. Radiator (Reissue)	May 30, 1871
117,010	Steger, Joseph, New York, N. Y. Friction-pulley	July 11, 1871
113,503	Stein, Michael J., New York, N. Y. Sewing boots and shoes (Design)	April 11, 1871
5,363	Stein, Samuel, Rochester, N. Y. Burial-case	Nov. 14, 1871
5,373	Steinmetz, Bernard, assignor to Raphael Neumann & Co., France. Lock-case for satchels, &c (Design)	Dec. 12, 1871
115,782	Steinway, C. F. Theodore, New York, N. Y. Piano-action	June 6, 1871
118,402	Stelle, David D., New Brunswick, N. J. Rub-iron for vehicles	Aug. 22, 1871
	Stelson, Elias B., *et al.* (*See* Derby, John K., assignor.)	
117,011	Stengel, Jost, Croton, Mich., and Charles C. Davey, Big Prairie, Mich., assignors to Henry B. Hershberger and Charles C. Davey. Corn-husker	July 11, 1871
		May 16, 1871
114,987	Stephens, D. H., Riverton, Conn. Rule-joint	Aug. 22, 1871
116,293	Stephens, Ebenezer Burnet, Brownville, Nebr. Wire-stretcher	June 6, 1871
115,654	Stephens, George F., assignor to self and John Nation, Portland, Oreg. Buckle	
118,165	Stephens, William, New Albany, Ind. Device for drawing iron from heating-furnaces	Aug. 15, 1871
		Aug. 15, 1871
118,166	Stephenson, George A., and Oliver L. Sutliff, Wooster, Ohio. Lightning-rod	April 4, 1871
113,350	Stephenson, Hugh M., and John B. Tyer, Wabash, Ind. Mail-bag fastener	Mar. 28, 1871
113,107	Stephenson, James M., Pendleton, Ind. Rock-drill	
120,788	Sterick, Charles W., assignor to William A. Middleton, Northumberland, Pa. Attachment for wash-boilers	Nov. 7, 1871
		July 18, 1871
117,917	Sterick, Sylvanus T. F., Georgetown, D. C. Journal-box and axle-bearing	
	Sterling, William H., and Samuel S. B. Lewis. (*See* Lewis & Sterling.)	
115,253	Sternberg, Adolf W. C., Davenport, Iowa. Bung-cutter	May 23, 1871
	Sternberg, A. Irving, *et al.* (*See* Shortt, Edward G., assignor) (Two cases.)	
4,396	Sternberg, George Miller, New York, N. Y. Electro-magnetic regulator for temperature in rooms, &c (Reissue)	April 4, 1871
119,541	Same Electro-magnetic valve	Oct. 3, 1871
119,542	Same Electro-magnetic thermometer	Oct. 3, 1871
119,543	Same Manufacture of electric thermometers	Oct. 3, 1871
112,067	Sternberg, Jay, Webster City, Iowa. Grain-cleaning machine	Feb. 21, 1871
	Sternberg, Wilhelm, *et al.* (*See* Heuermann, Sternberg & Stuhr.)	
13,977	Sternberg, William, Bridgeport, Conn. Cheese-hoop	Mar. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,809	Sternberg, William, Bridgeport, Conn. Cheese-hoop	April 18, 1871
112,295	Sterne, Louis, England. Rubber-tire for steam-carriages	Feb. 28, 1871
113,943	Steschult, William, Glandorf, Ohio. Sawing-machine	April 18, 1871
	Stetefeldt, Charles A., *et al.* (*See* Riotte, Eugene N., assignor.)	
	Stetler, Henry Z. (*See* Bell, James A., assignor.)	
119,424	Stetson, Bradford, Uxbridge, Mass. Anti-friction bearing of water-wheels	Sept. 26, 1871
116,642	Stetson, George R., New Haven, Conn. Breech-loading fire-arms	July 4, 1871
120,403	Stetson, George R., assignor to the Winchester Repeating-Arms Company, New Haven, Conn. Metallic cartridge	Oct. 31, 1871
	Stetson, John A., jr., and John N. Valley. (*See* Valley & Stetson.)	
121,067	Stetson, Lewis Thayer, Randolph, Mass. Perch for fowls	Nov. 21, 1871
4,936	Stetson, Thomas D., assignor to Heath & Smith Manufacturing Company, New York, N. Y. Street-lamp (Design)	May 23, 1871
115,530	Stevenbanks, Charles, and Joseph Quinn, Wilmington, Del. Adjustable car-seat	May 30, 1871
111,884	Stevens, Andrew J., San Francisco, Cal. Locomotive-boiler furnace	Feb. 14, 1871
114,061	Stevens, Augustus G., Manchester, N. H. Furniture-caster	April 25, 1871
114,218	Stevens, Benjamin D., assignor to self, Nathan A. Wright, and John Conant, Prairie du Chien, Wis. Rubber-veneer	April 25, 1871
	Stevens, Charles D., and Frank J. Claxton. (*See* Claxton & Stevens.)	
120,545	Stevens, Charles L., assignor to self and L. B. Flanders, Galesburgh, Ill. Hydro-pneumatic motor	Oct. 31, 1871
112,647	Stevens, Chase A., assignor to Abijah Richardson, New York, N. Y. Packing from asbestus and other fibrous minerals	Mar. 14, 1871
112,648	Same Fibrous mineral-packing for journals, bearings, &c	Mar. 14, 1871
112,649	Same Treating asbestus and other mineral fibers for useful purposes	Mar. 14, 1871
112,650	Same Treating asbestus and other fibrous minerals	Mar. 14, 1871
112,651	Stevens, Chase A., New York, N. Y., and Isaac Lindsley, Pawtucket, R. I., assignors through mesne assignments to Abijah Richardson. Machine for forming packing from asbestus and other fibrous materials	Mar. 14, 1871
118,295	Stevens, Chase A., and Cyrus Butler, New York, N. Y. Packing for machinery and lining for journal-boxes and bearing-surfaces	Aug. 22, 1871
	Stevens, Colin and George M., *et al.* (*See* Turner & Stevens.)	
111,488	Stevens, George, and Joshua Hendy, San Francisco, Cal. Electro-magnetic sewing-machine	Jan. 31, 1871
116,770	Stevens, George, and James W. Moyle, Cincinnati, Ohio. Electro-magnetic fan	July 4, 1871
4,562	Stevens, George D., New York, N. Y. Chain-hook (Design)	Jan. 3, 1871
111,489	Same Guard-chain for bracelets	Jan. 31, 1871
118,394	Same Neck-chain	Aug. 22, 1871
114,874	Stevens, Henry B., assignor to George L. Squier, Buffalo, N. Y. Horse-power	May 16, 1871
	Stevens, Lafayette, Elmira, N. Y. Boring-machine (Extension)	Dec. 14, 1871
112,088	Stevens, Levi, Washington, D. C. Producing gas from solid carbon	Feb. 21, 1871
113,810	Stevens, Nathan Page, Hopkinton, N. H. Steam-engine valve	April 18, 1871
116,370	Same same	June 27, 1871
120,793	Stevens, Seth, North Fryeburgh, Maine. Corn-planter	Nov. 7, 1871
	Stevens, William H. (*See* Nash, Francis M., assignor.)	
121,821	Stevenson, Charles J., assignor to self and Martin H. Duckworth, Hazel Green, Wis. Core-retainer for tubular rock-drills	Dec. 12, 1871
118,068	Stevenson, George, Zionsville, Ind. Farmers' boiler	Aug. 15, 1871
110,691	Stevenson, Henry M., South Peacham, Vt. Clothes-drier	Jan. 3, 1871
	Stevenson, James R., *et al.* (*See* Burgess, Closson P., assignor.)	
	Stevenson, James R., and Closson P. Burgess. (*See* Burgess & Stevenson.)	
112,296	Stevenson, John H., Birmingham, Ohio. Saw-jointer for circular saws	Feb. 28, 1871
119,664	Stevenson, Stephen, Dansville, N. Y. Turbine water-wheel	Oct. 3, 1871
114,988	Stevenson, William, Neponset, Ill. Draught-equalizer	May 16, 1871
	Stewart, Alexander. (*See* Merrill, John F., assignor.)	
	Stewart, Benjamin F., and Marion H. Marmaduke. (*See* Marmaduke & Stewart.)	
115,904	Stewart, Charles E., Aspinwall, United States of Colombia. Throttle-valve gear	June 13, 1871
118,828	Stewart, Columbus I., Baltimore, Md. Door-lock	Sept. 12, 1871
113,108	Stewart, Edward, Fort Madison, Iowa. Automatic water-spout cut-off	Mar. 28, 1871
117,120	Same Card-holder	July 18, 1871
121,829	Stewart, Henry S., Yreka, Cal. Elevator	Dec. 12, 1871
	Stewart, James G., and Jacob Hill. (*See* Hill & Stewart.)	
113,811	Stewart, John L., and John P. Logan, Philadelphia, Pa. Petroleum-still	April 18, 1871
121,906	Stewart, Malcolm, Southfield, Mich. Potato-digger	Dec. 12, 1871
115,905	Stewart, Ninian, Detroit, Mich. Trunk. (Antedated June 2, 1871)	June 13, 1871
120,120	Stewart, Orlando, East Cambridge, Mass. Variable exhaust for locomotive-engines	Oct. 17, 1871
	Stewart, Samuel. (*See* Harris, William J., assignor.)	
112,508	Stewart, S. M., New Harrisburgh, Ohio. Plow	Mar. 7, 1871
121,660	Stewart, Thomas, Philadelphia, Pa. Lock	Dec. 5, 1871
116,111	Stewart, T. H., Winona, Miss. Washing-machine	June 20, 1871
116,881	Stibbs, Thomas, Wooster, Ohio. Flier for spinning, &c	July 11, 1871
117,918	Same Skein twisting machine	July 18, 1871
119,195	Same Press for pressing yarn, &c	Sept. 19, 1871
121,434	Stichter, Henry P., Pottsville, Pa. Combined potato-masher, steak-pounder, and ice-breaker	Nov. 28, 1871
	Stickler, Joseph W., *et al.* (*See* Smyth, David M., assignor) (Two cases.)	
	Stiffer, Albert G., and John W. Hull. (*See* Hull & Stiffer.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,748	Stigale, Elizabeth Mary, Philadelphia, Pa. Floral-bracket	Mar. 14, 1871
4,595	Stiles, David L., assignor through mesne assignments to John M. French, Rochester, N. Y. Heating-stove (Reissue)	Oct. 17, 1871
	Stiles, Jacob M., and Ellwood Davis. (*See* Davis & Stiles.)	
114,486	Stiles, William C., Nevada City, Cal. Ore-concentrator. (Antedated April 22, 1871)	May 2, 1871
122,675	Still, Andrew T., Baldwin City, Kans. Churn-dasher	Dec. 19, 1871
114,219	Still, John W., assignor to Franklin Pancoast, San Francisco, Cal. Fire-kindling	April 25, 1871
4,597	Stillman, William Warren, assignor to Ralph Emerson, Mount Hawley, Ill. Plow-colter (Reissue)	Oct. 17, 1871
116,868	Stillson, G. C., Derby, Conn. Ladies' elastic supporter	July 11, 1871
	Stilson, John F., *et al.* (*See* Babcock, Stilson & Leidy.)	
	Stilwell, Charles B., *et al.* (*See* Nicholson, Ezra, assignor.)	
115,132	Stilwell, John, Griffin, Ga. Hoe	May 23, 1871
115,133	Stilwell, Lewis E., Franklinville, N. Y. Wagon-tongue support	May 23, 1871
111,490	Stilwell, William W., Oxford, Wis. Churn	Jan. 31, 1871
	Stimpson, James, Baldwinsville, Mass. Method of joining boxes, &c. (Extension)	Feb. 2, 1871
	Stimson, Charles, *et al.* (*See* Colley, William H., assignor) (Reissue.)	
119,059	Stimson, Lucius S., deceased, by Harriet N. Stimson, administratrix, assignor of one-half interest to Nelson F. Libby, Lowell, Mass. Composition felting. (Antedated Sept. 16, 1871)	Sept. 19, 1871
	Stine, Simon J. (*See* Peters, Jacob, assignor.)	
	Same (*See* Rothe, Julius A., assignor.)	
115,906	Stine, William, Elmore, Ohio. Stove-pipe joint	June 13, 1871
113,360	Stine, William, assignor to self and Henry R. Lyle, Elmore, Ohio. Match-safe	April 4, 1871
114,723	Stinson, William Henry, Newbern, Iowa. Grain-registering device	May 9, 1871
116,236	Stites, John S., assignor to self and Abraham S. Stonebraker, Baltimore, Md. Propulsion of vessels	June 20, 1871
121,134	Stitzel, Frederick, Louisville, Ky. Device for filling barrels	Nov. 21, 1871
5,193	Stivers, Rufus M., New York, N. Y. Base of a carriage-body (Design)	Aug. 8, 1871
4,962	St. John, James A., Boston, Mass. Type (Design)	June 6, 1871
	St. John, J. C. (*See* Wheeldon, John, assignor.)	
112,978	St. John, Roswell H., Bellefontaine, Ohio. Hinge for sewing-machines	Mar. 21, 1871
119,685	Same same	Oct. 3, 1871
121,681	St. John, Roswell H., assignor to self, Jacob Pim, and John Marshall, Bellefontaine, Ohio. Flour-bolt	Dec. 5, 1871
113,463	St. John, William H., Brooklyn, N. Y., and Samuel O. Rockwell, Jersey City, N. J. Friction-condenser for illuminating-gas	April 4, 1871
	Stock, James C., and Nelson Warren. (*See* Warren & Stock.)	
115,655	Stock, John and Jacob, New York, N. Y. Photographic camera	June 6, 1871
116,771	Same Photographic apparatus	July 4, 1871
121,553	Same Photographic camera	Dec. 5, 1871
114,734	Stockbridge, Lyman R., assignor to self and William W. S. Orbeton, Haverhill, Mass. Balmoral or laced boot	May 9, 1871
121,554	Stockman, Percival T. G., Brooklyn, N. Y. Process of amalgamating gold and silver ores	Dec. 5, 1871
117,477	Stockton, Edward A., San Francisco, Cal. Machine for turning spiral moldings	July 25, 1871
	Stockton, Samuel. (*See* Schepler, John, assignor.)	
117,012	Stockton, Volney, Williamsburgh, Ohio. Knock-down chair	July 11, 1871
117,478	Stockwell, Emory, Stamford, Conn. Permutation-lock	July 25, 1871
116,371	Stockwell, John W., Portland, Maine. Drain-pipe machine	June 27, 1871
116,643	Same same	July 4, 1871
121,682	Stocum, Hector M., Painted Post, N. Y. Nail-hammer	Dec. 5, 1871
110,876	Stoddard, Joshua C., Worcester, Mass. Horse-hay rake	Jan. 10, 1871
119,480	Stofer, William B., Memphis, Tenn. Gas-burner	Oct. 3, 1871
116,508	Stokes, Joseph F., Philadelphia, Pa. Car-starter	June 27, 1871
113,109	Stoll, Michael, assignor to self and Jacob G. Peters, Conestoga Township, Pa. Cultivator	Mar. 28, 1871
	Stolle, James W., *et al.* (*See* Gillham, Taylor & Stolle.)	
	Stone, Albern, *et al.* (*See* Deitz, Wayne & Stone.)	
120,218	Stone, George F., Baltimore, Md. Fountain for wash-boilers	Oct. 24, 1871
	Stone, G. H., *et al.* (*See* Snider, Samuel, assignor.)	
5,402	Stone, James Edward, assignor to Arnold, Constable & Co., England. Carpet-pattern (Design)	Dec. 5, 1871
121,433	Stone, John H., assignor to self and J. M. Williams, Hamilton, Canada. Machine for making sheet-metal screw-neck and screw-cap for cans	Nov. 28, 1871
111,988	Stone, Joseph M., North Andover, Mass. Construction of cylinders for carding and other machines	Feb. 21, 1871
	Stone, Joseph M., and Joseph H., *et al.* (*See* Ashworth, John, assignor.)	
	Stone, Joseph M. and Joseph H., *et al.* (*See* McGovern, Peter, assignor.)	
121,907	Stone, Joseph M., assignor to self, George L. Davis, John A. Wiley, George G. Davis, Joseph H. Stone, and James H. Davis, North Andover, Mass. Loom shuttle-box mechanism	Dec. 12, 1871
116,112	Stone, Livingston, Charlestown, N. H. Fish-hatching apparatus	June 20, 1871
	Stone, Mark B., and Benjamin F. Fisk. (*See* Fisk & Stone.)	
113,979	Stone, Nathaniel F., deceased, by Amanda Stone and Benjamin Holbrook, administrators, Chicago, Ill. Saw-gummer. (Antedated March 1, 1871.)	Mar. 21, 1871
114,699	Stone, Samuel, assignor to self and Frederick S. Hunt, Lynn, Mass. Shank-marking tool	May 9, 1871
120,342	Stone, Thomas, Carbondale, Ill. Water-grate for steam-boilers	Oct. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,230	Stone, Warren H., Lebanon, N. H. Plow-colter	April 25, 1871
111,563	Stone, William C., assignor to self and William S. Foster, Derby Line, Vt. Tanning	Feb. 7, 1871
116,883	Stone, William H., assignor to self and Newton J. Smith, Pattonsburgh, Mo. Well-auger	July 11, 1871
	Stonebraker, Abraham S. (*See* Stites, John S., assignor.)	
113,619	Stoney, Edmund, Walkerton, Canada. Chair and cradle combined	April 18, 1871
114,621	Stoops, Nesbitt D., Philadelphia, Pa. Treadle-bearing and oil-shield	May 9, 1871
	Storer, Ebenezer W., and George W. Tinsley. (*See* Tinsley & Storer.)	
	Storer, Jacob J., and James D. Whelpley. (*See* Whelpley & Storer.) (Five cases.)	
114,697	Storer, Joseph, England. Fountain	Feb. 7, 1871
113,813	Storle, Ole O., North Cape, Wis. Horse hay-rake. (Antedated April 1, 1871)	April 18, 1871
114,487	Storle, Ole O., assignor to self and Stamm Brothers, North Cape, Wis. Snap-hook	May 2, 1871
121,683	Storm, George, assignor to Straiton & Storm, New York, N. Y. Unwinder for book-tobacco	Dec. 5, 1871
120,681	Storm, William Mont, New York, N. Y. Combined steam and air engine. (Antedated Oct. 21, 1871)	Nov. 7, 1871
122,137	Same Machine for plaiting cloth	Dec. 26, 1871
	Stormont, William. (*See* Cracraft, Zadok S., assignor.)	
115,907	Story, John Thomas, Magnolia, Ark. Plow	June 13, 1871
115,380	Story, Joseph M., Cincinnati, Ohio. Driving paddle-wheels	May 30, 1871
122,076	Story, William H., Flatbush, N. Y. Mold for sewer-pipe	Dec. 19, 1871
119,797	Stott, John, Burlington, Iowa. Rotary engine	Oct. 10, 1871
	Stout, Byron G., *et al.* (*See* Sebring, Thompson C., assignor.)	
	Stout, George W., and Augustus Pelisse. (*See* Pelisse & Stout.)	
113,361	Stout, Stephen, Tremont, Ill. Churn-dasher	April 4, 1871
111,399	Stoutenborough, William T., Brooklyn, N. Y. Holder for plates while being warmed	Jan. 31, 1871
115,990	Same Ash-sifter	June 13, 1871
117,479	Stover, Benjamin F., Ladoga, Ind., and Isaac W. Warner, Crawfordsville, Ind. Churn-dasher	July 25, 1871
121,971	Stover, Joseph W., Boston, Mass., and Moses G. Crane, Newton, Mass. Protective electric telegraph	Dec. 19, 1871
114,364	Stow, Henry W., New Haven, Conn. Carriage-hub	May 2, 1871
114,062	Stow, John N., and Robert Loop, Camden, Ohio. Animal-trap	April 25, 1871
113,702	Stow, John W., San Francisco, Cal. Manufacture of pneumatic gas for illuminating, &c	April 11, 1871
	Stow, Joseph Wesley. (*See* Bell, Alexander D., assignor.)	
	Same (*See* Bloomfield, Homer, assignor.)	
113,944	Stow, Orson W., Plantsville, Conn. Seaming-machine	April 18, 1871
	Stow, Orson W., Plantsville, Conn., and Augustus Barnes, Southington, Conn. Candle-snuffers (Extension)	Nov. 8, 1871
	Stowe, Jasper. (*See* Martin, Milo, assignor.)	
113,221	Stowell, Barna T., Quincy, Ill. Excavator	Mar. 28, 1871
111,989	Stowell, William J., Baltimore, Md. Cradle for children. (Antedated Feb. 20, 1871)	Feb. 21, 1871
120,343	Strack, Samuel, Dover Township, Pa. Railway cattle-guard	Oct. 24, 1871
121,135	Straffin, Charles H., Boston, Mass. Clothes-line reel	Nov. 21, 1871
112,980	Strain, Edwin, Newton, Mass. Needle for sewing-machines	Mar. 21, 1871
5,325	Strain, John G., Delaware, Ohio. Chair (Design)	Oct. 24, 1871
113,594	Strain, Joseph, Artemesia, Canada. Spinning-wheel	April 11, 1871
121,068	Strain, Robert R., San Francisco, Cal. Earth-closet	Nov. 21, 1871
114,622	Strait, Homer, Cincinnati, Ohio. Railway-switch	May 9, 1871
	Straiton & Storm. (*See* Storm, George, assignor.)	
117,345	Strange, Edward M., New York, N. Y. Ship-building	July 25, 1871
116,113	Strange, Joseph W., Bangor, Maine. Tension-mechanism for sewing-machine shuttles	June 20, 1871
119,425	Same Steering apparatus	Sept. 26, 1871
114,875	Strattner, Frederick, Wilmington, Del. Shutter-worker	May 16, 1871
4,365	Stratton, Edwin A. and Charles M., Greenfield, Mass. Metal corner-piece for protecting the corners of wooden bodies (Reissue)	May 2, 1871
120,910	Stratton, James, New Haven, Conn. Pipe-tongs	Nov. 14, 1871
116,114	Straub, Leo C., Pittsburgh, Pa. Can filling and soldering apparatus	June 20, 1871
117,121	Same Fruit-jar	July 18, 1871
114,482	Straus, Jacob, Saint Louis county, Mo. Mold for saddle-trees	May 2, 1871
121,215	Same Saint Louis, Mo. Composition saddlery-goods	Nov. 21, 1871
	Strauss, Philip, and Ernest Greenfield. (*See* Duff, Robert, assignor.) (Two cases.)	
	Same (*See* Oehl, Charles A., assignor.)	
115,783	Strean, Alexander, Harrodsburgh, Ind. Hay-gatherer	June 6, 1871
4,340	Street, John W., Marshalltown, Iowa. Cattle-car (Reissue)	April 11, 1871
120,121	Street, William, New York, N. Y. Privy-seat cover	Oct. 17, 1871
114,725	Strehli, Joseph H., Cincinnati, Ohio. Stop-valve	May 9, 1871
	Streit, Josiah, and John Williamson James. (*See* James & Streit.)	
113,110	Stribling, Uriah B., Madison, Ind. Boiler-furnace	Mar. 28, 1871
	Strickland, Thomas, *et al.* (*See* While, Lewis, Strickland & Caddick.)	
	Strock, Solomon, and Newton C. Freck. (*See* Freck & Strock.)	
111,871	Strong, Clark, Winsted, Conn. Burial-casket handle	Jan. 24, 1871
	Strong, Francis M., and Thomas Ross, Vergennes, Vt. Platform-scale. (Disclaimer filed)	Jan. 10, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Strong, Francis M., and Thomas Rose, Vergennes, Vt. Platform-scale. (Extension)	Jan. 20, 1871
	Strong, John L., and Henry Buttenberg. (*See* Buttenberg & Strong.)	
	Strong, Myron H. (*See* Maxim, Hiram S., assignor.)	
112,981	**Strong, Myron H., and William I. Reid, Brooklyn, N. Y.** Hydrocarbon-gas apparatus	Mar. 21, 1871
117,013	**Stroock, Samuel, New York, N. Y.** Ice-bag	July 11, 1871
117,939	Same.....Packing for doors and windows	Aug. 8, 1871
118,887	Same.....Milk-can	Sept. 12, 1871
120,833	**Strope, Dennis B., Fort Wayne, Ind.** Cone for locomotive smoke-stacks	Nov. 14, 1871
117,014	**Stropes, Jeremiah L., Bloomfield, Ind.** End-gate for wagons	July 11, 1871
4,631	Same.....same.....(Reissue)	Nov. 7, 1871
114,211	**Strond, Archibald L. W., Mumford, Ala.** Plow. (Antedated April 19, 1871)	April 25, 1871
112,802	**Stroud, William D., Oshkosh, Wis.** Cultivator	Mar. 21, 1871
119,285	Same.....Combined seeder and cultivator	Sept. 26, 1871
120,546	**Strowger, Charles H., Webster, N. Y.** Fence	Oct. 31, 1871
120,344	**Stuart, Charles Richard, Winslow, Me.** Single-harness. (Antedated Oct. 21, 1871)	Oct. 24, 1871
111,698	**Stuart, David, Philadelphia, Pa.** Cooking-stove	Feb. 7, 1871
119,666	Same.....Kettle	Oct. 3, 1871
112,089	**Stuart, David, assignor to Stuart, Peterson & Co., Philadelphia, Pa.** Attachment for ranges and stoves	Feb. 21, 1871
4,387	**Stuart, David, and Lewis Bridge, assignors to David Stuart and Richard Peterson, Philadelphia, Pa.** Base-burning fire-place heater.....(Reissue)	May 16, 1871
115,540	**Stuart, David, and Lewis Bridge, assignors to Stuart, Peterson & Co., Philadelphia, Pa.** Stove-leg	May 30, 1871
	Stuart, David, and Richard Peterson. (*See* Bridge, Lewis, assignor.)	
112,090	**Stuart, Ezra H. and Walter A., Cedarville, N. Y.** Cheese-vat	Feb. 21, 1871
4,416	Same.....same.....(Reissue)	June 6, 1871
	Stuart, Henri L. (*See* Bassett, John A., assignor.)	
113,362	**Stuart, Leverett W., Narrowsburgh, N. Y.** Hoisting-apparatus. (Antedated March 23, 1871)	April 4, 1871
	Stuart, Nathaniel, *et al.* (*See* Smith, John Crawford, assignor.)	
117,219	**Stuart, Robert J., Yonkers, N. Y.** Printing-press	July 18, 1871
112,091	**Stuart, William G., Chicopee, Mass.** Liquid-meter	Feb. 21, 1871
118,396	**Stuart, William M., assignor to self and Alexander Chisholm, Port Huron, Mich.** Composition for roofing, paving, &c.	Aug. 22, 1871
110,798	**Stubbs, Robert S., Lisbon, N. H.** Envelope	Jan. 3, 1871
111,272	**Stuckey, Henry, assignor to A. C. Shock, Bucyrus, Ohio.** Harvester	Jan. 24, 1871
119,667	**Stuckwisch, Rudolph, Terre Haute, Ind.** Brick-mold	Oct. 3, 1871
	Studebaker Brothers Manufacturing Company. (*See* Gilman, James R., assignor.)	
	Stuhr, John, *et al.* (*See* Heuermann, Sternberg & Stuhr.)	
116,772	**Stukenborg, Benjamin J., Cincinnati, Ohio.** Machine for distributing pitch in barrels and casks	July 4, 1871
112,191	**Stull, Clement S., Poolesville, Md.** Corn-harvester	Feb. 28, 1871
118,167	**Sturgeon, Eli, Columbiana, Ohio.** Safety-bridge for railroad-cars	Aug. 15, 1871
	Sturgeon, William. (*See* Connel, James M., assignor.)	
	Sturges, Frank, & Co. (*See* Mather, Emmett, assignor.)	
	Same.....(*See* Gunn, Schuyler E., assignor.)	
114,063	**Sturges, James D., Chicago, Ill.** Apparatus for cooling and mixing soap	April 25, 1871
111,153	**Sturgis, Albert H., assignor to self and Joseph A. Pierce, Lewiston, Me.** Sizing-machine	Jan 24, 1871
113,111	**Sturgis, Columbus F., Buena Vista, Ala.** Sheet-metal fruit-can	Mar. 28, 1871
	Sturgis, James S., *et al.* (*See* Pickles, John, assignor.)	
114,623	**Stutzman, Alexander, Somerset, Pa.** Snow-plow	May 9, 1871
120,122	**Subers, Joseph H., and James H. Troup, Philadelphia, Pa.** Broom-bridle	Oct. 17, 1871
5,304	**Suedekum, Charles, Newport, Ky.** Hinge.....(Design)	Oct. 3, 1871
120,123	**Sullenberger, William H., assignor of one-half interest to John Kerper, Harrisburgh, Pa.** Saw-frame	Oct. 17, 1871
117,940	**Sullivan, Alfred T., San José, Cal.** Washing-machine	Aug. 8, 1871
111,609	**Sullivan, Cornelius, Boston, Mass.** Combined removable cock and fixed socket	Feb. 7, 1871
114,232	**Sullivan, Daniel, Bangor, Me.** Boiler	April 25, 1871
114,876	Same.....Steam-boiler	May 16, 1871
117,460	Same.....Hand-hole stopper for steam-boilers	July 25, 1871
119,248	**Sullivan, Edward, Mount Washington, Pa.** Piston-packing	Sept. 26, 1871
119,247	**Sullivan, Edward, assignor to self and John S. McMillin, Mount Washington, Pa.** Piston and piston-packing	Sept. 26, 1871
121,684	**Sullivan, John, Thornton, Canada.** Device for administering pills	Dec. 5, 1871
120,547	**Sullivan, John R., Woodland, Cal.** Adjustable-rail joint	Oct. 31, 1871
	Sullivan Machine Company. (*See* Bail, Albert, assignor.)	
121,216	**Sulouff, David P., Milton, Pa.** Clothes-washer	Nov. 21, 1871
121,217	Same.....same	Nov. 21, 1871
122,077	Same.....Wash-boiler	Dec. 19, 1871
116,773	**Summer, Metcalf B., Boston, Mass.** Humming-toy	July 4, 1871
112,992	**Summerill, Thomas L., Juda, Wis.** Fire-escape	Mar. 21, 1871
119,668	**Summers, Martin, and Samuel R. Lane, Zionsville, Ind.** Grain-binder	Oct. 3, 1871
118,360	**Sumner, Edward R., Freeport, Ill.** Post-hole digger	Aug. 29, 1871
115,636	**Suplee, Hannah G., and John H. Mooney, San Francisco, Cal.** Sewing-machine	June 6, 1871
122,138	**Supperula, Antonio, Millburn, N. J.** Musical cage for animals	Dec. 26, 1871
112,394	**Surss, James W., San Leandro, Cal.** Gang-plow	Mar. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,814	**Sutherland, James, East Hampton, Mass.** Self-acting mule for spinning	April 18, 1871
114,877	**Sutherland, John B., Detroit, Mich.** Railway axle-box	May 16, 1871
	Sutliff, Frederick. (*See* Smith, Henry, assignor.)	
	Sutliff, Oliver L., and George A. Stephenson. (*See* Stephenson & Sutliff.)	
120,009	**Sutphen, Richard, Freehold, N. J.** Wood-preserving composition	Oct. 17, 1871
119,896	**Sutton, Deloy F., and Bernard Meilink; said Sutton assignor to N. Waterman, Toledo, Ohio.** Tongueing and grooving machine	Oct. 10, 1871
119,000	**Swain, James M., Peekskill, N. Y.** Folding-seat	Sept. 19, 1871
	Swallow, Freeman M., and Charles A. Cummings. (*See* Cummings & Swallow.)	
	Swan & Clark. (*See* Hall & Garrison, assignors).....(Two cases.)	
120,682	**Swan, Amos L., Cherry Valley, N. Y.** Bell-pull	Nov. 7, 1871
122,200	Same.....House-bell	Dec. 26, 1871
4,606	**Swan, Baxter C., Philadelphia, Pa.** Box for the tops of bureaus.....(Design)	Jan. 24, 1871
4,607	Same.....same.....(Design)	Jan. 24, 1871
4,608	Same.....same.....(Design)	Jan. 24, 1871
4,609	Same.....same.....(Design)	Jan. 24, 1871
112,500	**Swan, George E., Mount Vernon, Ohio.** Medical compound for treating fever and ague	Mar. 7, 1871
111,011	**Swan, Horace, Woodstock, Vt.** Clothes-drier	Jan. 17, 1871
115,541	**Swan, James, Seymour, Conn.** Auger	May 30, 1871
116,509	Same.....Machine for forming lips of auger-bits	June 27, 1871
4,516	Same.....Machine for manufacturing auger-bits.....(Reissue)	Aug. 15, 1871
4,517	Same.....Machine for bending the lips of auger-bits.....(Reissue)	Aug. 15, 1871
119,096	Same.....Hollow auger	Sept. 19, 1871
4,569	Same.....Machinery for forming the lips of augers.....(Reissue)	Sept. 26, 1871
	Same.....(*See* Cleveland, William, assignor.)	
	Swan, Samuel, and Benjamin R. Hamilton. (*See* Hamilton & Swan.)	
118,981	**Swann, John S., Kanawha County, W. Va.** Stump-extractor	Sept. 12, 1871
118,982	Same.....Motive-power	Sept. 12, 1871
116,684	**Swasey, Isaac N., Yonkers, N. Y.** Memorandum-book	July 11, 1871
117,346	**Swartwout, Edward D., Chicago, Ill.** Automatic fan	July 25, 1871
113,595	**Swartwout, Lee T., Locke, N. Y.** King-bolt for wagons	April 11, 1871
111,273	**Swarts, David H., Lancaster, Ohio.** Bee-hive	Jan. 24, 1871
4,336	**Swearingen, Lee, assignor to the National Cattle-Car Company, Grafton, W. Va.** Stock-car.....(Reissue)	April 11, 1871
111,012	**Sweatt, Charles L., and George A. Huntoon, Fishersville, N. H.** Custard and cake baker	Jan. 17, 1871
117,575	**Sweatt, Leroy A., San Francisco, Cal.** Tool for rounding leather	Aug. 1, 1871
4,983	**Sweeney, Michael, Martinsville, Ohio.** Lamp-chimney.....(Design)	June 6, 1871
	Sweeny, McCluney & Co. (*See* Miller, John E., assignor).....(Design.)	
112,192	**Sweeny, Peter, New York, N. Y.** Tuyere	Feb. 28, 1871
113,464	**Sweet, Alonzo L., Norwich, Conn.** Cutter-head	April 4, 1871
111,094	**Sweet, Asel, assignor of one-half interest to George W. Chrisholm, Westfield, Pa.** Extension-scaffold	Jan. 17, 1871
119,426	**Sweet, Charles A., Ripon, Wis.** Composition for removing scales from steam-boilers	Sept. 26, 1871
119,669	**Sweet, George, Dansville, N. Y.** Horse hay-rake	Oct. 3, 1871
121,261	**Sweet, John Edson, Syracuse, N. Y.** Manufacture of guards for harvesting-machines	Nov. 28, 1871
119,427	**Sweet, John F., Cedar Rapids, Iowa.** Balanced valve for steam-engines	Sept. 26, 1871
114,989	**Sweet, Zara T., Tiskilwa, Ill.** Pump. (Antedated May 12, 1871)	May 16, 1871
	Sweeting, J. K. P., *et al.* (*See* Lawrence, William H. assignor.)	
115,906	**Sweetland, Alvah, Syracuse, N. Y.** Hame-fastener	June 13, 1871
116,774	**Sweetland, Anthony B., assignor to self and James Daley, Fitchburgh, Mass.** Railroad-car ventilator	July 4, 1871
113,703	**Sweetland, Jerome B., Pontiac, Mich.** Sawing-machine	April 11, 1871
118,403	Same.....Device for gumming and sharpening saws	Aug. 22, 1871
	Sweetland, S. H.. (*See* Hoffman, Joseph, assignor.)	
111,013	**Swett, James H., Pittsburgh, Pa.** Machine for making spikes	Jan. 17, 1871
	Swett, Quimby & Perry. (*See* Goodfellow, John H., assignor.)	
120,010	**Swett, William E., San Francisco, Cal.** Sash-tightener	Oct. 17, 1871
115,381	**Swift, Henry D. and Daniel W., Worcester, Mass.** Envelope-machine	May 30, 1871
115,382	**Swift, Henry D. and Daniel W., assignors to selves and G. Henry Whitcomb & Co., Worcester, Mass.** Envelope-machine	May 30, 1871
116,115	**Swift, Joshua E., New York, N. Y.** Sad and fluting iron	June 20, 1871
116,116	**Swift, N. G., Hart's Village, N. Y.** Machine for sowing pulverulent manure	June 20, 1871
117,941	**Swift, Orrin W., New Haven, Conn.** Railroad-car ventilator	Aug. 8, 1871
118,297	**Switzer, John, Lynn, Mass.** Anti-friction bearing for shafts	Aug. 22, 1871
119,798	**Switzer, John J., assignor to self, Edwin H. Fitts, Willard Comey, and Edward B. Pendleton, Boston, Mass.** Weft-stop mechanism for looms. (Antedated Sept. 25, 1871)	Oct. 10, 1871
110,799	**Swope, Zuriel, Lancaster, Pa.** Mowing-machine	Jan. 3, 1871
115,383	**Sylla, Philo, deceased, by Lavinia and William F. Sylla, administrators, Elgin, Ill.** Joint for desks or seats	May 30, 1871
110,800	**Sylvester, George, Belleville, N. J.** Apparatus and process of cleaning cotton-waste, &c	Jan. 3, 1871
114,878	**Symonds, Thomas, Portland, Me.** Excavator	May 16, 1871
111,787	**Symonds, Thomas, assignor to John B. Curtis, Portland, Me.** Excavator	Feb. 14, 1871
119,799	**Sypes, John, Fairbury, Ill.** Mode of dumping grain	Oct. 10, 1871
111,400	**Taber, Freeman Augustus, assignor to Thomas S. Williams and Philip S. Page, New Bedford, Mass.** Lamp-burner	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,390	Taber, John, Wolfborough, N. H. Washing and wringing machine	May 16, 1871
116,644	Taber, M. Frank, Salem, Ohio. Door and gate spring	July 4, 1871
120,124	Tackmann, Otto, Yonkers, N. Y. Thill-coupling	Oct. 17, 1871
114,879	Taft, Charles G., jr., Norton, Mass. Hand-stamp	May 16, 1871
113,815	Taft, George C., Worcester, Mass. Drilling-machine	April 18, 1871
115,384	Same.....Emery polishing-stick	May 30, 1871
111,700	Taft, George C., assignor to self and Augustus Ball Davis, Worcester, Mass. Sand and emery paper	Feb. 7, 1871
121,685	Taft, George C., assignor to John H. Coes, Worcester, Mass. Wrench	Dec. 5, 1871
122,139	Same.....same	Dec. 26, 1871
114,064	Taft, Gustavus E., assignor to Whitin Machine Works, Stockbridge, Mass. Drawing-frame	April 23, 1871
123,291	Taft, Horatio N., Sag Harbor, N. Y. Filter	Dec. 26, 1871
110,801	Taft, James M., Arcadia, Wis. Meat-chopper and vegetable-slicer	Jan. 3, 1871
4,864	Taft, Royal C., William B. Weeden, and James W. Taft, Providence, R. I. Woven cloth.....(Design)	May 2, 1871
4,626	Taggart, Samuel, Indianapolis, Ind. Flour-packer.....(Reissue)	Nov. 7, 1871
111,885	Tagliabue, Guiseppe, New York, N. Y. Apparatus for ascertaining the proof-spirits in fermented mash	Feb. 14, 1871
120,011	Taft, Alexander, Sonora, Cal. Sad-iron handle	Oct. 17, 1871
115,784	Tait, Augustus Henry, Jersey City, N. J. Preserving wood	June 6, 1871
4,366	Tait, Augustus H., and Joseph W. Avis, assignors through mesne assignments to Charles Pratt, New York, N. Y. Apparatus and process of distilling petroleum and other oils.....(Reissue)	May 2, 1871
4,367	Same.....Apparatus for distilling petroleum and other hydrocarbons. (Reissue)	May 2, 1871
	Tait, Augustus H., and Edward G. Kelley. (*See* Kelley & Tait).....(Reissue.)	
117,481	Talbot, Nathaniel H., North Easton, Mass. Blacking-box holder	July 25, 1871
5,144	Same.....Spider-grate.....(Design)	July 25, 1871
121,017	Talbott, Allan, Richmond, Va. Thimbles for making attachments to steam-boilers	Nov. 14, 1871
110,802	Talbott, Ezra W., assignor to self and James W. Miller, Napoleon, Ohio. Clothes-line holder	Jan. 3, 1871
117,347	Talcott, Samuel C., Ashtabula, Ohio. Buckle and loop	July 25, 1871
121,018	Tallant, Julius F., Burlington, Iowa. Rotary steam-valve	Nov. 14, 1871
114,365	Tallmadge, John W., Plainville, Conn. Scaffold-bracket for roofing. (Antedated April 22, 1871)	May 2, 1871
118,653	Tallman, William H., Amsterdam, N. Y. Soldering-lamp. (Antedated Aug. 18, 1871)	Aug. 29, 1871
116,885	Tally, Felix W., and Michael Ryan, Philadelphia, Pa. Shearing-machine	July 11, 1871
110,939	Tambling, William H., Elroy, Ill. Curtain-fixture	Jan. 10, 1871
	Tanner, F. G., *et al.* (*See* Poitras, Zephire, assignor.)	
117,482	Tanner, George W., Providence, R. I. Cigar-machine	July 25, 1871
	Tapley Heel-Burnisher Machine Company. (*See* Spear, Vivian K., assignor.)	
111,896	Tapley, Jesse F., Springfield, Mass. Paper-file	Feb. 14, 1871
111,374	Taplin, Alvin, assignor to Bristol Brass and Clock Company, Forestville, Conn. Lamp-burner	Jan. 24, 1871
119,061	Same.....same	Sept. 19, 1871
	Tappey, Lumsden & Co. (*See* Beasley, Charles J., assignor.)	
4,402	Tarbox, Eugene L., New York, N. Y. Stencil-plate.....(Reissue)	May 30, 1871
112,092	Tarbox, Levi B., Collierville, N. Y. Meat-tenderer. (Antedated Feb. 16, 1871)	Feb. 21, 1871
	Tarr, F., jr., *et al.* (*See* Manning, John J., assignor.)	
4,508	Tarr, James G., and Augustus H. Wonson, Gloucester, Mass. Paint for ships' bottoms.....(Division A, reissue)	Oct. 17, 1871
4,509	Same.....Paint for ships' bottoms.....(Division B, reissue)	Oct. 17, 1871
120,467	Tarr, John Blake, Fair Haven, Mass. Pressing cast-metal	Oct. 31, 1871
	Tarrant, Esau, and Alexander Rodgers. (*See* Rodgers & Tarrant.)	
	Tash, William, *et al.* (*See* Hedrick, Tash & Kreidler.)	
111,014	Tasker, Stephen P. M., Philadelphia, Pa. Machine for slitting, beveling, and bending metal-tube skelps	Jan. 17, 1871
111,015	Same.....Machine for slitting, beveling, and bending metal-tube skelps	Jan. 17, 1871
111,016	Same.....Machine for slitting and bending metal-tube skelps	Jan. 17, 1871
111,017	Same.....Machine for bending metal-tube skelps	Jan. 17, 1871
	Same.....(*See* Wendell, Isaac P., assignor).....(Two cases.)	
	Same.....(*See* Devlan, Patrick S., assignor.)	
113,404	Tate, William John, Philadelphia, Pa. Quilting-machine	Aug. 22, 1871
120,548	Same.....Hydraulic engine	Oct. 31, 1871
113,704	Tate, William John, assignor to William A. Drown & Co., Philadelphia, Pa. Sewing-machine for umbrellas and parasols	April 11, 1871
120,683	Tatem, Benjamin F., Memphis, Tenn. Game and rat trap	Nov. 7, 1871
	Tatem, Benjamin F., *et al.* (*See* Finley, Hurd & Tatem.)	
	Tatom, Abel F., and Simon I. S. Cawthon. (*See* Cawthon & Tatom.)	
4,417	Tatro, Joseph A., Hartford, Conn. Process of treating petroleum and its products.....(Reissue)	June 6, 1871
120,794	Taylor, Alexander C., North Fairfield, Ohio. Cultivator	Nov. 7, 1871
121,218	Taylor, Alfred, Brooklyn, N. Y. Alarm for letter-boxes	Nov. 21, 1871
117,042	Taylor, Asher S., San Francisco, Cal. Medicinal beverage	Aug. 8, 1871
115,385	Taylor, Augustus E., New Britain, Conn. Lantern	May 30, 1871
115,386	Taylor, Benjamin W., Henderson, Ky. Life-preserver	May 30, 1871
118,829	Taylor, Carlo R., Ionia, Mich. Bundling-press	Sept. 12, 1871
	Taylor, Cebra L., and George C. Setchell. (*See* Setchell & Taylor.)	
	Taylor, Charles, *et al.* (*See* Breinig, David E., assignor).....(Reissue.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Taylor, Day & Co. (*See* Prushaw, Thomas Henry, assignor.)	
121,686	Taylor, Edward L., Jersey City Heights, N. J. Sounding-board for pianos	Dec. 5, 1871
118,069	Taylor, Esau D., assignor to firm of John Matthews, Hornellsville, N. Y. Machine for bottling gas-charged liquids	Aug. 15, 1871
117,576	Taylor, Francis Daniel, Brady's Bend Township, Pa. Manufacture of iron. (Antedated July 21, 1871)	Aug. 1, 1871
120,836	Taylor, Franklin, Indianapolis, Ind. Ditching-machine. (Antedated Oct. 28, 1871)	Nov. 14, 1871
114,223	Taylor, Franklin R., Waverly, N. Y. Hair-dressing	April 25, 1871
121,136	Taylor, George C., and John B. Crisman, Port Jervis, N. Y. Combined washer and boiler	Nov. 21, 1871
114,224	Taylor, George W., Baltimore, Md. Ash-sifter	April 25, 1871
121,908	Taylor, Gilbert F., New York, N. Y. Ironing-machine	Dec. 12, 1871
120,125	Taylor, Jackson T., Newnan, Ga. Alarm-lock	Oct. 17, 1871
117,577	Taylor, Jacob, Petroleum Centre, Pa. Can for nitro-glycerine	Aug. 1, 1871
117,122	Taylor, James, Luzerne, N. Y. Wood-pulp machine	July 18, 1871
116,775	Taylor, James Patton, assignor to self and Nathaniel G. Taylor, Elizabethton, Tenn. Repeating-ordnance	July 4, 1871
112,297	Taylor, John, Philadelphia, Pa. Washing-machine	Feb. 28, 1871
5,283	Same.....Knitted nubia-fabric.....(Design)	Sept. 26, 1871
112,298	Taylor, John F., Charleston, S. C. Steam and hydraulic press	Feb. 28, 1871
119,428	Same.....Feed-water heater for steam-boilers	Sept. 26, 1871
112,652	Taylor, Leonard S., Sigel, Mo. Stirrup for riding-saddles	Mar. 14, 1871
112,863	Same.....Damper	Mar. 21, 1871
117,943	Taylor, Luke W., Upper Falls, Vt. Mop-head	Aug. 8, 1871
113,363	Taylor, Luman D., Granville Centre, Pa. Hay-loader	April 4, 1871
117,015	Taylor, Martin, Buffalo, N. Y. Envelope	July 11, 1871
111,154	Taylor, Morse K., United States Army. Furnace for steam-boilers	Jan. 24, 1871
120,837	Taylor, Newton W., and Joseph W. Brightman, Cleveland, Ohio. Paper-rag engine	Nov. 14, 1871
120,345	Taylor, Samuel D., Hazleton, Pa. Water-wheel	Oct. 24, 1871
	Taylor, Theodore F. (*See* Halsey, William H., assignor.)	
112,653	Taylor, Thomas, assignor to self and William Fitch, Washington, D. C. Fertilizer. (Antedated March 1, 1871)	Mar. 14, 1871
114,880	Taylor, Thomas, assignor to Edmund S. Hanna and Waldimer A. Schmidt, England. Treatment of paper and paper-pulp	May 16, 1871
118,070	Taylor, Thomas A., Bangor, Me. Ice-pick	Aug. 15, 1871
112,193	Taylor, Warren H., Stamford, Conn. Flexible fastening for glass	Feb. 28, 1871
	Taylor, Warren H., and August Hermann. (*See* Hermann & Taylor.)	
117,236	Taylor, William, and Charles Hodgetts, assignors to Louis R. Boyd, Brooklyn, N. Y. Cap for preserver-jars	July 18, 1871
	Taylor, William Capp, *et al.* (*See* Gillham, Taylor & Stolle.)	
	Taylor, William K., and William H. Scriven. (*See* Scriven & Taylor.)	
	Taylor, William P., and Charles R. Peters. (*See* Peters & Taylor.)	
116,886	Taylor, Zalmon A., assignor to self and Alonzo P. B. King, Haverhill, Mass. Composition for dressing and coloring leather	July 11, 1871
	Teachout, Albert B., and Lester T. Hulbert. (*See* Hulbert & Teachout.)	
118,298	Teague, Benjamin, Moscow, Tenn. Manure-cart	Aug. 22, 1871
	Teal, James R. (*See* Motley, Francis, assignor.)	
121,019	Teamer, William, Evansville, Ind. Stove-lid	Nov. 14, 1871
121,687	Teasdale, Robinson, Alberton, Ga. Calculating-machine	Dec. 5, 1871
115,263	Tebow, Theodore, Lexington, Ky. Washing-machine	May 23, 1871
115,387	Same.....Machine for breaking and cleaning hemp, flax, &c	May 30, 1871
115,388	Same.....Manufacture of bagging for cotton, &c	May 30, 1871
121,555	Teed, Jesse S., Guilford, N. Y. Water-wheel	Dec. 5, 1871
117,696	Teffs, James W., assignor to self, Henry Le Bosquet, and Perry C. Rude, Des Moines, Iowa. Base-burning stove	Aug. 1, 1871
	Telbinger, Francis. (*See* Muller, Hermann, assignor.)	
121,137	Teller, De Witt C., Fort Plains, N. Y. Water-wheel	Nov. 21, 1871
112,194	Teller, Jeremiah W., and William Townsend, Lapeer, Mich. Fence	Feb. 28, 1871
121,909	Tellier, Charles, assignor to Leopold Bouvier, France. Ammonia-engine	Dec. 12, 1871
119,196	Temple, James, assignor to L. C. Kinyon, Bellefonte, Pa. Railway-car coupling	Sept. 19, 1871
118,756	Templeton, James, Florence, Ga. Cotton-press	Sept. 5, 1871
114,489	Tenant, Hanson P., East Germantown, Ind. Combined blower and rotary engine	May 2, 1871
115,254	Tenant, Hanson P., assignor to self, Jacob Spence, and Henry M. Sowers, East Germantown, Ind. Rotary pump	May 23, 1871
120,795	Tennant, Christopher, Dublin, Md. Egg-carrier	Nov. 7, 1871
111,401	Tenwick, John, assignor to Robert Charles Ransome, England. Lubricator	Jan. 31, 1871
	Terhune, Matthias. (*See* Truby, John W., assignor.)	
117,483	Terrell, Theodore, Yonkers, N. Y. Saw-filers' vise	July 25, 1871
121,910	Same.....Hoisting-apparatus	Dec. 12, 1871
119,286	Terrell, Wales, Ausonia, Conn. Die for forming carriage-head block-plates	Sept. 26, 1871
117,123	Terrill, Marvin, Star Prairie, Wis. Evener	July 18, 1871
117,348	Terry, James, jr., and Swift McG. Hunter, assignors to Eagle Lock Company, Terryville, Conn. Machine for turning keys	July 25, 1871
118,983	Terry, John B., deceased, by Hannah C. Terry, administratrix, Brooklyn, N. Y. Apparatus for generating and carbureting hydrogen-gas	Sept. 12, 1871
121,090	Terry, Silas B., assignor to Terry Clock Company, Waterbury, Conn. Fishing-reel	Nov. 14, 1871
	Terry, T. L. (*See* Ruddock, Asahel D., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,010	Terwilliger, William. New York, N. Y. Device for operating safe-doors	July 11, 1871
113,485	Terwilliger, William, assignor to self and Frederick H. North, New York, N. Y. Permutation-lock	April 4, 1871 Nov. 21, 1871
121,139	Tessier, Charles T., New York, N. Y. Sash-holder	
121,979	Test, Francis W., Chicago, Ill. Flower-stand for windows. (Antedated Dec. 12, 1871)	Dec. 19, 1871 May 9, 1871
114,726	Tewell, Leonard S., Southampton Township, Pa. Cultivator-plow	
	Thackara, John W., *et al.* (*See* Quann, William, assignor.)	
	Thacker, Charles, sr. (*See* Fallis, John N., assignor.)	
120,126	Thacker, Samuel, assignor through mesne assignments to John S. Cropper and Calvin H. Carter, England. Knit fabric	Oct. 17, 1871 Nov. 14, 1871
121,021	Tharp, Colin and George P., Bryan, Ohio. Harrow	Mar. 21, 1871
112,983	Thatcher, John Merritt, Bergen, N. J. Soap-dish	June 6, 1871
115,785	Same.... Jersey City, N. J. Elbow for hot-air pipes	Jan. 24, 1871
111,275	Thaxter, Eben C., Providence, R. I. Shuttle for sewing-machines	Dec. 5, 1871
5,403	Thayer, Andrew T., New York, N. Y. Buckle (Design)	April 25, 1871
114,225	Thayer, Austin E., Philadelphia, Pa. Spring bed-bottom	April 25, 1871
114,065	Thayer, Frederick A., Sheldonville, Mass. Combined hay-rake and tedder	May 9, 1871
114,727	Thayer, Hiram Howard, Philadelphia, Pa. Wood-pavement	Sept. 19, 1871
119,197	Same.....Neck-tie holder	May 2, 1871
114,490	Thayer, Hiram H., and William H. Hart, jr., Philadelphia, Pa. Fabric for cuffs	
	Thayer, James S. (*See* Johnston, Samuel, assignor.)	
5,006	Same.....(*See* Johnston & Jenner, assignors.) (Design)	June 13, 1871
115,543	Theberath, Charles M., Newark, N. J. Harness-trimming	May 30, 1871
	Themar, Robert, and Brand Brothers, Sheboygan, Wis. Subsoil-plow. (Antedated May 22, 1871)	Mar. 28, 1871
113,222	Thickins, Richard W., and David R. Sperry, Batavia, Ill. Farmers' boiler	
117,484	Thiers, William Fitz James, assignor to Universal Ship Ventilator, Alarm, and Bilge-Pump Manufacturing Company, New York, N. Y. Ventilator for ships	July 25, 1871 Dec. 5, 1871
121,474	Thiery, Charles Louis, Boston, Mass. Machine for making watch-cases	July 18, 1871
117,220	Thissell, Carl Amri, Lowell, Mass. Loom-shuttle	
	Thoener, Charles and Julius Krisch. (*See* Krisch & Thoener.)	May 9, 1871
114,624	Thomas, Amos W., Philadelphia, Pa. Tourniure (Design)	Sept. 12, 1871
5,226	Same.....Bustle	
	Thomas, Augustin F., and Leonard C. Butch. (*See* Butch & Thomas.)	
115,786	Thomas, Charles F., Andrew J. and James A. Craig, and Jerome W. Hathaway, Woodhull, N. Y. Steam road-wagon	June 6, 1871 Jan. 31, 1871
111,401	Thomas, Chauncey, Boston, Mass. Carriage-body	Jan. 31, 1871
111,492	Same.....Vehicle	April 11, 1871
113,705	Same.....Carriage (Extension)	Sept. 6, 1871
	Same.....Carriage-prop (Design.)	
	Thomas, Elliot. (*See* Tooker, William S., assignor)	
4,851	Thomas, Francis E., assignor to Fellows, Hoffman & Co., New York, N. Y. Gas-fittings (Design)	April 25, 1871 July 11, 1871
116,867	Thomas, George G., Saint Louis, Mo. Chimney-cowl	Aug. 22, 1871
116,290	Same.....Hot-air furnace (Reissue.)	
	Thomas, Henry. (*See* Kirk, Solomon W., assignor)	Mar. 28, 1871
113,223	Thomas, Jacob S., Mifflintown, Pa. Cultivator	
111,788	Thomas, James H., assignor of one-half interest to Benjamin F. Larabee, Lynn, Mass. Machine for cutting cheese, butter, &c	Feb. 14, 1871 Feb. 14, 1871
111,789	Thomas, John, Hokendauqua, Pa. Removing slag from furnace	April 25, 1871
114,226	Thomas, John H., Springfield, Ohio. Seed-drill	April 25, 1871
114,227	Same.....Feed-roller for grain-drills	Feb. 21, 1871
112,993	Thomas, John H., and Phineas P. Mast, Springfield, Ohio. Grain-drill	
112,399	Thomas, John H., assignor to self and Phineas P. Mast, Springfield, Ohio. Grain-drill	Feb. 28, 1871
121,139	Thomas, Lancaster, assignor of one-half interest to Joshua Pusey, Philadelphia, Pa. Sheet-metal can	Nov. 21, 1871 Nov. 14, 1871
120,838	Thomas, Leopold, Pittsburgh, Pa. Machine for rolling metal	April 11, 1871
113,706	Thomas, Nathan H., New Orleans, La. Preserving wood	
	Thomas, Nicholas, and Thomas Hull. (*See* Hull & Thomas.)	
	Thomas, Peter. (*See* Oakley, Oliver B., assignor.)	Dec. 12, 1871
121,911	Thomas, Rees, P., Scioto ville, Ohio. Fire-place	
	Thomas, Samuel. (*See* Miller & Clarrington, assignors.)	Sept. 19, 1871
119,662	Thomas, William, Hingham, Mass. Rolling-pin	Mar. 14, 1871
112,749	Thomas, William P., and Joseph F. Boardman, Elko, Nev. Hair-restorative	
	Thomas, William R. (*See* Evans, Thomas & Hunt.)	Jan. 31, 1871
111,493	Thomas, William S., Kendallville, Ind. Stove-grate	
	Thomas, William W. (*See* Rall, James M., assignor.)	Dec. 26, 1871
122,201	Thomison, John B., Lynchburgh, Tenn. Harvester	Oct. 31, 1871
120,549	Thompson, Ambrose B., Owego, N. Y. Corn-sheller	May 2, 1871
114,491	Thompson, Benjamin D., New York, N. Y. Automatic fan	Sept. 26, 1871
119,940	Same.....Railroad-car heater	April 4, 1871
113,466	Thompson, Charles A., Flushing, N. Y. Tubular steam-boiler	Dec. 5, 1871
121,626	Thompson, Charles A., and James O. Coleman, Hopkinsville, Ky. Apparatus for supporting and lowering coffins	Aug. 1, 1871
117,576	Thompson, Charles Wesley, Chicago, Ill. Fluting-machine	
	Thompson, Daniel L. (*See* May, George W., assignor.)	
	Same.....(*See* Hastings, Emory B., assignor.)	
118,737	Thompson, Edward H., assignor to William A. Amberg, Washington, D. C. Paper-file	Sept. 5, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,402	Thompson, Edwin C., assignor to self and Charles S. O'Brien, New York, N. Y. Bed-bottom	Jan. 31, 1871
	Thompson, Elizabeth. (*See* Kelly, Peter J., assignor.)	
	Thompson, Ellis. (*See* Van Bramer, John P., assignor.)	
115,255	Thompson, George, Springfield, Ill. Fan-attachment for sewing-machines	May 23, 1871
110,692	Thompson, George W., Ripley, Ohio. Reversible plow	Jan. 3, 1871
120,178	Thompson, George W., New York, N. Y. Lamp. (Antedated Oct. 7, 1871)	Oct. 24, 1871
112,510	Thompson, Henry G., Milford, Conn. Device for cooling journals of car-axles	Mar. 7, 1871
112,511	Same.....Cooling journals of car-axles	Mar. 7, 1871
112,512	Same.....Cooling journals of car-wheel axles	Mar. 7, 1871
112,513	Same.....Device for cooling journals of railway-cars	Mar. 7, 1871
	Same.....(*See* Smyth, David M., assignor) (Two cases.)	
	Same.....(*See* Hopkins, George M., assignor.)	
120,127	Thompson, Hopkins, New York, N. Y. Reclining-chair	Oct. 17, 1871
116,372	Thompson, Horace, Concord, N. H. Die for forming beef-steak cutters	June 27, 1871
	Thompson, Ira D. (*See* Brown, James, assignor.)	
116,776	Thompson, James J., Columbus, Ohio. Cultivator	July 4, 1871
118,072	Thompson, James M., assignor to self, Justus Coney, and Charles Merwin, Dowagiac, Mich. Washing-machine. (Antedated Aug. 11, 1871)	Aug. 15, 1871
116,888	Thompson, Joseph, Decatur, Mich. Combined shovel and post-hole digger	July 11, 1871
	Thompson, Joseph F. (*See* Peacock, Daniel K., assignor.)	
114,228	Thompson, J. Patton, Philadelphia, Pa. Envelope	April 25, 1871
	Thompson, Joseph W., and Joel Sharp. (*See* Sharp & Thompson.)	
	Thompson, Moses, deceased, by Charles N. Black, administrator *de bonis non*, New York, N. Y. Bagasse-furnace (Extension)	Dec. 14, 1871
113,364	Thompson, Nathan, Brooklyn, N. Y. Window-shade fixture	April 4, 1871
113,467	Same.....Fastening for meeting-rails of sashes	April 4, 1871
119,198	Same.....Fastener for meeting-rails of sashes. (Antedated Sept. 2, 1871)	Sept. 19, 1871
119,199	Same.....Casing for window-pulleys. (Antedated Sept. 2, 1871)	Sept. 19, 1871
119,429	Same.....Knob for drawers, &c. (Antedated Sept. 9, 1871)	Sept. 26, 1871
119,430	Same.....Pulley, sheave, and wheel. (Antedated Sept. 9, 1871)	Sept. 26, 1871
119,725	Same.....Apparatus for pressing hollow-ware. (Antedated Sept. 26, 1871)	Oct. 10, 1871
119,726	Same.....Plier. (Antedated Oct. 7, 1871)	Oct. 10, 1871
120,796	Same.....Sash stop and lock. (Antedated Oct. 21, 1871)	Nov. 7, 1871
121,735	Same.....Joint for folding furniture. (Antedated Nov. 22, 1871)	Dec. 12, 1871
121,736	Same.....Mold for casting. (Antedated Dec. 1, 1871)	Dec. 12, 1871
114,889	Thompson, Nelson S., Richmond, Ind. Seeding-cultivator	May 16, 1871
118,497	Same.....Coffee-roaster	Aug. 29, 1871
117,944	Thompson, Patrick, Pittsburgh, Pa. Saw	Aug. 8, 1871
111,701	Thompson, Robert W., Mansfield, Ohio. Filter for cisterns	Feb. 7, 1871
111,018	Thompson, Samuel, Schaghticoke, N. Y. Faucet for beer and other barrels	Jan. 17, 1871
114,991	Thompson, Samuel I., New Waterford, Ohio. Nut-lock	May 16, 1871
112,984	Thompson, S. Millett, Providence, R. I. Book-support	Mar. 21, 1871
113,816	Thompson, Samuel R., Portsmouth, N. H. Machine for making pottery-ware	April 18, 1871
120,128	Thompson, Thomas D., Providence, R. I. Head-rest	Oct. 17, 1871
111,403	Thompson, William and Samuel, Baltimore, Md. Cleaning and polishing coffee	Jan. 31, 1871
115,389	Thompson, William J., Springfield, Mo. Water-wheel	May 30, 1871
119,953	Thompson, William L., Stanstead, Canada. Dish-washer	Oct. 17, 1871
114,366	Thomson, Adaline L., Hudson City, N. J. Children's bib	May 2, 1871
112,985	Thomson, Alexander, Champaign, Ill. Sash-holder	Mar. 21, 1871
113,112	Thomson, Archibald, Saint Louis, Mo. Railway-switch lock	Mar. 28, 1871
113,365	Thomson, George W., Buffalo, N. Y. Coating lamps	April 4, 1871
118,168	Thomson, James E., Buffalo, N. Y., and Elijah Clark, Louisville, Ky. Life-preserver	Aug. 15, 1871
	Thomson, James E. (*See* Emery, James F., assignor.)	
121,912	Thomson, John, Aledo, Ill. Weather-strip	Dec. 12, 1871
	Thomson, John, and Robert Laidlaw. (*See* Laidlaw & Thomson.)	
116,510	Thomson, John N., North Attleborough, Conn. Cravat-holder	June 27, 1871
116,373	Thomson, Judson L., Syracuse, N. Y. Water-proof cigar-box	June 27, 1871
117,697	Thomson, Mortimer, New York, N. Y. Book-cover protector	Aug. 1, 1871
112,195	Thomson, Walter, assignor to Detroit Novelty Works, Detroit, Mich. Steam-heater	Feb. 28, 1871
120,404	Thomson, William, Madison, Wis. Instrument for measuring powders	Oct. 31, 1871
121,689	Same.....Paddle-wheel	Dec. 5, 1871
	Thorn, Jacob Steinmetz. (*See* Flinn, William Thomas, assignor.)	
119,800	Thorn, Theodore, Saint Clair, Pa. Elevator-brake	Oct. 10, 1871
112,196	Thorn, William J., New York, N. Y. Horse-collar	Feb. 28, 1871
116,511	Thorne, John R., Waldoborough, Me. Chain-hook. (Antedated June 16, 1871)	June 27, 1871
113,113	Thorne, William H., Philadelphia, Pa. Apparatus for transmitting power to machinery	Mar. 28, 1871
114,220	Thorne, William H., assignor to Thorne & De Haven, Philadelphia, Pa. Portable drilling-machine	April 25, 1871
112,986	Thorniley, James W., New Brighton, Pa. Fire-place grate	Mar. 21, 1871
111,790	Thornton, Alexander B., New Berlin, Ill. Combined fender and gauge-wheel. (Antedated Feb. 11, 1871)	Feb. 14, 1871
121,022	Thornton, Charles H., Newark, N. J. Harness-mounting	Nov. 14, 1871
120,550	Thornton, James, Oswego, N. Y. Table or stand	Oct. 31, 1871
113,468	Thornton, James, assignor to self and E. G. Latta, Wellsville, N. Y. Halter	April 4, 1871
113,469	Thornton, James, and Emmit G. Latta, Wellsville, N. Y. Attachment to hames	April 4, 1871
121,551	Same.....Genesee, N. Y. Whip-socket	Oct. 31, 1871
122,076	Same.....Hold-back attachment to vehicles. (Antedated Dec. 9, 1871)	Dec. 19, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,945	Thornton, James, and Emmit G. Latta, assignors to James Thornton and James Macken, Wellsville, N. Y. Hame for harness	April 18, 1871
117,124	Thornton, Mary A., Perrysburgh, Ohio. Photographers' refrigerator	July 18, 1871
111,276	Thornton, William C., and James D. Cooley, Hillsville, Va. Sewing-machine motor	Jan. 24, 1871
119,544	Thornton, William M. K., Saint Louis, Mo. Spark-arrester	Oct. 3, 1871
119,545	Same ..... Dust-shield for railway-cars	Oct. 3, 1871
110,693	Thorp, George W., Columbus, Kans. Extension plow-share	Jan. 3, 1871
112,987	Thorp, James H., New York, N. Y. Alarm-lock	Mar. 21, 1871
118,984	Thorp, Madison, Waterloo, Iowa. Corn-harvester	Sept. 12, 1871
112,395	Thoss, William H., West Point, Cal. Grinding-pan and amalgamator	Mar. 7, 1871
	Thrall, William Henry, *et al.* (*See* Dodge, William James, assignor.)	
	Throop, John W. (*See* Letterman, Charles, assignor.)	
	Thumb, Camillo, and Hermann Eisafeldt. (*See* Eisafeldt & Thumb.)	
	Thumm, Charles F., and Samuel A. Hill. (*See* Hill & Thumm.)	
111,095	Thurlow, Henry, Skaneateles, N. Y. Lubricator for axles	Jan. 17, 1871
	Thursby, Samuel I., *et al.* (*See* Pittman, George W., assignor.)	
120,219	Thurston, John A., assignor to self, Thomas Sampson, and William Langhoff, Providence, R. I. Cloth-shearing machine	Oct. 24, 1871
115,991	Thurston, Levi P., assignor to self, Alfred Parsons, and William Knutaford, jr., Rockport, Mass. Ships' rudder	June 13, 1871
116,889	Tibbets, Jonathan S., Brazil, Ind. Safety-shaft for vehicles	July 11, 1871
117,929	Same ..... Draught-device for vehicles	Aug. 8, 1871
114,892	Tibble, James F., Detroit, Mich. Machine for bruising malt	May 16, 1871
111,404	Tice, Isaac P., New York, N. Y. Digging-machine. (Antedated Jan. 21, 1871)	Jan. 31, 1871
113,366	Same ..... Water-meter	April 4, 1871
116,758	Same ..... Plow. (Antedated Aug. 31, 1871)	Sept. 5, 1871
	Tidd, Stephen B. (*See* Mitchell, Samuel, assignor.)	
5,030	Tiebout, Cornelius H., New York, N. Y. Twine-reel (Design)	June 20, 1871
4,858	Tielenius, Carl, New York, N. Y. Faucet-holder (Design)	April 25, 1871
113,817	Tiernan, Patrick E., Waukegan, Ill. Pound-net for fishing	April 18, 1871
111,584	Tierney, Charles W., Altoona, Pa. Brake for railway-cars	Feb. 7, 1871
113,470	Tiesing, Frank, and Charles Gerner, assignors to Eli Whitney, New Haven, Conn. Breech-loading fire-arm	April 4, 1871
114,230	Same ..... Breech-loading fire-arm	April 25, 1871
119,670	Tiffany & Co. (*See* Moore, Edward C., assignor) ..... (Two cases.) (Design.)	Oct. 3, 1871
4,565	Tiffin, John D., Cuyahoga Falls, Ohio. Fence	Jan. 10, 1871
119,350	Tiffin, Lewis A., Springfield, Mass. Soldiers' monument (Design)	Sept. 26, 1871
121,913	Tilden, Henry A., New Lebanon, N. Y. Disinfecting-compound	Dec. 12, 1871
116,117	Same ..... same	June 20, 1871
121,973	Tileston, William M., New York, N. Y. Game-signal	Dec. 19, 1871
	Till, Franklin, Reading, Pa. Boiler for domestic purposes. (Antedated Dec. 1, 1871)	
110,694	Tillery, Henry L., Halifax, N. C. Seed-planter and guano-distributer	Jan. 3, 1871
110,403	Tillinghast, Clark P., Providence, R. I. Railroad-car ventilator	Jan. 3, 1871
113,816	Tillman, Samuel D., New York, N. Y. Steam-engine	April 18, 1871
111,004	Tilton, Edward W., Oshkosh, Wis. Handle for cross-cut saws	Feb. 21, 1871
119,063	Tilton, Joseph C., Pittsburgh, Pa. Wash-boiler	Sept. 19, 1871
112,864	Tilyou, Albert D., assignor to Cornelius A. Church, Norwich, N. Y. Stump-extractor	Mar. 21, 1871
4,932	Timby, Theodore R., Saratoga, N. Y. Thread and needle case (Reissue)	Jan. 31, 1871
120,552	Same ..... Tarrytown, N. Y. Railway freight-car	Oct. 31, 1871
120,553	Same ..... Gun-carriage	Oct. 31, 1871
121,033	Same ..... Railroad-spike	Nov. 14, 1871
119,097	Timms, James, and William P. Brown, Malta, Ohio. Car-coupling	Sept. 19, 1871
121,908	Timms, James, Malta, Ohio. Mowing-machine	Nov. 28, 1871
118,909	Timpe, Gustavus C., New Orleans, La. Elevator	Aug. 22, 1871
118,301	Same ..... same	Aug. 22, 1871
115,657	Tingley, John, Philadelphia, Pa. Ice-cream freezer	June 6, 1871
4,931	Tinkham, Benjamin, assignor to Hapgood & Co., Cameron, Ill. Cultivator. (Reissue)	Jan. 10, 1871
4,999	Same ..... Cultivator (Reissue)	Oct. 17, 1871
115,134	Tinkham, Orville M., Pomfret, Vt. Coffee-pot	May 23, 1871
113,596	Tinney, Joseph, Westfield, N. Y. Bed-bottom	April 11, 1871
119,900	Tinsley, George W., Blakesburgh, Iowa. Weather-board gauge	Sept. 19, 1841
118,169	Tinsley, George W., and Ebenezer W. Storer, Minneapolis, Minn. Mold for finger-rings	Aug. 15, 1871
118,561	Tirrell, Jacob P., assignor to Edward Gassett, Charlestown, Mass. Electro-magnetic engine	Aug. 29, 1871
4,632	Same ..... Electro-magnetic engine (Reissue)	Nov. 7, 1871
121,301	Tirrell, Jacob P., assignor to George F. Pinkham, Charlestown, Mass. Apparatus for lighting and extinguishing gas by electricity. (Antedated Nov. 17, 1871)	Nov. 28, 1871
121,302	Same ..... Apparatus for lighting and extinguishing gas by electricity. (Antedated Nov. 17, 1871)	Nov. 28, 1871
118,302	Tirrill, Oakes, Brooklyn, N. Y. Apparatus for carbureting air and gas	Aug. 22, 1871
118,170	Tisdale, Charles D., Boston, Mass. Changeable-gauge car wheel and axle	Aug. 15, 1871
4,379	Tisdale, Charles D., assignor through mesne assignments to Charles Bockus and Samuel and Henry Shackell, Boston, Mass. Car-truck (Reissue)	May 9, 1871
122,208	Tisdale, Charles D., assignor to self and Samuel Shackell, Boston, Mass. Railway-signal	Dec. 26, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,891	Tisdale, William S., New York, N. Y. Peat machine	Oct. 10, 1871
	Titus, John F. (*See* Phoebus, Thomas B., assignor.)	
115,638	Tivnan, Charles, Holyoke, Mass. Screw for water-gauges	June 6, 1871
113,707	Tizzard, James H., assignor to self and Samuel B. Tizzard, Eaton, Ohio. Leather-rounding machine	April 11, 1871
114,992	Tobey, Lyman, Naples, N. Y. Key-fastener	May 16, 1871
	Tobin, William. (*See* Moore, Charles, assignor) ..... (Two cases.)	
	Tobins, George C. (*See* Duffy, James F., assignor.)	
	Todd & Rafferty, *et al.* (*See* Pittman, George W., assignor.)	
114,367	Todd, Henry B., Plymouth, Conn. Dish-washer	May 2, 1871
118,985	Todd, Herbert L., Corning, N. Y. Paper-trimming machine	Sept. 12, 1871
116,512	Todd, Joshua, assignor to self and William R. Bancroft, Webster, N. Y. Mop-head	June 27, 1871
121,914	Todd, Thomas and William, Schenectady, N. Y. Combined water gauge and cock	Dec. 12, 1871
111,585	Todd, Weatly, Allegheny City, Pa. Wash-board	Feb. 7, 1871
114,883	Toepfer, Wenzel, assignor to Toepfer & Son, Milwaukee, Wis. Smoke-stack	May 16, 1871
115,391	Toepfer, Wenzel, assignor to Wenzel, Toepfer & Son, Wilwaukee, Wis. Apparatus for stirring malt in the kiln	May 30, 1871
120,468	Tolan, Thomas J., Delphos, Ohio. Machine for sawing spokes	Oct. 31, 1871
	Toll, Alexander. (*See* Wilder, John, assignor.)	
	Tolman, S. P., *et al.* (*See* Veber, William F., assignor.)	
	Tolman, Warren A., and Judson Adams. (*See* Adams & Tolman.)	
	Tomes, Melvain & Co. (*See* Joslyn, Benjamin F., assignor.)	
119,546	Tomlinson, James, Goderich, Canada. Barrel	Oct. 3, 1871
120,684	Tomlinson, Jerome H., Mount Carroll, Ill. Cultivator	Nov. 7, 1871
111,277	Tomlinson, John J., Bozeman City, Mont. Mill-stone grinder	Jan. 24, 1871
118,569	Tompkins, Arnold, Paris, Ill. Cultivator	Aug. 29, 1871
114,884	Tompkins, James V., assignor to self and John Cavender, Canandaigua, Mich. Brick-machine	May 16, 1871
	Tompkins, Lyman P. (*See* Brewer, Russell, assignor.)	
120,797	Tompkins, Milo L., Watapa, Ill. Washing-machine	Nov. 7, 1871
120,173	Toof, Edwin J., Fort Madison, Iowa. Ruffling-attachment for sewing-machines	Oct. 24, 1871
4,716	Tooker, William S., assignor to self and Elliot Thomas, Kingsborough, N. Y. Back for mittens (Design)	Mar. 14, 1871
110,695	Topham, Richard B., Washington, D. C. Printers' furniture	Jan. 3, 1871
111,702	Topham, William H., New York, N. Y. Paper-cutting machine. (Antedated Feb. 1, 1871)	Feb. 7, 1871
114,728	Topliff, Cyrus L., Brooklyn, N. Y. Clothes-line holder	May 9, 1871
5,264	Topliff, George Francis, assignor to the United States Mail-Box Company, Boston, Mass. Letter-box (Design)	Sept. 12, 1871
114,885	Topliff, Isaac N., Elyria, Ohio. Combined carriage-bow cover and slat-iron	May 16, 1871
122,079	Topliff, John A., and George H. Ely, Elyria, Ohio. Connecting carriage-springs	Dec. 19, 1871
117,017	Torrent, John, Muskegon, Mich. Machine for rolling logs	July 11, 1871
120,220	Same ..... Log-rolling machine	Oct. 24, 1871
117,221	Torres, Joseph R., New Orleans, La. Refrigerator	July 18, 1871
	Torrey, Edward S. and Joseph. (*See* Linscott, Charles F., assignor.)	
113,114	Torrey, Francis B., Bath, Me. Manufacture of composition-roller bushings	Mar. 28, 1871
	Torstrick, Henry. (*See* Pirz, Anthony, assignor.)	
	Same ..... (*See* Boecklen, Reinhold, assignor.)	
111,096	Torstrick, Henry, New York, N. Y., and Reinhold Boecklen, Brooklyn, N. Y. Rail-road-spike. (Antedated Jan. 6, 1871)	Jan. 17, 1871
	Toulmin, John, Worcester, Mass. Vibrating-shears (Extension)	Aug. 12, 1871
117,485	Tournier, Adolphe, Barnville, N. Y. Garden-tool for trimming sod	July 25, 1871
118,830	Tousley, Miron G., assignor to Diebold & Kienzle, Mendota, Ill. Spindle for safe-locks	Sept. 12, 1871
119,251	Tout, Thomas, Cambridge, Mass. Fishing-rod	Sept. 26, 1871
	Towar, A. H. (*See* Caswell, Ezra, assignor.)	
119,671	Tower, Daniel L., New York, N. Y. Water-meter	Oct. 3, 1871
120,129	Same ..... Permutation-lock	Oct. 17, 1871
116,890	Tower, George W., Cambridge, Mass. Pipe-cutter	July 11, 1871
116,891	Tower, Morton, Boston, Mass. Mode of attaching car-basket racks	July 11, 1871
5,145	Same ..... Car-basket rack (Design)	July 25, 1871
120,024	Same ..... Railway-car basket	Nov. 14, 1871
110,878	Towers, William H., Boston, Mass. Method of coating sad-irons, &c	Jan. 10, 1871
112,514	Same ..... Non-heating handle for sad-irons, &c	Mar. 7, 1871
112,988	Same ..... Elastic roll	Mar. 21, 1871
114,241	Same ..... Clothes-wringer	April 25, 1871
117,016	Same ..... Material for filling mattresses, cushions, and articles of upholstery	July 11, 1871
120,346	Same ..... Wash-board	Oct. 24, 1871
4,316	Towers, William H., assignor to the Vertical Hoop-Skirt Company, Boston, Mass. Hoop-skirt (Reissue)	Mar. 28, 1871
110,879	Towle, Edward B., Newburyport, Mass. Thimble	Jan. 10, 1871
111,378	Towle, Hamilton E., Newark, N. J. Loom	Jan. 24, 1871
116,645	Towle, Stevenson, New York, N. Y. Sewer-trap	July 4, 1871
111,586	Towne, Henry R., Stamford, Conn. Prison-lock	Feb. 7, 1871
111,587	Same ..... Permutation-lock	Feb. 7, 1871
118,986	Same ..... Lock	Sept. 12, 1871
	Towne, Lauriston, Providence, R. I. Chain-machine (Extension)	Oct. 9, 1871
120,347	Towner, Justin D., and General J. Harris, Murfreesborough, Tenn. Baling-press	Oct. 24, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,695	Townes, William B., Grenada, Miss. Combined corn and cotton planter	May 9, 1871
	Townsend & Jackson. (*See* Blessing, James H., assignor) (Two cases.)	
115,659	Townsend, Alfred H., Georgetown, Colo. Repeating ordnance	June 6, 1871
	Townsend, Elmer. (*See* Goodin, Louis, assignor) (Two cases.)	
	Townsend, Frederick. (*See* Blessing, James H., assignor) (Four cases.)	
113,471	Townsend, Henry, Philadelphia, Pa. Ship's trestle-tree. (Antedated March 22, 1871)	April 4, 1871
	Townsend, Henry Elmer. (*See* Carus, William A., assignor.)	Nov. 21, 1871
121,140	Townsend, Israel, Capeville, Va. Railway-car brake	Feb. 21, 1871
111,990	Townsend, Owen W., assignor to self and George O. Trowbridge, Fond du Lac, Wis. Combined augur and reamer	Jan. 24, 1871
111,979	Townsend, Ross, Liberty Township, Ohio. Rein-supporter	
	Townsend, William, and Jeremiah W. Teller. (*See* Teller & Townsend.)	June 20, 1871
116,237	Towslee, Moses B., Pewamo, Mich. Bed-bottom	May 30, 1871
115,391	Toye, William H. R., Philadelphia, Pa. Printing-press	
	Tracey, William. (*See* Monzer, Frederick, assignor.)	May 23, 1871
115,135	Tracy, Albert, Paris Hill, Me. Damper	
	Tracy, George S., and Thomas A. Galt. (*See* Galt & Tracy) (Two cases.)	
	Same same (Design.)	Oct. 10, 1871
119,897	Tracy, Joseph B., Lincoln, Del. Railway-car coupling	Dec. 5, 1871
121,556	Same Bridge	Dec. 12, 1871
121,823	Same Car-coupling	
113,865	Tracy, Lewis W., assignor to self and James E. Granniss, New York, N. Y. Brake for railway-car	Mar. 21, 1871
115,908	Trafford, Thomas, assignor to self, John S. Brown, and Samuel A. Worth, Dublin, Md. Manufacture of cast-steel direct from the ore	June 13, 1871
113,709	Tranter, James, and Joseph Kinney, Cincinnati, Ohio. Roll for rolling hoop, bar, and rod iron	April 11, 1871
119,673	Trapp, Edward A., assignor of one-fourth interest to Henry J. Huttner, San Francisco, Cal. Railway-switch	Oct. 3, 1871
121,824	Trapp, Edward A., San Francisco, Cal. Railway-switch	Dec. 12, 1871
116,777	Trapp, Thomas Jefferson, Williamsport, Pa. Bag-holder	July 4, 1871
117,019	Same Deep-well pump	July 11, 1871
113,709	Trask, Henry C., Vienna, Me. Shovel-handle	April 11, 1871
112,886	Traxy, Eben, Vermontville, Mich. Tuyere	Mar. 21, 1871
114,626	Traut, Justus A., assignor to the Stanley Rule and Level Company, New Britain, Conn. Adjustable bevel	May 9, 1871
113,367	Trantham, Thomas H., De Soto County, Miss. Cotton-scraper. (Antedated March 29, 1871)	April 4, 1871
119,898	Traver, Alvah, and Philip Nichols, Troy, N. Y. Churn	Oct. 10, 1871
115,787	Travis, Joseph H., Charlestown, Mass. Chair	June 6, 1871
121,825	Treadway, John, Haverstraw, N. Y. Brick-machine	Dec. 12, 1871
121,826	Treanor, James J., New York, N. Y. Fire-escape	Dec. 12, 1871
114,368	Treat, Robert M., Morris, Conn. Horse hay-rake	May 2, 1871
118,987	Treat, Upham S., Eastport, Me. Fertilizer from sea-weeds	Sept. 12, 1871
	Tredegar Company. (*See* Eynon, David, assignor.)	Nov. 21, 1871
121,219	Tredway, Louis D., Saint Louis, Mo. Vault for sewers	Aug. 22, 1871
118,303	Trefether, Charles, Manchester, N. H. Lap-board	June 20, 1871
116,239	Trefry, Harvey, Winfield, Mich. Car-coupling	Aug. 29, 1871
118,654	Tregellas, Henry, Calumet, Mich. Mangle	
114,886	Tregurtha, James, assignor to George H. Sanborn, Charlestown, Mass. Paper-ruling machine	May 16, 1871
114,369	Tremain, Charles W., Chicago, Ill. Wheel for traction-engines	May 2, 1871
121,690	Tremper, Theodore B., Rockland Lake, N. Y. Car-coupling	Dec. 5, 1871
116,473	Trent, Joseph, Millerton, N. Y. Lamp-burner	April 4, 1871
115,989	Trescott, Martin W., North Canaan, Conn. Horse hay-rake	June 13, 1871
115,542	Trevitt, Constant S., Washington, D. C. Document-case	May 30, 1871
121,691	Trigalet, Frederic, Astoria, N. Y. Garden-hoe	Dec. 5, 1871
119,403	Trimble, Charles B., New York, N. Y. Bottle-opener	Oct. 10, 1871
120,012	Trimmer, Benjamin T., Rochester, N. Y. Smut-mill and grain-cleaner	Oct. 17, 1871
117,830	Triphagen, Charles Henry, Pewamo, Mich. Spring bed-bottom	Aug. 8, 1871
112,654	Tripler, Archibald B., New Orleans, La. Apparatus for making ice and refrigerating. (Antedated Feb. 28, 1871)	Mar. 14, 1871
118,780	Same Device for preventing railway-axles from heating. (Antedated Aug. 19, 1871)	Sept. 5, 1871
116,513	Tripler, Charles E., New York, N. Y. Propelling-apparatus for vessels	June 27, 1871
4,615	Tripp, Augustus F., assignor to Sidney Shepard & Co., Buffalo, N. Y. Dredge-box (Reissue)	Oct. 31, 1871
	Tripp, Hiram B., and George L. Damon. (*See* Damon & Tripp.)	
120,348	Tripp, O. K., Rochester, N. Y. Oil-blacking for leather	Oct. 24, 1871
	Tripp, Seth D., and Luther Hill. (*See* Hill & Tripp.)	
122,203	Triscott, Samuel P. R., and George A. Wheeler, Worcester, Mass. Shoe-fastening	Dec. 26, 1871
	Trissler, Henry W. and Walter D., *et al.* (*See* Clute & Trissler.)	Dec. 19, 1871
122,060	Tritt, Joseph, Richmond, Ohio. Bee-hive	Aug. 1, 1871
117,579	Troll, Joseph, Belleville, Ill. Tullurium	
	Tronson, Luke F., and Francis Kearney. (*See* Kearney & Tronson.)	
115,393	Trotter, Charles W., assignor to self and George Frauenberger, Rochester, N. Y. Steam-heater	May 30, 1871
	Troup, James H., and Joseph H. Subers. (*See* Subers & Troup.)	
120,130	Troutman, James A., Seneca Falls, N. Y. Process of attaching teeth to pyroxyline dental plates	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
112,655	Trowbridge, Charles Edward, Whitinsville, Mass. Fastener for spinning-rings	Mar. 14, 1871
	Trowbridge, George O. (*See* Townsend, Owen W., assignor.)	
	Trowbridge, H. and G. O. (*See* Pitcher, Hiram, assignor.)	
114,232	Trowbridge, James T., Akron, Ohio. Seeder and cultivator combined	April 25, 1871
114,370	Troxell, Daniel, Newark, N. J. Lunch-box	May 2, 1871
121,436	Troyer, John D., Goshen, Ind. Stump-extractor	Nov. 28, 1871
111,019	Truax, Jacob W., Essex Junction, Vt. Water-wheel	Jan. 17, 1871
117,831	Truby, John W., assignor to Matthias Terhune, Chicago, Ill. Corner-socket for show-cases, boxes, &c	Aug. 8, 1871
117,486	Trudeau, Toussaint, Ottawa, Canada. Globe for gas-lights	July 25, 1871
4,633	Same same (Reissue)	Nov. 7, 1871
118,072	True, Jeremiah R., Richmond, Maine. Dumping-carriage	Aug. 15, 1871
110,696	Truex, John H., Rochester, N. Y. Platform-scale	Jan. 3, 1871
4,663	Truitt, Henry A., assignor to Thomas Dolan, Philadelphia, Pa. Fringe. (Design)	Feb. 14, 1871
4,663	Same Tasseled fringe (Design)	Feb. 14, 1871
120,131	Trulsen, Hans, Painesville, Ohio. Warping-chock for vessels	Oct. 17, 1871
113,946	Trumbore, Samuel, Easton, Pa. Seal for hydraulic mains of gas-works	April 18, 1871
115,786	Same Apparatus for exhausting gas from retorts	June 6, 1871
	Trumbull, John H. (*See* McNaughton, William, assignor.)	
119,064	Trump, George, assignor to self and George William Huntley, Second Fork Village, Pa. Machine for grading and ditching roads	Sept. 19, 1871
120,839	Same Combined root-cutter and shovel-plow	Nov. 14, 1871
113,308	Truscott, Samuel, Cleveland, Ohio. Rubber-paint	April 4, 1871
	Trusty, John H. (*See* Seldis, Raphael M., assignor.)	
120,911	Truxell, John S., Greensburgh, Pa. Harvester. (Antedated Oct. 28, 1871)	Nov. 14, 1871
122,140	Tuck, Daniel C., Farmington, Maine. Safety-clasp for pockets	Dec. 26, 1871
114,492	Tucker, Charles L., Chicago, Ill. Preparation for clarifying coffee	May 2, 1871
4,360	Same Package for lard (Reissue)	May 2, 1871
111,494	Tucker, Cyrus, Terre Haute, Ind. Chair	Jan. 31, 1871
118,405	Tucker, Frederick O., Stonington, Conn. Loom-shuttle	Aug. 22, 1871
119,901	Same same	Sept. 19, 1871
121,382	Same same	Nov. 28, 1871
117,698	Tucker, Frederick O., assignor of two-thirds interest to Thomas Isherwood and Amos Mallory, Westerly, R. I. Weft stop-motion	Aug. 1, 1871
115,993	Tucker, Sewell, and John R. Brownell, Dayton, Ohio. Steam-boiler	June 13, 1871
	Tucker, Stephen D., and Richard M. Hoe. (*See* Hoe & Tucker) (Reissue.)	
	Tucker, Stephen D., *et al.* (*See* Hoe, Richard M., assignor) (Reissue.)	
111,588	Tucker, Theodore M., Newark, N. J. Fluting-machine	Feb. 7, 1871
117,487	Same same	July 25, 1871
	Tucker, William, and John B. Brennan. (*See* Brennan & Tucker.)	
119,902	Tucker, William H., Indianapolis, Ind. Alarm-lock for tills	Sept. 19, 1871
111,007	Tuddenham, Stephen, England. Manufacture of ornamental bars or rods of metal	Jan. 17, 1871
115,660	Tuder, William, Moffettown, Tex. Current-wheel	June 6, 1871
112,396	Tufts, Augustus, Malden, Mass. Street-lantern	Mar. 7, 1871
	Tufts, Grosvenor & Co. (*See* Richards, Albert D., assignor.)	
	Tufts, James W. (*See* Meecham, George F., assignor) (Two cases.) (Design.)	
111,098	Tule, George H., assignor to self and Samuel Wood, Haddenfield, N. J. Wagon-jack	Jan. 17, 1871
	Tully, Mathew C., *et al.* (*See* Blundell, William A., assignor.)	
110,804	Tumler, Antony, New York, N. Y. Soda-water fountain	Jan. 3, 1871
121,837	Tunbridge, John, Newark, N. J. Apparatus for amalgamating ores	Dec. 12, 1871
114,887	Tunnicliff, John R., Vanhornesville, N. Y. Wrapper-cutter	May 16, 1871
114,888	Same Machine for stripping and booking tobacco	May 16, 1871
4,554	Tunnicliffe, J. R., assignor to Jonathan O. Fowler, jr., Hudson, Wis. Fire-alarm. (Reissue)	Sept. 12, 1871
117,222	Turbett, David H., New Bloomfield, Pa. Lime-kiln	July 18, 1871
113,947	Turley, Marshall, Council Bluffs, Iowa. Printers' ink	April 18, 1871
118,406	Same Device for securing the boxing in hubs	Aug. 22, 1871
115,544	Turnbull, Andrew, New Britain, Conn. Housing for clothes-lines	May 30, 1871
121,974	Turnbull, John, Simsbury, Conn. Hand-protector	Dec. 19, 1871
	Turnbull, John M. (*See* Dryden, William A., assignor.)	
115,661	Turner, Archibald, England. Sewing-silk, thread, &c	June 6, 1871
114,493	Turner, Benjamin G., Fremont, Nebr. Harvester	May 2, 1871
114,066	Turner, Charles J., and Marcellous L. Wilkinson, Olean, N. Y. Seed-planter	April 25, 1871
117,945	Turner, Edmund Malcolm, Pittsburgh, Pa. Ice creeper	Aug. 8, 1871
114,494	Turner, Elisha, Wolcottville, Conn. Curtain-fixture	May 2, 1871
	Same (*See* Curtiss, Willis, jr., assignor.)	
	Turner, G. W., *et al.* (*See* Wicks, Loren J., assignor.)	
121,915	Turner, James, Chicago, Ill. Drier	Dec. 12, 1871
	Turner, John, and James Ferguson. (*See* Ferguson & Turner.)	
5,640	Turner, John, Norwich, Conn., and Isaac E. Palmer, Montville, Conn.; said Palmer assignor to said Turner. Machine for covering cord (Reissue)	Nov. 28, 1871
110,697	Turner, Joshua, assignor to Benjamin A. Pettingill and Isaac S. Pear, Cambridgeport, Mass. Folding-bedstead	Jan. 3, 1871
116,893	Turner, Nathan F., Williamsburgh, N. Y. Inking-apparatus for printing-presses	July 11, 1871
111,791	Turner, Reuben D., New York, N. Y. Apparatus for the treatment of alcoholic and other spirits	Feb. 14, 1871
	Turner, Roswell W. (*See* Hunt, Leonard B., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Turner, Seymour and Judda. (*See* Steele, Elbridge J., assignor.) (Three cases.) (Design.)	
	Same.....(*See* Steele, Elbridge J., assignor.)	
	Same.....(*See* Goodrich, Albert J., assignor.)	
116,893	Turner, S. S., Westborough, Mass., and L. S. Craig, Boston, Mass. assignors to I. S. Craig. Sewing-machine	July 11, 1871
117,832	Turner, Sidney S., Westborough, Mass., and Collins and George M. Stevens, Boston, Mass., assignors to selves and Edward B. Pendleton, Hand-stamp. (Antedated July 27, 1871)	Aug. 8, 1871
118,988	Turner, William H., assignor to self and Charles E. Cardell, Indianapolis, Ind. Hot-air furnace	Sept. 12, 1871
116,894	Turney, John B., Inkster, Mich. Potato-bug destroyer	July 11, 1871
114,889	Turnipseed, Edward B., Columbia, S. C. Cotton-chopper	May 16, 1871
110,698	Tuthill, Beckwith W., Oregon City, Oreg. Wheelbarrow-frame	Jan. 3, 1871
4,341	Same.....same.....(Reissue)	April 11, 1871
121,916	Same.....New York, NY, Tubular frame of wheelbarrows and trucks	Dec. 12, 1871
116,374	Tuthill, Benjamin F., assignor of one-half interest to Stephen V. R. Tuthill, Chicago, Ill. Basket	June 27, 1871
111,280	Tuttle, David K., and Orazio Lugo, Baltimore, Md. Ice-machine. (Antedated Jan. 7, 1871)	Jan. 24, 1871
120,912	Tuttle, David A., Brooklyn, N. Y. Air-register	Nov. 14, 1871
117,349	Tuttle, John W., Newton, Mass. Pasteboard packing-box	July 25, 1871
117,350	Same.....Paper packing-box	July 25, 1871
120,349	Tweddle, Herbert W. C., Pittsburgh, Pa. Refining hydrocarbon-oils	Oct. 24, 1871
119,858	Twining, Alexander C., New Haven, Conn. Apparatus and process for the manufacture of salt. (Antedated Sept. 25, 1871)	Sept. 26, 1871
121,975	Same.....Ice-machine using ammonia. (Antedated Dec. 9, 1871)	Dec. 19, 1871
118,989	Twining, Charles O., Saint Louis, Mo. Oil-can	Sept. 12, 1871
	Twiss, Nelson W., and Henry R. Hill. (*See* Hill & Twiss.)	
111,589	Twitchell, Willard, Syracuse, N. Y. Stove-drum	Feb. 7, 1871
112,969	Twombly, Charles, Boston, Mass. Thill-coupling	Mar. 21, 1871
4,257	Tyer, Henry G., Andover, Mass. Overshoe	Feb. 7, 1871
	Tyer, John B., and Hugh M. Stephenson. (*See* Stephenson & Tyer.)	
	Tyler, Brown & Co. (*See* Brinly, Thomas E. C., assignor.)	
114,067	Tyler, Charles E., Georgetown, Mass. Shoe	April 25, 1871
4,544	Tyler, Charles N., Buffalo, N. Y. Wash-boiler	Sept. 5, 1871
	Same.....(*See* Nichols, Silas C., assignor.)	
4,539	Tyler, John, West Lebanon, N. H. Water-wheel	Aug. 29, 1871
112,867	Tyler, John T., Pittsburgh, Pa. Roll for the manufacture of planters' hoes	Mar. 21, 1871
	Tyler, John T., *et al.* (*See* Brodie, Smith & Tyler.)	
114,371	Tyler, Samuel W., Troy, N. Y. Mold for making cushioned belting. (Antedated April 27, 1871)	May 2, 1871
115,910	Same.....Flax-harvester	June 13, 1871
117,125	Same.....Flax-puller	July 18, 1871
4,912	Tyler, Walter L., assignor to the E. N. Welch Manufacturing Company, Bristol, Conn. Clock-case	May 16, 1871
114,993	Tyler, William, Georgetown, D. C. Dough-kneader	May 16, 1871
115,789	Tyrrell, Edward, Brooklyn, N. Y. Machine for labeling round boxes	June 6, 1871
	Tyson, Samuel Traquar. (*See* McCoy, John, assignor.)	
112,515	Uhl, John Ernst, Renova, Pa. Lubricator	Mar. 7, 1871
115,136	Uhlhorn, John F., Sacramento, Cal. Printers' furniture	May 23, 1871
110,940	Ulman, William F., Boston, Mass. Piano	Jan. 10, 1871
118,407	Same.....Pianoforte	Aug. 22, 1871
115,545	Ulmer, Amos M., Philadelphia, Pa. Weather-strip	May 30, 1871
118,394	Ultsch, John B., assignor to self and Curtis Davis, Cambridge, Mass. Soap cutting and beading machine	Aug. 22, 1871
115,662	Underhill, Edward F., Brocton, N. Y. Vine-lock. (Antedated May 30, 1871)	June 6, 1871
4,665	Underwood, Flavius J., assignor to Basil D. Buford, Rock Island, Ill. Cultivator	Dec. 12, 1871
112,516	Underwood, Franklin, South Rutland, N. Y. Combined corn-planter and cultivator	Mar. 7, 1871
	Underwood, Thomas, and Nelson Warren. (*See* Warren & Underwood.)	
120,132	Unger, William, Newark, N. J. Circuit-closer	Oct. 17, 1871
	Union Eyelet Company. (*See* Smith & Young, assignors.)	
	Union Manufacturing Company. (*See* Carleton, John W., assignor.)	
	Union Metallic Cartridge Company. *See* Cochran, J. W., assignor.)	
	Union Pipe Company. (*See* Culver, John P., assignor.)	
	Union Steam and Water Heating Company. (*See* Gold & Foskett, assignors.) (Reissue.)	
	Union Stone Company. (*See* Elliott, Josiah S., assignor.)	
	Union Stove Works. (*See* Finch, Reuben F., assignor.)	
	United States and Foreign Salamander Felting Company. (*See* Riley, John, assignor.)	
	United States Brick-Machine Company. (*See* Gard, Benjamin M. and Emery R., assignors.)	
	United States Cartridge Company. (*See* Molfino, Angelo, assignor.)	
	United States Mail-Box Company. (*See* Topliff, Geo. Francis, assignor.) (Design.)	
	United States Pipe-Protecting Company. (*See* Mariner & Dorsett, assignors.)	
	Universal Ship Ventilator, Alarm, and Bilge-Pump Manufacturing Company. (*See* Thiers, William Fitz James, assignor.)	
118,406	Unsworth, Thomas, and Edward Whalley, assignors to Thomas Unsworth. England. Machinery for making cords or bands	Aug. 22, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,699	Unverzagt, George, Philadelphia, Pa. Back of a chair or sofa.....(Design)	Mar. 7, 1871
119,098	Updegraff, Horace, Fort Laramie, Wyo. Breech-loading fire-arm	Sept. 19, 1871
5,040	Upson, Lyman A., assignor to Hartford Carpet Company, Enfield, Conn. Carpet.....(Design)	June 20, 1871
121,220	Upton, Parley, and Jacob B. Lobdell, Battle Creek, Mich. Thrashing-machine	Nov. 21, 1871
114,233	Uren, Richard, Santa Cruz, Cal. Blasting-fuse	April 25, 1871
119,203	Urie, Thomas S., assignor to self and George H. Cagwin, Hubbardston, Mich. Floor-clamp	Sept. 19, 1871
116,239	Urquhart, William Wallace, Bay City, Mich. Whiffletree-iron	June 20, 1871
111,590	Ustick, Stephen, Philadelphia, Pa. Lubricator for loose pulleys. (Antedated Jan. 26, 1871)	Feb. 7, 1871
119,065	Same.....Lubricating loose pulleys in journals. (Antedated Sept. 1, 1871)	Sept. 19, 1871
119,287	Same.....Lubricating loose pulleys. (Antedated Sept. 15, 1871)	Sept. 26, 1871
119,288	Same.....Mode of lubricating journals. (Antedated Sept. 15, 1871)	Sept. 26, 1871
121,557	Same.....Lubricator for car-journals. (Antedated Nov. 30, 1871)	Dec. 5, 1871
121,069	Utley, Albert M., Watertown, N. Y. Blacking-box	Nov. 21, 1871
113,948	Utley, Foster, Chapel Hill, N. C. Washing-machine	April 18, 1871
112,095	Utley, Gabriel, Chapel Hill, N. C. Cotton-press	Feb. 21, 1871
115,137	Utley, Maurice Howell, Montreal, Canada. Apparatus for electrical, vacuum, and vapor treatment	May 23, 1871
119,899	Utley, Maurice H., and Alexander Ross, Montreal, Canada. Electro-magnetic motor	Oct. 10, 1871
117,099	Utter, Charles, and George E. Bruster, Newark, N. J. Faucet	Aug. 1, 1871
	Utton, James F., and Olney L. Smith. (*See* Smith & Utton.)	
114,495	Vaass, Albert, and Franz Littmann, Prussia. Carré ice-machine	May 2, 1871
119,954	Valentine, John, Buffalo, N. Y. Horse-power	Oct. 17, 1871
121,737	Same.....Ditching-machine	Dec. 12, 1871
114,234	Valentine, Mann S., Richmond, Va. Preparing an extract of meat	April 25, 1871
4,937	Valentine, Samuel Winter, Bristol, Conn. Paper-bag	May 23, 1871
111,792	Valentine, Samuel W., assignor to Porter Saw Company, Bristol, Conn. Method of attaching handles to saws	Feb. 14, 1871
117,700	Valleley, James, and Franklin A. Wise, Canton, Ohio. Safety shaft-coupling	Aug. 1, 1871
118,990	Valley, John N., North East, Pa. Ironing and kitchen table combined	Sept. 12, 1871
120,350	Valley, John N., and John A. Stetson, jr., North East, Pa. Scrubbing-brush	Oct. 24, 1871
113,949	Van, John, Cincinnati, Ohio. Laundry-stove	April 18, 1871
116,646	Same.....Stove-door	July 4, 1871
119,066	Same.....Portable cooking-range	Sept. 19, 1871
111,495	Van Alstine, Cornelius C. E., New Haven, Conn. Truss	Jan. 31, 1871
113,597	Van Anden, William, Poughkeepsie, N. Y. Water-meter	April 11, 1871
120,913	Van Auken, Albert, Ludlowville, N. Y. Bridle-bit	Nov. 14, 1871
117,126	Van Auken, Miner, Utica, N. Y. Washing-machine	July 18, 1871
4,555	Van Auken, Miner, assignor to John Warner, Amsterdam, N. Y. Burr for knitting-machines	Sept. 12, 1871
111,020	Van Benthuysen, Henry B., Lock Haven, Pa. Window for stoves.....(Reissue)	Jan. 17, 1871
117,833	Same.....Base-burning stove. (Antedated Aug. 3, 1871)	Aug. 8, 1871
113,224	Van Bibber, Andrew, Cincinnati, Ohio. Composition for printers' inking-rollers	Mar. 28, 1871
118,305	Van Bokkelen, Adrian H., Wilmington, N. C. Apparatus for distilling turpentine	Aug. 22, 1871
119,204	Van Bramer, John P., assignor to self and Ellis Thompson, Galesburgh, Ill. Machine for forming wire-bails	Sept. 19, 1871
	Van Bunschoten, Ruth Ann and Harriet. (*See* Sampson, William S., assignor.) (Two cases.)	
120,914	Van Camp, Aaron, Washington, D. C. Asphaltic and crushed rock pavement	Nov. 14, 1871
4,810	Vance, John D., assignor to self and Horace M. Eddy, Cincinnati, Ohio. Revolving-grate	April 11, 1871
4,236	Vance, Samuel B. H., assignor to Mitchell, Vance & Co., New York, N. Y. Apparatus for suspending gasoliers and drop-lights.....(Design)	Jan. 17, 1871
114,880	Vance, William A., deceased, by George T. Clark, administrator, Kalamazoo, Mich. Millstone-balance	May 16, 1871
115,911	Van Choate, Silvanus Frederick, Boston, Mass. Breech-loading fire-arm	June 13, 1871
	Vancleave, Thomas Y., and James P. Crutcher. (*See* Crutcher & Vancleave.)	
	Van Cleeve, James G., *et al.* (*See* Margerum, Mahlon R., assignor.)	
116,240	Van Cleve, William H., Ypsilanti, Mich. Stove-leg	June 20, 1871
119,900	Same.....Punching-machine	Oct. 10, 1871
	Same.....Jamb-nut	Nov. 7, 1871
118,073	Van Cleve, William S., Centralia, Ill. Uterine-supporter	Aug. 15, 1871
119,901	Vandecar, Israel D., Chicago, Ill. Dredging-machine	Oct. 10, 1871
117,946	Vandemark, Archibald B., Jersey City, N. J. Composition for paving and roofing	Aug. 8, 1871
4,501	Same.....Manufacture of artificial asphalt-rock.....(Reissue)	Oct. 10, 1871
114,496	Van Demark, James M., and Moses Barlow, Phelps, N. Y. Hay-elevator	May 2, 1871
116,647	Vandenburg, Orlando B., Findlay, Ohio. Method of drawing patterns for flaring vessels	July 4, 1871
118,074	Vanderburgh, Van, assignor to Horatio Graves, Bacon Hill, N. Y. Agitator for washing-machines	Aug. 15, 1871
113,360	Vanderveer, Elias W. C., Elisabeth, N. J. Portable dumping-hod for earth-closets	April 4, 1871
121,475	Vanderweyde, Henry, New York, N. Y. Mode of applying tints to photographs	Dec. 5, 1871
117,488	Van Devort, Thomas S., Ypsilanti, Mich. Windmill	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,225	Van De Water, Joseph, assignor to George and George W. Esterly, Whitewater, Wis. Harvester	Mar. 28, 1871
	Vandiver Corn-Planter Company. (*See* Barlow, Joseph C., assignor.)	
111,155	Van Duine, Marinus, and Jan De Jonge, Zealand, Mich. Manure-rake attachment for plows	Jan. 24, 1871
119,727	Van Dusen, Cornelius, Clarksville, N. Y. Bed-bottom	Oct. 10, 1871
114,697	Van Dyne, Jacob B., assignor to the North Western Fire-Extinguisher Company, Covington, Ky. Fire-extinguisher	May 9, 1871
120,221	Van Emon, Samuel, Covington, Ky. Steam-engine	Oct. 24, 1871
120,222	Same.....Pitman-connection for steam-engines	Oct. 24, 1871
	Van Gilder, Samuel G., and Benjamin H. Detwiler. (*See* Detwiler & Van Gilder.)	
118,563	Van Gorder, James L., Sidney, Ohio. Sulky-plow	Aug. 29, 1871
114,068	Van Hagen, Isaac, Chicago, Ill. Machine for punching and stamping metal	April 25, 1871
119,431	Van Hoesen, Eugene M., and Nelson H. Brown, Syracuse, N. Y. Railway-car coupling	Sept. 26, 1871
120,133	Van Hoevenbergh, Henry, New York, N. Y. Printing-telegraph	Oct. 17, 1871
114,720	Van Hoesen, Casper, Catskill, N. Y. Sash-balance	May 9, 1871
4,610	Van Horn, Francis C., Camden, N. J. Bed-quilt.....(Design)	Jan. 24, 1871
	Vanhorn, Joseph S., and William H. Pack. (*See* Pack & Vanhorn.)	
117,834	Van Horn, Summer, assignor of two-thirds interest to Valletto W. and Edw. A. Van Horn, Chicopee, Mass. Pot and kettle cover	Aug. 8, 1871
111,793	Van Horne, Robert P., Gratiot, Ohio. Double-shovel plow	Feb. 14, 1871
	Van Houten, William A. (*See* Fitch, Ross L., assignor.)	
117,835	Vanis, Thomas G. Smith, Canton, Miss. Seed-planter	Aug. 8, 1871
121,291	Van Kannel, Theophilus, Cincinnati, Ohio. Tag	Nov. 21, 1871
111,021	Van Kersen, Isaak, Kalamazoo, Mich. Wagon-box and wagon-rack lifter	Jan. 17, 1871
117,223	Van Keuren, Henry, assignor to self and William Van Keuren, Jersey City, N. J. Floating-dock	July 18, 1871
112,900	Vanluvanee, John, and Hugh Smith, Moline, Ill. Walking-cultivator	Mar. 21, 1871
110,941	Vannice, Peter T., Kewanee, Ill. Book-case for schools, &c	Jan. 10, 1871
113,115	Van Norman, Jacob, Easton, Pa. Forcing liquids	Mar. 28, 1871
113,300	Vannosdall, James M. and Oliver W., Newark, Ill. Hedge-trimmer. (Antedated Feb. 18, 1871)	Feb. 28, 1871
117,351	Van Orden, Luther, Cincinnati, Ohio. Reclining-chair	July 25, 1871
119,803	Vanorman, Oliver, assignor of one-half interest to Judson A. Archibald, Fond du Lac, Wis. Hub for vehicle-wheels	Oct. 10, 1871
121,602	Vanorman, Oliver, Fond du Lac, Wis. Truss-brace for axle-skeins	Dec. 5, 1871
122,081	Vanorstrand, Mary J. C., Pekin, Ill. Combined corset and skirt-supporter	Dec. 19, 1871
115,912	Van Pappelendam, Cornelis G., Charleston, Iowa. Metallic tile for roofs	June 13, 1871
	Vansands, Horace, Middletown, Conn. Blind-fastener.....(Extension)	April 19, 1871
113,370	Vansant, John, San Francisco, Cal. Electric gas lighting and extinguishing apparatus	April 4, 1871
120,469	Same.....Apparatus for lighting gas by electricity	Oct. 31, 1871
120,554	Van Santvoord, John, Mount Vernon, N. Y. Blacking-box	Oct. 31, 1871
5,333	Van Scoyoc, William, Oxford, Ohio. Hat-rack and mirror	Aug. 22, 1871
118,075	Vanstone, Samuel, assignor to George and James Chatterton, North Providence, R. I. Device for locking-bolts	Aug. 15, 1871
122,089	Van Tassel, John, Toledo, Ohio. Pump-piston	Dec. 19, 1871
	Van Vlear, William H., *et al.* (*See* Vincent, George, assignor.)	
112,868	Van Vleck, Matthew, Albany, N. Y. Machine for coiling bed-springs	Mar. 21, 1871
113,950	Van Voorhis, Harvey B., Pittsburgh, Pa. Road-scraper	April 18, 1871
119,547	Van Wagner, Peter Spohn, Saltfleet Township, Canada. Device for destroying insects	Oct. 3, 1871
4,744	Van Wart, Ames, New York, N. Y. Statuary.....(Design)	Jan. 28, 1871
5,057	Same.....Alto-relief.....(Design)	June 27, 1871
5,069	Same.....Group of statuary.....(Design)	July 4, 1871
5,090	Same.....same.....(Design)	July 4, 1871
111,703	Van Wert, James L., Tolland, Mass. Hub for wheels	Feb. 7, 1871
113,473	Van Wormer, Jasper, assignor to self and Michael McGarvey, Albany, N. Y. Base-burning stove	April 4, 1871
	Van Wormer, Jasper, and Michael McGarvey. (*See* Vedder & Heister, assignors.) (Design.)	
115,663	Van Wormer, Matthew, Troy, Ohio. Fence	June 6, 1871
120,799	Varin, Fabien, Huntsville, Ala. Bee-hive	Nov. 7, 1871
	Varnes, Harvey B. (*See* Gaines, William C., assignor.)	
119,432	Varney, Joseph, Batavia, Ill. Washing-machine	Sept. 26, 1871
110,805	Vaughan, Alexander Sidney, Elkton, Md. School desk and chair	Jan. 3, 1871
117,127	Vaughan, Daniel, assignor to self, Augustus L. Helm, and John B. Mahoney, Cincinnati, Ohio. Steam-heater	July 18, 1871
	Vaughan, John G., Middleborough, Mass. Mode of lathing and plastering. (Extension)	Jan. 19, 1871
115,393	Vaughan, John W., New York, N. Y. Cup of bobbin-winding machines	May 30, 1871
122,063	Vaughan, Phineas W., De Kalb, Ill. Grinder for harvester-knives	Dec. 19, 1871
	Vaughn, Daniel J., and Oliver H. Young. (*See* Young & Vaughn.)	
113,819	Vaught, Granville J., Hanly, Ky. Corn-planter	April 18, 1871
116,409	Veasey, Joshua, Highland, Me. Wagon and cart brake	Aug. 22, 1871
112,301	Veber, William F., assignor to S. P. Tolman and C. C. Roberts, Perrysburgh, Ohio. Construction of wooden boxes	Feb. 28, 1871
115,394	Vedder, Jerome B., Gloversville, N. Y. Car-coupling	May 30, 1871
111,887	Vedder, Nicholas S., Troy, N. Y. Cooking-stove	Feb. 14, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
4,611	Vedder, Nicholas S., and Francis Ritchie, assignors to Russell Wheeler, Troy, N. Y. Cooking-stove.....(Design)	Jan. 24, 1871
4,645	Vedder, Nicholas S., and Francis Ritchie, assignors to Hicks & Wolfe, Troy, N. Y. Stove-plate.....(Design)	Feb. 7, 1871
5,156	Vedder, Nicholas S., and Francis Ritchie, assignors to Nicholas S. Vedder, Troy, N. Y. Cooking-stove.....(Design)	Aug. 1, 1871
5,157	Same.....Heating-stove.....(Design)	Aug. 1, 1871
4,900	Vedder, Nicholas S., Troy, N. Y., and Tobias S. Heister, Lansingburgh, N. Y., assignors to John A. Goeway. Cooking stove or range.....(Design)	May 9, 1871
5,158	Vedder, Nicholas S., Troy, N. Y., and Tobias S. Heister, Lansingburgh, N. Y., assignors to Nicholas S. Vedder. Heating-stove.....(Design)	Aug. 1, 1871
5,159	Same.....Cooking-stove.....(Design)	Aug. 1, 1871
5,160	Same.....same.....(Design)	Aug. 1, 1871
5,161	Same.....same.....(Design)	Aug. 1, 1871
5,162	Vedder, Nicholas S., Troy, N. Y., and Tobias S. Heister, Lansingburgh, N. Y., assignors to Jasper Van Wormer and Michael McGarvey. Cooking-stove. (Design)	Aug. 1, 1871
120,470	Venable, Gilbert M., Memphis, Tenn. Rotary engine	Oct. 31, 1871
120,555	Venn, Charles, Kastnersville, Canada. Bathing-apparatus	Oct. 31, 1871
112,096	Verbeck, Amos, Sterling, Ill. Whiffletree-hook	Feb. 21, 1871
	Vermillion, James, and John W. Davis. (*See* Davis & Vermillion.)	
	Vernam, William D. (*See* Kenyon, Silas R., assignor).....(Two cases.)	
119,197	Vero, Joseph, England. Machine for felting hat-bodies	Feb. 28, 1871
113,371	Veronee, Cornelious B., Athens, Ga. Animal-trap	April 4, 1871
116,995	Same.....Rectum-bathing apparatus	July 11, 1871
122,141	Verree, John P., Philadelphia, Pa. Elastic washer	Dec. 26, 1871
	Vertical Hoop-Skirt Company. (*See* Towers, William H., assignor).....(Reissue.)	
119,433	Vertrees, James C., Gallatin, Tenn. Plow	Sept. 26, 1871
119,660	Vessot, Joseph, sr., and Samuel, jr., Joliet, Canada. Combined harrow, seeder, and roller	Mar. 21, 1871
115,395	Vest, Isam, New Iberia, La. Apparatus for boiling sugar, &c	May 30, 1871
113,598	Vestal, Richard K., Santa Cruz, Cal. Axle-gauge	April 11, 1871
117,224	Vestal, Tilghman R., Santa Fé, Tenn. Hoisting-apparatus	July 18, 1871
119,305	Viars, John A., Sherman, Tenn. Wheel-cultivator	Sept. 19, 1871
121,693	Vick, Frank H. and William H., Rochester, N. Y. Lawn canopy	Dec. 5, 1871
121,025	Vick, Holland E., Alliance, Ohio. Hub for carriage-wheels	Nov. 14, 1871
121,694	Same.....Car-wheel hub	Dec. 5, 1871
	Vickery, Charles R., *et al.* (*See* Nimmo, George, assignor).....(Reissue.)	
117,489	Victor, Edward, assignor to self and Jacob D. Skelton, Fort Branch, Ind. Fly-trap	July 25, 1871
	Vidvard & Sheehan. (*See* Dunworth, James A. and Frank, assignors). (Design.)	
122,292	Vielle, Louis A. G., and Jean G. Robellaz, New Albany, Ind. Watchman's time-check	Dec. 26, 1871
	Victor, Rudolph, and Peter Heoter. (*See* Heoter & Victor.)	
5,091	Village, Thomas, assignor to Meriden Malleable Iron Company, West Meriden, Conn. Bracket and chandelier.....(Design)	July 4, 1871
5,092	Same.....Bracket or chandelier arm.....(Design)	July 4, 1871
118,410	Villard, Friedrich, Mount Eaton, Ohio. Combined hay and manure fork	Aug. 22, 1871
112,656	Vincent, George, Stockton, Cal. Machine for blocking ribbons, &c	Mar. 14, 1871
116,648	Vincent, George, assignor of two-thirds interest to William H. Van Vlear and Charles D. Ladd, Stockton, Cal. Roller-skate	July 4, 1871
116,373	Vining, Philomela T., assignor to self and Charles A. Wakefield, Springfield, Mass. Preserving natural flowers	June 27, 1871
	Vinton, John F. (*See* Hines, George A., assignor.)	
120,913	Vinton, John F., and George A. Hines, assignors of one-third interest to Seymour Field, Brattleborough, Vt. Permutation-lock	Nov. 14, 1871
115,790	Violet, Louis, New Lebanon, N. Y. Cough-mixture for use in candies	June 6, 1871
113,820	Vique, aine Guillaume, France. Disinfecting-compound	April 18, 1871
113,951	Virdin, William W., Baltimore, Md. Propelling canal-boats	April 18, 1871
118,076	Vitt, Alfred A., Union, Mo. Elevator-cup	Aug. 15, 1871
118,077	Vitt, Herman W., Union, Mo. Bush for mill-spindles	Aug. 15, 1871
111,991	Voegtli, Franz, Montgomery City, Mo. Spinning-wheel	Feb. 21, 1871
116,118	Voelker, Hermann, Newark, N. J. Boiler-flue scraper	June 20, 1871
4,418	Voelter, Henry, assignor to Albert Pagenstecher, Wurtemberg. Reducing wood to paper-pulp.....(Reissue)	June 6, 1871
117,225	Vogelgesang, John J., Columbus, Ohio. Hot-air furnace	July 18, 1871
116,896	Vogt, William, Louisville, Ky. Apparatus for pitching beer and other barrels and casks	July 11, 1871
113,821	Voigt, Ferdinand F., New Orleans, La. Wardrobe and book-case	April 18, 1871
119,481	Same.....Moth-protector. (Antedated Sept. 14, 1871)	Oct. 3, 1871
116,241	Volger, Charles, Wilmington, Del. Call-bell	June 20, 1871
115,664	Vollhardt, George H., New Haven, Conn. Folding-step for carriages	June 6, 1871
118,307	Vollmar, Johann P. A., Germany. Filter	Aug. 22, 1871
	Von Briesen, Arthur, assignor to self and Victor E. Mauger, New York, N. Y. Writing-apparatus for the blind	Nov. 14, 1871
112,517	Vondersaar, Wendel, Indianapolis, Ind. King-bolt	Mar. 7, 1871
113,372	Von Dissen, Valentine, New York, N. Y. Bed-lounge	April 4, 1871
113,599	Von Jeinsen, Ernest, and James M. McDonald, San Francisco, Cal. Oil-reservoir for axle-boxes	April 11, 1871
113,116	Same.....Axle and axle-box for vehicles	Mar. 28, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
115,546	Von Martini, Friedrich, Switzerland. Breech-loading fire-arm	May 30, 1871
120,800	Same.....same	Nov. 7, 1871
	Von Nieda, Joseph S., and Conneilious Englebert. (*See* Englebert & Von Nieda.)	
	Von Phul, Henry, jr., and James Mallon. (*See* Mallon & Von Phul.)	
	Von Pohrnhoff, Alois P., and Charles C. Mengel. (*See* Mengel & Von Pohrnhoff.)	
119,902	Von Schmidt, Allexey W., San Francisco, Cal. Method of removing submarine rocks	Oct. 10, 1871
121,141	Voorhees, James Grover, Aqueduct Mills, N. J. Preserving wood	Nov. 21, 1871
111,405	Vose, Richard, New York, N. Y. Curtain-fixture	Jan. 31, 1871
119,253	Same.....Nest-spiral car-spring	Sept. 26, 1871
119,254	Same.....same	Sept. 26, 1871
117,701	Vosper, Herbert, England. Steam-engine	Aug. 1, 1871
4,824	Vredenburgh, Jacob D., Chicago, Ill. Show-case.....(Design)	April 18, 1871
111,992	Vreeland, Teunis, Oneida, Ill. Seeder	Feb. 21, 1871
114,994	Vrooman, Henry S. Boston, Mass. Machine for skiving soles of boots and shoes	May 16, 1871
115,994	Same.....Boot and shoe channeling machine	June 13, 1871
119,434	Vrooman, Jacob V., Schenectady, N. Y. Stove-cover for fuel-reservoirs	Sept. 26, 1871
122,084	Vrooman, Jacob V., and Jonas H. Clute, Schenectady, N. Y. Reservoir-stove	Dec. 19, 1871
119,206	Waddell, James, Liberty, Ind. Cultivator	Sept. 19, 1871
114,497	Waddell, William W., Hillsborough, Ohio. Draught-regulator for stoves	May 2, 1871
112,198	Waddle, John, Bakerstown, Pa. Fence	Feb. 28, 1871
5,409	Wade, James, Palmer, Mass. Carpet-pattern.....(Design)	Dec. 12, 1871
5,410	Same.....same.....(Design)	Dec. 12, 1871
113,373	Wadham, John A., Blue Island, Ill. Potato-digger	April 4, 1871
114,372	Wadsworth, Arthur, Newark, N. J. Pallet for watches	May 2, 1871
112,657	Wadsworth, Constant W., and Carl Guilberg, Peekskill, N. Y. Attaching the hair-springs of watches	Mar. 14, 1871
120,916	Wadsworth, Decius, Brooklyn, N. Y. Manufacture of white-lead	Nov. 14, 1871
	Wadsworth, Henry C., and Sullivan Forehand. (*See* Forehand & Wadsworth.) (Two cases.)	
117,128	Wadsworth, Omar A., Allegheny City, Pa. Machine for making spikes	July 18, 1871
121,222	Wagener, David S., Pultney, N. Y. Grafting-instrument. (Antedated Nov. 11, 1871)	Nov. 21, 1871
122,293	Wager, James, Troy, N. Y. Heating-stove	Dec. 26, 1871
116,640	Wagner, Alfred H., assignor to self, William J. Randolph, Levi Day, and Adam Harshberger, Prairie City, Ill. Lathe-chuck	July 4, 1871
112,730	Wagner, Ausbert H., Chicago, Ill. Harvester	Mar. 14, 1871
115,791	Same.....Grist-mill	June 6, 1871
118,655	Same.....Folding sewing-machine table	Aug. 29, 1871
114,730	Wagner, Daniel, and William K. Bushnell, Titusville, Pa. Elevating-truck	May 9, 1871
115,913	Wagner, Ernest F., Houston, Tex. Carriage-axle	June 13, 1871
112,991	Wagner, Franz, New York, N. Y. Apparatus for converting reciprocating into rotary motion	Mar. 21, 1871
112,992	Same.....Meter	Mar. 21, 1871
	Same.....(*See* Mueller, David, assignor.)	
	Wagner, Frederick J. S., *et al.* (*See* Young & Doll, assignors).....(Two cases.)	
111,888	Wagner, James K., Potsdam, N. Y. Clothes-drier. (Antedated Feb. 3, 1871)	Feb. 14, 1871
115,396	Wagner, John, Lancaster County, Pa. Wagon-jack	May 30, 1871
116,242	Wagner, Michael, Cincinnati, Ohio. Pen	June 20, 1871
117,702	Wahlfelt, Fredrik, Sweden. Drill-bayonet	Aug. 1, 1871
121,556	Wahlgren, Charles E., Galesburgh, Ill. Culinary steamer	Dec. 5, 1871
116,119	Wahlstedt, Henry, Princeton, Ill. Wagon-seat	June 20, 1871
111,496	Waisenix, Michael and Alois, and Carl A. Specker, Austria. Machine for preparing wood-pulp	Jan. 31, 1871
	Walt, Justin B. (*See* Scofield, Levi, assignor).....(Two cases.)	
118,307	Wait, Philip H., Sandy Hill, N. Y. Water wheel and gate	Aug. 22, 1871
116,376	Wait, Thomas B., Zena, Oreg. Portable power-press	June 27, 1871
114,373	Waite, Enoch, assignor to self and Francis B. Ray, Franklin, Mass. Fabric from waste leather	May 2, 1871
120,801	Waite, John E., Hatfield, Mass. Transplanter	Nov. 7, 1871
114,731	Waitt, George L., Philadelphia, Pa. Sliding-door and sash-guide. (Antedated April 27, 1871)	May 9, 1871
112,518	Waitt, George W., assignor to self and Robert B. Fitts, Philadelphia, Pa. Wheat-roaster	Mar. 7, 1871
114,891	Same.....Roasted wheat	May 16, 1871
	Waitt, George W., *et al.* (*See* Fitts, R. Berkeley, assignor).....(Three cases.)	
112,658	Wakefield, Charles A., Pittsfield, Mass. Wire-fence	Mar. 14, 1871
115,256	Same.....Earth-closet	May 23, 1871
115,914	Same.....Lubricating-arrangement for axles of wagons	June 13, 1871
	Same.....(*See* Vining, Philomela T., assignor.)	
	Wakefield, Cyrus, *et al.* (*See* Aldrich & Spaulding, assignors.)	
119,903	Wakelee, Charles H., San Francisco, Cal. Drier	Oct. 10, 1871
	Wakeley, Charles T., and Charles A. Whelan. (*See* Whelan & Wakeley.)	
111,069	Walch, Blase, Frederick, Md. Auger	Jan. 17, 1871
	Walcheid, Christian A. (*See* Richardson, Frederic W., assignor.)	
119,207	Walcott, Edward, Natick, Mass. Shoe	Sept. 19, 1871
	Walcott, Elbridge, and Jonas C. Young. (*See* Bellamy, John H., assignor.) (Design.)	
	Waldbillig, Anton F. (*See* Wellschmidt, Adam, assignor.)	
117,490	Waldmann, Adolph, Philadelphia, Pa. Tournure	July 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,704	Waldo, Albert G., Milwaukee, Wis. Millstone bale and driver	Feb. 7, 1871
115,792	Same.....Friction brake or clutch	June 6, 1871
	Waldron, George F., and Robert F. Fisher. (*See* Fisher & Waldron.)	
	Wales, Elisha L., and William F. Prusha. (*See* Prusha & Wales.)	
113,117	Wales, Joseph, New York, N. Y. Candle-moiding machine	Mar. 28, 1871
117,703	Walker, Albion K. P., Richmond, Me. Watchmakers' chuck	Aug. 1, 1871
111,497	Walker, Amasa K., Hampden, Me. Fly-exterminator	Jan. 31, 1871
120,351	Walker, Benjamin L., Sing Sing, N. Y. Holder for screw-cutting dies	Oct. 24, 1871
117,020	Walker, Dwight F., Minneapolis, Minn. Paneling-machine	July 11, 1871
120,405	Same.....Panel-raising machine	Oct. 31, 1871
121,559	Walker, Edward L., Twin Grove, Wis. Butter-worker	Dec. 5, 1871
121,695	Walker, Felix, New Orleans, La. Sash-holder	Dec. 5, 1871
	Walker, Francis G., *et al.* (*See* Jackson, Richard A., assignor.)	
118,308	Walker, George A., Boston, Mass. Paper-cutting machine	Aug. 22, 1871
118,309	Walker, George S., Erie, Pa. Animal-trap	Aug. 22, 1871
113,118	Walker, George S., assignor to self and Frank F. Adams, Erie, Pa. Washing-machine	Mar. 28, 1871
112,993	Walker, George W., Boston, Mass. Cooking-stove	Mar. 21, 1871
113,952	Same.....Cooking-range	April 18, 1871
4,540	Same.....Malden, Mass. Cooking-stove.....(Reissue)	Aug. 29, 1871
120,406	Same.....Boston, Mass. Hot-air furnace. (Antedated Oct. 27, 1871)	Oct. 31, 1871
4,477	Walker, Henry Balen, assignor to William Augustus Walker, New York, N. Y. Silvering glass for mirrors and reflectors.....(Reissue)	July 18, 1871
116,650	Walker, Isaac P., Milwaukee, Wis. Baling-press	July 4, 1871
113,822	Walker, James, and Henry F. Lilly, Philadelphia, Pa. Lifter for spittoons, &c.	April 18, 1871
112,870	Walker, James C., Farmington, Mich. Combined potato planter and digger	Mar. 21, 1871
112,097	Walker, John, Philadelphia, Pa. Proportional scale for the construction of toothed gear	Feb. 21, 1871
117,129	Walker, John, assignor to Levi Chubbuck, Boston, Mass. Chimney-cowl	July 18, 1871
121,437	Walker, John C., and William Lapish, Burlington, Wis. Bed-bottom	Nov. 28, 1871
	Walker, John F., *et al.* (*See* Frey, John A., assignor.)	
111,281	Walker, John T., Brooklyn, N. Y. Salt-cellar	Jan. 24, 1871
115,138	Walker, Leander, Victoria, Tex. Cultivator	May 23, 1871
	Walker, P. H. (*See* Atwood, Leonard, assignor.)	
113,226	Walker, Thomas M., Bellefontaine, Ohio. Flour-bolt	Mar. 28, 1871
110,699	Walker, William, assignor to George H. Wooster, Brooklyn, N. Y. Plaiting-device for sewing-machines	Jan. 3, 1871
	Wall, Charles L., and John Brady. (*See* Brady & Wall.)	
120,134	Wall, Cornelius A., Grand Rapids, Mich. Card-rack	Oct. 17, 1871
	Wall, James F., and Bernard J. Magee. (*See* Magee & Wall.)	
118,498	Wallace, Benjamin D., Boston, Mass. Scroll-saw	Aug. 29, 1871
	Wallace, Casper D., and James Moran. (*See* Moran & Wallace.)	
111,993	Wallace, Edwin R., Jonesville, S. C. Baling-press	Feb. 21, 1871
114,069	Wallace, John Murray, assignor to Bernhard Weber, New York, N. Y. Re-coloring fabrics	April 25, 1871
115,397	Wallace, Thomas, Chicago, Ill., and George Warren Hyde, Joliet, Ill. Smut-machine	May 30, 1871
114,732	Wallace, William K., Crawfordsville, Ind., and Edward C. Rutledge, Shannondale, Ind. Car-coupling	May 9, 1871
116,778	Wallace, William V., New York, N. Y. Ink-fountain for printing-presses	July 4, 1871
	Waller, Henry and W. S. (*See* Prosser, T. T., assignor.)	
	Waller, Henry, *et al.* (*See* Prosser, T. T., assignor).....(Two cases.)	
115,995	Wallet, William A., and Isaac Harbaugh, West Salem, Ohio. Pruning-shears	June 13, 1871
	Wallich, Charles, *et al.* (*See* Eley, Philip, assignor.)	
115,783	Wallis, Benjamin, Baltimore, Md. Brick-kiln	June 6, 1871
116,120	Wallis, John N. and Theodore, assignors of one-third interest to Henry G. Wise, Fleming, N. Y. Harvester-dropper	June 20, 1871
	Wallis, Theodore, *et al.* (*See* Doan, Wallace & Moreland.)	
114,995	Walmer, Henry, Lebanon, Pa. Wagon-brake	May 16, 1871
111,880	Walpole, Michael, Milford, Mass. Pincers for shoemakers. (Antedated Feb. 4, 1871)	Feb. 14, 1871
118,831	Walrath, Aaron H., Pamelia Four Corners, N. Y. Bob-sled	Sept. 12, 1871
115,915	Walsh, Edward F., and Sanford Duryea, Brooklyn, N. Y. Writing-ink	June 13, 1871
121,917	Walsh, Cornelius, Newark, N. J. Broiler	Dec. 12, 1871
114,996	Walsh, James, Philadelphia, Pa. Hydrant	May 16, 1871
115,794	Same.....Stop-valve	June 6, 1871
111,282	Walsh, John, Galena, Ill. Millstone-balance	Jan. 24, 1871
111,156	Walsh, John E., New York, N. Y. Coffer-dam	Jan. 24, 1871
111,157	Same.....same	Jan. 24, 1871
113,374	Same.....same	April 4, 1871
120,352	Same.....same	Oct. 24, 1871
	Walsh, Robert F. (*See* Fisher, John C., assignor.)	
	Walsh, Samuel A. (*See* Keen, Morris L., assignor).....(Four cases.)	
122,204	Walsh, William E., Jersey City, N. J. Feed-water heater	Dec. 26, 1871
	Walsh, William J. (*See* Ritchie, James, assignor.)	
	Walter, George B. (*See* Hall, Isaac, assignor.)	
	Walter, George F., and Henry H. Rogers. (*See* Rogers & Walter.)	
	Walters, A. J. (*See* Owen & Lilley, assignors.)	
113,953	Walters, George, assignor to Phœnix Iron Company, Phœnixville, Pa. Turn-table	April 18, 1871
113,710	Walters, James Monroe, Schwenksville, Pa. Wagon-spindle	April 11, 1871

No.	Name, residence, and invention or discovery.	Date.
12,871	Walters, John, assignor to William O. Hickok, Norfolk, Va. Hand-stamp	Mar. 21, 1871
	Walters, J. Blake. (*See* Ale, Ezra, assignor.)	
116,514	Walton, Benjamin F., Philadelphia, Pa. Bed-lounge	June 27, 1871
111,100	Walton, Frederick, England. Manufacture of artificial leather	Jan. 17, 1871
	Walton, Joseph J. (*See* Gillies, James H., assignor.)	
118,832	Walton, Lucius A., assignor to self and Dougie McIntire, Byhalia, Miss. Automatic fan	Sept. 12, 1871
115,547	Walton, Robert A., Shawneetown, Ill. Medicine for the cure of diarrhœa	May 30, 1871
120,685	Walton, William E., assignor to self, George J. Naylor, and Charles G. Boekenkamp, Chester, Pa. Liquid-measure	Nov. 7, 1871
4,801	Walton, William H., Brooklyn, N. Y. Printed material for aprons.....(Design)	April 11, 1871
4,802	Same.....Printed material for gored skirts.....(Design)	April 11, 1871
111,283	Wambach, William, Indianapolis, Ind. Bee-hive	Jan. 24, 1871
	Wandell, Livingston W., and Finley J. Wright. (*See* Wright & Wandell.)	
114,733	Wanda, John C., Nashville, Tenn. Metallic roofing	May 9, 1871
121,438	Same.....same	Nov. 28, 1871
113,600	Wanich, Alexander, Philadelphia, Pa. Balance-valve	April 11, 1871
113,601	Wansleben, William A., Washington, D. C. Combined thimble and locket	April 11, 1871
114,997	Warburton, William F., Philadelphia, Pa. Tobacco-pipe	May 16, 1871
	Same.....(*See* Luckenbach, Henry and George, assignors.)	
111,498	Ward, John F., Jersey City, N. J. Mode of laying pipes across rivers	Jan. 31, 1871
	Ward, John S., Plattsburgh, Mo. Churn	Dec. 5, 1871
112,096	Ward, Joseph, Honeoye Falls, N. Y. Whiffletree	Feb. 21, 1871
116,121	Ward, Lewis, Poughkeepsie, N. Y. Lamp-chimney cleaner	June 20, 1871
117,130	Same.....Griddle-greaser	July 18, 1871
118,761	Ward, Matthew, Mount Carmel, Pa. Pulley	Sept. 5, 1871
118,078	Ward, Moses N., assignor to self and Franklin Friend, Somerville, Mass. Lubricating-apparatus for steam-engines	Aug. 15, 1871
121,223	Ward, Peter M., Cow Run, Ohio. Drill-bit and reamer	Nov. 21, 1871
118,499	Ward, Sylvanus, Westfield, N. Y. Boot and shoe heel gauge	Aug. 29, 1871
115,398	Ward, Thomas, Columbus, Ohio, and Henry C. Hunt, Chicago, Ill. Vapor-burner	May 30, 1871
111,904	Ward, William G., Edgewater, N. Y. Breech-loading fire-arm	Feb. 21, 1871
119,482	Ward, William Henry, Auburn, N. Y. Rotary pump	Oct. 3, 1871
119,483	Same.....Rotary steam-engine	Oct. 3, 1871
119,484	Same.....same	Oct. 3, 1871
121,561	Same.....Telegraph-signal	Dec. 5, 1871
	Warden, Americus. (*See* Fricker, Jacob, assignor.)	
110,806	Warden, William G., Philadelphia, Pa. Apparatus and process for distilling oil	Jan. 3, 1871
110,942	Same.....Vessel for carrying liquid cargoes	Jan. 10, 1871
112,751	Same.....Apparatus for distilling petroleum and other liquids	Mar. 14, 1871
120,353	Same.....Vessel for carrying liquid cargoes	Oct. 24, 1871
121,562	Wardwell, Charles P. S., Lake Village, N. H. Method of riveting latch knitting-needles	Dec. 5, 1871
121,828	Wardwell, Simon W., jr., assignor of one-half interest to George W. Shaw, Saint Louis, Mo. Table and treadle for sewing-machines	Dec. 20, 1871
113,119	Ware, Edmund R., assignor to William A. S. and Robert L. Smyth, Worcester, Mass. Men's gaiter	Mar. 28, 1871
114,734	Ware, Joseph E., Saint Louis, Mo. Furnace for reducing ores	May 9, 1871
122,085	Ware, Preston, jr., Boston, Mass. Boot and shoe	Dec. 19, 1871
117,836	Ware, William H., Philadelphia, Pa. Apparatus for rectifying spirits	Aug. 8, 1871
	Warfield, Alexander. (*See* Johnson, Ezra A., assignor.)	
	Waring, Daniel H. (*See* McGowan, James, assignor.)	
110,700	Waring, William C., Yonkers, N. Y. Alarm-attachment for machines for forming hat-bodies	Jan. 3, 1871
117,580	Wark, David, Montreal, Canada. Movement-cure apparatus	Aug. 1, 1871
114,998	Warne, Mahlon, Philadelphia, Pa. Ice-creeper	May 16, 1871
120,471	Same.....Support and advertising medium for street-cars	Oct. 31, 1871
110,701	Warner, Alexander, Brooklyn, E. D., N. Y. Heel-tap for boots and shoes	Jan. 3, 1871
4,642	Warner, Almon, assignor through mesne assignments to Elihu Hall & Co., Hampden, Conn. Hub for carriage-wheels.....(Reissue)	Nov. 21, 1871
	Warner, Bennet B., and William Coggeshall. (*See* Coggeshall & Warner.) (Extension.)	
111,284	Warner, De Witt C., Chicago, Ill. Nutmeg-grater	Jan. 24, 1871
111,406	Same.....Combined coffee-mill and apple-parer	Jan. 31, 1871
121,796	Warner, Francis F., and James W. Benham, Chicago, Ill. Station-indicator	Dec. 5, 1871
119,485	Warner, Gustavus A., San Francisco, Cal. Grape-picker	Oct. 3, 1871
118,656	Warner, Henry W., Greenfield, Mass. Children's carriage	Aug. 29, 1871
115,139	Warner, Horace, Ridgeway, Pa. Washing-machine	May 23, 1871
	Warner, Horace H., and George A. Jones. (*See* Jones & Warner.)	
	Warner, Isaac W., and Benjamin F. Stover. (*See* Stover & Warner.)	
	Warner, John. (*See* Van Auken, Minor, assignor).....(Reissue.)	
119,673	Warner, Martin P., and Edwin W. Payne, Morrison, Ill. Combined latch and lock	Oct. 3, 1871
121,264	Warner, Norman, Jasper County, Ind. Machine for cutting wedges	Nov. 28, 1871
	Warner, Westford. (*See* Downing & Soley, assignors.)	
4,745	Warner, William R., assignor to William R. Warner & Co., Philadelphia, Pa. Glass bottle.....(Design)	Mar. 28, 1871
	Warnock, David A., and William R. Wright. (*See* Wright & Warnock.)	
112,397	Warren, Alvin, Swanton, Ohio. Cooking-stove	Mar. 7, 1871

No.	Name, residence, and invention or discovery.	Date.
120,135	Warren, Andrew W., Annapolis, Md. Spool-holder	Oct. 17, 1871
116,897	Warren, David H., Montreal, Canada. Manufacture of soap	July 11, 1871
4,461	Warren, Edward, Ceresco, Mich. Hoe.....(Reissue)	July 4, 1871
116,898	Warren, Edward, assignor to self, Isaac S., Silas, and William B. Peters, Ceresco, Mich. Thill-coupling	July 11, 1871
4,730	Warren, Edwin S., Springfield, Mass. Sword.....(Design)	Mar. 21, 1871
111,890	Warren, George Allen, North Bridgewater, Mass. Joiners' plane	Feb. 14, 1871
115,996	Warren, George B., Prospect, Pa. Gun-lock	June 13, 1871
117,704	Warren, John, assignor to self and John C. Chapman, Weston, Mass. Valve	Aug. 1, 1871
113,823	Warren, John S., Hudson, N. Y. Water-wheel	April 18, 1871
117,021	Warren, Luther, Dwight, Ill. Three-horse equalizer	July 11, 1871
121,142	Warren, Nelson, Wilmington, Del. Door-lock. (Antedated Nov. 4, 1871)	Nov. 21, 1871
121,027	Warren, Nelson, and James C. Stock, Wilmington, Del. Wrench. (Antedated Oct. 28, 1871)	Nov. 14, 1871
121,563	Warren, Nelson, and Thomas Underwood, Wilmington, Del. Jump-seat. (Antedated Nov. 18, 1871)	Dec. 5, 1871
	Warren, Oliver B., and Theodore J. Dickerson. (*See* Dickerson & Warren.)	
117,705	Warren, Samuel H., and William H. Defrees, Newtonville, Mass. Machine for removing runners from strawberry-vines	Aug. 1, 1871
	Warren Van Rensselaer. (*See* Lamb, Daniel Martin, assignor.)	
115,795	Warren, William H., Worcester, Mass. Slotting-machine	June 6, 1871
116,943	Same.....Metal-planer	June 20, 1871
113,824	Warner, William H., assignor to Aurin Wood and Joseph F. Light, Worcester, Mass. Shaping-machine	April 18, 1871
111,995	Warren, William M., Watertown, Conn. Sash-holder	Feb. 21, 1871
112,759	Warth, Albin, Stapleton, N. Y. Machine for cutting textile and other materials	Mar. 14, 1871
112,753	Same.....Fastening for textile fabrics	Mar. 14, 1871
114,999	Same.....Machine for pitching casks and barrels	May 16, 1871
4,403	Same.....Tap for oil-packages.....(Division A, reissue)	May 30, 1871
4,404	Same.....same.....(Division B, reissue)	May 30, 1871
116,944	Same.....Tap for liquid packages	June 20, 1871
116,945	Same.....same	June 20, 1871
111,407	Warwick, Richard C., New York, N. Y. Printing-press	Jan. 31, 1871
111,794	Wash, William H., Howardsville, Va. Smut and wheat separating machine. (Antedated Feb. 1, 1871)	Feb. 14, 1871
111,996	Washbourne, Frank, assignor to Steele & Johnson Button Company, Brooklyn, N. Y. Pressed-nut blank	Feb. 21, 1871
120,802	Washburn, Charles F., San Francisco, Cal. Medical compound for the cure of rheumatism	Nov. 7, 1871
114,235	Washburn, David W., Brewer, Me. Guide for circular saws	April 25, 1871
112,302	Washburn, Harvy, Pultney, N. Y. Plow	Feb. 28, 1871
116,246	Washburn, Nathan, Worcester, Mass. Mold for casting car-wheels	June 20, 1871
110,702	Washburn, Oliver C., assignor to Thomas Potter, Philadelphia, Pa. Drying oil-cloth and similar fabrics	Jan. 3, 1871
	Washington, Dillingham C., and Daniel Arndt. (*See* Arndt & Washington.)	
121,839	Waterbury, Wm. M., assignor of two-thirds interest to John A. Cooke, New York, N. Y. Hat-sweat from water-proof paper	Dec. 12, 1871
113,375	Waterbury, William W. and John M., New Canaan, Conn. Sawing-machine	April 4, 1871
113,602	Waterman, Asa, Providence, R. I. Smoke-house	April 11, 1871
4,251	Waterman, Henry, Williamsburgh, N. Y. Harvester.....(Reissue)	Jan. 31, 1871
119,255	Same.....Brooklyn, E. D., N. Y. Propulsion of vessels	Sept. 26, 1871
116,651	Waterman, Isaac, London, Canada. Cement for coating oil barrels and tanks	July 4, 1871
	Waterman, N. (*See* Sutton and Millink, assignors.)	
110,703	Waters, Charles, Boston, Mass. Governor for steam-engines	Jan. 3, 1871
4,462	Waters, Charles H., assignor to the Clinton Wire-Cloth Company, Groton, Mass. Machine for painting wire-cloth.....(Division A, reissue)	July 4, 1871
4,463	Same.....Method of painting wire-cloth.....(Division B, reissue)	July 4, 1871
117,837	Waters, Charles H., Groton, Mass., and William Orr, jr., Clinton, Mass., assignors to the Clinton Wire-Cloth Company. Shuttle for weaving wire-cloth	Aug. 8, 1871
121,830	Same.....Loom-shuttle	Dec. 12, 1871
4,803	Waters, Frank, assignor to Thomas W. Starr, Philadelphia, Pa. Hand-stamp. (Design)	April 11, 1871
114,498	Waters, Hervey, Boston, Mass. Machine for rolling hoe-blanks	May 2, 1871
114,735	Same.....Guiding and gauging mechanism for roller-dies	May 9, 1871
115,000	Same.....Lathe for cutting grooves in metal-rollers	May 16, 1871
4,394	Same.....Manufacture of bayonets and apparatus therefor.....(Reissue)	May 23, 1871
121,918	Waters, Zera, and Sylvester Bradley, Bloomington, Ill. Pump	Dec. 12, 1871
118,500	Watkins, Edward, and Andrew McConnell, Philadelphia, Pa. Folding-chair	Aug. 29, 1871
114,236	Watkins, Francis, England. Bale-tie	April 25, 1871
119,099	Watkins, Gardner A., Gardner, Mass. Preparing rattan for chair-seats, &c	Sept. 19, 1871
121,919	Same.....same	Dec. 12, 1871
118,079	Watkins, Gardner A., assignor to the American Chair-Seat Company, Cavendish, Vt. Chair-seat	Aug. 15, 1871
120,917	Watkins, Miles S., Memphis, Tenn. Fire-place grate	Nov. 14, 1871
111,408	Watkins, William B., Jersey City, N. J. Telegraphic protection for safes, vaults, and buildings	Jan. 31, 1871
111,409	Same.....Burglar-alarm and police-telegraph	Jan. 31, 1871
111,410	Same.....Fire-alarm telegraph	Jan. 31, 1871
111,411	Same.....same	Jan. 31, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,412	Watkins, William B., Jersey City, N. J. Fire-alarm telegraph	Jan. 31, 1871
111,413	Same. same	Jan. 31, 1871
113,190	Same. Means for detecting and signaling fires	Mar. 28, 1871
121,439	Watkins, William M., Talcott, Va. Cultivator	Nov. 28, 1871
	Watrous, James A., Green Spring, Ohio. Apparatus for suspending eaves-troughs. (Extension)	Aug. 25, 1871
117,838	Watrous, Richard N., assignor to self and W. W. Kellogg, Elmira, N. Y. Construction of dies for forming the lips of auger-bits	Aug. 8, 1871
121,028	Watson, Andrew J., Lyons Township, Mich. Planing-machine	Nov. 14, 1871
111,414	Watson, Charles Thompson, Deerfield, Mich. Stave-sawing machine	Jan. 31, 1871
111,022	Watson, Jeremiah M., Sharon, Mass. Shank-piece for boots and shoes	Jan. 17, 1871
112,754	Watson, Jeremiah Mears, assignor to self and Horace A. Lothrop, Sharon, Mass. Wooden shank for shoes and boots	Mar. 14, 1871
	Watson, John, and Thomas Cook. (*See* Cook & Watson.)	
113,954	Watson, Lewis H., Pittsburgh, Pa. Barrel-filler	April 18, 1871
117,226	Same. Shutter-worker	July 18, 1871
118,310	Watson, Peter B., assignor to self and Moses A. Dewitt, Belvidere, N. J. Hame for harness	Aug. 22, 1871
114,628	Watson, Peter H., Ashtabula, Ohio. Car-wheel	May 9, 1871
121,265	Watson, Thomas, Nevada, Cal. Nozzle	Nov. 28, 1871
116,899	Watson, Walter, Fayetteville, N. C. Umbrella	July 11, 1871
121,070	Watson, Wiley, Visalia, Cal. School desk and seat	Nov. 21, 1871
4,229	Watson, William Medd, Tonica, Ill. Blank for and die for making mold-boards for plows. (Reissue)	Jan. 3, 1871
	Watt, J. H., J. W., and Stewart. (*See* Rogers, Silas P., assignor.)	
113,711	Watt, Stewart, Barnesville, Ohio. Stove-utensil holder	April 11, 1871
117,830	Watt, William M., Como, Miss. Peg-cutter	Aug. 8, 1871
121,564	Wattean, Jules, Belgium. Bleaching wool	Dec. 5, 1871
121,565	Same. Machine for pulling wool from skins	Dec. 5, 1871
112,303	Wattles, Hiram J., Rockford, Ill. Clothes-pin. (Antedated Feb. 25, 1871)	Feb. 28, 1871
121,303	Wattles, Hiram J., assignor to Henry W. Price, Rockford, Ill. Clothes-pin. (Antedated Nov. 16, 1871)	Nov. 28, 1871
121,029	Watts, David H., assignor to self and W. C. Sharpless, Philadelphia, Pa. Tile	Nov. 14, 1871
118,564	Watts, Elias, Key Port, N. J. Corn-shaving machine	Aug. 29, 1871
4,587	Watts, John, assignor to Harvey & Ford, Philadelphia, Pa. Stem of a tobacco-pipe. (Design)	Jan. 17, 1871
122,086	Watts, Joseph E., Lawrence, Mass. Steam-trap	Dec. 19, 1871
110,943	Watts, William, and Frederick A. Phelps, Newark, N. J. Cut-off for steam-engines	Jan. 10, 1871
4,676	Wauchope, William J., Brookfield, Ill. Ditching and grading machine. (Reissue)	Dec. 12, 1871
4,433	Wand, Edward, assignor of part interest to Benjamin F. Dorris, Eugene City, Oreg. Spark-arrester. (Reissue)	June 20, 1871
118,563	Waugh, John P., South Scriba, N. Y. Head-rest for coffins	Aug. 29, 1871
	Way, Cornelius B., *et al.* (*See* Hinsdell, Drake & Way.)	
	Way, David F. (*See* Lewis, William, assignor.)	
116,247	Way, Henry O., Thorntown, Ind. Flood-gate. (Antedated June 15, 1871)	June 20, 1871
116,652	Way, Lyman L., Annawan, Ill. Insect-trap	July 4, 1871
111,150	Way, Seth, La Porte, Ind. Plow-colter	Jan. 24, 1871
	Wayne, Benjamin P., *et al.* (*See* Deitz, Wayne & Stone.)	
118,171	Wayne, Joseph B., England. Breech-loading fire-arm	Aug. 15, 1871
114,237	Weaber, Adam, assignor to self and L. L. Heiks, Lebanon, Pa. Plow	April 25, 1871
121,566	Weakley, Jeremiah A., Indianapolis, Ind. Cooking-stove	Dec. 5, 1871
116,515	Weare, Robert, England. Treating sewage	June 27, 1871
113,603	Weatherbee, Ephraim D., Worcester, Pa. Bottle-fastening	April 11, 1871
113,237	Weatherbee, Paul, Port Washington, Ohio. Washer and wringer	Mar. 28, 1871
112,398	Weatherhead, James, San José, Cal. Safety-bridle	Mar. 7, 1871
112,099	Weathers, James, Greensburgh, Ind. Wheel for vehicles	Feb. 21, 1871
121,030	Same. Wagon-jack	Nov. 14, 1871
	Weaver, George S. (*See* Ellis, Henry A., assignor) (Two cases.)	
117,561	Weaver, Henry S., Irwin Station, Pa. Axle-lubricator	Aug. 1, 1871
116,248	Weaver, Horatio B., Hartford, Conn. Governor for steam-engines	June 20, 1871
111,501	Weaver, John E., Lancaster, Pa. Railway-car brake. (Antedated Feb. 4, 1871)	Feb. 7, 1871
116,123	Weaver, John H., Gap, Pa. Grain-cleaner	June 20, 1871
	Weaver, Philip D., and William F. Kline. (*See* Kline & Weaver.)	
113,228	Weaver, Samuel, Pottstown, Pa. Composition for treating iron	Mar. 28, 1871
117,706	Weaver, Theophilus, Harrisburgh, Pa. Spherical gears	Aug. 1, 1871
111,795	Weaver, William, Greenwich, N. Y. Ash-sifter	Feb. 14, 1871
119,674	Same. Mechanical movement	Oct. 3, 1871
117,022	Weaver, William, Phœnixville, Pa. Butter-worker	July 11, 1871
113,121	Webb, Benjamin, Unadilla Forks, N. Y. Horse-rake	Mar. 28, 1871
116,653	Webb, Edward, assignor to self, C. B. and Benjamin F. Ford, Norfolk, Va. Shoe-fastening	July 4, 1871
120,354	Webb, Jacob W., New Athens, Ohio. Combined seeder and cultivator	Oct. 24, 1871
117,582	Webb, James, jr., Portland, Me. Trimming-jack for shoes and boots	Aug. 1, 1871
120,803	Webb, John W. O., Vinton, Iowa. Heating-stove	Nov. 7, 1871
120,840	Same. Cedar Rapids, Iowa. Cooking-stove	Nov. 14, 1871
119,804	Webb, Rice, Star Prairie, Wis. Sleigh	Oct. 10, 1871
	Webb, Robert. (*See* Burdett, Oliver H., assignor.)	
116,516	Webb, Thomas N., Baltimore, Md. Table for invalids	June 27, 1871
118,080	Same. Curtain-fixture	Aug. 15, 1871
118,081	Same. same	Aug. 15, 1871
122,294	Same. same	Dec. 26, 1871
	Same. (*See* Greentree, Hiram, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
121,696	Webb, William George, assignor to William Langdon Libbey, England. Ornamentation of glass	Dec. 5, 1871
119,435	Webb, William J., Philadelphia, Pa. Roach and mouse trap	Sept. 26, 1871
113,229	Webb, William W., Indianapolis, Ind. Blower	Mar. 28, 1871
122,087	Webber, Alanson P., Saratoga Township, Ill. Plow-fender	Dec. 19, 1871
116,123	Webber, David, Houlton, Me. Rounder for reins	June 20, 1871
116,124	Same. Buckle	June 20, 1871
116,377	Webber, Eldridge, assignor of one-half interest to George W. Colburn, Gardiner, Me. Machine for sapping logs for clap-boards	June 27, 1871
	Weber, Bernhard. (*See* Wallace, John Murray, assignor.)	
121,831	Weber, Frederick C. C., Brooklyn, N. Y. Machine for making wire-netting	Dec. 12, 1871
111,285	Weber, John Jacob, Saint Clair, Pa. Elevator	Jan. 24, 1871
116,378	Webster, Albert W., Ansonia, Conn. Button-hole guide-plate	June 27, 1871
116,900	Webster, Benjamin, Kingfield, Me. Stove-pipe drum	July 11, 1871
118,082	Webster, George A., assignor to self and Dean S. Webster, Elgin, Ill. Electro-magnetic billiard-game register	Aug. 15, 1871
117,491	Webster, George P., jr., Cross Bridge, Tenn. Cotton and hay press	July 25, 1871
119,548	Webster, John B., Saint Louis, Mo. Refrigerator	Aug. 3, 1871
4,717	Webster, John T., assignor to Daniel M. and Charles A. Read, New York, N. Y. Carpet-pattern. (Design)	Mar. 14, 1871
5,058	Webster, John T., assignor to Page, Wilder & Co., Yonkers, N. Y. Floor oil-cloth. (Design)	June 27, 1871
5,059	Same. Floor oil-cloth. (Design)	June 27, 1871
5,243	Webster, John T., assignor to Thomas Potter, Son & Co., Yonkers, N. Y. Oil-cloth. (Design)	Aug. 29, 1871
117,707	Webster, Lewis T., Northfield, Mass. Gang-plow	Aug. 1, 1871
120,602	Webster, Ora, Murray, N. Y. Gaveling-fork for harvesters	Nov. 7, 1871
110,704	Webster, William W., Chelsea, Mass. Constructing moldings of paper	Jan. 3, 1871
120,472	Weddington, Samuel C., Jonesborough, Ind. Permutation-lock	Oct. 31, 1871
114,499	Wedekind, Gustavus A., and Helmuth Dueberg, Baltimore, Md. Kiln	May 2, 1871
119,805	Weed, James, Muscatine, Iowa. Shutter for hot-beds, &c	Oct. 10, 1871
115,399	Weed, Otis H., Boston, Mass. Carpet-sweeper	May 30, 1871
	Weed Sewing-Machine Company. (*See* Fairchild, George A., assignor.)	
	Weeden, William B., *et al.* (*See* Taft, Weeden & Taft.) (Design.)	
5,364	Weeden, William N., assignor to William B. Gorham, Boston, Mass. Hand-stamp. (Design)	Nov. 14, 1871
110,880	Weeks, George H., Allegan, Mich. Car-coupling	Jan. 10, 1871
121,031	Weeks, George W., Clinton, Mass. Loop-banding machine	Nov. 14, 1871
	Weeks, Merrick C., *et al.* (*See* Hindman & Matthews, assignors) (Design.)	
	Weeks, William H. (*See* Mayhew, Oscar F., assignor.)	
115,957	Wegner, Charles G., Philadelphia, Pa. Handle for shoemakers' tools	May 23, 1871
118,657	Wegscheider, Constantine, and Pietro Bonotti, Austria. Steam-engine for screw-propeller vessels	Aug. 29, 1871
	Wehle, Henry. (*See* Wihl, David, assignor) (Two cases.)	
112,873	Wehrle, Jacob, and William Wittlinger, Cincinnati, Ohio. Vegetable-grater	Mar. 21, 1871
112,755	Weicker, Henry W., assignor to self and George W. Miller, Woonsocket, R. I. Apparatus for vulcanizing rubber	Mar. 14, 1871
118,311	Weida, Peter W., Philadelphia, Pa. Sad-iron	Aug. 22, 1871
117,840	Weide, Alexander, Chicago, Ill. Hoisting-apparatus	Aug. 8, 1871
118,888	Weider, Reuben M., and Jacob Meals, Carthage, Ill. Fence	Sept. 12, 1871
122,295	Weidig, Charles, New Haven, Conn. Apparatus for setting boxes in carriage-hubs. (Antedated Dec. 19, 1871)	Dec. 26, 1871
	Weidig, John, and Charles Yockel. (*See* Klinck, Frederick, assignor.)	
118,067	Weidley, Henry and David, Green, Pa. Wash-boiler	Sept. 19, 1871
	Weidner, Joseph. (*See* Peting, John F., assignor.)	
113,825	Weiler, Charles, assignor to Martin Landenberger & Co., Landenburgh, Pa. Comb for combing-machines	April 18, 1871
121,440	Weiller, Auguste, New York, N. Y. Breast-pin	Nov. 28, 1871
115,001	Weimar, Jacob, New York, N. Y. Safe-bolt	May 16, 1871
	Weimar, Jacob, and John Farrel. (*See* Farrel & Weimar.)	
	Weimer, Peter. (*See* Gebhard, Daniel, assignor.)	
112,756	Weimer, Peter L., Lebanon, Pa. Shutter-fastener	Mar. 14, 1871
4,834	Same. Steam-engine. (Design)	April 18, 1871
117,947	Same. Tuyere	Aug. 8, 1871
115,400	Weimer, Peter L., assignor to self, I. A. and L. E. Weimer, Lebanon, Pa. Steam-engine	May 30, 1871
118,566	Same. Arched truss for bridges	Aug. 29, 1871
	Weinrich, L. (*See* Schroeder, Julius, assignor.)	
	Weir, James A. (*See* Higel, Frank, assignor.)	
4,489	Weir, William S., jr., Monmouth, Ill. Cultivator. (Reissue)	July 25, 1871
4,610	Same. same. (Reissue)	Oct. 10, 1871
	Weiss, Albert, and Henry Sommer. (*See* Sommer & Weiss.)	
	Weiss, Charles M., *et al.* (*See* Renwick, Thomas R., assignor.)	
119,675	Weissenborn, Frans, Egg Harbor City, N. J. Shoemakers' jack	Oct. 3, 1871
	Weist, Samuel S. (*See* Baer, Benjamin F., assignor.)	
	Weitz, J. V., and Michael Groh. (*See* Groh & Weitz.)	
	Welch, E. B. (*See* Anders, George L., assignor) (Three cases.)	
	Welch, E. N., Manufacturing Company. (*See* Tyler, Walter L., assignor.) (Design.)	
121,441	Welch, James H. and Rosia W., Georgetown, D. C. Hydraulic and pneumatic motor for sewing-machines	Nov. 28, 1871
118,991	Welch, John S., and Andrew A. Wheeler, Boston, Mass. Table and stand	Sept. 12, 1871
	Welch, Peter. (*See* Jones, Joseph, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,312	Weld, Calvin J., Brattleborough, Vt. Washing-machine	Aug. 22, 1871
	Weld, Charles D. (*See* Jordan, William N., assignor.)	
118,411	Weld, Elwyn C., New York, N. Y. Apparatus for making ice	Aug. 22, 1871
119,904	Weld, Henry, Black Walnut, Ill. Cultivator	Oct. 10, 1871
112,994	Welden, Francis N., Rockford, Ill. Cultivator	Mar. 21, 1871
119,555	Weldon, James G., Pittsburgh, Pa. Hot-air furnace	Oct. 17, 1871
110,705	Welham, Thomas, Philadelphia, Pa. Saw. (Antedated Dec. 17, 1870)	Jan. 3, 1871
115,140	Wellbrock, August H., Boston, Mass. Carriage-jack	May 23, 1871
115,141	Weller, George H., New Village, N. J. Harvester-rake	May 23, 1871
114,620	Weller, Henry S., Watertown, Conn. Mouse-trap	May 9, 1871
119,798	Weller, John B., Bellbrook, Ohio. Machine for setting buggy-tops	Oct. 10, 1871
118,768	Weller, Royal F., Albany, N. Y. Fire-grate	Sept. 5, 1871
	Welles, John H., *et al.* (*See* Breinig, David E., assignor) (Reissue.)	
	Welles, Raymond M. (*See* Adgate, Joseph J., assignor.)	
120,174	Wellfare, John, and Fred. Champagne, Aurora, Ill. Feather-renovator	Oct. 24, 1871
112,399	Wellhouse, George, Akron, Ohio. Fire-grate	Mar. 7, 1871
4,825	Same.....Cooking-stove (Design)	April 18, 1871
	Welling, William M., New York, N. Y. Factitious ivory (Extension)	July 19, 1871
114,236	Wellington, Darius, Boston, Mass. Water-closet	April 25, 1871
	Wellons, William R., *et al.* (*See* Arnold, Roberson, assignor.)	
115,548	Wells, Charles S., assignor to self and William A. Brinie, Springfield, Mass. Cartridge	May 30, 1871
112,757	Wells, Edward, New Haven, Conn. Carriage-axle	Mar. 14, 1871
112,758	Same.....Landau-carriage	Mar. 14, 1871
115,665	Same.....Folding step for carriages	June 6, 1871
118,083	Same.....Handle for carriage-doors	Aug. 15, 1871
5,163	Wells, Edward, assignor to Wells, Cruttenden & Co., New Haven, Conn. Carriage-door handle (Design)	Aug. 1, 1871
117,358	Wells, Ephraim B., New York, N. Y. Machine for cutting cloth	July 25, 1871
112,304	Wells, Gabriel J., assignor to John W. Snyder, South Vineland, N. J. Fruit-press	Feb. 28, 1871
111,997	Wells, George, Providence, R. I. Piston-packing	Feb. 21, 1871
114,736	Wells, Harvey L., Chillicothe, Mo. Churn-dasher	May 9, 1871
120,355	Wells, Henry M., New York, N. Y. Process of disinfecting buildings, ships, &c.	Oct. 24, 1871
116,654	Wells, Isaac J., Willmar, Minn. Door-stop. (Antedated June 29, 1871)	July 4, 1871
118,992	Wells, Joseph L., Philadelphia, Pa. Printing and ornamenting	Sept. 12, 1871
	Wells, Thomas F. (*See* Ott, Adolph, assignor.)	
118,412	Wells, William A., Adrian, Mich. Attachment for sewing-machines	Aug. 22, 1871
113,712	Wells, William A., Saint Paul, Minn., and Lyman P. Converse, Milwaukee, Wis. Wash-boiler	April 11, 1871
122,088	Wells, William T., Decatur, Ill. Hinge	Dec. 19, 1871
120,603	Wellschmidt, Adam, assignor to self and Anton F. Waldbillig, Albany, N. Y. Railway-car brake	Nov. 7, 1871
110,807	Welsh, Dwight F., Nevada, Ohio. Cotton-planter	Jan. 3, 1871
111,023	Same.....Cotton-chopper	Jan. 17, 1871
111,499	Welsh, John, Canton, Ohio. Door-lock	Jan. 31, 1871
112,659	Welsh, John H., Erie, Pa. Refrigerator	Mar. 14, 1871
119,908	Welteck, Bernhard, New York, N. Y. Kitchen table	Sept. 19, 1871
	Welter, James K., and Lewis H. Converse. (*See* Converse & Welter.)	
111,986	Wendell, Isaac P., assignor of one-half interest to Stephen P. M. Tasker, Philadelphia, Pa. Lubricator for railway-car axles	Jan. 24, 1871
111,987	Same.....Lubricator for railway-car boxes	Jan. 24, 1871
	Wendell, Isaac P., *et al.* (*See* Devlan, Patrick S., assignor.)	
116,379	Wendell, Wellington C., Philadelphia, Pa. Combined fastening and buffer for doors and shutters	June 27, 1871
120,136	Wenderoth, Frederick L., Philadelphia, Pa. Photography	Oct. 17, 1871
116,380	Wensley, James, Philadelphia, Pa. Presser-foot for sewing-machines	June 27, 1871
	Wentworth, G. M. (*See* Lesuer, Augustus S., assignor.)	
112,873	Wentworth, Hebron Mayhew, Gardiner, Me. Machine for grinding carriage-springs	Mar. 21, 1871
111,891	Wentworth, William P., Seneca Falls, N. Y. Tip for wooden shovels	Feb. 14, 1871
118,658	Same.....Water-elevator	Aug. 29, 1871
118,993	Same.....Rotary engine	Sept. 12, 1871
111,502	Wentz, Christopher, Albert Green, and Orlando P. Conner, Trenton, N. J. Candy-cutting machine	Feb. 7, 1871
119,436	Werner, Ernst, Canton, Ill. Apparatus for distilling	Sept. 26, 1871
118,998	Werner, Julius, New York, N. Y. Sofa-bed	Sept. 12, 1871
117,353	Werst, Decatur, South Bend, Ind. Washing-machine	July 25, 1871
112,995	Wertenbaker, Woodward E., Washington, D. C. Fuel and kindling-wood	Mar. 21, 1871
115,666	Weseke, Henry F. W., New York, N. Y. Gas-heater	June 6, 1871
117,354	Wescott, Henry H., Portland, Me. Needle and tool-holder for work-tables. (Antedated July 7, 1871)	July 25, 1871
113,826	Wesley, George W., Meadville, Pa. Self-releasing clutch for water-wheels	April 18, 1871
114,374	Wesson, Daniel B., Springfield, Mass. Lock for double-barreled fire-arms	May 2, 1871
	Wesson, D. B., and Horace Smith. (*See* Dodge, William C., assignor.) (Reissue.)	
115,916	Wesson, Franklin, Worcester, Mass. Revolving fire-arm	June 13, 1871
5,060	Wesson, Martin, Springfield, Mass. Surcingle-fastening (Design)	June 27, 1871
	West, Columbus. (*See* Hanna, Edmund S., assignor.)	
116,779	West, Elliott P., Jersey City, N. J. Feeding-mechanism for sewing-machines	July 4, 1871
117,709	Same.....Sewing-machine	Aug. 1, 1871
	West, J. D., East Orange, N. J. Pumps (Extension)	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,908	West, James O., New York, N. Y. Hoop-skirt	Feb. 21, 1871
	West, Lucius M. (*See* Benns, George, assignor.)	
111,159	West, Samuel, assignor to Elmwood Mining and Manufacturing Company, Elmwood, Ill. Steam-generator	Jan. 24, 1871
112,519	West, Thomas J., Alfred Centre, N. Y. Plaster-sower	Mar. 7, 1871
117,492	West, William A., Bellefontaine, Ohio. Spark-arrester	July 25, 1871
110,706	West, William F., Haverstraw, N. Y. Seed-planter	Jan. 3, 1871
122,205	Westbrook, Abraham D., assignor to Fletcher W. Dickerman, Astoria, N. Y. Carriage-top prop-block washer	Dec. 26, 1871
118,763	Westcott, Asa A., assignor to George Draper, North Scituate, R. I. Step for spindles of spinning-machines	Sept. 5, 1871
115,796	Westcott, Charles S., assignor to Westcott's Type-Setting Company, Elizabeth, N. J. Type-composing and casting machine combined	June 6, 1871
112,660	Westcott, Henry P., Seneca Falls, N. Y. Anti-friction journal-box	Mar. 14, 1871
111,160	Westcott, Joseph H., Medford, Mass. Serving-reel	Jan. 24, 1871
122,296	Westermayr, Edward, Chicago, Ill. Composition-roof	Dec. 26, 1871
	Western Union Telegraph Company. (*See* Phelps, George M., assignor.)	
	Same.....(*See* Page, Charles Grafton, assignor) (Reissue.)	
115,667	Westinghouse, George, jr., Pittsburgh, Pa. Steam-power car-brake apparatus	June 6, 1871
115,668	Same.....Steam-engine valve and port	June 6, 1871
116,655	Same.....Valve device for steam-power air-brake couplings	July 4, 1871
117,841	Same.....Steam-power air-brake device	Aug. 8, 1871
112,996	Westlake, William, Chicago, Ill. Zinc-board for stoves	Mar. 21, 1871
118,084	Same.....Dust-pan	Aug. 15, 1871
119,549	Same.....Lantern	Oct. 3, 1871
119,550	Same.....Sprinkling-rose head	Oct. 3, 1871
119,676	Same.....Platform for stoves	Oct. 3, 1871
122,089	Same.....Wash-bowl	Dec. 19, 1871
	Westlake, William, assignor to self, James F. Dane, and John P. Covert, Chicago, Ill. Lantern (Disclaimer)	April 29, 1871
4,601	Westlake, William, assignor through mesne assignments to self, James F. Dane, and John P. Covert, Chicago, Ill. Lantern (Reissue)	Oct. 17, 1871
113,376	Weston, Adam, Keeseville, N. Y. Vote-recording machine	April 4, 1871
119,806	Weston, Charles W., San Francisco, Cal. Fruit-box	Oct. 10, 1871
119,677	Weston, David M., Boston, Mass. Clutch-mechanism	Oct. 3, 1871
113,955	Weston, Elijah, Buffalo, N. Y. Steam-generator	April 18, 1871
118,085	Weston, Oliver P., Shattuckville, Mass. Carriage-washing machine	Aug. 15, 1871
120,686	Weston, Thomas Aldridge, assignor to self and Franklin B. Colton, Ridgewood, N. J. Shaft-coupling. (Antedated Nov. 2, 1871)	Nov. 7, 1871
115,069	Westworth, John, Chicago, Ill. Wood-carving machine	June 6, 1871
118,173	Wethered, Edwin R., England. Fire-escape	Aug. 15, 1871
118,995	Wetjen, Gefert H., New York, N. Y. Box for shoe-blacking	Sept. 12, 1871
111,161	Wetmore, Henry H., Barre, Vt. Mop-head. (Antedated Jan. 12, 1871)	Jan. 24, 1871
4,938	Wetmore, Hiram P., Elizabeth, N. J. Drawers (Design)	May 23, 1871
119,199	Wetmore, Jerome W., Erie, Pa. Fire-place	Feb. 28, 1871
117,493	Wetmore, Jerome W. and Cyrus Avery, Erie, Pa. Cut-off for rain-water pipes	July 25, 1871
120,013	Wetmore, John G., Winsted, Conn. Railway-car truck	Oct. 17, 1871
122,208	Wetmore, William Shepard, England. Spade-bayonet	Dec. 26, 1871
115,540	Wetsell, David C., Carrollton, Pa. Axle-gauge	May 30, 1871
115,002	Wettstein, John, assignor to self and John T. Hennaman, Baltimore, Md. Machine for making cigars	May 16, 1871
116,780	Wetzler, George, Peoria, Ill. Dinner-pail	July 4, 1871
112,520	Wexel, Henry, Providence, R. I. Ticket-holder	Mar. 7, 1871
120,804	Weyburn, Elbert D., Pittsburgh, Pa. Lock for pianos, &c	Nov. 7, 1871
112,400	Weymouth, George F., Dresden, Maine. Hay-knife	Mar. 7, 1871
	Whalley, Edward, and Thomas Unsworth. (*See* Unsworth & Whalley.)	
118,086	Wharton, Joseph, Philadelphia, Pa. Bearing surface and journal for machinery	Aug. 15, 1871
115,917	Wharton, Levi, assignor to Amos Rank, Salem, Ohio. Hose-coupling	June 13, 1871
110,808	Wharton, William, jr., Philadelphia Pa. Railway-switch	Jan. 3, 1871
	Whayre, R. B. S., and Louis L. Moore. (*See* Moore & Whayre.)	
4,527	Wheat, John J., assignor of one-eighth interest to Abram Lash, Wheeling, W. Va. Sewing-machine table and cover (Reissue)	Aug. 22, 1871
121,097	Wheatland, William H., Newark, N. J. Condensed steam-exhaust for steam-engines	Dec. 5, 1871
	Wheatley, James H., *et al.* (*See* Morrell, James A., assignor.)	
	Wheaton, Milton A. (*See* Boone, John L., assignor.)	
110,809	Wheeldon, John, Greensburgh, Ind. Bee-hive	Jan. 3, 1871
120,918	Wheeldon, John, assignor to self and J. C. St. John, Greensburgh, Ind. Bee-hive	Nov. 14, 1871
	Wheeler & Wilson Manufacturing Company. (*See* House, James A., and Henry A., assignors.)	
	Wheeler, Andrew A., and John S. Welsh. (*See* Welch & Wheeler.)	
116,901	Wheeler, Asa, assignor to G. B. Wheeler, Brattleborough, Vt. Gauge for countersinks	July 11, 1871
120,356	Wheeler, Caleb, Warsaw, Ohio. Horse-collar fastening	Oct. 24, 1871
120,556	Wheeler, Charles L., Pittsburgh, Pa. Process of making white-lead	Oct. 31, 1871
113,474	Wheeler, Cyrenus, jr., Auburn, N. Y. Harvester-rake	April 4, 1871
113,475	Wheeler, Cyrenus, jr., and Calvin Young, Auburn, N. Y. Harvester	April 4, 1871
117,494	Wheeler, Eldridge, Philadelphia, Pa. Mode of reducing the diameter of tubing	July 25, 1871
122,090	Same.....Fagot for metal bars	Dec. 19, 1871
	Wheeler, Elisha P. (*See* Merriam, Lincoln A., assignor.)	
	Wheeler, F. A. (*See* Congdon, James W., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Wheeler, George A., and Samuel P. B. Triscott. (*See* Triscott & Wheeler.)	
114,737	Wheeler, Harlan P., Rochester, N. Y. Weighing-scale	May 9, 1871
119,437	Wheeler, Henry F., Boston, Mass. Transmitting motion	Sept. 26, 1871
122,297	Wheeler, John W. and William A., Cleveland, Ohio. Carpet-beater	Dec. 26, 1871
116,517	Wheeler, Joshua S., Asa N., and Orange, Worcester, Mass. Adjustable tool-rest for lathes	June 27, 1871
	Wheeler, Moses W., *et al.* (*See* Skinner, Henry A., assignor.)	
115,670	Wheeler, Norman W., Morristown, N. J. Steam pumping-engine	June 6, 1871
4,478	Same.....same.....(Reissue)	July 18, 1871
120,841	Same.....Pump	Nov. 14, 1871
	Wheeler, Ralph. (*See* Harrington, Jackson, assignor.)	
	Wheeler, Russell. (*See* Vedder & Ritchie, assignors.).....(Design.)	
	Wheeler, Russell B. (*See* Farnham, Reuben G., assignor.)	
117,355	Wheeler, Seth, Albany, N. Y. Wrapping-paper. (Antedated July 20, 1871)	July 25, 1871
112,674	Wheeler, Seth, and Edgar Jerome, Albany, N. Y. Finishing paper-boxes. (Antedated March 16, 1871)	Mar. 21, 1871
113,377	Wheeler, Shepherd H., Dowagiac, Mich. Combined lock and latch	April 4, 1871
117,023	Same.....Combined knob-latch and lock	July 11, 1871
118,650	Same.....Pump-regulator. (Antedated Aug. 21, 1871)	Aug. 29, 1871
113,378	Wheeler, Shepherd H., assignor to self, Enos L. and Guy E. Chappell, Dowagiac, Mich. Hinge	April 4, 1871
	Wheeler, William C., and Frank H. Pulsifer. (*See* Pulsifer & Wheeler.)	
117,948	Wheelock, Jerome, Worcester, Mass. Hoisting-apparatus	Aug. 8, 1871
118,764	Same.....Steam-engine	Sept. 5, 1871
111,500	Wheelock, Luke, assignor to the Winchester Repeating Arms Company, New Haven, Conn. Repeating fire-arm	Jan. 31, 1871
114,375	Wheelock, Walter, Boston, Mass. Mercurial salve	May 2, 1871
110,707	Whelan, Charles A., and Charles T. Wakeley, Madison, Wis. Bag filling and weighing machine	Jan. 3, 1871
116,902	Whelpley, James D., Boston, Mass. Steam-engine	July 11, 1871
111,288	Whelpley, James D., and Jacob J. Storer, Boston, Mass. Gas-generating and blast-heating apparatus for metallurgic and other furnaces	Jan. 24, 1871
111,504	Same.....Manufacture of steel, steely iron, and homogeneous or crystalline iron	Jan. 31, 1871
111,583	Same.....Apparatus for delivering grain, ores, &c., into grinding-mills	Feb. 7, 1871
111,705	Same.....Furnace for burning pulverized fuel under steam-boilers, evaporators, &c	Feb. 7, 1871
116,903	Same.....Treatment of ores by means of fuel, chemicals, and fluxes	July 11, 1871
118,660	Whidden, Hosea F., South Abington, Mass. Die for making metallic shanks for boots and shoes	Aug. 29, 1871
	Whiffen, William B. (*See* Frantz, Henry J., assignor).....(Design.)	
4,892	While, Charles, William Lewis, Thomas Strickland, and Samuel Caddick, Spuyten Duyvil, N. Y. Apparatus for rolling metal	May 16, 1871
4,665	Whipple, Isaac B., Gloversville, N. Y. Re-enforcing thumb-piece of gloves. (Design)	May 2, 1871
112,100	Whipple, James T. (*See* Duck & Whitcomb, assignors).....(Reissue.)	Feb. 21, 1871
122,091	Whipple, William N., Niles, N. Y. Water-wheel	Dec. 19, 1871
115,918	Whitaker, Edwin V., Gloversville, N. Y. Glove	June 13, 1871
113,227	Whitaker, James W., Kenosha, Wis. Steam-pump and fire-engine	April 18, 1871
4,611	Whitaker, Samuel, assignor to self and Aaron Ruth, Macon, Ill. Case for ribbons, laces, &c	Oct. 24, 1871
119,438	Same.....Case for ribbons, laces, &c.....(Reissue)	Sept. 26, 1871
113,230	Whitaker, Samuel, deceased, by Franklin Whitaker, administrator, Bel Air, Md. Self-acting gate	Mar. 28, 1871
121,833	Whitaker, William W., Gloversville, N. Y. Glove	Dec. 12, 1871
121,833	Same.....same.....(Antedated Dec. 9, 1871)	Dec. 12, 1871
	Same.....same	
	Whitall, Henry. (*See* Burson, James, assignor.)	
119,729	Whitall, Henry, Philadelphia, Pa., and James Burson, Yates City, Ill. Grapple	Oct. 10, 1871
116,781	Whitcomb, Alonzo, Worcester, Mass. Copying-press	July 4, 1871
120,887	Same.....Wrench	Nov. 7, 1871
	Whitcomb, Elias K., and John H. Duck. (*See* Duck & Whitcomb.) (Reissue.)	
118,501	Whitcomb, George D., Chicago, Ill. Machine for undermining coal	Aug. 29, 1871
	Whitcomb, G. Henry & Co. (*See* Swift, Henry D. & Daniel W., assignors.)	
4,913	Whitcomb, Nehemiah C., Oak Hill, N. Y. Bedstead-fastening.....(Design)	May 16, 1871
114,738	White, Alexander, Rock Island, Ill. Base-burning stove	May 9, 1871
4,426	White, Alexander, assignor to the Rock Island Stove Company, Rock Island, Ill. Base-burning stove.....(Reissue.)	June 13, 1871
111,501	White, Benjamin C., Des Moines, Iowa. Bolt-reel	Jan. 31, 1871
120,137	Same.....Mill-bolt	Oct. 17, 1871
113,122	White, Charles H., Emmett Township, Mich. Butter-tub	Mar. 28, 1871
114,376	White, Edwin R., Milford, Mass. Tilting-chair	May 2, 1871
	White, Frederick, and Albert Marcius Silber. (*See* Silber & White.)	
	White, George W. (*See* Randolph, Francis W., assignor.)	
	White, Heman M. (*See* Whiting, James M., assignor.)	
114,070	White, Henry Clay, assignor to George Booth & Co., Philadelphia, Pa. Grater	April 25, 1871
112,750	White, Henry K., Chelsea, Mass. Lathe-dog	Mar. 14, 1871
111,706	White, Jacob L., Hernando, Miss. Hay and cotton press. (Antedated Jan. 28, 1871)	Feb. 7, 1871
111,024	White, Jerison, Providence, Pa. Pruning-hatchet	Jan. 17, 1871
118,689	White, John N., New Orleans, La. Rice cleaning and polishing machine	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,678	White, Joseph W., Weymouth, Mass. Saw for sawing fret-holes in fan-sticks	Oct. 3, 1871
111,990	White, Lawrence, Orford, Iowa. Washing-machine	Feb. 21, 1871
	White, Le Roy S., and Wilson W. Knowles. (*See* Knowles & White.)	
4,304	White, Lewis, assignor through mesne assignments to Rufus S., William B., and Joshua Merrill, Waterbury, Conn. Lamp.....(Reissue)	Mar. 14, 1871
	White, Lucius A., and John Rycroft. (*See* Rycroft & White.)	
114,239	White, Martin V. B., Fort Edward, N. Y. Mail-bag fastening, &c	April 25, 1871
116,125	White, Nelson D., Winchendon, Mass. Apparatus for coloring warps	June 20, 1871
120,919	White, Otis C., Hopkinton, Mass. Dentists' and barbers' chair	Nov. 14, 1871
115,797	White, Rand B., Sheboygan Falls, Wis. Wagon	June 6, 1871
120,138	White, Reuben, Boston, Mass. Ventilator. (Antedated Oct. 4, 1871)	Oct. 17, 1871
117,131	White, Robert F., Hoboken, N. J. Center-light fixture for chandeliers	July 18, 1871
110,881	White, Rollin, Lowell, Mass. Metallic cartridge	Jan. 10, 1871
112,101	Same.....Wrench	Feb. 21, 1871
112,305	Same.....Cartridge	Feb. 28, 1871
	Same.....(*See* Morris & Brown, assignors).....(Reissue.)	
	White, Samuel M., and John B. Ferguson. (*See* Ferguson & White.)	
	White, Samuel S. (*See* Starr, Eli T., assignor).....(Design.)	
116,381	White, Thomas P., assignor to White Manufacturing Company, Bridgeport, Conn. Carriage-lamp support	June 27, 1871
	White, T. W., Milledgeville, Ga. Cotton-seed planter.....(Extension)	Oct. 19, 1871
117,842	White, William G., Bedford, Ohio. Brick-machine	Aug. 8, 1871
112,661	White, William H., Baltimore, Md. Hat	Mar. 14, 1871
110,810	White, William H., assignor of one-half interest to J. Wellington Hoyer, Baltimore, Md. Attachment for sewing-machines	Jan. 3, 1871
4,627	White, Windsor Newton, Winchendon, Mass. Lamp-heater.....(Reissue)	Nov. 7, 1871
119,760	White, Wolcott B., Rome, N. Y. Wash-boiler	Mar. 14, 1871
118,567	Whitehall, Nicholas, Newtown, Ind. Sulky cultivator	Aug. 29, 1871
121,738	Whitehead, Edward, Cincinnati, Ohio. Propulsion of vessels	Dec. 12, 1871
118,313	Whitehead, Joseph, Trenton, N. J. Wringer-roller	Aug. 22, 1871
113,231	Whitehead, Lewis, sen., Brooklyn, N. Y. Folding-bed	Mar. 28, 1871
118,314	Whitehouse, Isaac, assignor to Charles Royle, New York, N. Y. Vapor-burner	Aug. 22, 1871
117,356	Whitehouse, Ralph C., Hodgdon's Mills, Me. Culinary boiler	July 25, 1871
	Whiteley, Henry A., and James C. Cooke. (*See* Cooke & Whiteley.)	
118,996	Whiteley, William N., Springfield, Ohio. Harvester	Sept. 12, 1871
118,315	Whiteley, William N., and Salem T. Lamb, assignors to Salem T. Lamb, Springfield, Ohio. Harvester	Aug. 22, 1871
119,909	Whitesell, David, Mattoon, Ill. Ditching-machine	Sept. 19, 1871
114,071	Whiteside, Francis E., Oxford, Pa. Friction-band and stop for sewing-machines	April 25, 1871
115,003	Same.....Railway-alarm for trucks	May 16, 1871
115,401	Whiteside, Samuel, Depere, Wis. Planing-machine	May 30, 1871
110,882	Whitestone, Henry, Louisville, Ky. Curbing for excavations	Jan. 10, 1871
	Whithed, Darius, *et al.* (*See* Bradshaw, Brown & Whithed).....(Reissue.)	
	Whitin Machine Works. (*See* Taft, Gustavus E., assignor.)	
113,123	Whiting, Barnet M., San Francisco, Cal. Sash-holder	Mar. 28, 1871
	Whiting, George Augustus. (*See* Howard, Elijah Leavitt, assignor.) (Four cases.)	
121,032	Whiting, James M., Providence, R. I. Elastic car-wheel	Nov. 14, 1871
115,550	Whiting, James M., assignor to self and Heman M. White, Providence, R. I. Bracket	May 30, 1871
115,004	Whiting, John B., Ripon, Wis. Combined rake and reel for harvesters. (Antedated May 19, 1871)	May 16, 1871
4,718	Whiting, John L., Boston, Mass. Paint-brush.....(Design)	Mar. 14, 1871
116,382	Same.....Brush	June 27, 1871
118,661	Same.....Brush	Aug. 29, 1871
118,765	Whiting, Junius F., and Elam Fisher, Eaton, Ohio. School-desk and seat	Sept. 5, 1871
118,316	Whitlock, Lewis L., New York, N. Y. Machine for lifting drop-weights	Aug. 22, 1871
118,317	Whitlock, Lewis L., assignor to Maria Whitlock, New York, N. Y. Drop-press and trip-hammer	Aug. 22, 1871
	Whitlock, Sturges, and Thomas L. Cornell. (*See* Cornell & Whitlock.)	
113,713	Whitlow, Samuel R., Limestone Township, Ill. Medical compound or bitters	April 11, 1871
118,662	Whitman, Charles P., Charlemont, Mass. Bench-dog	Aug. 29, 1871
	Whitman, F. H. (*See* Woodsum, E. H., assignor.)	
114,500	Whitman, Henry L., Saint Louis, Mo. Grain-separator	May 2, 1871
	Whitman, Josiah A. (*See* Servant, William, assignor.)	
114,630	Whitman, Lorin M., assignor to self and Taylor Williams, Sterling, Ill. Clothes-drier	May 9, 1871
118,568	Whitman, Peter S., Providence, R. I. Overshoe	Aug. 29, 1871
	Whitman, Rodney S. (*See* McCammon & Burrell, assignors.)	
116,196	Whitman, William E. S., Augusta, Me. Broom	June 20, 1871
117,843	Whitmore, Andrew E., Ilion, N. Y. Breech-loading fire-arm	Aug. 8, 1871
	Whitmore, Jabez H., and Edward L. Cooke. (*See* Cooke & Whitmore). (Design.)	
110,811	Whitmore, Joseph M., and John N. Arvin, Valparaiso, Ind. Corn-planter	Jan. 3, 1871
113,232	Whitmore, Seth H., Decatur, Ill. Cut-off valve-gear	Mar. 28, 1871
113,956	Same.....Steam-engine valve	April 18, 1871
115,551	Whitmore, Titus, Waterloo, Iowa. Water-wheel	May 30, 1871
118,766	Whitney, Alfred, assignor to self and Frank L. Penney, Boston, Mass. Medicine for treating rheumatism	Sept. 5, 1871
118,087	Whitney, Artemus H., assignor of one-half interest to John L. Randall, Essex, N. Y. Jig-saw	Aug. 15, 1871
	Whitney, Baxter D., Winchendon, Mass. Machine for smoothing planed wooden surfaces.....(Extension)	Aug. 7, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,907	Whitney, Eli, New Haven, Conn. Breech-loading fire-arm	Mar. 21, 1871
115,256	Same.....Revolving fire-arm	May 23, 1871
115,997	Same.....Breech-loading fire-arm	June 13, 1871
	Same.....(*See* Tiesing & Gerner, assignors.) (Two cases.)	
120,139	Whitney, Hiram, Watertown, Mass. Gas-flame expander. (Antedated Oct. 5, 1871)	
4,562	Whitney, Joel, assignor of part interest to N. J. Simonds, Winchester, Mass. Machine for rolling leather	Oct. 17, 1871
120,688	Whitney, John H., assignor to self and W. W. Marsh, Rochester, Minn. Corn-harvester	Sept. 19, 1871
120,680	Whitney, John H., and William W. Marsh, Rochester, Minn. Field corn-husker	Nov. 7, 1871
5,293	Whitney, Justin, Boston, Mass. Iron frame for upright pianos	Nov. 7, 1871
115,709	Whitney, Samuel, Flushing, N. Y. Apparatus for carbureting gas and air	Sept. 26, 1871
4,570	Whitney, Washington. (*See* Moore & Boyd, assignors.)	June 6, 1871
112,602	Whitney, Washington, assignor to the Metropolitan Washing-Machine Company, Winchendon, Mass. Clothes-wringer	Sept. 26, 1871
117,495	Whitney, William B., assignor to self and F. A. Whitney, Leominster, Mass. Child's carriage	Mar. 14, 1871
	Whiton, Edward F., Stafford Springs, N. Y. Centering-machine. (Extension)	June 29, 1871
	Whittaker, John, Sandusky, N. Y. Bolt-cutter	July 25, 1871
	Whittemore, D. H., Worcester, Mass. Machine for paring and slicing apples	
	Same.....Machine for paring apples	Jan. 12, 1871
112,102	Whittemore, Henry, Orangetown, N. Y. Dust-pan	Feb. 16, 1871
119,289	Same.....Wardrobe. (Antedated Sept. 18, 1871)	Feb. 21, 1871
119,290	Same.....Wash-stand, bureau, and toilet-table combined	Sept. 26, 1871
111,594	Whittemore, John R., Chicopee Falls, Mass. Feed-cutter	Sept. 26, 1871
111,595	Whitten, Henry A., and Elijah D. Gove, Holyoke, Mass. Loom-picking motion	Feb. 7, 1871
118,890	Whittick, Alexander H., Clarksville, Ind. Plow	Feb. 7, 1871
120,842	Whitworth, Joseph, England. Breech-loading ordnance	Sept. 12, 1871
117,024	Wiard, Edward, assignor to Benjamin F. Avery, Louisville, Ky. Plow	Nov. 14, 1871
120,604	Wibbert, Adolph, Milwaukee, Wis. Desk and table	July 11, 1871
4,602	Wickersham, John B., Philadelphia, Pa. Lubricator	Nov. 7, 1871
	Same.....same	Oct. 17, 1871
117,704	Wickersham, William, Boston, Mass. Sewing-machine for boots and shoes	Dec. 5, 1871
118,318	Same.....Machine for making wire for boot and shoe pegs	Aug. 1, 1871
118,319	Same.....Process for lasting boots and shoes	Aug. 22, 1871
	Wickham, Horace, Jr. (*See* Jeffery, Thomas B., assignor.)	Aug. 22, 1871
4,566	Wickham, Horace J., assignor to Joseph Reckendorfer, Manchester, Conn. Combined pencil and receptacle	(Design)
114,863	Wickham, Horace J., assignor through mesne assignments to Joseph Reckendorfer, Manchester, Conn. Pencil-holder	Jan. 10, 1871
122,298	Wicks, Loren J., assignor to self, William, C. N. and J. A. Selser, G. W. Turner, and John H. Poole, Bridgeton, N. J. Machine for filling fruit-cans and for cleaning off the tops of the same	May 16, 1871
	Widney, James, and William A. Dunham. (*See* Dunham and Widney.) (Two cases.)	Dec. 26, 1871
111,502	Wiedersum, Philip H., New York, N. Y. Harness addle-tree	(Reissue)
116,518	Same.....same	Jan. 31, 1871
116,519	Same.....same	June 27, 1871
111,590	Wiegand, S. Lloyd, Philadelphia, Pa. Drop-tube steam-generator. (Antedated Jan. 23, 1871)	June 27, 1871
119,100	Same.....Piston-packing	Feb. 7, 1871
119,256	Same.....Return-bend for steam-generators. (Antedated Sept. 6, 1871)	Sept. 19, 1871
119,257	Same.....Steam-generator. (Antedated Sept. 6, 1871)	Sept. 26, 1871
5,208	Wiener, Oscar, Newark, N. J. Saddle-hook for harness	Sept. 26, 1871
116,904	Wiener, Simon, Newark, N. J. Harness-trimming	(Design)
121,834	Wieners, Anton, Williamsburgh, N. Y. Bung-attachment to barrels	Aug. 15, 1871
117,025	Wier, Arthur McN. and Marshall A., England. Pneumatic telegraph	July 11, 1871
119,905	Wier, Thomas, Lacon, Ill. Insect-trap	Dec. 12, 1871
	Wierman, J. W. G. (*See* Gibson, Samuel, assignor.)	Oct. 10, 1871
113,604	Wiggin, Jay J., New York, N. Y. Machine for the manufacture of composition-roofing	April 11, 1871
112,300	Wiggins, Jefferson G., assignor to self and J. S. Galletine, Lima, N. Y. Mode of attaching spokes to wheels	Feb. 28, 1871
4,410	Wight, Andrew Jackson, and William Lewis Meeker, Newark, N. J. Railroad turn-table	(Reissue)
114,377	Wight, Edwin, Philadelphia, Pa. Roll for rolling umbrella-connections	May 30, 1871
118,663	Wight, Henry, Malden, Mass. Last, &c	May 2, 1871
112,663	Wight, Lyman, assignor to self and Orison G. Ewing, Whitewater, Wis. Broadcast seeder and cultivator combined	Aug. 29, 1871
4,499	Same.....Grain-drill	Mar. 14, 1871
122,299	Wight, Lyman, and Orison G. Ewing, Whitewater, Wis. Grain-drill	(Reissue)
122,300	Same.....Seeding-machine	Aug. 1, 1871
114,894	Wightman, John B., Brooklyn, N. Y. Measuring-pail	Dec. 26, 1871
115,920	Same.....Children's carriage	May 16, 1871
114,078	Wigle, Eli, Bay City, Mich. Running-gear for carriages	June 13, 1871
120,140	Wigle, James, West Point, Ill. Harrow	April 25, 1871
117,949	Wihl, David, assignor of one-fourth interest to Henry Wehle, Brooklyn, N. Y. Process of manufacturing cast-steel tools, &c	Oct. 17, 1871
		Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
117,950	Wihl, David, assignor of one-fourth interest to Henry Wehle, Brooklyn, N. Y. Process of manufacturing cast-steel tools, &c	Aug. 8, 1871
120,407	Wilber, John D., assignor to Eureka Mower and Reaper Manufacturing Company, Poughkeepsie, N. Y. Harvester	Oct. 31, 1871
113,957	Wilber, Joseph R., and Otis W. Peirce, Providence, R. I. Neck-tie	April 18, 1871
5,294	Wilbur, Edward B., Raynham, Mass. Stove-cover lifter	Sept. 26, 1871
117,227	Wilbur, George A., Woonsocket, R. I. Sash-cord fastener. (Antedated July 13, 1871.)	July 18, 1871
119,807	Wilbur, James G., and Hiram H. Huribut, Kilbourne City, Wis. Tool-handle fastener. (Antedated Oct. 3, 1871.)	Oct. 10, 1871
110,883	Wilbur, Oliver C., jr., Providence, R. I. Fastening for the tips of billiard-cues	Jan. 10, 1871
112,103	Wilcock, Alfred, Richard Robinson, and Frederick Wilcock, Great Britain. Driving-mechanism for roving, slubbing, and other machines	Feb. 21, 1871
120,408	Wilcox, Ebenezer, East Cleveland, Ohio. Weeding-hoe	Oct. 31, 1871
	Wilcox, Francis S. (*See* Woodruff, Luther J., assignor.)	
	Wilcox, Henry N. (*See* Fisher, Charles, assignor.)	
117,026	Wilcox, Horace C., assignor to the Meriden Britannia Company, West Meriden, Conn. Covered articles for table-service	
5,195	Same.....Call-bell	July 11, 1871
5,196	Same.....Tea-bell	Aug. 8, 1871
5,374	Same.....Pickle-jar	Aug. 8, 1871
121,304	Wilcox, Irving F., Streetsborough, Ohio. Basket-splint	Nov. 21, 1871
112,306	Wilcox, John Warren, New York, N. Y. Paper box	Nov. 28, 1871
119,679	Wilcox, Joseph S., Ypsilanti, Mich. Bucket for chain-pumps	Feb. 28, 1871
117,710	Wilcox, Roswell D., Buffalo, N. Y. Stove-pipe oven	Oct. 3, 1871
	Wilcox, Stephen, and George H. Babcock. (*See* Babcock & Wilcox.) (Reissue.)	Aug. 1, 1871
118,891	Wilcox, Walter S., and James A., Rocky Hill, Conn. Wrench	Sept. 12, 1871
120,557	Wilcox, William, Middletown, Conn. Padlock	Oct. 31, 1871
115,402	Wilcox, William C., Waltham, Mass. Curtain-fixture	May 30, 1871
	Wilcox, William E., *et al.* (*See* Ellsworth, Wilcox, & Seabury.)	
114,240	Wild, Frederick W., Baltimore, Md. Balance-wheel	April 25, 1871
117,583	Wild, John L., Bay City, Mich. Hair-dye and cosmetic	Aug. 1, 1871
	Wild, Joseph. (*See* McCallum, Archibald, assignor.) (Design.)	
	Same.....(*See* Perrin, Edward, assignor.)	
	Wild, Joseph, & Co. (*See* McCallum, William, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Paton, David, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Bonet, Joannin, assignor.) (Design.)	
	Same.....(*See* Demoussay, Emile, assignor.) (Design.)	
	Same.....(*See* Dresser, Christopher, assignor.) (Design.)	
	Same.....(*See* Mallinson, William, assignor.) (Three cases.) (Design.)	
	Same.....(*See* Patchett, Joseph James, assignor.) (Two cases.) (Design.)	
	Same.....(*See* Robinson, Herbert, assignor.) (Two cases.) (Design.)	
	Same.....(*See* McCallum, Archibald, assignor.) (Six cases.) (Design.)	
	Same.....(*See* Perrin, Edward, assignor.) (Design.)	
117,357	Wilder, Elihu, Springfield, Mass. Set-screw for sewing-machine attachments	July 25, 1871
116,905	Wilder, John, assignor to self and Alexander Toll, Detroit, Mich. Cooking-stove	July 11, 1871
121,698	Wilder, Julius P., Tonawanda, N. Y. Shingle-machine	Dec. 5, 1871
	Wilder Lyman W., *et al.* (*See* Jaquith, Frederick P., assignor.)	
116,383	Wilder, Moses G., West Meriden, Conn. Power-press	June 27, 1871
4,448	Same.....Punching-press	June 27, 1871
	Wilder, Samuel D., *et al.* (*See* Clarkson, George, assignor.)	
	Wildman, Charles B. (*See* Berkeley, Norborne, assignor.)	
4,866	Wildman, Lucius P., Danbury, Conn. Bow-instrument	(Design)
122,301	Wildman, Matthew K., Brooklyn, N. Y. Propelling vessels	May 2, 1871
114,073	Wiley, Hiram S., Madison, Ind. Stave-equalizer	Dec. 26, 1871
	Wiley, John A., *et al.* (*See* McGovern, Peter, assignor.)	April 25, 1871
	Same.....(*See* Ashworth, John, assignor.)	
	Same.....(*See* Stone, Joseph M., assignor.)	
5,271	Wiley, Moses H., assignor to self, John H. B. Lang, and Thomas Miller, Boston, Mass. Oil-cabinet	
116,782	Wiley, Thomas A., Lancaster, Pa. Cigar-box	(Design)
4,693	Wilhelm, August, Philadelphia, Pa. Reflector	Sept. 19, 1871
118,088	Wilhoit, David S., Madison Court-House, Va. Garden-implement	July 4, 1871
114,631	Wilkin, Henry S., Brooklyn, N. Y. Buckle	Feb. 28, 1871
121,477	Wilkins, John N., Chicago, Ill. Sewing-machine	Aug. 15, 1871
	Wilkins, Josiah W., and Crawford S. Griffin. (*See* Griffin & Wilkins).	May 9, 1871
	Wilkins, Monroe P., and Charles D. Rogers. (*See* Rogers & Wilkins. (Reissue.)	Dec. 5, 1871
111,280	Wilkinson, Asbury, assignor to self and William T. Gibson, Greensburgh, Ind. Bee-hive	Jan. 24, 1871
	Wilkinson, Charles. (*See* Carroll, John, assignor.)	
118,767	Wilkinson, Edward, assignor to self and William O. Davey & Sons, Paterson, N. J. Rag-cutting engine	Sept. 5, 1871
4,719	Wilkinson, George, assignor to Gorham Manufacturing Company, Providence, R. I. Spoon or fork handle	Mar. 14, 1871
4,731	Same.....Handle for spoons or forks	Mar. 21, 1871
5,093	Same.....Spoon or fork handle	July 4, 1871
5,284	Wilkinson, George, assignor to John P. Adams, Providence, R. I. Ice-pitcher body	Sept. 26, 1871
114,241	Wilkinson, John, Baltimore, Md. Horse-stall	April 25, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
118,569	Wilkinson, John D., Plattsburgh, N. Y. Breech-loading fire-arm	Aug. 29, 1871
110,708	Wilkinson, Lewis, New York, N. Y. Sad-iron heater	Jan. 3, 1871
	Wilkinson, Marcellous L., and Charles J. Turner. (*See* Turner & Wilkinson.)	
	Wilkinson, William, and Jonathan Moore. (*See* Moore & Wilkinson.) (Eight cases) (Design.)	
116,949	Wilks, Joseph, Trenton, N. J. Stair-rod	June 20, 1871
112,875	Willard, Henderson, Grand Rapids, Mich. Barrel	Mar. 21, 1871
117,496	Same. Mode of transporting eggs	July 25, 1871
120,920	Same. Barrel and other cylindrical package	Nov. 14, 1871
	Willard, Hosea, and Robert Rose, Vergennes, Vt. Harvester. (Extension of No. 1775)	Nov. 2, 1871
	Same. Harvester. (Extension of No. 1776)	Nov. 2, 1871
	Same. same. (Extension of No. 1780)	Nov. 2, 1871
	Same. same. (Extension of No. 1781)	Nov. 2, 1871
	Same. same. (Disclaimer filed)	Nov. 3, 1871
	Willcox & Gibbs Sewing-Machine Company. (*See* Carleton, Cyrus, assignor.)	
	Same. (*See* Boyce, Burritt C., assignor) (Reissue.)	
116,520	Willcox, Charles H., New York, and Cyrus Carleton, Brooklyn, N. Y., assignors to the Willcox & Gibbs Sewing-Machine Company. Sewing-machine	June 27, 1871
116,521	Same. Sewing-machine	June 27, 1871
116,522	Same. same	June 27, 1871
116,523	Same. same	June 27, 1871
116,783	Same. same	July 4, 1871
4,663	Willcox, Charles H., assignor through mesne assignments to the Willcox & Gibbs Sewing-Machine Company, New York, N. Y. Sewing-machine needle (Reissue)	Dec. 5, 1871
120,223	Willcox, Cyprian, New Haven, Conn. Coping. (Antedated Oct. 21, 1871)	Oct. 24, 1871
120,921	Willcox, Edward J., Ivy Mills, Pa. Folding chicken-coop	Nov. 14, 1871
118,390	Willcox, Eli, Hamburgh, Iowa. Churn	Aug. 22, 1871
114,605	Willcox, James M., Glen Mills, Pa. Paper for bank-notes, bonds, &c	May 16, 1871
114,695	Willet, Richard H., Washington, D. C. Wood-pavement	May 16, 1871
119,439	Willett, George, Saint Albans, Vt. Machinery for manufacturing brushes. (Antedated Sept. 14, 1871)	Sept. 26, 1871
119,440	Same. Machinery for manufacturing brushes. (Antedated Sept. 14, 1871)	Sept. 26, 1871
	Willey, Alvin, *et al.* (*See* Jaquith, Frederick P., assignor.)	
114,561	Williams, Aaron W. C., England. Lawn-mower	May 2, 1871
	Williams, Abby A. (*See* Pratt & Williams, assignors.)	
111,290	Williams, Allison L., Orth, Ind. Flour-bolting reel	Jan. 24, 1871
119,486	Williams, Arthur David, England. Machine for twisting bars of metal	Oct. 3, 1871
	Williams, Benjamin J. (*See* Witsil, George L., assignor.)	
111,707	Williams, Charles, jr., Somerville, and Jerome Redding, Charlestown, Mass. Electro-magnetic alarm-bell	Feb. 7, 1871
120,473	Williams, Christopher, Adrian, Mich. Car-axle box	Oct. 31, 1871
	Williams, C. D. (*See* Nobles, William H., assignor.)	
	Williams, D., and H. S. Holmes. (*See* Holmes & Williams.)	
	Williams, Daniel G., and Orrin H. Harding. (*See* Harding & Williams.)	
116,906	Williams, David G., Boston, Mass. Composition for healing-plasters	July 11, 1871
113,476	Williams, Douglas Joseph, England. Movable partition	April 4, 1871
	Williams, Dyer. (*See* Green, Squire J., assignor.)	
115,142	Williams, Edward, Batavia, N. Y. Railroad-rails	May 23, 1871
115,998	Williams, Elias H., Clermont, Iowa. Excavating-machine	June 13, 1871
121,033	Williams, George C., Boston, Mass. Hank for sails. (Antedated Nov. 9, 1871)	Nov. 14, 1871
111,026	Williams, George L., assignor to self, Radcliffe B. Lockwood, and William A. Scott, Mine la Motte, Mo. Rock-drill	Jan. 17, 1871
120,680	Williams, Henry D., Fairview, Iowa. Ditching-plow	Nov. 7, 1871
112,664	Williams, Henry, Buffalo, N. Y. Copy-holder	Mar. 14, 1871
111,026	Williams, Irwin, Baldwinsville, N. Y. Rotary pump	Jan. 17, 1871
5,004	Williams, Isaac F., assignor to the National Rubber Company, Bristol, R. I. Rubber overshoe (Design)	July 4, 1871
5,005	Same. same. (Design)	July 4, 1871
	Williams, Isaac F., and Augustus O. Bourn. (*See* Bourn & Williams.) (Two cases.)	
122,207	Williams, James, Bell's Depot, Tenn. Car and tender loading apparatus	Dec. 26, 1871
115,552	Williams, James B., Glastenbury, Conn. Churn	May 30, 1871
116,524	Same. Evaporating-pan	Jan. 27, 1871
	Same. (*See* Butler, Francis G., assignor) (Reissue.)	
	Same. (*See* Butler, Francis G., assignor.) (Two cases.)	
115,259	Williams, James M., Connersville, Ind. Blowing-machine. (Antedated May 20, 1871)	May 23, 1871
111,892	Williams, John H., Pleasant Hill, Ohio. Gauge for the construction of seat-cushions	Feb. 14, 1871
	Williams, John M., and John E. Moss. (*See* Porter, Archibald A., assignor.)	
	Williams, J. M. (*See* Stone, John H., assignor.)	
116,907	Williams, John T., Chicago, Ill. Lock for doors, &c	July 11, 1871
	Same. (*See* McCormick, William H., assignor.)	
122,092	Williams, Joseph, Jefferson, Texas. Soldering-iron	Dec. 19, 1871
117,328	Williams, Linus H., Cromwell, Conn. Construction of tea and coffee pots	July 18, 1871
	Williams, L. P., *et al.* (*See* Morrell, James A., assignor.)	
	Williams, N. Banga, and William Pratt. (*See* Pratt & Williams.)	
4,387	Williams, Paul, assignor to Robert A. and James L. Williams, Winona, Miss. Cotton press (Reissue)	April 4, 1871
121,739	Williams, Robert S., Norristown, Pa. Thrashing-machine	Dec. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
119,906	Williams, Romeyn, Philadelphia, Pa. Boot for horses' hoofs	Oct. 10, 1871
114,074	Williams, Samuel M. and Henry M., Coldwater, Mich. Spinning-machine	April 25, 1871
120,175	Williams, Stephen, and Henry McNeill, Philadelphia, Pa. Washing-machine	Oct. 24, 1871
120,691	Same. same	Nov. 7, 1871
	Williams, Taylor. (*See* Whitman, Lorin M., assignor.)	
111,291	Williams, Thomas, Tompkinsville, N. Y. Roach and bug trap	Jan. 24, 1871
112,876	Williams, Thomas Charles, East Randolph, Wis. Window-curtain fixture	Mar. 21, 1871
113,379	Williams, Thomas C., Warrenton, Mo. Foot-lifter for blacksmiths	April 4, 1871
	Williams, Thomas S., *et al.* (*See* Taber, Freeman A., assignor.)	
	Williams, Thomas T., *et al.* (*See* Young, Wissinger & Williams.)	
110,944	Williams, Urban R., and William P. Martin, Salem, Mass. Machine for boarding leather	Jan. 10, 1871
	Williams, W. D. (*See* Henry, John Joseph, assignor.)	
	Williams, William H., *et al.* (*See* Bean, John, jr., assignor.)	
110,709	Williams, William L., New York, N. Y. Children's hobby-horse	Jan. 3, 1871
111,597	Same. Velocipede. (Antedated Jan. 25, 1871)	Feb. 7, 1871
111,796	Same. Machine for bundling wood	Feb. 14, 1871
	Same. Machine for splitting wood (Extension)	April 14, 1871
	Same. same (Disclaimer filed)	April 14, 1871
117,951	Same. Wood-splitting machine	Aug. 8, 1871
117,952	Same. Machine for splitting kindling-wood	Aug. 8, 1871
	Same. (*See* Hamilton, Robert W., assignor.)	
117,229	Williamson, David, assignor to self and Eugene Bissell, New York, N. Y. Liquid-meter	July 18, 1871
120,474	Williamson, Henry, Williamsburgh, N. Y. Lace-knitting machine	Oct. 31, 1871
118,321	Williamson, Samuel, Cincinnati, Ohio. Water-tuyere (Antedated Aug. 9, 1871)	Aug. 22, 1871
116,656	Williamson, William C., Philadelphia, Pa. Safety-attachment for hoisting-cage	July 4, 1871
117,844	Willis, Addison, Chicago, Ill. Broom	Aug. 8, 1871
	Willis, Benjamin, *et al.* (*See* Colby, Calvin M., assignor.)	
112,307	Willis, James, England. Umbrella	Feb. 28, 1871
	Willis, Joseph W., and Samuel J. Peet. (*See* Peet & Willis.)	
113,605	Willmot, George R., Meriden, Conn. Fender or cushion for furniture	April 11, 1871
118,570	Willoughby, Josee L., Bowling Green, Ky. Harrow	Aug. 29, 1871
119,730	Wills, Edwin S., Philadelphia, Pa. Sash-fastener	Oct. 10, 1871
117,584	Wills, Harry A., Vergennes, Vt. Machine for pointing horseshoe-nails	Aug. 1, 1871
119,680	Willson, Abner, Buffalo, N. Y. Oven	Oct. 3, 1871
112,877	Willson, Thomas Atwood, Reading, Pa. Glass for the manufacture of spectacles	Mar. 21, 1871
113,124	Same. Tinted glass for spectacles, &c	Mar. 28, 1871
4,666	Wilmarth, Moses P., assignor to Alvin F. and Stephen A. Jenks, John R. Fales, and Francis J. Rabbeth, North Providence, R. I. Lubricating-bolster for spinning-machines (Reissue)	Dec. 12, 1871
	Wilmeth, Isaiah W., and Albert L. Platt. (*See* Platt & Wilmeth.)	
115,260	Wilmot, Byron, assignor to self and J. K. Gulihur, Montana, Iowa. Sash-holder	May 23, 1871
	Wilmot, Samuel R., Bridgeport, Conn. Operating-valves of steam-engines. (Extension)	Feb. 16, 1871
	Wilson & Grimes. (*See* Altick & Grimes, assignors.)	
5,305	Wilson, Albert A., assignor to self and the Yale Iron Works, New Haven, Conn. Upright steam-engine (Design)	Oct. 3, 1871
118,413	Wilson, Alexander, Oxford, Pa. Rail-lifter	Aug. 22, 1871
119,210	Wilson, Charles, assignor of one-half interest to Charles F. Mudge, Bridgeport, Conn. Diving-apparatus	Sept. 19, 1871
110,812	Wilson, Charles C., Baltimore, Md. Machine for wrapping kisses, &c	Jan. 3, 1871
113,380	Wilson, Charles F., Brooklyn, N. Y. Spindle-bearing	April 4, 1871
116,384	Wilson, George, Chicago, Ill. Iron folding-chair	June 27, 1871
116,784	Same. Iron folding-chair	July 4, 1871
119,487	Same. Spring-bed bottom	Oct. 3, 1871
121,034	Same. Iron folding-chair	Nov. 14, 1871
118,768	Wilson, George F., Providence, R. I. Putting up baking-powders	Sept. 5, 1871
116,385	Wilson, George H., Mansfield, Ohio. Vapor-burner	June 27, 1871
115,799	Wilson, George W., Chelsea, Mass. Apparatus for combining or mixing two or more substances	June 6, 1871
120,605	Wilson, Harmon K., Barbourville, Ky. Composition for painting and staining furniture. (Antedated Oct. 16, 1871)	Nov. 7, 1871
118,907	Wilson, Henry, Tarr Farm, Pa. Pipe-wrench	Sept. 12, 1871
113,361	Wilson, Hiram J., Mason, Mich. Lifting-jack	April 4, 1871
	Wilson, Isaac S. (*See* Hadwin, William, assignor.)	
114,896	Wilson, James, Davis's Mills, Va. Millstone-dress	May 16, 1871
	Same. (*See* Humphrey, John, assignor.)	
	Wilson, James C. (*See* Pearson, William E., assignor.)	
113,382	Wilson, James H. L., Auburn, Kansas. Crib attachment for bedsteads	April 4, 1871
5,313	Wilson, John, assignor to Wilson & Hughes, Boston, Mass. Sewing-machine cover (Design)	Oct. 10, 1871
110,884	Wilson, John G., New York, N. Y. Boiler for heating	Jan. 10, 1871
113,477	Wilson, John J., New York, N. Y. Block for top-prop joints for carriages	April 4, 1871
113,606	Same. Pivot for seats	April 11, 1871
113,607	Same. Bracket-seat	April 11, 1871
	Wilson, John M., *et al.* (*See* Frear, George A., assignor) (Reissue.)	
117,953	Wilson, John T., Pittsburgh, Pa. Die for manufacturing followers for draw-bars of railroad-couplings	Aug. 8, 1871
117,954	Same. Die for manufacturing draw-head face-plates for railroad-couplings	Aug. 8, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,668	Wilson, John T., assignor to self, William D. Berry, and John A. Courtney, Pittsburgh, Pa. Buffer-head and draw-bar for railway-cars	April 11, 1871
118,382	Wilson, John T., assignor to Coleman, Rahm & Co., Pittsburgh, Pa. Method of making draw-bars or buffers	Aug. 22, 1871
122,003	Wilson Joseph B., assignor to self, Fisher Hazard, and Samuel B Huey, Philadelphia, Pa. Washing-machine	Dec. 19, 1871
122,094	Same.....Fluid for extracting grease from fabrics	Dec. 19, 1871
113,878	Wilson, Joseph M., Philadelphia, Pa. Bolster block and pier or abutment-plate for bridges and roof-trusses	Mar. 21, 1871
118,709	Wilson, Levi S., Wabash, Ind. Plow	Sept. 5, 1871
114,378	Wilson, Milton M., assignor to self and James H. Curl, Elwood, N. J. Combined square, level, plumb, and gauge	May 2, 1871
115,403	Wilson, Paul, and James Hunter, Manchester, N. H. Stop-motion for warping-machines	May 30, 1871
110,710	Wilson, Riley P., New York, N. Y. Apparatus for making extracts for tanning	Jan. 3, 1871
120,606	Same.....Tanning hides. (Antedated Oct. 21, 1871)	Nov. 7, 1871
120,922	Wilson, Robert J., Pittsburgh, Pa. Vacuum-brake for railroad-cars	Nov. 14, 1871
113,233	Wilson, Uriah T., De Soto City, Miss. Corn-planter	Mar. 28, 1871
117,027	Same.....Independence, Miss. Cotton press	July 11, 1871
118,414	Wilson, William, Boston, Mass. Shoemakers' foot-measure	Aug. 22, 1871
114,638	Wilson, William, assignor to Howell & Brothers, Edgewater, N. J. Manufacture of wall-paper	May 9, 1871
120,602	Wilson, William C., Brunswick, Ill. Cultivator	Nov. 7, 1871
	Wilson, William H., *et al.* (*See* Smyth, David M., assignor.)	
117,497	Wimer, William, Freeport, Ill. Land-roller	July 25, 1871
111,162	Winant, William K., assignor to self, William Wilmot Kissam, and Emily Winant, Rye, N. Y. Window-protector	Jan. 24, 1871
112,986	Winby, William Edward, England. Railway-rail and chair	Mar. 21, 1871
119,808	Winchell, Edwin H., New York, N. Y. Smoke-stack for locomotives	Oct. 10, 1871
119,809	Same.....Railway-car ventilator	Oct. 10, 1871
119,441	Winchell, George D., Cincinnati, Ohio. Oil-can	Sept. 26, 1871
115,999	Winchell, James F., assignor to Elijah C. Middleton, Springfield, Ohio. Fare-box	June 13, 1871
121,920	Same.....same	Dec. 12, 1871
117,139	Winchester, George C., Ashburnham, Mass. Chair. (Antedated July 6, 1871)	July 18, 1871
121,835	Winchester, Oliver F., New Haven, Conn. Swivel-loop for fire-arms	Dec. 12, 1871
	Winchester Repeating-Arms Company. (*See* Wheelock, Luke, assignor.)	
	Same.....(*See* Stetson, George R., assignor.)	
111,292	Windhausen, Franz, assignor to Louis Schneider, C. T. Buddecke, and John A. Blaffer, Germany. Apparatus for making ice, and cooling	Jan. 24, 1871
111,293	Same.....Ice-machine	Jan. 24, 1871
4,603	Same.....same.....(Reissue)	Oct. 17, 1871
	Windsor Manufacturing Company. (*See* Lamson, Ebenezer G., assignor)...(Reissue.)	
115,404	Windsor, William H., Little Rock, Ark. Printers' furniture	May 30, 1871
119,956	Winecoff, Jesse, Berlin, Pa. Sulky	Oct. 17, 1871
119,811	Wines, Joseph L., Hebardsville, Ohio. Flood-fence	Sept. 19, 1871
115,143	Winfield, William C., Hubbard, Ohio. Miners' lamp	May 23, 1871
118,770	Wing, Sennitt A., and Ianthus G. Johnson, Greenfield Centre, N. Y. Axle-box	Sept. 5, 1871
119,486	Wingard, Adam, San Francisco, Cal. Construction of vessels	Oct. 3, 1871
112,879	Winger, John, Kansas City, Mo. Composition for staining wood	Mar. 21, 1871
	Wingfield, John H. (*See* Richardson, Lundy & Irvine, assignors).....(Reissue.)	
121,921	Winn, Mark L., New York, N. Y. Shampooing-apparatus	Dec. 12, 1871
117,845	Winne, William G., Albany, N. Y. Oiling journals	Aug. 8, 1871
115,554	Winner, Joseph L., Elizabeth City, N. C. Apparatus for fuminating photographic paper, &c	May 30, 1871
121,141	Winner, Joseph L., assignor to Louis W. Gulager and Robert M. Robinson, Elizabeth City, N. C. Corner photographic-plate holder	Oct. 17, 1871
114,242	Winsborough, Richard H., Saint Louis, Mo. Preparation and application of pyroxyline for dental plates	April 25, 1871
	Winser, Harvey D. (*See* Flanigan, Mark, assignor.)	
	Winslow, Charles, Lynn, Mass. Elastic-gore cloth.....(Extension)	Aug. 4, 1871
	Same.....(*See* Dowling, Robert H., assignor.)	
	Winslow, Elisha F., and Joseph W. Coburn. (*See* Coburn & Winslow.)	
121,976	Winslow, John B., Charlestown, Mass. Treadle for sewing-machines	Dec. 19, 1871
111,599	Winslow, Joseph L., Portland, Me. Steam-heater	Feb. 7, 1871
115,261	Winslow, Reuben, assignor to self and Reuben Winslow Petrikan, Lock Haven, Pa. Car-truck	May 23, 1871
	Winson, Henry, and David H. Clark. (*See* Clark & Winson.)	
	Winston, Joseph S., and Edward T. Smith. (*See* Smith & Winston.) (Two cases.)	
112,401	Winter, Charles, Chillicothe, Ohio. Claw-bars	Mar. 7, 1871
	Winter, Fits Henry. (*See* Atherton, Abel T., assignor.)	
	Winters, Joy, *et al.* (*See* Loomis, Winters & Stark.)	
112,308	Winters, William C., Rochester, N. Y. Sewing-machine	Feb. 28, 1871
	Wisdom, William. (*See* Kievlan, James, assignor.)	
	Wise, Franklin A., and James Valleley. (*See* Valleley & Wise.)	
	Wise, Henry G. (*See* Wallis, John N. and Theodore, assignors.)	
112,000	Wise, William C., and John Ashman, Chelsea, Mass. Faucet	Feb. 21, 1871
119,907	Wisell, David D., Zanesville, Ind. Carriage-spring	Oct. 10, 1871
118,998	Wismer, Joseph C., Doylestown, Pa. Washing-machine	Sept. 12, 1871
121,035	Wisner, James E., Friendship, N. Y. Horse hay-rake	Nov. 14, 1871
	Same.....(*See* Lord, Allen P., assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Wissinger, Henry, *et al.* (*See* Young, Wissinger & Williams.)	
121,740	Wissler, Aaron, Brunersville, and Jacob Gamber, Petersburgh, Pa. Horse-power	Dec. 12, 1871
116,127	Wiswell, Jacob C., Lenoxville, Canada, and Frederick A. Wiswell, Beebe Plain, Vt. Dumping-car	June 20, 1871
120,176	Withall, Elijah, Rochester, N. Y. Leg and foot rest	Oct. 24, 1871
114,379	Witherell, Loren R., assignor to David A. and Edward D. Dudley, Galesburgh, Ill. Door-spring	May 2, 1871
	Witherell, Orin O., and Aaron Bauman. (*See* Bauman & Witherell.)	
111,101	Withers, A. Quarles, Holly Springs, Miss. Planter and cultivator	Jan. 17, 1871
115,405	Withers, Edwin D., Parkton, Md. Swage for horseshoe-calks	May 30, 1871
	Withington, Charles B., and Peter H. Inman. (*See* Inman & Withington.)	
111,708	Withington, George, Ione City, Cal. Wheel for wheelbarrows	Feb. 7, 1871
113,958	Witmer, Tobias, Buffalo, N. Y. Fire-escape ladder	April 18, 1871
117,846	Witsil, George L., Philadelphia, Pa. Washing-machine	Aug. 8, 1871
116,525	Witsil, George L., assignor through mesne assignments to self, Thomas L. Bates, and Benjamin J. Williams, Philadelphia, Pa. Washing-machine	June 27, 1871
	Wittlinger, William, and Jacob Wehrle. (*See* Wehrle & Wittlinger.)	
112,665	Wnuck, August, Cincinnati, Ohio. Carriage-brake	Mar. 14, 1871
118,415	Woerd, Charles V., Waltham, Mass. Stem-winding watch	Aug. 22, 1871
118,416	Wolcott, Charles H., Jamestown, N. Y. Clothes-rack	Aug. 22, 1871
	Wolcott, Elbridge, and Jonas C. Young. (*See* Bellamy, John H., assignor.) (Two cases. (Design.)	
118,771	Wolcott, Henry E., assignor of one-fourth interest to Nathan Munro, Elbridge, N. Y. Base-burning cooking-stove	Sept. 5, 1871
	Wolcott, Newlan J., and Lucien F. Bruce. (*See* Bruce & Wolcott.)	
121,071	Wolf, Abraham F., Beaver Falls, Pa. Tea-kettle	Nov. 21, 1871
	Wolf, Daniel. (*See* Hillebrand, Louis, assignor).....(Disclaimer.)	
	Wolf, Daniel, and Louis Hillebrand. (*See* Hillebrand & Wolf.)	
120,805	Wolf, John L., Greenfield, Ohio. Dumping-wagon	Nov. 7, 1871
112,880	Wolf, Leopold, assignor to the Meriden Malleable-Iron Company, Meriden, Conn. Mechanism for manufacturing heads for picture-nails	Mar. 21, 1871
118,571	Wolfe, James H., Lytle City, Iowa. Hay-knife	Aug. 29, 1871
111,415	Wolff, Charles, sr., and Charles, jr., Cincinnati, Ohio. Machine for disintegrating wood	Jan. 31, 1871
5,306	Wolff, David E., Welsh Run, Pa. Thill-coupling.....(Design)	Oct. 3, 1871
116,128	Wolff, David Ludwig, assignor to self, Matthias Poucelet, and Henry Nass, Chicago, Ill. Floor-covering, roof, &c. (Antedated June 6, 1871)	June 20, 1871
110,711	Wolfinger, Francis R., Chicago, Ill. Cover and table for sewing-machines	Jan. 3, 1871
117,358	Same..... Sewing-machine cover	July 25, 1871
117,359	Same.....Sewing-machine table	July 25, 1871
119,291	Wolfson, Louis, Boston, Mass. Ornamenting leather	Sept. 26, 1871
	Wombaugh, M. M., and A. C. Martin. (*See* Martin & Wombaugh.) (Extension.)	
	Wonson, Augustus H., and James G. Tarr. (*See* Tarr & Wonson.) (Two cases.) (Reissue.)	
	Wood, Amos L., trustee. (*See* Chicken, William, assignor.)	
	Same.....(*See* Chicken & Moulton, assignors.)	
	Wood, Aurin, and Joseph F. Light. (*See* Warren, William H., assignor.)	
116,908	Wood, Charles, Worcester, Mass. Hot-air furnace	July 11, 1871
112,881	Wood, Charles J., Baltimore, Md. Steam-heater	Mar. 21, 1871
4,835	Same.....Range.....(Design)	April 18, 1871
115,800	Same.....Cooking-range	June 6, 1871
113,858	Wood, Edwin A., Utica, N. Y. Time-indicator for offices	April 18, 1871
112,901	Wood, Galen S., Vassalborough, Me. Medical compound or liniment	Feb. 28, 1871
112,999	Wood, George W., assignor to Marion A. Wood, Brooklyn, N. Y. Ship's compass	Mar. 21, 1871
114,243	Wood, Henry S., and James W. Morrison, assignors of one-third interest to Jacob P. Pfanner, Chicago, Ill. Mirror-reflector	April 25, 1871
	Wood, Isaac H. (*See* Abbott, Warren N., assignor.)	
114,502	Wood, Jackson B., Richmond, Va. Composition for manufacture of soda-water	May 2, 1871
114,380	Wood, Jacob A., Chemung, Ill. Washing-machine	May 2, 1871
113,125	Wood, Jacob A. and Thomas, Chemung, Ill. Bean-harvester	Mar. 28, 1871
116,526	Wood, James A., Crosswicks, N. J. Gate	June 27, 1871
121,442	Wood, James A., assignor to self, John Braislin, and Charles D. Lippincott, Crosswicks, N. J. Self-acting gate	Nov. 28, 1871
111,709	Wood, John, Pella, Iowa. Machine for cutting corn-stalks	Feb. 7, 1871
114,739	Wood, John, jr., Conshohocken, Pa. Tuyere	May 9, 1871
117,028	Wood, John A., Pittsburgh, Pa. Adjustable dam	July 11, 1871
111,416	Wood, John W., New Leeds Corner, and Gabriel Moore, Fairview School-House, Md. Corn and phosphate drill	Jan. 31, 1871
114,075	Wood, Jonathan E., Webster, Ohio. Fire-place	April 25, 1871
	Wood, Joseph, and James, *et al.* (*See* Gardner, Lowe, Wood & Pickering.)	
121,838	Wood, Joseph, assignor to self and Edwin R. Bennet, Red Bank, N. J. Railway-crossing	Dec. 12, 1871
111,803	Wood, Joseph S., Philadelphia, Pa. Vapor-burner	Feb. 14, 1871
	Wood, Levi, *et al.* (*See* Shortt, Edward G., assignor).....(Two cases.)	
117,847	Wood, Malcolm H., Carlisle, Ohio. Clothes-drier	Aug. 8, 1871
113,959	Wood, Milton G., Boston, Mass. Machine for turning crank-pins	April 18, 1871
120,357	Wood, Myron G., Church Corners, Mich. Animal-power	Oct. 24, 1871
	Wood, Oscar D., and Joseph S. Oakley. (*See* Oakley & Wood.)	
121,143	Wood, Peter, Jersey City, N. J. Stone-crusher	Nov. 21, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
	Wood, Ralph T., *et al.* (*See* Madden, De Marcus, assignor.)	
120,358	Wood, Robert J., Hancock, Mich. Gate	Oct. 24, 1871
118,419	Wood, Rosto O., Niagara Falls, N. Y. Cutting-shears	Aug. 22, 1871
	Wood, Samuel. (*See* Tule, George H., assignor.)	
119,101	Wood, Seymour G., Rochester, N. Y. Gate	Sept. 19, 1871
117,848	Wood, Stephen S., Brooklyn, N. Y. Ditching-machine	Aug. 8, 1871
5,244	Wood, Thomas E., Chicago, Ill. Show-case (Design)	Aug. 29, 1871
116,657	Wood, Timothy C., Augusta, Mich. Fence	July 4, 1871
120,693	Wood, Walter A., Hoosick Falls, N. Y. Oil-hole cover for journal-boxes	Nov. 7, 1871
110,712	Wood, Walter A., and William A., Hoosick Falls, N. Y. Guiding-wheel for harvesters	Jan. 3, 1871
110,713	Wood, Walter A. and William A., and John M. Rosebrooks, Hoosick Falls, N. Y. Harvester	Jan. 3, 1871
110,714	Same.....same	Jan. 3, 1871
110,715	Same.....same	Jan. 3, 1871
110,716	Wood, William Anson, Hoosick Falls, N. Y. Harvester-rake	Jan. 3, 1871
117,585	Wood, William E., Baltimore, Md. Base-burning fire-place heater	Aug. 1, 1871
	Wood, W. J. (*See* Chapman, Luke, assignor.)	
116,129	Wood, William S., Newtown, N. Y. Furnace for melting ores and metals	June 20, 1871
111,710	Woodard, Alonzo B., Alfred Centre, N. Y., and William Bruen, Newark, N. J., said Bruen assignor to said Woodard. Harness-snap	Feb. 7, 1871
114,076	Woodard, Alvin N., Fentonville, Mich. Corn-harvester	April 25, 1871
115,144	Woodard, Philander G., Waterford, Pa. Butter-worker	May 23, 1871
118,173	Woodburn, Jacob, assignor to Woodburn Sarven Wheel Company, Indianapolis, Ind. Machine for threating spokes	Aug. 15, 1871
118,089	Woodbury, Daniel, Peabody, Mass. Tanning	Aug. 15, 1871
	Woodbury, George B. (*See* Diller, George W., assignor.)	
	Woodbury, George E., and Solomon A. Woods. (*See* Woods & Woodbury.)	
117,498	Woodbury, James A., Boston, Mass. Elastic car-wheel	July 25, 1871
117,586	Same.....Molding-machine	Aug. 1, 1871
112,001	Woodbury, Joseph P., West Roxbury, Mass. Condensing double-end locomotive-engines. (Antedated Feb. 6, 1871)	Feb. 21, 1871
	Woodbury, Oscar D. and Edwin C., New York, N. Y. Tuck-folder for sewing-machines	Dec. 5, 1871
114,897	Woodcock, Robert B., Grand Rapids, Mich. Lumber-rack	May 16, 1871
112,002	Woodhead, John C., Pittsburgh, Pa. Slide-valve. (Antedated Feb. 18, 1871)	Feb. 21, 1871
112,408	Same.....Steam-generator	Mar. 7, 1871
115,145	Same.....Allegheny City, Pa. Steam-engine	May 23, 1871
115,921	Woodhouse, John V., assignor to self, Radcliffe B. Lockwood, and William A. Scott, Mine la Motte, Mo. Furnace for smelting lead-ores	June 13, 1871
121,443	Same.....Construction of rolls	Nov. 28, 1871
122,302	Woodhull, Alonzo E., Spencer, Mich. Bee-hive	Dec. 26, 1871
120,843	Woodman, Andrew J., Indian Orchard, Mass. Let-off mechanism for looms	Nov. 14, 1871
	Woodman, Charles E. (*See* Butterfield, William, assignor.)	
	Same.....(*See* Miller, William, assignor.)	
	Woodman, Charles E., *et al.* (*See* Keniston, Charles E., assignor) (Two cases.)	
114,077	Woodman, Horace, Saco, Me. Dividing-wheel of weft-thread knitting-machines	April 25, 1871
120,475	Woodruff, Andrew H., Lansing, Iowa. Pipe-wrench attachment for monkey-wrenches	Oct. 31, 1871
113,714	Woodruff, George W., assignor to John Farris, Hartford, Conn. Reed-organ	April 11, 1871
117,587	Same.....Organ	Aug. 1, 1871
121,700	Same.....Reed-organ	Dec. 5, 1871
114,381	Woodruff, Horace, Sandwich, Ill. Wind-wheel	May 2, 1871
112,761	Woodruff, James E., assignor of one-half interest to James F. Rowley, Buffalo, N. Y. Portable steam-generator. (Antedated March 6, 1871)	Mar. 14, 1871
4,730	Woodruff, Lucius L., Cleveland, Ohio. Inkstand (Design)	Mar. 14, 1871
114,633	Woodruff, Luther J., assignor of one-half interest to Francis S. Wilcox, Mohawk, N. Y. Snow-plow and rail-cleaner	May 9, 1871
4,941	Woodruff, Theodore T., Philadelphia, Pa. Railroad car-seat and couch (Reissue)	Jan. 24, 1871
	Woods, Edward P., *et al.* (*See* Goodhue, Charles W., assignor) (Design.)	
	Same.....(*See* Latham & Lugg, assignors.)	
	Same.....same (Two cases.) (Reissue.)	
	Same.....(*See* Latham, Cyrus H., assignor) (Design.)	
	Same.....(*See* Goodhue, Charles W., assignor.)	
	Same.....(*See* Latham, Cyrus H., assignor.)	
	Same.....(*See* Sherwood & Dudley, assignors) (Design.)	
	Same.....(*See* Dudley, George D., assignor) (Design.)	
115,671	Woods, George, Cambridgeport, Mass. Cabinet-organ	June 6, 1871
116,765	Woods, George, Saint Catharines, Canada. Saddle-tree	July 4, 1871
121,444	Woods, Joseph T., and Ernest H. Leseman, Toledo, Ohio. Coffee-pot holder. (Antedated Nov. 26, 1871)	Nov. 28, 1871
117,588	Woods, Justus O., New York, N. Y. Ripping-tool	Aug. 1, 1871
114,078	Woods, Peter N., Fairfield, Iowa. Valve and steam-chest for engines	April 25, 1871
	Woods, Sherwood & Latham. (*See* Latham & Dudley, assignors) (Design.)	
111,804	Woods, Solomon A., Boston, Mass. Planing-machine	Feb. 14, 1871
117,230	Woods, Solomon A., Boston, and George E. Woodbury, Cambridge, Mass. Planing-machine	July 18, 1871
	Woods, Theodore, and Robert Jenkins. (*See* Jenkins & Woods.)	
118,393	Woods, Thomas, Nicholasville, Ky. Machine for dressing stone	Aug. 22, 1871
	Woods, Thomas, *et al.* (*See* Hannen, Henry, assignor.)	

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
114,503	Woodson, Frederick A., Selma, Ala. Steam-boiler	May 2, 1871
118,324	Woodsum, Daniel and Frank M., Harrison, Me. Water-wheel	Aug. 22, 1871
114,079	Woodsum, E. H., assignor to self and F. H. Whitman, Harrison, Me. Gain-cutter	April 25, 1871
110,945	Woodward, Alfred S., New York, N. Y. Presser and stitch-divider for sewing-machines	Jan. 10, 1871
4,500	Woodward, Alfred S., Brooklyn, N. Y. Presser and stitch-divider for sewing-machines (Reissue)	Aug. 1, 1871
111,599	Woodward, Arthur T., Pella, Iowa. Vessel for holding oil	Feb. 7, 1871
	Woodward, Benjamin. (*See* Coffin, David N. B., assignor) (Reissue.)	
	Woodward, David A., Baltimore, Md. Solar camera (Extension)	Feb. 23, 1871
	Same.....same (Disclaimer filed)	Feb. 23, 1871
	Woodward, Erastus, and Duncan H. Campbell. (*See* Campbell & Woodward.) (Two cases.)	
121,977	Woodward, Erastus, and Nathaniel Millett, Charlestown, Mass. Incubator	Dec. 19, 1871
119,957	Woodward, I. Fletch, McMinnville, Tenn. Photographic tent	Oct. 17, 1871
120,224	Same.....Stereoscopic-picture case	Oct. 24, 1871
120,558	Same.....Portable photographic dark-chamber	Oct. 31, 1871
116,386	Woodward, Stephen, Manchester, N. H. Manufacture of latch needles for knitting-machines	June 27, 1871
120,142	Woodworth, William H., Pewamo, Mich. Spring-bed bottom	Oct. 17, 1871
111,503	Woolf, Jacob, Burr Oak, Mich. Mechanical movement	Jan. 31, 1871
115,406	Same.....same (Antedated May 17, 1871)	May 30, 1871
116,130	Same.....Propelling apparatus for land-conveyances. (Antedated June 7, 1871)	June 20, 1871
117,849	Woolsey, Johnston V., Sandusky, Ohio. Wheel-hub	Aug. 8, 1871
117,850	Same.....Cutter-head	Aug. 8, 1871
112,666	Woolston, George F., Washington, D. C. Blind-slat machine	Mar. 14, 1871
	Wooster, George H. (*See* Walker, William, assignor.)	
118,174	Wooster, Letsome T., Ansonia, Conn. Process for casting brass ingots	Aug. 15, 1871
	Worden, William H. (*See* Butterfield, William, assignor.)	
115,922	Worell, Joseph, Philadelphia, Pa. Paper-cutter. (Antedated May 30, 1871)	June 13, 1871
110,946	Works, Alfred J., New York, N. Y., and Henry A. Daniels, Washington, D. C. Apparatus and process for generating and burning vapor fuel	Jan. 10, 1871
122,208	Worley, James T., Cleveland, Ohio. Railway passenger-car	Dec. 26, 1871
120,559	Worley, William S., Arcola, Ill. Road-scraper	Oct. 31, 1871
	Wormley, Samuel P. (*See* Anesley, George W., assignor.)	
113,234	Worrell, John, and James H. Rynerson, Clayton, Ind. Sulky-attachment for plows	Mar. 28, 1871
113,235	Same.....Sulky-attachment for plows	Mar. 28, 1871
120,560	Same.....same	Oct. 31, 1871
120,561	Worster, Alvah, Syracuse, N. Y. Trace-buckle. (Antedated Oct. 27, 1871)	Oct. 31, 1871
	Worth, Samuel A., *et al.* (*See* Trafford, Thomas, assignor.)	
110,717	Worth, William Ellison, San Francisco, Cal. Car-wheel mold	Jan. 3, 1871
117,711	Worthen, Samuel A., Thomson, Ill. Gang-plow	Aug. 1, 1871
120,844	Worthen, William E., New York, N. Y. Vertical hoist	Nov. 14, 1871
121,305	Same.....Nail for securing weather tiling and siding	Nov. 28, 1871
121,306	Same.....Apparatus for controlling the velocity of steam-engines	Nov. 28, 1871
121,073	Worthing, Alfred M., Reno, Nev. Tuyere. (Antedated Nov. 13, 1871)	Nov. 21, 1871
116,131	Worthington, Henry R., New York, N. Y. Steam pumping-engine	June 20, 1871
120,359	Worthley, Nathaniel T., Brunswick, Me. Meat-chopper	Oct. 24, 1871
120,806	Worthman, John E., assignor to self, Orville F. Cawthorn, and Randolph G. Reading, Mobile, Ala. Reefing sails	Nov. 7, 1871
120,014	Wren, Thomas, Hamilton, Nev. Concentrating silver-ores	Oct. 17, 1871
120,409	Wren, William C., and George W., said George W. Wren assignor to said William C. Wren, Brooklyn, N. Y. Manufacture of illuminating-gas from petroleum	Oct. 31, 1871
110,947	Wright, Abram and George F., assignors to selves and John H. McNabb, Clinton, Mass. Paper-polishing machine	Jan. 10, 1871
	Wright, Abram and George F., *et al.* (*See* Burt & Wright) (Extension.)	
121,922	Wright, Alexander, Wilmington, Del. Carriage-door	Dec. 12, 1871
115,407	Wright, Ann E., Hamlin, N. Y. Remedy for worms. (Antedated May 22, 1871)	May 30, 1871
114,080	Wright, Baxter and William C. Park, Cardiff, N. Y. Gavel-fork	April 25, 1871
122,143	Wright, Benjamin F., assignor to Charles H. Drew and Francis T. Morton, Winchester, Mass. Process of treating raw hides	Dec. 26, 1871
115,923	Wright, Charles D., Leesville, Mass. Stove-waiter or shelf	June 13, 1871
112,702	Wright, Claiborne, Mason, Ill. Gate	Mar. 14, 1871
115,006	Wright, Daniel, assignor to Orlando A. Kneeland, Waltham, Mass. Shuttle for looms	May 16, 1871
118,175	Wright, Edgar Alfred, Fort Madison, Iowa. Stalk-cutter	Aug. 15, 1871
117,712	Wright, Edmund, Philadelphia, Pa. Liquor-cooler	Aug. 1, 1871
117,231	Wright, Edward, assignor to Johnson & Bassett, Worcester, Mass. Self-acting mule for spinning	July 18, 1871
116,350	Wright, Edwin L., Sterling, Ill. Spring-bed bottom	June 20, 1871
118,892	Wright, Edwin L., assignor of one-fourth interest to R. A. Crawford, Sterling, Ill. Machine for stuffing mattresses, &c	Sept. 12, 1871
114,740	Wright, E. M., assignor to self and Gardner Herrick, Castile, N. Y. Ticket-holder	May 9, 1871
119,487	Wright, E. M., assignor to self and Gardner Herrick, Geneva, N. Y. Wash-boiler	Oct. 3, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
111,294	Wright, Finley J., and Livingston W. Wandell, New York, N. Y. Car-starter. (Antedated Jan. 21, 1871)	Jan. 24, 1871
4,914	Wright, George Curtis, New York, N. Y. Carpet-pattern (Design)	May 16, 1871
5,061	Wright, George C., assignor to E. S. Higgins & Co., New York, N. Y. Carpet-pattern (Design)	June 27, 1871
5,062	Same. Carpet-pattern (Design)	June 27, 1871
5,063	Same. same (Design)	June 27, 1871
5,064	Same. same (Design)	June 27, 1871
5,121	Same. same (Design)	July 11, 1871
5,122	Same. same (Design)	July 11, 1871
5,123	Same. same (Design)	July 11, 1871
5,124	Same. same (Design)	July 11, 1871
5,125	Same. same (Design)	July 11, 1871
5,126	Same. same (Design)	July 11, 1871
5,245	Same. Carpet (Design)	Aug. 29, 1871
5,246	Same. same (Design)	Aug. 29, 1871
5,247	Same. same (Design)	Aug. 29, 1871
5,248	Same. same (Design)	Aug. 29, 1871
5,249	Same. same (Design)	Aug. 29, 1871
5,250	Same. same (Design)	Aug. 29, 1871
	Wright, George W., *et al.* (*See* Starr, William M., assignor.)	
120,143	Wright, Gustavus H., and Amory K. Johnson, New Orleans, La. Cane-stubble hoe	Oct. 17, 1871
113,236	Wright, Henry X., assignor to self and James D. Wright, Memphis, Tenn. Lighting-attachment for alarm-clocks	Mar. 28, 1871
120,360	Wright, Hugh, Warren, Ohio. Rotary steam-valve and cut-off	Oct. 24, 1871
113,363	Wright, James A., Marietta, Ohio. Combined cotton-seed planter and cultivator	April 4, 1871
112,202	Wright, Larnard M., Fort Edward, N. Y. Water-wheel	Feb. 28, 1871
	Wright, Lysander, *et al.* (*See* Smith, Charles B., assignor.)	
	Wright, Nathan A., *et al.* (*See* Stevens, Benjamin D., *et al.*)	
116,132	Wright, Parker O., Oswego, N. Y. Hand-stamp	June 20, 1871
116,133	Wright, Rufus, Brooklyn, N. Y. Folding easel	June 20, 1871
117,133	Same. Easel picture-frame	July 18, 1871
119,681	Wright, Sheffield H., assignor to American Bolt Company, Lowell, Mass. Machine for threading bolts	Oct. 3, 1871
121,923	Wright, Thomas L., New York, N. Y. Advertising-lantern	Dec. 12, 1871
4,286	Wright, Wendell, New York, N. Y. Mode of securing springs in upholstery. (Reissue)	Feb. 28, 1871
120,923	Wright, Wendell, Phœnicia, N. Y. Bottle-stopper	Nov. 14, 1871
120,924	Wright, Wendell, Bloomfield, N. J. Folding bed	Nov. 14, 1871
111,711	Wright, Wesley A., Lynchburgh, Va. Medicated smoking-tobacco	Feb. 7, 1871
111,712	Same. Treating smoking-tobacco	Feb. 7, 1871
	Wright, Wiley S., and Charles H. Buck. (*See* Clement, Franklin, assignor.)	
	Wright, Wiley S., *et al.* (*See* Ellis, Paschal P., assignor.)	
116,909	Wright, William, New York, N. Y. Steam-condenser	July 11, 1871
119,908	Same. Cut-off for steam-engines	Oct. 10, 1871
121,144	Wright, William M., Galesburgh, Ill. Sawing-machine	Nov. 21, 1871
113,237	Wright, William M., assignor to self and Harrison Phœbus, Chambersburgh, Pa. Liquid-measure	Mar. 28, 1871
119,909	Wright, William R., Barnwell County, and David A. Warnock, Beaufort County, S. C. Horse-power	Oct. 10, 1871
112,403	Wrighteon, William D., Queenstown, Md. Animal-trap	Mar. 7, 1871
	Wuest, Herman, and Theodore A. Schroeder. (*See* Schroeder & Wuest.)	
5,265	Wunder, Adolph, assignor to Sargent & Co. New Haven, Conn. Fire-iron stand (Design)	Sept. 26, 1871
5,266	Same. Fire-iron stand (Design)	Sept. 26, 1871
5,267	Same. Base for bird-cage brackets (Design)	Sept. 26, 1871
5,295	Same. Door-bolt (Design)	Sept. 26, 1871
5,347	Same. Sash-lift (Design)	Oct. 31, 1871
5,351	Same. Fire-dog (Design)	Nov. 7, 1871
121,234	Wunderlich, Gennaro, assignor to self and Lewis H. Manch, Philadelphia, Pa. Eyeleting-machine	Nov. 21, 1871
	Wundram, George W., and John Griffith. (*See* Griffith & Wundram.)	
118,417	Wyatt, Robert, New York, N. Y. Clipping-shears. (Antedated Aug. 11, 1871)	Aug. 22, 1871
114,244	Wyckoff, Cornelius, jr., Fairview, Ill. Combined harrow	April 25, 1871
	Wyeth, Henry M. (*See* Bean, Homer, assignor.)	
113,600	Wyker, Abraham F., South Easton, Pa. Wine-press	April 11, 1871
114,362	Wyland, George G., and Thomas M. Rathmell, Williamsport, Pa. Propeller for canal-boats	May 2, 1871
	Wylde, James, *et al.* (*See* Rawson, Ovenden, Wylde, McCree & Hill.)	
115,409	Wylie, John, Bethel, Conn. Table-sink	May 30, 1871
111,417	Wyman, Franklin C., and Myron W. Lyman. (*See* Lyman & Wyman.)	
111,295	Wyman, Horace, Worcester, Mass. Box-operating mechanism for looms	Jan. 31, 1871
	Wyman, Isaac J., New York, N. Y. Paint for ships' bottoms	Jan. 24, 1871
	Wyman, Martin L. (*See* Moore, Charles E., assignor) (Two cases.)	
118,090	Yaeschè, Friedrich, Springfield, Mass. Brake for bending sheet-metal	Aug. 15, 1871
115,007	Yale, Charles O., New York, N. Y. Self-locking screw-bolt for safes	May 16, 1871
119,956	Same. Lock-spindle for safes	Sept. 26, 1871
	Yale Iron Works. (*See* Wilson, Albert A., assignor) (Design.)	
119,212	Yale, Linus, jr., deceased, by Silas N. Brooks, administrator, Shelburne Falls, Mass. Post-office letter-box	Sept. 12, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
120,177	Yale, Linus, jr., deceased, by Silas N. Brooks, administrator, Shelburne Falls, Mass. Lock for post-office boxes, &c	Oct. 24, 1871
	Yale Lock-Manufacturing Company. (*See* Herman & Taylor, assignors.)	
116,387	Yancey, Edwin L., Batavia, N. Y. Pruning-shears	June 27, 1871
119,213	Yardley, Richard T., Baltimore, Md. Bale-hook	Sept. 12, 1871
112,667	Yarrell, Pierce W., Littleton, N. C. Water-wheel	Mar. 14, 1871
119,214	Yates, Daniel C., Big Lick, Va. Compound for preserving tomatoes	Sept. 19, 1871
	Yates, Henry W. (*See* Mitchell, Andrew W., assignor.)	
114,245	Yates, John, and Edgar Duell, Brooklyn, N. Y. Condenser for stills	April 25, 1871
	Yates, Walter Edward, and John Storey Davies. (*See* Davies & Yates.)	
118,064	Yeager, James M., Lancaville, Ind. Churn	Aug. 29, 1871
114,383	Yeager, William E., Lawrence, Kan. Bolt-cutter	May 2, 1871
119,682	Yeilding, Richard, New York, N. Y. Manufacture of soft iron and steel castings	Oct. 3, 1871
120,807	Same. Detroit, Mich. Crucible for melting metals, &c	Nov. 7, 1871
4,434	Yeilding, Richard, assignor to Frank W. Isham and Elizabeth Yeilding, Detroit, Mich. Manufacture of iron and steel (Reissue)	June 20, 1871
115,302	Yeiser, Frederick, and Stephen W. Hedger, said Hedger assignor to said Yeiser, Lancaster, Ky. Lamp. (Antedated May 11, 1871)	May 23, 1871
113,610	Yentser, Enoch S., Ottawa, Ill. Attachment for sewing-machines	April 11, 1871
111,797	Yeoman, William P., Waukegan, Ill. Paper-trimming machine	Feb. 14, 1871
4,460	Yeomans, Theron G., Walworth, N. Y. Grape and vine trellis	July 11, 1871
114,741	Yerkes, Silas, jr., Philadelphia, Pa. Railway-car spring	May 9, 1871
116,000	Yengst, Cyrus, Annville, Pa. Horse hay-fork	June 13, 1871
114,742	Yglesias, José, New York, N. Y. Breech-loading fire-arm	May 9, 1871
	Yockel, Charles, and John Weidig. (*See* Klinck, Frederick, assignor.)	
116,134	Yocom, James, jr., Philadelphia, Pa. Split castings	June 20, 1871
	York, Edgar F. (*See* Knapp, Myron H., assignor) (Reissue.)	
120,178	Yost, Peter C., assignor to self and William B. Raper, Carthage, Ill. Fence	Oct. 24, 1871
117,232	Yost, William, Butlerville, Ohio. Buckle	July 18, 1871
121,567	Same. Goshen, Ohio. Plow. (Antedated Nov. 25, 1871)	Dec. 5, 1871
118,091	Youll, James, Manchester, Iowa. Grain-binder	Aug. 15, 1871
118,999	Younce, John A., and George W. Smith, Hartford, Conn. Vise	Sept. 12, 1871
	Young, Alexander, *et al.* (*See* Eley, Philip, assignor.)	
110,885	Young, Ananias Z., Liberty, Miss. Washing-machine	Jan. 10, 1871
	Young, Calvin, and Cyrenus Wheeler, jr. (*See* Wheeler & Young.)	
119,068	Young, Calvin S., Henry Wissinger, and Thomas T. Williams, Minta, Pa. Churn	Sept. 19, 1871
110,718	Young, Charles M., Meadville, Pa. Harvester	Jan. 3, 1871
116,388	Young, Charles M., assignor to self and Charles Gable, Meadville, Pa. Roller-attachment for plows	June 27, 1871
118,418	Young, David, Kingston, Mo. Weather-strip	Aug. 22, 1871
118,572	Young, Edward E., York, Me. Mechanical movement	Aug. 29, 1871
110,813	Young, George S., assignor to self and Al Fitch Boynton, Clearfield, Pa. Cut-off valve for steam-engines	Jan. 3, 1871
110,814	Same. Mill-spindle step	Jan. 3, 1871
4,612	Young, George W., Saint Louis, Mo. Fence-cap (Design)	Jan. 24, 1871
915,008	Young, Gottlieb M., El Paso, Ill. Hammer	May 16, 1871
119,910	Young, Hugh, Stamford, Conn., and James L., New York, N. Y. Machine for cutting stone. (Antedated September 25, 1871)	Oct. 10, 1871
113,715	Young, John, Buffalo, N. Y. Trunk	April 11, 1871
	Young, John S., and John E. Lawrence. (*See* Lawrence & Young.)	
	Young, Jonas C., and Elbridge Wolcott. (*See* Bellamy, John H., assignor.) (Three cases.) (Design.)	
116,786	Young, Julie D., San Francisco, Cal. Toilet-paste	July 4, 1871
118,502	Young, McClintock, Frederick, Md. Machine for making matches	Aug. 29, 1871
111,713	Young, Oliver H., and Daniel J. Vaughn, Wisconsin Hill, Cal. Device for saving gold-amalgam and quicksilver	Feb. 7, 1871
114,898	Young, Peter, Austin, Minn. Fanning-mill	May 16, 1871
119,069	Young, Peter, and Noah Doll, assignors to selves, John Rhodes, and Frederick J. S. Wagner, Robertsville, Ohio. Washing-machine	Sept. 19, 1871
119,070	Same. same	Sept. 19, 1871
	Young, Peter F. (*See* Goldsmith, Francis J., assignor.)	
114,246	Young, Robert W., Rising Sun, Ind. Composition black-board	April 25, 1871
111,895	Young, Samuel M., Jacksonville, Ill. Scroll-sawing machine. (Antedated Feb. 2, 1871)	Feb. 14, 1871
120,608	Young, Sapphira, Elmira, N. Y. Skirt-supporting corset	Nov. 7, 1871
	Young, Solomon, and John F. Metherd. (*See* Metherd & Young.)	
114,504	Young, Solomon W., Providence, R. I. Paper-file	May 2, 1871
	Young, Solomon W., and Stephen N. Smith. (*See* Smith & Young.)	
114,247	Young, William, Easton, Pa. Hot-air register	April 25, 1871
117,233	Same. Compression-bibb	July 18, 1871
4,307	Younglove, M. C., assignor to Frederick H. Manny, Rockford, Ill. Seed-drill. (Reissue)	Mar. 21, 1871
118,573	Youngs, Quinten M., Utica, N. Y. Blind-slat operator	Aug. 29, 1871
119,551	Yount, John L., Tippecanoe City, Ohio. Machine for dressing millstones	Oct. 3, 1871
	Yount, William, and Amos L. Keeports. (*See* Keeports & Yount.)	
	Yule, John. (*See* Larrabee, Charles, assignor.)	
	Zaepfel, Hilaire. (*See* Ike, Anthony, assignor.)	
118,395	Zahn, Henry, San Francisco, Cal. Screw-propeller	Aug. 22, 1871
112,882	Same. Philadelphia, Pa. Heating-stove	Dec. 12, 1871
120,144	Zay, Frederic B., Findlay, Ohio. Ruffling-attachment for sewing-machines	Mar. 21, 1871
	Zeller, Daniel, assignor to self and Daniel Miller, Marlborough Township, Pa. Pincers	Oct. 17, 1871

Alphabetical list of patentees for the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
113,126	Zeigler, Elias, and Charles Cable, Harmony, Pa. Grappling-hook	Mar. 28, 1871
	Zeisse, Siegmund, and Theodore Bergner. (*See* Bergner & Zeisse.)	
112,521	Zell, Abraham N., Lancaster, Pa. Tobacco-press	Mar. 7, 1871
114,384	Zeller, John P., South Bend, Ind. Cup for grain-drills, &c. (Antedated April 18, 1871)	May 2, 1871
113,127	Zengeler, John, Chicago, Ill. Coloring and staining marble. (Antedated March 25, 1871)	Mar. 28, 1871
5,365	Zeuner, Charles, assignor to Innes & Magill, Cincinnati, Ohio. Grate-front. (Design)	Sept. 12, 1871
	Zimmer, George, and Oscar J. Pennell. (*See* Pennell & Zimmer.)	
118,665	Zimmerman, John, Powhatan, Md. Carriage-curtain fastening	Aug. 29, 1871
112,522	Zimmerman, William, Lebanon, Pa. Combined bag-holder and scale. (Antedated Feb. 25, 1871)	Mar. 7, 1871
110,719	Zimmermann, Carl F., Philadelphia, Pa. Musical notation for accordeons	Jan. 3, 1871
122,095	Zinn, John W., Morrison's Mills, Fla. Connecting-rod	Dec. 19, 1871
121,445	Zipser, Albert, Austria. Steam-boiler sediment-collector	Nov. 28, 1871
120,145	Zschech, Gustavus H., Indianapolis, Ind. Universal safety-coupling	Oct. 13, 1871
122,303	Same. Thrashing-machine	Dec. 26, 1871
113,611	Zug, Christopher, Pittsburgh, Pa. Machine for scraping iron	April 11, 1871
116,389	Zumstein, John H., New York, N. Y. Meat and vegetable sausage	June 27, 1871
	Zwiebel, Alphons M., and Louis C. Brastow. (*See* Brastow & Zwiebel.)	

LIST OF TRADE MARKS REGISTERED DURING THE YEAR 1871.

No.	Name, residence, and title.	Date of filing.	Date of registration.
306	Abendroth Brothers, New York, N. Y. Ranges and stoves	Jan. 30, 1871	June 6, 1871
307	Same. same	Jan. 30, 1871	June 6, 1871
600	Adams, John W., Indianapolis, Ind. Boots and shoes	Dec. 4, 1871	Dec. 26, 1871
446	Adams, William H., and Frank A. Young, Bangor, Me. Liniment	Sept. 5, 1871	Sept. 26, 1871
473	Aikin, Lambert & Co., New York, N. Y. Watches and jewelry	Sept. 15, 1871	Oct. 17, 1871
527	Allen, Shapleigh & Co., Boston, Mass. Teas	Oct. 21, 1871	Nov. 14, 1871
285	American Club Fish Company, New York, N. Y. Preserved fish	April 22, 1871	May 23, 1871
197	American Graphite Company, New York, N. Y. Plumbago grease	Feb. 18, 1871	Mar. 21, 1871
318	American Standard Tool Company, Newark, N. J. Pistol	April 15, 1871	June 6, 1871
290	Anderson, S. H. & Co., Palmyra, Mo. Flour	April 19, 1871	May 30, 1871
231	Armistead, Louis Lee, Lynchburgh, Va. Tobacco	April 13, 1871	May 2, 1871
512	Same. Smoking-tobacco	Oct. 17, 1871	Nov. 7, 1871
553	Ashcroft, John, Brooklyn, N. Y. Coffee	Nov. 3, 1871	Nov. 28, 1871
447	Atchison & Brothers, Frankfort, Ind. Cholera-medicine	Sept. 4, 1871	Sept. 26, 1871
436	Atmore & Son, Philadelphia, Pa. Mince-meat	Aug. 8, 1871	Aug. 29, 1871
128	Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio. Paint	Dec. 19, 1871	Jan. 10, 1871
129	Same. Liquid chemical paint	Dec. 19, 1871	Jan. 10, 1871
130	Same. Chemical paint	Dec. 19, 1871	Jan. 10, 1871
143	Same. Averill chemical paint	Dec. 12, 1871	Jan. 24, 1871
224	Same. Paint	Jan. 6, 1871	April 18, 1871
384	Same. same	June 24, 1871	July 18, 1871
266	Backus, Frederick M., Cleveland Ohio. Lubricating-oil	Mar. 27, 1871	May 23, 1871
175	Baeder, Adamson & Co., Philadelphia, Pa. Glue	Feb. 6, 1871	Feb. 28, 1871
372	Baker, Francis, Boston, Mass. Salt	July 3, 1871	July 18, 1871
473	Baker, George, and Isaac Bullock, Lima, Pa. Soap	Sept. 7, 1871	Oct. 17, 1871
373	Baker, H. J. & Co., New York, N. Y. Castor-oil	June 9, 1871	July 18, 1871
374	Same. same	June 9, 1871	July 18, 1871
586	Balch, A. W. & Co., New York, N. Y. Whisky	Nov. 25, 1871	Dec. 19, 1871
587	Same. same	Nov. 25, 1871	Dec. 19, 1871
588	Same. Gin	Nov. 25, 1871	Dec. 19, 1871
589	Same. same	Nov. 25, 1871	Dec. 19, 1871
590	Same. Wine	Nov. 25, 1871	Dec. 19, 1871
601	Same. Whisky	Nov. 25, 1871	Dec. 26, 1871
602	Same. same	Nov. 25, 1871	Dec. 26, 1871
182	Baldwin, Nathan A., Milford, Conn. James H. Prentice, Brooklyn, N. Y., and John R. Waller, New York, N. Y. Hat	Jan. 26, 1871	Mar. 7, 1871
351	Baldwin, O. S., New York, N. Y. Clothing	May 31, 1871	June 27, 1871
267	Barclay, George C., New York, N. Y. Preparation for the hair	April 13, 1871	May 23, 1871
424	Barksdale, Ford C., New York, N. Y. Newspaper	Aug. 5, 1871	Aug. 22, 1871
232	Barnes, Demas, Brooklyn, N. Y. Balm	Mar. 21, 1871	May 2, 1871
233	Same. Liniment	Mar. 21, 1871	May 2, 1871
234	Same. Insect-powder	Mar. 21, 1871	May 2, 1871
235	Same. Preparation for the hair	Mar. 21, 1871	May 2, 1871
474	Barnes, Wallace, Bristol, Conn. Clock-springs	Aug. 29, 1871	Oct. 17, 1871
513	Bartlett, Robbins & Co., Baltimore, Md. Kitchen-ranges	Aug. 24, 1871	Nov. 7, 1871
131	Batcheller Manufacturing Company, New York, N. Y. Agricultural forks	Dec. 17, 1870	Jan. 10, 1871
176	Bates, Benjamin, Baltimore, Md. Beer	Feb. 7, 1871	Feb. 28, 1871
268	Same. same	April 21, 1871	May 23, 1871
375	Baxter, James P., Portland, Me. Sugar-corn	June 23, 1871	July 18, 1871
207	Bernecker, John L., Saint Louis, Mo. Whisky	Mar. 10, 1871	Mar. 28, 1871
155	Bidwell, John C., Pittsburgh, Pa. Plows and other agricultural implements	Jan. 13, 1871	Feb. 14, 1871
387	Billings, Henry M., New York, N. Y. Medicine	July 8, 1871	July 25, 1871
495	Bishop, George Riker, New York, N. Y. Mineral water	Oct. 3, 1871	Oct. 24, 1871
545	Bishop, William A., Dodgeville, Wis. Medicines	Sept. 30, 1871	Nov. 21, 1871
341	Bissell & Moore Manufacturing Company, New York, N. Y. Saws	May 2, 1871	June 20, 1871
122	Blackwell, W. T., Durham, N. C. Durham tobacco	Dec. 14, 1870	Jan. 3, 1871
454	Same. Smoking-tobacco	April 14, 1871	Oct. 3, 1871
254	Blanchard's, Porter, Sons, Concord, N. H. Churns	Nov. 8, 1870	May 16, 1871
198	Blatchley, Charles G., Philadelphia, Pa. Pumps	Feb. 28, 1871	Mar. 21, 1871
514	Bliss, Keene & Co., New York, N. Y. Cundurango	Oct. 23, 1871	Nov. 7, 1871
515	Same. same	Oct. 23, 1871	Nov. 7, 1871
177	Blume & Co., New York, N. Y. Chicory	Feb. 8, 1871	Feb. 28, 1871
352	Bock, Genin & Co., New York, N. Y. Matches	May 27, 1871	June 27, 1871
376	Bostwick & Tilford, New York, N. Y. Mineral oils for illuminating	June 17, 1871	July 18, 1871
377	Same. same	June 17, 1871	July 18, 1871
255	Bourke, F. G. & Co., New York, N. Y. Metallic paint	Dec. 17, 1870	May 16, 1871
109	Bourne, George, Baltimore, Md. Fertilizers	Jan. 31, 1871	Feb. 21, 1871
591	Bouton, Whitehead & Co., Naperville, Ill. Pitchfork	Nov. 25, 1871	Dec. 19, 1871
316	Brayley, James, Buffalo, N. Y. Thrashing-machine	Mar. 17, 1871	April 11, 1871
388	Same. same	Mar. 30, 1871	June 6, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and title.	Date of filing.	Date of registration.
592	Bridgeford & Co., Louisville, Ky. Cooking and other stoves	Nov. 27, 1871	Dec. 19, 1871
442	Briggs & Brother, Rochester, N. Y. Seeds	Aug. 21, 1871	Sept. 19, 1871
443	Same.....same	Aug. 21, 1871	Sept. 19, 1871
403	Brown, B. F. & Co., Boston, Mass. Blacking and leather-dressing	July 18, 1871	Aug. 1, 1871
404	Same.....same	July 18, 1871	Aug. 1, 1871
405	Same.....same	July 18, 1871	Aug. 1, 1871
475	Brown, John I. & Son, Boston, Mass. Bronchial troches	Sept. 7, 1871	Oct. 17, 1871
598	Brown, S. N. & Co., Dayton, Ohio. Wagons	Oct. 17, 1871	Nov. 14, 1871
467	Brown, William A., and Frederick R., Dickinson, Va. Tobacco	Sept. 12, 1871	Oct. 3, 1871
217	Bucher, Gibbs & Co., Canton, Ohio. Plows	Mar. 21, 1871	April 11, 1871
	Buckingham, Edwin B., and John Augustus Lynch. (*See* Lynch & Buckingham.)		
387	Bullocke, John, New York, N. Y. Linen goods and fabrics containing linen	May 27, 1871	June 20, 1871
	Burchfield & Rogers. (*See* Rogers & Burchfield.)		
573	Butcher, William & Co., Lewistown, Pa. Cast-steel and castings	Nov. 20, 1871	Dec. 12, 1871
148	Butler & Haynes, Bangor, Me. Composition oil	Nov. 22, 1870	Feb. 7, 1871
425	Butler, Earhart & Co., Columbus, Ohio. Essence of coffee	June 26, 1871	Aug. 22, 1871
455	Same.....Coffee, spices, mustard, and cream-tartar	Sept. 9, 1871	Oct. 3, 1871
220	Callaghan & Brother, Philadelphia, Pa. Cassimeres	Mar. 23, 1871	April 18, 1871
291	Cameron, R. W. & Co., New York, N. Y. Twist tobacco	May 4, 1871	May 30, 1871
292	Same.....Kerosene	May 4, 1871	May 30, 1871
360	Canfield, William M., Philadelphia, Pa. Steam and hydraulic packing	June 20, 1871	July 4, 1871
370	Capel & Roebuck, Cincinnati, Ohio. Whisky	Feb. 27, 1871	July 11, 1871
371	Same.....same	Feb. 27, 1871	July 11, 1871
476	Carew, Andrew T., Bayport, N. Y. Fish	Aug. 24, 1871	Oct. 17, 1871
156	Carroll, John W., Lynchburgh, Va. Smoking-tobacco	Jan. 20, 1871	Feb. 14, 1871
157	Same.....same	Jan. 20, 1871	Feb. 14, 1871
158	Same.....same	Jan. 20, 1871	Feb. 14, 1871
159	Carson, Anderson, and William Lemon, Hartford, Conn. Ginger ale and winter beverage	Jan. 21, 1871	Feb. 14, 1871
388	Carter Brothers & Co., Boston, Mass. Ink	July 3, 1871	July 25, 1871
546	Same.....Mucilage	Oct. 30, 1871	Nov. 21, 1871
293	Charleston, S. C., Mining and Manufacturing Company, Philadelphia, Pa. Fertiliser	May 6, 1871	May 30, 1871
227	Cherrington, Robert E., South Boston, Mass. Stove-polish	April 3, 1871	April 25, 1871
574	Chiles, Edward, Philadelphia, Pa. Medicine	Nov. 18, 1871	Dec. 12, 1871
294	Chipman, George W., Boston, Mass. Carpet-linings	Jan. 23, 1871	May 30, 1871
456	Clark, Orion, Brattleborough, Vt. Compounds for hair and face dressings, &c	Aug. 28, 1871	Oct. 3, 1871
516	Clement, Colburn & Co., Boston, Mass. Gentlemen's boots	Oct. 12, 1871	Nov. 7, 1871
353	Clifton, Charles H., Pittsburgh, Pa. Writing-pens	June 3, 1871	June 27, 1871
554	Cloud, Akin & Co., Evansville, Ind. Medicine	Nov. 4, 1871	Nov. 28, 1871
361	Coes, A. G. & Co., Worcester, Mass. Screw-wrenches	June 17, 1871	July 4, 1871
589	Cohn, M. & Co., New York, N. Y. Corsets	Sept. 25, 1871	Nov. 14, 1871
256	Cole, H. C. & Co., Chester, Ill. Flour, &c	April 22, 1871	May 16, 1871
183	Coleman, Lewis & Co., Boston, Mass. Spool-cotton	Feb. 2, 1871	Mar. 7, 1871
296	Collender, Hugh W., New York, N. Y. Billiard-cushions	Mar. 29, 1871	May 2, 1871
583	Collins Company, Collinsville, Conn. Plows	July 21, 1871	Nov. 7, 1871
295	Comstock, Castle & Co., Quincy, Ill. Stoves	Dec. 10, 1870	May 30, 1871
398	Congress and Empire Spring Company, Saratoga Springs and New York, N. Y. Mineral water	June 10, 1871	July 25, 1871
369	Cooper, John, Mount Vernon, Ohio. Machinery	May 4, 1871	May 23, 1871
160	Crockett, David B., New Haven, Conn. Composition coating	Jan. 11, 1871	Feb. 14, 1871
457	Crump, Samuel, New York, N. Y. Labels and show-cards	Aug. 12, 1871	Oct. 3, 1871
416	Davis, Perry & Son, Providence, R. I. Medicine	July 25, 1871	Aug. 8, 1871
357	Demarest, James, New York, N. Y. Stomach-bitters	April 22, 1871	May 16, 1871
506	Denison, George M., Essex, Conn. Lubricating-compound	Sept. 2, 1871	Oct. 31, 1871
507	Diamond, Jacob, Pittsburgh, Pa. Spectacles	Sept. 25, 1871	Oct. 31, 1871
362	Dick, Dundas, New York, N. Y. Medicine	Dec. 30, 1870	July 4, 1871
184	Dobbins, Robert, Binghamton, N. Y. Salve	Jan. 14, 1871	Mar. 7, 1871
414	Domestic Sewing-Machine Company, Norwalk, Ohio. Sewing-machines	April 8, 1871	Aug. 1, 1871
530	Domestic Sewing-Machine Company, Toledo, Ohio. Sewing-machine attachments	Oct. 21, 1871	Nov. 14, 1871
389	Dorn, Julius, Louisville, Ky. Whisky	July 6, 1871	July 25, 1871
302	Douglas Ax-Manufacturing Company, Douglas, Mass. Axes	Dec. 8, 1870	May 30, 1871
303	Same.....same	Dec. 8, 1870	May 30, 1871
304	Same.....same	Dec. 8, 1870	May 30, 1871
555	Dreydoppel, William, Philadelphia, Pa. Soap	Oct. 31, 1871	Nov. 28, 1871
161	Droege, L. & Co., Covington, Ky. Stoves	Jan. 28, 1871	Feb. 14, 1871
170	Dunlap & Co., New York, N. Y. Hats, caps, and straw goods	Jan. 28, 1871	Feb. 21, 1871
448	Dunn & Co., London, England. Medicine	Dec. 23, 1870	Sept. 26, 1871
477	Dunn Edge-Tool Company, West Waterville, Me. Edge tools	Sept. 4, 1871	Oct. 17, 1871
562	Same.....Scythes	Nov. 4, 1871	Nov. 28, 1871
563	Same.....same	Oct. 30, 1871	Nov. 28, 1871
603	Durkee, E. R. & Co., New York, N. Y. Spices, groceries, and drugs	Dec. 2, 1871	Dec. 26, 1871
604	Same.....same	Dec. 2, 1871	Dec. 26, 1871
605	Same.....same	Dec. 2, 1871	Dec. 26, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and title.	Date of filing.	Date of registration.
606	Durkee, E. R. & Co., New York, N. Y. Spices, groceries, and drugs	Dec. 2, 1871	Dec. 26, 1871
496	Dutcher Temple Company, Hopedale, Mass. Loom-temples	Aug. 2, 1871	Oct. 24, 1871
449	Eagle Tanning Works, Chicago, Ill. Leather	Sept. 4, 1871	Sept. 26, 1871
237	Elias, William M. & Brother, New York, N. Y. Jewelry	Mar. 24, 1871	May 2, 1871
406	Elwell, Fiske & Worth, New York, N. Y. Umbrellas and parasols	July 17, 1871	Aug. 1, 1871
407	Same.....same	July 17, 1871	Aug. 1, 1871
468	Estey, J. & Co., Brattleborough, Vt. Reed-organs	Sept. 13, 1871	Oct. 3, 1871
426	Evans, Thomas R., Philadelphia, Pa. Gaiters	June 20, 1871	Aug. 22, 1871
	Field, Isaac N. and William B., *et al.* (*See* Gibbs, Ross & Field.)		
338	Filley, Giles F., Saint Louis, Mo. Cooking-stoves	May 27, 1871	June 20, 1871
249	Fisk, Clark & Flagg, New York, N. Y. Cheviot shirtings	Dec. 3, 1870	May 9, 1871
270	Same.....Gentlemen's furnishing goods	May 6, 1871	May 23, 1871
271	Same.....same	May 6, 1871	May 23, 1871
296	Same.....same	May 11, 1871	May 30, 1871
297	Same.....same	May 11, 1871	May 30, 1871
444	Forster, Joseph, New Orleans, La. Cordial-gin	Aug. 24, 1871	Sept. 19, 1871
437	Foster, William and Henry, Denholme, near Bingley, England. Unions, lastings, and serge-de-Berries	Nov. 14, 1870	Aug. 22, 1871
563	Francis & Mallon, Boston, Mass. Boots and shoes	Sept. 27, 1871	Dec. 5, 1871
517	Fuller, Irad, New Haven, Conn. Wines, liquors, &c	Oct. 17, 1871	Nov. 7, 1871
286	Fusiyama Tea Importing Company, Pittsburgh, Pa. Tea	May 6, 1871	May 23, 1871
458	Galt, William M., Washington, D. C. Flour	Aug. 4, 1871	Oct. 3, 1871
459	Garlick, Charles, Montreal, Canada. Condition-powders	Sept. 8, 1871	Oct. 3, 1871
162	Georger, Charles E., New York, N. Y. Preparation for the hair	Jan. 14, 1871	Feb. 14, 1871
593	Gerber, C. & Co., Toledo, Ohio. Axes	Nov. 24, 1871	Dec. 19, 1871
199	Gibbs, William P., Saint Charles City, Mo.; Isaac N. Ross, Middlesex County, N. J.; and William B. Field, Saint Louis, Mo. Woolen goods	Feb. 18, 1871	Mar. 21, 1871
531	Gill & Loots, Boston, Mass. Gin	Oct. 26, 1871	Nov. 14, 1871
321	Gillett, Allen H., Syracuse, N. Y. Whisky	Jan. 26, 1871	June 13, 1871
607	Goodwin & Co., New York, N. Y. Tobacco	Dec. 5, 1871	Dec. 26, 1871
575	Graves, Chester H., Boston, Mass. Alcohol	Nov. 20, 1871	Dec. 12, 1871
524	Great New York Tea Company, Baltimore, Md. Tea and coffee	Oct. 17, 1871	Nov. 7, 1871
188	Hacker, Francis, and Frederick Richardson, assignors to Reversible Boot-Heel Company, Providence, R. I. Boot heels	Feb. 24, 1871	Mar. 14, 1871
566	Haines, John P., Irvington, N. Y. Oil-cans	April 3, 1871	Dec. 5, 1871
532	Haley, John J., San Francisco, Cal. Medicines	Oct. 21, 1871	Nov. 14, 1871
123	Hall & Speer, Pittsburgh, Pa. Agricultural implements	Dec. 17, 1870	Jan. 3, 1871
408	Hall, John L. S., Wheeling, W. Va. Medicines	July 3, 1871	Aug. 1, 1871
478	Hand, Thomas J., New York, N. Y. Fertiliser	Aug. 18, 1871	Oct. 17, 1871
497	Hardee, Philip M., Philmont, N. Y. Knit goods and fabrics	Oct. 2, 1871	Oct. 24, 1871
390	Harkness, Charles, Cincinnati, Ohio. Candles	June 26, 1871	July 25, 1871
439	Harmon, Merrick & Co., Cleveland, Ohio. Engine-oil	June 19, 1871	Sept. 12, 1871
417	Harris, J. N. & Co., Cincinnati, Ohio. Medicine	July 25, 1871	Aug. 8, 1871
225	Harris Manufacturing Company, Coventry, R. I. Cotton goods	Mar. 29, 1871	April 18, 1871
479	Same.....Fine cotton shirtings	Aug. 11, 1871	Oct. 17, 1871
498	Harris Manufacturing Company, Janesville, Wis. Harvesters	July 27, 1871	Aug. 22, 1871
329	Harris, Richmond & Shafer, New York, N. Y. Clothiers' and tailors' trimmings	May 27, 1871	June 20, 1871
330	Same.....Clothiers' and tailors' trimmings	May 27, 1871	June 20, 1871
331	Same.....same	May 27, 1871	June 20, 1871
460	Hart, William H., jr., & Brother, Philadelphia, Pa. Shields for neck-ties, cravats, &c	Aug. 23, 1871	Oct. 3, 1871
218	Hartman, Dr. S. B. & Co., Lancaster, Pa. Bitters	Mar. 18, 1871	April 11, 1871
346	Hartwell, Harrison Jerome, Philadelphia, Pa. Medicine	May 22, 1871	June 20, 1871
208	Hay, Henry H., Portland, Me. Medicine	Jan. 3, 1871	Mar. 28, 1871
309	Hedges, William N., Springfield, Ohio. Baking-powder	Nov. 7, 1870	June 6, 1871
440	Heller & Brightly, Philadelphia, Pa. Mathematical instruments	Aug. 17, 1871	Sept. 12, 1871
209	Henarie, Daniel V. B., San Francisco, Cal. Whisky	Mar. 8, 1871	Mar. 28, 1871
272	Hernsheim, Simon, New Orleans, La. Leaf-tobacco	April 25, 1871	May 23, 1871
567	Hill, James R. & Co., Concord, N. H. Harness	Nov. 14, 1871	Dec. 5, 1871
178	Hillebrand & Wolf, Philadelphia, Pa. Locks and hardware	Feb. 11, 1871	Feb. 28, 1871
238	Hodgson, Thomas S. & Co., McKeesport, Pa. Medicine	Mar. 23, 1871	May 9, 1871
135	Holbrook & Merrill, Boston, Mass. Cosmetics, pomades, and perfumeries	Dec. 19, 1870	Jan. 17, 1871
469	Holden, Tascott & Co., Chicago, Ill. Paint	Sept. 14, 1871	Oct. 3, 1871
470	Same.....same	Sept. 14, 1871	Oct. 3, 1871
471	Same.....same	Sept. 14, 1871	Oct. 3, 1871
598	Holloway & Co., New York, N. Y. Medicine	Dec. 1, 1871	Dec. 19, 1871
599	Same.....same	Dec. 1, 1871	Dec. 19, 1871
440	Holmes, Thomas J., Boston, Mass. Atomisers for perfuming, &c	Aug. 24, 1871	Oct. 17, 1871
568	Home Woolen Company, Hartford, Conn. Shawls, cloakings, beavers, &c	Nov. 14, 1871	Dec. 5, 1871
533	Hooper, Quincy A., Attleborough, Mass. Pineapple beer	Oct. 23, 1871	Nov. 14, 1871
534	Hopkins, Andrew J., Providence, R. I. Medicine	Oct. 23, 1871	Nov. 14, 1871
535	Horner, Joshua, jr., Baltimore, Md. Fertilisers	Oct. 20, 1871	Nov. 14, 1871
594	Same.....same	Nov. 23, 1871	Dec. 19, 1871
516	Horton, E. & Son, Windsor Locks, Conn. Lathe-chucks	Oct. 14, 1871	Nov. 7, 1871
222	Hostetter & Smith, Pittsburgh, Pa. Medicine	April 4, 1871	April 18, 1871
219	Hudson, Thomas S., East Cambridge, Mass. Stationers' hardware	Mar. 17, 1871	April 11, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and title.	Date of filing.	Date of registration.
338	Hughes, John M., Brooklyn, N. Y. Insect-powder	May 27, 1871	June 20, 1871
481	Hueson, Edmond, New York, N. Y. Ladies' collars, cuffs, &c	Sept. 7, 1871	Oct. 17, 1871
273	Hutchinson & Thomas, Baltimore, Md. Shirts	May 4, 1871	May 23, 1871
347	Hydraulic Cement Company, Akron, N. Y. Hydraulic cement	April 27, 1871	June 20, 1871
576	Ingraham, E. & Co., Bristol, Conn. Clocks	Nov. 18, 1871	Dec. 12, 1871
577	Same.....same	Nov. 18, 1871	Dec. 12, 1871
578	Same.....same	Nov. 18, 1871	Dec. 12, 1871
579	Same.....same	Nov. 18, 1871	Dec. 12, 1871
425	Ives, Beecher & Co., New York, N. Y. Brandy	July 31, 1871	Aug. 22, 1871
547	Same.....same	Oct. 31, 1871	Nov. 21, 1871
548	Same.....same	Oct. 31, 1871	Nov. 21, 1871
549	Same.....same	Oct. 31, 1871	Nov. 21, 1871
378	Jackson & Wiley, Detroit, Mich Composition car and other bearings	April 3, 1871	July 18, 1871
536	Jackson Company, Nashua, N. H. Cotton sheetings, &c	Oct. 21, 1871	Nov. 14, 1871
310	Jenkins, Thomas E., Louisville, Ky. Medicine	May 11, 1871	June 6, 1871
163	Jennings, Abraham G., New York, N. Y. Lace goods	Jan. 25, 1871	Feb. 14, 1871
311	Same .....Nets and lace	April 3, 1871	June 6, 1871
312	Same.....same	April 3, 1871	June 6, 1871
313	Same.....same	April 3, 1871	June 6, 1871
391	Same.....Nets and lace goods	June 24, 1871	July 25, 1871
392	Same.....same	June 24, 1871	July 25, 1871
393	Same.....same	June 24, 1871	July 25, 1871
394	Same.....same	June 24, 1871	July 25, 1871
395	Same.....same	June 24, 1871	July 25, 1871
164	Jervey, William E., New Orleans, La. Illuminating-oil or burning-fluid	Jan. 27, 1871	Feb. 14, 1871
228	Johnson, Charles E., Philadelphia, Pa. Printers' ink	April 7, 1871	April 25, 1871
379	Johnson, Oliver, & Co., Providence, R. I. Paint	Nov. 12, 1870	July 18, 1871
149	Jones, Edward Francis, Farmington, N. H. Shoes, brogans, and boots	Jan. 18, 1871	Feb. 7, 1871
200	Jones, Edward F., Binghamton, N. Y. Weighing-scales	Feb. 4, 1871	Mar. 21, 1871
498	Joslin, William E., Nashua, N. H. Shirtings	Sept. 27, 1871	Oct. 24, 1871
536	Kavanagh & Decker, New York, N. Y. Billiard-tables	Sept. 30, 1871	Nov. 14, 1871
239	Keeler, Ezra W., Yardville, N. J. Twine, warp, yarn, &c	April 8, 1871	May 2, 1871
396	Kellogg, John Q., Brooklyn, N. Y. Medicine	April 7, 1871	July 25, 1871
380	Kennedy, Simon Henry, Johnstown, N. Y. Medicine	July 1, 1871	July 18, 1871
274	Kimball, W. S. & Co., Rochester, N. Y. Tobacco	May 6, 1871	May 23, 1871
220	Knight, B. B. & R., Providence, R. I. Cotton goods	Mar. 23, 1871	April 11, 1871
418	Same.....Cotton shirtings	Mar. 23, 1871	Aug. 8, 1871
580	Knoepfel, William H., New York, N. Y. Bitters	Sept. 23, 1871	Dec. 12, 1871
482	Knox, James, jr., Kilbirnie, Scotland. Linen thread	Aug. 3, 1871	Oct. 17, 1871
537	Kohler, John T., New York, N. Y. Bread	Oct. 10, 1871	Nov. 14, 1871
409	Kwong On-Cheong, San Francisco, Cal. Tea	July 17, 1871	Aug. 1, 1871
419	Landsberg, Silvius, New York, N. Y. Jewelry and watches	July 24, 1871	Aug. 8, 1871
165	Lawrence, Daniel & Sons, Boston, Mass. Medford rum	Jan. 11, 1871	Feb. 14, 1871
569	Lear, Peter, Boston, Mass. Wearing-apparel for protecting lungs, &c	Oct. 19, 1871	Dec. 5, 1871
185	Leberman & Co., Philadelphia, Pa. Soap	Jan. 20, 1871	Mar. 7, 1871
189	Same.....same	Feb. 24, 1871	Mar. 14, 1871
333	Lee & Brother, Ridgewood, N. Y. Medicine	Jan. 14, 1871	June 20, 1871
	Lemon, William, and Anderson Carson. (*See* Carson & Lemon.)		
493	Lester, Felix E., Troy, N. Y. Beer	Sept. 21, 1871	Oct. 17, 1871
179	Levi, Lewis, New York, N. Y. Shirts	Jan. 21, 1871	Feb. 28, 1871
275	Lewis, A. K., & Co., Covington, Ky. Whisky and bitters	Mar. 27, 1871	May 23, 1871
146	Lincoln, George S. & Co., Hartford, Conn. Molasses gate	Jan. 13, 1871	Jan. 31, 1871
363	Loring, John P., Charlestown, Mass. Hosiery, trimmings, and gentlemen's furnishing goods	May 3, 1871	July 4, 1871
508	Lovett, Jane, Allegheny City, Pa. Nipple-salve	Sept. 5, 1871	Oct. 31, 1871
240	Low, C. Adolphe & Co., San Francisco, Cal. Tea	April 17, 1871	May 2, 1871
182	Lowell Manufacturing Company, Lowell, Mass. Carpet	Dec. 12, 1870	Jan. 10, 1871
334	Lynch, John Augustus, and Edwin B. Buckingham, Boston, Mass. Governor for steam-engines	Feb. 9, 1871	June 20, 1871
509	Mansfield, George Henry, Canton, Mass. Fish-lines	Aug. 3, 1871	Oct. 31, 1871
210	Martin, E. & Co., San Francisco, Cal. Whisky	Mar. 8, 1871	Mar. 28, 1871
364	Marx & Rawolle, New York, N. Y. Glycerine-soaps	June 17, 1871	July 4, 1871
276	Mason Manufacturing Company, New York, N. Y. Fruit-jars	April 27, 1871	May 23, 1871
450	Massoneau, Charles W., Red Hook, N. Y. Strengthening-plasters	Sept. 2, 1871	Sept. 26, 1871
499	Matthews, David P., Winthrop, Mass. Medical compound for cattle	Sept. 28, 1871	Oct. 24, 1871
556	Manger, Victor E., New York, N. Y. Playing-cards	Nov. 4, 1871	Nov. 28, 1871
430	Maw, S., Son & Thompson, London, England. Surgeons' instruments, &c	Feb. 14, 1871	Aug. 22, 1871
391	McBeth, Bentel & Margedant, Hamilton, Ohio. Wood-working	June 10, 1871	July 18, 1871
171	McComb, James Jennings, Liverpool, England. Cotton-bale bands and ties	Feb. 1, 1871	Feb. 28, 1871
314	Same.....Cotton-bale ties	Feb. 1, 1871	June 6, 1871
220	McComber, Joel, Chicago, Ill. Boot and shoe lasts	Jan. 4, 1871	May 9, 1871
510	McConnell, Porter & Co., Sciotoville, Ohio. Fire-brick, tile, &c	June 24, 1871	Oct. 31, 1871
451	McKee, John, New Orleans, La. Corn-salve	Sept. 5, 1871	Sept. 26, 1871
484	McKeon, Thomas, New York, N. Y. Paint	Aug. 12, 1871	Oct. 17, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and title.	Date of filing.	Date of registration.
136	McLean, Samuel & Co., New York, N. Y. Worsted goods	Dec. 28, 1870	Jan. 17, 1871
335	Menecly, E. A. and G. R., West Troy, N. Y. Bells	Jan. 13, 1871	June 20, 1871
557	Merrill, Rufus S., William B., and Joshua, Boston, Mass. Hydro-carbon-oil	Nov. 7, 1871	Nov. 28, 1871
558	Messinger, Charles R., Toledo, Ohio. Smoking-tobacco	Nov. 4, 1871	Nov. 28, 1871
559	Same.....same	Nov. 4, 1871	Nov. 28, 1871
570	Same.....Chewing-tobacco	Nov. 4, 1871	Dec. 5, 1871
190	Millard, E. R., Waltham, Mass. Dressing compound	Feb. 2, 1871	Mar. 14, 1871
258	Miller, Albert W. W., New York, N. Y. Gentlemen's furnishing goods	April 22, 1871	May 16, 1871
191	Mills, Johnson & Co, Cincinnati, Ohio. Whisky	Feb. 23, 1871	Mar. 14, 1871
192	Same.....same	Feb. 23, 1871	Mar. 14, 1871
193	Same.....same	Feb. 27, 1871	Mar. 14, 1871
194	Same.....same	Feb. 27, 1871	Mar. 14, 1871
201	Same.....same	Mar. 3, 1871	Mar. 21, 1871
215	Same.....same	Mar. 8, 1871	April 4, 1871
241	Same.....same	April 8, 1871	May 2, 1871
461	Same.....same	Sept. 8, 1871	Oct. 3, 1871
462	Same.....same	Sept. 8, 1871	Oct. 3, 1871
463	Same.....same	Sept. 8, 1871	Oct. 3, 1871
354	Mitchell, Samuel J., Saint Louis, Mo. Lightning-rods	June 7, 1871	June 27, 1871
251	Moline Plow Company, Moline, Ill. Plows and cultivators	April 17, 1871	May 9, 1871
150	Moller, William & Sons, New York, N. Y. Sugar, sirup, and molasses	Dec. 17, 1870	Feb. 7, 1871
195	Same.....Sirup	Jan. 14, 1871	Mar. 14, 1871
348	Same.....Sirup and molasses	Dec. 30, 1870	June 20, 1871
349	Same.....Sugar	Dec. 30, 1870	June 20, 1871
382	Monies, William N., and Lewis Pughe, Scranton, Pa. Crackers	June 6, 1871	July 18, 1871
355	Monk, J. A. & Sons, Saint Louis, Mo. Whisky	May 19, 1871	June 27, 1871
410	Same.....same	July 15, 1871	Aug. 1, 1871
411	Same.....same	July 18, 1871	Aug. 1, 1871
328	Moore, Jesse & Co., Louisville, Ky. Whisky	May 20, 1871	June 13, 1871
412	Moore, Thomas E., Shawhan, Ky. Whisky	July 14, 1871	Aug. 1, 1871
151	Morehouse, Charles L., Cleveland, Ohio. Machinery-oil	Jan. 6, 1871	Feb. 7, 1871
152	Same.....Illuminating-oil	Jan. 6, 1871	Feb. 7, 1871
153	Same.....Lubricating-oil	Jan. 6, 1871	Feb. 7, 1871
154	Same.....Factory-oil	Jan. 6, 1871	Feb. 7, 1871
323	Morgan's, Enoch, Sons, New York, N. Y. Polishing-compound	May 22, 1871	June 13, 1871
324	Same.....same	May 22, 1871	June 13, 1871
202	Morison, Son & Hutchinson, New York, N. Y. Shirts	Mar. 7, 1871	Mar. 21, 1871
365	Myers, Lawrence & Co., New York, N. Y. Gin	June 9, 1871	July 4, 1871
366	Same.....Sherry wine	June 9, 1871	July 4, 1871
229	Nason, James H., Boston, Mass. Pigments	April 6, 1871	April 25, 1871
519	National Wood-Manufacturing Company, New York, N. Y. Wood carpeting, wainscoting, &c	Sept. 21, 1871	Nov. 7, 1871
127	National Yeast Company, Seneca Falls, N. Y. Yeast	Dec. 10, 1870	Jan. 3, 1871
124	Nellis, Aaron J., Pittsburgh, Pa. Hay-elevators and other agricultural implements	Dec. 19, 1870	Jan. 3, 1871
356	Northwestern Fire-Extinguisher Company, Chicago, Ill. Fire-extinguisher	Jan. 19, 1871	June 27, 1871
277	Northwestern Horse-Nail Company, Chicago, Ill. Horse-nails	Dec. 17, 1870	May 23, 1871
203	Oppelt, Edwin J., Baltimore, Md. Tobacco	Mar. 8, 1871	Mar. 21, 1871
211	Orth, Adam, Milwaukee, Wis. Bitters	Mar. 10, 1871	Mar. 28, 1871
441	Page, George F. and Charles T., Franklin, N. H. Leather	Aug. 17, 1871	Sept. 12, 1871
500	Palmer, Kennedy, Richmond, Va. Advertising-medium	Sept. 25, 1871	Oct. 24, 1871
212	Palmer, O. M., New York, N. Y. Salve	Mar. 11, 1871	Mar. 28, 1871
464	Patent Elastic Felt Company, New York, N. Y. Prepared cotton for mattresses, cushions, &c	Feb. 27, 1871	Oct. 3, 1871
259	Peake, William I., New York, N. Y. Alpaca	April 21, 1871	May 16, 1871
260	Same.....Mohair	April 21, 1871	May 16, 1871
261	Same.....same	April 21, 1871	May 16, 1871
350	Pearl, Adolph, New York, N. Y. Tobacco	May 22, 1871	June 20, 1871
367	Perrin, Marie Eulalie, Montreal, Canada. Medicine	June 17, 1871	July 4, 1871
278	Perry & Co., Albany, N. Y. Cooking-stoves	Jan. 18, 1871	May 23, 1871
325	Phalon & Son, New York, N. Y. Perfume	Feb. 4, 1871	June 13, 1871
242	Phelan & Collender, New York, N. Y. Billiard-tables	Mar. 20, 1871	May 2, 1871
357	Phillips, E. R. & Co., Freetown, Mass. Medicine	Mar. 9, 1871	June 27, 1871
298	Pike, Amasa, Somerville, Mass. Garters	May 12, 1871	May 30, 1871
279	Pilkington, Edwin T., Richmond, Va. Smoking and chewing tobacco	April 28, 1871	May 23, 1871
258	Place, William H. & Co., Providence, R. I. Dyeing and coloring compounds	Mar. 18, 1871	May 9, 1871
581	Pohalski, P. & Co., New York, N. Y. Cigars	Nov. 20, 1871	Dec. 12, 1871
196	Pomeroy, L., & Sons, Pittsfield, Mass. Gray cloth	Feb. 18, 1871	Mar. 14, 1871
	Prentice, James H., *et al.* (*See* Baldwin, Prentice & Waller.)		
	Pughe, Lewis, and William N. Monies. (*See* Monies & Pughe.)		
432	Putnam, Silas S., assignor to S. S. Putnam & Co., Boston, Mass. Curtain-fixtures	July 20, 1871	Aug. 15, 1871
	Rammelsberg & Wendt. (*See* Wendt & Rammelsberg.)		

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and title.	Date of filing.	Date of registration.
125	Rand, William J., jr., Brooklyn, N. Y. Sea-moss cough-candy, troches, and sirup	Dec. 14, 1870	Jan. 3, 1871
431	Rappleye & Knight, Philadelphia, Pa. Soaps	July 22, 1871	Aug. 29, 1871
336	Redington & Co., Syracuse, N. Y. Cabinet-organs	May 13, 1871	June 20, 1871
540	Redway & Burton, Cincinnati, Ohio. Stoves	Aug. 15, 1871	Nov. 7, 1871
558	Remington Empire Sewing-Machine Company, Ilion, N. Y. Sewing-machines	Oct. 30, 1871	Nov. 21, 1871
280	Reno, Griffin, Titusville, Pa. Medicine	April 24, 1871	May 23, 1871
	Reversible Boot-Heel Company. (*See* Hacker & Richardson, assignors.)		
221	Reynolds, Benjamin K., Boyd's Station, Ky. Whisky	Mar. 25, 1871	April 11, 1871
413	Rice, Matthias Joslyn, Boston, Mass. Picture-frames, brackets, &c.	June 22, 1871	Aug. 1, 1871
243	Rich & Burlingham, New York, N. Y. Wood pumps	April 8, 1871	May 2, 1871
137	Richards, I. D. & Sons, Boston, Mass. Gin	Oct. 17, 1870	Jan. 17, 1871
445	Same ..... same	Aug. 28, 1871	Oct. 17, 1871
560	Same ..... same	Oct. 30, 1871	Nov. 28, 1871
204	Richards, Robert G., New York, N. Y. Burning-fluid	Feb. 25, 1871	Mar. 21, 1871
501	Richardson, Boynton & Co., New York, N. Y. Fire-place heaters	Aug. 31, 1871	Oct. 24, 1871
466	Richardson, Frank L., Lowell, Mass. Medicine	Aug. 10, 1871	Oct. 17, 1871
	Richardson, Frederick, and Francis Hacker. (*See* Hacker & Richardson.)		
186	Ridenour, Coblentz & Co., Springfield, Ohio. Medicine	Nov. 5, 1870	Mar. 7, 1871
315	Robbins, Horace T., Hyde Park, Mass. Umbrellas	May 18, 1871	June 6, 1871
262	Roberts, Robert J., New York, N. Y. Scissors	Nov. 26, 1870	May 16, 1871
299	Same ..... Razors	Nov. 26, 1870	May 30, 1871
300	Same ..... same	Nov. 26, 1870	May 30, 1871
358	Same ..... Needles	Nov. 26, 1870	June 27, 1871
368	Same ..... Razor-steel	Nov. 26, 1870	July 4, 1871
281	Rock River Paper Company, Beloit, Wis. Paper	Dec. 30, 1870	May 23, 1871
337	Rockwood Photo-Engraving Company, New York, N. Y. Photo-engraving	May 23, 1871	June 20, 1871
338	Same ..... Photo-engraving	May 23, 1871	June 20, 1871
505	Rogers & Burchfield, Pittsburgh, Pa. Sheet-iron	Nov. 28, 1871	Dec. 19, 1871
262	Rose, Buckley A., Urbana, Ohio. Burning-fluid	Nov. 26, 1870	May 23, 1871
339	Ross, Charles H. & Co., Baltimore, Md. Whisky	Jan. 26, 1871	June 20, 1871
340	Same ..... same	Jan. 26, 1871	June 20, 1871
550	Same ..... same	Oct. 27, 1871	Nov. 21, 1871
	Ross, Reuben G., *et al.* (*See* Gibbs, Ross & Field.)		
293	Rowe, Graves & Co., Chicago, Ill. Vinegar and cider	April 21, 1871	May 23, 1871
548	Rubber-Paint Company, Cleveland, Ohio. Rubber-paint	Sept. 30, 1871	Dec. 12, 1871
490	San Francisco Pioneer Woolen Factory, San Francisco, Cal. Woolen fabrics	July 24, 1871	Aug. 8, 1871
213	Saratoga Seltzer Spring Company, Saratoga Springs, N. Y. Mineral water	Mar. 10, 1871	Mar. 28, 1871
263	Schember, John, Bangor, Me. Liniment	Mar. 25, 1871	May 16, 1871
316	Schmidlapp Brothers, Memphis, Tenn. Cigars	April 26, 1871	June 6, 1871
317	Schroeder, Herman, Quincy, Ill. Cosmetic	Mar. 29, 1871	June 6, 1871
502	Schuckardt, Frederick, New York, N. Y. Gin	Sept. 30, 1871	Oct. 24, 1871
503	Same ..... same	Sept. 30, 1871	Oct. 24, 1871
452	Scott, John, New York, N. Y. Medicines	Aug. 28, 1871	Sept. 26, 1871
287	Scranton Stove and Manufacturing Company, Scranton, Pa. Stoves	Jan. 4, 1871	May 23, 1871
348	Same ..... Ranges	May 24, 1871	June 20, 1871
	Seaman, Robert, and Henry W. Shepard. (*See* Shepard & Seaman.)		
437	Seaman, Robert F., New York, N. Y. Paints	Aug. 12, 1871	Aug. 29, 1871
144	Selby, James & Co., Peoria, Ill. Corn-planter	Jan. 5, 1871	Jan. 24, 1871
301	Seltzer & Miller, Philadelphia, Pa. Whisky	May 3, 1871	May 30, 1871
465	Shannon, Albert F., Quincy, Ill. Medicines	June 6, 1871	Oct. 3, 1871
423	Sharp, E. S., Salem, N. J. Medicines	July 22, 1871	Aug. 15, 1871
133	Sharp, Joel, Salem, Ohio. Steam-engine	Dec. 19, 1870	Jan. 10, 1871
343	Shepard, Henry W., and Robert Seaman, New York, N. Y. Sheet-metal wares and trimmings	May 16, 1871	June 20, 1871
344	Sheriff, John Langdon, Dedham, Mass. Palm-leaf brushes	Mar. 1, 1871	June 20, 1871
134	Silbermann, Heinemann & Co., New York, N. Y. Fringes, ribbons, and trimmings of silk	Dec. 13, 1870	Jan. 10, 1871
179	Same ..... Cords, fringes, ribbons, &c	Dec. 13, 1870	Feb. 21, 1871
205	Silicate Slate Company, New York, N. Y. Slates, &c	Feb. 28, 1871	Mar. 21, 1871
487	Singer, Nimick & Co., Pittsburgh, Pa. Cast steel	Aug. 12, 1871	Oct. 17, 1871
245	Smith & Harris, Philadelphia, Pa. Fertilizer	April 3, 1871	May 2, 1871
244	Smith, Crosby & Co., New York, N. Y. Cigars	April 3, 1871	May 2, 1871
561	Smith, Elisha T., Hartford, Conn. Yeast	Nov. 4, 1871	Nov. 28, 1871
438	Smith, Hiram, Hilladale, N. Y. Pump	Aug. 5, 1871	Aug. 22, 1871
521	Smith, H. D. & Co., Plantsville, Conn. Carriage-makers' hardware	Oct. 18, 1871	Nov. 7, 1871
220	Smith, John C. & Son, Baltimore, Md. Cigars	Mar. 28, 1871	April 25, 1871
173	Smith, J. Lee & Co., New York, N. Y. Paints	Dec. 30, 1870	Feb. 21, 1871
284	Smith, Samuel, New York, N. Y. Frying-pan	April 15, 1871	May 23, 1871
551	Smith, Thomas L., Boston, Mass. Gin	Oct. 30, 1871	Nov. 21, 1871
522	Solms, Sidney J., Philadelphia, Pa. Woven fabrics	Oct. 16, 1871	Nov. 7, 1871
130	Spang, Jacob D., Dayton, Ohio. Illuminating-oil	Dec. 27, 1870	Jan. 17, 1871
	Speer & Hall. (*See* Hall & Speer.)		
326	Spencer, Albert H., Providence, R. I. Clothes-wringers	May 23, 1871	June 13, 1871
139	Spies, Francis, New York, N. Y. Kerosene and spirits of turpentine	Nov. 30, 1870	Jan. 17, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date of filing.	Date of registration.
488	Stanley, David A., New York, N. Y. Whisky	Sept. 26, 1871	Oct. 17, 1871
147	Steel, Edward T., & Co., Philadelphia, Pa. Cloth or men's wear	Jan. 9, 1871	Jan. 31, 1871
397	Steffan, F., & Co., Philadelphia, Pa. Shawls	June 26, 1871	July 25, 1871
	Stell, John J., and Walter S. Wells. (*See* Wells & Stell) (Two cases.)		
253	Sternberg, Leopold and Samuel, Philadelphia, Pa. Shirts, drawers, &c	April 20, 1871	May 9, 1871
504	Strain, John G., Delaware, Ohio. Split-bottom chairs	Sept. 19, 1871	Oct. 24, 1871
126	Straiton, Schmitt & Storm, New York, N. Y. Cigars	Dec. 20, 1870	Jan. 3, 1871
246	Strasburger, Fritz & Pfeiffer, New York, N. Y. Toys and fancy goods	April 13, 1871	May 2, 1871
383	Suire, F. E., & Co., Cincinnati, Ohio. Chemical, pharmaceutical, and galenic preparations	June 24, 1871	July 18, 1871
571	Sweet, Barnes & Co., Syracuse, N. Y. Cutters for harvesters, &c	June 21, 1871	Dec. 5, 1871
166	Taylor, Pemberton & Co., Atlanta, Ga. Medical compounds	Jan. 25, 1871	Feb. 14, 1871
572	Tenney, William H., & Sons, Georgetown, D. C. Flour	Nov. 9, 1871	Dec. 5, 1871
	Thomas, James, jr., and Thomas C. Williams. (*See* Williams & Thomas.)		
539	Thompson, Langdon & Co., New York, N. Y. Corsets, skirts, &c	Oct. 25, 1871	Nov. 14, 1871
540	Same ..... Skirts	Oct. 25, 1871	Nov. 14, 1871
541	Same ..... Corsets	Oct. 25, 1871	Nov. 14, 1871
542	Same ..... same	Oct. 25, 1871	Nov. 14, 1871
543	Same ..... Skirts and corsets	Oct. 25, 1871	Nov. 14, 1871
453	Thompson, Steele & Price Manufacturing Company, Chicago, Ill. Medicines	Mar. 13, 1871	Sept. 26, 1871
247	Thurston, George B., Lynn, Mass. Medicinal preparation	April 12, 1871	May 2, 1871
421	Tilden & Co., New Lebanon, N. Y. Medicine	May 23, 1871	Aug. 8, 1871
140	Townsend, Elmer, Boston, Mass. Boots and shoes	Dec. 27, 1870	Jan. 17, 1871
264	Townsend, Henry Elmer, Boston, Mass. Boots and shoes	April 24, 1871	May 16, 1871
265	Same ..... same	April 24, 1871	May 16, 1871
248	Tucker, J. Augustus, Boston, Mass. Fertilizer	Jan. 9, 1871	May 2, 1871
415	Turner, John P., Birmingham, England. Jewelry	Dec. 19, 1870	Aug. 1, 1871
141	Union Akron Cement Company, Buffalo, N. Y. Akron cement	Aug. 15, 1870	Jan. 17, 1871
187	Union Manufacturing Company, Springfield, Mass. Paper	Jan. 12, 1871	Mar. 7, 1871
433	Utica Cement Company, Chicago, Ill. Hydraulic cement	Aug. 8, 1871	Aug. 22, 1871
563	Ventilating Water-Proof Shoe Company, Boston, Mass. Boots and shoes	Nov. 20, 1871	Dec. 12, 1871
564	Same ..... Boots and shoes	Nov. 20, 1871	Dec. 12, 1871
180	Vidvard & Sheehan, Utica, N. Y. Whisky	Jan. 24, 1871	Feb. 28, 1871
226	Same ..... same	Mar. 28, 1871	April 18, 1871
438	Viele, Platt B., Rochester, N. Y. Laundry-bluing	Aug. 11, 1871	Aug. 29, 1871
288	Walker, Joseph H., Worcester, Mass. Boots and shoes	May 1, 1871	May 23, 1871
289	Walker, Oakley & Co., Chicago, Ill. Leather	May 1, 1871	May 23, 1871
	Waller, John R., *et al.* (*See* Baldwin, Prentice & Waller.)		
489	Walsh, Brooks & Kellogg, Cincinnati, Ohio. Whisky	Sept. 26, 1871	Oct. 17, 1871
490	Same ..... same	Sept. 26, 1871	Oct. 17, 1871
491	Same ..... same	Sept. 26, 1871	Oct. 17, 1871
492	Same ..... same	Sept. 26, 1871	Oct. 17, 1871
493	Walter & Fielding, New York, N. Y. Paints	Aug. 10, 1871	Oct. 17, 1871
494	Same ..... same	Aug. 10, 1871	Oct. 17, 1871
434	Walter & Shaeffer, San Francisco, Cal. Pipifax bitters	July 12, 1871	Aug. 22, 1871
319	Walton, Whann & Co., Wilmington, Del. Fertilizer	May 15, 1871	June 6, 1871
506	Ware, Marshall & Co., Boston, Mass. Gloves	Nov. 24, 1871	Dec. 19, 1871
145	Warfield & Co., Rochester, N. Y. Lubricating oil	Dec. 21, 1870	Jan. 24, 1871
445	Warren, Edwin A., Worcester, Mass. Hair-restorer	June 17, 1871	Sept. 19, 1871
544	Waters, C. and W. A., Boston, Mass. Gin	Oct. 26, 1871	Nov. 14, 1871
345	Wayne, Edward S., Cincinnati, Ohio. Medicines	Sept. 21, 1870	June 20, 1871
507	Weber, Bernhard, New York, N. Y. Gloves	Nov. 25, 1871	Dec. 19, 1871
142	Webster, H., & Co., San Francisco, Cal. Whisky	Dec. 27, 1870	Jan. 17, 1871
525	Weeks & Dupee, Boston, Mass. Chemical for dyeing	Oct. 18, 1871	Nov. 7, 1871
167	Wells, Walter S., and John J. Stell, New York, N. Y. Medical preparation	Jan. 21, 1871	Feb. 14, 1871
168	Same ..... Medical preparation	Jan. 21, 1871	Feb. 14, 1871
565	Wendt & Rammelsberg, New York, N. Y. Cement	Nov. 18, 1871	Dec. 12, 1871
206	Werk, M., & Son, Cincinnati, Ohio. Wine	Feb. 21, 1871	Mar. 21, 1871
181	Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Sewing-machine	Feb. 7, 1871	Feb. 28 1871
330	Whitelaw, Francis M., Cincinnati, Ohio. Candy	Mar. 17, 1871	June 6, 1871
350	Whiting, George A., Boston, Mass. Ladies' undergarments, ruffles, &c	June 9, 1871	June 27, 1871
399	Whitney, James H., Paterson, N. J. Sewing-machines	July 10, 1871	July 25, 1871
511	Wilder, James Davis, Chicago, Ill. Liquid slating, &c	Oct. 7, 1871	Oct. 31, 1871
305	Willetts, Charles E., Chicago, Ill. Soap	Mar. 11, 1871	May 30, 1871
214	Williams, Blanchard & Co., San Francisco, Cal. Tea	Mar. 10, 1871	Mar. 28, 1871
400	Williams, Thomas C., and James Thomas, jr., Richmond, Va. Tobacco	June 23, 1871	July 25, 1871
401	Williamson, Edward J., Saint Louis, Mo. Beverages	June 6, 1871	July 25, 1871
402	Winfree & Loyd, Lynchburgh, Va. Tobacco	July 6, 1871	July 25, 1871
486	Witherspoon, William S. and Thomas S., and Thomas Werner, Fairview, W. Va. Polish for metal-ware	Aug. 19, 1871	Oct. 3, 1871
505	Wood, Alan, & Co., Philadelphia, Pa. Sheet or plate iron	Aug. 11, 1871	Oct. 24, 1871
564	Same ..... Sheet and plate iron	Aug. 11, 1871	Nov. 28, 1871

List of trade-marks registered during the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date of filing.	Date of registration.
435	Woodbury, Booth & Co., Rochester, N. Y. Working barrels or pumps for petroleum wells	May 26, 1871	Aug. 29, 1871
369	Yates, Wharton & Co., Newark, N. J. Hats	June 14, 1871	July 4, 1871
174	York, George H., & Co., Cambridge, Mass. Medicine	Jan. 13, 1871	Feb. 21, 1871
596	Young, Charles H., & Co., Boston, Mass. Blackings	Oct. 11, 1871	Nov. 7, 1871
	Young, Frank A., and William H. Adams. (*See* Adams & Young.)		
365	Young, George T., & Co., Plainfield, N. J. Paint	May 6, 1871	July 18, 1871
366	Same	same	May 6, 1871	July 18, 1871

LIST OF PATENTS EXTENDED DURING THE YEAR 1871.

No.	Name, residence, and invention or discovery.	Date.
16,676	Adams, Calvin, Pittsburgh, Pa. Keeper for right and left hand door-locks	Feb. 24, 1857
118,177	Ager, Wilson, Washington, D. C. Machine for cleaning rice	Sept. 15, 1857
3,578	Alden, Timothy, deceased, by Henry W. Alden, administrator, New York, N. Y. Type setting and distributing machine. (Reissued July 27, 1869)	Sept. 15, 1857
16,957	Allen, Samuel S., deceased, by E. D. Buckman and Samuel A. Sisson, executors, Bristol, Pa. Harvester	April 7, 1857
9,479	Atkins, Jearum, Mokena, Ill. Rake to grain-harvesters	Dec. 21, 1852
1,007	Ball, Ephraim, Canton, Ohio. Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
1,008	Same.....Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
1,009	Same.....Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
1,010	Same.....Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
1,011	Same.....Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
1,012	Same.....Mowing-machine. (Reissued Sept. 27, 1859, and again reissued July 17, 1860)	Dec. 1, 1857
18,330	Bigelow, Erastus B., Boston, Mass. Power-loom for weaving wire-cloth	Oct. 6, 1857
16,676	Browne, John David, Cincinnati, Ohio. Hinge	Feb. 24, 1857
1,998	Burden, Henry, deceased, by James A. and L Townsend Burden, executors, Troy, N. Y. Machine for making horse-shoes. (Reissued June 13, 1865)	June 30, 1857
18,232	Burt, George E., Harvard, Mass., and Abram and George F. Wright, Clinton, Mass. Horse-power	Sept. 22, 1857
18,184	Butler, John, New York, N. Y. Gas-generator	Sept. 15, 1857
17,355	Channing, William F., Providence, R. I., and Moses G. Farmer, Boston, Mass. Electro-magnetic fire-alarm telegraph for cities	May 19, 1857
18,038	Chubb, Thomas J., New York, N. Y. Separating ore	Aug. 25, 1857
16,719	Clarke, Elisur E., deceased, by Franklin N. Clarke, administrator, New Haven, Conn. Machine for cutting pasteboard for boxes	Mar. 3, 1857
16,945	Cochrane, James, New York, N. Y. Fluid-meter	Mar. 31, 1857
18,950	Coggeshall, William, and Bennet B. Warner, Massillon, Ohio. Seeding-machine	Dec. 29, 1857
2,510	Collender, Hugh W., New York, N. Y. Billiard-table cushion. (Reissued Aug. 23, 1859, and again reissued March 19, 1867)	Dec. 8, 1857
18,325	Cook, Arlon M., Chicago, Ill. Corn-sheller	Oct. 6, 1857
16,529	Cook, Peter, Tonawanda, N. Y. Machine for cutting veneers	Feb. 3, 1857
17,668	Cooley, Anthony, deceased, by Ann M. Cooley, administratrix, Ceresco, Mich. Whiffletree-hook	June 30, 1857
17,423	Corliss, George H., Providence, R. I. Steam pumping-apparatus	June 2, 1857
16,364	Cramer, James P., Schuylerville, N. Y. Cultivator-teeth	Jan. 6, 1857
3,393	Crook, Charles, New Hope, Pa. Harvester. (Reissued May 4, 1858, and again reissued April 20, 1869)	May 5, 1857
3,394	Same.....Harvester. (Reissued May 4, 1858, and again reissued April 20, 1869)	May 5, 1857
17,319	Croome, William, deceased, by Rosalie Croome, executrix, Brooklyn, N. Y. Method of printing in colors	May 19, 1857
2,869	Darling, Samuel, Providence, R. I. Manufacture of metallic squares. (Reissued February 18, 1868)	Oct. 6, 1857
1,940	Davidson, Charles H., deceased, by Herman E. Davidson, administrator, and Herman E. Davidson, for himself, Gloucester, Mass. Enema-syringe. (Reissued April 25, 1865)	Mar. 31, 1857
18,882	Demary, Newcomb, jr., Attica, N. Y. Snow-plow	Dec. 15, 1857
18,009	Dodenhoff, Israel, deceased, by Joseph W. Budd, administrator, Midland City, Mich. Raking-apparatus for harvesters	Aug. 18, 1857
18,141	Dolph, George C., West Andover, Ohio. Mowing-machine	Sept. 8, 1857
4,454	Dunham, Isaac A., North Bridgewater, Mass. Edge-plane for shoemakers. (Reissued Aug. 22, 1871)	Sept. 22, 1857
17,560	Eastman, Joseph L., deceased, by Clara A. Eastman, executrix, Boston, Mass. Steam-pressure gauge	June 16, 1857
1,300	Eddy, Henry, North Bridgewater, Mass. Crib for horses. (Reissued April 8, 1862)	Jan. 6, 1857
16,534	Ellis, Seth C., Jersey City, N. J. Machine for cutting tenons on blind-slats	Feb. 3, 1857
16,873	Esterly, George, Whitewater, Wis. Harvesting-machine	Mar. 24, 1857
445	Fairbanks, Thaddeus, Saint Johnsbury, Vt. Platform-scale. (Reissued March 31, 1857)	Jan. 13, 1857
889	Fay, Lucian, deceased, by Joshua B. Prouty, administrator, Cincinnati, Ohio. Machine for seaming sheet-metal roofs. (Reissued Jan. 24, 1860)	July 28, 1857
17,961	Fee, William R., Cincinnati, Ohio. Machine for hulling cotton-seed	Aug. 11, 1857
542	Ferry, William M., Grand Haven, Mich. Sawing-mill. (Reissued April 6, 1858)	July 21, 1857
17,963	Fitts, Benaiah, Worcester, Mass. Arrangement of feed-rollers for planing-machines	Aug. 11, 1857
17,854	Floyd, James R., New York, N. Y. Retort-cover	July 21, 1857
3,310	Franklin, Albert, Genoa Cross Roads, Ohio. Seeding-machine. (Reissued Feb. 23, 1869)	Nov. 10, 1857
17,909	French, Evelyn F., New York, N. Y. Corn-husker	May 12, 1857

List of patents extended during the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
17,855	Gale, William S., deceased, by Mary I. Kelsey, administratrix, Brooklyn, N. Y. Means of rendering joints steam-tight	July 21, 1857
18,945	Gardiner, Samuel, jr., Washington, D. C. Mode of lighting gas by electricity	Dec. 22, 1857
373	Gibbs, James E. A., Steele's Tavern, Va. Sewing-machine. (Reissued July 13, 1858)	June 2, 1857
16,426	Gill, Ira, Walpole, Mass. Machine for forming hat-bodies	Jan. 13, 1857
16,830	Giles, Alonzo M., Boston, Mass. Gas-generator	Mar. 17, 1857
2,301	Gould, John C., Oxford, N. J. Nail-plate feeding-machine. (Reissued July 10, 1866)	May 12, 1857
18,738	Griffen, John, Phœnixville, Pa. Pile for rolling beams	Dec. 1, 1857
18,853	Griggs, George S., deceased, by Solomon A. Bolster, executor, Boston, Mass. Locomotive furnace	Dec. 15, 1857
18,966	Same.....Locomotive engine-wheel	Dec. 29, 1857
17,430	Hall, John S., Pittsburgh, Pa. Plow	June 2, 1857
4,583	Hanley, James, New York, N. Y. Mechanical movement for sewing and other machinery. (Reissued Oct. 10, 1871)	Dec. 15, 1857
17,026	Haw, John, Hanover County, Va. Picker sawing-machine. (Improvement added July 26, 1859)	July 23, 1857
16,853	Hayden, Isaac, Lawrence, Mass. Machinery for cleaning and separating cotton, wool, fur, and other fibrous materials	Mar. 17, 1857
17,939	Hayden, Isaac, Boston, Mass. Bobbin for roving and slubbing	Aug. 4, 1857
18,743	Hayden, Isaac, Lawrence, Mass. Long trunk for cleaning cotton	Dec. 1, 1857
3,660	Hicks, William Cleveland, Summit, N. J. Breech-loading fire-arm. (Reissued May 9, 1865, again reissued Jan. 18, 1870, and again reissued March 1, 1870)	Mar. 10, 1857
18,640	Hoe, Richard M., West Farms, N. Y. Mode of operating the fly-frame of printing-presses	Nov. 17, 1857
604	Hogle, Sidney S., Berea, Ohio. Harrow. (Reissued Aug. 30, 1859)	Mar. 17, 1857
17,567	Holmes, James G., Charleston, S. C. Chair for invalids	June 16, 1857
16,947	Houston, William H., Peabody, Mass. Machine for composing and distributing type	Mar. 31, 1857
17,838	Hulskamp, G. Henry, New York, N. Y. Metallic bridge for piano-fortes	July 21, 1857
16,923	Humphrey, John, Keene, N. H. Machine for cutting slots in clothes-pins	Mar. 31, 1857
2,500	Huson, Edgar, Ithaca, N. Y. Wagon. (Reissued March 5, 1867)	Feb. 17, 1857
16,732	Hutchins, Charles, deceased, by G. P. Hutchins, administrator, East Douglas, Mass. Machine for making axes	Mar. 3, 1857
3,460	Jackson, Silas E. and Morgan P., Boonville, N. Y. Mowing-machine. (Reissued May 25, 1869)	Dec. 29, 1857
1,653	Jewett, Stanley A., Cleveland, Ohio. Melodeon. (Reissued April 19, 1864)	Oct. 13, 1857
18,387	Johnson, Albert F., Parkville, N. Y. Sewing-machine	Jan. 13, 1857
17,331	Johnson, Asa, Brooklyn, N. Y. Mode of fastening sheet-metal on roofs, &c.	May 19, 1857
4,171	Johnson, Asa, New York, N. Y. Machine for rolling cornices. (Reissued Nov. 1, 1870)	Dec. 22, 1857
505	Kelly, William, Louisville, Ky. Manufacture of iron. (Reissued Nov. 3, 1857)	June 23, 1857
17,885	Lamb, Salem T., New Albany, Ind. Self-acting rake for harvesters	June 30, 1857
18,460	Latta, A. B., deceased, by Finley Latta, administrator, Cincinnati, Ohio. Steam-generator	Oct. 20, 1857
1,228	Leonard, Andrew, deceased, by John Benedict, administrator, Kenosha, Wis. Mode of casting seamless skeins for wagons. (Extension of Division A.) (Reissued July 27, 1858, and again reissued Oct. 8, 1861)	Feb. 24, 1857
1,229	Same.....Cast seamless thimble-skeins for wagons. (Extension of Division B.) (Reissued July 27, 1858, and again reissued Oct. 8, 1861)	Feb. 24, 1857
18,509	Lovejoy, Daniel, and George F. Butterfield, deceased, by Elizabeth S. Butterfield, administratrix, Lowell, Mass. Grinding and polishing machine	Oct. 27, 1857
17,081	Lothrop, Francis C., Trenton, N. J. Iron truss-frame for bridges	June 30, 1857
16,569	Lyman, Asa S., New York, N. Y. Accelerating fire-arm	Feb. 3, 1857
1,843	Mackenzie, Philip W., Blauveltville, N. Y. Cupola and other furnaces. (Reissued Feb. 10, 1863, and again reissued Dec. 27, 1864)	Aug. 25, 1857
3,594	Manny, John P., Rockford, Ill. Harvester. (Division A.) (Reissued June 29, 1869)	July 14, 1857
3,595	Same.....Harvester.....(Division B.) (Reissued June 29, 1869)	July 14, 1857
3,596	Same.....same.....(Division C.) (Reissued June 29, 1869)	July 14, 1857
3,580	Same.....same.....(Division A.) (Reissued Aug. 3, 1869)	July 14, 1857
3,581	Same.....same.....(Division B.) (Reissued Aug. 3, 1869)	July 14, 1857
118,510	Same.....same	Oct. 27, 1857
18,942	Martin, A. C., and M. M. Wombaugh, deceased, by William H. S. Ewell, administrator, Cincinnati, Ohio. Method of governing the cut of circular-sawing machinery	Dec. 22, 1857
17,108	Martratt, Cornelius, Waterford, N. Y. Method of securing the doors of hay-presses, &c	April 21, 1857
493	Milligan, Julia M., New Albany, Ind. Abdominal supporter. (Reissued Sept. 15, 1857)	Feb. 10, 1857
4,506	Mix, Garry L., Yaleeville, Conn. Iron spoon. (Reissued Aug. 8, 1871)	Oct. 27, 1857
603	Monnier, Alfred, Philadelphia, Pa. Manufacture of sulphuric acid. (Reissued Oct. 6, 1857, and again reissued Sept. 21, 1858)	Aug. 11, 1857
18,134	Monson, Charles, New Haven, Conn. Extension gas-tube	Sept. 8, 1857
1,167	Monger, Lyman F., Rochester, N. Y. Lock. (Reissued April 2, 1861)	July 14, 1857
16,778	Myers, Lewis B. and Henry A., Elmore, Ohio. Seeding-machine	Mar. 3, 1857
3,489	Nettleton, Wilford H., Bristol, Conn., Charles Raymond, Guelph, Canada., and Anson Hatch, New Haven, Conn. Machine for turning pillars for clock-movements. (Reissued June 8, 1869)	Nov. 17, 1857

List of patents extended during the year 1871—Continued.

No.	Name, residence, and invention or discovery.	Date.
18,646	Newton, Alexander S., Brandon, Vt. Machine for turning wooden boxes	Nov. 17, 1857
17,110	Nippes, Albert S., deceased, by Daniel S. Nippes, administrator, Upper Merion Township, Pa. Grinding-saw	April 21, 1857
17,445	Norton, Eugene L., Charlestown, Mass. Process of manufacturing leather shoe-binding	June 2, 1857
18,706	Penniston, George W., North Vernon, Ind. Cotton and hay press	Dec. 1, 1857
1,345	Perley, Charles, New York, N. Y. Compound capstan for ships. (Reissued Oct. 7, 1862)	Aug. 4, 1857
17,632	Perrine, George P., Richmond, Va., and James E. Boyle, New York, N. Y. Hydrant	June 23, 1857
3,368	Plumer, William, Boston, Mass. Rock-channeling machine. (Reissued April 13, 1869)	Oct. 6, 1857
3,369	Same.....Rock-channeling machine. (Reissued April 13, 1869)	Oct. 6, 1857
17,806	Pratt, Daniel, Prattsville, Ala. Cotton-gin	July 14, 1857
18,704	Pratt, William, New York, N. Y. Safety-lamp	Nov. 24, 1857
17,451	Read, William T. B., Chicago, Ill. Harvester	June 2, 1857
17,012	Remsen, Henry R., Albany, N. Y. Mill for cleaning castings	April 7, 1857
16,881	Reynolds, Samuel, Ellisburgh, N. Y. Water-wheel	Mar. 24, 1857
920	Rice, Benjamin F., deceased, by Roxanna Rice, executrix, South Lancaster, Mass. Machine for making paper bags. (Reissued March 6, 1860)	April 28, 1857
18,940	Robertson, T. J. W., Washington, D. C. Hand-stamp	Sept. 22, 1857
12,693	Rodefer, Joseph, deceased, by Ann M. Rodefer, administratrix, Springfield, Ohio, Bedstead-fastening	April 10, 1855
17,289	Roward, Archibald H., Allegheny City, Pa. Binding books	May 12, 1857
17,394	Royce, William A., Newburgh, N. Y. Machinery for compressing gaseous bodies	May 26, 1857
4,116	Sarven, James D., New Haven, Conn. Carriage-wheel. (Reissued Aug. 11, 1868, and again reissued Sept. 6, 1870)	June 9, 1857
16,853	Savage, Elliot, West Meriden, Conn. Machine for cutting and bending sheet-metal	Mar. 17, 1857
18,073	Sayre, Charles H., Utica, N. Y. Cultivator	Aug. 25, 1857
656	Sellers, William, Philadelphia, Pa. Machine for threading bolts. (Reissued Feb. 8, 1859)	Dec. 1, 1857
18,774	Seymour, Pierpont, East Bloomfield, N. Y. Machine for spreading lime and other fertilizers	Dec. 1, 1857
1,150	Shares, Daniel W., Hamden, Conn. Harrow. (Reissued March 12, 1861)	Jan. 27, 1857
16,884	Sickles, Theophilus E., Omaha, Nebr. Steam-brake for railroad-cars	Mar. 24, 1857
4,240	Slawson, John B., New York, N. Y. Passenger fare-box. (Reissued May 4, 1858, and again reissued Jan. 24, 1871)	July 28, 1857
16,936	Sloan, William D., New York, N. Y. Automatic lathe for turning irregular forms	Mar. 31, 1857
18,605	Smith, Earle Harry, Bergen Heights, N. J. Sewing-machine	Nov. 10, 1857
16,254	Smith, Samuel R., Cincinnati, Ohio. Method of feeding lumber laterally in saw-ing-machines	Jan. 20, 1857
2,483	Stealey, Thomas L., Middlebourne, W. Va. Harvester. (Reissued Nov. 6, 1866, and again reissued Feb. 12, 1867)	Dec. 15, 1857
3,133	Stevens, Lafayette, Elmira, N. Y. Boring-machine. (Reissued Sept. 22, 1868)	Dec. 15, 1857
16,557	Stimpson, James, Baldwinsville, Mass. Method of joining boxes, &c	Feb. 3, 1857
18,713	Stow, Orson W., Plantsville, Conn., and Augustus Barnes, Southington, Conn. Candle-snuffer	Nov. 24, 1857
14,119	Strong, Francis M., and Thomas Ross, Vergennes, Vt. Platform-scale	Jan. 15, 1856
1,331	Thomas, Chauncey, Boston, Mass. Carriage-prop. (Reissued Aug. 26, 1862)	Sept. 22, 1857
18,874	Thompson, Moses, deceased, by Charles N. Black, administrator *de bonis non*, New York, N. Y. Bagasse-furnace	Dec. 15, 1857
18,065	Toulman, John, Worcester, Mass. Vibrating-shears	Aug. 25, 1857
928	Towne, Lauriston, Providence, R. I. Chain-machine. (Reissued March 13, 1860)	Oct. 20, 1857
3,392	Vansands, Horace, Middletown, Conn. Blind-fastening. (Reissued April 20, 1869)	May 5, 1857
16,425	Vaughan, John G., Middleborough, Mass. Mode of lathing and plastering	Jan. 13, 1857
18,113	Watrous, James A., Green Spring, Ohio. Apparatus for suspending eaves-troughs	Sept. 1, 1857
17,949	Welling, William M., New York, N. Y. Factitious ivory	Aug. 4, 1857
18,309	West, J. D., East Orange, N. J. Pump	Sept. 29, 1857
18,482	White, T. W., Milledgeville, Ga. Cotton-seed planter	Oct. 20, 1857
17,992	Whitney, Baxter D., Winchendon, Mass. Machine for smoothing planed wooden surfaces	Aug. 11, 1857
17,814	Whiton, Edward F., Stafford Springs, Conn. Centering-machine	July 14, 1857
16,417	Whittemore, D. H., Worcester, Mass. Machine for paring and slicing apples	Jan. 13, 1857
16,666	Same.....Machine for paring apples	Feb. 17, 1857
1,775	Willard, Hosea, and Robert Ross, Vergennes, Vt. Harvester. (Reissued Sept. 27, 1864)	Nov. 3, 1857
1,776	Same.....Harvester. (Reissued Sept. 27, 1864)	Nov. 3, 1857
1,780	Same.....same.....(Reissued Sept. 27, 1864)	Nov. 3, 1857
1,781	Same.....same.....(Reissued Sept. 27, 1864)	Nov. 3, 1857
2,139	Williams, William L., New York, N. Y. Machine for splitting wood. (Reissued Dec. 19, 1865)	April 14, 1857
16,668	Wilmot, Samuel R., Bridgeport, Conn. Operating-valve of steam-engines	Feb. 17, 1857
493	Winslow, Charles, Lynn, Mass. Elastic gore-cloth. (Reissued Sept. 15, 1857)	Aug. 4, 1857
2,311	Woodward, Daniel A., Baltimore, Md. Solar camera. (Reissued July 10, 1866)	Feb. 24, 1857

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A.		
Abdominal supporter	J. V. Richardson	118, 645
Accordeons, Musical notation for	C. F. Zimmerman	110, 719
Acetate of lime from pyroligneous acid, Manufacture of.	J. Bell	114, 517
Acetic acid, Manufacture of	C. J. T. Burcey	118, 788
Acetic acid, Purifying	J. F. Cavarly	121, 586
Acid-carboys, Apparatus for discharging	W. Gee	120, 250
Acid phosphates for use in baking-powders, Manufacture of.	N. P. Rice	110, 680
Acid, pyroligneous, Purifying	C. F. Binder	116, 142
Adding-machine	E. M. Hamilton	117, 169
Addressing	W. H. Clague and R. R. Randall	121, 931
Addressing-machine	G. A. Davison	116, 567
Addressing-machine	J. K. Rukenbrod	121, 900
Advertising-cabinet, Electric	H. W. McAllister	115, 494
Advertising-device	J. F. Emery	113, 469
Advertising-device	W. H. Reiff	114, 198
Advertising medium, Ornamental	J. O. Belknap	116, 799
Advertising show-case	W. H. Reiff	121, 196
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Air and gas, Apparatus for carbureting	O. Tirrill	118, 302
Air and gas, Apparatus for mixing	T. C. Hopper	121, 719
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Air, Apparatus for carbureting	A. D. Bell	112, 111
Air, Apparatus for carbureting	C. C. Beers	113, 968
Air, Apparatus for carbureting	G. Rex	114, 709
Air, Apparatus for carbureting	A. B. Fitts	114, 787
Air, Apparatus for carbureting	J. F. Barker	115, 569
Air, Apparatus for carbureting	B. Sloper	115, 988
Air, Apparatus for compressing	J. S. Patric	120, 094
Air, Apparatus for condensing	J. S. Patric	120, 095
Air-chamber for stoves, Auxiliary	J. H. Goodfellow	121, 506
Air-compressor, Hydraulic	M. Hey	117, 925
Air-compressor, Hydraulic	W. R. Prall	120, 597
Air engine or fan-blower	G. C. Hawkins	110, 915
Air-pump	C. B. Hardick	111, 749
Air-pump	R. M. Marchant	112, 060
Air-pumps, Supplying water to	J. F. Haskins	117, 626
Air, steam, &c., Hot-blast stove for heating	C. W. Siemens, E. A. Cowper, and C. Cochrane.	111, 091
Alarm-apparatus for steam-boilers	J. Kirk	119, 523
Alarm-bell, Electro-magnetic	C. Williams, jr	111, 707
Alarm, Burglar	W. Reynolds	111, 003
Alarm, Burglar	J. McDowell	111, 950
Alarm, Burglar	R. Lee	112, 359
Alarm, Burglar	J. T. Mygatt and J. Downing	113, 082
Alarm, Burglar	J. Morgan, jr	117, 444
Alarm, Burglar	T. P. Conleton	118, 345
Alarm, Burglar	M. A. Holland	118, 939
Alarm, Burglar	R. W. Newberry	120, 313
Alarm, Burglar	A. Q. Ross	120, 399
Alarm, Burglar	W. F. Gardner	121, 862
Alarm, Burglar, and hotel-room indicator	L. C. Goeson	114, 001
Alarm, burglar, Electro-magnetic	W. B. Guernsey	112, 704
Alarm, burglar, Electro-magnetic	W. B. Guernsey	112, 705
Alarm, burglar, Electro-magnetic	W. B. Guernsey	112, 706
Alarm, burglar, Electro-magnetic	W. E. Facer	113, 036
Alarm, burglar, Electro-magnetic	J. P. Snyder	113, 580
Alarm, burglar, Electro-magnetic	J. G. Butler	114, 406
Alarm, burglar, Electro-magnetic	G. E. Cook and J. H. Guest	116, 190
Alarm, Burglar, for windows	M. A. Holland	118, 940
Alarm, Combined fire and burglar	H. L. Brower	118, 191
Alarm, Combined fire and burglar	L. Giebrich	120, 261
Alarm-drawer, Burglar	J. Murphy	119, 610
Alarm, Fire	H. N. Shults	113, 460
Alarms, Fire	J. N. Pitts and J. E. Russell	119, 713
Alarm, Fire	H. L. Brower	120, 089
Alarm, Fog	S. G. Cabell	117, 861
Alarm for letter-boxes	A. Taylor	121, 918
Alarm for locomotive-engines	R. A. Filkins	110, 643
Alarm, Hydraulic pressure	J. L. Pillsbury and J. S. Shorb	114, 049
Alarm-lock, Electrical	F. Girard	112, 585

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Alarm, Low-water	J. C. Leistner and A. Keyser	119, 037
Alarm, Nautical	S. G. Cabell	116, 152
Alarm, Railway	G. Draper	111, 894
Alarm, Target	A. Anderson	112, 204
Album, Advertising	G. W. Hawes	120, 260
Album, Advertising	W. S. Gavan	122, 005
Alcohol and other spirits, Apparatus for the treatment of.	R. D. Turner	111, 791
Ale-casks, &c., Composition for coating	C. P. Matthews	118, 736
Alloy, Bronze	G. M. Levi and C. M. Künzel	120, 984
Alloy for the manufacture of plow mold-boards	W. Magee	119, 091
Alloy of copper and tin	A. E. Lavroff	118, 378
Alloy or bronze	G. M. Levi and C. M. Künzel	115, 290
Amalgamating gold in tailings, Apparatus for	T. A. Pratt	121, 296
Amalgamating the precious metals and preventing the loss of mercury	J. S. Phillips	114, 848
Anchor	G. C. Pattison	111, 144
Anchor	G. C. Pattison	111, 145
Anchor	W. M. Hughes	112, 247
Anchor	A. B. Babbitt	115, 011
Anchor	C. A. Chamberlin	116, 806
Angular strap-hinge	C. F. Hawley	115, 851
Animal and vegetable fibers, Apparatus and process for treating.	W. Adameon	118, 668
Animal and vegetable substances, Process and apparatus for drying and preserving.	C. Alden	121, 569
Animal-charcoal, Purifying	H. Eissfeldt and C. Thumb	113, 979
Animal-hopple	G. L. Brent	115, 091
Animal-poke	H. F. Chapin	112, 546
Animal-poke	F. M. Moulton	115, 884
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Annunciator, Electro-magnetic	J. Capron	117, 979
Annunciator, Electro-magnetic	E. Gray	116, 231
Anti-friction bearing for shafts	J. Switzer	116, 297
Anta, Device for obstructing	E. Rooks	111, 875
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Apple parer and slicer	C. A. Foster	116, 943
Apple-pulping machine	G. Clayton	115, 705
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Armature for electro-magnets	S. Jones	116, 533
Arm for railway-car seats	A. Prior	121, 255
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Articulator, Dentists'	L. Hoffstadt	118, 942
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Asbestos and other mineral fibers for useful purposes, Treating.	C. A. Stevens	112, 649
Ash-pan for steam-boilers	J. Gates	120, 870
Atomizer	C. P. Janes	115, 615
Atomizer	J. J. Essex	116, 986
Atomizer	H. D. Lockwood	117, 651
Attachment of cams for fliers of printing-presses, Adjustable.	C. Potter, jr	111, 770
Attachment to gas service-pipe for automatically cutting off the gas in case of fire.	W. Humphreys	114, 144
Auger	R. Walch	111, 099
Auger	W. A. Ives	111, 648
Auger	J. Swan	115, 541
Auger	H. Pitcher	118, 559
Auger	R. M. Lafferty and E. P. Smith	118, 806
Auger and reamer, Combined	O. W. Townsend	111, 990
Auger-bit	J. C. Mills	112, 063
Auger-bits, Construction of dies for forming the lips of	R. N. Watrous	117, 836
Auger-bits, Device for resetting	C. W. Beals	117, 594
Auger-bits, Machine for forming lips of	J. Swan	116, 500
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Auger, Earth	N. H. Lindley	117, 160
Auger, Earth-boring	W. W. Jills	117, 542
Auger for boring boxes	R. L. Priester	120, 887

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Auger-handle	W. A. Ives	110, 920
Auger, Hollow	A. Bauman and O. O. Witherell	111, 167
Auger, Hollow	S. Katso	117, 784
Auger, Hollow	J. S. Seymour	119, 096
Auger, Hollow	W. A. Clark	121, 707
Auger, Post-hole	A. R. Clark	118, 196
Auger, Well	E. Altman	111, 300
Auger, Well	W. H. Stone	116, 883
Auger, Well	H. R. King	120, 076
Awl	T. Kenney	114, 446
Awl	S. Babbitt	117, 501
Awl for heel machines	H. H. Bigelow	113, 008
Awning for animals	S. Moffitt	113, 333
Awning, Window	C. C. Moore	121, 650
Ax	W. Peabody	118, 966
Ax-bit blank machine	E. Bartholomew	116, 011
Axes, Machine for making	H. H. Parsons	121, 172
Axes, Method of manufacturing	G. Palmer and C. W. Hubbard	118, 264
Ax-handle	J. M. Sears	115, 532
Axle and axle-box for vehicles	E. Von Jeinsen and J. M. McDonald	113, 116
Axle and boxing, Carriage	J. W. and A. W. Beer	117, 730
Axle-box	D. H. Dotterer	115, 449
Axle-box	A. Goodyear, (2d)	116, 702
Axle-box	D. Dalzell	117, 390
Axle-box	S. A. Wing and J. G. Johnson	118, 770
Axle-box, Anti-friction	P. Seyl, P. Fischer, and P. Brenner	117, 211
Axle-box, Car	J. J. Labaye	116, 721
Axle-box, Car	W. G. Parr	119, 877
Axle-box, Car	C. Williams	120, 473
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Axle-box, Railway	J. B. Sutherland	114, 877
Axle-box, Railway-car	W. S. Auchincloss	121, 572
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Axle, Carriage	E. Wells	112, 757
Axle, Carriage	E. W. Ives	114, 147
Axle, Carriage	E. F. Wagner	115, 913
Axle for railroad-cars, Hollow	W. A. Lewis	119, 866
Axle for vehicles	J. W. Cremin	120, 418
Axle for vehicles	E. Ball, jr	121, 574
Axle for vehicles	W. H. Sparks	122, 074
Axle-gauge	R. K. Vestal	113, 598
Axle-gauge	H. W. Spaulding	115, 778
Axle, Railway-car	E. Doty and G. W. Miltimore	119, 831
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Axles, Die for forming	J. Harrington	115, 196
Axle-shield for carriages	B. F. Robbins	119, 281
Axle-skein	L. Mayhew	113, 681
Axle-skein	L. Mayhew	118, 377
Axle-skein	L. Mayhew	120, 303
Axle-skeins, Truss-brace for	O. Vanorman	121, 692
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Axles, Mechanism for adjusting and securing car-wheels to	G. G. Lobdell	114, 452
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Axles, Mode of lubricating	J. Ives	114, 998
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Axles, railway-car, Bearing for	R. D. Murfey	116, 475
Axle, Wagon	A. Keesberger	113, 896
Axle, Wagon	J. and P. Herrmann	115, 317

B.

Baby-jumper	J. P. Faulks	118, 580
Baby-tender	S. M. Simonds	113, 103
Baby-tender	A. H. Carson and A. Brown	113, 979
Baby-walker	C. Maschmann	116, 073
Baby-walker, hanging-chair, &c.	L. O. Colvin	116, 813
Back-center for milling-machines	A. H. Brainard	110, 951
Back-lash in machinery, Device for preventing	J. L. Post	113, 736
Back-saw	W. Clemson	119, 967
Backs for carriage-seats, Manufacture of	B. Hurlburt	116, 449
Bagatelle	M. Redgrave	115, 357
Bagatelle game and apparatus	W. Evers	121, 761
Bag filling and weighing machine	C. A. Whelan and C. T. Wakeley	110, 707
Baggage-check	F. X. Bellerive	116, 667
Baggage-truck	W. H. Brown	121, 929

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Bag-holder	I. Allen	116, 661
Bag-holder	T. J. Trapp	116, 777
Bag-holder	C. M. Mitchell	116, 981
Bag-holder	O. Barrett and A. D. Brooks	118, 897
Bag holder and filler	W. F. Lum	121, 529
Bag holder and filler, Combined	W. F. Lum	119, 727
Bag-holder and scales, Combined	W. Zimmerman	119, 522
Bag, Packing	E. A. Merrill	118, 026
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Bags, &c., Fastening for	G. C. Setchell and C. L. Taylor	122, 735
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Balance	C. C. Marsh	119, 871
Balanced valve, Anti-friction	W. Siefert	113, 102
Balance steam-valve, Oscillating	J. C. Bromley	111, 513
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Baldric	V. Price	119, 180
Bale-tie	J. E. Perkins	119, 375
Bale-tie	J. Holmes and J. C. H. Slack	113, 518
Bale-tie	J. L. Sheppard	118, 286
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Baling short-cut hay or straw	W. Baldwin	119, 140
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Band-cutters and thrashing-machines, Attachments of	S. S. Myers and J. McCauley	118, 634
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Band-sawing machine	W. H. Doane and W. P. McKee	120, 949
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Bank-note	J. Gibson, jr	119, 599
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Bark, Apparatus for leaching	H. C. Crowell	111, 730
Barn-forks, Manufacture of	C. T. Beebe	121, 983
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Barrel	H. Willard	119, 875
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Barrel-car	W. A. Plantz	115, 097
Barrel, Cast-iron	A. Putnam, jr	111, 679
Barrel-fastening	E. T. Gilmore	121, 865
Barrel-filler	L. H. Watson	113, 954
Barrel-head	J. B. Barsaloux	116, 398
Barrel-head	S. S. Gray	117, 274
Barrel-head	A. Hanvey	117, 536
Barrel-heads, Machine for turning	J. J. Ralya	113, 795
Barrel, keg, and pail	G. W. Banker	115, 807
Barrel-machine	W. R. and E. Middleton	114, 321
Barrel-pitching machine	A. De Witzleben	117, 956
Barrel-rolling apparatus	L. L. Hyatt and A. G. Hüpfel	113, 771
Barrels and casks, Apparatus for closing	A. Koegler	122, 177
Barrels and casks, Apparatus for pitching beer and other.	W. Vogt	116, 896
Barrels and casks, Machine for distributing pitch in	B. J. Stukenborg	116, 772
Barrels, Apparatus for lifting	J. S. Brewer	112, 214
Barrels, casks, &c., Apparatus for pitching	L. Schulze	115, 530
Barrels, Device for filling	F. Stitzel	121, 134
Barrels for beer, &c., Construction of	M. Hawe	111, 058
Barrels, Machine for pitching	D. Myers	122, 128
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Barrel, tank, and cask for transporting acids and petroleum.	J. B. Davenport	118, 438
Bar-solder, Casting	A. Schoenberg	110, 664*
Bars or rods of metal, ornamental, Manufacture of	S. Tuddenham	111, 097
Baryta, Manufacture of artificial sulphates of	J. Philip	120, 771
Basin, Wash	C. C. Marsh	120, 300
Basket	B. F. Tuthill	116, 374
Basket	E. B. Cole	121, 756
Basket for house-plants	A. P. Eastman	112, 433
Basket, Fruit	H. Carpenter	120, 690
Basket, Fruit and cake	C. H. Latham	118, 027

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Baskets, Former for	H. C. Jones	113, 058
Basket-splint	I. F. Wilcox	121, 304
Basket, Stave	H. C. Jones	113, 050
Bath and washstand	R. Cooper	111, 321
Bathing-apparatus	G. Scholl	118, 750
Bathing-apparatus	C. Venn	120, 555
Bath, Steam	C. Kaestner	113, 894
Baton, Alarm	J. F. Haskins	115, 464
Batter-pot	E. A. Jeffery	111, 548
Battery-current manipulator	J. Kidder	120, 750
Battery, Electric	L. Bassett	119, 298
Battery, Electric	V. Himmer	119, 763
Battery for telegraphing and other purposes, Electric	D. M. Cook	113, 399
Battery, Galvanic	D. Brook	114, 911
Battery, Galvanic	J. W. Powell	115, 119
Battery, Galvanic	J. Kidder	116, 451
Battery, Galvanic	L. Drescher	117, 057
Battery, Galvanic	E. Prevost	119, 175
Battery, Galvanic	J. Kidder	119, 855
Battery, Galvanic	J. A. Calland	120, 034
Battery, Galvanic	J. A. Robbins	120, 327
Battery, Galvanic	E. J. Leland	120, 651
Battery-gun, Revolving	R. J. Gatling	112, 138
Battledore	M. Cregen	117, 518
Beam-compass	J. Lyman	111, 954
Beam, floor and ceiling, Fire-proof	J. Hodgson and W. H. Brown	115, 472
Beam, Hollow	J. W. Cremin	122, 230
Beam or girder for fire-proof structures	W. W. Hughes	111, 083
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Bean-harvester	J. A. and T. Wood	113, 125
Bearing and packing	E. D. Murfey	117, 558
Bearing for journals, Anti-friction	A. W. Hall	115, 602
Bearing for machinery	C. B. Richards	117, 092
Bearing for railway-car axles	E. D. Murfey	116, 475
Bearing for shafts, Anti-friction	J. Switzer	118, 297
Bearing for vertical shafts	M. Briggs	117, 597
Bearing of water-wheels, Anti-friction	B. Stetson	119, 424
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Bearing surface and journal of machinery	J. Wharton	118, 086
Bed and seat bottom	W. F. Clark	118, 908
Bed and seat spring	J. P. Chamberlin	114, 923
Bed-bottom	W. R. Judson	110, 854
Bed-bottom	E. C. Thompson	111, 402
Bed-bottom	V. Bell	111, 807
Bed-bottom	J. H. Allyn	112, 765
Bed-bottom	M. Falcon	112, 912
Bed-bottom	J. Tinney	113, 596
Bed-bottom	O. S. Osgood	114, 704
Bed-bottom	R. V. Jenks and W. A. Miller	115, 863
Bed-bottom	M. B. Towalee	116, 237
Bed-bottom	G. W. Robinson	116, 354
Bed-bottom	O. S. Osgood	118, 666
Bed-bottom	G. Richardson	118, 745
Bed-bottom	S. Hobbs	118, 804
Bed-bottom	P. Agger	118, 834
Bed-bottom	S. Gissinger	119, 600
Bed-bottom	C. Van Deusen	119, 737
Bed-bottom	G. D. Leonard	119, 802
Bed-bottom	J. W. Hampton	120, 371
Bed-bottom	O. S. Osgood	120, 315
Bed-bottom	C. Johnson	120, 587
Bed-bottom	J. H. Sherman	120, 599
Bed-bottom	M. Kohn	121, 111
Bed-bottom	L. L. and A. J. Deming and R. Alden	121, 279
Bed-bottom	J. C. Walker and W. Lapish	121, 437
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Bed-bottom	A. D. McMaster	121, 647
Bed-bottom	E. P. Read	121, 728
Bed-bottom	E. P. Read	121, 729
Bed-bottom	T. H. B. Morehouse	122, 048
Bed-bottom, Paper	J. B. Crane	110, 958
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Bed-bottom, sofa, and chair-seat, Spring	C. Rich	116, 939
Bed-bottom, Spring	E. W. Maxson	111, 362
Bed-bottom, Spring	E. B. Hill	111, 646
Bed-bottom, Spring	H. Smith and J. Potter	112, 085
Bed-bottom, Spring	J. E. Lord	112, 158
Bed-bottom, Spring	A. Cole	112, 343
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Bedstead	I. Deyo	115, 716
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Brush	D. W. Laphapham	120, 523
Brush	J. A. Grant	120, 964
Brush	H. A. Harvey	121, 050
Brush	J. Michales, jr., and R. J. Combs	122, 186
Brush	G. and F. Pirrung	121, 811
Brush and broom holder	S. G. Groff	121, 458
Brush, &c., for the pocket	P. Henriche	116, 185
Brush and scraper for sinks	J. H. Osgood	120, 020
Brush, Bathing	J. Marshall	111, 955
Brush, Blacking	B. F. Averill	116, 794
Brush, Blacking	J. R. Howard	118, 015
Brush, Blacking	C. Brintzinghoffer	119, 815
Brush, Blacking	G. R. Owen	120, 663
Brush, Boiler-flue	B. M. Spencer	112, 645
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Brushes, Machinery for manufacturing	G. Willett	119, 440
Brush, Fly	D. Shankland and E. B. Hopkinson	113, 581
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Brush, Foot	J. W. Osborn	114, 847
Brush for cleaning tumblers	A. Fischer	117, 614
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Brush-handle	C. Brintzinghoffer and G. Eckert	120, 486
Brush, Hat	R. D. Radcliffe	112, 492
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Brush-making machine	J. Pickering	120, 164
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Brush, Scrubbing	P. O'Brian	116, 346
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Buckle	D. McMillan and A. Rowan	122, 947
Buckle	J. H. Martin	113, 902
Buckle	E. A. and D. L. Smith	114, 214
Buckle	J. H. Morris	114, 461
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Buckle	F. A. Rose and S. De La Mater	115, 985
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Buckle	W. Yost	117, 232
Buckle	G. Havell	117, 882
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Buckle and loop	L. E. Jones and T. M. Barber	119, 048
Buckle and ring, Halter	A. Shenfield	119, 857
Buckle for suspenders	T. Crakes	116, 028
Buckle, Harness	O. Brown	120, 413
Buckle, Harness	C. S. Abeel	118, 396
Buckle, Harness-tug	M. H. Denamore	113, 406
Buckle, Trace	G. Oldham, jr	114, 184
Buckle, Trace	W. C. Riley	114, 201
Buckle, Trace	A. H. Cole	114, 530
Buckle, Trace	I. Clark	117, 742
Buckle, Trace	D. K. Peacock	117, 923
Buckle, Trace	W. W. Kittleman	118, 724
Buckle, Trace	A. Worster	120, 561
Buck-saw frame	J. G. Baker	112, 007
Buck-saw frame	J. C. Dietrich	113, 639
Buck-saw frame	L. Hancock	114, 554
Buck-saw frame	E. M. Madden and S. D. Roberts	116, 490
Buck-saw frame	W. Hankin	118, 233
Buck-saw frame	W. Clemson	119, 696
Buck-saw frame	W. Hankin	120, 157
Buckwheat-refiner	D. D. Brewster	114, 103
Buffer-head and draw-bar for railway-cars	J. T. Wilson	113, 608
Buggies, Running-gear for	E. P. Carter	119, 819
Buggy	J. R. Gilman	114, 000
Buggy-reach	J. C. Hilsabeck	120, 644
Buggy-top, Shifting	B. L. Benson	116, 540
Buggy-tops, Machine for setting	J. B. Weller	119, 728
Building-block	N. Boeh	115, 685
Building-block, Hollow	M. R. Pierce	121, 193
Building, Portable	F. M. Bain	117, 721
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Bullet-patch	A. C. Hobbs	113, 431
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Bung	U. Fountain, jr	121, 607
Bung and bung-inserter	D. B. Rickey	119, 094
Bung-attachment to barrels	A. Wieners	121, 834
Bung-borer	W. A. Ives	115, 211
Bung-extractor	J. Kirby	111, 351
Bung-inserter	J. Gillies	122, 006
Bung-spout	J. Marvin and W. T. Hulse	118, 545
Bureau, Folding	J. E. Lawrence and J. S. Young	122, 179
Burglar proof curtain, Electro-magnetic	E. Holmes and H. C. Roome	120, 875
Burial-apparatus	W. H. McGavran	120, 657
Burial-case	I. Lorde	110, 984
Burial-case	P. H. Griffin	111, 117
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Burial-case	J. Hackett	121, 616
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Burial-casket	J. O. Moore	117, 800
Burial-casket	J. Scot	120, 171
Burial-casket handle	C. Strong	111, 271
Burner, Argand-lamp	H. W. Hayden	115, 955
Burner, Argand-lamp	T. H. Mott	116, 984
Burner, Candle	J. A. Pease	119, 765
Burner, Gas	A. E. Dupas	111, 825
Burner, Gas	M. Rosenwax	112, 637
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Burner, Gas	T. Clough	120, 715
Burner, gas, Revolving	F. McLewee	113, 906

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Burner, incense, Illuminating	E. W. Hastings	118, 196
Burner, Lamp	G. P. Fuller	110, 846
Burner, Lamp	E. J. Hale	114, 805
Burner, Lamp	R. S. Merrill	111, 074
Burner, Lamp	A. Taplin	111, 274
Burner, Lamp	F. A. Taber	111, 400
Burner, Lamp	W. C. McGill	111, 960
Burner, Lamp	G. L. Smith	113, 104
Burner, Lamp	C. B. Mann	113, 183
Burner, Lamp	J. Trent	113, 472
Burner, Lamp	L. J. Atwood	113, 833
Burner, Lamp	W. H. Gray	113, 876
Burner, Lamp	H. W. Hayden	115, 315
Burner, Lamp	H. W. Hayden	115, 466
Burner, Lamp	E. K. Haynes	115, 608
Burner, Lamp	S. B. Platt	115, 890
Burner, Lamp	W. H. Gray and S. Ross	115, 953
Burner, Lamp	S. W. Fowler	116, 292
Burner, Lamp	T. F. Halley and J. F. Livingstone	117, 412
Burner, Lamp	G. E. Brush	118, 193
Burner, Lamp	A. Taplin	119, 061
Burner, Lamp	T. Hipwell	120, 383
Burner, Lamp	S. Ross	120, 214
Burner, Lamp	R. S. Merrill	121, 394
Burner, Lamp	F. S. Robinson	121, 550
Burner, Vapor	R. W. Park	111, 471
Burner, Vapor	T. Moore and J. O'Donald	111, 666
Burner, Vapor	J. S. Wood	111, 893
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Burner, Vapor	R. W. Park	112, 373
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Burner, Vapor	A. F. Noble	115, 089
Burner, Vapor	T. S. Gates and A. H. Fritchey	115, 189
Burner, Vapor	G. T. Parry	115, 350
Burner, Vapor	T. Ward and H. C. Hunt	115, 398
Burner, Vapor	G. H. Wilson	116, 385
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Burner, Vapor	T. S. Gates and A. H. Fritchey	119, 839
Burner, Vapor	S. D. Baldwin	120, 613
Burner, Vapor	J. Cook	120, 627
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Burning hydrocarbon liquid for light	T. J. Barron	112, 206
Bush and wrench for bungs, Combined	J. Lacey and G. B. Cornell	118, 617
Bushes for mill-spindles	H. W. Vitt	118, 077
Bustle	I. W. Birdseye	120, 616
Bustle, Extension	G. V. Pierce	115, 235
Butteris	S. Davis	116, 692
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Butter-tray, Portable	L. Beemer	114, 516
Butter-tub	J. Gilberds	122, 166
Butter-tub, &c	W. Marsh	111, 758
Butter-worker	P. G. Woodard	115, 144
Butter-worker	W. Weaver	117, 022
Butter-worker	L. L. Kellogg	117, 428
Butter worker	P. P. Meredith	119, 385
Butter-worker	G. S. Coleman	119, 575
Butter-worker	E. L. Walker	121, 559
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Button	G. A. Schultz	113, 577
Button	E. A. Cobb	117, 150
Button	G. W. Phillips	117, 564
Button	C. M. Platt	121, 000
Button-fastener	A. M. Richmond	114, 900
Button for doors	G. F. Beardsley	121, 271
Button-hole clamp and guide	L. Reding	113, 093
Button-hole guide-plate	A. W. Webster	116, 378
Button-holes, Machine for sewing or working	C. E. Robinson	110, 790
Button or stud	C. A. Newton	117, 916
Buttons, Machine for attaching	W. S. Platt and G. J. Capewell	118, 743
Buttons to textile fabrics, Eyelets for attaching	C. M. Platt	118, 640
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Cabinet, Earth	W. H. Bliss	118, 681
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Cake-stirrer	S. M. Clark	121, 336
Calculating-machine	R. Tensdale	121, 687

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Caliper	W. P. Hopkins	110, 657
Calipers and polishing-tool, Jewelers', combined	F. E. Allen	112, 203
Calks, Machine for sharpening	G. W. Lane	115, 068
Calks of horseshoes, Machine for turning	A. T. Boon, D. M. Osborn, and G. Geer	117, 508
Camera and developing-box, Combination	E. C. Ratzell	112, 380
Camera-boxes, Support for	O. Ackerman	114, 092
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Camera, Photographic	J. and J. Stock	115, 655
Camera, Photographic	G. W. Parker	117, 106
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Camera-stand	A. R. Rihfield	113, 267
Camera-stand	C. H. Snively	120, 790
Cam for quarts-mills	O. P. Hart	111, 643
Camp-grate, Portable	L. D. Gavitt	110, 967
Canal	W. H. Doane	118, 699
Canal-boat	J. English	121, 346
Canal-boats, Propeller for	G. G. Wyland and T. M. Rathmell	114, 382
Canal-boats, Propelling	H. B. Meech	112, 369
Canal-boats, Propelling	W. W. Verdin	113, 951
Canal-boats, Propulsion of	T. Main	111, 462
Canal-boats, Propulsion of	J. L. Hornig	114, 561
Canal-boats, Propulsion of	W. T. Duvall	116, 281
Canal-boats, Propulsion of	F. M. Mahan	117, 437
Canal-boats, Propulsion of	W. C. Bibb	118, 320
Canal-boats, Propulsion of	O. Coogan	119, 744
Canal-boats, Propulsion of	P. H. Fontaine	119, 923
Canal-boats, Propulsion of	N. T. Edson	120, 371
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Canal-boats, Propulsion of	H. Fowler	121, 712
Canal-boats, Propulsion of	H. Fowler	121, 713
Canal-boats, Propulsion of	H. Fowler	121, 714
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Candle	H. Ryder	120, 105
Candle-molding machine	J. Wales	113, 117
Candles, Manufacture of	C. Harvard	114, 438
Candy, &c., Machine for slicing	J. P. Anderson	117, 589
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Candy, Machine for making	T. and G. H. Mills	111, 765
Cane-juice, &c., Apparatus for defecating and bleaching	M. Landry	117, 787
Cane-juice, &c., Apparatus for evaporating	E. Sperry	113, 590
Cane-stubble shaver	F. F. Patont	115, 094
Can filling and soldering apparatus	C. C. Straub	116, 114
Can for hydrocarbon liquids	I. W. Shaler	119, 657
Can for nitro-glycerine	J. Taylor	117, 577
Can for roving	E. Haskell	116, 835
Can, Fruit	R. C. Farnham	110, 757
Can, Fruit	T. S. Shaneman and J. S. Hoon	112, 082
Can, Fruit	H. Callahan	118, 586
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Can, Liquid-measuring	C. M. Bridges	119, 114
Can, Milk	T. M. Bell	111, 302
Can, Milk	T. M. Bell	119, 550
Can, Milk	D. Burnett	121, 154
Cannon, Breech-loading	H. J. Allen	113, 963
Can, Oil	P. Childs	116, 808
Can, Oil	M. S. Kavanagh	117, 544
Can, Oil	J. Burson	118, 194
Can, Oil	L. W. Kent	118, 860
Can, Oil	C. O. Twining	118, 980
Can, Oil	G. D. Winchell	119, 441
Can, Oil	D. D. Mackay and C. Butler	120, 653
Can, Oil	G. S. Prior	121, 545
Can, Oil	F. W. Read	121, 813
Can-opener	E. M. Dewey	118, 593
Canopy	J. Elliston	119, 698
Canopy, Lawn	F. H. and W. H. Vick	121, 693
Cans and other vessels for preserving fruits, meats, &c. Sealing.	N. H. Shipley	112, 642
Cans, barrels &c., Apparatus for testing	W. D. Brooks	121, 561
Can, Sheet-metal	J. G. Evenden	115, 943

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Cans, Machine for making sheet-metal screw-necks and screw-caps for.	J. H. Stone	121, 435
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Can, Tin	S. E. Gunn	121, 669
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Cap for preserve-jars	W. Taylor and C. Hodgetts	117, 236
Cap-gun	J. C. Bandle and E. P. Christner	117, 367
Cap-shearing block	R. Cook and T. Hanford	119, 449
Capstan	J. S. Brown	116, 548
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Capsuling bottles	J. Paterson	121, 407
Car and tender loading apparatus	J. Williams	122, 207
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Car axles and shafts	J. Montgomery	111, 882
Car-basket, Railway	M. Tower	121, 024
Carbonaceous matter for the manufacture of gas, Combining.	G. McKenzie	113, 905
Car-brake apparatus, Steam-power	G. Westinghouse, jr	115, 067
Carbureting, Apparatus for	G. Edmunds	115, 182
Carbureting-machine	A. E. Dupas and A. Barbarin	113, 147
Car-coupling, Automatic	D. P. Cory	110, 741
Card-envelope	C. Rowland	117, 818
Card for mariners' liquid-compasses	E. S. Ritchie	111, 254
Card-holder	E. Stewart	117, 120
Carding and other machines, Construction of cylinders for.	J. M. Stone	111, 988
Carding and other preparing engines, Feeding device for.	E. Pettitt	111, 674
Carding-machine cylinders, Means for securing the clothing on.	H. Bennett	120, 615
Carding-machines, Apparatus for stripping the top flats of.	E. C. Pfaff	113, 339
Carding-machines, Mechanism for adjusting the rollers of.	E. Lord	118, 029
Carding-machines, Stripper carrying-frame for	J. F. Foss	115, 185
Cards, &c., Apparatus for exhibiting	I. M. Miller	120, 309
Car, Dumping	S. D. King	112, 052
Car, Dumping	D. J. Brimmer	113, 013
Car, Dumping	W. H. Harding and G. F. Morse	113, 655
Car, Dumping	W. A. Sharp	113, 804
Car, Dumping	A. Peteler	115, 514
Car, Dumping	J. C. Wiswell	116, 127
Car, Dumping	N. W., C. W., and N. H. Camp	117, 739
Car, Dumping	S. Rousculp and J. B. Shambaugh	118, 557
Car, Dumping	T. McVay	118, 959
Car, Dumping	S. D. King	119, 856
Car, Dumping	C. Barrett	121, 981
Car, Dumping	F. B. Colton	122, 226
Car-dumping apparatus	E. Cockill	119, 123
Car, Grain	A. E. Gordon	121, 619
Car, Grain-drying	C. S. Dole	114, 534
Car, Grain-dumping	L. Brammerlin	110, 724
Car, Hand	W. T. Beekman	112, 008
Car, Hand	M. E. Hastings	116, 527
Car for elevated railways	J. B. Newbrough	121, 530
Car, Motive-power and balance	J. Bayma	121, 316
Carrousel	W. Schneider	117, 336
Car, passenger, Railway	J. T. Worley	122, 208
Carpenters' shooting-board	J. Jones	110, 765
Carpet	G. Crompton	111, 325
Carpet-beater	J. Hothersall and J. Banks	116, 958
Carpet-beater	J. W. and W. A. Wheeler	122, 297
Carpet-beating machine	T. and W. H. Jordan	117, 543
Carpet-binding, Metal	R. P. Johnson	118, 019
Carpet-cleaner	H. H. Lindhorst	111, 355
Carpet-cleaning machine	J. C. Craft	112, 421
Carpet-fastener	A. Givaudan	113, 874
Carpet-fastening	J. A. Robbins	112, 633
Carpet-lining	J. C. Mayall	111, 465
Carpet-lining	J. R. Harrington	113, 765
Carpet-linings, Machine for folding	J. C. Mayall	116, 467
Carpet-linings, paper, Machine for the manufacture of	C. A. Pease	111, 081
Carpet-protector	H. W. Eskildson	116, 822
Carpet-stretcher	C. E. Gale	111, 337
Carpet-stretcher	E. P. Shaffer	114, 053
Carpet-stretcher	S. Elliott	117, 698
Carpet-stretcher	J. H. De Poe	118, 214
Carpet-stretcher and tack-hammer combined	W. Brown	117, 735

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Carpet-sweeper	O. H. Weed	115, 399
Carpet-sweeper	D. C. Hall	116, 832
Car, Railroad	J. W. Griffiths	114, 675
Car, Refrigerating	C. L. Hoag and E. Ely	119, 847
Car, Refrigerating	A. S. Lyman	121, 530
Car-replacer	D. H. Ball and J. Brooks	110, 723
Car-replacer	C. C. Ash	114, 745
Carriage	C. H. Guard	111, 928
Carriage	C. Thomas	113, 705
Carriage	J. Curtis	119, 579
Carriage	C. W. Saladee	120, 106
Carriage	E. C. Newton	121, 295
Carriage and perambulator, Child's	B. P. Crandall, jr	113, 402
Carriage-body	C. Thomas	111, 491
Carriage-bow cover and slat-iron combined	J. N. Topliff	114, 885
Carriage, Children's	J. Crandall	110, 744
Carriage, Children's	W. R. Crandall	110, 745
Carriage, Children's	R. C. Britton	111, 103
Carriage, Children's	G. Martiensson	115, 623
Carriage, Children's	J. B. Wightman	115, 920
Carriage, Child's	W. B. Whitney	112, 662
Carriage, Child's	R. G. Elder	113, 696
Carriage, Child's	H. Warner	118, 656
Carriage, Child's	H. Luts	119, 162
Carriage, Child's	J. G. Krieger	119, 523
Carriage, Child's	C. Holt	120, 645
Carriage, Child's	E. Falkingham	121, 453
Carriage-clip	M. Seward	112, 743
Carriage-clip blank and die for making the same	H. M. Beecher	118, 780
Carriage-clips, Apparatus for compressing and inserting rubber blocks into.	T. H. Brown and C. E. Gilman	113, 624
Carriage-curtain fastening	J. Zimmerman	118, 665
Carriage-curtain strap	H. Cornell and A. H. Marshall	119, 450
Carriage-cushion, Spring	T. S. Burnett	111, 903
Carriage, Dumping	J. R. True	118, 072
Carriage for children, Folding	H. Luts	120, 757
Carriage for common roads, Steam	F. Alger	115, 892
Carriage-gearing	C. Custer	112, 905
Carriage, Hand	W. Allen and J. W. Bond	115, 674
Carriage-holdback	W. R. Baker	114, 746
Carriage-jack, bag-holder, and weighing-scales, Combined.	N. Berkeley	118, 678
Carriage, Landau	E. Wells	112, 758
Carriage-nut	J. P. Skinner	120, 004
Carriage-perch	I. P. Bacon	112, 528
Carriage, Saw-mill	G. Selden	117, 936
Carriages, Block for top-prop joints for	J. J. Wilson	113, 477
Carriages, Body-loop for	W. W. Knowles	117, 179
Carriages, Dash-board for	A. B. Hurd	120, 647
Carriages, Die for forging, trimming, and shaping spring-clips for.	F. B. Morse	111, 668
Carriages, Double-perch and fifth-wheel for	D. C. Doran	118, 115
Carriage-seat, Adjustable	S. W. Beach	113, 387
Carriage-seat, Adjustable	S. W. Beach	115, 152
Carriages, Fifth-wheel for	P. S. Eastman	114, 539
Carriages, Folding-step for	G. Gregory	114, 673
Carriages, Folding-step for	G. H. Vollhardt	115, 664
Carriages, Folding-step for	E. Wells	115, 665
Carriage-shackle	L. M. Lawless	118, 729
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Corn-sheller, Hand	C. M. O'Hara	117, 105
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Corpse-preserver	M. Margerum	114, 315
Corpse-preserver	J. T. Carpenter	114, 407
Corpse-preserver	G. W. Nash	115, 229
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Corset	T. S. Gilbert	113, 419
Corset	T. F. Hamilton	115, 954
Corset	C. A. Griswold	116, 585
Corset	R. De Baun	119, 583
Corset	C. L. Hamlin	120, 967
Corset and skirt-supporter, Combined	L. Spigelmyer	121, 210
Corset and skirt-supporter, Combined	M. J. C. Vanorstrand	122, 086
Corset-fastenings, Supporting busk for	M. E. Bulkley	122, 152
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Corset, Skeleton	T. S. Gilbert	113, 418
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Cotton-bale ties, Machine for adjusting	M. Martin	114, 581
Cotton-balls, Process for utilizing immature	J. Hughes	115, 900
Cotton-chopper	J. R. Wood	111, 346
Cotton-chopper	C. B. Douglas	113, 640
Cotton-chopper	E. B. Turnipseed	114, 889
Cotton-chopper	A. G. Powell	122, 057
Cotton-chopper and grain-cultivator	D. Mosely	112, 481
Cotton chopper, scraper, and cultivator	F. A. Leonhard	118, 051
Cotton chopper, scraper, &c., Combined	W. C. Bibb	112, 909
Cotton-cleaner	Z. B. Sims	116, 764
Cotton-cropper	D. F. Welsh	111, 023
Cotton-gin	F. M. McMeekin	115, 226
Cotton-gin	O. W. Massey	116, 615
Cotton-gin	W. F. Bowen	116, 924
Cotton-gin	J. Du Bois	117, 058
Cotton-gin	C. N. Andrews	119, 001
Cotton-gin	W. L. Henderson	121, 365
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Cotton-planter and chopper, Combined	A. R. Nixon	116, 741
Cotton-planter and guano-distributer, Combined	J. H. Nichols	112, 169
Cotton-planter and manure-distributer	N. Donaldson	110, 636
Cotton-press and horse-power, Combined	J. M. Alberteon	119, 731
Cotton-scraper	T. H. Trantham	113, 367
Cotton scraper and harrow	J. M. P. Lyon	110, 968
Cotton scraper, huller, and cultivator	C. Marsh, 2d	113, 320
Cotton-seed huller	H. C. Bradford	111, 034
Cotton-seed oil, Treating, to render it drying	R. Farley	111, 444
Cotton-seed planter and cultivator, Combined	J. A. Wright	113, 383
Cotton-seed planter and guano-distributer	W. W. Croom	110, 832
Cotton-seed planter and guano-distributer, Combined	L. Gantt	110, 644
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Cotton, Tie for metallic bands or hoops used in baling	G. Brodie	116, 923
Cotton-tie stretcher	S. Mather	118, 254
Cotton-waste and other fibrous materials, Cleaning	H. M. Baker	120, 564
Cotton-waste, &c., Apparatus and process of cleaning	G. W. Sylvester	110, 800

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Cough-mixture for use in candies	L. Violet	115, 790
Coughs, colds, &c., Medical compound for	J. D. Richmond, jr	117, 930
Coughs, colds, &c., Medicine for	C. P. Crossman	115, 033
Counterpoise gun-carriage	J. G. Foster	114, 430
Counterpoise gun-carriage	J. G. Foster	119, 994
Countersink	F. H. Palmer	119, 176
Countersink	S. L. Abbott	117, 237
Coupler, Car	T. Ray	115, 104
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Coupling, Car	J. Shepler	114, 612
Coupling, Car	W. K. Wallace and E. C. Rutledge	114, 732
Coupling, Car	E. Bolman and G. S. W. Clarke	114, 755
Coupling, Car	E. M. George	114, 797
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Coupling, Car	J. B. Harper	115, 845
Coupling, Car	T. Lanstone	115, 964
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Coupling, Car	H. C. Gilliland	116, 431
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Coupling-hook for coal-cars	F. Bush	119, 117
Coupling, Hose	J. J. Lovel	114, 575

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Coupling, Pipe	W. D. Alford	114, 511
Coupling, Pipe	V. D. Anderson	114, 903
Coupling, Pipe	J. F. Andrews	117, 960
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Coupling, Railway	L. Ibeck	120, 746
Coupling, Railway-car	L. and J. K. Huddle	111, 123
Coupling, Railway-car	M. B. Smith	111, 985
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Coupling, Railway-car	G. H. Merriam	117, 909
Coupling, Railway-car	J. Temple	119, 196
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Coupling, Railway-car	S. D. Pratt	119, 475
Coupling, Railway-car	J. B. Tracy	119, 897
Coupling, Railway-car	W. F. Grassler	120, 430
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Coupling, Shaft	D. and S. Knickerbocker	112, 817
Coupling, Shaft	J. Sherry	112, 972
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Coupling, Shaft	A. V. Pitts	118, 479
Coupling, Shaft	J. Eisele	120, 372
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Coupling, Thill	L. S. Rowe	111, 574
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Covering for sausages and other meats	M. W. Brown	113, 396
Covering for whips	B. W. Crowson	121, 761
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Cow-milker	W. Reading	120, 100
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Cradle, Folding	T. W. Moore	116, 856
Cradle for children	W. J. Stowell	111, 989
Cradle, Portable	W. R. Evans	118, 918
Cranberries, Preserving	J. W. Campbell	117, 256
Crane	J. W. Middleton	112, 899
Crank-gearing	T. J. McGowan	117, 312
Crank-motion	R. Quinn	116, 487
Crank-pins, Machine for turning	M. G. Wood	113, 950
Crank, ratchet, and brake, Combined	B. B. McElrath	115, 881
Cravat-holder	J. N. Thomson	116, 510
Crib, Children's	G. W. Ennis	112, 570
Crib or cradle	W. T. Hazard	114, 292
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Crimping-machine	M. R. Lemman and W. A. L. Kirk	119, 234
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Crozing-machine	W. R. Middleton	115, 974
Crucible for melting metals, &c	R. Yeilding	120, 807
Crucibles, glass melting-pots, &c., Composition for making.	W. A. Fischer	120, 570
Crude or pig-irons, Process and apparatus for the treatment of.	H. Bessemer	117, 507
Cruet-stand	J. W. Ellis	111, 920
Crusher, Vegetable	R. Daniels	111, 913
Crushing and grinding rocks, phosphates, &c., Machine for.	F. J. Kimball	114, 303
Crushing and hulling attachment to grinding-mills	G. C. Hoenstein and C. T. Glaeser	111, 061
Crutch	E. T. Pearl	121, 254
Crutch-handle	S. Kreger	116, 603
Culinary utensil for broiling and frying	John C. Nobles	120, 769
Cultivator	J. Sattison	110, 692
Cultivator	W. A. Dryden	110, 836
Cultivator	G. W. Bronson	111, 037
Cultivator	W. B. Read	111, 250
Cultivator	H. M. Rose	111, 256
Cultivator	J. Case	111, 432
Cultivator	M. Sattley	111, 781
Cultivator	W. D. Stroud	112, 862
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Cultivator	L. W. and R. G. Conner	113, 019
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Cultivator	L. Walker	115, 138
Cultivator	T. F. Capp	115, 159
Cultivator	C. Furst	115, 450
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Cultivator	P. Maier	115, 875
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Cultivator	J. W. Spangler	117, 815
Cultivator	N. J. Harris	117, 879
Cultivator	D. Edelman	117, 894
Cultivator	H. P. Kynett	117, 947
Cultivator	A. H. Myers	117, 803
Cultivator	W. J. Arrington	117, 961
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Cultivator	E. Reese	118, 053
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Cultivator	A. Tompkins	118, 568
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Cultivator	J. Waddell	119, 206
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Cultivator	F. L. Perry	119, 786
Cultivator	H. Weld	119, 904
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Cultivator	A. C. Smith	120, 113
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Cultivator	J. H. Tomlinson	120, 664
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Cultivator	J. Faning and F. Legier	120, 732
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Cultivator	M. L. Gorham	121, 693
Cultivator	J. Mallon and H. Von Puhl, jr	121, 794
Cultivator	D. Z. Evans	122, 240
Cultivator and harrow, Combined	J. Maxton	111, 857
Cultivator and horse-hoe	J. W. Blake	121, 228
Cultivator and planter, Combined	P. Burress	110, 736
Cultivator and shovel-plow	G. W. Parsons and W. S. Finney	114, 964
Cultivator and shovel-plow	T. F. Hamilton	118, 362
Cultivator and weeding-machine	M. Johnson	115, 213
Cultivator, Combined corn and cotton	W. C. Gaines	116, 425
Cultivator, Corn	G. D. Brown	115, 427
Cultivator, Cotton	M. B. Lamar	118, 371
Cultivator, Cotton	T. Dale	119, 015
Cultivator, Cotton	R. H. Prunelle	119, 644
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Cultivator, Meadow	F. P. Davenport	112, 130
Cultivator, Seeding	N. S. Thompson	114, 881
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Cultivator, Sulky	R. B. Robbins	112, 496
Cultivator, Sulky	N. Whitehall	118, 567
Cultivator, Sulky	P. Hewitt	120, 435
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Cultivator-teeth, Rolled steel-plate for making	W. W. and D. D. Skinner	119, 419
Cultivator-teeth to beams, Attaching	M. F. Louth and O. H. Porter	117, 092
Cultivator, Walking	A. Friberg	111, 027
Cultivator, Walking	J. Vanluvance and H. Smith	112, 990
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Cultivator, Wheel	W. M. Pitts	119, 404
Cultivator, Wheel	T. C. Sebring	121, 670
Culvert, Iron	M. G. Freeman	114, 682
Cup for grain-drills, &c	J. P. Zeller	114, 384
Cup for kerosene lamps	N. L. Bradley	111, 430
Cup of bobbin-winding machines	J. W. Vaughan	115, 393
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Curculio-catcher	F. J. Claxton and C. D. Stevens	113, 855
Curd-strainer	R. and S. Mason	117, 093
Current water-wheel	H. B. Sinclair	113, 586
Curriers' slicker	G. T. Collins	115, 709
Currycomb and brush	H. C. Smith	119, 659
Curtain	R. Nenninger and F. Bräuer	112, 067
Curtain-cord retainer	H. Holcroft	114, 560
Curtain-fastener	W. H. Morse	110, 863
Curtain-fastener, Carriage	H. M. Bidwell	121, 076
Curtain-fastener, Reversible	H. Binder	118, 781
Curtain-fastening, Carriage	A. B. Clark	120, 493
Curtain-fixture	W. H. Tambling	110, 939
Curtain-fixture	R. Vose	111, 405
Curtain-fixture	C. M. Brown and C. L. Gates	111, 723
Curtain-fixture	P. W. Phillips	111, 967
Curtain-fixture	C. Robin	112, 383
Curtain-fixture	W. C. Kennedy	112, 814
Curtain-fixture	W. Campbell	113, 852
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Curtain-fixture	N. Campbell	114, 918
Curtain-fixture	W. C. Wilcox	115, 402
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Curtain-fixture	W. R. Smith	120, 787
Curtain-fixture	P. W. Phillips	120, 997
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Engine, Steam	N. E. Nash	113, 553
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Engine, Steam	D. R. Fraser	114, 125
Engine, Steam	A. Johnson	114, 300
Engine, Steam	H. Fontaine	114, 429
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Engine, Steam	J. Houpt	115, 206
Engine, Steam	I. W. Forbes	115, 301
Engine, Steam	P. L. Weimer	115, 400
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Engine, Steam	C. Levy	118, 463
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Evaporating and concentrating liquids	J. Howarth	112, 348
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Fence, Wire	Z. Nicholson	114, 039
Fence, Wire	A. C. Sisson	114, 057
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Fender and gauge-wheel, Combined	A. B. Thornton	111, 790
Fender, Fire-place	C. C. Algeo	115, 985
Fender, Fire-place	C. C. Algeo	121, 073
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Fire-arm, Revolving	C. Sharpe	118, 752
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Fire-arm, Rifled	A. Henry	119, 846
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Fire-escape	E. R. Wethered	118, 172
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Fire-escape	T. C. Rice	119, 997
Fire-escape	J. W. Davis and J. Vermillion	120, 420
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Fire-plug	J. McClelland	115, 495
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Fire-shield	H. Rieger	121, 421
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Flax thrashing and separating machine	J. Boyce	115, 020
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Flour-bolt	W. Bashor	118, 508
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Flour, Making	G. Motley	113, 075
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Flue-expander	I. S. Hamilton	121, 514
Fluid for extracting grease from fabrics	J. B. Wilson	122, 094
Fluid for writing on checks, drafts, &c	C. L. Lawrence	115, 744
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Fluting-machine	A. Burbank	110, 895
Fluting-machine	T. M. Tucker	111, 588
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Flux for reducing ores and refining metals	W. Quann	120, 099
Flux for welding steel of high and low grades	J. Farrel	111, 114
Fly-brush, Automatic	H. C. Chandler	121, 750
Fly-brush, Mechanical	H. E. Aughinbaugh	115, 560
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Frame for traveling-bags	W. Roemer	110, 791
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Fresh meats, Preserving and transporting	W. Dugan	113, 505
Friction and ratchet clutch, Combined	A. W. Hall	122, 009
Friction-clutch	G. S. Reynolds	113, 506
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Fruit-drier	B. F. Ells	112, 023
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Furnace, Cupola	A. G. Cook	115, 823
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Furnace for burning pulverized fuel under steam-boilers, evaporators, &c.	J. D. Whelpley and J. J. Stover	117, 705
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Furnace for roasting ores	J. P. Arey	115, 559
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Furnace for roasting ores	S. F. Ambler	117, 360
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Hay-rake, Horse	J. C. Stoddard	110, 876
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Hay-rake, Horse	M. W. Trescott	115, 909
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Hay-rake, Horse	C. Kugler	118, 726
Hay-rake, Horse	A. L. Chubb	119, 320
Hay-rake, Horse	P. Pfeifer	119, 532
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Hay-tedder	E. W. Bullard	111, 314
Hay-tedder	L. Hale	112, 030
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Hay-tedder	J. G. Perry	117, 562
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Hay-tedder	J. K. Collins	120, 026
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Head-block	H. M. Popple	115, 237
Head-block	H. R. Martin	115, 492
Head-block	T. Douglass	121, 934
Head-block	N. F. Beckwith	122, 215
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Head-block for saw-mills	J. S. Everitt and C. H. Avery	112, 572
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Heater, Base-burning fire-place	E. S. Heath	110, 654
Heater, Base-burning fire-place	P. Klotz	111, 753
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Heater, Base-burning fire-place	W. E. Wood	117, 585
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Heater for paper-ruling machines	E. Newberry	118, 384
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Heater, Gas	G. Hibberd	120, 518
Heater, Gas	O. McK. Reynolds and D. T. Kitchell	113, 567
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Heater, Railroad-car	J. Shackleton	115, 533
Heater, Railroad-car	J. G. Allen	116, 914
Heater, Railroad-car	B. D. Thompson	119, 949
Heater, Sad-iron	L. Wilkinson	110, 708
Heater, Sad-iron	G. Benns	112, 908
Heater, Sad-iron	M. Little	118, 375
Heater, Sad-iron	B. T. Babbitt	120, 480
Heater, Sleigh	A. Norton	114, 466
Heater, Steam	J. L. Winslow	111, 508
Heater, Steam	W. Thomson	112, 195
Heater, Steam	C. J. Wood	112, 881
Heater, Steam	A. L. Ide	114, 440
Heater, Steam	C. W. Trotter	115, 392
Heater, Steam	N. Bowen	115, 423
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Heater, Steam	F. H. Pulsifer and W. C. Wheeler	117, 111
Heater, Steam	D. Vaughan	117, 127
Heater, Steam	J. McConn	117, 310
Heater, Steam	J. L. Peake	117, 675
Heater, Steam	E. Caulfield	118, 432
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Heater, Steam	E. C. Clay	120, 184
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Heater, Water	J. Head	117, 416
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Hedge-trimmer	J. M. and O. Vannosdall	112, 300
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Heel, Metallic	A. S. Mann	116, 973
Heel, Metallic	E. P. Bray	118, 335
Heel-rands, Machine for forming	S. Holmes and J. F. Sargent	113, 432
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Hemlock-bark, Medical extract from	S. H. Kennedy	121, 631
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Hemp, flax, &c., Machine for breaking and cleaning	T. Tebow	115, 387
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Hides, Process and apparatus for curing	A. Rock	112, 285
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High-wines, Rectifying	A. K. Lee	112, 818
Hinge	M. R. Lemman	112, 934
Hinge	S. H. Wheeler	113, 378
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Hinge	A. A. Oat	119, 944
Hinge	I. Buckman	120, 032
Hinge	R. B. Fouzer	120, 580
Hinge	J. Miller	120, 762
Hinge	W. T. Wells	122, 080
Hinge, Butt	J. W. Carleton	112, 417
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Hinge for gate	G. Garrett	113, 908
Hinge for gates	C. B. Clark	111, 515
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Hinge, Spring	D. B. Hawkes	114, 813
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Hoe	J. Stilwell	115, 138
Hoe	A. Ellis	120, 050
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Hoe-blanks, Machine for rolling	H. Waters	114, 496
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Hoe, Garden	J. P. Avery	112, 527
Hoe, Garden	C. R. Gilbert	118, 360
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Hoes, planters', Roll for the manufacture of	E. L. Staples	111, 863
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Hog-cholera, Medical compound for the cure of	E. Wilcox	120, 408
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Hogs from rooting, Device to prevent	W. S. Houston	120, 876
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Hoisting-apparatus	A. Weide	117, 840
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Hoisting-machine	J. Scott	112, 855
Hoisting-machine	W. Sellers	112, 856
Hoisting-machine	J. Bates	113, 836
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Hollow-vessels, Construction of	W. F. Holske	115, 056
Hollow-ware, Apparatus for pressing	N. Thompson	119, 725
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Hook, Back-band	H. Beagle	119, 556
Hook, Bale	R. T. Yardley	119, 913
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Hook, Chain	J. R. Thorne	116, 511
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Horse-collar and hame	A. Dunbar	119, 585
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Horse-holder for sleighs	H. A. Sprague	119, 662
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Horse-power	D. L. Lamon	111, 949
Horse-power	J. W. Huntoon	112, 251
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Horses, Interfering-pad for	W. H. Hall	111, 740
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Hot-air distributing-pipe	H. C. Crehore	111, 433
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Housing for rolls	J. Rigby	114, 858
Hub and axle	C. R. Donner	111, 822
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Hub, Carriage	H. W. Stow	114, 364
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Hub for carriage-wheels	J. Y. Burwell	120, 150
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Hub for carriage-wheels	H. E. Vick	121, 025
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Hydrant	J. Fernan	113, 507
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Hydraulic apparatus	H. Merrie	115, 893
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Hydrocarbon-gas apparatus	T. Shaw	115, 365
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Hydrocarbon oil, Distilling	J. Kidd	118, 459
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Inkstand	S. C. Catlin	114, 902
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Jack, Carriage	A. H. Wellbrock	115, 140
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Jack for spinning, Self-acting	P. Keane	117, 893
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Jack, Lifting	H. J. Wilson	113, 381
Jack, Lifting	H. F. Morrison	115, 086
Jack, Lifting	J. U. Smith	116, 338
Jack, Lifting	E. R. Gard	116, 396
Jack, Lifting	H. Ballentine	116, 534
Jack, Lifting	S. D. Jones	118, 020
Jack, Lifting	T. Maxon	116, 956
Jack, Lifting	L. P. Smith	120, 402
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Jack, Lifting	A. A. Davis	120, 864
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Jack, Wagon	G. R. Fowler	113, 285
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Jack, Wagon	J. Wagner	115, 396
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Joint for shaft-couplings, Universal	G. V. Black	117, 773
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Kiln for the manufacture of artificial stone	E. P. Eastwick	114, 780
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Knob-latch, Reversible	W. H. Andrews	111, 028
Knob-latch, Reversible	H. M. Ritter	113, 096
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Ladle for pouring wax	P. Loeb	118, 140
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Lamp	A. Albertson	110, 816
Lamp	R. S. Merrill	111, 072
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Lamp	C. D. Macqueen	111, 360
Lamp	H. A. Schottky	111, 481
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Lamp	H. J. Goff	112, 586
Lamp	W. Scarlett	114, 009
Lamp	C. B. and S. S. Mann	114, 954
Lamp	F. Yeiser and S. W. Hedger	115, 902
Lamp	M. Samuels	115, 538
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Lamp	G. W. Thompson	120, 172
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Lamp-chimney and dish-washer	C. S. and S. A. Moore	111, 368
Lamp-chimney cleaner	L. Ward	116, 121
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Lamps, Coating	G. W. T. Thomson	113, 365
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Lamp, Self-lighting	W. W. Batchelder	119, 497
Lamp-shade	M. H. Collins	113, 982
Lamp-shade	M. H. Collins	114, 766
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Lamps, Shade-holder for	M. W. House	112, 450
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Seed-drilling machine	J. E. Fletcher	111, 050
Seed-drill, manurer, and potato-digger, Combined	O. Hyde	113, 522
Seed-dropper	E. C. Hopping and E. A. Ely	111, 062
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Seeder and cultivator	J. T. Mott	111, 372
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Superphosphate of lime, Manufacture of	C. Mordt	113, 370
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Suspender	T. Rich	116, 655
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Table, Dining	J. Gibson, jr	117, 765
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Thimble-skein for wagons	A. L. Shears	117, 000
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Ticket-holder	A. F. R. Arndt	113, 479
Ticket-holder	E. M. Wright	114, 740
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Tile-ditcher	I. T. Baker	113, 722
Tile for fire-proofing buildings, Composition	B. Kreischer	112, 929
Tile for roofing	J. B. Hughes	121, 624
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Time-check clock, Watchman's	L. G. Blake	113, 970
Time-detector, Watchman's	J. Dunning	113, 969
Time-indicator for offices	E. A. Wood	113, 938
Time-indicator, Office	J. S. Smith	119, 891
Time-lock	S. W. Hollen	121, 789
Tin boxes, cylindrical, Machine for seaming	J. R. Cole	116, 931
Tin, Electro-plating with	J. E. Bingham	115, 926
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Tip for wooden shovels	W. P. Wentworth	111, 891
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Tires, loose, Device for tightening	H. Beckwith	121, 039
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Tool, Combined	G. J. Capewell	114, 730
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Tool, Curriers'	J. T. Barnstead	111, 901
Tool for boring cigar-molds	H. F. Moeller and H. P. Brandt	121, 059
Tool for carriage-makers' use	G. Atkinson	113, 311
Tool for cutting off auger-stems in oil-wells	J. H. Luther	111, 221
Tool for cutting off pipes in oil-wells	J. H. Luther	111, 220
Tool for expanding and cutting off boiler-tubes	I. S. Hamilton	121, 513
Tool for plugging leaky boiler-tubes	J. Ritchie	118, 810
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Towel-holder	H. Alsop	119, 004
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Trap, Animal	E. Oliver	111, 771
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Trap, Animal	W. D. Wrightson	112, 403
Trap, Animal	J. D. Bell	112, 844
Trap, Animal	J. W. F. How	113, 168
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Trap, Animal	G. S. Walker	118, 309
Trap, Animal	J. Biddle	118, 581
Trap, Animal	J. H. Mooney and G. A. Loyd	119, 337
Trap, Animal	T. Fell	119, 592
Trap, Animal	H. Foust	119, 594
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Trap, Animal	G. R. Harding	120, 063
Trap, Animal	H. S. Frost	120, 375
Trap, Animal	N. S. Howell	120, 677
Trap, Animal	O. S. Ewing	120, 953
Trap, Animal	M. D. Brown	121, 394
Trap, Animal	H. Polley	121, 468
Trap, Animal	D. M. Francisco	121, 608
Trap, Animal and game	J. H. Richardson	114, 343
Trap-ball	C. F. Spencer	115, 956
Trap, Fish	J. R. Hammond	113, 399
Trap, Fly	P. D Horton and E. T. Bryan	111, 936
Trap, Fly	C. R. Hardy	113, 515
Trap, Fly	E. Victor	117, 489
Trap, Fly	B. J. Leslie	118, 373
Trap, Fly	L. Grim	118, 852
Trap, Fly	S. F. McGown	120, 449
Trap, fly, Automatic	F. L. Rosentreter	118, 747
Trap for wash-boilers	H. R. Robbins	119, 649
Trap, Game and rat	B. F. Tatom	120, 663
Trap, Insect	L. I. Way	116, 458
Trap, Insect	S. Endslow	119, 337
Trap, Insect	T. Wier	119, 905
Trap, Insect	J. J. Armstrong	120, 020
Trap, Insect	C. E. Penny	120, 595
Trap, Mole	J. Adams	110, 618
Trap, Mole	D. Boswell	118, 189
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Trap, Mouse	H. S. Weller	114, 632
Trap, Mouse	A. Ovaitt	116, 743
Trap, Mouse	C. As Hotchkiss	118, 731
Trap, Mouse and animal	G. L. Hart	113, 807
Trap, Rat and mouse	L. F. George	119, 589
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Trap, Roach and mouse	W. I. Webb	119, 435
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Trap, Steam	J. W. Hodges	114, 141
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Trap, Steam	I. E. Giddings	115, 303
Trap, Steam	A. G. Bearup	115, 809
Trap, Steam	J. H. Blessing	116, 403
Trap, Steam	G. R. Moore	117, 089
Trap, Steam	R. Berryman	117, 373
Trap, Steam	N. H. Bundy	118, 786
Trap, Steam	J. E. Watts	122, 064
Trap, Steam	H. S. Maxim	122, 373
Trap, steam, Automatic	W. E. Prall	121, 903
Trap, Stench	S. Lawrence	116, 967
Trap, Stench	M. Gafney	120, 427
Traveler for vessels	D. N. B. Coffin	119, 949
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Treadle	G. B. Kirkham	113, 776
Treadle	G. K. Proctor and F. K. Hamilton	114, 390
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Treadle	A. B. Shaw	120, 461
Treadle-bearing and oil-shield	N. D. Stoops	114, 681
Treadle-brace	G. H. Hurd	120, 646
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Treadle-power	W. Reed	118, 273
Tree-box	E. O. Schwageri	115, 531
Tree-protector	C. Parks	110, 906
Trees, Machine for felling	E. R. Morrison	115, 975
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Tremolo-attachment for reed-instruments	E. P. Needham	117, 666
Tremolo for reed-organs	L. K. Fuller	121, 666
Tremolo for reed-organs	L. K. Fuller	121, 610
Tremolo for reed-organs, &c	J. R. Lomas	117, 769
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Trimming and burnishing soles, Machine for	S. H. Hodges	117, 287
Trimming, Center-point	A. Hecht	112, 915
Trip-hammer	B. Hershey	112, 636
Trip-hammer	J. Krehbiel	117, 428

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Trough, Invertible	F. J. Goldsmith	111, 529
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Truck, Car	E. Hipkins	111, 934
Truck, Car	R. Winslow	115, 961
Truck, Car	W. H. and C. H. Little	117, 182
Truck, elevating	F. D. Dellinger and S. H. Hunt	118, 518
Truck for locomotive-engines	D. Wagner and W. K. Bushnell	114, 730
Truck for moving mounted car-axles	C. H. Lathrop	119, 857
Truck, Hand	C. F. Scovillo	117, 357
Truck, Piano	T. F. Kiff	116, 325
Truck, Railway-car	C. A. French	119, 025
Truck, Railway-car	L. D. Boyce and G. H. Jones	111, 172
Truck, Railway-car	C. Graham	111, 340
Truck, Railway-car	F. S. Harrington	113, 878
Truck, Railway-car	J. Clark	118, 515
Truck, Railway-car	J. R. Mestier	118, 961
Truck, Railway car and engine	J. G. Wetmore	120, 013
Truck, railway-car, King-bolt for	G. F. Morse	114, 587
Trucks, Railway-alarm for	S. W. Murray and B. M. Lamason	114, 028
Truck, Store	F. E. Whitesido	115, 003
Truck, Warehouse	A. V. Smith	114, 213
Trunk	J. S. Cochran	113, 263
Trunk	J. Young	113, 715
Trunk	J. Stanton	114, 485
Trunk	N. Stewart	115, 905
Trunk	E. A. G. Roulstone	116, 492
Trunk	T. Hanvey	117, 625
Trunk	N. Grool	119, 348
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Trunk-fastener	H. McKinnon	113, 538
Trunk-fastening	D. W. Brockway	113, 974
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Trunk, Traveling	L. Rebstock	114, 475
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Truss	J. C. Locke	112, 937
Truss	A. Folleau	111, 115
Truss	C. E. Van Alstine	111, 495
Truss	H. Hinoult	112, 457
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Truss-hook	E. C. Ryding	116, 281
Truss-pad	J. B. Marsh	119, 379
Try-square, Adjustable	L. Bailey	114, 634
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Tube-cleaner	P. Farley	116, 823
Tube-expander	C. H. Clark	119, 121
Tube-extractor	I. S. Peters	111, 146
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Tubes, flues, &c., Apparatus for cleaning	C. Lungley	114, 695
Tube-skelps, Machine for bending	G. Mateson	121, 057
Tubes, Machine for welding	W. C. Allison	111, 299
Tubings, Mode of reducing the diameters of	E. Wheeler	117, 494
Tub, Washing	J. C. Birket	119, 072
Tub, pail, &c	P. H. Niles	115, 088
Tubular fabrics, Weaving	G. Smith	111, 783
Tug for harness	I. H. Alexander	119, 084
Tug for towing boats	W. Everson	110, 754
Tumbler for permutation-locks	W. Koch	117, 302
Tumbling-shaft	D. Snell	114, 616
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Turbine	M. K. A. Brooks	113, 489
Turbine	J. J. Knowlton	115, 217
Turbine	J. C. Boyland and G. Buchanan	116, 405
Turbine	A. Bee	119, 558
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Turn-button for doors, &c	P. Bradford	119, 499
Turning and boring machine, Hand	J. F. Finger	113, 038
Turning and polishing, Machine for	R. M. Clapp	119, 695
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Turn-pipe, Hydraulic	S. Adams	111, 000
Turn-table	W. S. Coulter	122, 529
Turn-table	G. Walters	113, 953

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Turn-table for transferring freight	G. French	119, 595
Turpentine, &c., Apparatus for distilling	C. J. T. Burcey	115, 439
Turpentine, Apparatus for distilling	A. K. Lee	117, 540
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Tuyere	E. Tracy	112, 806
Tuyere	J. Wood, jr	114, 739
Tuyere	J. Cappon	116, 964
Tuyere	T. S. Clark	117, 744
Tuyere	P. L. Weimar	117, 947
Tuyere	A. M. Worthing	121, 073
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Tuyere for blast-furnaces	J. Fry	112, 914
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Tuyeres, Machine for molding	S. English	111, 923
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Type-blocks, Process of manufacturing	D. A. Draper	113, 583
Type-casting machine	W. W. Dunn	111, 111
Type-composing and casting machine, Combined	C. S. Westcott	115, 706
Type-distributing machine	J. T. Slingerland	115, 777
Type, Elastic	H. J. Davies	114, 773
Type-holder	W. McNaughton	111, 663
Type-setting and distributing machine	F. M. Neff and J. E. Scruggs	113, 913
Type-setting and distributing machine	D. B. Ray	120, 398
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Umbrella	N. Starr	111, 467
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Umbrella	R. P. Knapp	114, 822
Umbrella	W. A. Drown	115, 730
Umbrella	G. G. Griswold	116, 596
Umbrella	W. Watson	116, 889
Umbrella	J. Shepherd	119, 886
Umbrella-runner or notch	O. M. Smith	116, 767
Umbrellas on vehicles, Apparatus for holding and adjusting.	G. F. Child	116, 157
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Uterine supporter	W. S. Van Cleve	118, 673
Uterine supporter	L. D. McIntosh	118, 570
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Valve, Anti-friction	W. Siefert	113, 102
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Valve, Balance	A. Wanch	113, 609
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Valve, Balance slide	C. H. Hutchinson	119, 760
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Valve, Canal-lock	G. Heath	113, 661
Valve, Combined pressure and vacuum	J. Porteous	115, 982
Valve connection, Governor	J. F. Allen	111, 897
Valve, cut-off, Adjustable	G. W. Smith	122, 198
Valve-device for steam-power air-brake coupling	G. Westinghouse, jr	116, 655
Valve, Electro-magnetic	G. M. Sternberg	119, 541
Valve, Exhaust	R. W. Hamilton	116, 707
Valve for condensers	G. H. Reynolds	112, 183
Valve for oil-pumps	H. Millingar	110, 930
Valve for oil-tanks	D. Fisher and W. Cumming	113, 153
Valve for steamboat-engines	A. M. Haley	120, 960
Valve for steam and air engines, Oscillating	I. W. Forbes	115, 296
Valve for steam and air engines, Oscillating	I. W. Forbes	115, 297
Valve for steam-boilers, Safety	A. J. Prescott	121, 659
Valve for steam-pump and engines	W. B. Snow	118, 064
Valve for steam-pumps	J. V. V. Booraem	113, 248
Valve for steam-pumps	J. F. Hamilton	111, 341
Valve for steam-pumps	J. V. V. Booraem	113, 247
Valve for steam-pumps, &c	J. W. Hopkins	119, 030
Valve for steam-pumps, Balance	J. P. Pangburn	117, 808
Valve for steam-engines	J. L. Harley	112, 451
Valve for steam-engines	H. L. Butler	120, 033
Valve for steam-engines	C. B. Smith	121, 905
Valve for steam-engines, Balance	N. Jenkins	113, 523
Valve for steam-engines, Balanced	J. F. Sweet	119, 427
Valve for steam-engines, Balanced	D. W. Huntington and W. A. Hempstead.	120, 878
Valve for steam-engines, Cut-off	S. M. Carter	118, 340
Valve for steam-engines, Slide	I. W. Forbes	115, 298
Valve for steam-engines, Slide	I. W. Forbes	115, 299
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Valve-gear	W. R. Reece	110, 935
Valve-gear	T. R. Evans, W. R. Thomas, and J. Hunt.	119, 590
Valve-gear, Cut-off	S. H. Whitmore	113, 232
Valve-gear for direct-acting engines	A. S. Cameron	112, 015
Valve-gear for engines	L. Atwood	117, 141
Valve-gear for steam-engines	I. W. Forbes	115, 300
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Valve-gear for steam-engines, Cut-off	J. Montfort	118, 873
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Valve-gear, Throttle	C. A. Stewart	115, 904
Valve, Globe	M. Murphy	114, 844
Valve, Globe and check	G. W. Shields	118, 287
Valve, Hose-pipe	A. F. Allen	117, 853
Valve-indicator	J. C. Chapman	121, 587
Valve-movement	F. Glasson	119, 755
Valve-motion	S. Ingersoll	115, 478
Valve of steam-pumping engines	L. M. Gilbert	115, 796
Valve-operating mechanism for water-meter	O. H. Landon	116, 200
Valve or bottom for separating slate from coal	S. E. Griscom	119, 757
Valve, Pump	C. L. Merrill	111, 763
Valve, Pump	A. S. Cameron	113, 397
Valve, Pump	D. Mets	117, 661
Valve, pump, Oil	T. Draper	116, 880
Valve, Regulator and safety	R. Holly	113, 517
Valve, relief, Automatic	A. F. Allen	113, 829
Valve, relief, Automatic	A. F. Allen	120, 925
Valve, relief, Automatic	J. Garland	120, 956
Valve, Rotary	D. Snowhill and J. D. Bown	121, 677
Valve, Safety	S. C. Marsh	118, 611
Valve, Safety	M. and E. Scrannage, jr	113, 445
Valve, Safety	A. F. W. Neynaber	116, 084
Valve, Safety	J. B. Edson	117, 872
Valve, Safety and vacuum	H. Hibberd	120, 519
Valves, Automatic apparatus for opening and closing, by the effects of temperature.	A. A. Common	116, 373
Valve-seats, Device for grinding the flat face of	S. J. Peet and D. Sawyer	111, 908
Valve, Slide	J. C. Woodhead	112, 009
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Wringer, Clothes	H. E. Smith	115, 372
Wringer, Clothes	E. G. W. Bartlett	116, 665
Wringer, Clothes	C. H. Hudson	117, 291
Wringer, Clothes	E. P. H. Capron	118, 431
Wringer, Clothes	C. V. Mead	119, 394
Wringer, Clothes	L. Hale	120, 512
Wringer, Clothes	J. W. Hampton	120, 908
Wringer, Clothes	S. W. and J. F. Palmer	121, 657
Wringer, Clothes	J. Fox	122, 164
Wringer, Peat	J. Brinkerhoff	122, 230
Wringer-roller	A. N. N. Aubin	117, 591
Wringer-rolls, Machine for covering	J. Whitehead	118, 313
Wringer, Roller for	J. Moulton	119, 636
Wringing-machine	J. Makechney	115, 491
Wringing-machine	A. H. Spencer	111, 494
Wringing-machine	W. Denton	118, 519
Writing-apparatus for the blind	J. M. Clark	121, 589
Wrought nails, Machine for making	A. Von Briesen	121, 093
	D. Armstrong	115, 967
Y.		
Yarn-beam for looms	A. W. Cole	118, 910
Yarn, Machine for warping	G. Draper	111, 523
Yarn, Machine for warping	D. Hussey	112, 253
Yarn or thread, Machine for dressing	G. Jaquith	112, 609
Yarns, Machine for twisting	J. H. Jackson and S. Leak	118, 536
Yeast, Manufacture of	H. Sommer and A. Weiss	118, 495
Yeast, Manufacture of, and the application of the same in mashing and brewing	D. Green	114, 671
Z.		
Zinc-board for stoves	W. Westlake	112, 986

Alphabetical list of trade-marks.

Invention or discovery.	Name of patentee.	No.
Zinc, Coating sheet-iron with	J. D. Grey	112, 588
Zinc for galvanic batteries	E. A. Hill	114, 005
Zinc, Method of utilizing the waste chloride of, in treating paper	D. W. Hanna	120, 380

TRADE-MARKS.

A.		
Advertising mediums	K. Palmer	500
Agricultural implement	Hall & Speer	123
Akron cement	The Union Akron Cement Company, Buffalo.	141
Alcohol	C. H. Graves	575
Alpaca	W. I. Peake	250
Atomizer, for perfuming, &c	T. J. Holmes	480
Averill chemical paint	Averill Chemical Paint Company, New York.	143
Ax	Douglas Ax-Manufacturing Company	302
Ax	Douglas Ax-Manufacturing Company	303
Ax	Douglas Ax-Manufacturing Company	304
Axes	C. Gerber & Co	593
B.		
Baking-powder	W. N. Hedges	309
Balm	D. Barnes	232
Beer	B. Bates	176
Beer	B. Bates	268
Bells	F. E. Lester	483
Beverage	E. A. & G. R. Moneely	335
Billiard-cushion	E. J. Williamson	401
Billiard-table	H. W. Collender	236
Billiard-tables	Phelan & Collender	242
Bitters	Kavanagh & Decker	536
Bitters	A. Orth	211
Bitters	Dr. S. B. Hartman & Co	218
Blacking and leather-dressing	W. H. Knoepfel	580
Blacking and leather-dressing	B. F. Brown & Co	403
Blacking and leather-dressing	B. F. Brown & Co	404
Blackings	B. F. Brown & Co	405
Boot and shoe lasts	C. H. Young & Co	526
Boot-heel	J. McComber	250
Boots and shoes	F. Hacker and F. Richardson	188
Boots and shoes	E. Townsend	140
Boots and shoes	H. E. Townsend	264
Boots and shoes	H. E. Townsend	265
Boots and shoes	J. H. Walker	288
Boots and shoes	Francis & Mallon	565
Boots and shoes	The Ventilating Water-Proof Shoe Company.	583
Boots and shoes	The Ventilating Water-Proof Shoe Company.	584
Brandy	J. W. Adams	000
Brandy	Ives, Beecher & Co	429
Brandy	Ives, Beecher & Co	547
Brandy	Ives, Beecher & Co	548
Bread	Ives, Beecher & Co	549
Bronchial troches	J. F. Kohler	537
Burning-fluid	J. I. Brown & Sons	475
Burning-fluid	R. G. Richards	904
	B. A. Rose	268
C.		
Cabinet-organs	Redington & Co	336
Candle	C. Harkness	390
Candy	F. M. Whitelaw	320
Car and other bearings, Composition	Jackson & Wiley	378
Carpet-lining	G. W. Chipman	294
Carpets	Lowell Manufacturing Company, Lowell, Mass.	132
Carriage-makers' hardware	H. D. Smith & Co	521
Cassimeres	Gallaghan & Brother	222
Castor-oil	H. J. Baker	373
Castor-oil	H. J. Baker	374
Cast steel	Singer, Nimick & Co	467
Cast steel and castings	W. Butcher & Co	573

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
Cement	Wendt & Rammelsberg	565
Chair, Split-bottom	J. G. Strain	564
Chemical, pharmaceutical, and galenical preparations	E. F. Suire & Co	383
Chemicals for dying	Weeks & Dupee	585
Cheviot shirtings	Fish, Clark & Flag	240
Chewing-tobacco	C. R. Messinger	570
Chicory	Blume & Co	177
Cholera-medicine	Atchison & Bro	447
Churn	P. Blanchard's Sons	254
Cigar	Straiton, Schmitt & Storm	198
Cigar	Smith, Crosby & Co	244
Cigar	Schmidlapp Bro	316
Cigars	J. C. Smith & Son	330
Cigars	P. Pohalski & Co	561
Clocks	E. Ingraham	576
Clocks	E. Ingraham	577
Clocks	E. Ingraham	578
Clocks	E. Ingraham	579
Clock-spring	W. Barnes	474
Clothes-wringer	A. H. Spencer	326
Clothiers and tailors' trimmings	Harris, Richmond & Shafer	329
Clothiers and tailors' trimmings	Harris, Richmond & Shafer	330
Clothiers and tailors' trimmings	Harris, Richmond & Shafer	331
Clothing	O. S. Baldwin	351
Coating, Composition	D. R. Crocket	100
Coffee	J. Ashcroft	553
Coffees, spices, mustard, and cream-tartar	Butler, Earhart & Co	455
Collars	B. Weber	597
Compound, Medical	Pemberton, Taylor & Co	106
Condition-powder	C. Garlick	459
Cooking and other stoves	Bridgeford & Co	592
Cooking-stoves	G. F. Filley	389
Cordial-gin	J. Forster	444
Cords, fringes, ribbons, &c	Silbermann, Heinemann & Co	173
Corn-salve	J. McKee	451
Corset	T. Langdon & Co	542
Corsets	M. Cohn & Co	589
Corsets	T. Langdon & Co	541
Corsets, skirts, &c	T. Langdon & Co	539
Cosmetic	H. Schroeder	317
Cosmetics, pomades, and perfumeries	Holbrook & Merrill	135
Cotton-bale band and tie	J. J. McComb	171
Cotton-bale tie	J. J. McComb	314
Cotton goods	B. B. & R. Knight	220
Cotton goods	Harris Manufacturing Company	225
Cotton sheetings, &c	The Jackson Company	538
Cotton shirting	R. B. & R. Knight	418
Crackers	W. N. Monies & L. Pughe	388
Cundurango	Bliss, Keene & Co	514
Cundurango	Bliss, Keene & Co	515
Curtain-fixtures	S. S. Putnam	422
Cuttors for harvesters, &c	Sweet, Barnes & Co	571
D.		
Dressing-compound	E. R. Millard	190
Durham tobacco	W. T. Blackwell	122
Dyeing and coloring compounds	W. H. Place & Co	250
E.		
Edge-tool	Dunn Edge-Tool Company	477
Engine-oil	Harmon, Merrick & Co	430
Essence of coffee	Butler, Earhart & Co	425
F.		
Fertilizer	G. Bourne	100
Fertilizer	Smith & Harris	245
Fertilizer	Charleston (S. C.) Mining and Manufacturing Company.	293
Fertilizer	Walton, Whann & Co	319
Fertilizer	T. J. Hand	478
Fertilizer	J. Horner, jr	535
Fertilizers	J. Horner, jr	594
Fine cotton shirting	Harris Manufacturing Company	479
Fire-brick, tile, &c	McConnell, Porter & Co	510
Fire-extinguisher	Northwestern Fire-Extinguisher Company.	356
Fire-place heaters	Richardson, Boynton & Co	501
Fish	A. T. Caruw	476

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
Fish-line	G. H. Mansfield	509
Flour	H. Cole & Co	256
Flour	S. H. Anderson & Co	290
Flour	W. M. Galt	458
Flour	W. H. Tenney & Sons	573
Forks, Agricultural	Batcheller Manufacturing Company, New York.	131
Fringes, ribbons, and trimmings of silk	Silbermann, Heinemann & Co., New York.	134
Fruit-jar	Mason Manufacturing Company	276
Frying-pan	S. Smith	284
G.		
Gaiters	T. R. Evans	426
Garter	A. H. Pike	298
Gentlemen's boots	Clement, Colburn & Co	516
Gentlemen's furnishing goods	A. W. W. Miller	258
Gentlemen's furnishing goods	Fisk, Clark & Flagg	270
Gentlemen's furnishing goods	Fisk, Clark & Flagg	271
Gentlemen's furnishing goods	Fisk, Clark & Flagg	296
Gentlemen's furnishing goods	Fisk, Clark & Flagg	297
Gin	I. D. Richards & Sons	137
Gin	L. Myers & Co	365
Gin	I. D. Richards & Sons	485
Gin	F. Schuchardt	502
Gin	F. Schuchardt	503
Gin	Gill & Loots	531
Gin	T. L. Smith	551
Gin	I. D. Richards & Sons	560
Gin	A. W. Balch & Co	588
Gin	A. W. Balch & Co	589
Ginger-ale and winter beverage	A. Carson & W. Lemon	150
Gloves	Ware, Marshall & Co	596
Glue	Baeder, Adamson & Co	175
Glycerine soap	Mark & Rawolle	364
Governors for steam-engines	J. A. Lynch & E. B. Buckingham	334
Gray cloth	L. Pomeroy's Sons	196
H.		
Hair and face dressings	O. Clark	456
Hair, Preparation for the	D. Barnes	235
Hair-restorer	E. A. Warren	445
Harness	J. P. Hill & Co	567
Harvesters	Harris Manufacturing Company	428
Hat	N. A. Baldwin, J. H. Brintice, and J. R. Waller.	182
Hat	Yates, Wharton & Co	369
Hats, caps, and straw goods	Dunlap & Co	170
Hay-elevator and other agricultural implements	A. J. Nellis	124
Horse-nail	Northwestern Horse-Nail Company	277
Hosiery trimmings and gentlemen's furnishing goods	J. P. Loring	363
Hydraulic cement	Hydraulic Cement Company	347
Hydraulic cement	Utica Cement Company	433
Hydrocarbon-oil	R. S., W. B., and J. Merrill	557
I.		
Ink	Carter Brothers & Co	368
Ink, Printers'	C. E. Johnson	228
Insect-powder	D. Barnes	234
Insect-powder	J. M. Hughes	332
J.		
Jewelry	W. M. Elias & Brother	237
Jewelry	J. P. Turner	415
Jewelry and watches	S. Landsberg	419
K.		
Kerosene and spirits of turpentine	F. Spies	130
Kitchen-ranges	Bartlet Robbins	513
Knit goods and fabrics	P. M. Hardee	497
L.		
Label and shoe-card	S. Crump	457
Lace goods	A. G. Jennings	163
Ladies' collars, cuffs, &c	E. Husson	491

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
Ladies' under-garments, ruffles, &c.	G. A. Whiting	359
Lathe-chucks	R. Horton & Son	518
Laundry-bluing	P. V. Viele	438
Leaf-tobacco	S. Hernsheim	272
Leather	Walker Oakley & Co	280
Leather	G. F. and C. T. Page	441
Leather	Eagle Tanning-Works, Chicago	449
Lightning-rods	S. J. Mitchell	354
Linen goods and fabrics containing linen	J. Bullocke	327
Linen thread	J. Knox, jr	482
Liniment	D. Barnes	233
Liniment	J. Shember	263
Liniment	W. H. Adams and F. A. Young	446
Liquid slating, &c	J. D. Wilder	511
Locks and hardware	Hillebrand & Wolf	179
Loom-temple	Dutcher Temple Company	496
Lubricating-compound	G. M. Dennison	506
Lubricating-oil	Warfield & Co	145
Lubricating-oil	F. M. Backus	206
M.		
Machinery	J. Cooper	260
Matches	Bock, Genin & Co	352
Mathematical instruments	Heller & Brightly	440
Medford rum	D. Lawrence & Sons	165
Medical compound for cattle	D. P. Mathews	490
Medicinal preparation	W. S. Wells & J. J. Stell	167
Medicinal preparation	W. S. Wells & J. J. Stell	168
Medicinal preparation	G. B. Thurston	247
Medicine	G. H. York & Co	174
Medicine	Ridenour, Coblents & Co	186
Medicine	H. H. Hay	206
Medicine	Hostetter and Smith	223
Medicine	T. S. Hodgson	238
Medicine	G. Reno	289
Medicine	T. E. Jenkins	310
Medicine	Lee & Brother	333
Medicine	H. J. Hartwell	346
Medicine	E. R. Phillips & Co	357
Medicine	D. Dick	362
Medicine	M. E. Perrin	367
Medicine	S. H. Kennedy	380
Medicine	H. M. Billings	387
Medicine	J. Q. Kellogg	396
Medicine	J. L. S. Hall	408
Medicine	P. Davis & Son	416
Medicine	J. N. Harris & Co	417
Medicine	Tilden & Co	431
Medicine	E. S. Sharp	433
Medicine	Dunn & Co	448
Medicine	J. Scott	450
Medicine	Thompson, Steele & Price Manufacturing Company, Chicago.	453
Medicine	A. F. Shannon	465
Medicine	F. L. Richardson	466
Medicine	A. J. Hopkins	534
Medicine	Cloud, Aikin & Co	554
Medicine	E. Chiles	574
Medicine	Holloway & Co	506
Medicine	Holloway & Co	509
Medicines	E. S. Waine	345
Medicines	J. J. Haley	530
Medicines	W. A. Bishop	545
Men's clothing	E. T. Steel & Co	147
Mince-meat	Atmore & Son	436
Mineral water	Saratoga Seltzer Spring Company	213
Mineral water	Congress and Empire Spring Company	398
Mineral water	G. R. Bishop	495
Mohair	W. I. Peake	200
Mohair	W. I. Peake	261
Molasses-gate	G. S. Lincoln & Co	146
Mucilage	Carter Brothers & Co	548
N.		
Needle	R. J. Roberts	358
Nets and lace	A. G. Jennings	311
Nets and lace	A. G. Jennings	312
Nets and lace	A. G. Jennings	313
Nets and lace goods	A. G. Jennings	391

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
Nets and lace goods	A. G. Jennings	392
Nets and lace goods	A. G. Jennings	393
Nets and lace goods	A. G. Jennings	394
Nets and lace goods	A. G. Jennings	395
Newspaper	F. C. Barksdale	434
Nipple-salve	J. Lovett	508
O.		
Oil-cans	J. P. Haines	506
Oil, Composition	Butler & Haynes	148
Oil, Factory	C. L. Morehouse	154
Oil for illumination, Mineral	Bostwick & Tilford	376
Oil for illumination, Mineral	Bostwick & Tilford	377
Oil, Illuminating	C. L. Morehouse	152
Oil, Lubricating	C. L. Morehouse	153
Oil, Machinery	C. L. Morehouse	151
Oils, Illuminating	J. D. Spang	138
Oils or burning-fluids, Illuminating	W. E. Jervey	164
P.		
Paint	Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.	198
Paint	J. Smith & Co	172
Paint	The Averill Chemical Paint Company	224
Paint	O. Johnson & Co	379
Paint	Averill Chemical Paint Company	384
Paint	G. T. Young & Co	385
Paint	G. T. Young & Co	386
Paint	R. F. Seaman	437
Paint	Holden, Tascott & Co	469
Paint	Holden, Tascott & Co	470
Paint	Holden, Tascott & Co	471
Paint	T. McKeon	484
Paint	Walter & Fielding	493
Paint, Chemical	Walter & Fielding	494
Paint, Liquid chemical	Averill Chemical Paint Company, New York.	130
Paint, Metallic	Averill Chemical Paint Company, New York.	129
Palm-leaf brushes	F. G. Bourke & Co	255
Paper	J. L. Sherriff	344
Paper	Union Manufacturing Company	187
Perfume	Rock River Paper Company	281
Photo-engravings	Phalon & Son	325
Photo-engravings	Rockwood Photo-Engraving Company	337
Picture-frames, brackets, &c	Rockwood Photo-Engraving Company	338
Pigment	M. J. Rice	413
Pine-apple beer	J. H. Nason	229
Pipifax bitters	O. A. Hooper	533
Pistol	Walter & Sheffer	434
Pitchfork	The American Standard Tool Company	318
Planter, Corn	Bouton, Whitehead & Co	501
Playing-cards	J. Selby & Co	144
Plow	V. E. Mauger	556
Plow and other agricultural implements	Bucher, Gibbs & Co	217
Plows	J. C. Bidwell	155
Plows and cultivators	The Collins Company	523
Plumbago grease	Moline Plow Company	251
Polish for metal ware	American Graphite Company	197
Polishing-compound	W. and T. S. Witherspoon and T. Wern.	466
Polishing-compound	E. Morgan's Sons	323
Preparation for the hair	E. Morgan's Sons	324
Preparation for the hair	C. E. Georger	162
Prepared cotton for mattresses, cushions, &c	G. C. Barclay	207
Preserved fish	Patent Elastic Felt Company, New York.	464
Pump	The American Club Fish Company	285
Pump	C. G. Blatchley	198
Pump, Wood	H. Smith	432
R.	Rich & Burlingham	243
Range for stoves	Abendroth Brothers	306
Ranges	The Scranton Stove and Manufacturing Company.	342
Ranges for stoves	Abendroth Brothers	307
Razor	R. J. Roberts	299
Razor	R. J. Roberts	300

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
Razor-steel	R. J. Roberts	369
Reed-organ	J. Estey & Co	468
Rubber paint	Rubber Paint Company	582
S.		
Salve	R. Dobbins	184
Salve	O. Palmer	218
Salt	F. Baker	373
Saws	The Bissell and Moore Manufacturing Company.	341
Scale, Weighing	E. F. Jones	200
Scissors	R. J. Roberts	268
Scythes	The Dunn Edge-Tool Company	562
Scythes	The Dunn Edge-Tool Company	563
Sea-moss cough-candy, troches, and sirup	W. J. Rand, jr	125
Seeds	Briggs & Bro	442
Seeds	Briggs & Bro	443
Sewing-machine	Wheeler & Wilson Manufacturing Company.	181
Sewing-machine	J. H. Whitney	309
Sewing-machine	The Remington Empire Sewing-Machine Company.	558
Sewing-machine attachments	Domestic Sewing-Machine Company	530
Sewing-machines	Domestic Sewing-Machine Company	414
Shawl	F. Steffan & Co	307
Shawls, cloakings, beavers, &c	Home Woolen Company	568
Sheet and plate iron	A. Wood & Co	564
Sheet-iron	Rogers & Burchfield	565
Sheet-metal wares and trimmings	H. W. Shepard and R. Seaman	343
Sheet or plate iron	A. Wood & Co	505
Sherry wine	L. Myers & Co	306
Shield for neck-tie, cravats, &c	W. H. Hart, jr., and Brother	400
Shirt	L. Levi	179
Shirt	Morison, Son & Hutchinson	398
Shirt	Hutchinson & Thomas	273
Shirting	W. E. Joslin	498
Shirts	T. Langdon & Co	540
Shirts and corsets	T. Langdon & Co	543
Shirts, drawers, &c	L. and S. Sternberger	253
Shoes, brogans, and boots	E. F. Jones	149
Sirup	W. Moller & Sons	195
Sirup and molasses	W. Moller & Sons	348
Slates, &c	The Silicate Slate Company	205
Smoking-tobacco	J. W. Carroll	156
Smoking-tobacco	J. W. Carroll	157
Smoking-tobacco	J. W. Carroll	158
Smoking-tobacco	W. T. Blackwell	454
Smoking-tobacco	L. L. Armstead	519
Smoking-tobacco	C. R. Messinger	556
Smoking-tobacco	C. R. Messinger	559
Soap	Leberman & Co	185
Soap	Leberman & Co	189
Soap	C. E. Willetts	365
Soap	G. Baker and I. Bullock	473
Soap	W. Dreydoppel	555
Soaps	Rappleye & Knight	431
Spectacles	J. Diamond	567
Spices, groceries, and drugs	E. R. Durkee & Co	603
Spices, groceries, and drugs	E. R. Durkee & Co	604
Spices, groceries, and drugs	E. R. Durkee & Co	605
Spices, groceries, and drugs	E. R. Durkee & Co	606
Spool-cotton	L. Coleman & Co	183
Stationers' hardware	T. S. Hudson	210
Steam and hydraulic packing	W. M. Canfield	300
Steam-engine	J. Sharp	133
Stomach-bitters	J. Demarest	257
Stove	I. Droege	161
Stove	The Scranton Stove and Manufacturing Company.	267
Stove	Comstock, Castle & Co	295
Stove, Cooking	Perry & Co	270
Stove-polish	R. E. Cherrington	227
Stoves	Redway & Burton	520
Strengthening-plaster	C. W. Massonneau	450
Sugar	W. Moller & Sons	349
Sugar-corn	J. P. Baxter	375
Sugar, sirup, and molasses	W. Moller & Sons	159
Surgeons' instruments	S. Maw, Son & Thompson	430

Alphabetical list of trade-marks—Continued.

Invention or discovery.	Name of patentee.	No.
T.		
Tea	Williams, Blanchard & Co	214
Tea	C. A. Low & Co	240
Tea	The Fusiyama Tea-Importing Company	286
Tea	Kwong On-Cheong	409
Tea and coffee	The Great New York Tea Company	524
Teas	Allen Shapleigh & Co	527
Thrashing-machine	J. Brayley	216
Thrashing-machine	J. Brayley	308
Tobacco	E. J. Oppelt	203
Tobacco	L. L. Armistead	231
Tobacco	W. S. Kimball & Co	274
Tobacco	A. Pearl	350
Tobacco	T. C. Williams and J. Thomas, jr	400
Tobacco	Winfree & Loyd	402
Tobacco	W. A. and F. R. Brown	467
Tobacco, Smoking and chewing	Goodwin & Co	607
Toy and fancy goods	E. T. Pilkinton	279
Twine, warp, yarn, &c	Strasburgher, Fritz & Pfeiffer	246
Twist tobacco	E. W. Keeler	239
	R. W. Cameron & Co	291
U.		
Umbrella	H. T. Robbins	315
Umbrellas and parasols	Elwell, Fisk & Worth	406
Umbrellas and parasols	Elwell, Fisk & Worth	407
Unions, lastings, and serge-de-Berries	W. and H. Foster	427
V.		
Vinegar and cider	Rowe, Graves & Co	283
W.		
Wagons	S. N. Brown & Co	528
Watches and jewelry	Aikin, Lambert & Co	472
Wearing-apparel for protecting lungs, &c	P. Lear	569
Whisky	H. Webster & Co	142
Whisky	Vidvard & Sheehan	180
Whisky	Mills, Johnson & Co	191
Whisky	Mills, Johnson & Co	192
Whisky	Mills, Johnson & Co	193
Whisky	Mills, Johnson & Co	194
Whisky	Mills, Johnson & Co	201
Whisky	J. L. Bernecker	207
Whisky	D. V. B. Henarie	209
Whisky	R. Martin & Co	210
Whisky	Mills, Johnson & Co	215
Whisky	B. R. Reynolds	221
Whisky	Vidvard & Sheehan	226
Whisky	Mills, Johnson & Co	241
Whisky	Seltzer & Miller	301
Whisky	A. H. Gillett	321
Whisky	J. Moore & Co	322
Whisky	C. H. Ross & Co	339
Whisky	C. H. Ross & Co	340
Whisky	J. A. Monks & Sons	355
Whisky	Capel & Roebuck	370
Whisky	Capel & Roebuck	371
Whisky	J. Dorn	389
Whisky	J. A. Monks & Sons	410
Whisky	J. A. Monks & Sons	411
Whisky	T. E. Moore	412
Whisky	Mills, Johnson & Co	461
Whisky	Mills, Johnson & Co	462
Whisky	Mills, Johnson & Co	463
Whisky	D. A. Stanley	488
Whisky	Walsh, Brooks & Kellogg	489
Whisky	Walsh, Brooks & Kellogg	490
Whisky	Walsh, Brooks & Kellogg	491
Whisky	Walsh, Brooks & Kellogg	492
Whisky	C. H. Ross & Co	550
Whisky	A. W. Balch & Co	586
Whisky	A. W. Balch & Co	587
Whisky	A. W. Balch & Co	601
Whisky	A. W. Balch & Co	602
Whisky and bitters	A. K. Lewis & Co	275
Wine	M. Werk & Sons	206
Wine	A. W. Balch & Co	590

Alphabetical list of designs.

Invention or discovery.	Name of patentee.	No.
Wines, liquors, &c	I. Fuller	517
Wood carpeting, wainscoting, &c	National Wood-Manufacturing Company.	519
Wood-working	McBeth, Bentel & Margedant	361
Woolen fabrics	San Francisco Pioneer Woolen Factory.	420
Woolen goods	W. P. Gibbs, R. G. Ross, and I. N., and W. B. Field.	199
Working barrels or pumps for petroleum-wells	Woodbury, Booth & Co	435
Worsted goods	S. McLean & Co	136
Woven fabrics	S. J. Solms	502
Writing-pen	C. H. Clifton	353
Y.		
Yeast	The National Yeast Company, Seneca Falls, New York.	197
Yeast	E. T. Smith	361

DESIGNS.

A.		
Advertising-print	J. Brooks	5,668
Alto-relief	A. Van Wart	5,657
Aprons, Printed material for	W. H. Walton	4,661
B.		
Back of mitten	W. S. Tooker	4,716
Badge	N. Joseph	5,226
Badge	N. Joseph	5,227
Badge	J. Bedichemer	5,365
Badge-pin, Telegraphers'	O. C. Dow and A. C. Harvey	4,748
Band-saw frame	W. H. Doane	5,369
Banner-pin	W. Ricker	5,766
Barn-door hanger	P. P. Child	5,197
Barn-door hanger	J. Herald	5,368
Base for bird-cage bracket	A. Wunder	5,287
Base of carriage-bodies	R. M. Stivers	5,193
Basin-front	F. Boyd	5,042
Bed-quilt	F. C. Van Horn	4,610
Bed-quilt	F. W. Eger and H. H. Kunze	4,689
Bed-quilt	L. Krewzaberger	4,735
Bed-quilt	J. U. Nef	4,955
Bedstead-fastening	N. C. Whitcomb	4,913
Bell-crank and escutcheon	P. Cinquini	4,695
Bellows	A. F. Jones	4,940
Bell-tower	T. W. H. Moseley	5,117
Billiard-table	H. W. Collender	4,973
Billiard-table	L. Decker	5,332
Bird-cage	O. Lindemann	5,230
Bird-cage	G. R. Osborn and B. A. Drayton	5,254
Bird-cage	G. R. Osborn and B. A. Drayton	5,255
Bird-cage hook	J. B. Sargent	5,203
Bitter-tube	J. L. Dawes	4,739
Blacking-box	D. O'Leary	5,119
Black-lead block	W. C. James	5,045
Bobbin-score	J. Salisbury	5,036
Bolt, Door	A. Wunder	5,295
Boring-machine	C. E. McBeth, F. Bentel, and W. C. Margedant.	5,040
Bottle	T. B. Atterbury	4,773
Bottle	W. A. Demuth	4,636
Bottle	N. Sleeper	5,401
Bottle, Glass	W. R. Warner	4,745
Bottle-stand	C. H. Latham and G. D. Dudley	4,619
Bottle-stand	G. Gill	4,618
Bow instrument	L. Parmalee	4,688
Box	A. H. Mershon	4,796
Box, Cigar	A. Lie	5,277
Box for the tops of bureaus	R. C. Swan	4,696
Box for the tops of bureaus	R. C. Swan	4,697
Box for the tops of bureaus	R. C. Swan	4,698
Box for the tops of bureaus	R. C. Swan	4,699
Box for the tops of bureaus	D. A. Hall and D. Garrison	4,692
Box for the tops of bureaus	D. A. Hall and D. Garrison	4,693
Box, Fruit	J. Sherman	5,295

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Box, Muff and collar	R. M. Seldis	4,863
Bracelet	T. J. Smith	4,643
Bracelet	T. J. Smith	4,644
Bracket	D. H. Smith	4,911
Bracket	J. H. Bellamy	4,853
Bracket	H. Gilson and C. F. Southwick	4,909
Bracket and chandelier	W. D. Gridley	5,105
Bracket, Lamp	T. Village	5,091
Bracket or chandelier-arm	F. R. Seldensticker	4,770
Broiler	T. Village	5,092
Brush	J. T. Page	4,941
Bucket, Refrigerative	J. L. Whiting	4,718
Buckle	J. Liming	4,940
Buckle	L. Schindler	5,053
Buckle and ring	A. T. Thayer	5,403
Buckle-frame	F. A. Schultz	5,054
Bundle of kindling-wood	J. E. Smith	4,698
Burial-case	J. L. Seymour	4,935
Burial-casket	S. Stein	5,363
Burial-casket	E. L. Cooke and J. H. Whitmore	4,779
Burner, Lamp	W. F. Lane	5,253
Burner, Lamp	H. W. Hayden	4,829
Bustle	H. W. Hayden	4,830
Butt-hinge	A. W. Thomas	5,366
	F. W. Brocksieper	5,366
C.		
Cake-dish	W. Parkin	5,190
Cake-pan	G. W. Ketcham	5,030
Cake-pan	A. Reid	5,138
Cake-tazza	G. Gill	5,442
Cake-tazza or flower-stand	W. Parkin	5,445
Call-bell	H. C. Wilcox	5,195
Can, Wood-incased	J. G. Evenden	5,022
Can, Wood-incased	J. G. Evenden	5,023
Cap for trunk-handles	T. L. Rivers	4,933
Card suspension-clip	G. W. McGill	5,036
Carriage-door handle	E. Welle	5,163
Carriage-spring	G. B. Robinson	5,051
Carpet	R. R. Campbell	5,008
Carpet	R. R. Campbell	5,009
Carpet	R. R. Campbell	5,010
Carpet	R. R. Campbell	5,011
Carpet	R. R. Campbell	5,012
Carpet	R. R. Campbell	5,013
Carpet	R. R. Campbell	5,014
Carpet	R. R. Campbell	5,015
Carpet	R. R. Campbell	5,016
Carpet	A. Cowell	5,018
Carpet	A. Cowell	5,019
Carpet	A. Cowell	5,020
Carpet	A. Cowell	5,021
Carpet	J. Magee	5,032
Carpet	J. Magee	5,033
Carpet	J. Magee	5,034
Carpet	J. Magee	5,035
Carpet	E. J. Ney	5,037
Carpet	T. Pennell	5,038
Carpet	L. A. Upson	5,040
Carpet	J. Magee	5,047
Carpet	J. Neil	5,188
Carpet	J. Neil	5,189
Carpet	G. Crompton	5,198
Carpet	G. Crompton	5,199
Carpet	J. Crabtree	5,215
Carpet	J. Crabtree	5,216
Carpet	J. Crabtree	5,217
Carpet	J. Crabtree	5,218
Carpet	J. Crabtree	5,219
Carpet	J. Crabtree	5,220
Carpet	J. Crabtree	5,221
Carpet	J. Crabtree	5,222
Carpet	W. Lockhead	5,223
Carpet	W. Lockhead	5,240
Carpet	W. Lockhead	5,241
Carpet	G. C. Wright	5,243
Carpet	G. C. Wright	5,245
Carpet	G. C. Wright	5,246
Carpet	G. C. Wright	5,247
		5,248

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Carpet	G. C. Wright	5,[illegible]
Carpet	G. C. Wright	5,[illegible]
Carpet	J. H. Bromley	5,[illegible]
Carpet	B. Crabtree, jr.	5,[illegible]
Carpet-pattern	R. R. Campbell	4,547
Carpet-pattern	R. R. Campbell	4,548
Carpet-pattern	R. R. Campbell	4,549
Carpet-pattern	R. R. Campbell	4,550
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. H. Bromley	4,[illegible]
Carpet-pattern	H. S. Kerr	4,[illegible]
Carpet-pattern	H. S. Kerr	4,[illegible]
Carpet-pattern	C. J. Koch	4,[illegible]
Carpet-pattern	H. S. Kerr	4,[illegible]
Carpet-pattern	H. S. Kerr	4,[illegible]
Carpet-pattern	C. S. Lilley	4,671
Carpet-pattern	C. S. Lilley	4,672
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. Crabtree	4,[illegible]
Carpet-pattern	J. T. Webster	4,717
Carpet-pattern	J. Crabtree	4,731
Carpet-pattern	G. Holdsworth	4,734
Carpet-pattern	W. Mallinson	4,737
Carpet-pattern	A. McCallum	4,738
Carpet-pattern	A. McCallum	4,739
Carpet-pattern	A. McCallum	4,740
Carpet-pattern	L. G. Malkin	4,760
Carpet-pattern	L. G. Malkin	4,761
Carpet-pattern	L. G. Malkin	4,762
Carpet-pattern	L. G. Malkin	4,763
Carpet-pattern	L. G. Malkin	4,764
Carpet-pattern	L. G. Malkin	4,765
Carpet-pattern	L. G. Malkin	4,766
Carpet-pattern	L. G. Malkin	4,767
Carpet-pattern	J. H. Smith	4,771
Carpet-pattern	J. H. Smith	4,772
Carpet-pattern	R. R. Campbell	4,775
Carpet-pattern	R. R. Campbell	4,776
Carpet-pattern	R. R. Campbell	4,777
Carpet-pattern	R. R. Campbell	4,778
Carpet-pattern	A. Cowell	4,781
Carpet-pattern	A. Cowell	4,782
Carpet-pattern	A. Cowell	4,783
Carpet-pattern	A. Cowell	4,784
Carpet-pattern	A. Cowell	4,785
Carpet-pattern	A. Cowell	4,786
Carpet-pattern	A. Cowell	4,787
Carpet-pattern	E. J. Ney	4,788
Carpet-pattern	R. R. Campbell	4,867
Carpet-pattern	R. R. Campbell	4,868
Carpet-pattern	R. R. Campbell	4,869
Carpet-pattern	R. R. Campbell	4,870
Carpet-pattern	R. R. Campbell	4,871
Carpet-pattern	R. R. Campbell	4,872
Carpet-pattern	R. R. Campbell	4,873
Carpet-pattern	A. Heald	4,878
Carpet-pattern	A. Heald	4,879
Carpet-pattern	A. Heald	4,880
Carpet-pattern	A. Heald	4,881
Carpet-pattern	A. Heald	4,882
Carpet-pattern	A. Heald	4,883
Carpet-pattern	H. S. Kerr	4,887
Carpet-pattern	C. T. Meyer	4,889
Carpet-pattern	C. T. Meyer	4,890

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Carpet-pattern	C. T. Meyer	4,891
Carpet-pattern	C. T. Meyer	4,892
Carpet-pattern	C. T. Meyer	4,893
Carpet-pattern	C. T. Meyer	4,894
Carpet-pattern	E. J. Ney	4,896
Carpet-pattern	E. J. Ney	4,897
Carpet-pattern	E. J. Ney	4,898
Carpet-pattern	A. McCallum	4,905
Carpet-pattern	E. Perrin	4,908
Carpet-pattern	E. Perrin	4,909
Carpet-pattern	G. C. Wright	4,914
Carpet-pattern	J. Crabtree	4,917
Carpet-pattern	J. Crabtree	4,918
Carpet-pattern	J. Fisher	4,920
Carpet-pattern	H. S. Kerr	4,925
Carpet-pattern	H. S. Kerr	4,926
Carpet-pattern	E. J. Ney	4,928
Carpet-pattern	E. J. Ney	4,929
Carpet-pattern	R. Charlton	4,943
Carpet-pattern	J. Fisher	4,944
Carpet-pattern	W. Kerr	4,950
Carpet-pattern	W. Kerr	4,951
Carpet-pattern	W. Kerr	4,952
Carpet-pattern	J. H. Smith	4,956
Carpet-pattern	A. McCallum	4,960
Carpet-pattern	J. Fisher	4,967
Carpet-pattern	J. Fisher	4,968
Carpet-pattern	J. Fisher	4,969
Carpet-pattern	E. J. Ney	4,984
Carpet-pattern	E. J. Ney	4,985
Carpet-pattern	E. J. Ney	4,986
Carpet-pattern	E. J. Ney	4,987
Carpet-pattern	E. J. Ney	4,988
Carpet-pattern	E. J. Ney	4,989
Carpet-pattern	E. J. Ney	4,990
Carpet-pattern	E. J. Ney	5,000
Carpet-pattern	E. J. Ney	5,001
Carpet-pattern	E. J. Ney	5,002
Carpet-pattern	J. C. Johnston	5,003
Carpet-pattern	G. C. Wright	5,020
Carpet-pattern	G. C. Wright	5,061
Carpet-pattern	G. C. Wright	5,062
Carpet-pattern	G. C. Wright	5,063
Carpet-pattern	G. C. Wright	5,064
Carpet pattern	O. Heinigke	5,073
Carpet-pattern	L. G. Malkin	5,076
Carpet-pattern	E. J. Ney	5,078
Carpet-pattern	E. J. Ney	5,079
Carpet-pattern	E. J. Ney	5,080
Carpet-pattern	E. J. Ney	5,081
Carpet-pattern	E. J. Ney	5,082
Carpet-pattern	E. J. Ney	5,083
Carpet-pattern	E. J. Ney	5,084
Carpet-pattern	J. H. Smith	5,085
Carpet-pattern	H. S. Kerr	5,086
Carpet-pattern	J. Magee	5,108
Carpet-pattern	T. Pennell	5,109
Carpet-pattern	G. C. Wright	5,119
Carpet-pattern	G. C. Wright	5,121
Carpet-pattern	G. C. Wright	5,122
Carpet-pattern	G. C. Wright	5,123
Carpet-pattern	G. C. Wright	5,124
Carpet-pattern	G. C. Wright	5,125
Carpet-pattern	W. Kerr	5,126
Carpet-pattern	R. R. Campbell	5,139
Carpet-pattern	R. R. Campbell	5,164
Carpet-pattern	R. R. Campbell	5,165
Carpet-pattern	R. R. Campbell	5,166
Carpet-pattern	R. R. Campbell	5,167
Carpet-pattern	R. R. Campbell	5,168
Carpet-pattern	R. R. Campbell	5,169
Carpet-pattern	R. R. Campbell	5,170
Carpet-pattern	R. R. Campbell	5,171
Carpet-pattern	R. R. Campbell	5,172
Carpet-pattern	R. R. Campbell	5,173
Carpet-pattern	A. Cowell	5,174
Carpet-pattern	W. Kerr	5,175
Carpet-pattern	C. S. Lilley	5,184
Carpet-pattern	H. S. Kerr	5,187
Carpet-pattern	J. M. Christie	5,265
Carpet-pattern	W. McCallum	5,278

Alphabetical list of designs—Continued.

Invention, or discovery.	Name of patentee.	No.
Carpet-pattern	W. McCallum	5,279
Carpet-pattern	D. Paton	5,280
Carpet-pattern	D. Paton	5,281
Carpet-pattern	J. Magee	5,300
Carpet-pattern	T. Barclay	5,326
Carpet-pattern	J. Bouét	5,327
Carpet-pattern	O. Heinigke	5,331
Carpet-pattern	O. Heinigke	5,332
Carpet-pattern	O. Heinigke	5,333
Carpet-pattern	W. Mallinson	5,334
Carpet-pattern	W. Mallinson	5,335
Carpet-pattern	W. Mallinson	5,336
Carpet-pattern	J. J. Patchett	5,337
Carpet-pattern	J. J. Patchett	5,338
Carpet-pattern	H. Robinson	5,339
Carpet-pattern	H. Robinson	5,340
Carpet-pattern	H. Robinson	5,341
Carpet-pattern	A. Cowell	5,351
Carpet-pattern	A. Cowell	5,352
Carpet-pattern	A. Cowell	5,353
Carpet-pattern	A. Cowell	5,354
Carpet-pattern	A. Cowell	5,355
Carpet-pattern	A. Cowell	5,356
Carpet-pattern	A. Cowell	5,357
Carpet-pattern	A. Cowell	5,358
Carpet-pattern	A. Cowell	5,359
Carpet-pattern	V. Guéritt	5,360
Carpet-pattern	J. M. Silcox	5,361
Carpet-pattern	J. M. Silcox	5,362
Carpet-pattern	J. H. Smith	5,373
Carpet-pattern	A. Heald	5,375
Carpet-pattern	A. Heald	5,376
Carpet-pattern	J. Barrett	5,379
Carpet-pattern	A. Beck	5,380
Carpet-pattern	R. R. Campbell	5,381
Carpet-pattern	R. R. Campbell	5,382
Carpet-pattern	R. R. Campbell	5,383
Carpet-pattern	R. R. Campbell	5,384
Carpet-pattern	R. R. Campbell	5,385
Carpet-pattern	R. R. Campbell	5,386
Carpet-pattern	R. R. Campbell	5,387
Carpet-pattern	R. R. Campbell	5,388
Carpet-pattern	R. R. Campbell	5,389
Carpet-pattern	A. Heald	5,390
Carpet-pattern	A. Heald	5,391
Carpet-pattern	O. Heinigke	5,392
Carpet-pattern	J. E. Stone	5,402
Carpet-pattern	J. Wade	5,409
Carpet-pattern	J. Wade	5,410
Carpet-pattern	A. McCallum	5,417
Carpet-pattern	A. McCallum	5,418
Carpet-pattern	A. McCallum	5,419
Carpet-pattern	A. McCallum	5,420
Carpet-pattern	A. McCallum	5,421
Carpet-pattern	A. McCallum	5,422
Carpet-pattern	J. C. Johnson	5,427
Carpet-pattern	R. R. Campbell	5,434
Carpet-pattern	R. R. Campbell	5,435
Carpet-pattern	R. R. Campbell	5,436
Carpet-pattern	R. R. Campbell	5,437
Carpet-pattern	R. R. Campbell	5,438
Carpet-pattern	R. R. Campbell	5,439
Carpet-pattern	R. R. Campbell	5,440
Carpet-pattern	R. R. Campbell	5,441
Carpet-pattern	D. McNair	5,444
Caster	E. Perrin	5,446
Caster-bottle	J. L. Haven	5,140
Caster-bottle	J. B. Graves	4,618
Caster-ring	J. Hoare	4,758
Caster, Three-bottled	E. J. Steele	5,375
Ceilings, Center-piece in	G. D. Dudley	5,411
Center-piece	E. Gouttink	4,983
Center-piece	S. Kellett	4,985
Center-piece	S. Kellett	4,986
Center-piece	H. Berger	5,447
Center-piece, Escutcheon	H. Berger	5,213
Center-piece for ceilings	C. Autenreith	5,397
Center-piece, Oblong	H. Berger	5,211
Center-piece, Star	H. Berger	5,212
Center-piece, Stucco	J. John	4,989

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Chain-hook	G. D. Stevens	4,562
Chain-link	V. Draper	4,743
Chain-link	V. Draper	4,749
Chain-link	V. Draper	4,857
Chain-link, Ornamental	V. Draper	4,722
Chain-pump	H. L. Fry	4,922
Chain-pump	H. L. Fry	4,945
Chair	A. Kimbel	4,634
Chair	A. Kimbel	4,635
Chair	H. Ocorr	4,741
Chair	H. Ocorr	4,742
Chair or safe, Back of a	J. G. Strain	5,325
Chandelier	G. Uversagt	4,699
Chandelier	P. Cinquini	4,984
Chandelier	F. R. Seidensticker	5,005
Chandelier	F. R. Seidensticker	5,343
Chest-handle	F. R. Seidensticker	5,344
Chimney, Lamp	W. E. Sparks	5,346
Cigar-box	M. Sweeney	4,983
Claw-bar	C. Schmidlapp	5,210
Claw-bar	D. Christie	4,811
Clock-case	J. McMahon	4,967
Clock-case	N. Mühler	4,797
Clock-case	W. L. Tyler	4,912
Clock-case	E. Ingraham	4,979
Clock-case	P. Converse	4,986
Clock-case sash	E. Ingrahm	4,948
Clock-dial, Calendar	D. J. Gale	4,649
Clock-front	J. Moore, jr	4,846
Clock-front	J. H. Bellamy	4,939
Clock-front	J. A. Batchelor	4,942
Clock-front	W. H. Griffiths	5,129
Clothes-line reel-iron	D. Densmore	4,668
Cloth, Woven	R. C. and J. W. Taft, and W. B. Weeden	4,864
Coal-hod	C. Linder	4,564
Coffin	W. G. Algeo	5,007
Coffin-end	W. G. Algeo	5,209
Coffin-top	W. G. Algeo	5,314
Collar-box cover	P. B. Pickens	4,556
Cooking-stove or range	N. S. Vedder and T. S. Heister	4,900
Corner-piece for rooms	C. A. Durgin	5,200
Corset	D. H. Fanning	4,617
Cottage front	C. Graham	4,843
Coupling, Thill	H. Newby	4,901
Coupling, Thill	H. Newby	5,302
Coupling, Thill	D. E. Wolff	5,306
Cupboard-latch	J. Ottner	4,930
Cupboard-latch	W. E. Sparks	5,345
Cushion for backs of chairs	J. Kuhlmann	5,238
Cylinder and frame, Steam-engine	J. R. Maxwell and E. Copo	5,324
D.		
Dentists' upper-impression tray	E. T. Starr	5,194
Desk, Advertising	L. W. Burton	5,214
Desk and seat, School	C. F. Palmer	4,647
Desks and seats, school, End of	G. H. Grant	4,845
Desk, School	T. A. Galt and G. S. Tracy	5,259
Dessert-set	C. Casper	4,613
Dessert-set	C. Casper	4,614
Display-card	S. Houghton	5,027
Door-handle	G. M. P. and C. H. Bradford	5,405
Dovetail	J. D. Kellogg	4,631
Drawer	H. P. Wetmore	4,938
Drawer-pull	J. E. Merriman	4,638
Drawer-pull	P. Cinquini	4,677
Drawer-pull	P. J. Clark	4,678
Drawer-pull	E. J. Steele	4,689
Drawer-pull	J. Kintz	5,185
Dress-trimming	J. B. Sargent	5,192
Dress-trimming	J. and J. Cash	4,567
Dress-trimming	J. and J. Cash	4,568
Dress-trimming	J. and J. Cash	4,569
Dress-trimming	J. and J. Cash	4,570
Dress-trimming	J. and J. Cash	4,571
Dress-trimming	J. and J. Cash	4,572
Dress-trimming	J. and J. Cash	4,573
Dress-trimming	J. and J. Cash	4,574
Dress-trimming	J. and J. Cash	4,575
Dress-trimming	J. and J. Cash	4,576
Dress-trimming	J. and J. Cash	4,577

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Dress-trimming	J. and J. Cash	4,578
Dress-trimming	J. and J. Cash	4,579
Dress-trimming	J. and J. Cash	4,580
Dress-trimming	J. and J. Cash	4,581
Dress-trimming	J. and J. Cash	4,582
Dress-trimming	J. and J. Cash	4,583
Dress-trimming	J. and J. Cash	4,584
Dress-waists	E. P. Smith	4,838
Drinking-glasses, Ornamentation of the bottom of	G. R. Fowle	4,911
E.		
Eccentric-yoke	D. Appel	5,096
Egg-steamer	W. Kirkham	4,854
Engine-governor case	J. A. Lynch	4,653
Engine, Steam	P. L. Weimer	4,804
Envelope-blank	G. Cade	4,830
Escritoire	J. F. Birchard	5,315
F.		
Fabric, Cellular	T. Dolan	4,957
Fabric, Net	J. Stack	5,270
Fabric, nubia, Knitted	J. Taylor	5,303
Fabric, Printed	T. Hardcastle	4,790
Fabric, Shawl	J. Hodgson	5,106
Fabric, Shawl	J. Hodgson	5,107
Fabric, Shawl	J. Hodgson	5,333
Fabric, Shawl	S. Byrom	5,367
Fabric, Stocking	T. Dolan	4,647
Fabric, Stocking	T. Dolan	4,648
Fabric, Stocking	T. Dolan	4,656
Fabric, Stocking	T. Dolan	4,926
Fabric, Stocking	T. Dolan	4,927
Fabric, Stocking	T. Dolan	4,975
Fabric, Stocking	T. Dolan	4,976
Fabric, Stocking	C. Button	5,099
Fabric, Stocking	C. Button	5,100
Fabric, Stocking	C. Button	5,101
Fastener for meeting-rails of sashes	H. Pye	5,228
Fastening for bedsteads	P. Bradford	5,266
Faucet-holder	W. H. McPherson	4,798
Feet for glass-ware	C. Iclenius	4,850
Fence-cap	J. Oesterling	5,260
Fence, Wire	G. W. Young	4,612
Filling-in tile	M. Dupuy	5,297
Fire-dog	B. Kreischer	5,186
Fire-iron stand	A. Wunder	5,350
Fire-iron stand	A. Wunder	5,285
Flange and crank	A. Wunder	5,286
Floor-cloth pattern	W. W. Eastman	4,791
Floor oil-cloth pattern	V. E. Meyer	4,909
Floor oil-cloth pattern	C. T. Meyer	4,654
Floor oil-cloth pattern	C. T. Meyer	4,655
Floor oil-cloth pattern	C. T. Meyer	4,656
Floor oil cloth pattern	C. T. Meyer	4,657
Floor oil-cloth pattern	C. T. Meyer	4,658
Floor oil-cloth pattern	C. T. Meyer	4,659
Floor oil-cloth pattern	C. T. Meyer	4,660
Floor oil-cloth pattern	C. T. Meyer	4,661
Floor oil-cloth pattern	C. T. Meyer	5,309
Floor oil-cloth pattern	C. T. Meyer	5,310
Floor oil-cloth pattern	C. T. Meyer	5,311
Flour-safe	G. Davis	5,294
Flower-stand	H. H. Hendrick	4,650
Fork or spoon handle	J. M. Culver	4,789
Fork or spoon handle	W. T. Kennedy	4,998
Fountain	J. W. Fiske	5,264
Fountain	J. W. Fiske	5,265
Fountain, Ornament for	J. Moore and W. Wilkinson	4,966
Fountain, Ornament for	J. Moore and W. Wilkinson	4,967
Fountain-vase	J. Moore and W. Wilkinson	4,969
Frame for church, hall, and lawn seats	H. M. Sherwood	5,268
Frame of a show-case	R. Hill	4,703
Frame of school-desks	A. E. Roberts	4,665
Fringe	H. A. Truitt	4,662
Fringe	W. B. Cunningham and P. Hill	5,424
Fringe	W. B. Cunningham and P. Hill	5,425
Fringe	W. B. Cunningham and P. Hill	5,426
Tringe, Tasseled	H. A. Truitt	4,663
Front of a catch-all	J. H. Bellamy	4,854

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Front of a country-house	C. Graham	4,844
Fruit-basket	S. D. Payne	4,899
Fruit-can	J. F. Merrill	4,954
Furnace, Hot-air	J. A. Lawson	5,074
Furnace, Hot-air	J. A. Lawson	5,075
G.		
Game-board, Combination	W. Hearn	5,073
Garment-measure	E. F. Harmon	5,138
Garment-supporting hook	C. A. Griswold	5,225
Garter and armlet card	S. Houghton	5,044
Gas fire-logs	T. N. Dixon and C. Friese	4,974
Gas-fitting	F. E. Thomas	4,851
Geometrical forms, Arrangement of	C. Baillairge	5,408
Glass-ware, Feet for	J. Oesterling	5,269
Glass-ware, Ornamentation of	J. E. Miller	5,261
Glass-ware, Ornamentation of	E. Ladner	4,707
Glass-ware, Ornamentation of	M. B. Campbell	4,774
Glass-ware, Ornamentation of	J. Oesterling	5,318
Glove	W. B. Green	4,923
Gloves, Palm and back pieces of	F. E. Hotchkiss	4,859
Gloves, Re-enforcing thumb-piece for	I. B. Whipple	4,865
Gored shirts, Printed material for	W. H. Walton	4,802
Grate-fender	G. Buchanan	5,321
Grate-front	C. Zenner	5,265
Grate-hearth	J. G. Ile	5,022
Grate, Revolving	J. D. Vance	4,800
Grate, Spider	N. H. Talbot	5,144
Grocers' can	J. J. Bockee	5,276
Group of statuary	J. Rogers	4,714
Group of statuary	A. Van Wart	5,089
Group of statuary	A. Van Wart	5,090
Group of statuary	J. Rogers	5,142
Group of statuary	J. Rogers	5,143
Group of statues	H. C. Brix	5,127
H.		
Hair-pin	W. F. Fluhrer	4,551
Hame-loop	J. Letchworth	5,260
Hame-top	M. F. Boland	4,701
Handle and bolster for table-cutlery	F. R. Chapman	5,102
Handle for spoons or forks	G. Wilkinson	4,731
Handle for stop-cocks	W. S. Cooper	4,780
Hand-stamp	F. Waters	4,803
Hand-stamp	R. B. Caraley	5,133
Hand-stamp	S. P. Cooper	5,135
Hand-stamp	W. B. Gorham	5,137
Hand-stamp	W. N. Weeden	5,364
Hand-stamp frame	B. B. Hill	5,449
Hanging-vase	J. P. Barnes	4,665
Hanging-vase	M. L. Snow	5,120
Harness-bracket	J. Runey	5,406
Harness saddle-bracket	J. L. Jackson	5,414
Harness, Saddle-hook for	J. L. Jackson	5,307
Harness-trimming	O. Wiener	5,208
Hat-rack and mirror	C. M. Theberath	5,006
Hay-rack	W. Vanscoye	5,233
Heater for milk	J. A. Herron	4,664
Hinge	G. S. Albee	4,623
Hinge	T. Drake	4,790
Hinge, Gate	C. Snedekum	5,304
Hoe	C. B. Clark	4,855
Hollow tile	C. Fisher	5,201
Hood	B. Kreischer	5,140
Hook for harness	C. and M. Rich and H. Crow	5,303
Hook to hang harness on	J. L. Jackson	5,399
Hook to hang harness on	J. L. Jackson	5,415
Housing-plate	J. L. Jackson	5,416
Hubs, Spoke-socket rim for	J. L. Haven	4,924
	S. Hindman and W. N. Matthews	5,235
I.		
Ice-pitcher body	G. Wilkinson	5,284
Indicator, Railroad-station	F. F. Bibber	4,686
Infants' shoe	W. M. Carpenter	4,640
Inkstand	T. S. Hudson	4,705
Inkstand	L. L. Woodruff	4,720
Inkstand	F. D. Alling	4,826
Iron frame for upright pianos	J. Whitney	5,293

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
J.		
Jar or caster, Pickle	J. Hill	5,373
Jelly-glass	W. M. Kirchner	4,754
Jelly-glass	W. M. Kirchner	4,755
Jelly-glass	W. M. Kirchner	4,756
Jelly-glass	W. M. Kirchner	4,757
Jelly-glass	W. M. Kirchner	4,758
Jelly-glass	W. M. Kirchner	4,759
Jelly-glass	J. S. and T. B. Atterbury	4,915
Jelly-glass	T. R. Hartell	5,130
Jelly-glass	W. M. Kirchner	5,206
Jelly-glass and cap	J. H. Smith, D.C. Ripley, and A. Kwoesalla.	5,055
K.		
Knitted trimming	M. Landenberger	4,889
Knobs, Cattle-horn	H. J. Frantz	5,136
L.		
Ladies' dress-comb	W. O. Capron	5,206
Lamp-shade	J. B. Russell	4,934
Lamp-shade	C. Binzer	5,209
Landmark	J. H. Parrish	4,557
Lard-pail	J. J. Brocket	4,637
Lead-pencil	J. Reckendorfer and T. H. Müller	4,642
Letter-box	G. F. Topliff	5,204
Liquor-holder	J. A. and F. Dunworth	4,625
Lock-case for satchels, &c	B. Steinmetz	5,373
Long comb	C. E. Moore	4,893
M.		
Manger	J. L. Jackson	5,369
Manger	J. L. Jackson	5,370
Manger	J. L. Jackson	5,209
Mantel, Iron	C. B. Evans, J. Carlisle, and G. H. Burrows.	4,956
Mantel, Iron	C. B. Evans, J. Carlisle, and G. H. Burrows.	4,959
Mantel, Iron	C. B. Evans, J. Carlisle, and G. H. Burrows.	4,960
Mantel, Iron	C. B. Evans, J. Carlisle, and G. H. Burrows.	4,961
Mat	J. Magee	5,110
Mat	J. Magee	5,111
Match-box	J. Kints	5,428
Match-safe	A. D. Judd	4,630
Match-safe	G. R. Hubbard	4,814
Match-safe and paper-weight, Combined	G. W. Brown	5,257
Medal	S. L. Denney	4,910
Medallion head of Jackson	J. H. Miller	5,433
Medallion head of Washington	J. H. Miller	5,150
Mitten, Back of	W. S. Tooker	4,716
Mold for lager-beer glasses	J. P. Pears	4,640
Mold for lager-beer glasses	J. P. Pears	4,641
Molding	J. H. Ferreira	5,170
Mosquito-netting	T. Carmichael	4,840
Mucilage-bottle	L. Dovell	5,234
Muff	S. Herzig	4,708
Muff	W. Ettinger	5,194
Muff and collar box	R. M. Seldis	5,087
N.		
Napkin-ring	C. W. Goodhue	4,977
Needle-packages, Shoe-case for	G. P. Farmer	4,948
O.		
Oil-cabinet	M. H. Wiley	5,371
Oil-cloth	H. Kagy	5,179
Oil-cloth	H. Kagy	5,180
Oil-cloth	H. Kagy	5,181
Oil-cloth	H. Kagy	5,182
Oil-cloth, Floor	J. T. Webster	5,343
Oil-cloth, Floor	J. T. Webster	5,358
Oil-cloth pattern	J. T. Webster	5,359
Oil-cloth pattern	J. Paterson	4,630
Oil-cloth pattern	J. Paterson	4,674

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Oil-cloth pattern	H. Kagy	4,691
Oil-cloth pattern	C. T. Meyer	5,112
Oil-cloth pattern	J. Paterson	5,363
Oil-cloth pattern, Floor	J. Robley	4,711
Oil-cloth pattern, Floor	J. Robley	4,712
Oil-cloth pattern, Floor	J. Robley	4,713
Oil-cloth pattern, Floor	V. E. Meyer	4,927
Oil-cloth pattern, Floor	C. L. Pierpont	4,931
Oil-cloth pattern, Floor	C. L. Pierpont	4,932
Oil-cloth pattern, Floor	C. T. Meyer	5,113
Oil-cloth pattern, Floor	C. T. Meyer	5,114
Oil-cloth pattern, Floor	C. T. Meyer	5,115
Oil-cloth pattern, Floor	C. T. Meyer	5,116
Oil-cloth pattern, Floor	C. L. Pierpont	5,149
Oil-cloth pattern, Floor	C. L. Pierpont	5,152
Oil-cloth pattern, Floor	C. L. Pierpont	5,153
Organ-case	C. E. Bacon	5,154
Organ-case	L. K. Fuller	4,700
Organ-case	L. K. Fuller	5,289
Organ-case	J. R. Lomas	5,290
Ornament for fountains, &c	J. Moore and W. Wilkinson	5,317
Ornament for fountains, &c	J. Moore and W. Wilkinson	4,804
Ornament for fountains, &c	J. Moore and W. Wilkinson	4,805
Ornament for fountains, &c	J. Moore and W. Wilkinson	4,806
Ornament for fountains, &c	J. Moore and W. Wilkinson	4,807
Ornament for the backs of lounges	J. Moore and W. Wilkinson	4,808
Ornament on harness-saddles	G. Hartsell	4,751
Oven	L. Rommelke	5,191
Oven-shovel	J. H. Keyser	4,817
Overshoe, Rubber	T. Lyons	4,953
Overshoe, Rubber	A. O. Bourn	5,065
Overshoe, Rubber	A. O. Bourn	5,066
Overshoe, Rubber	A. O. Bourn	5,067
Overshoe, Rubber	I. F. Williams	5,094
	I. F. Williams	5,095
P.		
Package	D. Dick	4,875
Paper bag	S. W. Valentine	4,937
Paper-box cover	J. W. Carter	5,134
Paper-weight	G. B. Garrett	5,302
Park-seat	E. O. Schwagerl	4,675
Parlor-organ case	L. K. Fuller	5,299
Pedestal for a cake-dish	G. Gill	4,696
Pencil and receptacle, Combined	H. J. Wickham	4,566
Pen or pencil case	E. S. Johnson	5,377
Photographic-card frame	M. J. Rice	5,050
Piano-fortes, Ornamentation of	W. Leigh	4,868
Pickle-jars	J. Jepson	5,371
Pickle-jars	H. C. Wilcox	5,374
Picture-frame	J. H. Bellamy	4,694
Picture-frame	L. L. Dennick	5,103
Picture-nail head	H. L. Judd	5,252
Pipe-wrench	T. K. Cook	5,017
Plate for cooking-stoves	C. Noble	4,819
Plate for egg-beaters, Agitating	E. Bostick	5,396
Plate of a cooking-stove	A. M. Mothershead	4,895
Plate of a cooking-stove	J. R. Rose and E. L. Caley	4,902
Plate of alarm-clocks	J. M. Case	5,089
Plate of shuttle and tassel hooks	E. J. Steele	5,274
Plates of a stove	J. Beesley and J. J. Ferris	4,916
Plow-clevis	J. M. Cook	4,615
Pocket-book tip	J. C. Arms	4,664
Post cap, Hitching	R. S. Austin	4,746
Post, Iron	M. D. Jones	5,378
Post-office bulletin-board	B. F. Rogers	5,220
Press, Gang	W. Denison	4,747
Printed carpet	E. Demoussy	5,329
Printed carpet	C. Dresser	5,330
Pump	L. Egleston	4,585
Pump piston, Steam	J. H. McGowan	5,049
Pump, steam	W. W. Hanscom	5,026
Puzzle-block	S. Loyd	4,793
R.		
Rack, basket, Car	M. Tower	5,145
Rack for robes	M. Nuhn	5,423
Railing for cemetery-lots	A. L. Murphy	4,556
Range	C. J. Wood	4,835

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Range	W. H. Burrows	4,970
Range, Cooking	L. M. Harwood	5,446
Range, Cooking	S. P. Robinson	5,451
Range or stove, Cooking	A. and S. G. Richmond	5,141
Reed-organ pipes	C. E. Snell	5,207
Reflector	A. Wilhelm	4,693
Rubber boots and shoes, Ornamentation of	A. O. Bourn	5,099
Rubber eraser	S. D. Hovey	4,904
Rubber shoe	C. Meyer	4,861
Rubber shoe	C. Meyer	4,862
Rubber shoes, Ornamentation of	C. Meyer	4,700
S.		
Saddle and bridle bracket	J. L. Jackson	5,480
Salt-cellar	J. B. Larner	4,736
Sash-holder	E. C. and G. O. Heister	4,903
Sash-holder	A. W. Lawrence	5,308
Sash-lift	A. Wunder	5,347
Sash-weight	W. H. Short	4,850
Satchel, Ladies'	A. Senne	5,238
Satchels, Hand-cap for	G. Havell	4,858
Saw	W. Kidd	4,700
Saw	H. S. Miller	5,288
Screen	W. N. Bartholomew	4,670
Screen for a steam-heater	C. L. Hubbard	4,899
Seat, School	W. H. Joeckel	4,890
Sieve	R. J. Mann	4,637
Settee	J. W. Flake	5,147
Sewing-machine cover	J. Wilson	5,313
Sewing-machine frame	J. B. Secor	5,407
Sewing-machine leg	J. B. Secor	5,155
Sewing-machine sample-trunk	F. S. Fahnestock	4,616
Sewing-machine stand	H. Loth	4,694
Sewing-machine, Treadle for	J. B. Secor	5,231
Shawl	C. H. Landenberger	4,555
Shawl	M. Landenberger	4,670
Shawl	H. Erbe and J. Barth	5,413
Shoe-clasp	G. Oldham	5,151
Shoe, Infants'	W. M. Carpenter	4,646
Shot-pouch, &c.	J. T. Capewell	4,978
Shovel	P. W. Groom	5,043
Show-card	C. S. Hall	4,669
Show-card for hair-nets	T. Hall	5,413
Show-case	J. R. Gallegos	4,596
Show-case	W. S. Grove	4,628
Show-case	W. H. Grove	4,724
Show-case	J. D. Vredenburgh	4,894
Show-case	W. H. Grove	4,946
Show-case	W. H. Grove	4,978
Show-case	W. H. Core	5,128
Show-case and drawers	T. E. Wood	5,244
Shutter-bar	G. P. Farmer	4,841
Side-frame of socket-desks	L. Crooke	5,070
Side of railway-car	A. Franklin	4,725
Sign	M. Buell and W. W. Lesley	4,838
Slate-pencil sharpener	J. B. Moore and J. P. Robitser	5,227
Socket for lifting-handle	C. Kennedy	5,189
Soda-fountain	W. M. Smith	5,319
Soda-fountain	G. F. Meacham	4,630
Soldiers' monument	G. F. Meacham	4,769
Spade	L. A. Tifft	4,565
Spoon	H. Parkman	4,969
Spoon-handle	R. De Busson	4,667
Spoon-handle	R. D. Beiderhase	5,267
Spoon or fork handle	J. Fradley	5,296
Spoon or fork handle	W. Parkin	4,710
Spoon or fork handle	G. Sharp	4,713
Spoon or fork handle	G. Wilkinson	4,719
Spoon or fork handle	E. C. Moore	4,831
Spoon or fork handle	W. B. Durgin	5,071
Spoon or fork handle	E. C. Moore	5,077
Stair-rod	G. Wilkinson	5,093
Stair-rod	W. B. Gould	5,177
Stair-rod fastening	W. B. Gould	5,178
Stand for a billiard-marker, Portable	W. B. Gould	5,203
Stationary	H. W. Collender	4,965
Statue	A. Van Wart	4,744
Steam-engine	A. Fusary	4,750
	C. M. Farrar	5,140

Alphabetical list of designs—Continued.

Invention or discovery.	Name of patentee.	No.
Steam-engine governor case	J. A. Lynch	4,794
Steam-engine, Upright	A. A. Wilson	5,365
Stem of a tobacco-pipe	J. Watts	4,587
Stocking	J. Hogg	4,704
Stone-drag	J. P. Adams and G. Hyde	4,732
Stove	J. H. Keyser	4,816
Stove	L. F. Rollins	4,821
Stove	L. W. Harwood	4,947
Stove	R. Scorer and R. Ham	5,394
Stove, Cooking	N. S. Vedder and F. Ritchie	4,611
Stove, Cooking	J. Abendroth	4,810
Stove, Cooking	J. L. Knechler	4,815
Stove, Cooking	J. Steffe	4,823
Stove, Cooking	G. Wellhouse	4,825
Stove, Cooking	J. R. Rose and E. L. Caley	4,910
Stove, Cooking	W. H. Burrows	4,971
Stove, Cooking	N. S. Vedder and S. Ritchie	5,136
Stove, Cooking	N. S. Vedder and T. S. Heister	5,159
Stove, Cooking	N. S. Vedder and T. S. Heister	5,160
Stove, Cooking	N. S. Vedder and T. S. Heister	5,161
Stove, Cooking	N. S. Vedder and T. S. Heister	5,162
Stove-cover lifter	W. A. Spicer	5,263
Stove, Heating	E. B. Wilbur	5,294
Stove, Heating	N. Brayer	4,589
Stove, Heating	S. E. Hewes	4,885
Stove, Heating	N. S. Vedder and S. Ritchie	5,157
Stove, Heating	N. S. Vedder and T. S. Heister	5,158
Stove, Heating	J. D. Miller	5,301
Stove, Parlor	R. Scorer and R. Ham	5,349
Stove, Parlor	J. Martino and J. Currie	4,618
Stove-plate	R. Scorer and R. Ham	5,395
Street-lamp	N. S. Vedder and F. Ritchie	4,645
Stucco center-piece	T. D. Stetson	4,936
Sugar-bowl, &c.	J. John	4,669
Sugar-tongs	J. H. Hobbs	4,689
Sun-bonnet, Horse	J. Hall, 2d	5,307
Surcingle-fastening	J. Anderson	5,210
Suspender-link	M. Wesson	5,060
Swivel and snap-hook	E. Oldfield	4,621
Sword	P. G. Beckley	5,041
	E. S. Warren	4,730
T.		
Table, Billiard	W. H. Griffith	5,332
Table-caster	W. Parkin	4,697
Table-caster	C. H. Latham	5,131
Table-caster	D. Sherwood and G. D. Dudley	5,312
Table glass-ware, Ornamentation of	W. C. King	4,753
Talma or cloak-garment	E. Flues	4,826
Tea-bell	H. C. Wilcox	5,196
Teapot	G. Gill	4,813
Thread and needle case	T. R. Timby	4,628
Thread and sewing-silk, Sample-case for	J. N. Leonard	5,443
Tongs for coal, &c.	J. A. Ervien	5,348
Tongue-support	J. Keller	5,304
Tool, Garden	R. A. Moore	4,700
Toy-building blocks	R. G. Britton	5,404
Toy, Child's	J. T. Duff	4,877
Toy, Steam-engine	A. Buckman and J. W. H. Huffington	4,733
Toy, Steam-engine	R. P. Rider	4,849
Toy, Steam-engine	E. P. Rider	5,004
Trolling-spoon	J. H. Mann	5,291
Twine-reel	C. H. Tiebout	5,030
Type	J. Herriet	4,552
Type	J. Herriet	4,553
Type	R. Smith	4,559
Type	R. Smith	4,560
Type	R. Smith	4,561
Type	A. Gilbert	4,563
Type	H. Flinsch	4,626
Type	A. Gilbert	4,627
Type	A. Little	4,673
Type	W. H. Page	4,726
Type	W. H. Page	4,727
Type	R. Smith	4,743
Type	W. H. Page	4,830
Type	J. K. Rogers	4,961
Type	J. A. St. John	4,962
Type	J. Herriet	4,990
Type	J. Herriet	4,991

Alphabetical list of reissues.

Invention or discovery.	Name of patentee.	No.
Type	A. Kay	5,046
Type	R. Smith	5,056
Type	A. McLeester	5,342
Type	A. Little	5,450
Type-border	W. H. Page	4,720
U.		
Urinal and water-closet, Public	F. J. Smith	4,633
V.		
Vise, Saw-filing	W. A. Perkins	4,846
W.		
Wagon-seat	P. P. Child	5,251
Watch-hand	B. A. Goodell	5,316
Watch-plate	E. Marcile	4,795
Watch-plate	E. Hathaway	4,799
Water-cooler and refrigerator	J. Liming	5,031
Water-proof goods	B. Metz	5,429
Water-proof goods	B. Metz	5,430
Water-proof goods	B. Metz	5,431
Water-proof goods	B. Metz	5,432
Weather-boarding	J. Jacoby	4,964
Weighing-scales, Counter	P. Cinquini	4,874
Whisk-broom	G. Stackpole	4,739
Window-fastener	W. Nelson	4,696
Window-sash holder	C. M. Drury	4,697

REISSUES.

A.		
Air, Apparatus for carbureting	B. Sloper	4,476
Air-compressing apparatus	J. S. Patric	4,337
Alarm, burglar, Electro-magnetic	W. B. Guernsey	4,297
Alarm, Fire	J. O. Fowler, jr	4,554
Alcoholic liquors, Manufacture of, from the rhubarb plant.	J. H. Deacon	4,606
Alizarine, Manufacture of (Division A.)	C. Graebe and C. Liebermann	4,339
Animal-poke	H. F. Chapin	4,667
Anthracene, Preparing coloring-matter from	J. Brönner and H. Gutzkow	4,558
Artesian wells, Method of constructing	N. W. Green	4,373
Artificial asphalt rock, Manufacture of	A. B. Vandomark	4,501
Auger-bits, Machine for bending the lips of	J. Swan	4,517
Auger-bits, Machine for manufacturing	J. Swan	4,518
Augers, Machine for forming the lips of	J. Swan	4,560
Axle-box	D. Dalzel	4,594
Axle, Wagon	W. A. Lewis	4,564
B.		
Back-chain for cart-saddles	W. B. McClure	4,679
Bark-extracts, Apparatus for evaporating and concentrating.	T. W. Johnson, jr., and A. W. Goodell	4,531
Barrel	H. G. Porter	4,272
Barrel-filler, Automatic (Division A.)	S. C. Catlin	4,617
Barrel-filler, Automatic (Division B.)	S. C. Catlin	4,618
Barrels, Apparatus for pitching	L. Schulze	4,294
Base-burner (Division A.)	D. G. Littlefield	4,585
Bayonets, Manufacture of, and apparatus therefor	H. Waters	4,304
Bed bottom, Spring	H. E. Bissell	4,564
Bedstead and tester	F. Layanx	4,414
Bedstead-fastening	A. M. Rodefer	4,436
Beltings, vulcanized-rubber, Finishing	C. McBurney	4,668
Belts and pulleys, Compound to increase the friction between.	L. F. Robertson	4,239
Bessemer steel, Apparatus for the manufacture of	H. Chisholm	4,439
Binder, Tempering	G. W. Emerson	4,545
Binding invoice-books	J. L. Rile	4,577
Bit-brace (Division A.)	H. S. Bartholomew	4,510
Bit-brace (Division B.)	H. S. Bartholomew	4,519
Bit, Expansive	W. A. Clark	4,603
Boiler and washing-machine	D. H. and J. B. Savage	4,561
Boiler for ranges, stoves, &c	W. B. Scaife	4,467
Boiler, Kitchen	W. B. Scaife	4,283

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Boiler, Steam	P. Quinn	4,308
Boiler, steam, Sectional	W. H. Cornell	4,677
Boiler, Wash	C. N. Tyler	4,544
Bolt for safes	G. L. Damon	4,389
Bolt-heading machine	J. Minter	4,641
Bolts and rivets, Device for cutting	J. Johnson	4,299
Boot and shoe	C. S. Dunbrack	4,422
Boot and shoe heel trimming-machine	E. J. Beane	4,491
Boots and shoes, Insole for	M. A. Johnson	4,547
Bracelets, Manufacture of enameled	A. Codding	4,253
Braid, trimming, leather, &c., Imitation	H. Loewenberg	4,444
Brake, Car (Division A.)	W. H. Dunham and J. Widney	4,465
Bread, Device for baking	A. J. Quackenbush and G. Hawn	4,230
Breast-pump	M. Mattson	4,282
Bridge, Iron	D. H. Morrison	4,398
Bristles in brush-stocks, Method of holding	C. D. Rogers and M. P. Wilkins	4,450
Broiler (Division A.)	D. E. Roe	4,651
Broiler (Division B.)	D. E. Roe	4,652
Brush, Boiler-flue	R. King	4,442
Building for preserving fruit and other substances	B. M. Nyce	4,487
Buildings, Cooling and ventilating	T. Krausch	4,607
Bur for knitting-machines	M. Van Auken	4,555
Burner, Lamp	W. H. Gray	4,435
Burner, Lamp	H. W. Hayden	4,541
Button-hole	B. M. Smith	4,303
C.		
Cans, tin, Machine for making	E. W. Bliss	4,659
Can, Wood-incased	O. S. Camp	4,650
Capstan and windlass	D. N. B. Coffin, jr	4,453
Car, Cattle	J. W. Street	4,340
Carpenters' squares, Machine for figuring	N. Millington	4,302
Carpet-lining	J. F. Fales	4,296
Carriage, Children's	W. E. Crandall	4,293
Carriage top-prop block	S. L. Barnett and S. Beery	4,621
Car, Stock	L. Swearingen	4,336
Cartridge, Metallic	H. Berdan	4,491
Cart, Street-sprinkling	L. Rodenhausen	4,590
Case for ribbons, laces, &c	S. Whitaker	4,611
Caster, Revolving (Division A.)	C. H. Latham and J. S. Lugg	4,656
Caster, Revolving (Division B.)	C. H. Latham and J. S. Lugg	4,657
Catarrh, &c., Compound for treating by inhalation	D. Slade	4,445
Cattle-car, Railway	National Cattle-Car Company, Salem, Ohio.	4,368
Cement pipes, Machine for making	E. L. Baker, H. Knight, and E. Dayton	4,563
Chair, Folding	F. M. Holmes	4,280
Cheese-vat	B. H. and W. A. Stuart	4,416
Cigar-bunches, Apparatus for pressing, shaping, and drying.	A. Pearl	4,459
Clothes-frame (Division A)	J. E. Earle	4,503
Clothes-frame (Division B)	J. E. Earle	4,504
Clothes-washer	A. B. Mercier	4,227
Cloth, Process of obtaining bright colors upon, by printing.	A. Paraf	4,363
Cloth, Steaming and cooling	L. M. Heery	4,573
Clover-seed, Machine for thrashing, hulling, and cleaning.	M. R. Mansfield	4,566
Coffee, Process for treating (Division A)	J. Ashcroft	4,479
Coffee, Treating	J. Ashcroft	4,480
Compound, Detergent	W. Berry	4,370
Compound, Lubricating	H. Grogan	4,440
Cords, Machine for covering	J. Turner and I. E. Palmer	4,649
Corks, Machine for manufacturing	M. F. Crocker	4,654
Cooler, Milk	A. E. Baldwin	4,573
Corn, Machine for husking	L. A. Aspinwall	4,388
Corset	C. D. Rutherford	4,415
Corset, Self-supporting	C. A. Griswold	4,427
Cotton-gin	D. Pratt	4,664
Cotton, Machine for opening	W. C. Jillson and A. B. Palmer	4,312
Coupling, Car	W. B. Snedaker	4,330
Coupling, Hose	J. C. Cooke	4,344
Coupling, Hose	J. C. Cooke	4,605
Coupling, Shaft	S. C. Schofield	4,256
Coupling, Thill	D. A. Johnson	4,681
Cracklings, &c., for fertilisers, Machine for reducing	A. Smith	4,265
Crib for horses	H. Eddy	4,405
Crucible for melting steel and other metals	A. Pickering, C. R. Vickery, C. R. Atwood, and The Phœnix Manufacturing Company.	4,608
Cultivator	B. Tinkman	4,231
Cultivator	A. Adams	4,258
Cultivator	T. Bertrand and P. Samos	4,209

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Cultivator	T. M. Quisten	4,302
Cultivator	L. Packard	4,474
Cultivator	W. S. Weir	4,499
Cultivator	T. F. Bertrand and P. Sames	4,561
Cultivator	B. Tinkham	4,609
Cultivator	W. S. Weir, jr.	4,610
Cultivator	F. J. Underwood	4,665
Cultivator, Corn	A. Kinyon	4,435
Curtain or shade fixture	W. Campbell	4,234
Cut-off gearing, Variable	J. E. McKay	4,540
Cutting and sewing oval seams, Mechanism for	A. Judson	4,639
D.		
Dental plate, Atmospheric	N. T. Folsom	4,220
Diaper	J. C. Hempel	4,494
Disinfectant or carbolic-acid soap	C. J. Ames and C. A. Seely	4,330
Ditching and grading machine	W. J. Wanchope	4,676
Drawers	H. G. Fisk, T. R. Clark, and T. J. Flagg	4,435
Dredge-box	A. F. Tripp	4,615
Drill, Grain	L. Wight	4,499
Drill, Seed	F. H. Manny	4,307
Dyes or coloring-matters from anthracene...(Div. B)	C. Graebe and C. Liebermann	4,321
E.		
Electro-magnets, Construction of	H. M. Paine	4,237
Engine, Electro-magnetic	J. P. Tirrell	4,618
Engine, pumping, Steam	N. W. Wheeler	4,479
Engine, Steam	P. Estes	4,270
Engine, Steam	J. Houpt	4,374
Evaporating-pan for saccharine liquids	F. G. Butler	4,326
F.		
Fabric for head-covering	C. F. Bosworth	4,261
Fare-box for vehicles	J. B. Slawson	4,649
Fare box, Passenger	J. B. Slawson	4,240
Fastening for paint-cans, &c	J. K. Chase	4,695
Fatty substances, Process of extracting	C. F. Simonin and E. W. Coffin	4,509
Faucet	J. Powell	4,336
Feeding paper to printing-presses	R. M. Hoe	4,499
Felt hats, Machine for forming the brims of	W. A. Fenn	4,235
Fire-arm, Breech-loading	K. V. Barnekov	4,308
Fire-arm, Repeating	W. H. Morris and C. L. Brown	4,496
Fire-arm, Revolving	W. C. Dodge	4,493
Fire-place heater, Base-burning	D. Stuart and L. Bridge	4,367
Flour-packer	S. Taggart	4,696
Fluting and sad iron	M. H. Knapp	4,443
Fluting-machine	H. H. Cole	4,340
Fluting-machine	S. G. Cabell	4,653
Fruit-drier	J. P. Miller	4,495
Fruits, Treating, to dry, saccharify, and preserve them	C. Alden	4,287
Fruits, vegetables, and meat, Drying	F. H. Smith	4,469
Furnace for soldering	L. Cutting	4,585
Furnace for the manufacture of iron and steel	H. Ross and J. H. Clemens	4,609
Furnaces, hot-air, Mode of regulating the draught of	A. H. Morshon	4,644
G.		
Gas, illuminating, Manufacture of	F. King	4,457
Gaseliers and drop-lights, Apparatus for suspending	S. B. Vance	4,226
Gate-opening apparatus, Electro-magnetic	W. Robinson	4,374
Generator, Steam	A. L. Pennock	4,301
Generator, Steam	G. H. Babcock and S. Wilcox	4,518
Generator, Steam	R. K. Rogers and J. Black	4,535
German hand-cheese, Manufacture of	F. C. and T. F. Mende	4,363
Glass, Embellishment of	E. Ingraham	4,441
Glass for mirrors and reflectors, Silvering	W. A. Walker	4,477
Glass-molds, Machine for operating	W. C. King	4,571
Globe for gas-lights	T. Trudeau	4,633
Glove	R. D. Burr	4,278
Governor for steam-engines	J. Judson	4,655
Grain, Machine for decorticating	W. Ager	4,458
Grain, Process for decorticating	W. Ager	4,451
Grain-separator	S. Howes, A. and N. Babcock, and C. Ewell	4,546
Grate...(Division B)	D. G. Littlefield	4,58
Grate-bar	J. R. Smith	4,511
Gridiron, griddle, and frying-utensil, Combined	S. Lee	4,649
Grindstone-journal box	T. W. Brown	4,31

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Grist-mill and cotton-seed huller, Combined	J. W. Smith	4,446
Gun-barrels, Manufacture of	J. H. Burton	4,666
Gun-carriage...(Division A)	J. B. Eads	4,471
Gun-carriage...(Division B)	J. B. Eads	4,472
H.		
Hand-stamp	T. J. W. Robertson	4,675
Harness for horses	J. Rouse	4,325
Harness-ring	H. N. Eames	4,295
Harness trimmings	J. Bauer	4,580
Harvester	H. Waterman	4,251
Harvester	H. F. Mann	4,261
Harvester	J. Butter	4,420
Harvester	Ketchum Harvesting-Machine Company.	4,494
Harvester	E. D. Buckman and S. A. Sisson	4,502
Harvester...(Division A)	Ketchum Harvesting-Machine Company.	4,672
Harvester...(Division B)	Ketchum Harvesting-Machine Company.	4,673
Harvester-reel	J. H. Keller	4,629
Hat	J. P. Beatty	4,277
Hat-lining and tip	T. W. Bracher	4,462
Hay-rake, Horse	N. M. Barnes	4,233
Head-block	E. H. Stearns	4,625
Head-block for saw-mills	E. H. Stearns	4,551
Heater, Lamp	W. N. White	4,627
Heating-apparatus, Steam	S. F. Gold and W. A. Foskett	4,643
Hides, Depilating...(Division A)	J. E. Siebel	4,549
Hoe	E. Warren	4,461
Hoisting-apparatus...(Division A)	Otis, Brothers & Co	4,269
Hoisting-apparatus...(Division B)	Otis, Brothers & Co	4,270
Hoisting-apparatus...(Division C)	Otis, Brothers & Co	4,271
Hoisting-machine	H. J. Reedy	4,273
Hook, Clothes-wringing	J. H. Pratt	4,343
Horseshoes, Machine for making	The Howe Horseshoe-Machine Company.	4,315
Horse-power	H. Aldridge	4,379
Horse-power, Mounted	M. B. Erskine	4,423
Hub for carriage-wheels	A. Warner	4,642
Hydrant	W. Race	4,475
I.		
Ice-machine	C. Plagge	4,325
Ice-machine	F. Windhausen	4,603
Ice chambers, refrigerating-chambers, &c., Construction of...(Division B.)	E. Brainard	4,437
India-rubber rollers, Manufacture of	J. B. Forsythe	4,244
Induction-coil apparatus and circuit-breaker	P. W. Page	4,588
Instrument for draughting garments...(Division A)	U. L. Leete	4,225
Instrument for draughting garments...(Division B)	U. L. Leete	4,226
Instrument for railroad-signals and other purposes, Double-circuit.	T. S. Hall	4,493
Iron and steel, Furnace for the manufacture of	H. Ross and J. H. Clemens	4,609
Iron and steel, Manufacture of	R. Yielding	4,434
Iron and steel, Manufacture of	J. Jameson	4,623
Iron and steel, Refining and tempering	A. H. Siegfried	4,507
Iron-tender frame	R. W. Healey	4,661
J.		
Jar, Fruit	H. E. Shaffer	4,466
Journal-box, Self-regulating	J. Duff	4,503
K.		
Kiln, Burning	B. Kreischer	4,260
L.		
Lamp	A. H. North	4,284
Lamp	L. White	4,304
Lamp	H. Halvorson	4,413
Lamp	C. B. and S. S. Mann	4,572
Lamp-wick feeder	H. Halverson	4,660
Lantern	G. Cado	4,385
Lantern...(Division A)	W. H. Bonnell	4,331
Lantern...(Division B)	W. H. Bonnell	4,332
Lantern	W. Westlake, J. F. Dane, and J. P. Covert.	4,601

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Lathe, Turning	L. R. Faught	4,390
Leather, Machine for buffing, whitening, and polishing	A. W. Pratt	4,334
Leather, Machine for rolling	J. Whitney	4,508
Leather, Machine for scraping	J. T. Barnstead	4,336
Lightning-rod	L. King	4,355
Lock	L. F. Munger	4,074
Lock and detector	J. H. Lyon	4,020
Lock-nut	J. Miller, jr	4,393
Lock-nut	J. H. Gridley	4,354
Lock-nut	P. L. Gibbs	4,412
Lock, Permutation	G. Rosner	4,498
Lock, Permutation	J. C. Hintz, jr	4,542
Lock, Permutation	L. F. Munger	4,396
Loom-harness, Machine for making (Division A)	J. Sladdin	4,509
Loom-harness, Machine for making (Division B)	J. Sladdin	4,510
Loom-shuttle	T. Isherwood	4,522
Lounge, Bed	J. Seymour, W. H. Coolidge, and C. Stimson.	4,375
Lounge, Folding	J. W. McDonough	4,261
Lozenges, Machine for the manufacture of	O. R. Chase	4,634
Lubricator	J. Broughton	4,593
Lubricator	J. B. Wickersham	4,608
Lubricator	J. B. Wickersham	4,658
Lumber, Process of seasoning	H. H. Beach	4,364
M.		
Mantel and front for fire-places (Division A)	D. K. Innes and W. W. Magill	4,612
Mantel and front for fire-places (Division B)	D. K. Innes and W. W. Magill	4,613
Mattress, Spring	E. L. Bushnell	4,616
Melodeon	E. D. Louis	4,486
Metal corner-piece for protecting the corners of wooden bodies.	E. A. and C. M. Stratton	4,365
Metallic dasher for vehicles, Adjustable	G. M. Peters	4,408
Mill, saw, Circular	S. R. Smith	4,409
Mold	W. Ainsworth	4,347
Motive-power, Transmitting	R. T. Smith	4,623
Muff and collar box	J. P. Jones	4,313
N.		
Nuts, Locking-washer for	J. H. Gridley	4,406
O.		
Oil-cup	J. P. Haines	4,361
Oils from vegetable and animal substances, Extraction and manufacture of.	T. Richardson, J. J. Lundy, and R. Irvine.	4,630
Oil tank and reservoir	W. J. Brundred	4,492
Oily and fatty matters, Process of extracting	L. S. Robbins	4,578
Ore, Grinding and amalgamating	T. Bates	4,360
Ores, Machine for separating	S. R. Krom	4,430
Overshoe	H. G. Tyer	4,257
P.		
Package for lard	C. L. Tucker	4,360
Paint, &c., Treating linseed and other oils for	D. E. Brenig	4,557
Paint for ships' bottoms (Division A)	J. G. Tarr and A. H. Wonson	4,598
Paint for ships' bottoms (Division B)	J. G. Tarr and A. H. Wonson	4,599
Paper-folding machine	C. Chambers, jr	4,266
Paper-stock from certain plants, Manufacture of	J. Pickles	4,594
Paper, thick, Making	S. G. Lewis	4,360
Paraffine and other substances, Process and apparatus for purifying.	F. Lambe	4,397
Pavement, Concrete	J. J. Schillinger	4,364
Pessary	W. R. Gardner	4,291
Petroleum and its products, Process of treating	J. A. Tatro	4,417
Petroleum and other hydrocarbons, Apparatus for distilling.	A. H. Tait and J. W. Avis	4,367
Petroleum and other oils, Apparatus and process of distilling.	A. H. Tait and J. W. Avis	4,368
Petroleum, Process and apparatus for distilling, separating, and purifying.	E. G. Kelley	4,373
Photographs, Printing	J. Albert	4,338
Pipe and fixture for wells	J. H. Duck and E. H. Whitcomb	4,267
Pipe, Feed-water (Division A)	J. Doyle	4,345
Pipe, Feed-water (Division B)	J. Doyle	4,346
Piston-packing	O. Collier	4,330
Piston-rod packing	W. H. Miller	4,587
Planter, Corn	W. Morrison	4,539

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Plow	J. C. Pfeil	4,533
Plow-colter	W. W. Stillman	4,597
Plow mold-boards and other purposes, Copper alloy for	W. Magee	4,684
Plows, Blank for and die for making mold-boards for	W. M. Watson	4,289
Press, Copying	E. W. Frost	4,306
Press, Cotton	P. Williams	4,397
Press, Printing	R. M. Hoe and S. D. Tucker	4,400
Press, Printing	M. Gally	4,646
Press, Punching	M. G. Wilder	4,448
Prices-current bulletins, &c., Producing	W. Smith and H. D. Rogers	4,447
Pulley, Expanding	T. H. Savery	4,685
Pulleys to shafts, Device for securing	J. H. Buckman	4,288
Punch	I. P. Richards	4,298
Pump	R. M. Lafferty	4,678
Pump rod attachment	H. H. Locke	4,682
R.		
Rack, Clothes	V. M. Heath	4,505
Radiator	W. Steffe	4,401
Railroad-ties, wood, Preserving	B. S. Foreman	4,360
Railroad turn-table	A. J. Wright and L. Meeker	4,410
Railway-rail joint, Securing	L. Fay	4,294
Railways, Water-tank for	J. Morton	4,543
Rake, Harvester	J. R. Parsons	4,377
Rake, Harvester	J. C. Durborow	4,395
Range, Cooking	W. Sanford	4,526
Refrigerating and desiccating, Apparatus for	E. D. Brainard	4,436
Refrigerator	J. H. Fisher	4,243
Refrigerator	A. Fuller and L. P. Reichert	4,645
Regulator for temperature in rooms, &c., Electro-magnetic.	G. M. Sternberg	4,326
Rice, coffee, and other grains, Machine for cleaning and scouring.	W. Ager	4,579
Road-wagon, Steam	C. W. Hermance	4,311
Rock, Machine for channeling	E. G. Lamson	4,407
Roller and fastening for clothes-wringers	R. B. Hugunin	4,680
Roller for clothes-wringers	J. F. Holt	4,473
Roofing-composition	J. H. Smyser	4,624
Rooms, Method of cooling and ventilating	A. S. Lyman	4,683
Ropes, Machine for tightening	A. Paget	4,324
Rubber and brush	A. Charles	4,529
Rubber roll for clothes-wringers	J. B. Forsyth	4,243
S.		
Sad and fluting iron	F. Myers	4,302
Saddle or sweat cloth	R. Spencer	4,358
Salt-brines, Apparatus for evaporating	S. D. Gilson	4,399
Saw-frame	The Bissell and Moore Manufacturing Company.	4,276
Seat and couch, Railroad-car (Reissue 1,439)	T. T. Woodruff	4,241
Seat for school-desks	G. W. Hildreth	4,268
Sediment-collector for steam-boilers	C. W. Deane	4,635
Sewing and other machinery, Mechanical movement for	J. Hanley	4,583
Sewing-machine	C. O. Crosby	
Sewing-machine needle	C. H. Wilcox	4,305
Sewing-machines, Binder for	W. N. Martin	4,663
Sewing-machines, Bobbin-winder for	C. H. Palmer	4,376
Sewing-machines, Folding-guide for	Wilcox and Gibbs Sewing Machine Company.	4,576
Sewing-machines, Guide for	J. S. Alter	4,449
Sewing-machines, Presser and switch-divider for	A. S. Woodward	4,556
Sewing-machines, Treadle-attachment for	W. Glover	4,500
Sewing-machines, Treadle for	J. A. Bradshaw and W. H. Brown	4,669
Sewing-machine table and cover	J. J. Wheat	4,233
Shawl (Design 4,233)	M. Landenberger	4,537
Shawl-strap	G. Crouch	4,249
Sheet-rubber, Perforated	J. Haskins	4,289
Shingle-machine	W. R. Close	4,250
Shingle-straps, Machine for shearing and punching	T. E. Harris	[illegible]
Shoe, Car-brake (Division B)	W. H. Dunham and J. Widney	[illegible]
Shoemakers, Edge-plane for	I. A. Dunham	4,454
Signal-box for fire-alarm telegraphs, Automatic	M. G. Crane and E. Rogers	4,513
Sizal grass and like substances, Machine for preparing	G. E. Hopkins and W. B. Shedd	4,671
Skate (Division A)	J. L. Plimpton	4,292
Skate (Division B)	J. L. Plimpton	4,293
Skirt, Hoop	W. H. Towers	4,316
Slide for extension-table	M. E. Carter and E. Mete	4,317
Spark-arrester	E. Wand	4,433
Spinning-machine, Lubricating-bolster for	M. P. Wilmarth	4,666

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Lathe, Turning	L. R. Faught	4,390
Leather, Machine for buffing, whitening, and polishing	A. W. Pratt	4,534
Leather, Machine for rolling	J. Whitney	4,562
Leather, Machine for scraping	J. T. Barnstead	4,236
Lightning-rod	L. King	4,355
Lock	L. F. Munger	4,674
Lock and detector	J. H. Lyon	4,620
Lock-nut	J. Miller, jr	4,263
Lock-nut	J. H. Gridley	4,354
Lock-nut	P. L. Gibbs	4,412
Lock, Permutation	G. Rosner	4,466
Lock, Permutation	J. C. Hintz, jr	4,542
Lock, Permutation	L. F. Munger	4,506
Loom-harness, Machine for making (Division A)	J. Sladdin	4,509
Loom-harness, Machine for making (Division B)	J. Sladdin	4,510
Loom-shuttle	T. Isherwood	4,522
Lounge, Bed	J. Seymour, W. H. Coolidge, and C. Stimson.	4,275
Lounge, Folding	J. W. McDonough	4,261
Lozenges, Machine for the manufacture of	O. R. Chase	4,634
Lubricator	J. Broughton	4,503
Lubricator	J. B. Wickersham	4,602
Lubricator	J. B. Wickersham	4,658
Lumber, Process of seasoning	H. H. Beach	4,394

M.

Mantel and front for fire-places (Division A)	D. K. Innes and W. W. Magill	4,612
Mantel and front for fire-places (Division B)	D. K. Innes and W. W. Magill	4,613
Mattress, Spring	E. L. Bushnell	4,616
Melodeon	E. D. Louis	4,486
Metal corner-piece for protecting the corners of wooden bodies.	E. A. and C. M. Stratton	4,365
Metallic dasher for vehicles, Adjustable	G. M. Peters	4,408
Mill, saw, Circular	S. R. Smith	4,400
Mold	W. Ainsworth	4,347
Motive-power, Transmitting	R. T. Smith	4,693
Muff and collar box	J. P. Jones	4,313

N.

Nuts, Locking-washer for	J. H. Gridley	4,406

O.

Oil-cup	J. P. Haines	4,361
Oils from vegetable and animal substances, Extraction and manufacture of.	T. Richardson, J. J. Lundy, and R. Irvine.	4,630
Oil tank and reservoir	W. J. Brundred	4,493
Oily and fatty matters, Process of extracting	L. S. Robbins	4,578
Ore, Grinding and amalgamating	T. Bates	4,360
Ores, Machine for separating	S. R. Krom	4,430
Overshoe	H. G. Tyer	4,257

P.

Package for lard	C. L. Tucker	4,360
Paint, &c., Treating linseed and other oils for	D. E. Brenig	4,557
Paint for ships' bottoms (Division A)	J. G. Tarr and A. H. Wonson	4,508
Paint for ships' bottoms (Division B)	J. G. Tarr and A. H. Wonson	4,509
Paper-folding machine	C. Chambers, jr	4,266
Paper-stock from certain plants, Manufacture of	J. Pickles	4,304
Paper, thick, Making	S. G. Lewis	4,390
Paraffine and other substances, Process and apparatus for purifying.	F. Lambo	4,307
Pavement, Concrete	J. J. Schillinger	4,364
Pessary	W. R. Gardner	4,291
Petroleum and its products, Process of treating	J. A. Tatro	4,417
Petroleum and other hydrocarbons, Apparatus for distilling.	A. H. Tait and J. W. Avis	4,367
Petroleum and other oils, Apparatus and process of distilling.	A. H. Tait and J. W. Avis	4,366
Petroleum, Process and apparatus for distilling, separating, and purifying.	E. G. Kelley	4,373
Photographs, Printing	J. Albert	4,399
Pipe and fixture for wells	J. H. Duck and E. H. Whitcomb	4,267
Pipe, Feed-water (Division A)	J. Doyle	4,345
Pipe, Feed-water (Division B)	J. Doyle	4,346
Piston-packing	O. Collier	4,350
Piston-rod packing	W. H. Miller	4,387
Planter, Corn	W. Morrison	4,360

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Plow	J. C. Pfeil	4,333
Plow-colter	W. W. Stillman	4,597
Plow mold-boards and other purposes, Copper alloy for	W. Magee	4,684
Plows, Blank for and die for making mold-boards for	W. M. Watson	4,289
Press, Copying	E. W. Frost	4,306
Press, Cotton	P. Williams	4,327
Press, Printing	R. M. Hoe and S. D. Tucker	4,400
Press, Printing	M. Gally	4,646
Press, Punching	M. G. Wilder	4,448
Prices-current bulletins, &c., Producing	W. Smith and H. D. Rogers	4,447
Pulley, Expanding	T. H. Savery	4,685
Pulleys to shafts, Device for securing	J. H. Buckman	4,298
Punch	I. P. Richards	4,298
Pump	R. M. Lafferty	4,678
Pump rod attachment	H. H. Locke	4,682

R.

Rack, Clothes	V. M. Heath	4,505
Radiator	W. Steffe	4,401
Railroad-ties, wood, Preserving	B. S. Foreman	4,360
Railroad turn-table	A. J. Wright and L. Meeker	4,410
Railway-rail joint, Securing	L. Fay	4,294
Railways, Water-tank for	J. Morton	4,543
Rake, Harvester	J. R. Parsons	4,377
Rake, Harvester	J. C. Durborow	4,395
Range, Cooking	W. Sinford	4,526
Refrigerating and desiccating, Apparatus for	E. D. Brainard	4,436
Refrigerator	J. H. Fisher	4,242
Refrigerator	A. Fuller and L. P. Reichert	4,645
Regulator for temperature in rooms, &c., Electro-magnetic.	G. M. Sternberg	4,336
Rice, coffee, and other grains, Machine for cleaning and scouring.	W. Ager	4,570
Road-wagon, Steam	C. W. Hermance	4,311
Rock, Machine for channeling	E. G. Lamson	4,407
Roller and fastening for clothes-wringers	R. B. Hugunin	4,680
Roller for clothes-wringers	J. F. Holt	4,473
Roofing-composition	J. H. Smyser	4,624
Rooms, Method of cooling and ventilating	A. S. Lyman	4,683
Ropes, Machine for tightening	A. Paget	4,324
Rubber and brush	A. Charles	4,529
Rubber roll for clothes-wringers	J. B. Forsyth	4,243

S.

Sad and fluting iron	F. Myers	4,302
Saddle or sweat cloth	R. Spencer	4,358
Salt-brines, Apparatus for evaporating	S. D. Gilson	4,399
Saw-frame	The Bissell and Moore Manufacturing Company.	4,276
Seat and couch, Railroad-car (Reissue 1,439)	T. T. Woodruff	4,241
Seat for school-desks	G. W. Hildreth	4,268
Sediment-collector for steam-boilers	C. W. Deane	4,635
Sewing and other machinery, Mechanical movement for	J. Hanley	4,583
Sewing-machine	C. O. Crosby	
Sewing-machine needle	C. H. Wilcox	4,305
Sewing-machines, Binder for	W. N. Martin	4,663
Sewing-machines, Bobbin-winder for	C. H. Palmer	4,376
Sewing-machines, Folding-guide for	Wilcox and Gibbs Sewing Machine Company.	4,576
Sewing-machines, Guide for	J. S. Alter	4,449
Sewing-machines, Presser and switch-divider for	A. S. Woodward	4,556
Sewing-machines, Treadle-attachment for	W. Glover	4,500
Sewing-machines, Treadle for	J. A. Bradshaw and W. H. Brown	4,669
Sewing-machine table and cover	J. J. Wheat	4,233
Shawl (Design 4,233)	M. Landenberger	4,527
Shawl-strap	G. Crouch	4,249
Sheet-rubber, Perforated	J. Haskins	4,289
Shingle-machine	W. R. Close	4,259
Shingle-straps, Machine for shearing and punching	T. E. Harris	4,371
Shoe, Car-brake (Division B)	W. H. Dunham and J. Widney	4,636
Shoemakers, Edge-plane for	I. A. Dunham	4,466
Signal-box for fire-alarm telegraphs, Automatic	M. G. Crane and E. Rogers	4,454
Sisal grass and like substances, Machine for preparing.	G. E. Hopkins and W. B. Shedd	4,513
Skate (Division A)	J. L. Plimpton	4,671
Skate (Division B)	J. L. Plimpton	4,292
Skirt, Hoop	W. H. Towers	4,293
Slide for extension-table	M. E. Carter and E. Mete	4,316
Spark-arrester	E. Wand	4,317
Spinning-machine, Lubricating-bolster for	M. P. Wilmarth	4,433

Alphabetical list of reissues—Continued.

Invention or discovery.	Name of patentee.	No.
Spoke-tenoning and hub-boring machine	J. Deming	4, 538
Spoon, Iron	G. L. Mix	4, 506
Spring, Car	A. Hebbard and J. P. Ondordonk	4, 335
Spring, Car	A. Hebbard	4, 670
Spring for beds, &c	C. Rich	4, 285
Squares and rules, Machine for graduating	N. Millington	4, 593
Stanchion	W. C. Clifford	4, 353
Staves, Machine for crozing	H. Elliott, E. Smith, and S. S. Gray	4, 311
Steel, Manufacture of	S. W. Kirk	4, 314
Stencil-plate	E. L. Tarbox	4, 402
Still for hydrocarbons	C. Lockhart and J. Gracio	4, 515
Stock-car	A. Rank	4, 425
Stock-car	A. Rank, H. King, and J. Sharp	4, 426
Stock-car, Railway	J. S. Kendall	4, 514
Stone, Machine for channeling	T. Ross and R. Barrett	4, 264
Stone, Machine for cutting	G. Morgan	4, 263
Stone, stucco, &c., artificial, Manufacture of	G. A. Frear	4, 456
Stop-water, Sliding	H. G. Ludlow	4, 250
Stove, Base-burning	W. J. Keep	4, 386
Stove, Base-burning	A. C. Corse	4, 421
Stove, Base-burning	A. White	4, 426
Stove, Cooking	C. P. Geisenhainer	4, 254
Stove, Cooking	L. Hermance	4, 428
Stove, Cooking	Eddy, Corse & Co.	4, 530
Stove, Cooking	G. W. Walker	4, 540
Stove, Heating	M. A. Boughton	4, 568
Stove-lid and damper, Combined	J. M. French	4, 505
Stove-pipe thimble	W. Doyle	4, 350
Stoves, Fire-plate for	C. A. Buttles	4, 438
Sugar, Apparatus and process for mixing	E. Borlean	4, 501
Sugar-draining machine, Centrifugal....(Division A)	M. L. Senderling	4, 536
Sugar-draining machine, Centrifugal....(Division B)	H. W. and R. Lafferty	4, 247
Suspender	H. W. and R. Lafferty	4, 248
System of water-supply for cities	J. R. Sharp and W. Seymour	4, 348
	B. Holly	4, 373
T.		
Table, Fall-leaf extension	J. Dourson	4, 351
Tape-measure	L. P. Bradley	4, 419
Tap for oil-packages.....(Division A)	A. Warth	4, 403
Tap for oil-packages.....(Division B)	A. Warth	4, 404
Teeth, Rotary-harrow	J. F. Chase	4, 484
Telegraph-apparatus	G. Little	4, 530
Thrashing-machine	H. Hanna	4, 245
Ticket punch, Registering	A. D. Hoffman	4, 246
Tool-holder	W. W. Draper	4, 333
Tools, edge and other, Casting.....(Division A)	Collins Company	4, 537
Tools, edge and other, Casting.....(Division B)	Collins Company	4, 538
Trellis, Grape and vine	T. G. Yeomans	4, 469
Trip-hammer	J. C. Butterfield and J. Hay	4, 470
Truck, Car	C. D. Tinsdale	4, 378
Truck, Railway-car	W. Pettit	4, 238
Truss, Spring	J. W. Riggs	4, 589
Tube-well	S. L. Bignall	4, 604
U.		
Upholstery, Mode of securing springs in	W. Wright	4, 266
V.		
Valve, Automatic regulating	B. Holly	4, 396
Valve, Piston steam	R. C. Gray and W. B. Brittingham	4, 319
Valve, Pump	W. H. Pollard	4, 356
Vapor-burner and lamp-post, Combined	B. D. Evans	4, 342
Vegetable and animal substances, Treating, so as to dry and preserve them.	C. Alden	4, 592
Vehicles, Adjustable metallic dasher for	G. M. Peters	4, 406
Ventilator	M. E. Mead	4, 255
Ventilator, Railroad-car	M. T. Hitchcock	4, 494
Vise	J. Simpson	4, 637
W.		
Wagons, End-gate for	J. L. Stropes	4, 631
Wagon-tongue support	W. Beers	4, 490
Watch, Stem-winding	J. Jürgensen	4, 334
Washing-machine	S. W. Palmer and C. Coventry	4, 497
Water-meters, Molding propeller for....(Division B)	National Meter Company	4, 392
Water-meters, Screw-propeller for.....(Division A)	National Meter Company	4, 391

Alphabetical list of extensions.

Invention or discovery.	Name of patentee.	No.
Water-pitcher and other vessels	K. Goddard and J. P. Adams	4, 318
Weights, Pulley-attachment for raising	G. W. Gregory	4, 382
Wheelbarrow-frame	B. W. Tuthill	4, 341
Wheel, Carriage	R. W. McClelland	4, 328
Wheel for vehicles	J. R. Baird	4, 567
Wheel, Water.....(Division A)	J. T. Case	4, 329
Wheel, Water.....(Division B)	J. T. Case	4, 330
Wheel, Water	J. Tyler	4, 539
Whiffletree	G. and W. Gibbs	4, 647
Whip-hanger	P. F. Cooley	4, 520
Wire cloth, Machine for painting.....(Division A)	C. H. Waters	4, 462
Wire cloth, Machine for painting.....(Division B)	C. H. Waters	4, 463
Wire ferrules, Machine for making	H. O. Lothrop	4, 431
Wood-bending machine	H. McDonald	4, 614
Wood-bending machine	H. McDonald	4, 548
Wood-bending machine	S. Kingsland	4, 553
Wood, Machine for bending	C. Prudden	4, 357
Wood, Preserving.....(Division B)	J. F. Siebel	4, 550
Wood, Reducing, to paper-pulp	H. Voelter	4, 418
Wrench	A. G. Coes	4, 450
Wringer, Clothes	R. B. Hugunin	4, 638
Wringer, Clothes	W. Whitney	4, 570
Wringer, Clothes	C. A. Cummings and F. M. Swallow	4, 574

EXTENSIONS.

A.		
Abdominal supporter.....(Reissue 493)	J. M. Milligan	16, 602
Acid, Sulphuric.....(Reissues 502, 603)	A. Monnier	17, 970
Apples, Machine for paring	D. H. Whittemore	16, 666
Apples, Machine for paring and slicing	D. H. Whittemore	16, 417
Axes, Machine for making	C. F. Hutchins	16, 732
B.		
Bedstead-fastening	A. M. Rodefer	13, 693
Billiard-table cushions.....(Reissues 7,998, 2,510)	H. W. Collender	18, 805
Blind-fastening.....(Reissue 3,392)	H. Vansands	17, 943
Blind-slats, Machine for cutting tenons on	S. C. Ellis	16, 534
Bobbins for roving and slubbing	I. Hayden	17, 929
Bolts, Machine for threading.....(Reissue 656)	W. Sellers	18, 775
Books, Binding	A. H. Rowand	17, 899
Boxes, &c., Method of joining	J. Stimpson	16, 557
Boxes, Machine for cutting pasteboard for	F. N. Clarke	16, 719
Box, Passenger-fare.....(Reissues 550, 4,240)	J. B. Slawson	17, 899
Bridges, Iron truss-frame for	F. C. Lowthorp	17, 684
Bridge for piano-fortes, Metallic	G. H. Hulskamp	17, 838
C.		
Camera, Solar.....(Reissue 2,311)	D. A. Woodward	16, 700
Candle-snuffers	O. W. Stow and A. Barnes	18, 713
Carriage-prop.....(Reissue 1,331)	C. Thomas	18, 254
Centering-machine	E. F. Whiton	17, 814
Chain-machine.....(Reissue 928)	L. Toune	18, 490
Chair for invalids	J. G. Holmes	17, 567
Corn-husker	E. F. French	17, 909
Cotton-gin	D. Pratt	17, 906
Cotton, Long trunks for cleaning	I. Hayden	18, 742
Cotton-seed, Machines for hulling	W. R. Fee	17, 961
Cotton, wool, and other fibrous materials, Machine for clearing and separating.	I. Hayden	16, 833
Crib for horses.....(Reissue 1,300)	H. Eddy	16, 357
Cultivator	C. H. Sayre	18, 073
Cultivator-teeth	J. P. Cramer	16, 364
Cutting and bending sheet-metal, Machine for	E. Savage	16, 853
E.		
Eaves-troughs, Apparatus for suspending	J. A. Watrous	18, 113
Edge-planers for shoemakers.....(Reissue 4,454)	I. A. Dunham	18, 237
F.		
Fire-alarm telegraph for cities, Electro-magnetic	W. F. Channing and M. G. Farmer	17, 355
Fire-arm, Breech-loading. (Reissues 1,592, 3,798, 3,860)	W. C. Hicks	16, 797
Fire-arms, Accelerating	A. S. Lyman	16, 568

Alphabetical list of extensions—Continued.

Invention or discovery.	Name of patentee.	No.
Fly-frame of printing-presses, Mode of operating	R. M. Hoe	18, 640
Furnaces, Cupola and other ... (Reissues 1,403, 1,843)	P. W. Mackenzie	18, 651
G.		
Gaseous bodies, Machinery for compressing	W. A. Royce	17, 304
Gas-tubes, Extension	C. Monson	18, 154
Gauges, Steam-pressure	C. A. Eastman	17, 560
Generater, Gas	A. M. Giles	16, 830
Generators, Gas	J. Butler	18, 184
Generater, Steam	F. Latta	18, 460
Gore-cloth, Elastic (Reissue 492)	R. Winslow	17, 950
Grinding and polishing machine	D. Lovejoy and E. S. Butterfield	18, 509
H.		
Hand-stamp	T. J. Robertson	18, 249
Harrow (Reissue 45)	D. W. Sharos	16, 496
Harrow (Reissue 864)	S. S. Hogle	16, 866
Harvester	E. D. Buckman and S. A. Sisson	16, 957
Harvester (Reissues 548, 3,393)	C. Crook	17, 905
Harvester (Reissues 548, 3,394)	C. Crook	17, 905
Harvester	W. T. B. Read	17, 451
Harvester (Reissue 3,524.) (Division A)	J. P. Manny	17, 779
Harvester (Reissue 3,525.) (Division B)	J. P. Manny	17, 779
Harvester (Reissue 3,526.) (Division C)	J. P. Manny	17, 779
Harvester (Reissue 3,580.) (Division A)	J. P. Manny	17, 796
Harvester (Reissue 3,581.) (Division B)	J. P. Manny	17, 796
Harvester (Reissue 1,775)	H. Willard and R. Rose	18, 562
Harvester (Reissue 1,776)	H. Willard and R. Rose	18, 562
Harvester (Reissue 1,780)	H. Willard and R. Rose	18, 562
Harvester (Reissue 1,781)	H. Willard and R. Rose	18, 562
Harvesters, Raking-apparatus for	J. W. Budd	18, 009
Harvesting-machines	G. Esterly	16, 873
Hat-bodies, Forming	I. Gill	16, 426
Hay-presses, &c., Securing the doors of	C. Martratt	17, 196
Hinge	J. D. Browne	16, 678
Hook, Whiffletree	A. M. Cooley	17, 666
Horse-power	G. E. Burt	18, 238
Horse-rakes (Reissue 3,303)	J. J. Squire	16, 318
Horse-shoes, Machine for making (Reissue 1,998)	J. A. and I. T. Burden	17, 665
Hydrant	G. P. Perrine and J. E. Boyle	17, 638
I.		
Iron, Manufacture of	W. Kelly	17, 698
Iron spoons (Reissue 4,506)	G. I. Mix	18, 513
Ivory, Factitious	W. M. Welling	17, 940
K.		
Keeper for right and left hand door-locks	C. Adams	16, 676
L.		
Lathe for turning irregular forms, Automatic	W. D. Sloan	16, 938
Lathing and plastering, Mode of	J. G. Vaughan	16, 435
Lime and other fertilizers, Machine for spreading	P. Seymour	18, 774
Lock (Reissue 62)	L. F. Munger	17, 804
Locomotive furnaces	S. A. Bolster	18, 863
Loom	B. G. Dawley	16, 306
M.		
Mechanical movements for sewing and other machinery. (Reissue 4,563.)	J. Hanley	18, 845
Melodeon (Reissue 1,656)	S. A. Jewett	18, 290
Meter, Fluid	J. Cochrane	16, 945
Mill for cleaning castings	H. Remsen	17, 012
Mill, Sawing (Reissue 542)	W. M. Ferry	17, 899
Mowing-machine (Reissue 904)	G. C. Dolph	18, 141
Mowing-machine	J. P. Manny	18, 510
Mowing-machines (Reissues 831, 1,007)	E. Ball	18, 788
Mowing-machines (Reissues 831, 1,008)	E. Ball	18, 788
Mowing-machines (Reissues 831, 1,009)	E. Ball	18, 788
Mowing-machines (Reissues 832, 1,010)	E. Ball	18, 788
Mowing-machines (Reissues 832, 1,011)	E. Ball	18, 788
Mowing-machines (Reissues 832, 1,012)	E. Ball	18, 788
N.		
Nail-plate feeding-machine (Reissue 2,301)	J. C. Gould	17, 273

Alphabetical list of extensions—Continued.

Invention or discovery.	Name of patentee.	No.
O.		
Ore, Separating	T. J. Chubb	18, 038
P.		
Paper bags, Machine for making (Reissue 920)	R. Rice	17, 184
Picker-sewing machines	J. Haw	17, 636
Pile for rolling beams	J. Griffin	18, 736
Pillars for clock-movements, Machine for turning. (Reissue 3,489.)	W. H. Nettleton, C. Raymond, and A. Hatch.	18, 661
Planing-machines, Arrangement of feed-rollers for	B. Fitts	17, 963
Planter, Cotton-seed	T. T. White	18, 482
Plow	J. S. Hall	17, 430
Power-looms for weaving wire cloth	E. B. Bigelow	18, 320
Presses, Cotton and hay	G. W. Penniston	18, 766
Printing in colors, Method of	R. Croome	17, 319
Pump	J. D. West	18, 309
Pumping apparatus, Steam	G. H. Corliss	17, 493
R.		
Railroad-cars, Steam-brakes for	T. E. Sickles	16, 884
Railroad platform-scales, Arrangement of	S. G. Lewis	16, 986
Rakes for harvesters, Self-acting	S. T. Lamb	17, 085
Rakes to grain-harvesters	J. Atkins	9, 479
Retort-covers	M. J. Kelsey	17, 855
Rice, Machine for cleaning	J. R. Floyd	17, 854
Rock-channeling machine. (Reissue 3,368.) (Division A.)	W. Ager	18, 177
Rock-channeling machine. (Reissue 3,369.) (Division B.)	W. Plumer	18, 358
Roofs, Fastening sheet-metal on	W. Plumer	18, 359
Roofs, metallic, Machine for seaming (Reissue 889)	A. Johnson	17, 331
	J. D. Prouty	17, 874
S.		
Safety-lamp	W. Pratt	18, 704
Sawing-machines, Feeding lumber laterally in	S. R. Smith	16, 454
Saws, Grinding	D. S. Nippes	17, 110
Scales, Platform	F. M. Strong and T. Ross	14, 119
Scales, Platform (Reissue 445)	T. Fairbanks	16, 381
Seeding-machine	L. B. and H. A. Myers	16, 772
Seeding-machine (Reissue 3,310)	A. Franklin	18, 579
Sewing-machine	A. F. Johnson	16, 387
Sewing-machine (Reissue 573)	J. E. A. Gibbs	17, 497
Sewing-machine	E. H. Smith	18, 005
Shade-cord, Weaving	T. Nelson	16, 948
Shears for cutting metal	T. F. Taft	18, 025
Shears, Vibrating	J. Toulmin	18, 065
Ships, Compound capstan for (Reissue 1,345)	C. Perley	17, 940
Shoe-binding leather, Process of manufacturing	E. L. Norton	17, 445
Squares, Metallic (Reissue 2,869)	S. Darling	18, 327
Syringe, Enema (Reissue 1,940)	H. E. and C. H. Davidson	16, 956
T.		
Truss	J. W. Riggs	18, 708
Type, Machine for composing and distributing	W. H. Houston	16, 947
Type setting and distributing machine. (Reissue 3,572.)	H. W. Alden	18, 175
V.		
Valves of steam-engines, Operating	S. R. Wilmot	16, 698
Veneers, Cutting from the log	J. H. Goodell	16, 308
Veneers, Machine for cutting	P. Cook	16, 309
W.		
Wagon (Reissue 2,500)	E. Huson	16, 648
Wagons, Cast seamless thimble-skeins for. (Reissues 575, 1,298.)	J. Benedict	16, 636
Wagons, Mode of casting seamless skeins for. (Reissues 575, 1,298.)	J. Benedict	16, 636
Wheel, Carriage (Reissues 3,079, 4,116)	J. D. Sarven	17, 390
Wheel, Water	S. Reynolds	16, 881
Wooden boxes, Machine for turning	A. S. Newton	18, 646
Wood, Machine for splitting (Reissue 2,132)	W. L. Williams	17, 061

DISCLAIMERS.

Invention or discovery.	Name of patentee.	No.
Feeding lumber laterally in sawing-machines. Filed January 28, 1871. Second claim of specification disclaimed.	S. R. Smith	16, 454
Platform-scales. Filed January 10, 1871. Second and third claims of specification disclaimed.	F. M. Strong and T. Ross	14, 119
Solar camera. Filed February 23, 1871	D. A. Woodward. (*See* March 7)	16, 709
Wood, Machine for splitting. Filed April 14, 1871. Fourth claim disclaimed.	W. L. Williams. (*See* April 25)	17, 061
Harvester. Filed April 20, 1871. First claim of specification disclaimed.	C. Crook. (*See* May 2)	17, 305
Lantern. Filed April 29, 1871	W. Westlake, J. F. Dane, and J. P. Covert. (*See* May 16.)	40, 399
Roofing, &c., Composition for. Filed May 8, 1871	Plastic Slate Roofing Joint Stock Company, New York. (*See* May 16.)	46, 495
Sawing thin boards, &c., Machines for. Filed May 30, 1871.	J. Lagowitz, R. Peck, and G. J. Bogert. (*See* June 13.)	10, 965
Steam-pumping apparatus. Filed May 27, 1871	G. H. Corliss. (*See* June 13)	17, 423

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LIST OF PATENTS

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UNITED STATES PATENT OFFICE

FOR THE

WEEK ENDING JANUARY 3, 1871,

AND EACH BEARING THAT DATE.

110,617.—FLIER FOR SPINNING-MACHINE.—Theodore T. Abbot and John A. V. Smith, Manchester, N. H., said Abbot assignor to said Smith.

Claim.—As an article of manufacture, the above-described flier, composed of the pieces A and A′, having angular sockets *g g*, tubular and bent arms C C, auxiliary piece E, and section B′, provided with openings D D, all constructed in the manner and for the purpose described.

110,618.—MOLE-TRAP.—John Adams, Greencastle, Ind.

Claim.—The trap described, consisting of its legs A A, plates a^1 a^2, plunger B, with cap *b* and disk *b′*, trigger *c*, and pieces *d d′*, when constructed and arranged as described.

110,619, antedated December 24, 1870.—STONE-DRAG.—Elijah C. Allen, Deerfield, Mass.

Claim.—1. A stone-drag, as constructed, with separate bottom and bow-planks *a b*, and a metallic connection, A, as described, arranged, and combined together, and with guard-ledges *h i i*, and a head piece, B, all substantially as specified.

2. The metallic connection A, as composed of the base, bent and slotted, as described, the support or guard-ribs, and the cross-rib, arranged and cast in one piece, as set forth.

110,620, antedated December 29, 1870.—SEEDING-MACHINE. — Asher S. Babbit, Keeseville, N. Y., assignor to Babbit, Hinckley, & Co., same place.

Claim.—1. The pivoted slides E E′, provided with bent arms e^1 e^2, when arranged above and below a hopper-bottom having orifices with inclined edges, and operated by means of pins, as described.

2. The lever G, in combination with the arms *h h′* and slide F, as and for the purpose described.

3. The arrangement of the frame A B, drag-bars C, with rollers *c*, hopper D, slides E E′, plate F, and lever G, when the parts are constructed as described, for the purpose set forth.

110,621.—FETTER OR CLOG FOR FOWLS.—Sanford J. Baker, Madison Centre, Me.

Claim.—An improved fetter or clog for fowls, formed of the bent and pointed wire A, pivoting-wire B, and recessed wooden jaws C, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

110,622.—PUMP.—Joel R. Bassett, Cincinnati, Ohio.

Claim.—1. The combination, substantially as described, of the base A *a′*, duct B *b* C C′, with its opening D D′ F F′, and valves E G, pump-barrel H A, shell I, partitions L L′ M M′, ports N N′, vacuum-chamber O, suction-pipe R, discharge-chamber P, pipe *p*, piston Q *q*, plate S, opening T, valve U, air-vessel V *v′*, diaphragm W *w* Z, chest X, valve *x*, and retaining devices B′, for the purpose set forth.

2. In combination with the pump-barrel H, air-vessel V, and diaphragm W *w*, the sleeve *v* and the bushing Y, for the object stated.

110,623.—MACHINE FOR MARKING SQUARES.—Charles S. Bement, Southington, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim.—The combination of the marking-roller D, shaft *d*, boxes *c c*, slides *g g*, leveler E, weighted or spring lever F, and the bed A′ or its equivalent, the whole constructed and operating together, substantially as described.

110,624.—CUTTER FOR NAIL-CUTTING MACHINES. — Elenzar Bless, Indianapolis, Ind.

Claim.—The anvil A and cutter B, formed and arranged substantially as and for the purpose set forth.

110,625.—SHOT-CASE AND DISTRIBUTER.—Sinclair Booton, Seguin, Texas.

Claim.—1. The vertically-adjustable perforated tube E arranged within the hollow center of a vessel, A, that is divided into several compartments, substantially as and for the purposes herein shown and described.

2. The cover D, arranged on the bowl A, and fitted around the vertically-adjustable post F and tube E in such manner that its opening is in line with the opening *e* in the tube E, substantially as herein shown and described.

110,626.—COMPOUND FOR CULINARY USE.—Henry W. Bradley Binghamton, N. Y.

Claim.—As a new and improved article of manufacture, a lard, vegetable butter, or shortening, which is composed of the ingredients, or their respective equivalents, in the proportions herein set forth.

110,627.—RENDERING AND TREATING OFFAL AND OTHER ANIMAL SUBSTANCES.—Duncan Bruce, Brooklyn, N. Y., assignor to Emma Bruce, same place.

Claim.—The smoke-generator, arranged between the heater and the boiler or reducing-vessel, and heated by hot air or superheated steam from the heater, substantially as herein described.

110,628.—PAINT-BRUSH.—William B. Burtnett, New York, N. Y.

Claim.—The circumjacent socket B L, and central plug C K, combined as described, with the handle and bristles of a paint-brush, for the purpose specified.

110,629, antedated December 30, 1870.—HOG-SNOUTER.—John C. Campbell and Warren S. Bruce, Good Hope, Ill.

Claim.—The rotating head G, when armed with the cutters 1 2 3 4, and held in a fixed position by spring E, as set forth.

110,630.—PILL-MACHINE.—Pierre Canhape, New York, N. Y.

Claim.—1. The combination of the comb-bar B, clamp E, and strippers H, substantially in the manner described, and for the purpose specified.

2. The combination of the molds A with the comb-bar B, substantially as and for the purpose specified.

110,631.—PAPER-CUTTING MACHINE.—John E. Coffin, Portland, Me., assignor to Frederick W. Bailey and James Noyes, same place.

Claim.—1. In the combination consisting of the crank *y*, the adjustable stud *z*, the sector *b'*, the gear *d'*, the ratchet *a*, the pawl *e''*, and the drum *x*, constructing the sector *b'* with the crank-slot *a'*, substantially as described.

2. The combination of the cam 5, the lever 6, and the truck 7, the piece 9, and the pawl *e''*, substantially as described.

3. The cam *w'*, the arm *v'*, and spring *y'*, the arm *w'*, toggle 1, and the arms 4 3, in combination with the truck *f'* on the shaft *l*, as described.

110,632.—BEDSTEAD-FASTENING.—Charles S. Comins, Lowell, Mass.

Claim.—1. The tapering plate A having lugs B, or other devices, for engaging in mortises, slots, rests, &c., concavity C, and ridges D, substantially as described.

2. The plate A, constructed as described, in combination with the side pieces E, slot G, orifice F, and plug I.

110,633.—FASTENING FOR EAVES-TROUGHS.—Leonard Cook, Shreveport, La.

Claim.—The band C, clasp A, and wire E, in combination with the spike B and trough D, all constructed and arranged as shown and described.

110,634.—SEEDING-MACHINE.—Jackson Corad, Corydon, Iowa.

Claim.—An inwardly-converging self-feeding hopper, F, and apertured box B, combined, as described, with a revolving vessel, E, having an inner conical seed-crowder, *c*, and radial tubular distributing-arms *d*, all arranged as described.

110,635.—FLOUR-BOLT.—Robert W. Cunningham, Chesterville, Ohio.

Claim.—The herein-described vibratory flour-bolt, constructed with tapering sides C, cloth partition H, whereby said bolt is divided into an upper and lower chamber, F G, space J when covered with bolting-cloth *b*, openings M and L, and cloth top B, all arranged in relation to each other for operating in the manner substantially as described, and for the purpose set forth.

110,636.—COTTON-PLANTER AND MANURE-DISTRIBUTER.—Nimrod Donaldson, Line Creek, S. C.

Claim.—The opener C, constructed substantially as described, in combination with the revolving barrel G, the guard H, and the delivery-wheel I and elastic coverer K.

110,637.—REVERSIBLE LATCH.—Heinrich Dotzenroth, Pittsburg, Pa.

Claim.—The sliding stop E, provided with the vertical flange *v* and front projection *r*, and arranged as shown, whereby the latch is prevented from sliding into the case to be disengaged fro the follower D *t*, for the purpose of reversal, locked in position, substantially as shown and d scribed.

110,638.—REFINING PETROLEUM.—Richar Eaton, Montreal, Canada.

Claim.—1. The art of removing earthy partic and other impurities from crude petroleum-oil the washing action of water, substantially in t manner and for the purpose described.

2. The entire apparatus in its novel arrange of purifying-vessel *a*, perforated conical chamb *b*, inlet water-pipes *c c²*, steam-pipe *c³*, outlet w ter-pipe *d*, out oil-pipe *e*, oil-tank *e²*, water-tanks and *g*, overflow water-pipe *i*, pumps *h'* and *j* supply pipe *k*, and tanks *k* or *l*, revolving brush gearing *n*, and perforated diaphragms *o*, all wor ing together, substantially in the manner and the purpose described.

110,639.—PROTECTING THE HEARTHS O FURNACES.—Henry William Ellicot Baltimore, Md.

Claim.—Encircling the hearth of furnaces wi water or air by means of pipes or otherwise, for t purposes and use expressed.

110,640.—LOOM.—Robert Elliott, Chest Pa.

Claim.—1. The loosely-pivoted frame C guide-rollers *c c c*, combined and connected wi the heddles, straps, and upper rollers, all substa tially as described.

2. The jack-bar, provided with the slot *c*, step pin *c³*, and link *d'*, substantially for the purpo specified.

110,641.—VENTILATOR.—William Enni Philadelphia, Pa.

Claim.—In combination with the shaft C end-induction tube D, the partition-wall E, loos within the said shaft C, for the purpose of carry the air downward upon the heating surfaces of heater or radiator B, and from thence into t room A, as herein shown and described.

110,642.—DOVETAILING-MACHINE.—Harr H. Evarts, Chicago, Ill.

Claim.—1. The lever slide I with its pivot gib-box *q'*, the arm O with its guide-bars *s' s''*, t spindle G with its pivoted guide-box H, combin with the carriage D and mandrel-frame C, for t purpose of governing the direction of the mov ments of said carriage D and mandrel-frame C substantially as shown and described.

2. The pivoted box H and adjusting nut *i*, whe combined with the spindle G, provided with pin *k* arranged as described, and operating in the man and for the purpose specified.

3. The combination, with the stop-arrangem H *i k* and spindle G, of the adjustable elbow K st stop L, arranged as described, and operating in t manner and for the purpose specified.

4. The combination, with the vertically-movin carriage D, of the rocking mandrel-frame C carry ing the tools *h' i'*, and made adjustable by means screws *m n*, in the manner and for the purpose sp cified.

5. The lever Q, double-acting pawl P, gauge-scr ment R, stop S, rubber spring *v'* and bearing P for insuring the connection of the gears and com pensating for wear, when combined with the gear 1 2 3 and rack N, for giving motion to and adjust ing the action of the table, substantially as de scribed.

6. The weighted shaft O, with detent *x*, combine with the gear 3 and the lever and pawl Q P, as described.

7. The angularly-adjustable gauge-block T an stop X, in combination with the table M, in the manner and for the purpose specified.

110,643.—ALARM FOR LOCOMOTIVE-ENGINES.—Reed A. Filkins, North Adams, Mass.

Claim.—The combination of the slide C with the lever B and bell-crank D, all arranged on a locomotive-engine, substantially as and for the purposes herein shown and described.

110,644.—COMBINED COTTON-SEED PLANTER AND GUANO-DISTRIBUTER.—Lafayette Gantt, Camilla, Ga.

Claim.—The combination of the dropper F G H and hopper J K L M with each other and with the frame-work A C D E, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

110,645.—GLASS TELEGRAPH-INSULATOR.—John Garity, East Birmingham, Pa.

Claim.—A solid glass telegraph-insulator, having a head, *b*, grooved, and of form suitable for use with either a wrench or spanner, and having also a threaded pin, *a*, the face of which tapers from the face of the head to or toward the point, substantially as and for the purposes set forth.

110,646.—GATE.—Robert Gidley, Lagrangeville, N. Y.

Claim.—1. In combination with the free end of a gate, a swinging-bar, E, pivoted to the post B, and grooved at its upper end to receive a locking-bar, substantially in the manner described.

2. The combination of the hinge-bars or rails F with post G, and lever or levers I, substantially as shown and described.

110,647.—HAND-HOLE CAP FOR STEAM-BOILERS.—William W. Graham, Boston, Mass., assignor to himself and James S. Parsons, Windham, Conn.

Claim.—The combination and arrangement of the perforated oblong or elliptical cover D, as described, with the oblong or elliptical cover B, and the shanks *f*, mortised and grooved as described, all adapting for use for the purpose and in the manner as explained.

110,648.—LAMP.—Franklin T. Grimes, Liberty, Mo.

Claim.—The arrangement of the air-supply tube and passage B relatively to the reservoir A and wick-chamber C or its tube D, whereby the incoming air is made first to descend through the body of oil in the reservoir, and afterward to ascend in the course or passage to the flame, substantially as specified.

110,649.—CLOTHES-PIN.—George Alfred Harris, Buchanan, Mich.

Claim.—The improved clothes-pin, consisting of the two parts A B, pivoted together by the ears C and pin D, and the spring E, the said parts A B having the grooved sides, all substantially as specified.

110,650, antedated December 23, 1870.—SAW-SET.—Henry A. Harris, Center, Texas.

Claim.—An improved saw-set, formed by the combination of the handle A, stationary jaw B having a scale of division-marks formed upon its face, fence C, adjustable jaw D, thumb-nut E, arm F, gauge G having a scale of division-marks formed upon it, and set-screw H, with each other, substantially as herein shown and described, and for the purposes set forth.

110,651, antedated December 30, 1870.—FOLDING LAMP-SHADES.—Henry M. Hartshorn, Malden, Mass.

Claim.—1. Connecting the supporters *c d* by means of the wire-rings *v*, or their equivalents, for the purposes specified.

2. The combination and arrangement of the rings *v* with the two classes of supporters *c d*, or their equivalents, arranged substantially as specified.

110,652.—COMPOSITION FOR PRESERVING WOOD.—William Hayman, Taunton, Mass., assignor to himself and William R. Black, same place.

Claim.—The said composition made of the ingredients and in the manner substantially as hereinbefore explained.

110,653.—RECLINING AND ROCKING-CHAIR.—Samuel Hayward, Boston, assignor to himself and Luther E. Kimball, Cambridgeport, Mass.

Claim.—1. A rocking or reclining-chair, constructed in such a manner that the back, front legs, and seat are rigidly connected together, when so arranged upon elastic back legs to pivot upon the bottom of the front legs, substantially as described.

2. The leg and arm D of a chair, made in one piece, when the arm is so formed as to serve as a spring, substantially as described.

3. The spring-tie E, in combination with the leg and arm C, constructed and operating substantially as described.

101,654.—BASE-BURNING FIRE-PLACE HEATER.—Elisha S. Heath, Baltimore, Md.

Claim.—The fire-place heater, constructed with the rear extension of the base A, and with the pipes C C E, arranged with relation to such base and the cylinders of the heater, substantially as herein described, for the purpose specified.

110,655, antedated December 24, 1870.—DROP-HAMMER LIFTER.—Francis M. Hodge, Shelburne Falls, Mass.

Claim.—1. The rotary engine herein described, and drum E, arranged on the same shaft, combined with the hammer-strap C, as and for the purpose described.

2. The combination of friction-roll *l*, drum B, pendent arm K, strap *i*, belt *e*, band *b*, (on flange *a*,) and lever *g*, all relatively arranged as and for the purpose described.

3. The disk M having tappets N N, and the sliding circular plate Q having stud R and lateral projection R' thereon, combined with the valve-rod S S T, all constructed and relatively arranged as and for the purpose specified.

110,656.—KNITTING-MACHINE.—William H. H. Hollen, Fostoria, Pa.

Claim.—The combination, with the cam-plate C, of the tumblers D D and notched springs E E, when constructed and arranged to operate upon the needles and cylinder, substantially as hereinbefore described, and for the purpose specified.

110,657.—CALIPER.—William P. Hopkins, Lawrence, Mass.

Claim.—The improved friction-nut, consisting of the disks *e f*, screw *g*, and the locking-pin *h*, all combined and arranged substantially as specified.

110,658, antedated December 20, 1870.—THRASHING-MACHINE.—Hiram E. Hurlburt, Hammondsport, N. Y.

Claim.—1. The thrashing-machine herein described, consisting of the frame A B, the shaft C, endless belt D, crank-wheels G and *g*, bar K, rollers *a* and *c*, pulley *d*, pitman *n*, lever *s*, and beaters V, constructed and arranged to operate substantially as set forth.

2. In combination with the above-described thrashing-machine, the ratchet-wheel H and pawl P, when arranged to operate as and for the purpose specified.

110,659.—DOUBLE-HINGE.—John S. Jennens, Bangor, Me.

Claim.—In combination with a double hinge, the plate F, substantially as and for the purposes described.

110,660, antedated December 31, 1870.—SUBSOIL-PLOW.—Marquis R. Jones, Walworth, Wis.

Claim.—1. A standard of a subsoil plow, with its rear edge serrated or notched, substantially as described, in combination with a brittle pin, I, and draft-rod F, when the whole are constructed and connected together, substantially as and for the purposes described.

2. Axle *j*, beam A′, caster-wheel K′, part *b*, and set-screws *k k*, when the whole are constructed and connected together, substantially as and for the purposes described.

110,661. — MILKING-STOOL. — Richard W. Jones and John B. Baker, Syracuse, N. Y.

Claim.—The seat B, loop C, and tightening device D, all constructed and arranged as herein specified.

110,662.—APPARATUS FOR THE MANUFACTURE OF BROMINE.—John J. Jühler, Natrona, Pa.

Claim.—Stills for the manufacture of bromine, made of wood, or with an interior lining of wood, substantially as hereinbefore described, and for the purpose set forth.

110,663.—RUT-LEVELER.—Calvin Marshall, North Easton, Mass.

Claim.—My improved rut-leveler, as described, consisting of the roller C, the frame A, the scrapers D D, the tongue B, and the lever E, all arranged and combined, as specified and represented, so as to operate or be capable of being actuated in the manner and by the means as hereinbefore set forth.

110,664.—HOT-AIR FURNACE.—Peter Martin, Cincinnati, Ohio.

Claim.—1. The combination, substantially as described, of the combustion-chamber A, ash-pit B, fire-chamber C, external side-pipes D, diaphragm E, interior and perforated tubes *J j*, channels K, flue L, and internal and imperforate plate N, for the object stated.

2. In combination with the tubes J or N, the corrugations *c* of the fire-chamber C, for the purpose herein set forth.

3. In combination with the parts A, B, C, D, E, K, L, and M, the opening *n* and damper O, for the object described.

110,665. — COMPOSITION FOR ROOFING.—Jerome B. Melvin, Lowell, Mass.

Claim.—The composition of the herein-described ingredients in about the proportions specified, for the purpose and in the manner substantially as set forth.

110,666, antedated December 22, 1870.—PURIFICATION OF CAST-IRON.—John W. Middleton, Philadelphia, Pa.

Claim.—1. The employment of hot air, superheated steam, or gas, directed and discharged in various places by numerous air-gun-like shots or shooting gushes, of short duration, or some five hundred to fifteen hundred of suddenly-cut-off jets, into the metal in the pool of iron and slag, or of a refining, boiling, or puddling-furnace, and thus making an atmospheric kneading-like process for working out impurities, as well as decarburetizing and otherwise purifying fluid-iron, substantially as and for the purpose described.

2. The combination, with a puddling, boiling, or refining-furnace, of a series of the sliding-windo plates H, of fire-brick, for the purpose of coverin suitable openings made through the walls of th furnace, when the said sliding plates are each pr vided with an eye-opening, covered or closed tight ly by thick glass or mica plates so that the sa glass or mica-covered opening can be brought int juxtaposition with the opening in the wall of th furnace, to afford a view of the interior, and of th pools and tuyeres, and of the metal operated upo in the furnace, and so that the said slides can b moved back again to protect the glass or mica from injury, without allowing any of the blast to b forced out between the said slide and the wall o the furnace, substantially as described and se forth.

3. The combination, with a refining, puddling, o boiling-furnace, of any form or description, of a se ries of pipes or tuyeres F F, projecting in down ward-sloping directions, through the top or side of the furnace or through both top and sides int the same, and communicating at their outer end with the blast-pipe, and any sudden cut-off device to produce sudden air-gun-like shots of blast, sub stantially as and for the purposes hereinbefore se forth.

110,667. — MOTIVE-POWER APPARATUS.—Cassius A. Mills, Bridgeport, Conn.

Claim.—The combination, with a wheel, A, of case, C, with chambers E, passages, gates, and chutes, said case being arranged for shifting th chambers relatively to the wheel, and provide with a locking device, all substantially as speci fied.

110,668.—HOT-WATER FEEDER FOR STEAM BOILERS.—John H. Mills, Boston, and John Howarth, Salem, Mass.

Claim.—1. The arrangement for heating the feed water, consisting of the exhaust-pipe D and cen cal plates E I, substantially as described.

2. The arrangement of the chambers F F′, heate A, and chest C, as specified.

110,669.—SEWING-MACHINE FOR WORKING BUTTON-HOLES.—Eugène Moreau, San Francisco, Cal., assignor to himself James W. Haggerty, and Samuel Hill.

Claim.—1. The cams P R, provided with notche and smooth edges, as described, located in differen planes, in combination with pins in corresponding planes, all for operating the cloth-holder, as de scribed.

2. The cams P R, in combination with the slid ing bar Q provided with its pin, lever O with pro jection N, spring M, and cloth-holding frame F t with its pin *s*, pin I, and spring *k*.

3. The pawl 2′ with its spring, in combination with the lever 2 and hanger 3, as described.

4. The pivoted box K with its spring, in combi nation with the plate A and pin L, as described.

110,670.—TUCKING DEVICE FOR SEWING-MACHINES.—Aaron Morehouse, Hartford, Conn.

Claim.—1. The presser-guide D, when attached to and used in connection with the main bar C having the guide-swell O thereon, and having the spring guide J attached thereto, substantially as herein described.

2. The same in connection with the adjustable gauge *b*, constructed and operating substantially as specified.

3. The combination of the main bar C, presser guide D, spring guide J, gauge *b*, and gauge *d*, all constructed and operating substantially as set forth.

4. The adjustable gauge *d* having the arms and A thereon, and formed so that the sewed tuck or plait may pass between and in contact with said arms, and be guided in its passage by the edge while the main body of cloth passes underneath both said arms and upon the cloth-plate of the ma chine, substantially as described.

3. Devices, substantially as described, and at tached wholly to the presser-foot or presser-bar, whereby the fold in the fabric is gauged or measured, folded, and sewed simultaneously, and the cloth-plate is left entirely free, substantially as set forth.

110,671.—SAW-TABLE.—Peter Neeb, Buffalo, N. Y., assignor, by mesne assignment, to Margaret Neeb.

Claim.—1. The arrangement of parts, table A, slides B B, frame I, spindles H H, and gearings F, the whole to operate as and for the purpose set forth.

2. In combination with slide B, gauge, fig. 5, for the purpose set forth.

110,672, antedated December 17, 1870.—FLOUR-SIFTER.—Lucy S. Nourse, Templeton, Mass.

Claim.—In the construction from woven wire A, with its band B and handle C, for the use, as described, as a new article of manufacture.

110,673. — WAGON-BRAKE.—Andrew Van Der Hyden Oliver, Bethlehem, N. Y.

Claim.—1. In a wagon-brake, the loop *a* and runner-strap *b*, combined with the backing-rod G, substantially as and for the purpose set forth.

2. The forked lever-rod H with its eye *x*, combined with the brake-lever D and backing-rod G, when all are constructed and operated as described.

3. The guard L, constructed substantially as and for the purpose set forth.

110,674. — BELT-SHIPPER.—John L. Otis, Leeds, Mass.

Claim.—1. In combination with the hanger, the frame or support, the shipper-bar, the toggle levers, and spring, substantially as and for the purpose described.

2. In combination, the support or frame, the shipper-bar, toggle-levers, and spring, the adjustable rods for bringing the handle within convenient position for the operator, substantially as described.

110,675. — PRINTING-TELEGRAPH.—George M. Phelps, Brooklyn, N. Y., assignor to the Western Union Telegraph Company, New York City.

Claim.—1. Two magnets operated alternately through two-line wires, in combination with the armatures, escapement, type-wheel, and printing mechanism, substantially as and for the purposes set forth.

2. A magnet constructed in two sections or coils, and charged by pulsations over one of two-line wires, and operating upon an armature to effect the printing, substantially as set forth.

3. The combination of the horseshoe-magnet, printing-lever actuated thereby, and the two electro-magnets and circuits for moving the said horseshoe-magnet, substantially as set forth.

4. The combination of electro-magnets having sectional coils, two-line wires, and mechanism for moving the type-wheel, with mechanism for giving an impression by an armature operated by said sectional-coil electro-magnets, substantially as specified.

5. Two electro-magnets operated through separate line-wires to set the type-wheel, in combination with an electro-magnet operated by the reversal of the electrical current to give the impression, substantially as specified.

6. An impression-lever, in which the pressure-pad gives the impression by the momentum and moves away from the type, in combination with a stop on the impression-lever and a stop on the type-wheel or shaft, substantially as specified.

7. The type-wheel, connected to the shaft by a spring and stop, substantially as and for the purposes set forth.

8. The finger-keys of the telegraphic transmitting instrument, arranged in two concentric arcs of circles, as and for the purposes specified.

9. Two rotating arms, forming stops, in combination with finger-keys, arranged in two arcs of circles, and with mechanism for giving electrical pulsations simultaneously with the revolving of the said arms, substantially as specified.

10. The circuit-closers operated alternately, substantially as specified, in combination with two-line wires and receiving mechanism, substantially as set forth.

11. The automatic detent, operated by friction, in combination with the current-changer or switches for changing the polarity of the current, substantially as specified.

12. The finger-key m^1, combined with the current-changing switches, substantially as and for the purposes specified.

13. The arrangement, substantially as specified, of the circuit-closing mechanism and connections, so that the ground-connection is automatically made with either polarity of the current by the movement of the lever *s*, substantially as set forth.

14. The lever *w*, in combination with the receiving and transmitting-connections, arranged substantially as specified, to adapt the device to forwarding or to receiving messages.

110,676. — SPARK-ARRESTER. — Charles L. Pierpont, Durand, Wis.

Claim.—The spark-arrester, formed by the combination of the flange B, spark-receiver C *c*′, pipe E, and double cone F, with each other and with the smoke-stack A, said parts being constructed and operating substantially as herein shown and described.

110,677. — LUBRICATOR. — William Pratt, Providence, R. I., and N. Bangs Williams, New York City, assignors to Abby A. Williams, Brooklyn, N. Y.

Claim.—1. Making the cover of the oil-cup the means of turning the regulating-screw, by means of the slotted screw-staff, the slotted link, and slotted cover, and at the same time securing the cover to the cup.

2. The regulating the flow of oil in an oil-cup by means of pressure upon a cylinder of cork, made with a central perforation, and slits tending into this from its outer periphery, all made and operating substantially as described, or their mechanical equivalents.

110,678.—CHURN.—James H. Reed, La Fayette, Ind.

Claim.—1. The combination of the sliding arms G and cords H with the rocking-chair and the churn-dasher, substantially as described, for the purpose specified.

2. The base or frame-work supporting the chair and churn, provided with the transverse bar J, adapted to enter notches formed in the rockers of the chair, substantially as described, for the purpose specified.

110,679.—CORN-PLANTER.—John Reichelderfer, Cridersville, Ohio, administrator of Philip Kuntz, deceased.

Claim.—1. The described arrangement of shiftable handles E, tongue *t*, and seed-distributing mechanism F G H J K L, in the described combination with the shiftable hoe P.

2. The spout V, pivoted at its upper end, so as to permit of its being vibrated by means of the trigger Y, through the medium of the rods Z Z′ Z″, arms 1 2 3, pawl 4, segment-ratchet 5, tongue 6, cord 7, and spring 8, with fixed lip X for closing the discharging end of said spout, the whole constructed and operating in manner as represented and described.

3. In the described combination with the shiftable handles E, the catch Q, spring R, and trigger mechanism S J U.

110,680.—Manufacture of Acid Phosphates for use in Baking-Powders, &c.—Nathaniel B. Rice, East Saginaw, Mich.

Claim.—1. The process herein described for producing acid phosphates, the same consisting in the treatment of phosphates by means of phosphoric acid, substantially as described.

2. The mode of preparing the super-phosphate of soda, potassa, ammonia, and magnesia, substantially as described.

110,681.—Steam-Engine. — Thomas Ross, Rutland, Vt.

Claim.—1. A cylinder for an engine or pump, having its working surfaces hardened by chilling, substantially as described.

2. In combination with an engine with chilled working surfaces, as described, a valve with its working face hardened by chilling, substantially as described.

110,682. — Cultivator. — Jacob Sattison, Ripley Township, Ohio.

Claim.—1. The adjustable slotted links or standards H, pivoted to the cross-beam G, in combination with the shares or wings E, substantially as described and for the purpose specified.

2. The adjustable slotted links H when pivoted to the vertically-adjustable cross-beam G, adjustable slotted links F when pivoted to the standard C, in combination with the shares E, in the manner as described and for the purpose specified.

3. The arrangement of the shares E, adjustable slotted links F, adjustable slotted links or standards H, cross-beam G, beam A, and share D, in the manner as described and for the purpose set forth.

110,683, antedated December 31, 1870.—Windmill.—Edvard Savoral, New York, N. Y.

Claim.—1. The connection of the vanes E E with each other and the upright rod *d*, by means of links or other flexible materials, substantially as and for the purposes herein described.

2. The swinging frame F, sails G G, and wind-trap H, substantially as and for the purpose herein set forth.

110,684.—Casting Bar-Solder.—Abraham Schoenberg, New York, N. Y.

Claim.—1. In combination with a hopper I, constructed substantially as described, the grooved and ribbed wheels J and L, and scraper 5, when the same shall be constructed and operate substantially and for the purpose set forth.

2. In combination with the finishing wheels P² and S, knife V, and scraper 8, the hopper I, grooved and ribbed wheels J and L, and scraper 5, when the same shall be constructed substantially as and for the purposes set forth.

110,685.—Dies for Forming Horse-Collar-Shells.—John W. Schwaner, Egg Harbor City, N. J.

Claim.—The improved dies A B, for forming the shells or foundation-plates of horse-collars, said dies being constructed substantially as herein shown and described.

110,686.—Shutter-Fastening.—Philip T. Share, Baltimore, Md.

Claim.—The latch B, pivoted in a recess beneath the sill, locking at one end into the hook D upon the shutter, and furnished at its other end with the pin H projecting into the sash, and covered by a recess in the bottom rail, as and for the purpose herein described.

110,687, antedated December 30, 1870.—Gate.—George A. Slater, Benton Harbor, Mich.

Claim.—The gate A, hung on the pinion B, supported by the post C on one or both sides, so as to be opened or closed by vibration in a vertical plane, substantially as described, for the purpose hereinbefore specified.

110,688.—Seed-Dropper. — Hiram Moore Smith, Richmond, Va.

Claim.—The herein-described construction and arrangement of the scraper barrel A D, spring E and scraper B, as specified, when used in combination with reciprocating slide or cylindrical seed-dropper.

110,689.—Pattern for Molding Stove-Lids.—Samuel Smith, Philadelphia, Pa., assignor to himself and Charles Nobl & Co., same place.

Claim.—The stopper B and indenting slide C constructed to operate, respectively, in combination with the open cavity *a'* and the communicating-hole 4 in the pattern-plate A, substantially as and for the purpose hereinbefore set forth and described.

110,690.—Lubricating Compound.—Jacob H. Smyser, Pittsburg, Pa.

Claim.—A lubricating compound, composed of vulcanized rubber, petroleum, tallow, oil, or other grease, mixed with pine or coal-tar, as and for the purposes herein described and represented.

110,691.—Clothes-Drier.—Henry M. Stevenson, South Peacham, Vt.

Claim.—The combination of the side panels A top panels D E, cross-bars and braces F and C', the several parts being jointed together and arranged substantially as specified.

110,692.—Reversible-Plows.—George W. Thompson, Ripley, Ohio.

Claim.—1. A double reversible mold-board, combined with a brace E, constructed and arranged as and for the purpose described.

2. The combination, with the mold-board and beam of a reversible plow, of the support D, bent at I toward the land-side and from the colter, to prevent clogging, as described.

110,693.—Extension Plow-Share.—George W. Thorp, Columbus, Kansas.

Claim.—The share E, fast to adjustable bars G G, combined with a slotted plate, B, rigidly attached to an immovable brace, C, for the purpose of allowing the said share to be extended in the manner described.

110,694.—Seed-Planter and Guano-Distributer.—Henry L. Tillery, Halifax, N. C.

Claim.—1. The grinding or pulverizing-wings *l* formed of corrugated metal, and attached to the drum *k*, and bent backward thereon, as shown and described.

2. The arrangement of triangular frame *b*, stock *a*, scrapers C, bars *r*, arm *t*, and handles *w w*, with the frame-work A, as and for the purpose specified.

3. The scrapers C, coverers *c*, bars *r s n*, and arms *t y*, arranged substantially as specified.

4. The box *e*, provided with a perforated bottom the drum *k*, slide *h*, drum *k*, and the funnel *f*, combined, substantially as specified.

110,695.—Printers' Furniture.—Richard B. Topham, Washington, D. C.

Claim.—The combination and arrangement of the side-stick A with the quoins B B, the quoins being furnished with a dovetailed tongue, *b b*, fitting loosely in the groove *a a a* in the side-stick, substantially as shown and described.

110,696. — Platform-Scale. — John H. Truex, Rochester, N. Y.

Claim. The arrangement of the two stirrups B

one inside of the other, the outer suspended on the inner, both being loosely attached to each other by the continuation of the loop C, which prevents their being detached by accident, with the levers A A resting upon their respective stirrups independently of any connection with the latter, whereby a free action of each set is obtained, and with a secure construction of mechanism, as herein shown and described.

110,697. — Folding-Bedstead. — Joshua Turner, Cambridgeport, Mass., assignor to Benjamin A. Pettingill and Isaac S. Pear, same place.

Claim.—In a folding-bedstead, composed of a frame, A, legs B, and braces C, the construction and application of the braces to the legs and frame in manner as described, whereby the former are rendered self-adjusting, while the legs are being either folded or unfolded, in manner as set forth.

110,698.—Wheelbarrow-Frame.—Beckwith W. Tuthill, Oregon City, Oregon.

Claim.—The wheelbarrow-frame, composed of the side pieces A, with the front arch *b*, all made of one continuous piece of tubing, as specified.

110,699.—Plaiting Device for Sewing-Machines.—William Walker, Brooklyn, N. Y., assignor to George H. Wooster, New York City.

Claim.—1. The plaiting-knife C and presser-foot I, in such combination with each other, and with the edge *v* of an opening in the bed-plate, as herein specified, that the said knife plaits over the said edge, and between it and the sole of the presser-foot, as herein described.

2. The combination of the two knives C C', the one of which is arranged to work above the material in connection with the bed-plate A, while the other is arranged to operate below the material in connection with the presser-foot of the machine, essentially as specified.

110,700.—Alarm-Attachment for Machines for Forming Hat-Bodies.—William C. Waring, Yonkers, N. Y.

Claim.—1. The combination, with the double or reverse conical former A, of the roller I, constructed to bear on the reverse cones of the former, and the bell or alarm-signal, operated by said roller, substantially as specified.

2. The combination of the bell G and hammer F with the sliding block or standard F, the adjusting-screw E, and the operating-roller I, essentially as and for the purpose herein set forth.

110,701.—Heel-Tap for Boots and Shoes.—Alexander Warner, Brooklyn, E. D., N. Y.

Claim.—The heel-tap, composed of the metal ring A, with equidistant internally-projecting bearings *e e* and pins *e e*, the leather disk B fitting within the said ring and recessed for the reception of the said bearings, and the central-attaching screw D, the whole constructed and arranged as herein shown and described.

110,702.—Drying Oil-Cloths and Similar Fabrics.—Oliver C. Washburn, Philadelphia, Pa., assignor to Thomas Potter, same place.

Claim.—1. The arrangement of heating-pipes and rollers, operating as shown and described.

2. The process of drying oil-cloth and similar fabrics by exposing them while in continual motion to artificial heat, substantially as described.

110,703.—Governor for Steam-Engines.—Charles Waters, Boston, Mass.

Claim.—1. A regulator or governor, substantially such as described, in which the weights or balls are supported independently of the pendulum-arms which operate the valve, when said balls are connected to said arms so as to control their position without loading the arms with the weight of the balls.

2. In combination with a regulator a valve arranged to be adjusted in the direction of its axis of rotation, when arranged also so that it may be adjusted angularly upon or with reference to such axis.

110,704.—Constructing Moldings of Paper. — William W. Webster, Chelsea, Mass.

Claim.—A paper cornice, made and applied in the manner and for the purpose described.

110,705, antedated December 17, 1870.—Saw.—Thomas Welham, Philadelphia, Pa.

Claim.—A hand-saw provided with a muzzle, as herein shown and described, the blade of the saw having teeth upon one side for cross-cutting, and upon the other for slitting, the whole being arranged as and for the purpose herein specified.

110,706. — Seed-Planter. — William F. West, Haverstraw, N. Y.

Claim.—The combination and arrangement of the revoving axle B, pins N, bar M, lever I, and valves H, with the trunks F, track-coverer V, hinged plow G, and cords R and T, all made and operating substantially as described, and for the purposes hereinbefore set forth.

110,707. — Bag-Filling and Weighing Machine. — Charles A. Whelan and Charles T. Wakeley, Madison, Wis.

Claim.—1. The pin K, provided with cross-pin *p* and slot *a*, in combination with block I on hopper H, when connected and arranged as shown, and for the purpose specified.

2. The combination of the hopper H, having block I and pin K, with the frame A, windlass D, and scales S, when all constructed, arranged, and operated as shown, for the purpose described.

110,708.—Sad-Iron Heater.—Lewis Wilkinson, New York, N. Y.

Claim.—As an article of manufacture the small, light, hollow smoothing-iron, constructed as shown and described, and adapted to be sustained, while being heated, by the bracket of an ordinary gas-burner, all substantially as herein set forth.

110,709. — Children's Hobby-Horse.—William L. Williams, New York, N. Y.

Claim.—The bolt *c*, passing through the neck of the hobby-horse and having locking-pins, in combination with the shield *e*, hinged at *d* to the stud or post, as and for the purposes set forth.

110,710. — Apparatus for Making Extracts for Tanning.—Riley P. Wilson, New York, N. Y.

Claim.—1. The combination of the leaching-vats, receivers, and evaporating-pan, with their connections, substantially as and for the purpose hereinbefore set forth.

2. A steam-tight evaporating-pan, with connecting tube or tubes to the leaching-vats, substantially as and for the purpose hereinbefore set forth.

3. The combination of the steam-chamber and evaporating pan with their connections, substantially as described.

4. Perforated tubes, connected with the false bottom of the leach, running up into the bark, so that the entire leach may be saturated by steam simultaneously.

110,711.—Cover and Table for Sewing-Machines.—Francis R. Wolfinger, Chicago, Ill.

Claim.—The leaf C, arranged to slide down

through a slot in the bed A and form a leaf of greater extension and smooth surface for supporting goods when being sewed, as set forth.

110,712.—Guiding-Wheel for Harvesters.—Walter A. Wood and William Anson Wood, Hoosick Falls, N. Y.

Claim.—The construction of the guiding-wheel and its supports as follows: The wheel F, yoke *f*, spindle E, with its shoulders 1 2 and lugs *d d*, plate D and its flange *b*, long-flanged hollow columns B, and beam A, all constructed and arranged to operate as and for the purpose described and represented.

110,713.—Harvester.—Walter A. Wood, William Anson Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.

Claim.—1. In a clutch mechanism, the combination of the foot-lever and its pawl *c* with the clutch-head and its wedge-shaped planes *e*, for the purpose of moving said clutch-head from the gear that it engages with, substantially as described and represented.

2. In combination with the rake-pin or spindle K carried around by the endless chain or belt A, the roller M, plate N and its boss *k*, through which the spindle passes, for the purpose of allowing a free turning motion and preventing the straw from winding on said spindle and choking or clogging the rake, substantially as described.

3. A finger-bar, composed of a wooden back-piece, S, and an angle-iron front piece bolted thereto, for attaching the guards to, substantially as described.

4. In combination with the platform of a harvesting-machine and a rake traversing it by a chain or belt, as herein shown, the raised flanges *e* on the guards, for holding up the butts of the grain so that the rake may pass in under the straw and thus more certainly insure its complete removal, substantially as described.

110,714.—Harvester.—Walter A. Wood, William Anson Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.

Claim.—The arrangement of the levers C' D', and 4, in relation to the roller shoe-piece *x*, for operating the cutter-bar, as described and represented.

110,715.—Harvester.—Walter A. Wood, W. Anson Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.

Claim.—1. In combination with the roller-bar, for carrying and supporting the finger-bar and cutting apparatus, the coupling-bar S and the gag-bar T hinged thereto, and acting in connection therewith, substantially as described.

2. In combination with the cutting apparatus, the bent and slotted piece *e* for admitting of the removal and replacement of the cutters, for holding the pitman to the cutter-bar, and for catching and holding the cutters from dropping down when the finger-bar is raised and folded up, substantially as described.

110,716.—Harvester-Rake.—William Anson Wood, Hoosick Falls, N. Y.

Claim.—1. In combination with a harvesting-machine having a circular platform and a rake rod or stale operated underneath said platform, the locking device, consisting of the spring-bolt and recesses, substantially in the manner and for the purpose herein described and represented.

2. In combination with a rake for clearing the platform or grain-table of the cut grain thereon, a rake-tooth working outside of the outer fence of said platform, to sweep off and carry around any grain that may hang on said outer fence, substantially as described.

110,717.—Car-Wheel Mold.—William Ellison Worth, San Francisco, Cal.

Claim.—The improved rotary mold or flask for car-wheels, consisting of the upper and lower flasks N F, and rings M B, constructed and arranged substantially as specified.

110,718.—Harvester.—Charles M. Young, Meadville, Pa.

Claim.—1. The combination of the main frame carrying one portion of the gearing, the gear-frame carrying another portion of the gearing and vibrating on a pivot parallel with the tongue but eccentric to any gear-center, and the universal joint for driving the gearing, arranged in the plane of the joint and between the two frames, substantially as hereinbefore set forth.

2. The combination with the main frame carrying one portion of the gearing, the gear-frame carrying another portion of the gearing and vibrating on pivots parallel with the tongue, the universal joint in the shaft connecting the two sets of gearing, the shoe fixed to the vibrating frame, and the hinged finger-beam, as hereinbefore set forth.

3. The combination of the main frame carrying one portion of the gearing, the gear-frame vibrating eccentrically to any gear-center, the gearing, the joint connecting the gearing, the crank-shaft on the vibrating frame, the rocking cross-head, and the cutter-bar, as set forth.

4. The combination of the main frame carrying one portion of the gearing, the gear-frame vibrating on a pivot parallel with the tongue, the gearing, the fixed shoe, the hinged finger-beam, the cutter, the rocking cross-head, and the crank-shaft, substantially as hereinbefore set forth.

5. The combination of the fixed shoe, the crank-arm on the pivot of the hinged shoe, and the bail or guard-rod hinged to the fixed shoe and crank-arm, as set forth.

110,719.—Musical Notation for Accordeons.—Carl Friedrich Zimmermann, Philadelphia, Pa.

Claim.—1. The system of musical notation, consisting of the three-lined staff, fig. 1, and adaptable to either French or German accordeons, as shown and described.

2. In connection with the above staff, the measure divided by equal space-marks *x y*, fig. 2, between which the key-numbers are indicated, substantially as described.

110,720.—Seeding-Machine.—D. S. Alvord, Austinburg, and Charles D. Hollis, Ashtabula, Ohio.

Claim.—The arrangement of the seed-box A, wheel B, curved arm D, guide-wheel E, tube F, slide G, arm K, pin *c*, and spring A', as and for the purpose specified.

110,721.—Meat-Cutter.—Jeremiah S. Artley, Danville, Pa.

Claim.—The combination, with the base A, of the vertically-placed and centrally-hinged casing B C, with enlargements *d* and knives *b*, and the vertically-placed cylinder D and knives *c*, operated by means of the wheels E G, all as shown and described.

110,722, antedated December 29, 1870.—Iron Plow-Beam.—Albert Ball, Canton, Ohio.

Claim.—The metal plow-beam A B, constructed of such form that a transverse section of the same at any point shall be of a U-shape, and that the vertex of any such section shall be on the lower or anterior side of the beam and its open part on the upper or posterior side of the beam, the lower end of said beam having the faces C, D, and E, on which the mold-board, share, and land-side are placed, and upon which they are secured by bolts passing through the sides of the beam, substantially as is herein specified.

110,723.—Car-Replacer.—David H. Ball and John Brooks, Sinnamahoning, Pa.

Claim.—The within-described car-replacer, consisting of the inclined bed A having clasp E pivoted at one end, and provided with the pivoted rail C on its face, which extends over and beyond the clasp, all substantially as shown and described.

110,724.—Grain-Dumping Car.—Leonard Bammerlin, Massillon, Ohio.

Claim.—1. The tilting grain-trough D, provided with the supporting-arms P P, and pivoted on the side of the car-box A, substantially as and for the purpose specified.

2. The stop-lever K, provided with the pointed lugs R, in combination with the car-truck G and the ratchet-bar N, substantially as and for the purpose specified.

110,725, antedated December 30, 1870.—Rein-Holder.—William Barstow, San Francisco, Cal.

Claim.—1. A rein-holder, in which the reins are held or bound by one or more balls, C, or equivalent device, moving between two inclined surfaces or between one inclined and one plane surface, substantially as herein specified.

2. A rein-holder, constructed as herein described, with the two leaves *a b* and box *d*, with its inclined side *f*, in combination with the ball C, substantially as herein specified.

110,726.—Curtain-Brake.—Thomas S. Bayne and George H. Maurer, Washington, D. C.

Claim.—The grooved curtain-brake herein described, provided with a lever-arm, *a'*, hinged loosely to the frame to permit lateral movement, and a spring or band, C, adjusted on the said arm so as to regulate the pressure.

110,727.—Coating and Decorating Paper, Cloth, and other Materials.—Frederick Beck, New York, N. Y.

Claim.—1. The process herein described for coating and decorating paper, cloth, and other materials, by applying thereto powdered shellac or other suitable substance, then covering the same with scales of mica and subjecting the material so prepared to the action of heated dies, rolls, plates, or other surfaces, under pressure, substantially as set forth.

2. Paper, cloth, or other materials coated or decorated with mica-scales, substantially as described.

110,728.—Sash-Holder.—John H. Bloodgood, Bridgeport, Conn.

Claim.—A sash-holder, consisting of the plate F formed upon or made a part of the plate H, and combined with the cam C formed upon the central chambered portion D, the arm E, and spring within the chamber, the whole constructed and arranged to operate substantially in the manner set forth.

110,729.—Gas Apparatus.—Abraham L. Bogart, New York, N. Y.

Claim.—1. The retort G, constructed as described, and combined with the heating burner, substantially as and for the purpose specified.

2. The annular cup or alcohol reservoir L, combined with the retort G and with the heating burner, in the manner and for the purpose substantially as described.

3. The combined burner, retort, and alcohol reservoir, when constructed and arranged substantially as shown and for the purpose set forth.

4. The illuminating burner, composed of the perforated nipple O and the burner E, provided with the slot *r*, substantially as and for the purpose shown.

5. In combination with the gas-jet *s* and pipe or mixing-chamber F, the air-passages *f* and *f*, substantially as and for the purpose set forth.

110,730.—Shuttle for Sewing-Machines.—Frederick W. Boland, New York, N. Y.

Claim.—The flat-base shuttle herein described, having cylindrical bore *b* and exit opening *c* arranged at the front end, but a little to one side of the point, in the manner and for the purpose shown and described.

110,731.—Hot-Air Furnace.—Lansing Bonnell, Milwaukee, Wis.

Claim.—1. Draught-guides U U, in combination with air-tubes E, with flanges Y and flanges W W, bottom B, and ash-pit floor X, substantially as described.

2. Drums C and D, in combination with air-tubes E, with flanges Y, substantially as described.

3. Air-tubes E, with flanges Y, substantially as described.

4. Air-tubes E, with openings Z and Z', in combination with bottom B, top F, and ash-pit floor X, substantially as described.

5. A furnace, having tubes E, with openings between them at their tops and bottoms, so that the draught may pass out between them at their top and down their outsides, and in through between them at the bottom, and out again between guides U U, substantially as described.

110,732.—Cigar-Mold.—Nicholas H. Borgfeldt, New York, N. Y.

Claim.—A cigar-mold constructed of four pieces, viz., the base *a*, the side pieces *b b*, and the follower *c*, substantially in the manner herein shown and described.

110,733.—Fastener for Meeting-Rails of Sashes.—Eliue K. Breckenridge, West Meriden, Conn.

Claim.—The plate A of a sash-fastener, to which the lever B is pivoted, constructed with a recess, *a*, for the insertion of the spring upon the under side, to bear against the said lever, in the manner substantially as described.

110,734.—Manure-Fork.—Amos S. Brinser and Henry Bricker, Falmouth, Pa.

Claim.—The combination of the ferrules A and B, shanks *c c* and *m m*, and pin *c*, when constructed and arranged substantially as and for the purpose specified.

110,735.—Sewing-Machine.—William H. Baker, Johnstown, N. Y.

Claim.—1. The combination of the shuttle-covering plate with the guide-regulator and its spring, arranged and operating substantially as described.

2. The guide or regulator B, constructed as shown and described, and provided with the spring C, substantially as and for the purposes herein set forth.

3. The combination of the plate A, regulator B, with projection *b*, the stud or pin *d*, and spring C, all constructed and arranged to operate substantially as and for the purposes herein set forth.

110,736.—Combined Cultivator and Planter.—Peter Burress, Braidwood, Ill.

Claim.—1. The covered plow-shares P P, with their colters H attached to the adjustable frames F F, all arranged to operate in combination with the main frame, substantially as described.

2. The arrangement, with the main frame, of the swinging tongue E, lever A, and rod K, all constructed and operating as set forth.

3. The rotating shaft N, provided with the seed-tubes T and rods S, in combination with the seed-slide all arranged to operate substantially as described.

110,737.—Hemmer for Sewing-Machines. Cyrus Carleton, Brooklyn, N. Y., assignor to Wilcox & Gibbs Sewing-Machine Company, New York City.

Claim.—1. The broad, flat, hem-turning plate 2 2, folded and bent centrally to turn over the edge of the cloth, its outer edges only being in contact and inclined, as shown, to press on the cloth outside of the seam the whole length of the plate, in order to force the cloth inward, all constructed and operating substantially as described and specified.

2. The combination, with the folding and guiding-plates 2 2, of the diagonal guide-piece 4, arranged at the delivery point of the hemmer to automatically guide the turned edge of the cloth and present it properly to the sewing mechanism, and to force the excess of cloth sidewise from between the plates 2, substantially as described and specified.

3. The independent adjustable pressure device, consisting of the non-elastic bar 3, spring 7, and screw and nut 8 and 10, in combination with the folding-guide 2, constructed and operating substantially as described and specified.

110,738.—Preserving Wood.—Thomas W. Chandler, New York, N. Y., assignor to himself and Nicholas De Peyster, same place.

Claim.—Preserving green lumber or articles that are cut or manufactured therefrom by the process herein described, in connection with the ingredients named, substantially as set forth.

110,739.—Sewing-Machine for Working Button-Holes.—Sherman Cleminshaw, Troy, N. Y.

Claim.—1. In combination with the needle-bar and its shuttle and eye-pointed needle mechanism, substantially as described, for holding the shuttle and needle firmly while it passes through the goods, but leaves it free to move when above the goods, to allow the thread to pass around it, as herein set forth.

2. The shuttle O, constructed as described, and provided with bobbin *g*, spring *f*, holes *h i*, and needle *b*, all substantially as and for the purposes herein set forth.

3. The box N, constructed as described, and provided with bearings *a a*, spring *e*, and lever *d*, for securing the combined needle and shuttle, substantially as and for the purposes herein set forth.

4. In combination with the spring *e*, the roller *m*, made adjustable, and arranged to make the needle and shuttle rigid at proper times, substantially as and for the purposes herein set forth.

5. The twister W, provided with circumferential and vertical grooves, and the hook *t*, all substantially as and for the purposes herein set forth.

6. The combination of the twister W, bar X, auger Y, and pins *v v*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

7. The adjustable carriers *x x*, constructed and arranged to operate, in combination with the twister W, substantially as and for the purposes herein set forth.

8. The arrangement of the presser-foot S with point *l*, bar T, spring *p*, and cam-lever U, all substantially as and for the purposes herein set forth.

9. In combination with the presser-foot S, the guide-wire *r*, bar *s*, and pivoted box V, all substantially as and for the purposes herein set forth.

110,740.—Binder for Sewing-Machines. Jacob L. Coles, Newark, N. J.

Claim.—1. The arrangement, with relation to the folding-guide J and block *a*, of adjustable hook *f* and gauge *g*, as and for the purpose described.

2. The combination, with the guide J, over which the binding is folded and which guides the hat-brim, of the guide K arranged within the same to receive and guide a strip of filling on the edge of the brim and within the binding, as described.

110,741.—Automatic Car-Coupling.—David Pitkin Cory, Cranford, N. J., assignor to himself and Josiah Crane, jr., same place.

Claim.—The construction and arrangement of the draw-bolt B, slotted lever C, pin *a*, spring *d*, eye-bolt D, side-guides H H, and springs *f f*, operating in connection with the draw-head A and link I, substantially as and for the purposes herein set forth.

110,742.—Harvester.—William Robert Cory, Springfield, Ill.

Claim.—1. In combination with the dropper F the means employed for tilting the same, consisting of the lever P and slide H, constructed and arranged substantially as and for the purpose shown.

2. In combination with the above, the sweep K and arm I for operating the same, substantially as specified.

3. In combination with the cut-off bar N, pivoted to or upon the shaft L, the arm I of the slide H and arm O, attached to said shaft L, substantially as and for the purpose described.

4. In combination with the slide H, dropper F sweep K, and cut-off N, the lever R provided with the slot *r*, the connection S, the rod T, and the foot-piece U, substantially as and for the purpose set forth.

110,743.—Boot-Jack.—John Crabtree, Cincinnati, Ohio.

Claim.—1. The sliding arm B, held in place by projection a^1 and wires *a* and a^2, when used as and for the purpose specified.

2. Providing a sliding arm of a boot-jack with a scale and figures for the purpose of setting said arm, as herein set forth.

3. The rubber plug *d'* and washer *d*, in combination with the sliding arm B of a boot-jack, when arranged in the foot D, to operate substantially as herein described and shown.

110,744.—Children's Carriage.—John C. Crandall, New York, N. Y.

Claim.—In a children's carriage, the arrangement of a single reach, which is rigidly connected at one end to the box of the carriage, while its other end connects with the front axle by means of a pivot and one or more springs, substantially in the manner and for the purpose herein shown and described.

110,745.—Children's Carriage.—William E. Crandall, New York, N. Y.

Claim.—1. The mode of securing the profile-frames A A, runners B B, seat C, toy-box D, traverse E, and foot-board F, to each other by means of screws, substantially as and for the purpose shown and described.

2. The handle H, in combination with profile-frames A A, seat C, runners B B, and axles G, substantially as set forth.

110,746.—Railway-Car Seat.—William Crandell, Westfield, N. Y.

Claim.—1. The combination of the pivoted arms *a a'* with the seat C and back D, in the manner and for the purpose specified.

2. The pivoted arms *a a'*, the swinging lever E, and the spring rods F F', arranged together and operating in connection with the changeable seat C, in the manner and for the purpose specified.

110,747.—Door for Ranges.—Royal E. Deane and Thomas Shedd, New York, N. Y.

Claim.—The combination, with a door, B or C, of a supporting-lever D or D^a, one end of which shall be held upon a rod or inserted beneath a loop secured upon the face of a range or stove, while its opposite end shall be inserted beneath a loop secured upon the door B or C, when the same shall be constructed and operated substantially as and for the purposes set forth.

110,748.—Machine for Bending Metal Stirrups.—John H. De Valin, Baltimore, Md.

Claim.—1. In combination with the block A, constructed as described, with flanges *a a'*, shoulders a^2, projection a^3, and recess a^4, the slotted gauge C, adjusted in the recess a^4 by means of the screws H, and the lip-bolt F, provided with lip f^1, wings f^2, and key f^3, all substantially as and for the purposes herein set forth.

2. The combination of the block A, bolts D E E', clamp B, gauge C, lip-bolt F, and with or without the thickness-pieces H K G, all constructed and arranged as described, to operate substantially as and for the purposes herein set forth.

110,749.—Washing-Machine.—Samuel De Vean, Syracuse, N. Y.

Claim.—1. The wheel C, operating substantially as described, when provided with double buckets D' D', substantially as and for the purposes set forth.

2. The combination, with the wheel, constructed substantially as described, with double buckets D' D', of a boiler, A, provided with a band, *g*, in which bearings *e* are formed for the pivot of the wheel, substantially as shown and set forth.

3. The spring-catch *f*, in combination with the wheel C *e* and hinges *e*, all constructed and arranged as shown and described.

4. The wheel C, having buckets D' D', as described, when provided with a door portion, *c*, which is hinged so as to open sidewise in line with the shortest diameter of the wheel, substantially as herein shown and set forth.

110,750.—Gate.—Albert Jason Dimick, Berlinville, Ohio.

Claim.—The combination of the sliding bearing I, guided between and upon the diagonally-arranged posts O O, the stationary bearing N affixed to said posts, and a pin M inserted in a hole in the rounded part L of the axis of the crane, when all said parts are constructed and arranged as herein set forth.

110,751.—Handle for Cross-cut Saw.—Thomas S. Disston, Philadelphia, Pa., assignor to himself and Henry Disston & Son, same place.

Claim.—The plate D, adapted to the handle and to the saw-blade, substantially as described, in combination with the set-screws *b b'* and grooved bar E.

110,752.—Quadrat.—William Donald, Erie, Pa.

Claim.—The improved quadrat, beveled substantially as shown, for the purpose set forth.

110,753.—Feed-water Pipe.—John Doyle, Baltimore, Md.

Claim.—1. A feed-water pipe within a steam-boiler, with graduated perforations to equalize the distribution of the feed-water in the boiler, substantially as and for the purpose described.

2. A puppet-valve or series of puppet-valves within a steam-boiler, or a pipe discharging water therein, substantially as and for the purpose hereinbefore described.

110,754.—Tug for Towing-Boats.—Walter Everson, New York, N. Y.

Claim.—A hull constructed of the body A and twin sub-hulls B B, formed by the vertical stanchions *d d*, said sub-hulls, together with the intermediate deck H H, forming a parallel water-way from stem to stern, substantially as and for the purposes set forth.

110,755.—Spike-Machine.—David Eynon, Richmond, Va.

Claim.—1. The revolving disk D, having a series of dies arranged as described, in combination with the header H, griper B, and nippers Q Q, operating substantially as described, and carrying the blanks and inserting the same in the dies.

2. The combination of the header H, arms J, and adjustable guides *q q*, substantially as described.

110,756.—Spike-Machine.—David Eynon, Richmond, Va., assignor to Tredegar Company, same place.

Claim.—The slide R, carrying nippers Q Q, and the slide T, having a limited sliding motion on the slide R and operating said nippers, in combination with a shaft K, its crank *i*, connecting-rod or rods *e*, and mechanism, substantially as described, for adjusting the length of said rod or rods.

110,757.—Fruit-Can.—Reuben G. Farnham, Elbridge, N. Y., assignor of one-half his right to Russell B. Wheeler, same place.

Claim.—A jar-fastening, consisting of the ball C provided with a slot or recess, *d*, within which is fastened the eccentric or cam-lever D, substantially as described for the purpose set forth.

110,758.—Plow.—Nelson Faught, Pittsborough, Ind.

Claim.—1. The mold-board A, when constructed as described, and provided with the flange *a* and curve A', combined, so as to turn the sod or turf from the time when it is raised by the point, as herein described and shown.

2. The bottom extension E of the shear-plate D, when formed in one piece with the point C, and arranged to operate as herein described and shown.

110,759.—Excavator.—David Gilmore and William W. Forrest, Peotone, Ill., assignors to George Laidlow, same place.

Claim.—1. The slotted standard *r*, swiveled braces *q*, sliding frame *m*, roller *n*, braces S S', lever *t*, disk *u*, for adjusting the plow 12 13 to a vertical position, as set forth.

2. The combination of the slotted standard *r*, braces *q q* S S', frame *m*, roller *n*, bar G, rollers F, lever *w*, and projecting frame-piece U'', for moving the plow 12 13 to and from the elevator, as set forth.

3. The combination of the truss-frame A B, slotted standards C D, removable connecting-rod I J K, with the elevator 6 6', as set forth.

4. The extension-elevator, consisting of the inner frame 6 6', extension-pieces *b* 9, rack and pinions *c a*, and rollers 16, arranged to be adjusted in the truss-frame A B C, as set forth.

110,760.—Precautionary Attachment for Bottles Containing Poison.—Joseph Harrison, Philadelphia, Pa.

Claim.—A band for poison-bottles, &c., consisting of an elastic ring with projecting spikes, as described.

110,761.—Device for Nicking Screw-Caps.—William Hillhouse and George W. Briggs, New Haven, Conn., assignors to "The Grilley Company," same place.

Claim.—1. The herein-described cutter *a*, for cutting nicks in capped screws, constructed with projections *i i*, combined with a handle or stock, A, as and for the purpose specified.

2. In combination with the cutter *a*, constructed as described, the guides *b b*, combined with a handle or stock, A, as and for the purpose described.

110,762.—Device for Cutting Soles for Boots and Shoes.—Archelaus M. Howe, Worcester, Mass.

Claim.—1. The combination, with the cutting-die, of a separate pressing-rim, with pressing-plate and uniting device, substantially as and for the purposes set forth.

2. The combination, with the cutting-die A, of the pressing-rim D, plate B, and dogs C, substantially as and for the purposes herein set forth.

3. The combination, with the pressing-rim D, plate B, and dogs C, of the slides F and springs J, substantially as and for the purposes set forth.

4. The combination, with the plate B and cutting-die A, of the discharging-plate K, screws or pins L, and springs M, substantially as and for the purposes herein set forth.

5. A device for cutting soles for boots and shoes, consisting of a cutting-die, A, pressing-rim D, pressing-plate B, holding-dogs C, dog-slides F, discharging-plate K, guide-screws or pins L, and springs J and M, said parts being constructed and combined as shown in the drawing and herein described.

110,763.—Broiler.—Michael T. Hynes, Boston, Mass.

Claim.—The apparatus A with its flues *c c*, opening *e* to admit a fry-pan or broiler, and with or without the openings *b b*, all constructed substantially as and for the purpose set forth.

110,764.—Hollow Brick.—George H. Johnson, New York, N. Y.

Claim.—The improved hollow brick or tile herein shown, composed of the equal rectangular sides *a a* and ends *b b*, when said parts are disposed, with relation to each other, in the manner and for the purpose herein set forth.

110,765.—Carpenters' Shooting-Board.—Joseph Jones, Newark, N. J.

Claim.—The bed-plate B and adjustable table A, in combination with the stop D, all the parts being constructed, arranged, and operating in the manner and for the purpose as shown and described.

110,766.—Carriage-Axle.—Henry Killam, New Haven, Conn.

Claim.—1. The carriage-axle A, constructed with the enlarged portion B and shoulder *a* within the hub, and provided with the groove *d*, and communication *b* with the said groove outside the hub, as and for the purpose described.

2. In combination with the axle A and its enlarged portion B within the hub, the packing-cap E attached to the inner end of the hub, in the manner and for the purpose set forth.

110,767.—Eyeleting-Machine.—Albert Komp, New York, N. Y.

Claim.—1. The combination of the stud *d* of lever J, and the elongated slot *e* of link *f*, whereby the hopper-frame Q is allowed to remain stationary while the pin G is engaging an eyelet, substantially as described.

2. The combination of the movable stop *g* with the link *f* and hopper-frame Q, whereby the stop, acting against the shoulder *h* of said link, arrests the descent of the supplier and the hopper-frame until the plunger D has ascended far enough to clear the end of the supplier, substantially as described.

110,768.—Metallic Heel.—Austin S. Mann, St. Louis, Mo.

Claim.—As a new article of manufacture, the metallic hollow heel A, when provided, at or near its upper face, with malleable pins B B, for securing the heel on the boot, and with like pins D' D' at the base, to retain the pad, substantially as described.

110,769.—Ironing-Table.—Daniel W. Marshall, Pawtucket, R. I.

Claim.—The improved laundry-table herein described, consisting essentially of the platform A and board B, connected by pivoted supports E C and D, substantially as shown and described.

110,770.—Fare-Recorder for Cars, &c.—George R. Metten, Cleveland, and Oscar S. Pease, Xenia, Ohio; said Metten assignor to said Pease.

Claim.—1. The cut-out and beveled projections *k k*, arranged, as described, upon the frame K, and used in combination with the beveled corners of the plate L, substantially as and for the purpose herein set forth.

2. The spring-hook *m*, arranged, as described, on the frame K, and used in combination with the ratchet-wheel *i* on the roller I, to change the inked ribbon *f*, substantially as herein set forth.

3. In combination with the above, the frame K with projections *k k*, hook *m*, and springs *p p*, the plate L with projection *n*, and the cover E with springs *y y*, all substantially as and for the purposes herein set forth.

110,771.—Horse Hay-Rake.—Charles Rollin Merriam, Middlebury, Vt., assignor to himself and W. H. Merriam, Stratford, N. H.

Claim.—1. The adjustable elevating-studs *m m* attached to the hinged frame H, in combination with supporting-bar I, substantially as and for the purpose set forth.

2. The combination of frame H, bar N, and adjustable stud *m'*, with adjustable studs *m m* and elevating-bar I, substantially as described.

3. The jointed arm G, provided with guides *d*, slot *b*, and spring *c*, as and for the purpose set forth.

4. The teeth *x x*, constructed as described, in combination with arm G, ferrule *y*, and the pin which connects the teeth, all arranged substantially as set forth.

110,772.—Corn-Husker.—Abel Merwin, St. Joseph, Mich.

Claim.—1. In combination with the cutter-blade C, the cutting and stripping-tool G, constructed and arranged to operate in the manner shown and for the purpose set forth.

2. The combination and arrangement of the cutter-bars B and F, cutter-blade C, cutting and stripping-tool G, lever E, lug A, springs H and I, rod J, and treadle L, substantially as and for the purpose described.

110,773.—Method of Forming Body-Loops for Carriages.—Robert R. Miller, Plantsville, Conn.

Claim.—The hereinbefore-described method of forming body-loops from a solid bar of iron without welding, substantially as specified.

110,774.—Compound for Destroying Worms in the Cotton-Plant.—Thomas W. Mitchell, Richmond, Texas, assignor to himself and Robert P. Briscoe, same place.

Claim.—The improved solution herein described, prepared in the manner and in substantially the proportions herein set forth, so as to be used as specified.

110,775.—Street-Sprinkler.—William C. Moores, Washington, D. C., assignor of two-thirds of his right to Gilbert Pullen, same place.

Claim.—1. A street-sprinkler, consisting of the tank or body A and a distributing-wheel or head, B, connected thereto, and arranged to be operated by the movement of the apparatus, substantially as described.

2. The disk *i*, provided with the radial blades *j*, constituting the head D, and the bevel-pinion *a* mounted on the tube *a*, in combination with the shaft *d* having the bevel-pinion *c* and pulley *f* arranged to be operated by the driving-wheel B, substantially as set forth.

3. In combination with the head or distributer D the shields G, constructed and arranged to operate substantially as herein described.

110,776.—Car-Coupling.—Joseph Mount, Monroe township, N. J.

Claim.—The spring E, provided with the lug K, fitting into a groove in the pointed pin, the spring being rigidly attached at one end and moved at the other by the arm D, which has projections *a a* (one or more) through the face of the draw-head, the whole being adapted to draw-heads of the ordinary construction, and operating as set forth.

110,777.—Machine for Cutting the Ends of Wooden Pencils.—Teile H. Müller, New York, N. Y., assignor to Joseph Reckendorfer, same place.

Claim.—1. The combination, with the pencil-feed block, of the reciprocating carriage moving parallel with the face of the feed-block, and the revolving cutter mounted on said carriage and set at an angle with the face of the feed-block, substantially in the manner and for the purposes shown and described.

2. The combination, with the pencil-feed block, the reciprocating carriage, the driving or eccentric shaft from which said carriage derives its movement, and the revolving cutter and cutter-shaft, of the pulleys on said eccentric and cutter-shaft, constructed of different sizes, so that the eccentric shaft may revolve at a different rate of speed from that of the cutter-shaft, as and for the purposes shown and described.

3. The herein-described combination, with the pencil-feed block, of the cutter-carriage and mechanism for imparting to the same a vibratory movement, arranged so that the position of the carriage with relation to the feed-block may be varied to compensate for the wear of the cutter, as set forth.

4. The adjustable pencil-feed block, constructed substantially as herein described; that is to say, having a trough for the body of the pencil, a tubular opening for the end of the pencil, and a steel line, as and for the purposes set forth.

5. The combination, with the reciprocating cutter-carriage and pencil-feed block, of the gauge attached to said carriage in front of the cutting-blade, and arranged with relation to the feed-block so as to determine the extent to which the end of the pencil shall project therefrom, substantially as herein shown and set forth.

6. The combination, with the circular revolving cutter and the reciprocating carriage, of an emery or grinding-wheel moving the said carriage, and mounted upon a horizontal shaft placed transversely to the cutter-shaft and adjustable longitudinally, substantially in the manner and for the purposes shown and described.

7. The combination, with the cutter-carriage and cutter, of the grinding-wheel, the adjustable lever or arm for supporting the same, as described, and the spring for upholding the said wheel with a yielding pressure against the cutter, as herein shown and set forth.

110,778.—Lightning-Rod.—David Munson, Indianapolis, Ind.

Claim.—1. A sheet-metal lightning-rod, when made hollow and without any solid supporting-rod or brackets on its inside, substantially as and for the purposes set forth.

2. The combination, with a hollow sheet-metal lightning-rod having no solid internal support, of the solid point and ground-connection F D, substantially as and for the purpose set forth.

3. A hollow sheet-metal lightning-rod, of either round or angular shape, formed with one or more lips C, substantially as and for the purpose described.

4. The connection of the several lengths of the hollow rod, as shown at E, substantially as and for the purpose described.

5. The connection of the portion D to the hollow rod by means of metal bands and slots, substantially as described.

110,779.—Casting Car-Wheels.—Chandler Needham, Worcester, Mass.

Claim.—The process or mode above described, for making a combined cast-steel and cast-iron car-wheel, whereby the molten cast-iron is introduced through a series of holes into the mold directly upon the inner unfluxed surface of the cast-steel tire, and a perfect union and weld of the metals are produced, as stated.

110,780.—Car-Starter.—William Harrison Newton, Newport, R. I.

Claim.—1. The combination, with the axle of a car or other wheeled vehicle, of an eccentric drum mounted loosely thereon, and a roller or equivalent device located within the drum, or between it and the axle, substantially as and for the purposes shown and described.

2. In combination with the eccentric drum and its roller, operating in connection with the car-axle, as set forth, the means, substantially as herein shown and described, for causing the drum to return to its normal position when the draft-chain is slackened.

3. The arrangement, herein shown and described, of the eccentric drum, the roller, and the axle, provided upon that part inclosed by the drum with a hub or pulley-like projection, for the purposes set forth.

4. The partition flange placed in the eccentric groove or recess within the drum and around the axle, as and for the purposes set forth.

110,781.—Heating-Stove and Drum.—William H. Nobles, St. Paul, Minn., assignor to himself and C. D. Williams, same place.

Claim.—1. The cut-off H, and its arrangement for convenient use, as herein described and set forth.

2. The drum G, provided with partition *b* and pipes E I, constructed and arranged substantially as and for the purposes set forth.

3. In combination with the above, the stove A, provided with partition *a*, air-chamber C, and pipes D E J, all constructed and arranged substantially as and for the purposes herein set forth.

110,782.—Hair-Puff or Roll.—Joseph D. Oppenheimer, Philadelphia, Pa.

Claim.—A hair-roll or puff, when the wool, after having been carded in laps by machinery or otherwise, is sewed on the wire B in the manner above set forth and described.

110,783.—Fastening for Braces, &c.—Edward Lawley Parker, Birmingham, England.

Claim.—The improvements hereinbefore described and illustrated in the accompanying drawing, in connecting together and disconnecting from one another the two parts of fastenings for braces, belts, and other articles; that is to say, the perforated plate *b c d* of the one part of the fastening, and the spring-arms and hooks *f f'* of the other part of the fastening, said parts being arranged for joint operation, substantially as described and illustrated.

110,784.—Milk-House.—Henry Peregoy, Mount Carmel, Md.

Claim.—The arrangement within a well-house of

the rectangular box B, provided with shelves and doors, as described, one end of said box having wire-cloth a, and inserted in the side of the well, while the other end has a chimney passing up through the top of the well-house, as herein set forth.

110,785.—STEP-LADDER.—William G. Philips, Newport, Del.

Claim.—The construction and arrangement of the ladder A B, support or prop D E, platform C, bars G G, arm b, pin a, and shaft c, all substantially as shown and described, and for the purposes set forth.

110,786. — CORN-PLANTER. — Fielding W. Poe, Jr., Vandalia, Ill.

Claim.—1. The arrangement of the elbow-levers e, standards c, chains h, seed-boxes d, connecting-rails d, and seed-tubes i, as and for the purpose specified.

2. The arrangement of the wheels b between and in line with the seed-tubes, as and for the purpose explained.

110,787.—WINDOW-SHADE.—Ansel W. Porter, Union City, Ind.

Claim.—1. A window-shade, composed of slats connected by straps or equivalents, when said straps are attached to the slats near the upper edge, and the lower edge of each slat overlaps the upper edge of the adjoining slat, substantially as herein set forth.

2. In combination with a window-shade composed of slats and straps, or equivalents, in the manner described, the box d e, constructed and arranged substantially as and for the purposes herein set forth.

3. The within-described "book-shade," constructed as described, so as to be lowered from the top, and raised from the bottom at will, substantially as set forth.

110,788.—CORN-PLANTER.—Jacob R. Randall, Camargo, Ill.

Claim.—1. The hinged frame C, adjustable gauge-wheels G G, cutters I I, with mold-boards b b, boxes D D, conductors J J, and slide d, all constructed and arranged to operate substantially as and for the purposes herein set forth.

2. In combination with subject-matter of foregoing clause, the main frame A, wide rollers B B, and movable seat M, said main frame having the frame L, with shovels K K, hinged at its front end, substantially as and for the purposes herein set forth.

110,789.—WRENCH.—John F. Robertson, Warwick, N. Y., assignor of two-thirds his right to James H. Holly and John G. Knapp, same place.

Claim.—1. The hinged or pivoted jaws A, provided upon their inner faces with the inclined planes a' and dovetailed grooves a'', in combination with the sliding block C provided with the dovetailed tongues c', substantially as and for the purpose specified.

2. In combination with the jaws A and sliding block C, constructed as described, the screw D and nut E, working within a suitable frame, substantially as shown, and for the purpose set forth.

110,790.—MACHINE FOR SEWING OR WORKING BUTTON-HOLES.—Charles E. Robinson, Boston, Mass.

Claim.—1. The combination, with an organized machine for making a button-hole stitch, of the following elements, viz., a means of holding the cloth or material while being operated on, and a means, as hereinbefore specified, of feeding the cloth or material along automatically, and with a variable speed, the said elements being constructed, arranged, and made to operate together, and with the stitch-forming mechanism, as and for the purpose set forth.

2. The combination of the automatic variable feed-motion or mechanism with the guiding mechanism, the whole being constructed, arranged, and made to operate together in manner for the purpose set forth.

3. The feed-clamp, constructed substantially as described, for holding the cloth or material to be operated on, in combination with the feeding and guiding mechanism, constructed, arranged, and operating in manner and for the purpose specified.

4. The mechanism, substantially as described, for imparting rotary or horizontal movements to the feed-clamp or cloth-carrier, the same consisting of the gear D, the pinion b, the impelling-pawl and ratchet, the lever G and its spring, the cam F, and means of imparting rotation to the latter.

5. The means or mechanism, as described, for regulating the movement or rotation of the pinion b, or the feed-clamp, in order to produce the lesser equable and uniform feed, the same consisting of the prismatic-shouldered block or stop s or its equivalent, arranged upon the lever E', in combination with the lever G, the whole being combined and arranged together in manner as set forth.

110,791. — FRAME FOR TRAVELING-BAGS, &c.—William Roemer, Newark, N. J.

Claim.—In combination with a hinged flange-frame, a hinged inlay lying parallel with and riveted or otherwise fastened to the side flange of the frame, substantially as and for the purpose herein specified.

110,792.—TARGET-GAME.—John C. Schooley, New York, N. Y.

Claim.—The new and improved toy herein shown and described, consisting of the target a, provided with a series of holes b b, suitably numbered, and the ball c, attached to the center of said target by the elastic cord d, all as specified.

110,793.—STEERING-APPARATUS.—John C. Schrader and Carl L. Mathiesen, New York, N. Y.

Claim.—The cap C, constructed substantially as set forth, and the tiller or cross-head E, in combination with the springs or elastic cushions F, which are arranged in the former to bear against the latter, substantially as and for the purpose set forth.

110,794.—STREET-PAVEMENT.—William L. Shaw, Portland, Me.

Claim.—A pavement, constructed with the blocks B B, the oblique-edged planks a a, and the laterally-channeled key-pieces c c, each constructed independently of the others, and all adapted to look together when in place, substantially as described.

110,795. — WARPING-MACHINE. — Thomas Singleton, Over Darwen, England.

Claim.—1. The two rollers F and G and the two arms N or P, and the journal R, in combination substantially as and for the purpose hereinbefore set forth.

2. The falling weights or staples E E E, in combination with the rollers F and G, to stop the machine, as hereinbefore described.

110,796. — HYDRAULIC ENGINE. — William Snyder, Bullskin township, Pa.

Claim.—The hydraulic engine, having cylinders A, fore-bay B, man-hole covered by plate G, shaft D with wheels E, step F, and sluice H, constructed as described, and adjusted for operation as specified.

110,797.—RAILWAY RAIL-CHAIR.—William H. Staats, Crescent, assignor of one-half his right to Rufus Lape and Charles A. McLeod, Troy, N. Y.

Claim.—The rails A A, resting upon the beveled

bed-plate C, said parts being inclosed by the clamps B B, and secured by bolts a d, in the manner shown, substantially as described, and for the purpose set forth.

110,798. — ENVELOPE.—Robert Sherwood Stubbs, Lisbon, N. H.

Claim.—The letter-sheet herein described, provided with the flap b, slits e s s, and ears c c', substantially as specified.

110,799.—MOWING-MACHINE.—Zuriel Swope, Lancaster, Pa.

Claim.—1. The cutter-bar J, provided with recesses in its upper surface, and a circular projection, m, in the center of each recess, substantially as and for the purposes herein set forth.

2. The combination of the knives K K with their shanks k k, the recessed cutter-bar J with projections m m, and the plate or band L with screws or bolts e e, all substantially as and for the purposes herein set forth.

3. The arrangement of the frame A, driving-wheel shaft b, driving-wheel C, ratchet-wheel d, spring c, cog-wheel E, pinion f, crank h', pitman G, and lever H, all as shown and described, in relation to the reciprocating cutter-bar, and for the purposes set forth.

110,800. — APPARATUS AND PROCESS OF CLEANING COTTON-WASTE, &c.—George W. Sylvester, Belleville, N. J.

Claim.—1. The apparatus herein described for washing and cleansing cotton and woolen waste, composed of a series of tanks or vessels, so as to alternately immerse and wring or squeeze the material, as set forth.

2. Apparatus for expelling the solvent, composed of a steam-tight jacket and perforated steam-pipes.

3. The process of cleaning waste by the application of hydrocarbons, such as herein described, applied substantially in the manner set forth.

4. The macerators herein described, arranged so as to purify the oil by filtration, in the manner described.

5. The method described for purifying oil from waste by macerating or filtering with bone-black or its equivalent, as set forth.

6. The apparatus described, for separating the heavy oils from the light solvents, consisting of the still T, digester Q, steam-coil U, its connecting-passages or pipes S and V, and condensing-chamber R, arranged and operating substantially as described.

7. The combination of the following separate parts, which constitute a complete method, viz., successive washing and squeezing or wringing, the separating of the impurities from the mixed oils by maceration and filtration, the separation of the heavy oils from the filtering medium by solvents, and the final separation of these from the heavy oils, all substantially as set forth.

110,801.—MEAT-CHOPPER AND VEGETABLE-SLICER.—James M. Taft, Arcadia, Wis.

Claim.—1. The frame A, constructed with arches a' a', and transverse bar V, mortised at v', when arranged as described, for the purpose of holding interchangeably the meat-chopper or grater, substantially as specified.

2. The jointed feeding-bar h, provided with hook i and operating in connection with the cam k, for turning the block K, substantially as herein set forth.

110,802. — CLOTHES-LINE HOLDER.—Ezra W. Talbott, Napoleon, Ohio, assignor to himself and James W. Miller, same place.

Claim.—The angle-levers D D, having a hook at the top and detachably-fulcrumed at E, combined, as described, with pin I and the uprights B B, having steps F F and perforated arms C C, for the purpose specified.

110,803. — RAILROAD-CAR VENTILATOR.—Clark P. Tillinghast, Providence, R. I.

Claim.—The improvement in car-ventilators or dust-guards, which consists in providing the leaves A and A' with the right-angled edges b b', hinged to the car substantially as described by means of which the current of air is directed past the joint with the window-jamb or side of the car, as and for the purposes specified.

110,804.—SODA-WATER FOUNTAIN.—Antony Tumler, New York, N. Y.

Claim.—The ice-chamber A, sirup-wells B, pipes F, sliding gate H, ways I I, and open-base C, combined, arranged, and operating substantially as and for the purposes described and set forth.

110,805.—SCHOOL-DESK AND CHAIR.—Alexander Sidney Vaughan, Elkton, Md.

Claim.—The frames B B', supporting the desk A and seat D, in combination with the back F secured to or forming part of said frames, as specified.

110,806.—APPARATUS AND PROCESS FOR DISTILLING OIL.—William G. Warden, Philadelphia, Pa.

Claim.—1. The process of distilling oils, &c., by subjecting the same to the action of heat in a vessel a portion of which extends below the fire, and in which a constant upward current from the said lower portion is maintained, as described.

2. An oil-still suspended or otherwise arranged within a furnace, so that a portion of the body of the still will project below the fire-chamber, forming a receptacle for retaining the heavier particles below the point where the heat is applied.

3. The combination of the subject-matter of the preceding claim and a feed-pipe, m, communicating with the still near the bottom of the same, as set forth.

4. The combination of the furnace A and its fire-places, the chamber D, and still B, supported on the roof of the furnace, and passing through the same into the said chamber D.

110,807.—COTTON-PLANTER. — Dwight F. Welsh, Nevada, Ohio.

Claim.—1. The seed-shaft E', when constructed with hook-shaped teeth e e, arranged thereon in triangular clusters, the brushes D' D', and the revolving whipper F' f, when constructed substantially in the manner herein shown and described.

2. The combination of the seed-shaft E e and the revolving whipper F f, substantially as set forth.

110,808. — RAILWAY-SWITCH. — William Wharton, jr., Philadelphia, Pa.

Claim.—The combination of the switch-rails, the double-cranked shaft F, and the sliding rail H, all arranged and operated substantially as described.

110,809. — BEE-HIVE. — John Wheeldon, Greensburg, Ind.

Claim.—1. The combination of the stationary rabbets D D, right and left swinging doors E E, wire-cloth or perforated tin a a a' a', glass c c, and panels b b and b' b', all substantially as shown and described, to form the inner hive.

2. In combination with the inner hive, composed of the various parts described, the outer hive, formed of the bottom board A, front and rear sides B B, and right and left swinging doors C C, constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the case J, nucleus-boxes K K, wire-cloth m, movable glass n, and frames L, all constructed and arranged as described, and attached to the door E of the inner hive, substantially as and for the purposes herein set forth.

110,810.—ATTACHMENT FOR SEWING-MACHINES.—William H. White, Baltimore, Md, assignor of one-half his right to I. Wellington Hoyer, same place.

Claim.—1. The combination of the adjustable hemmer-hooks C C with the double hemmer-guide A, for the purposes and in the manner substantially as specified.

2. The combination of the attachment F, constructed as described, with the double-scroll hemmer A, substantially as shown and described.

3. The combination of the device E, constructed as shown, with the double-scroll hemmer-guide A, substantially as specified.

4. The improved double-guide or hemmer A, having the points or check-guides *c c* at the larger end, and with its inner edges nearly or quite straight, and parallel to the back of the guide from thence to the smaller or U-shaped end, as shown and described, to operate as specified.

110,811.—CORN-PLANTER.—Joseph M. Whitmore and John N. Arvin, Valparaiso, Ind.

Claim.—1. A diagonally-slotted and reciprocating slide M, applied perpendicularly to the pin N of flap O, as and for the purpose described.

2. The combination of levers L L and bar J with sleeves G G, pinions H H, and rack-bars I I, when arranged and operated as described.

3. The combination of a rack-bar, I I, sleeve G, pinion H, and pin N, with dropper F and flap O, as and for the purpose described.

4. The runners P P, pivoted in front and resting directly beneath the axle, and the covering-rolls S S attached thereto, combined with mechanism U T V, extending in front of the driver's seat and within reach of his feet, as and for the purpose described.

110,812.—MACHINE FOR WRAPPING "KISSES," &c.—Charles C. Wilson, Baltimore, Md.

Claim.—1. The air-pump *w*, flexible tube *h*, movable pipes *e e*, and suckers *o o*, or their equivalents, for feeding paper by suction, as herein set forth

2. The lever I and cam 15, arranged as described, for operating the air-pump *w* and feeding mechanism *e e*, substantially as set forth.

3. In combination with the feeding mechanism *e e*, the springs 16 16, for the purposes set forth.

4. The arrangement of the wheel *k*, elastic feed-rollers *l l*, and scissors *o*, for feeding and cutting off the mottoes, substantially as herein set forth.

5. The front plungers *a* and *b b*, constructed and arranged to operate substantially as and for the purposes herein set forth.

6. The plunger *p*, constructed and arranged to operate substantially as and for the purposes herein set forth.

7. The carrier 10, constructed and arranged to operate substantially as and for the purposes herein set forth.

8. The triangular plungers *d d*, constructed and arranged to operate substantially as and for the purposes herein set forth.

9. The folders *f f*, constructed and arranged substantially as and for the purposes herein set forth.

10. The back center plunger *c*, arranged to operate substantially as and for the purposes herein set forth.

110,813.—CUT-OFF VALVE FOR STEAM-ENGINES.—George S. Young, Clearfield, Pa., assignor to himself and Ai. Fitch Boynton, same place.

Claim.—1. The construction of a steam-engine cylinder and its valve-chest, with their dividing line intersecting the side steam-passages, substantially as and for the purpose set forth.

2. The cut-off valves *n*, constructed and arranged substantially as described, whereby they can be opened and closed by the passage of the ejent and live steam respectively, without other agency, substantially as specified.

3. The arrangement of the cut-off valves in separate chamber or chambers from the slide-valve chest, and between it and the cylinder, substantially as shown and described.

4. The combination of the forked lever *k* and flexible bar *p* with the arms *m* on the axes of the cut-off valves *n*, to effect the retention and release of the latter, substantially as specified.

110,814.—MILL-SPINDLE STEP.—George S. Young, Clearfield, Pa., assignor to himself and Ai. Fitch Boynton, same place.

Claim.—The combination of the worm-wheel C carried by the cover D, with the step B and socket A, all constructed and arranged to operate substantially as shown and described.

REISSUES.

4,223.—CHILDREN'S CARRIAGE.—William E. Crandall, New York, N. Y.—Patent No. 100,121, dated February 22, 1870; reissue No. 3,972, dated May 17, 1870.

Claim.—1. A riding device, consisting of the profile-frames A A connected together by a seat so as to allow the feet of the rider to extend downwardly between the said frames, substantially as described.

2. Two profile-frames terminating in rockers below, and connected together by a seat and a foot-board.

3. The combination of a box, D, profile-frames A A, and a suitable seat, C, substantially as described.

4. The profile-frames A A, seat C, box D, bed B, rockers and wheels, combined and operating in relation to each other, substantially as described.

5. A hinged toy-box arranged between two profile-frames, substantially as described.

6. The wheels F, arranged upon the rockers in front and rear, in combination with the two profile-frames connected together by a seat, substantially as described.

7. The riding device produced substantially as described, that is to say, that it can be converted into a carriage or rocking-horse through the medium of rockers and wheels, the latter adapted to be raised or lowered, substantially as described.

4,224.—SECURING RAILWAY-RAIL JOINT.—Lyman Fay, Worcester, Mass., assignor to Joseph M. Rice, same place, and Daniel R. Pratt, New York.—Patent No. 35,597, dated June 17, 1862.

Claim.—1. The construction and arrangement of boxes or cups, recessed to admit of the reception of rubber or other elastic packing, in combination with fish-plates applied to railroad-rail joints, and the bolts passing through said boxes or cups, in the manner and for the purpose herein described.

2. The combination of the box or cup F, elastic packing H, follower G, with the fish-plates or splice-pieces A B, the bolts E, and rails C D, in the manner and for the purpose herein described.

3. The arrangement, substantially as herein described, to secure splice-pieces or fish-plates to the joints of railroad-rails, by means of boxes, cups, or plates, interposed strips of rubber or other elastic material, and follower and bolts, for the purposes set forth.

4,225. — Division A. — INSTRUMENT FOR DRAUGHTING GARMENTS.—Ursula Louise Leete, New Haven, Conn.—Patent No. 107,068, dated September 6, 1870.

Claim.—1. The instrument herein described for draughting the front of an upper garment, having its shoulder-rule C and dart-form L connected to the main rules by a slide and pivot, for the purposes set forth.

The instrument for draughting the back of an ... garment, having its rule E pivoted to the ... rule, as shown and described.

... — Division B. — INSTRUMENT FOR ...RAUGHTING GARMENTS.—Ursula Louise ...eete, New Haven, Conn.—Patent No. ...7,068, dated September 6, 1870.

...im.—1. The combination of the main-rule G, ...rule F, pivoted-rule H, and pivoted sliding ...le I J, substantially as shown and described.

...In combination with the above, the main-rule ...-rule M, supporting-rule E, shoulder-bar C, ...main-rule G, short bar Q, back-form R, and ...rule P, when all are combined to operate substantially as shown and described.

...— CLOTHES-WASHER. — Ariadna B. ...Mercier, Providence, R. I.—Patent No. ...,773, dated July 31, 1866.

...im.—An improved apparatus for washing ...es in an ordinary boiler, consisting of a perfo... false bottom, A, for the clothes to rest upon, ...water-space formed underneath the said false ..., and a plug B, or equivalent device for ...ing a hollow shaft through the mass of clothes ...ect with such water-space, and enable a jet ...er to rise from the effect of ebullition, and ...ad over the top of the clothes, substantially ...ein described.

...—PUNCH.—Isaac P. Richards, Whit...ville, Mass.—Patent No. 104,769, dated ...e 28, 1870.

...im.—1. The combination of the separable ...nch with a shoulder and shank, as described, ...the separable punch having a teat-shank sock... going entirely through it axially, as specified.

...The combination of the separable teat, having ...ulder and shank, as described, and the separable punch having the shoulder *c c*, and the teat-... passage going entirely through it, as set ... with the screw-coupling nut D, the shank A, ...screw B, all being as explained.

...—BLANK FOR, AND DIE FOR MAKING, ...OLD-BOARDS FOR PLOWS. — William ...old Watson, Tonica, Ill.—Patent No. ...,686, dated March 15, 1870.

...im.—1. The herein described die or former, in ...h to upset and thicken the edge or chin of a ...board blank, substantially as and for the purpose set forth.

...The blank *i*, when constructed substantially ...d for the purpose herein specified.

DESIGNS.

...—CARPET-PATTERN.—Robert R. Camp..., Lowell, Mass., assignor to Lowell ...nufacturing Company, same place.

...im.—The configuration of the design hereunto ...ed, when made by being inwrought into ...three-ply ingrain, or other carpeting, in the ... similar to the photographic print accompanying ...is specification.

...—CARPET-PATTERN.—Robert R. Camp..., Lowell, Mass., assignor to Lowell ...nufacturing Company, same place.

...im.—The configuration of the design hereunto ...ed, when made by being inwrought into two ...ply ingrain, or other carpeting, in the form ... to the photographic print accompanying ...pecification.

4,549.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain, or other carpeting, in the form similar to the photographic print accompanying this specification.

4,550.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain, or other carpeting, in the form similar to the photographic print accompanying this specification.

4,551. — HAIR-PIN.—William F. Fluhrer, New York, N. Y.

Claim.—The design for a hair-pin, as herein shown and described.

4,552.—TYPE.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, same place.

Claim.—The design or pattern for printing-types herein set forth and shown.

4,553.—TYPE.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, same place.

Claim.—The design or pattern for printing-types herein set forth and shown.

4,554.—EGG-STEAMER.—William Kirkham, Springfield, Mass.

Claim.—The design for an egg-steamer, as shown.

4,555.—SHAWL.—Charles H. Landenberger, Philadelphia, Pa.

Claim.—The design for a shawl, substantially as described and illustrated.

4,556.—RAILING FOR CEMETERY LOTS.—Albert Laurence Murphy, Philadelphia, Pa.

Claim.—The design for a cemetery railing, substantially as described, and illustrated in and by the accompanying drawings.

4,557.—LAND-MARK.—John H. Parrish, Greensborough, Ala.

Claim.—The design for a cast-iron land-mark or monument, substantially as shown and described.

4,558.—COLLAR-BOX COVER.—Pulaski B. Pickens, New York, N. Y.

Claim.—The design for a box-cover, as shown.

4,559.—TYPE.—Richard Smith, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

4,560.—TYPE.—Richard Smith, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

4,561.—TYPE.—Richard Smith, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

4,562.—CHAIN-HOOK.—George D. Stevens, New York, N. Y.

Claim.—The design for a chain or snap-hook, as herein shown and described.

TRADE-MARKS.

122.—DURHAM TOBACCO.—W. T. Blackwell, Durham, N. C.

123.—AGRICULTURAL IMPLEMENT.—Hall & Speer, Pittsburg, Pa.

124.—HAY-ELEVATOR AND OTHER AGRICULTURAL IMPLEMENTS.—Aaron J. Nellis, Pittsburg, Pa.

125.—SEA-MOSS COUGH-CANDY, TROCHES, AND SIRUP.—William J. Rand, Jr., Brooklyn, N. Y.

126.—CIGAR.—Straiton, Schmitt & Storm, New York, N. Y.

127.—YEAST.—The National Yeast Company, Seneca Falls, N. Y.

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PATENTS.

110,815.—GLASS LAMP.—John Adams, Birmingham, Pa.

Claim.—1. In the manufacture of glass lamps, the manner of attaching a metallic handle to the lamp-stem, between the bowl and foot, by interposing the eye of the handle between the foot and bowl cavity of the mold, so that, with the blowing of the bowl, the peg of the latter shall make a firm union with the glass of the foot through the eye of the handle, substantially as described.

2. As an improved article of manufacture, a glass lamp having a metallic handle, with a solid eye attached between the bowl and foot.

110,816, antedated December 30, 1870.—LAMP.—Albert Albertson, Jersey City, N. J.

Claim.—1. The combination of the tapering jacket A with openings *a*, hollow tapering wick-case B, and wall D, when such parts are constructed of heat-conducting metal, and so arranged as to form air-rarefying chambers, to conduct air to the interior and exterior of a hollow flame, as and for the purpose set forth.

2. In combination with the elements of first claim, the annular oil-reservoir C, with filling-tube I, as and for the purpose set forth.

3. Coating or covering the outside of lamps, operating with heat-conducting draught-flues or chambers, as described, with a non-conducting substance, for the purpose specified.

4. The deflector F″, and rod F′, in combination with the tapering jacket A and hollow tapering wick-holder B, as and for the purpose set forth.

5. The combination and arrangement of the jacket A, wick-case B, wall D, radial wings E, rod F′, deflector F″, constructed of heat-conducting metal, and annular oil-reservoir C, or equivalent, as and for the purpose specified.

110,817.—STOVE-PIPE SHELF.—Samuel J. Anderson, Cazenovia, N. Y.

Claim.—The combination of the pivoted shelf D with the shelf A, substantially as herein shown and described, and for the purpose set forth.

110,818.—LIFTING-JACK.—Orren A. Anthony, Mayfield, N. Y.

Claim.—The slotted post A having loose pawl E and top piece C thereon, and the pivoted pawl lever G H E, combined, as described, with the su attached notched bar I, as and for the purpose sp cified.

110,819.—CASE FOR REED ORGANS.—Charle Edwin Bacon, Buffalo, N. Y.

Claim.—In combination with the case of a ree organ, an extension of the top of the same, formin three sides of the square, two of said sides to th right and left of the manuals, forming receptacle for music books and sheet music, &c., while th third forms the back of the instrument, the whol construction being substantially as and for th purpose specified.

110,820.—BED, CUSHION, AND OTHER U HOLSTERING.—Horace H. Barnes, Hoo sick Falls, N. Y.

Claim.—A series of short tubes, C, and wi coils D, combined with a bed, A B, in the manne shown and described, and for the purpose spec fied.

110,821.—ADJUSTABLE DOOR-FASTENER.- Lucius Philetus Barnes, Fitchburg, Mas

Claim.—The combination and arrangement the bar A, the slider B, the clamp-screw C, the r D, and the screw E, the said rod D being pivot or hinged to the slider B and the screw E, all i ing substantially as and for the purpose and to o erate as set forth.

110,822.—MACHINE FOR DRILLING SHU TLES.—Charles E. Billings, Hartfor Conn.

Claim.—The arrangement, relative to one an ther, herein described, of the block B, support gear-wheels F and G, drill-spindle H, sliding sa M, and the main spindle E.

110,823. — ADJUSTABBE LOCK-COUPLI FOR VEHICLES. — George G. Burge Grafton, Ohio.

Claim.—In combination with the socket B, t hook D and retaining-block E, when constru ed and arranged to operate together in the ma ner and for the purpose substantially as shown a set forth.

110,824.—COMPOUND FOR STOVE-POLISH Robert E. Cherrington, South Bost Mass.

Claim. — The improved compound for sto blacking, consisting of glycerine and plumba mixed to form a suitable paste, for the purpose s cified.

110,825.—WASHING-MACHINE. — Sarah Clark, Richmond, Ind.

Claim.—1. In combination with the brush-bl F, the springs K K, arranged substantially as scribed, for the purpose set forth.

2. In combination with the brush-block, spring-clamp N to hold the article being washe the block, substantially as described.

3. The combination of the brush-block F, w board D, and rollers E E, arranged substantiall described.

110,826.—INSULATED BOLT FOR RAILWA RAILS.—John W. Cochran, New Yo N. Y.

Claim.—1. The combination, with the bolt C the insulating-sleeve S, made of soft and ela material, and applied to the shank of the b when said sleeve is made to extend the en length of the bolt, between its head and nu ends, substantially as and for the purpose sp fied.

2. The combination, with the insulating-sl S, on the bolt C, of the nut D, formed with not or indentations, *e*, in it, essentially as herein forth.

7.—MARINERS' SOUND-INDICATOR.—ce Cochrane, New York, N. Y.

m.—1. The combination of the stationary M with opening T, and rotary or vibratory L with opening O, substantially as and for the ses hereinbefore set forth.

The combination with the tube L with opening M with opening T, and wheel or lever and oke K, substantially as and for the purposes before set forth.

2.—RUBBER PAD FOR HORSE-SHOES. niel L. Corbin, Friendship, N. Y.

m.—An India-rubber pad or cushion adapted achment to the feet of horses by means of tal pin B or rubber projection C, let into a in the shoe, substantially as described, for pose specified.

9.—SELF-ACTING SEWER-BASIN TRAP. tthew K. Couzens, Yonkers, N. Y.

m.—1. The floating valve C, placed upon the B, which connects with the sewer-pipe, to e a secondary outlet for the same, substan- as herein shown and described.

The protective basket D, secured to the pipe protecting the valve C, as specified, and pro- with a guide-rod, *a*, and hood, *b*, for said as specified.

0.—SPRING-BOTTOM FOR WAGON-BO- m.—Ephraim D. Cramer, Hackettsn, N. J.

m.—The end-tapered wooden spring C, flexi- ps G G, and rollers F F, combined as de- , to form an elastic wagon-body bottom.

1.—WASHING-MACHINE.—Albert O. ne, Boston, Mass.

m.—A washing-machine, consisting of a ation of a common washing-tub, A, with a ttom, *g*, plunger *i* and *h*, and lever *d*, con- d and operated as and for the purposes and manner herein set forth.

2. — COTTON-SEED PLANTER AND NO-DISTRIBUTER. — William W. m, Montgomery, Ala.

m.—1. The two pyramidal seed-boxes D, hav- rforated plates E attached to their adjacent and being rigidly attached to the square axle B, said parts D E being constructed and g in connection with the axle B and wheels ntially as herein shown and described, the purpose set forth.

A furrow-opener standard F, supported loosely upon and between the bars *a′*, for the pur- allowing it to easily slip up and over a root obstacle in its path, as described.

3.—MANUFACTURE OF ARTICLES FROM ER-PULP. — Francis Curtis, Foxbo- h, Mass., assignor to David Scrym- r, same place.

m.—The herein-described manufacture of ar- l ornament.

4.—FEED-CUTTER.—William Dahlem, son, Ind.

m.—A feed-cutter consisting of the adjusta- ntermittent feeding device shown, the presser -bearing wheel B, and box A, all combined ged to operate together in the manner and for the purposes set forth.

5.—STEAM-ENGINE VAVE.—Charles ane, Springfield, Mass.

m.—The arrangement of the poppet-valves valve-piston A, and their operation in con- with it and with the ports *c* and *d*, substan- specified.

110,836.—CULTIVATOR.—William A. Dryden, Monmouth, Ill., assignor to himself and John M. Turnbull, same place.

Claim.—The cultivator-shovel A, when constructed substantially as described, with a diagonal twist or curve across its lower part, for the purpose of offering a counter-resistance to the side pressure of the ordinary twisted shovels, substantially as described and for the purpose specified.

110,837.—CORN-PLANTER.—Young I. Edwards, Trenton, Tenn.

Claim.—The pitman *k*, provided with the trunnions *n*, and combined with the recessed plate *m* and guard *l*, in the manner described, and for the purpose of affording protection and imparting steadiness of motion to the pitman.

110,838.—VENTILATOR. — William Ennis, New York, N. Y.

Claim.—The shield or jacket E over the hot-air furnace, when arranged relatively to the air-passage *h*, as and for the purposes set forth.

110,839.—DRIVE-SCREW.—David F. Fetter, New York, N. Y.

Claim.—A drive-screw having an angular thread of the character shown, and a conoidal point the base of which is of the same diameter as the lower end of the shank, with which it immediately connects.

110,840.—SHOE.—John W. Fisher, Albany, N. Y.

Claim.—A shoe made with the extended flaps B D, formed substantially in the manner shown, so that the shoe may be convertible at pleasure into a buttoned or laced gaiter or shoe.

110,841, antedated January 7, 1871.—BINDING ATTACHMENT FOR HARVESTERS.—Abraham Freed and Jonathan Snook, La Porte, Ind.

Claim.—A binding attachment for grain-reapers, when constructed in all its parts and arranged as set forth, as herein shown and described, having tables C C′, frame A, pins *b b′ b″ b‴*, rollers D D, connecting-rod F, and rods B B′ for supporting the awning.

110,842. — CONNECTING-ROD. —Wilkerson G. Freeman, Richmond, Va.

Claim. — The broad wedge D, arranged in a wedge-shaped space between one of the brasses and the wall of the notch in the connecting-rod, and provided with the adjusting-screw F and jamb-nut G, the said screw screwing through the cap, or the side of the rod opposite to the cap, all substantially as specified.

110,843.—MILL-BUSH.—Hamlin F. Frisbie, Danville, Ill.

Claim.—1. The combination, with a wedge, I, of recessed knob and washer L, a shouldered and studded bolt, and a clamping-nut, all constructed and applied as shown in fig. 1 of drawing.

2. The hollow bearing-pieces H C, combined with a case, B, hollow triangular pieces E G, and upper annular chamber M O, constructed and relatively arranged as shown and described.

110,844.—FIRE-SCREEN AND STAND.—Hugo O. Fritsch, New York, N. Y.

Claim.—The combined fire-screen and stand, having its parts arranged substantially as herein described.

110,845. — CLARIONET. — Anton Fritsche, New York, N. Y.

Claim.—1. The lever C, applied to a clarionet, in combination with the keys *a* and *b*, to facilitate

in the playing of the same, substantially as herein shown and described.

2. The ring *h*, provided with the ear *i*, and combined with the arbor *c* and lever *c*, to operate substantially as and for the purposes herein shown and described.

3. The ring *j*, provided with the arm *k* and combined with the arm *f* of the arbor *c*, with the lever C and key *b*, substantially as herein shown and described.

4. The arbor *c*, provided with the projecting arm *f*, shank *d*, and ear *g*, to be thereby combined and connected with the key *b* and lever C, substantially as herein shown and described.

5. The additional key *c*, arranged in connection with the ring *i*, for producing the full A or A-sharp, as specified.

6. The combination of the rings *l m* and tubes *r o* with the tube *w* and key *s*, all arranged to operate conjointly or separately, substantially as herein shown and described.

7. The additional G-sharp key D, actuated by the F-ring *z*, substantially as herein shown and described, for relieving the fourth finger, as specified.

8. The ring *z*, carrying the arm c^1, and combined with the lever f^1 and key D, to operate substantially as herein shown and described.

9. The combination of the ring *m* and its shank *n* with the key D, spring c^1, and lever f^1, for operating substantially as herein shown and described.

10. The rocking thumb-slide E, arranged on a clarionet, substantially as and for the purpose herein shown and described.

11. The sliding cam i^1, operated by the thumb-slide E, and connected with the lever f^1 and arm c^1 for locking the key D, as specified.

12. The key F, connected with the tube m^1 and combined with the rings p' and c', to be closed by either one of the same or by both, as specified.

13. The additional E-flat key I, connected with the arbor a^2, which is held down by the shanks r' and c' of the rings p' s', substantially as herein shown and described.

14. The arm d^3 on the rocking thumb-slide E, arranged as described, to hold the key I closed, as specified.

15. The keys F and I, combined with the rings p' and s', and with the appendages of the same to be operated thereby, substantially in the manner herein shown and described.

16. The lever f^2, fitted under the handle g' of the key H, and combined with the arbor a^2 of the key I, to close said key I, substantially as specified.

17. The lever f^3 and handle m^3, connected with the key L and lever f^3, to operate the said key, substantially as herein shown and described.

18. The jointed lever h^2, connected by the stop f^4 with the lever f^3, to play the keys J and L in conjunction, substantially as herein shown and described.

19. The keys I and L, brought in close proximity by means of the handles g' and m^3, with which they are combined, as set forth.

20. The combination of the levers n^2 and h^2 with the key L, lever f^3, and lever f^2, all operating substantially as herein shown and described.

110,846, antedated December 30, 1870.—LAMP-BURNER. — George P. Fuller, Humphrey, N. Y.

Claim.—The combination of the slide F with the safety-tube C, the slide being provided with holes *d* and the tube with perforations *a*, substantially in the manner and for the purpose set forth.

110,847, antedated December 29, 1870.—HIDE-WORKING MACHINE. — Marcus B. Gould, Buffalo, N. Y., assignor to himself and Winfield S. Shaw, same place.

Claim.—1. The arrangement of the cranks *f* with reference to each other, and with the pitmen *m* and table *d*, so that one-half of the series of working-tools operates on the hide at a time, as hereinbefore set forth.

2. The cross-beam *i* provided with guide-hangers *o o*, arranged and operating with the pitmen working-tool *w'* at the free ends thereof, substantially as hereinbefore set forth.

3. The spring pressure-arms and rollers combined and arranged with the adjustable beam *i*, pitmen *m*, and movable table *d*, as the purpose hereinbefore set forth.

4. The arrangement with the platform movable table *d* of the frame-carrier *h*, and and racks and pinions *u v*, constructed and ing as hereinbefore described.

5. The arrangement, with the cross-beam supporting-springs *t*, adjusting-lever *k*, as the purpose hereinbefore set forth.

110,848, antedated January 6, 1871.—HA FASTENING.—Hugh B. Grumling, Gr Pa.

Claim.—1. The arrangement, with respect hames C C and lever B, of the rigid loop A, t versely pivoted and embracing the front and faces of both hames, as and for the purpo scribed.

2. A trace-hook, D, having a slotted shank-p *d*, adjusted up and down by screw and nut, as for the purpose described.

110,849.—HAY-PRESS.—Finlay F. Ha ton, Green Bay, Wis.

Claim.—1. The arrangement of the swi crane N, provided with the pulley M, with rel to the case A, follower D, and cords F, as the purpose specified.

2. The combination, with the case, follower, the cords, of the grooved ribs E, substantial specified.

110,850.—STEAM-PUMP.—Thomas Harri ton, Pittsburg, Pa.

Claim.—The cocks *f*, branching pipes *e e*, ing in the common shell *d*, in connection cones *a b* and pipe *c*, all arranged substantial described.

110,851.—FIRE-ESCAPE.—Edward J. H son, Golconda, Ill.

Claim.—1. In combination with the lazy-to the described means for adjusting its inclinat consisting essentially of the rocking-post D, slotted slides F, rocker G, and the adjusting scr *s s'*, all arranged and operating substantial and for the purposes set forth.

2. The combination of chains or cords N wi "lazy-tongs" fire-escape ladder, substantially as for the purpose described.

110,852. — ARTIFICIAL STONE FOR PA MENTS, WALKS, FLOORS, &c.—Carle B. Hutchins, Ann Arbor, Mich.

Claim.—The compound produced by uniting ingredients as set forth in the foregoing specifi tion.

110,853. — SULKY-CULTIVATOR.—Hugh Jordan, Victoria, Texas.

Claim.—1. The frame-work of the cultiva consisting of the bent axle-tree B, bars C, cross-bar N, tongue E, and brace-rods F Q, parts being constructed and arranged substantia as herein shown and described, and for the purp set forth.

2. The plow-standards K, draft-bars O, p standards R, and draft-rods or chains U, constr ed and arranged in connection with the bars and axle-tree B, substantially as herein shown described, and for the purpose set forth.

3. The combination of the shaft or roller X, vers W, and connecting-rods V, with the p standards K R and bars C of the frame-work of cultivator, substantially as herein shown and scribed, and for the purpose set forth.

4. The combination of the levers Z and con ing-rods Y with the plow-standards K, and w the cross-bars A' attached to the braces F of frame-work of the cultivator, substantially as

wn and described, and for the purpose set

54.—BED-BOTTOM.—William B. Jud- Poughkeepsie, N. Y., assignor to J. Nelson, Jr., same place.

im.—The combination of the webbing stripe connections S, the latter looped around the -wire, and also riveted to the webbing C, ially in the manner and for the purpose ibed.

55.—NEEDLE-SETTER AND THREADER SEWING-MACHINES. — Jacob Karr, shington, D. C.

im.—1. The self-closing spring-pinchers here- ribed, having the fingers for opening them, e gage, and also having the arms of the pinch- ribed, the one with a slotted funnel and the with a retractile point directly opposite the the whole constituting a needle-setter and ibed.

The pinchers A and A', having their limbs, operating fingers, and the slotted-gauge pro- *b* formed out of a single piece of elastic metal, as described.

56.—DEVICE FOR SECURING THE TINES HAY-TEDDERS.—De Lancy Kennedy, w York, N. Y.

im.—The grooves *f* in the buttons or clamps in combination with the terminal portions e tines, substantially as specified.

57.—APPARATUS FOR GENERATING AND RNING VAPOR FROM HYDROCARBONS. hua Kidd, New York, N. Y.

im.—The combination of retort A, in which r is generated by admitting the oil into the under pressure, aparingly, with the air-in- jet *f*, fixed in a larger pipe, open to the at- re, together with bent tube E, adjustable G, and wire gauze S, or the equivalent of or all of said parts, when combined to an illuminating apparatus, as described.

58. — ROLLER-SKATE. — Matthew H. ball, San Francisco, Cal., assignor to self and James Garvey, same place.

im.—The boxes or bearings F, having the through their sides, with the springs or E, as and for the purpose described.

59, antedated January 6, 1871.— OFING-TILE PRESS. — John Koehler, ren, Ohio.

im.—1. The roller D, with the projections *a a* ds *b b*, and the ribs *c c*, substantially as and purpose as hereinbefore described.

The mold E, with the raised grooves *e e*, s *d*, pins *i i*, and slope G, substantially as the purpose as hereinbefore set forth.

The mold F, with its groove *d*, pins *i i*, and G, substantially as and for the purpose as inbefore set forth.

The combination of the frame A, sliding frame D, and molds E and F, all constructed, ar- d, and operated as shown and described, for purpose herein set forth.

60.—PLOWSHARE.—John Lane, Chica- Ill., assignor to Hapgood & Co., same place.

im.—A plowshare having a thick flange, *a*, a al, *b*, and a thin body, *c*, when made by first g a share-blank having a thick end from one n metal, and afterward welding thereto the *c*, substantially as and for the purpose set

61. — GRAVEL AND SAND-HEATER.— lip Le Goullon, Pittsburg, Pa.

im.—An improved gravel an sand-heater, formed by the combination of the outer double-walled case A, inclined ring-flanges D, and inner case C G, forming the ring-flue or chamber B, heating-chamber L, and fire-chamber H, and provided with the doors F and K, draught-opening I, and smoke-pipe or flue J, with each other, substantially as herein shown and described, and for the purpose set forth.

110,862. — STEAM-GENERATOR.— Mirabeau N. Lynn, New Albany, Ind.

Claim.—1. The combination of the tubes A and transverse tubes B and E, and the interior circulating-tubes L, arranged substantially as specified.

2. The combination with the above of the water-return tubes O, substantially as specified.

3. The connection of the tubes A and B or E by means of the tubular screw-threaded plugs C or F, plugged at the outer ends by the plugs C' G, and having the lateral orifices, substantially as specified.

110,863.—CARRIAGE-CURTAIN FASTENER.— William H. Morse, West Newbury, Mass.

Claim. — The above-described carriage-curtain fastener, composed of the stud *b* and hook *a*, combined and operating substantially in the manner and for the purpose hereinbefore set forth.

110,864. — HAND-STAMP.—Marcus P. Norton, Troy, N. Y., assignor to Helen M. Ingalls, same place.

Claim.—The arrangement and the combination of the cutters or knives *a f g h* with the type-wheels or revolving and circular changing dates *a b c d*, whereby and by the means of which the month and the day of the month and the year are given and formed upon the internal revenue stamp at the time the same is canceled by being cut or punctured by the said knives or cutters, in the manner and for the purposes substantially as herein described and set forth.

110,865. — TRACTION-ENGINE. — Treat T. Prosser, Chicago, Ill., assignor to himself, Henry Waller, and W. S. Waller, same place.

Claim.—1. The traction-wheel C, constructed substantially as shown, so that both the weight carried and the driving power shall be centrally supported and applied.

2. In combination with the traction-wheel C, the driving-pinion D, but only when arranged to drive the traction-wheel from a point opposite to that upon which it rests, substantially as set forth.

3. In combination with the traction-wheels C, the boiler B, the pinions D, and shaft D^1, when arranged to operate in relation to one another, substantially as set forth.

4. The frame G, in combination with the cylinders E E, when constructed and arranged in relation to the boiler B, substantially as described.

5. In combination, the cylinders E and frame G, when the latter is so constructed that a part, G^2, of the same shall constitute one of the heads of the cylinder, substantially as set forth.

6. The frame G, when cast in such form that the parts G^1 shall form ways, carrying the cross-head between their opposed faces.

7. The cross-head and ways, in combination, when constructed with a tongue and groove on one side only, substantially as and for the purpose set forth.

8. The frame G, when cast to form the plumber-block, ways, and cylinder-heads in one piece, substantially as set forth.

9. The combination of the main frame, the boiler B placed transversely across the frame, stand I, and carriers K, arranged substantially as set forth.

110,866. — APPARATUS FOR SUPPLYING NAPHTHA TO VAPOR-BURNING STREET-LAMPS.—Frances M. Randell, Greenburg, N. Y.

Claim.—The combination, with a street lamp-

post, of the naphtha-reservoir, pipe, and cocks, for the purpose of filling the reservoir with naphtha and supplying the latter to the burner under pressure, as described.

110,867.—PICTURE-NAIL.—Thomas C. Richards, New York, N. Y.

Claim.—The scalp B, held in place or in contact with the anvil or head *a'* of the nail A by means of the washer C, substantially as herein shown and described.

110,868.—LUBRICATOR.—Joseph Richter, Cincinnati, Ohio.

Claim.—In the described connection with the chamber C and the valve F, the valve E, when the same is constructed to open by gravity and close by the pressure of steam, as and for the purpose explained.

110,869, antedated December 31, 1870.—DENTAL LATHE.—Elias C. Rishel, White Haven, Pa.

Claim.—1. The mandrel A, provided with tapering and threaded journals and nuts, as described, in combination with the tapered bearing *b* and sleeve D, the latter arranged in a bearing support, having a notch, *d*, and set-screw E, as specified.

2. The combination, with the bearing-support and the mandrel, of the adjustable bush D and the set-screw E, substantially as specified.

110,870.— DRAWER FOR STORES.—Robert Jordan Roberts, New York, N. Y.

Claim.—The drawer having a transparent face, and provided with the sample-support *b*, substantially as and for the purposes herein shown and described.

110,871.—LATHE FOR TURNING WOOD.—Ira Rood, Elyria, Ohio.

Claim.—The construction and arrangement of mandrel L with its bearing-tool P, chuck K, and automatic adjustable slide-rest, as herein shown and described.

110,872.—MAN-HOLE PLATE FOR STEAM-BOILERS.—John D. Sansom, Peoria, Ill.

Claim.—The hinged man-hole plate A for steam-boilers, in combination with the crab D and bolt *f*, for securing it, substantially as and for the purpose set forth.

110,873. — APPARATUS FOR BOILING AND TREATING PAPER-STOCK. — George Sinclair, Leith, Scotland.

Claim —1. The perforated tube *d*, arranged centrally and longitudinally of the boiler A, and extending from top to bottom, as shown and described, and for the purpose specified.

2. The perforated plates b b^2 b^3, arranged as shown and described, with reference to the boiler A and furnace-chamber, as shown and described.

3. The arrangement of the vessel E and pipes E^1 and E^2 with reference to the boiler D and furnace-wall B, as shown and described, for the purpose specified.

110,874.—PISTON.—Andrew H. Smith, New York, N. Y.

Claim.—The combination of the rod D, flange or plate E, tubular rod or sleeve G, ring, plate, or flange H, and nut I, with each other, to adapt them to expand and contract the piston-packing, substantially as herein shown and described, and for the purposes set forth.

110,875. — CEREMONIAL BELL.—John W. Smith, Keokuk, Iowa.

Claim.—1. The ceremonial apparatus herein described, consisting of the case A, essentially as described, with one or more bells B arranged within it, and with one or more holes *a*, for the admission of a striking instrument, substantially as described.

2. The arrangement of the cushion *f* with bell B within a perforated ceremonial bell-case substantially in the manner described.

3. The elastic strip *e*, stretched across the opening *a*, directly over the bell, substantially as described.

4. The arrangement of the bell B and perforated sounding-board S within the ceremonial bell A, substantially in the manner and for the purpose described.

110,876.—HORSE HAY-RAKE. — Joshua Stoddard, Worcester, Mass.

Claim.—1. The connection of the clearer with the hinged seat-board, substantially as herein described, so that the vertical movements of the latter are imparted to the former.

2. A locking device, composed of the rigid arm *m*, jointed lever *k l*, with pin *p*, the pedal *o*, the arm *n*, and the main fulcrum-pin, in combination with the hinged seat-board, rake-head, crane, and main frame, all constructed and arranged to operate substantially as herein set forth.

3. In combination with the parts mentioned in the next preceding clause, the set-screw *r* and loosely-attached lever-handle *q*, arranged as herein specified, for facilitating the operation of the locking device.

4. The sockets for the rake-teeth and springs made with lugs *a*, *a'*, and *v*, and adapted to secure the springs and teeth thereto without bolts or rivets, as described, and attached to the rake-head, in the manner herein set forth.

110,877.—LIQUID-METER.—William G. [illegible]art, Chicopee, Mass.

Claim.—1. The sliding weight or piston N, the flexible attachment secured thereto, said piston being caused, by the pressure of water on it, alternately upon its sides, to move to and fro in the vessel upon the rod B, substantially as described.

2. As arranged in relation to the subject matter of the foregoing first clause, the flexible tube, one end of which is closed and secured around the rod B, and the other end closed and secured around the piece C, or to the end of the vessel at some point distant from the rod B, the same operating as a check to prevent the leakage of the water, substantially as described.

3. The sliding weight N and the rod B, having the protuberances or collars *b* and *b'''* thereon, in combination with automatically-operated valves and water-ways, as a means of changing the inclined position of the measuring vessel, substantially as described and set forth.

4. The weights G, in combination with the automatically-operated rod B, piston N, and its appendages, as a means of securing the measuring vessel in either inclined position until it has been filled with liquid, all substantially as described.

5. The two-way plug V attached to the measuring-vessel, the same being suspended between centers or points Y'', and operating and adjusted within the barrel or shell A, which is attached to said plug V independently of any vertical support, all serving to change the direction in the passage of the water at each vertical movement of the measuring vessel, substantially as set forth.

110,878.—METHOD OF COATING SAD-IR[illegible] &c.—William H. Towers, Boston, M[illegible]

Claim.—1. The improved process herein described for coating and polishing sad-irons and [illegible] ticles.

2. As a new article of manufacture, a sad-iron coated with zinc or other metal, substantially as described.

110,879. — THIMBLE.—Edward B. To[illegible] Newburyport, Mass.

Claim.—As a new article of manufacture, a thimble struck out of sheet metal, with a solid edge or rim, substantially as described, and for the purpose set forth.

[illegible].880. — CAR-COUPLING. — George H. Weeks, Allegan, Mich.

[illegible]laim.—1. The pivoted bars B having semi-conical notches formed in their adjacent edges, sliding [illegible]ving inclined slots formed in it, guide-pin D, [illegible] spring E, in combination with each other and [illegible] the bumper B, substantially as herein shown [illegible] described, and for the purpose set forth.

2. The combination of the lever G and connecting-[illegible]w chain H with the spring E, guide-pin D, [illegible]ted slide C, pivoted and notched bars B, and [illegible]per A, substantially as herein shown and described, and for the purpose set forth.

[illegible],881.—METALLIC CARTRIDGE. — Rollin White, Lowell, Mass.

[illegible]laim.—1. The cap-chamber *d*, with parallel vertical walls, *s*, extending all the way through the [illegible], substantially as set forth.

2. The cap A, having a concavity in its outer [illegible]ace, and provided with a fulminate receptacle, [illegible]nd anvil *b*, with or without the vent *i*, substantially as set forth.

3. The combination of the cap-chamber, as described, with a cap, A, substantially as described, and for the purposes set forth.

4. The combination of the cap A, constructed as described, and the plate or anvil *b*, substantially as [illegible]d for the purposes herein set forth.

5. The head or butt B, constructed as described, with a flange, *c*, and lip *y*, substantially as and for [illegible] purposes herein set forth.

6. The combination of the head B, metal tube C, [illegible]d paper tube *h*, all constructed and arranged [illegible]stantially as and for the purposes herein set [illegible]th.

7. The combination of the head B with its tubes [illegible]d *f*, and the tube or shell D, constructed as [illegible]cribed, and connected together by means of the [illegible]ate covering *m*, substantially as and for the [illegible]rposes herein set forth.

[illegible],882. — CURBING FOR EXCAVATIONS.—Henry Whitestone, Louisville, Ky.

[illegible]laim.—Spiral curbing, composed of sections C, [illegible] guide-drum A, and guide-strip B, made and employed substantially in the manner and for the purposes described.

[illegible],883.—FASTENING FOR THE TIPS OF BILLIARD-CUES.—Oliver C. Wilbur, Jr., Providence, R. I.

[illegible]laim.—The split socket A, in combination with [illegible]erew-tip, C, all as herein described, and for the purpose specified.

[illegible],884.—BOILER FOR HEATING.—John G. Wilson, New York, N. Y.

[illegible]laim.—1. A boiler composed of a plain elliptic [illegible]side shell and a corrugated inside shell, being [illegible]ted at their bottom edges, around the aperture [illegible] the fire-door, and around the smoke-pipe, substantially as described.

2. The manner of forming a bottom joint between the outer and inner shells of a cast-iron boiler, substantially as specified.

[illegible],885.—WASHING-MACHINE.—Ananias Z. [illegible]oung, Liberty, Miss.

[illegible]laim.—The dashers B and H, working frame E [illegible]d case A, all combined and operating substantially as specified.

[illegible],886.—SNOW-SHOVEL.—Albert Q. Adams, Wallingford, Vt.

[illegible]laim.—The snow-shovel herein described, having the curved wooden blade B, strengthened and [illegible]nforced by the metal strips *d d*, inserted lengthwise in the side edges thereof, and by the shoe *c*, substantially as specified.

[illegible],887.—CHARGER FOR SHOT-POUCHES.—Thomas W. Allen, Waterbury, Conn.

[illegible]laim.—In combination with the cylinder D and cut-off F, the charger I, with its inclined end provided with the notch *a* and shoulder *d*, as and for the purpose described.

110,888.—FENCE.—Collester M. Ballard and Myron Morehouse, Johnsonburg, N. Y.

Claim.—1. The combination of the stakes C with the hinged brace-bars B B and fence A, so arranged that the driving of said stakes will cause the bars B B to firmly clamp the fence-bars, as hereinbefore specified.

2. The combination with the fence A of the short braces B' B' and long braces B B, arranged in the manner and for the purpose hereinbefore specified.

110,889.—HOT-AIR FURNACE.—William D. Bartlett, Amesbury, Mass.

Claim.—1. The furnace as made, with a combustion-chamber located with respect to the fire-pot, as shown and described, when the combustion-chamber is unencumbered with tortuous or contracted passages between the fire-pot and the direct or indirect smoke outlet, and when it is traversed by air-flues which are surrounded by the heated and volatile products of combustion proceeding from the fuel, through the lower series of which flues passes cold air from a cold-air chamber on one side of the furnace, and thence back and forth, alternately, through each series of flues, to a hot-air chamber located over its top, the air being heated in its passage through the flues, the whole being arranged and combined substantially as described.

2. The plate *r* of the air-heating chamber, in which the air-discharge passages are made by and between perforations through the plate and pings which are located in such perforations.

110,890.—SPARK-ARRESTER.—Darwin Beach, Oshkosh, Wis.

Claim.—In combination with the smoke-stack A, deflector F, conical deflector B, spark-chamber C on top or set in the up-take A, return-flues D D, and wire or perforated cone B, substantially as shown and described.

110,891.—EMBOSSING HAT-LININGS.—Thomas W. Bracher, New York, N. Y.

Claim.—1. The hat-lining A, provided with a backing of paper, cloth, or woven material where the embossing is to be applied, with size interposed between said backing and lining, substantially as and for the purpose described.

2. The face of the hat-lining A, provided with metallic foil, as set forth, when the same is subjected to pressure between embossing-dies, as and for the purpose herein shown and described.

3. Embossed hat-linings, illuminated with two or more colors by placing leaves of different colors upon the lining where the different impressions of the designs are to be produced.

110,892. — ANIMAL-POWER APPARATUS. — Orville M. Brock, Monroeton, Pa., assignor to James H. Hawes and George Hawes, same place.

Claim.—1. The hollow shaft D d^1 d^1, flanged at both ends, in combination with the radial arms E, inclined braces F, rim G, and rim or wheel g', the said parts being constructed and operating in connection with the pulley or wheel H of the driving-shaft I substantially as herein shown and described, and for the purpose set forth.

2. The adjustable cross-armed spindle C c^1, and adjusting-arms B, in combination with the wheel D E F G, substantially as herein shown and described, and for the purpose set forth.

110,893.—HAY-TEDDER. — Alzirus Brown, Worcester Mass.

Claim.—The combination, with the axle A and clutch-gears C, of the horizontal sliding bars E E', links H H', hinged to the sides and back of the ends of said bars, hand-bar G, standard I, guides J, and spring K, said parts being arranged for joint operation as herein shown and set forth.

110,894.—Bee-Hive.—Gustavus Adolphus Brown and Francis Adams McCallen, Russellville, Ky.

Claim.—1. The hinged platform M and supports m m, when constructed so as to form an extension of the track L and support the drawn-out frames, substantially as described.

2. The moth-trap I having side entrances i i, the perforated or gauge-plate H, and bee-entrance J, arranged with relation to each other and the compartment G of the hive, as herein shown and described, for the purposes specified.

110,895.—Fluting-Machine.—Abner Burbank, Rochester, N. Y.

Claim.—The double corrugated rollers B B, journaled within a frame, D, combined and operating in connection with the reversible slab or bed A, fluted on both faces, substantially as described, for the purpose set forth.

110,896.—Grain-Drier. — Lewis S. Chichester, Brooklyn, N. Y.

Claim.—The arrangement of the hot-air flues at each side of the grain-bin, and with which the air-spaces beneath the tables e e open at both ends, in combination with the pipe i i, passing to the flue f, and provided with openings in their sides within the grain-bin, as and for the purposes set forth.

110,897.—Churn.—Jacob Clark, Brush Valley, Pa.

Claim.—1. The combination, with the oscillating churn-body mounted on the single frame C, of the guiding and holding slotted bar D' rising from the base-frame D and embracing the said frame C, as and for the purpose described.

2. The body A, frame C, and slotted bar D', in combination with the lever G and spring H, as and for the purpose described.

110,898.—Ventilator or Blower.—John F. Collins, New York, N. Y.

Claim.—1. The base-piece B, divided into compartments K, one for each arm, so that the current of one arm cannot counteract that of the others, substantially as set forth.

2. The combination of the hollow arms C C C C, the base-piece B, divided into compartments K, the hollow driving-shaft A, and the packing-joint H, combined, constructed, and operating together substantially as described, and for the purposes set forth.

110,899.—Fence.—Thomas C. Collins, Little Hockhocking, Ohio.

Claim.—The combination of the panels A B C, pieces D E, braces G G', and pins b b, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

110,900.—Parlor-Organ.—James Cordley, Adrian, Mich.

Claim.—1. In the described organ, the pumping-bellows A A', reed-bellows or regulators B, and pipe-bellows or regulators C, wind-stocks i d l, reed wind-chest H, and pipe wind-chest n, with valves i b o w, constructed and arranged as shown and set forth, for the purpose specified.

2. The combination, with the vertical pumping-bellows A A', of the pedals a a', connected cords e e', vertical pulleys c c', and horizontal pulley c'', for operating the said bellows without the aid of springs.

110,901.—Railway-Car Platform.—Rensselaer A. Cowell, Cleveland, Ohio.

Claim.—1. The combination and arrangement of the rails B B, blocks C C, belt e, and braces K K, and for the purpose described.

2. The combination and arrangement of the brace-rods h h, connecting-bar h', and upright supports j j, with the draw-head G, substantially as shown and for the purpose set forth.

110,902.—Churn.—John Cram, Chicago, Ill., assignor to himself and John Cram, same place.

Claim.—1. The inclined vanes or paddles D carried by standards E E', in combination with shaft C and square arms G G', the said arms G being arranged to present a double inclined surface, as described, substantially as specified shown.

2. The crank or lever H, having projections h, combination with the shaft C, constructed as specified and shown.

110,903.—Lathe-Chuck.—Austin F. Cushman, Hartford, Conn.

Claim.—1. The combined screw and bevel pinion, consisting of a rod having the pinion G formed thereon, and the screws H and H' secured upon the rod on opposite sides of the pinion, substantially as set forth.

2. The shell B, having a recess formed underneath the sliding jaws with semicircular bearings at each end, in combination with the combined screw and pinion having corresponding journals its ends, and the jaw A having a continuous screw thread cut in its under side, all arranged to operate as herein described.

3. In combination with the subject matter of the second claim, the plate B, screw-threaded on periphery, the annular rack D, and the clips F, described.

110,904.—Loom.—Hilas D. Davis, North Andover, Mass.

Claim.—1. The combination of the guide L with the cam-slide M or its equivalent, which will move the guide and lock the same, substantially as described.

2. In combination with the jack, the guide, the cam-slide, a pair of needles or pushers and double pattern-chain, substantially as described.

3. The eyeners and jacks, constructed and combined so that one of the eyeners will serve as guide for the lower ends of the jacks, substantially as described.

4. In combination with the jack, the two adjustable eye-pieces attached to the central part of the back, substantially as described.

5. The duplex differential pulleys and cords, in combination with the jack and leaf of heddles, substantially as described.

6. The duplex series of reversed wedges, with the parts subordinate thereto, for working the shuttle-boxes, substantially as described.

7. The combination, with said wedges, either singly or in pairs, of a jack or jacks, which are worked by a lifter or depresser under the control of a pattern-chain or its equivalent, substantially as described.

8. The combination of a series of wedges with a series of guided rollers or blocks interposed between said wedges, so as to transmit their united effect to the parts which move the shuttle-boxes, substantially as described.

9. The combination of the two series of wedges and guided rollers or blocks with the guided roller or block which moves the shuttle-boxes, and two fixed abutments, between which the system of wedges and rollers or blocks acts, substantially as described.

10. In combination with each jack which works the shuttle-boxes, a detent, which holds the jack at rest at its extremes of motion, substantially as described.

11. The combination and arrangement of the series of jacks that work the heddles and the series of jacks that work the shuttle-boxes, and the lifter and depresser, and pattern-chain, and the necessary mechanism that actuates them, all constructed substantially as described.

110,905.—Ventilator.—Edward Mortimer Deey, New York, N. Y.

Claim.—1. The steam-pipe T V W, and eccentric passing hot-air pipe G H I, when used in combination with the hot-air chamber E, steam-vessel P, reservoir or condenser L, substantially as and for the purposes described and set forth.

2. The pivoted plate P' P', &c., in combination with the hot-air chamber E, steam-pipe T V W, and passing hot-air pipe G H I, substantially as and for the purposes described and specified.

3. The coiled steam-pipe or bulb k' placed within the bell K of the hot-air pipe G H I, for the purposes substantially as set forth and described.

110,906. — Railroad-Car Ventilator.—Asher M. Dexter, Elmira, N. Y.

Claim.—A ventilating car-window, composed of sash A, wire-cloth screen D, or its equivalent, and pane of glass C, substantially as set forth.

110,907. — Apparatus for Dyeing Fabrics.—Thomas Messenger Drown, Philadelphia, Pa., assignor to W. A. Drown, same place.

Claim.—1. A reservoir, containing volatile impregnating material, closed to prevent the evaporation of the said material, but slit at two points to permit the passage through it of a strip of fabric to be impregnated, as set forth.

2. The combination of said reservoir and a tank, communicating with the reservoir, as described.

110,908.—Propeller.—Edgar Eltinge and John C. Brodhead, Kingston, N. Y.

Claim.—The combination of the paddles B, arranged in pairs, shafts C, crank-arms D, bars E, F, G, guide-support H, bar F, and eccentric I, with each other, and with the driving-shaft K and framework A of a vessel, substantially as herein shown and described, and for the purpose set forth.

110,909.—Bee-Hive.—Thomas S. Engleby, Cedar Falls, Iowa.

Claim.—1. The combination of the wire frames b and frames G G with the rectangle s, substantially as specified.

2. The combination of the base A with inclined ends B, movable main case C, movable top D, wire frames b b, rectangle s, and comb-cards G constructed and arranged substantially as and for the purpose herein set forth.

110,910. — Fence. — Admiral Faulkner, Mount Pleasant, Iowa.

Claim.—The stiles A A, posts B B, and rails C C, in combination with the stakes D D and rails E E, constructed and arranged substantially as shown and described.

110,911.—Shaft-Tug.—Kasson Frazer, Syracuse, N. Y.

Claim.—A shaft-tug composed of an inner ring with the metallic sections B and C each separately riveted to said ring A, in the manner herein described and shown.

110,912.—Rotary Engine.—Samuel Gibson, Lancaster, assignor to himself, Alexander L. Hayes, same place, and J. W. Wierman, York, Pa.

Claim.—1. The stationary wheel or casing A provided with a series of buckets, a a, extending around its entire inside circumference, in combination with the inner revolving wheel G provided with two buckets i i, all constructed and operating substantially as and for the purposes herein set forth.

2. The combination of the outer stationary wheel with buckets a a, steam-chest B, box D, journal d, disk c, arms A A, inner revolving wheel G, steam i, and outlet or exhaust-pipe H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

110,913. — Shutter-Fastener.—Ebenezer A. Geories, Philadelphia, Pa.

Claim.—The self-closing latch D, having a rotary motion, and adapted to engage one end of a hinged bolt, substantially as and for the purpose described.

110,914.—Wrench.—John Goodin, Joliet, Ill.

Claim.—The pieces A and B, constructed as described, and used in combination with a right-and-left screw, C, as and for the purpose set forth.

110,915.—Air-Engine or Fan-Blower.—Gardner C. Hawkins, Boston, Mass.

Claim.—The interposition, between the arm or spoke of the wheel of an air-engine and the fan or blade carried thereby, of an elastic medium, for purposes stated.

110,916.—Coffee-Roaster.—Louis Houcke, Springfield, Ohio.

Claim.—1. The herein-described coffee-roaster, consisting of the vessel A, provided with the lids B, having the windows C and hooks c thereon, in combination with the crank and arms L, all constructed and arranged to operate substantially as described.

2. The scrapers or arms L, made flat on their under surface, and thicker at their outer ends, arranged for use, in connection with the vessel A, as herein described.

110,917.—Broom-Holder.—Zadok Howe, Lowell, Mich.

Claim.—A broom-holder, made of one piece of wire in the manner herein described, so as to form the loop or double portion a, tine b, with its crook d and straight tine b', the ends of said tines being bent outward, and the entire holder attached to the wall by means of the block f and screw e, substantially as herein set forth.

110,918.—Joint for Frames of Folding-Umbrellas.—Algernon S. Hubbell, Norwich, Conn.

Claim.—A joint for folding-umbrellas, consisting of a block, c, provided with ears f f to lock against the fork of the brace to which it is hinged, and attached to the outer portion of the stretcher, and hinged to its inner portion, the whole arranged as herein shown and described.

110,919.—Sad-Iron.—Hubert R. Ives, New Haven, Conn.

Claim.—The herein-described sad-iron, consisting of the base A, constructed with the flange a, combined with the sheet-metal portion C, united to the said ribs, in the manner described, to form a chamber for the reception of the non-conducting material, as set forth, and provided with a handle, E F, substantially as specified.

110,920. — Auger-Handle. — William A. Ives, New Haven, Conn.

Claim.—The arrangement of the follower C within the perforated cylinder A, formed to correspond to the said perforations, and operated by a set-screw, or equivalent device, to secure the auger in the said perforations, substantially as herein described.

110,921.—Hat.—Jeremiah Keith, Charlton, Mass.

Claim.—As new articles of manufacture, hats and similar articles formed of coiled braids or strips fastened together by wire-staples, substantially as shown and described.

110,922.—Street-Lamp.—John F. Kerns, Baltimore, Md.

Claim.—In combination with the lamp A, the detachable reflector B, constructed and arranged substantially as described and shown, for the purpose set forth.

110,923.—Lounge. — Oswald Kubitschky, Chicago, Ill.

Claim.—1. The supplemental head-rest G, pro-

vided with the hinged parallel bars H and leg I, all constructed and arranged as described, for the purpose specified.

2. The sliding supplemental head-rest G, in combination with the head-rest C, the frame A, and folding seat D, as herein described, for the purpose specified.

110,924.—PLOW.—John M. Leonard, Marshall, Mich.

Claim.—The combination with each other, and with a plow, of the jointer-share and mold-board A B, when employed either with or without the roller D, and constructed, arranged, and connected substantially as and for the purpose set forth.

110,925.—BILLIARD-TABLE.—William Lochhead, Brooklyn, N. Y.

Claim.—1. The interior cushions D D, when arranged in lines oblique to those of the side cushions C C, substantially as and for the purpose set forth.

2. In combination with the cushions D D, the sockets *e e*, as set forth.

110,926.—SLIDING STOP-VALVE.—Henry G. Ludlow, 2d, Troy, N. Y., assignor to Ludlow Valve Manufacturing Company, same place.

Claim.—1. A movable or adjustable incline or inclines, C, in combination with an adjustable or fixed valve-operating wedge or wedges, *e* E, essentially as described.

2. One or more gates D, in combination with an adjustable incline or inclines, *c*, and adjustable or fixed wedge or wedges E, essentially as described.

3. The wedge or wedges E, arranged between the gates, in conjunction with a movable incline or inclines, *c*, as described.

4. The combination, in a stop-valve, of the gates D D', wedges E E', incline or inclines *c*, stem C, and case or shell A B, the several parts being constructed, arranged, and operating as described.

110,927.—GRINDING-MILL.—Isaac Mayfield and William D. Mayfield, Mayfield, Ky.

Claim.—1. The decreasing bars S S S S, in combination with the casing H and adjustable knives *v*, attached to the hollow cylinder D, when constructed and arranged as and for the purpose specified.

2. The arrangement of the cams h upon the shaft D, the lever K, sleve P, and shoe O, in the manner and for the purpose set forth.

110,928.—REGULATING THE DISCHARGE OF WATER FROM PUMPS.—John Mayher, East Hampton, Mass.

Claim.—The combination of the pump A and supply and discharge-pipes *a' a* with the pipe or passage *b*, having the valve *b'*, as described.

110,929.—ROTARY BLOWER.—Henry C. McIlwain and Alonzo Brumfiel, Connersville, Ind.

Claim.—The adjustable rubber "rubs," in combination with fans B B, relatively so arranged that the fans will bridge from one rub to the other at or near the point of deviation from the line of the arc in the shell, as and for the purpose set forth.

110,930, antedated December 30, 1870.—VALVE FOR OIL-PUMPS.—Henry Millingar, Pittsburg, Pa.

Claim.—The gas-valve, consisting of the combination of the tubular piece *b*, the valve-disk *f*, and the shell A F, constructed and arranged substantially as described, for the purpose of giving a passage for the gas into the well-tubing at any point above the pump and below the seed-bag of oil-wells, in the manner hereinbefore set forth.

110,931.—CRADLE.—Albert H. Ordway, Haverhill, Mass.

Claim.—A cradle, supported by and rocking upon the springs, substantially as shown and described.

110,932.—NECK-YOKE OF HARNESS.—Al Parliman, Palmyra, N. Y.

Claim.—The body A, formed with a central pending bearing, *a*, strap-loops *b b*, and cross- *c c*, when used in connection with the tongs the hame-straps, and the neck-yoke, substant as described.

110,933.—STEAM VACUUM-PUMP.—Ja H. Pattee and Hugh J. Graham, M mouth, Ill.

Claim.—1. The combination of a steam vac pump with a water-wheel arranged to op substantially in the manner and for the pur set forth.

2. The combination and arrangement of pi with valves *s*, U, and P, constructed and oper substantially as and for the purpose specified.

3. The arrangement of the valve P, stem K I, and condense-pipe L, in the manner subs tially as described and for the purpose specifi

4. The cam F, lever G, pitman H, and two- cock U, when arranged to operate substantial described and for the purpose specified.

5. The combination of the condense-water v J, pipe O, pipe N, tank A, and pipe L, substan ly as described and for the purpose specified.

110,934.—SPRING FOR WAGONS AND C RIAGES.—Samuel J. Pearsall and Sila Briggs, Saratoga Springs, N. Y.

Claim.—1. The spring B C, in Figs. III and with the lower ends extending from the body ther than the upper ends, as described, in co tion with the spring connections under the bod ranged as and for the purpose set forth.

2. The arrangement of the spring connectio der the body, marked E in Figs. II, III, and with the reaches or frame-work, and the bo the vehicle, with the devices of the first clai set forth.

110,935.—VALVE-GEAR.—William R. Re Tremont, Pa., assignor to himself "The Iron Manufacturing and Coal C pany," same place.

Claim.—The rock-arm, having the points *d* shank *f*, working between the plates *a b* of valve-rod to vary the motion of the valve, sub tially as herein shown and described.

110,936.—PUMP.—Nathaniel P. Sheld San Francisco, assignor to himself Wm. H. Hall, of San José, Cal.

Claim.—1. The combination of the cylinde with the revolving frame A, substantially as for the purpose hereinbefore set forth.

2. The combination with the plunger H and plunger-wheel K, placed eccentrically to the volving cylinder A, substantially as and for the pose hereinbefore set forth.

3. The combination of the plunger-wheel K the frame A and gear L, intermediate gear L gear L^2, substantially as and for the purpo forth.

110,937.—BEE-HIVE.—Luther S. Sis West Edmeston, N. Y.

Claim.—The comb-frames G E, constructe herein described, that is, the top-bars G cut out to form a passage for the bees, and gro for the insertion of the comb-guide *a*, and the pieces E E notched at their lower ends to fit the screws *d d*, the said top bar of each fram ing further provided with a downward-projec vertical bar *b*, having at its lower end the p rated block H, and all the frames inclosed w the hive composed of the connected corner-pos A with glass sides, cleats C C and cover D, a herein set forth.

110,938.—UNIVERSAL COG-WHEEL COUPLING.—Egbert Smith, Adams County, Ill., assignor to himself and Martin Sherrick, same place.

Claim.—A universal cog-wheel coupling and joint, constructed and operated substantially as and for the purpose described.

110,939.—CURTAIN-FIXTURE.—William H. Tambling, Eleroy, Ill.

Claim.—The combination of the cornice B, placed on the face of the window-frame at or near its top, and provided with the eye-bolts *a a*, *d d*, and *d'*, with the curtain C, its cord *e*, bar *b*, roller D, and weighted tassel E, all as and for the purposes herein set forth.

110,940.—PIANO.—William F. Ulman, Boston, Mass.

Claim.—1. A sounding-board, supported with reference to the case or frame upon projections *h*, extending from the frame at intervals, substantially as shown and described.

2. In combination with a metal frame, strips of wood *n*, or analogous material, upon which the strings bear, (adjacent to the hitch-pins,) substantially as described.

3. In combination with the metal-string plate and the hitch-pins, the groove or grooves *m*, for receiving the strip or strips *n*, substantially as shown and described.

110,941.—BOOK-CASE FOR SCHOOLS, &c.—Peter T. Vannice, Kewanee, Ill.

Claim.—1. The shelves *b b*, divided into stalls or divisions by cords or tapes *d d*, all arranged to operate as set forth.

2. A book-case for schools, arranged with shelves *b b*, cords *d d*, drawers D D N N O, compartments C C', G M M', and drop-door E, receptacles J K L, as and for the purpose set forth.

110,942.—VESSEL FOR CARRYING LIQUID CARGOES.—William Gray Warden, Philadelphia, Pa.

Claim.—1. The within-described cellular structure, having its lower portion extending entirely across the hold of the vessel, and contracted above so as to leave cargo-spaces *y y*, substantially as described.

2. An overflow vessel or vessels, J, communicating through a system of pipes with the cells of the structure, and situated so as to retain the liquid which overflows from said cells, substantially as described.

3. An open space, *b*, formed through and by the cellular structure, for the reception of the mast, but of such diameter that the mast cannot bear against the sides of the same.

110,943.—CUT-OFF FOR STEAM-ENGINES.—William Watts and Frederick A. Phelps, Newark, N. J.

Claim.—1. The cams J', formed and operating as represented, in combination with cut-off valves G G^1 and their connections, so as to drop the valves without in any degree disturbing or tending to disturb the position of the governor, as herein set forth.

2. The broad lifters H^2, fixed on the lifting-rod H, and inclosed loosely between broad parallel surfaces, G^2, on the back of the slide-valves G G^1, so as to unite the lifting mechanism with the valves and provide ample bearing in all positions of the latter, substantially as and for the purposes herein specified.

3. The arrangement of the toes H^1 in relation to their respective cams J' J', whereby, in case the governor ceases operation, said toes drop entirely off said cam and remain unaffected thereby.

4. The construction and arrangement in relation to each of the said toes and cams, whereby the latter are enabled, when the governor resumes operation and impels the sleeve endwise, to be thrust successively under their respective toes, substantially as hereinbefore described.

5. The hand-shaft K and its cams or eccentrics K', with suitable means for turning it, when arranged as represented, relatively to the lifting-rods H, the cut off valves G G^1, and connections H^2 G^2, so as to allow the cut-off valves to be held temporarily or permanently at will, independently of the cams J' J' and their connections, as specified.

110,944.—MACHINE FOR BOARDING LEATHER.—Urban R. Williams and William P. Martin, Salem, Mass.

Claim.—1. A machine for boarding leather, in which the stock is subjected to a continuous operation between two surfaces which move in opposite directions, substantially as set forth.

2. The movable apron-frame with its driving-gear G, arranged as described, so that it may be vibrated or oscillated around the axis of shaft of the driving-pinion F, for the purpose set forth.

110,945.—PRESSER AND STITCH-DIVIDER FOR SEWING-MACHINES.—Alfred S. Woodward, New York, N. Y.

Claim.—The presser D, having the concave recess G in the heel, and the adjustable stitch-divider H I, secured thereto, substantially as and for the purposes described and specified.

110,946.—APPARATUS AND PROCESS FOR GENERATING AND BURNING VAPOR FUEL.—Alfred J. Works, New York, N. Y., and Henry A. Daniels, Washington, D. C., assignors to the United States Vapor-Fuel Company, New York City.

Claim.—1. A method of and apparatus for refining and reducing hydrocarbon and olefiant liquids by forcing into and minutely diffusing therein, fig. 1, a current of hot air, by the aid of pressure from a boiler or by means of an ordinary blower.

2. An apparatus for and method of producing gas or other products, in a generator, from the above-described liquids, by means of a current of hot air driven and minutely discharged into the body of such liquid through the direct application of steam-power, substantially as and for the purposes herein shown and described.

3. A generator, constructed and arranged so that its contents may be raised and maintained at a very high temperature by means of steam-heat, in combination with single or double grate-bars, for using solid fuel, or a self-feeding vapor-burner, substantially as and for the purposes herein set forth.

4. The generator, constructed with a fire-box, connected and fed by a pipe communicating with its vapor-chamber.

5. The generator, constructed with a fire-box and duplicate grate-bars, for the purposes above described.

6. A steam-pipe, connecting with the main feed-pipe, so as to blow steam through and clean out the burners, promote combustion, as well also as to instantly extinguish the fire, by throwing into the combustion-chamber a surplus of steam.

7. The arrangement of refractive or incombustible material at or near the point of combustion, so that either or all of the aforesaid elements of combustion shall pass through the said material, in the manner and for the purposes herein described.

8. The combination and arrangement of the burner and refractive material with a furnace or with a fire-box.

9. A gas or vapor-purifier, fig. 3, either with or without means of heating the same.

10. A gas or vapor-purifier, in combination with superheating, decomposing, and refractive materials, fig. 4, as and for the purposes above described.

110,947. — PAPER-POLISHING MACHINE.—Abram Wright and George F. Wright, Clinton, Mass., assignors to themselves and John H. McNabb, same place.

Claim.—1. Three or more independent pieces of flint, *v v v*, or other suitable substance, used conjointly on the same piece of paper 4, for the purpose hereinbefore set forth.

2. The flint *v*, the imbedding substance 3, and the socket *u*, when used substantially as and for the purpose hereinbefore set forth.

3. The spring *w*, when used substantially as and for the purpose hereinbefore set forth.

REISSUES.

4,230. — DEVICE FOR BAKING BREAD.—Abram I. Quackenbush and Guilford Hawn, Fort Plain, N. Y.—Patent No. 99,109, dated January 25, 1870.

Claim.—1. The combination of the clamp, or its equivalent, with a cup, B, and pan A, substantially as described.

2. The construction of the pan A with lips *a*, adapted to receive flanges *b* on cups B, substantially as described.

3. The combination of the clamp C, or its equivalent, with the cup B, or its equivalent, and pan A, substantially as and for the purposes described and set forth.

4,231.—CULTIVATOR.—Benjamin Tinkham, Cameron, assignor to Hapgood & Co., Chicago, Ill.—Patent No. 30,897, dated December 11, 1860.

Claim.—1. The beams E, hinged or pivoted to the axle by a joint, substantially such as described, whereby the beams, with their shovels, have a free vertical and lateral movement, and still be held in an upright position, as herein set forth.

2. The rearwardly-projecting bars D, or their equivalents, for supporting the hinged beams above the ground, substantially as described.

3. The combination of the axle B, rigid tongue C, braces or bars D, and the hinged beams E, all arranged to operate substantially as and for the purpose herein set forth.

DESIGNS.

4,563.—TYPE. — Andrew Gilbert, Boston, Mass.

Claim.—The design of the said type, as described and shown.

4,564.—COAL-HOD.—Christian Linder, Nauffen, Würtemberg.

Claim.—The said design for a coal-hod body, as represented and described.

4,565.—SOLDIER'S MONUMENT.—Lewis A. Tifft, Springfield, Mass.

Claim.—The design for a soldier's monument, as shown.

4,566.—COMBINED PENCIL AND RECEPTACLE.—Horace J. Wickham, Manchester, Conn., assignor to Joseph Reckendorfer, New York City.

Claim.—The design for a combined pencil and receptacle-head, as shown.

TRADE-MARKS.

128. — PAINT. — Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.

129. — LIQUID CHEMICAL PAINT.—Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.

130.—CHEMICAL PAINT.—Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.

131.—AGRICULTURAL FORK.—Batcheller Manufacturing Company, New York, N. Y.

132.—CARPET. — Lowell Manufacturing Company, Lowell, Mass.

133.—STEAM-ENGINE.—Joel Sharp, Salem, Ohio.

134.—FRINGES, RIBBONS, AND TRIMMINGS OF SILK.—Silbermann, Heinemann & Co., New York, N. Y.

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PATENTS.

110,948, antedated December 31, 1870.—PADLOCK. — John H. Ames, Stamford, Conn.

Claim.—1. The spring-brace *d*, in combination with the tumbler and fence, constructed as described, and provided with projections *h y j*, for the purpose set forth.

2. A safety-padlock, consisting of the case A, circular, oscillating, and notched fence *b*, oscillating tumbler K, sliders *g g g g*, springs *e e e e*, and springs *d*, *k*, and *c*, hooked lever C, hasp B, in combination with the flat key D, bitted on its sides or end, constructed and arranged substantially in the manner and for the purposes herein set forth.

3. The combination of a circular, oscillating, and notched fence *b* and projection *y* with stop-spring *d*, flat key D, hooked lever C, and hasp B, substantially in the manner and for the purpose set forth.

110,949. — HARVESTER. — Thomas James Barnes, Corry, Pa.

Claim.—1. The laterally and vertically-pivoted cutter-bar lever E, combined as described, with two disks made fast to a loose sleeve upon the axle, and having intermediate cams J^1 J^2 and pieces J^3, for the purpose specified.

2. The subject-matter of first claim, combined as described, with cam L H and lever M, for the purpose specified.

110,950, antedated January 7, 1871.—RAILROAD-CAR VENTILATOR. — William C. Betts, Brooklyn, N. Y.

Claim.—1. The combination of a series of curved elastic plates B with the bottom plate A and top plate G, to form an adjustable ventilator, substantially as herein shown and described.

2. The pivoted perforated plates or valves F and stops f^1 f^2 in combination with the curved elastic plates B, substantially as herein shown and described, and for the purpose set forth.

3. The pivoted bars D, in combination with the free ends of the curved elastic plates B, substantially as herein shown and described, and for the purpose set forth.

4. The wire catch or connection-rod E, constructed substantially as herein shown and described, and for the purposes set forth.

5. An improved car-ventilator, formed by the combination of the base-plate A, top plate G, curved elastic plates B, pivoted perforated valve-plates F, stops f^1 f^2, adjusting-bars D, and catch or connecting-rod E, with each other, substantially as herein shown and described, and for the purpose set forth.

110,951.—BACK CENTER FOR MILLING-MACHINES.—Amos H. Brainard, Hyde Park, Mass.

Claim.—The combination of the bar *a*, nut and screw *g f*, slotted block *h*, frame *n i i*, and bolts *k l*, substantially as and for the purpose set forth.

110,952. — CLOTHES-DRIER. — Joseph L. Brigham, St. Paul, Minn.

Claim.—The described arrangement of frames A B C, cords H H, and hook I, substantially as and for the purpose set forth.

110,953.—DEVICE FOR DISCHARGING OIL FROM TANKS. — William J. Brundred, Oil City, Pa.

Claim.—The tubular castings B, K, and L, valve D, rod F, and collar N, constructed and arranged to operate substantially as and for the purposes herein shown and described.

110,954. — WOOD PAVEMENT. — William Bushnell, Elizabeth, N. J.

Claim.—A metallic dowel-pin for wooden pavements, made with pointed ends and a central shoulder, and applied to the blocks in the construction of pavement, as set forth.

110,955.—BELT-GRAKING.—James H. Butler, Hampden, Me.

Claim.—Conveying the power from a driving-drum to a pulley on an arbor, which may be at any incline, by means of a belt running over two loose pulleys arranged at an intermediate point and at such an incline as will correspond with the incline of the pulley on the arbor and driving-drum.

110,956. — FILE-CUTTING MACHINE.—Pehr Johan Carlsson, Andover, Mass.

Claim.—1. In combination with the sliding carriage A, the screw *l*, bevel-gears *p* and *r*, the latter bored out and screw-threaded so as to encompass and constitute the nut for the screw-shaft *l* and bearing *c* on the carriage *f*, as fully set forth.

2. The combination of the weight 28, forked rod 8, fulcrums 26 and 27, with the face-plate bar, for the purpose of holding the face-plate bar onto the file in a manner set forth.

3. The combination of the pointer 29, (attached to the screw *l*,) arm *w*, provided with an irregular groove, with carriage *f*, to which it is hinged, and the locking apparatus, consisting of the devices 42, 43, 44, and 45, substantially as and for the purpose set forth.

4. In combination with the frame *a*, hollow pillars *c*, and cross-bar *e*, the feeding mechanism, as made, with the shaft 3 worm 2, worm-wheel 1, shaft *s*, gears *t*, *u*, and *x*, and adjustable frame *y*.

5. The automatical chipper arrangement, consisting of the circular bar 46, index 36, and adjustable finger 35, in combination with the fork 29, frame 31, and friction-pulley 32, as fully set forth.

6. The projecting bracket 23, with its spring, attached to the face-plate bar, movable in the pertussed hammer, in a manner and for the purpose set forth.

110,957.—GATE-LATCH.—Calvin Cole, Dayton, Ohio, assignor to Moses Gilmor, same place.

Claim.—The catch C, serving also as a stop to the gate, the latch-bar D, provided with the triangular foot F and depending vertically from the gate, and the socket E, all constructed and operating as specified.

110,958.—PAPER BED-BOTTOM.—James B. Crane, Dalton, Mass.

Claim.—1. An improved bed-bottom, formed by passing paper in sheets or strips around a frame, A, when wet, and allowing it to shrink to its place as it dries, substantially as herein shown and described, and for the purpose set forth.

2. The application of paper to a foundation frame or bedstead, to form a bed-bottom, however said paper may be applied.

110,959.—PEN-CLEANER.—Samuel Darling, Providence, R. I.

Claim.—A pen-cleaner vessel, having a brush, D, set vertically within the vessel, and held to place between the top and bottom thereof by a spring, 3, and operating as described.

110,960, antedated January 14, 1871.—BIT-BRACE. — William Pendleton Dolan, Charlottesville, Va.

Claim.—1. The combination, with the crank of a brace, of the head A and arms B and C, constructed and operating as specified.

2. The combination, with the crank of a brace, of the jaws I K, sleeve H, shaft G, spindle *e*, ratchet-wheels E F, and pawls *f g*, in the manner and for the purpose described.

110,961.—CLAMP.—John J. Dominic, Gallupville, N. Y.

Claim.—The adjustable jaws B C, screw D, swivel E, and stock A' F, all combined as described, to form a tool for applying rubber to a thill-coupling for the prevention of rattling.

110,962. — STAMP-CANCELER. — Charles C. Egerton, Washington, D. C., assignor to Samuel E. Middleton and Daniel W. Middleton, Jr., same place.

Claim.—The combination of the plate A with its teeth *a a*, central opening *b*, and recesses *c c*, and the screw B with its spring wings *d d*, all substantially as and for the purposes herein set forth.

110,963.—ELECTRO-MAGNETIC WEIGHING-MACHINE.—Henry Fairbanks, St. Johnsbury, Vt.

Claim.—1. Combining, with a weighing-scale, electro-magnets, to control the motion of the sliding poise, substantially as described.

2. Using, as herein set forth, the motion of the beam or other moving part of the scale, to make electrical connection with one or two electro-magnets when the poise requires to be moved, and to break the same when, by such movement, the scale is balanced.

3. In an automatic weighing-machine, a double clutch, or its equivalent, controlled by armatures held within attracting distance of their magnets, as specified.

4. The movable piece c^2, and its holding spring or equivalent, carried upon the several register-wheels, in combination with the roller c^1, or its equivalent, whereby the piece c^2 is at one point in each revolution forced to engage with and move the higher wheel, as and for the purpose herein specified.

5. The mechanism n to n^{10}, for stopping the machinery when each load has been weighed.

6. The mechanism n^{11} to n^{13}, for withdrawing the stop when another load is to be weighed.

7. The within-described electro-magnetic weighing-machine, automatically determining the weights of varying loads by a poise moved by mechanism under electro-magnetic control, and indicating the same by figure-wheels, the whole being constructed and operating substantially as set forth.

110,964.—COMPRESSION-COCK FOR FLEXIBLE TUBES.—Henry Fairbanks, Boston, Mass.

Claim.—The compression-cock G, in combination with the flexible tube F, substantially as described, and for the purpose set forth.

110,965.—AUTOMATIC WEIGHING AND DISTRIBUTING-SCALES. — Henry Fairbanks, St. Johnsbury, Vt.

Claim.—1. The combination of two reversed

bent levers, c^2, c^3, and their connections, with a connecting-link and pendants c c^1, and with the scale-beam a and operating mechanism, for distributing or controlling the reception of material, as specified.

2. The combination of a weighing-scale with the shifting devices c^1, &c., to c^3, as set forth.

3. In combination with a distributing-scale, a device for automatically closing a valve or stop-cock, and thereby cutting off the supply stream when, in consequence of any derangement, the scale is overloaded, as herein described.

110,966.—Saw.—Walter Lafayette Gage, St. Louis, Mo.

Claim.—The tooth, having end lugs b, inclines b', and rectangular base C, in combination with a corresponding recessed saw plate A, substantially as and for the purpose set forth.

110,967, antedated January 7, 1871.—Portable Camp-Grate.—Lorenzo D. Gavitt, Los Angeles, Cal.

Claim.—The folding legs c and hook-brace b, and the mode of securing the movable bars, and their application to the use and purpose herein set forth.

110,968.—Churn.—Alden Gifford and Zenas A. Gifford, Somerset, N. Y.

Claim.—1. The combination, in a churn, of a double-armed socket-frame, E J K, dashers C C D, and handle or lever F, operating substantially as shown and described.

2. The dashers C C, provided with key-hole slots H H, and suspended from the pivot-bolts G G, in the manner shown and described.

110,969. — Harness-Saddle. — Algernon Gilliam, Pittsburg, Pa.

Claim.—1. The removable flanged backing or cantle for harness-saddles, constructed and arranged in the manner and for the purpose herein described.

2. The combination of the saddle-seat B with its lug A, formed upon the same, backing or cantle E, and screw C, in the manner and for the purpose herein described.

110,970.—Mechanism for Opening and Closing Telegraphic Station-Circuits.—Elisha Gray, Chicago, Ill.

Claim.—1. The springs L and L′, arranged to operate substantially as and for the purpose specified.

2. The combination of plates A and A′, ground-plate E, plates J and J′, springs L and L′, the several parts arranged to operate together substantially as and for the purpose set forth.

110,971. — Endless-Wire Rope-Way. — Andrew Smith Hallidie, San Francisco, Cal.

Claim.—1. The method herein described of attaching the suspension-rods to the rope by means of a hanger proceeding or projecting horizontally from the upper and outer quarter of the rope in a manner substantially as hereinbefore described, and for the purpose hereinbefore set forth.

2. The hanger E, substantially as and for the purposes set forth.

3. The hanger E, in combination with the rods J and frame T, having the joints L M N or their equivalents, substantially as described, and for the purposes set forth.

4. The dump-car S, constructed and operated substantially as described, in combination with the rods J and hanger E, substantially as and for the purposes set forth.

110,972. — Machine for Mixing and Bleaching Sugars.—Melancthon Hanford, Lexington, Mass.

Claim.—1. In a machine or apparatus so arranged as to constitute a whole, devices for mixing and for bleaching sugar, for purposes stated.

2. A machine for mixing sugar, consisting of a drum, and a series of rods or mixers disposed therein, and supported and operated as explained.

3. A machine for mixing and for bleaching sugar, consisting of a series of rods revolving within a drum, and air-inlet and escape-pipes combined with the latter, whereby air is, by the centrifugal force of the revolving rods, drawn into and discharged from the drum, as stated.

110,973.—Animal-Trap.—George L. Hart, New Britain, Conn.

Claim.—The combination of the block a, spring c, choker d, and bait-hook e, the whole constructed and arranged substantially as and for the purpose set forth.

110,974.—Wedge for Splitting Wood.—Albert Houser, Ellington, Conn.

Claim.—A wedge of solid metal up to the extent of its taper, and from thence wood, protected on its wearing sides with metal, substantially as and for the purposes herein described and set forth in the foregoing specification.

110,975.—Stair-Rod Fastening.—Robert Hutchison, Newark, N. J., assignor to William B. Gould, same place.

Claim.—1. A spring finger attached to the metallic stair-rod loop, and acting against the end of the rod to retain the same in place, but to yield when the rod is moved endwise and allow the rod to slip past the finger for its removal, substantially as set forth.

2. The spring e, attached at the back of the loop c, and made with an opening that allows the screw to pass freely, and with fingers that are bent up to take the end of the stair-rod, substantially as set forth.

3. The open loop b for a stair-rod, made with the projecting studs 3 and stop-pin h, substantially as and for the purposes set forth.

110,976, antedated January 7, 1871.—Pump.—Edward T. Jenkins, Brooklyn, N. Y.

Claim.—1. A pneumatic pump, applicable to the discharge of liquids from close vessels, having a chamber, which serves as the cylinder of the condensing pump while affording a passage to the discharge-pipe through which the liquids escape from the vessel, said parts being constructed and arranged as described and shown.

2. The combination, with the chamber A, of the valves B and E, connection C, lever D, and telescopic discharge-pipe H, when the same shall be constructed and operate substantially as and for the purpose set forth.

3. In combination with the second clause of claim, the valve J^2 and spindle K, substantially as and for the purposes set forth.

110,977.—Attaching Door-Knobs to their Spindles. — James N. Karr, Buffalo, N. Y.

Claim.—The sleeve G, when provided with a flange, g, and arranged so as to operate with the rosette F, shank E, and screw-hole m, substantially in the manner and and for the purposes hereinbefore set forth.

110,978.—Fountain Paint-Brush.—Daniel J. Kellogg, Toledo, Ohio.

Claim.—1. The combination of the handle A, screw-cap B, reservoir C, brush D, spring F, and cap G, with each other, whether the conductor E be used or not, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lamp-wick E, or equivalent conductor, with the brush D, spring F, reservoir C, cap B, handle A, and cap G, substantially as herein shown and described, and for the purpose set forth.

…73, antedated January 5, 1871.—…ufacture of Eyelet-Blanks.—…illiam R. Landfear, Hartford, Conn.

…im.—1. The process, substantially as herein …ified, of making connected series in ribbons …let-blanks, that is to say, the order of and the …l successive operations on the ribbon or strip …t of the several sets of punches acting in …ction with corresponding sets of the several …s of dies or molds in the surface of the roll, …eries first operated with being on a portion of …t that is of greater diameter than the re…ing portion, in order that greater speed of …n rotation may be imparted to said series, to …ovate for the draw of the metal, substantial…specified.

…The combination of the latch E with the in…ittently-revolving mold-roll B, stripper g, and …ecating punches d, substantially as described.

…980.—Mode of Forming Balls of …ine and Cord.—Hamilton B. Law…n, Cropseyville, N. Y.

…im.—The herein-described mode of forming a …l of twine, wicking, cord, &c., having a spher…interior and an exterior shell of prolate layers, …isting an oblate spheroid, as shown and de…ed, and for the purpose set forth.

…981.—Machine for Molding Chair-…ottoms.—John Lemman, Cincinnati, …Ohio.

…im.—In combination with the reciprocating …orm F F, carrying a fixed pattern, H, and the …A to be cut, the swinging-yoke C a b, when …ranged to swivel upon a single spindle, B, and …ed across the reciprocating form and work, as …d for the purpose set forth.

…982.—Siding-Gauge.—William E. Low…n, Princeton, Iowa.

…im.—An improved siding-gauge, formed by …combination of the stock A, strap or handle, …d stop B b', adjustable-rest C, pointed screw F, …spring H, and spring I, with each other, said …rts being constructed and operating substantial…as herein shown and described, and for the pur…e set forth.

…983.—Machine for Manufacturing …Hinges.—William F. Lewis, Waterbury, …Conn., assignor to Benedict & Burnham …Manufacturing Company, same place.

…Claim.—The combination, with the base A, of …adjustable hopper, D, sliding plate G, sliding …e B, provided with a hammer, H, grooved …k C, and springs L and N, and arm K, when …same shall be constructed and operate substan…ly as and for the purposes set forth.

…984.—Burial-Case.—Ivory Lorde, Mo…ine, Ill.

…Claim.—The deck-top for burial-case, which is …osed by the combination of A, B, C, D, E, and …, in the manner above described.

…985.—Door-Check.—Horatio Nelson …Hicks Lugrin, Chelsea, Mass.

…Claim.—The door-fastener as composed of the …tated base-plate A and lever B, the spring C, …d the lever-catch D with or without the spring f, …anged and combined substantially in manner …d to operate as and for the purpose as hereinbe…re described.

…986.—Cutlery. — Myron W. Lyman, …Chicago, Ill.

…Claim. —In combination with a slotted handle, …e or more blades having a transverse groove, H, …spring I, plate G, and operating-screw F, sub…ntially as described, for the purpose specified.

110,987, antedated January 14, 1871.—Shoemakers' Tool.—Myron W. Lyman and Franklin C. Wyman, Chicago, Ill.

Claim.—The fore-part or edge-irons, when the adjustable and reversible cap is formed with a shank-iron, L, in addition to the guard G, and shoulder M, as herein shown and described.

110,988, antedated January 9, 1871.—Cotton-Scraper and Harrow.—John M. P. Lyon, Bellefonte, Ala.

Claim.—The scraper E, in combination with a cotton-harrow, constructed and operated as described, for the purpose hereinbefore specified.

110,989.—Earth-Closet.—Patrick Malone, New Orleans, La., assignor to himself and Charles C. Landry, same place.

Claim.—The combination of the curved strips D and the metallic gate I with the platform G, the links F, and cover E, when these parts are constructed, arranged, and operated substantially as described for the purpose set forth.

110,990, antedated January 8, 1871.—Producing Refined Cast-Iron, Steel, and Malleable Iron.—John W. Middleton, Philadelphia, Pa.

Claim.—1. An apparatus for opening and closing a series of tuyere-pipes connected with a puddling, boiling, or refinery furnace, when the said apparatus is constructed to operate substantially as and for the purpose hereinbefore set forth.

2. The employment of a floating metallic indicator, E, constructed substantially as and for the purpose hereinbefore set forth.

3. The employment of a disk of porous burnt brick-clay, secured on the bottom of a deep vessel containing melted iron, the said disk being saturated either with water, hydrocarbons, acid, or alkaline solutions, substantially as and for the purpose hereinbefore described and set forth.

4. The employment of a small torpedo, G, in the bottom of the insulated vessel containing melted iron or steel, in combination with the electric wires g' g'', and arranged to explode the said torpedo by an electric spark, substantially as and for the purpose specified.

110,991.—Lunch-Box.—David Miller, Allegheny City, Pa.

Claim.—The hereinbefore-described lunch-box, provided with hinged partitions k k, as and for the purpose set forth.

110,992. — Attaching Knobs to their Spindles.—Charles Morrill, New York, N. Y., assignor to George H. Bidwell, same place.

Claim.—1. The combination, with the spindle B, screw-heads E D, check-screw F, knobs C C′, and lock, of the sleeves G G′, constructed, arranged, and operating substantially as and for the purposes herein specified.

2. The spindle B, provided with a screw-thread, e, in combination with the screw-head E and check-screw F, substantially as and for the purposes herein specified.

110,993.—Hoisting Apparatus.—Charles R. Otis and Norton P. Otis, Yonkers, N. Y.

Claim.—The arrangement, essentially as described, of the hoisting-rope G, the safety-rope M, and the take-up rope N, the first connecting the platform, car, or cab with the hoisting-drum, the second connecting the safety-drum with the safety-stops, and the third connecting the safety-drum with the hoisting-drum, for operation in relation to each other as specified.

110,994. — MATERIAL CALLED "OLE-IERINE," FOR DYEING AND PRINTING.—Alfred Paraf, New York, N. Y., assignor to Edward Sabino Renwick, trustee, same place.

Claim.—The new article of manufacture denominated ole-ierine, and herein before described.

110,995.—PROCESS OF EXTRACTING THE COLORING-MATTER OF MADDER.—Alfred Paraf, New York, N. Y., assignor to Edward Sabino Renwick, trustee, same place.

Claim.—The improved process of extracting the coloring-matter of madder by means of a liquid hydrocarbon, substantially as before set forth.

110,996. — TREE-PROTECTOR. — Caroline Parks, Milan, Ohio.

Claim.—The herein-described tree-protector, having the base formed of some flexible material, and covered internally with the compound herein described, after having been placed around the tree in the manner substantially as set forth.

110,997.—APPARATUS FOR DISTILLING AND CONCENTRATING LIQUIDS.—C. Chauncy Parsons, New York, N. Y.

Claim.—1. The process, herein described, of concentrating liquids or separating liquids having different boiling-points, by passing the distilled vaper or the liquid to be concentrated, or both, through a column of porous material, such as porous stone, brick, or equivalent substance, substantially in the manner and for the purposes set forth.

2. In apparatus for distilling liquids or for separating liquids having different boiling-points, the employment of a column containing a porous material, substantially such as specified, through which the distilled vaper or the liquid to be concentrated is caused to pass.

3. The combination of the column, constructed as herein described, and the still, substantially as shown and set forth.

4. The column, constructed as described, in combination with the condensing-worm G, or other apparatus for condensing the vapor passing out from the column, substantially as set forth.

110,998.—APPARATUS FOR EXTRACTING ESSENTIAL OILS.—George Gilman Percival, Waterville, Me., assignor to Isabel B. Percival, same place.

Claim.—The combination of the heater D, or its equivalent, with a still for extracting essential oils from solids or liquids, substantially as and for the purpose hereinbefore described.

110,999. — OIL-PAINT FOR COATING OIL-CLOTH.—Thomas Potter, Philadelphia, Pa.

Claim.—The above-described composition of matter, made of the ingredients and in the manner specified.

111,000, antedated January 5, 1871.—MACHINE FOR MIXING CONCRETE, &c.—Silas Putnam and Thomas Burt, Rockville, Conn.

Claim.—1. The combination of the plows, knives, and scrapers *a b c*, operating inside the tub G by means of arms E, and shaft D protected by tube F, the discharge K, the gate L, and the lever and rod O, substantially as and for the purpose hereinbefore set forth.

2. The combination of the revolving table M, attached to and operated by the shaft C, and the scraper N, substantially as and for the purpose hereinbefore set forth.

3. The combination of the plows, knives, and scrapers *a b c*, the tub G, arms E, shaft D, tube F, discharge K, gate L, lever and rod O, operating in connection with the revolving table M, shaft C, and scraper N, by means of the gear-wheels H I, substantially as and for the purpose herein before set forth.

111,001, antedated January 7, 1871.—FILTER.—Louis Raecke, New York, N. Y.

Claim.—1. In a filter, a sieve constructed with flange, so placed on its surface as to leave a space between the said flange and the walls of the filtering-vessel.

2. Packing the space between the flange *b* and the walls of the cylinder so closely with the filtering material as to prevent the fluid from passing down the said walls and out the sieve in an impure state.

3. A filter, constructed and arranged as herein before described, viz., having two sieves, with filtering material of wool, cotton, felt, or other fibrous material between the same, and the lower sieve having on it a flange, *b*, all combined with the vessels *c* and *c*, all as and for the purposes described.

111,002.—LET-OFF MECHANISM FOR LOOMS.—Horatio A. Remington, Anthony, R. I.

Claim.—The combination of the stud-wheel *a*, the centrally-located pad *a* on the arm of the vibrator, operating inside the circle of teeth of the stud-wheel, all constructed and operating substantially as herein set forth, and for the purpose specified.

111,003.—BURGLAR-ALARM.—William Reynolds, Manchester, N. H.

Claim.—The combination of the supporting-post E, detachable rod F, and hammer-arm A, when said hammer-arm rests directly upon the rod F, all constructed and operated substantially as shown and described.

111,004.—MACHINE FOR BURRING WOOL, &c. — William Richardson, Oldham, Great Britain.

Claim.—1. The fine-comb cylinders A and A' with their respective sets of rollers and brushes *n o* and *l' n' o'*, rollers *w* and *w'*, and casing *p*, arranged substantially as herein shown and described.

2. The combination of the grid, the rising and falling and traversing spikes, with the comb-cylinder A' and the rollers *l' n'* and brush *o'*, substantially as specified.

111,005.—LOCK FOR DOORS, &c.—Benjamin F. Roberts, Lacona, Iowa.

Claim.—1. The pivoted bars or bolts A A, staples *a a' a'*, springs *a' a'*, vertically and laterally sliding connecting-rod B *b'*, staples *b b*, and pivoted transverse bar C, constructed and arranged to operate substantially as shown, and for the purpose specified.

2. In combination with the above-enumerated parts, the circular plate D and crank or key E, substantially as shown and described.

111,006. — JOINT FOR RAILWAY-RAILS.—William W. Robinson, Ripon, Wis.

Claim.—1. A rail-splice, consisting of the block C in the recesses of the rails, of fish-bars and bolts, when the bolts pass through enlarged openings at the ends of the block C, as set forth.

2. In combination with the recessed rails, the block C, grooved fish-plate D, and the bolts E, substantially as described, for the purpose specified.

111,007.—OPEN LINK FOR COUPLING DOUBLE AND WHIFFLETREES.—Newton C. Sample, Penningtonville, Pa.

Claim.—An open-link, A, with its extremities *a* turned out on both sides, in the manner shown and for the purpose specified.

111,008. — CASE FOR ODOMETERS.—Jacob D. Seipel and Cyrus B. Alsover, Easton, Pa.

Claim.—1. In an odometer, the shell, composed

parts C C', hinged and secured to each other and to the axle by the clamp-screw D, substantially as set forth.

2. The combination of the hinged lid E, stationary E', wrench D', nut D, and lock F, substantially as and for the purpose set forth.

111,009.—FRUIT-PICKER.—Walter L. Shaw, Erie, Pa.

Claim.—1. A fruit-picker, consisting of two parallel guiding-rods *a a*, slides *b b*, each carrying a bag, or basket, and connected together by cords which pass over pulleys *c*, arranged and operated substantially as described.

2. The slides *b*, each in combination with a cord *d'*, friction-roller *g*, and pole *a*, arranged substantially as set forth.

3. The devices of the first claim in combination with the clips *i*, substantially as described.

4. In combination with a basket or pouch-frame, the bag *d'*, a knife-edge arranged in a V in the frame, substantially as described.

111,010.—IRON VIADUCT.—C. Shaler Smith, Baltimore, Md., assignor to the Baltimore Bridge Company, same place.

Claim.—An all-iron trestle formed of fixed piers composed of any number of panels of trestle, as described, alternating with spans of truss, each having one or both ends loose, to permit of expansion and contraction, substantially as and for the purpose set forth.

111,011.—CLOTHES-DRIER.—Horace Swan, Woodstock, Vt.

Claim.—The combination of the two light adjustable frames, which are composed of side slats *a* and *c c*, and connecting-rods *i i i i'* and *j j j j'*, substantially as described, with each other and with the uprights *a a*, substantially as and for the purpose herein set forth.

111,012. — CUSTARD AND CAKE-BAKER.—Charles L. Sweatt and George A. Hunteen, Fishersville, N. H.

Claim.—As a new article of manufacture, a custard and cake-baker, consisting of the stand *a*, having the stem *b*, the annular rim *c*, provided with the rings *f* and the handle *g*, all arranged and operating in the manner set forth.

111,013.—MACHINE FOR MAKING SPIKES.—James H. Swett, Pittsburg, Pa.

Claim.—1. In combination with the pointing and heading-dies and nippers, the feeding-jaws U and mechanism to impart to said jaws the reciprocating and lateral movements described so as to feed and hold the spike-rod or blank, substantially as described.

2. The combination of the wedge-shaped and toothed pieces *k* and mechanism for reciprocating the same, with the feeding-jaws U and pointing-dies, substantially as described.

3. The combination of the nippers *n*, sectional slides *q q'*, adjustable slides *p*, and reciprocating connecting-rods *t*, substantially as described.

4. As an improvement on nippers for spike and nail-machines, the points or spurs *u u* on the faces of the jaws and in rear of the nipping-surfaces, as and for the purpose described.

111,014.—MACHINE FOR SLITTING, BEVELING, AND BENDING METAL-TUBE SKELPS. Stephen P. M. Tasker, Philadelphia, Pa.

Claim.—1. The combination of the milled-head cutters J J' J' with feed-rolls F F and lower guides D', arranged and operating substantially as and for the purpose above described.

2. The combination and arrangement of the milled-head cutters J J' J' with the feed-rolls F F, guides D', and bending-rolls K K', substantially in the manner and for the purpose set forth.

3. Jointly, the construction of the roll L' with the curve *f*, tongue *g*, and groove *h*, and the combination thereof with the roll L, as described.

4. Jointly, the construction of the roll L' with the curve *f*, tongue *g*, groove *h*, and flanges *e*, and the combination thereof with the roll L, as described.

5. The combination of the rolls L L' with the rolls K K' by means of a suitable gearing, as and for the purpose set forth.

6. The combination of the rolls O O' with the rolls L L', for finishing the bending operation, substantially in the manner described.

7. The combination and arrangement of the three pairs of rolls, K K', L L', and O O', for bending a flat skelp into the form represented in figs. 9, 10, and 11, as above set forth.

8. The combination of the guiding-mouth D and guides D D', the feed-rolls F F, and the milled-head cutters J J' J', with the three pairs of bending-rolls, substantially in the manner and for the purpose above described.

111,015.—MACHINE FOR SLITTING, BEVELING, AND BENDING METAL-TUBE SKELPS. Stephen P. M. Tasker, Philadelphia, Pa.

Claim.—1. The adjustable beveled cutters J J' J', in combination with the guide-plates D' D' and feed-rolls F F, or their equivalent, substantially as described.

2. The combination and arrangement of the feed-rolls F F, guides D' D', beveled cutters J J' J', and bending-rolls K K', for slitting, beveling, and bending the skelps at one operation, substantially as described.

111,016. — MACHINE FOR SLITTING AND BENDING METAL-TUBE SKELPS.—Stephen P. M. Tasker, Philadelphia, Pa.

Claim.—The combination of the series of pairs of cutting-disks with the combination of guides, feed-rolls, and skelp-bending rolls, substantially as described.

111,017.—MACHINE FOR BENDING METAL-TUBE SKELPS.—Stephen P. M. Tasker, Philadelphia, Pa.

Claim.—The construction of one or more of the bending-rolls with flanges *e*, and combining said roll or rolls with the other parts of the machine in such manner that said flanges shall overlap the contiguous rolls, substantially as represented, so as to guide the sheet of metal as it passes through the machine, as above set forth.

111,018.—FAUCET FOR BEER OR OTHER BARRELS.—Samuel Thompson, Schaghticoke, N. Y.

Claim.—The combination of the sleeve or clamp D with its screw *e*, the coupling C, and the faucet A, having its outlet *b* arranged in relation with its bore, substantially as specified.

111,019.—WATER-WHEEL.—Jacob W. Truax, Essex Junction, Vt.

Claim.—1. The relative construction and arrangement, with respect to each other, of the flanged stationary cylinder A B and the flanged cap H I, as shown and described.

2. The arrangement of orificed, chuted, flanged, and chambered cap H I J and annular gate K with respect to wheel D, as and for the purpose specified.

111,020.—WINDOW FOR STOVES.—Henry B. Van Benthuysen, Lock Haven, Pa.

Claim.—1. The conical points C C, attached to or forming part of a mica frame, for holding the mica in place, or their equivalent, substantially as set forth.

2. The air-space or chamber D, for the passage of air around the edge of the mica, substantially as described.

3. The deflection-plate E, attached to or cast solid with the casing or frame, substantially as and for the purpose described.

4. The perforations or air-passages F F, or equiv-

ments, and the same in combination with the air-chamber D, substantially as and for the purposes herein before described.

5. A mica frame, (door or window,) constructed substantially as shown in figs. 1 and 2, in combination with deflection-plate B^2, air-passages F F, and air-chamber D, as and for the purposes described.

6. A mica frame, (door or window,) constructed substantially as shown in figs. 3 and 4, in combination with deflection-plate B^2 and air-chamber D, as and for the purposes set forth.

111,021.—Wagon-Box and Wagon-Rack Lifter.—Izaak Van Kersen, Kalamazoo, Mich.

Claim.—The frame C C, provided with pulleys D D, clamps G G, and pawl F, in combination with windlass H, drops E E, and cross-beams F and J, all combined, arranged, and constructed as and for the purposes set forth.

111,022.—Shank-Piece for Boots and Shoes.—Jeremiah M. Watson, Sharon, Mass.

Claim.—The elastic wooden shank-piece, as composed of the centralizer and vamp-space filling-piece *b*, and the series of body-leaves *a*, all arranged as set forth, and fastened together at or near their rear ends, only as described.

111,023.—Cotton-Cropper.—Dwight F. Welsh, Nevada, Ohio.

Claim.—1. The shaft E, carrying the choppers or hoes H H, constructed in two parts, and connecting or hinging them, the said parts, together by means of a universal joint, arranged and operating substantially as and for the purpose described.

2. The vertical rod F, supplied with a loop at its lower extremity embracing the shaft E, and a spring, *f*, at its upper end, in combination with the projecting bar or support G fastened to beam D, all arranged and operating substantially as and for the purpose set forth.

3. The handles I I, secured in place on the shaft E by means of the metal plate i^1, clips or ferrules i^2 i^3, and shoulder and nut i^3, arranged to operate in the manner and for the purpose specified.

111,024.—Pruning-Hatchet.—Jerison White, Providence, Pa.

Claim.—The construction of a "pruning-hatchet," consisting of the concaved edges 2, 4, and 5, with the convex edge 3, and the shank and socket C, constructed as described.

111,025.—Rock-Drill.—George L. Williams, of Mine La Motte, Missouri, assignor to himself, Radcliffe B. Lockwood, and William A. Scott, same place.

Claim.—1. The shoulder B on the core-lifter A′, and the socket C secured to the core-lifter A′ by any number of pins *c*, in combination with the annular cutter A, substantially as set forth.

2. The socket C, having slots C^1 and C^2 to rotate in accordance with the movements of the drill, and, by means of pins c^1 c^2, operate a pawl, D, within the core A′, said parts, in conjunction with each other, forming a core-lifter that shall operate substantially as and for the purpose set forth.

111,026.—Rotary-Pump.—Irvin Williams, Baldwinsville, N. Y.

Claim.—1. The wheel A B, with inwardly-curved back plate and curved buckets *a*, and the casing C F, having division *c*, pipe *m*, the curved plate C′, with bearing *c′* and stuffing-box *r*, and the inner bearing P *p p*, and shaft *b*, all constructed, arranged, and operating substantially as herein described.

2. In connection with the pump G *g′* and check-valves A *i*, the tripping-lever *k*, arranged and operating with relation to the pump A C, substantially as specified.

3. The herein-described rotary-pump, composed of the wheel A B *a b*, casing C *c*, curved removable back plate C′ *c′*, the shaft D *d*, stuffing-box *r*, induction and eduction-pipes E F, air-pipe *m*, the valve-chamber H, bearing P *p*, the hand-pump G *g′ n*, tripping-lever *k*, and valves *h i*, all constructed, arranged, and operating substantially as herein described.

111,027.—Hot-Air Furnace.—Charles A[illegible]len, Hartford, Conn.

Claim.—The chamber *c*, arranged between the fire-pot *b* and the shell *a′*, in combination with the induction-tubes *d* and heating-tubes *d′*, and draught-passages *i*, each side of the feed-hopper, as shown and set forth.

111,028.—Reversible Knob-Latch.—William H. Andrews, New Haven, Conn., assignor to Burton Mallory, same place.

Claim.—In knob-latches, the case A and plate B, each provided with the flange *b* around the lower-opening and ribs E, combined with the lower D and bolt C, constructed as described, and arranged to operate substantially in the manner set forth.

111,029.—Shingle-Machine.—Holiday C[illegible] Babcock, Eureka, California.

Claim.—1. The riving machinery, consisting of the frame O, platform P, pins R, and guide-piece Q, in combination with the river M having spring-catches S, constructed and operating substantially as described, for the purpose set forth.

2. In combination with said riving machinery, constructed and arranged as described, the platform J, having the guide-bar T, spring S, and projections V, as described.

3. The shingle-machine, constructed specifically as described, with its frame, platform, knives, guides, and operating mechanism, when arranged as described, for the purpose set forth.

111,030.—Hydro-Atmospheric Elevator.—Cyrus W. Baldwin, Boston, Mass.

Claim.—1. The construction of the stand pipe of a well herein explained, the same consisting of two upright hollow cylinders of sheet metal, of different diameters, arranged one within the other, the space intervening between them being filled with a suitable cement or composition, whereby a tight joint and stiffness of structure are insured, substantially as set forth.

2. In combination with the poising-plunger of a bucket of the elevator, an air-pipe, or its equivalent, which opens and regulates communication between the interior of the well or cylinder in which such plunger plays, and the atmosphere above such plunger, for purposes stated.

3. The combination, with the carriage of an elevator, of a well or cylinder and a poising-plunger or bucket playing therein, and connected to the carriage, and operating in conjunction with two water-tanks, the arrangement of the carriage, cylinder, and plunger being as and for purposes stated.

4. In combination with the poising-plunger of a bucket, and the carriage of an elevator of the class upon which these improvements are based, a suitable brake or stopping mechanism for arresting motion of said carriage, for purposes set forth.

5. The combination, with the elevator-carriage of the shaft *z*, disks or drum *c*, pulleys d^1 d^2, cords b^1 b^2, or their equivalents, and the friction-bar and bent lever *d′*, the whole operating as shown and described.

6. In combination with the well D and plunger G, the pipe *g′*, or its equivalent, for preventing access of air to the lower end of the plunger except at such times and in such quantities as shall be admitted by the operator by means of the air-pipe or its equivalent.

111,031.—Fire-Bar.—William Batchelo[illegible] Winchester, England, assignor to Edwi[illegible] Russ and Thomas Shewell Morris, same place.

Claim.—1. The bearing-bars *b*, with notched u[illegible]

[illegible] edges, upon which the under side of the fire-[illegible] a rest, as and for the purpose set forth.

2. The elongated openings *c* and keys *d*, combined with the bars *a*, bearers *b*, and projections upon the said bars *a*, as and for the purposes set forth.

111,032.—Water or Steam-Valve.—Robert Berryman, Hartford, Conn., assignor to the Berryman Regulator and Alarm Company, same place.

Claim.—The hollow conical valve A, having ports B and B′, substantially as and for the purposes specified.

111,033.—Plow.—Hiram R. Bowen and Lorenzo D. Robnett, New Washington, Ind.

Claim.—The subsoil-plow herein described, composed of the beam, handles, and standard, as shown, and twisted, sharpened upright A, with flange A′, concave-convex shovel B, and sole or shoe C, all constructed and arranged, relatively to one another, as set forth.

111,034.—Cotton-Seed Huller.—Horace C. Bradford, Providence, R. I., assignor to himself, and H. N. Fenner, same place.

Claim.—The improved cotton-seed huller herein described, consisting of the corrugated cylinder C and the series of yielding beds D, each of which is mounted upon adjustable springs *a*, and provided with a concave and tangential face, forming, when arranged as shown, the alternate spaces *d*, the whole constructed and operating substantially as described.

111,035.—Feed-Cutter.—Joseph H. Bradley, Hillsborough, Ohio, assignor to himself and Charles S. Bell, same place.

Claim.—The lever *i*, provided at one end with the slot *m*, and connected at that end with the disk *l* which is furnished with a pin, *k*, that passes through the slot *m*, the lever *i* being connected at different points with the two bell-cranks *f r*, and combined thereby with the separate pawls *d e* and sockets *b c*, all these parts being arranged to operate substantially as described.

111,036.—Steam-Boiler.—Adolph Brase and Lemuel Salladay, Sciotoville, Ohio.

Claim.—1. In combination with a steam-boiler, the perforated tube B, scrapers J, chamber D, and pipe E, when the same are arranged to operate substantially as and for the purposes described.

2. In combination with a steam-boiler, a movable tube, having scrapers thereon, from which the feed-water is distributed, and from which the mud and sediment are blown off, substantially as described.

111,037.—Cultivator.—George Walter Brenson, Ottawa, Ill.

Claim.—1. The slide-bars H H, in combination with the boxes I I, the stems J J, the chains P P, and the plow-beams K K, substantially as and for the purpose described.

2. The sliding braces R R, in combination with the plow-handles L L and the plow-beams K K, substantially as described.

111,038.—Stamp-Canceler.—Franklin W. Brooks, New York, N. Y.

Claim.—A device for securing revenue or other stamps or seals, consisting of two plates, adapted to firmly hold a stamp between them, and to tear and deface it by a sliding movement of one plate over the other in any direction, the said plates being held together by spring-catches, which will be released by such sliding movement.

111,039.—Boots and Shoes.—Franklin J. Barcham, Racine, Wis.

Claim.—1. The method of constructing the lower portion of a boot or shoe in a single piece A, by slitting the rear end of the piece and lapping the flaps, substantially as herein shown and described.

2. The part A, when constructed substantially as shown and described.

3. The counter of a boot or shoe, when strengthened by the overlapping flaps, substantially as and for the purpose specified.

4. The method of arching a shoe or boot-sole, at D, by cutting the leather at the counter and drawing the flaps together, substantially as shown and described.

111,040.—Fluid-Meter.—Leopold F. Buschmann, New York, N. Y.

Claim.—The arrangement of a stationary disk, D, perforated with oblique contracted channels *a*, and fitting closely into the jacket C, over the bucket-wheel A, mounted on a vertical spindle, B, the extension of which carries a worm-screw to transmit the motion of the bucket-wheel A to the registering apparatus, all as herein shown and described.

111,041.—Hay-Tedder.—William H. Butterworth, Trenton, N. J.

Claim.—1. The connecting-rods *f*, having one end pivoted to the cranks *g* and the other end pivoted to the ring I, when arranged substantially as described, so that each rod will alternately come in rigid contact with said ring, or suitable projections on the same, while the reel is revolving, for the purpose of imparting a continuous rotary motion to said ring, substantially as set forth.

2. In combination with the above, the oscillating fork-rod M and its crank *g*, arranged and operating substantially as and for the purposes set forth.

3. The fork-holders N and their clamps O, provided with jaws *h h*, clamping-bolt *k*, and washer *l*, in combination with the coil-support *s*, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination, with the driving-wheel E, of the driving-gear F, having the arms *b b* provided with concentric slots, whereby the gear may be readily attached to wheels having spokes unequally placed, and allow the bolts to pass through the center of the spokes, substantially as described.

5. The combination, with the frame of the machine, of the axle-plates G G, constructed as described, and provided with cars *a a*, substantially as and for the purposes herein set forth.

6. The combination, with the frame of the machine and the shafts or thills P, of the curved metallic standards R, ribs *m*, and clips *n*, substantially as and for the purposes herein set forth.

7. The device for raising and lowering the tedder, consisting of the slotted and perforated casting *r* and the lever S, having its lower end pivoted to the cross-bar of the shafts, and provided with a stud or bolt, and the spring-catch *t*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

111,042.—Thrashing-Machine.—Henry Russell Canine, Waveland, Ind.

Claim.—1. The vibrator I, constructed as described, composed of wooden frame 1, serrated longitudinal ribs 2, sheet-metal bottom 4, riddle 5, placed over the fan-shoe, and pivoted straw-rake 6, arranged and operated substantially as shown and described, for the purpose specified.

2. The fan-shoe *u*, as described, consisting of wooden sides 7, inclined sheet-metal bottom 8, transverse wooden suspension bar 9, and sheet-metal edge guards 10, and suspended and guided in its movements by straps *u′ u″*, all constructed and arranged for operation as described, for the purposes set forth.

3. The swinging double-discharge grain-chute *v*, reversible without being detached, and constructed and operated substantially as shown and described.

4. The combination, with the vibrator I and swinging fan-shoe *u*, of connecting-rods 20 20 and interposed vertical rock-shaft 21, as and for the purpose set forth.

5. In combination with the grain-chute *v*, rock-shaft 21, and rock-lever 23, the connecting-rods 22, when provided with adjusting perforations, as shown, by the use of one or other of which said grain-chute may be reversed, as set forth.

6. The combination, with the tailings delivering-chute *w'*, of the brackets 16 16, slide 17, guide 18, crank-shaft 24, and pitman 25, as and for the purpose stated.

7. The combination, in belt-tighteners *s s'*, for threshing-machines, of spring hand-levers 26, bearing-pulleys 27, and holding-racks 28, constructed and arranged as herein represented and described.

111,043.—Hay and Cotton-Press.—Nathan Chapman, Hopedale, Mass.

Claim.—1. In combination with the traversing block *d*, the radial links *c*, the links *e*, and pawl *f*, for turning the ratchet and sprocket-wheels, substantially as described.

2. I do not claim a lever with its fulcrum on the ratchet-wheel shaft; but I do claim the lever *b*, provided with holes, *r*, to graduate its power, and with its fulcrum in the stand U, in combination with the links *c*, block *d*, link *e*, and pawl *f*, substantially as described.

3. In combination with the follower J, the sprocket-wheel P, arranged in line with the slot I so as to draw the follower straight down the slot without canting it so as to bind against the sides of the slot.

4. In combination with the sprocket-wheel P and chain N, the arrangement of the rollers Q Q, for holding the chain up to the sprocket-wheel and compelling it to leave the wheel, substantially as described.

5. In combination with a follower, J, drawn down with single chains, working directly onto the sprocket-wheels, the rope, weight, and pulleys, to draw up the follower and chains, as described.

111,044.—Medical Compound Pill for Cure of Colds, &c.—William E. Chilson, Troy, Pa.

Claim.—The within-described medical compound for pills, composed of the ingredients named, substantially as and for the purposes specified.

111,045.—Preserving Wood.—Benjamin H. Detwiler and Samuel G. Van Gilder, Williamsport, Pa.

Claim.—The above-described process for preserving wood, consisting of the ejection of the sap by steam or otherwise, and the introduction of resin, pitch, asphalt or its equivalents, held in solution by the use of petroleum or any of its distillates, substantially as herein set forth.

111,046.—Hound, Sway-Bar, Tongue-Brace, and Cross-Bar of Vehicles.—Gerard Doan, Theodore Wallis, and George D. Moreland, Fleming, N. Y., assignors to Thomas M. Jones, Chicago, Ill.

Claim.—1. The hounds E E and sway-bar F, formed of a single piece of wood, bent only at the junction of said hounds with said sway-bar, in the manner described.

2. The single piece of wood G, bent as set forth, combined with tongue and hounds E E, to perform therefor the functions of both a cross-bar and pair of braces, as described.

111,047.—Grate-Bar.—Albert Fickett and Charles C. Benton, Rochester, N. Y.

Claim.—1. The grate-bar A, in combination with the sliding grate B, when the diagonal bars *a'* run in an opposite direction to the diagonal bars *b'*, substantially as described.

2. The curved sliding grate B, in combination with the grated plate *a*, having a convex upper surface, as and for the purposes set forth.

3. The dead space *c* at one or both ends of the grate-bar, in combination with the sliding grate B, for the purposes specified.

111,048.—Machine for Lining Straw Board, &c.—Benjamin F. Field, Beloit, Wis.

Claim.—1. In combination with the roller E, the clutch H, and adjusting-rod I, substantially as and for the purpose set forth.

2. The adjustable plugs *e* and nuts *f*, combined with the hollow roller E and the shaft F, as set forth.

3. The tension-roller L, provided with friction-brake-springs, in combination with the paper roller E, substantially as and for the purpose set forth.

4. The tension-roller L, mounted upon the reversing-arms N and the two paper-rollers E E, arranged in reference to said rollers as and for the purpose set forth.

5. The two paper-rollers E E, arranged as described upon the frame D, combined with the adjustable guide-roller *p*, as set forth.

6. In combination with the scraper S, the adjusting thumb-screws U, substantially as and for the purpose set forth.

7. The combination and arrangement of the revolving-mixer D' with the cooling and thinning chamber G' and the reservoir A, substantially as and for the purpose set forth and described.

111,049.—Shirt-Button or Stud.—Levi W. Fifield, Worcester, Mass., assignor to Thomas F. Arnold and Henry E. Webster, Providence, R. I.

Claim.—The elliptical spring *c*, each leaf of which being provided with an offset, *g*, and operating in conjunction with button A, knob B, and shank *d*, in the manner and for the purpose described.

111,050.—Seed-Drill and Cockle-Separator Combined.—John E. Fletcher, Rectortown, Va.

Claim.—1. The metal frames *n n*, constructed and arranged as shown and described, whereby they perform the double function of scraping the peripheries of the front rollers *i i*, and of retaining both sets of rollers in place on the shafts *d* and *g*, as specified.

2. The improved seed-drill and cockle-separator herein described, consisting of the seed-box H, the metal scraper-frame *n*, rollers *k l*, seed-discharge spout M, cockle-spout O, trough P, pinions *r* and *s*, gears B C, shifting-gear E, and lever *f*, all constructed and arranged as shown and described.

111,051.—Papering Pins.—George Fowler, Seymour, Conn.

Claim.—1. The arrangement of pins between two continuous strips, secured together in the interval between the pins by an adhesive material, in the manner described and shown.

2. The arrangement of a continuous line of pins secured together in the manner described within a case A, the said case provided with a means for rolling up the pins, and aperture for delivering the same, substantially as set forth.

111,052.—Lightning-Rod.—Joseph R. Fricke, Pittsburg, Pa.

Claim.—1. The combination, with a copper-wire cable lightning-rod, of a spirally-flanged core or stiffener, the whole arranged and constructed substantially as herein set forth.

2. The dovetail connection between the end of the spiral rod and the coupling-screw, when constructed as herein described and shown.

111,053.—Portable Chair.—George Gardner, Glen Gardner Station, Clarksville Post-office, N. J.

Claim.—The arrangement of the several fastenings and the button or bolt *f* on the bottom, substantially as herein described, whereby the several parts of the chair are locked together by the act of fastening the seat.

111,054.—Fire-Tongs.—Alfred M. George, Sand Fly, Texas.

Claim.—The arrangement of the tongs *a b* and slotted guide *c*, when constructed and operating as specified.

111,055.—Plow.—Elias Hayman, Columbus, Ga., assignor to Blount, Haiman & Brother.

Claim.—The arrangement of the plow-point E, mold-board D, land side F, slotted standard C, and screw-bolts c^3 c^4 c^5 c^6, as and for the purpose specified.

111,056.—Plow.—Thomas Harding, La Fayette, Ind.

Claim.—1. The axle B, constructed with the cast-iron end pieces *b b*, when said end pieces are provided with sockets *d d* and flanges *e e*, for the purposes described, and the wooden cross-bar, as set forth.

2. In a straddle-row cultivator, the draft-pole A and a double crank-axle B, when joined together substantially as described, so that said draft-pole and axle can be adjusted in height, for the purpose set forth.

3. The combination of the double crank-axle B, tongue A, jointed thereto by means of the strap D, and the braces E, for the purpose of adjustment, as set forth.

111,057.—Emery-Wheel.—Thomas Harding, La Fayette, Ind.

Claim.—1. A polishing-wheel constructed with a slightly flexible rim, connected to a rigid hub, by means of elastic supports made adjustable, so as to center or balance said rim, substantially as set forth.

2. The chambered wheel A, in combination with the plungers C, screw-bolts *c*, and elastic springs *i*, constructed substantially as described, to support the rim D, as set forth.

3. The rim D, constructed of successive layers of leather or other suitable material, glued, cemented, or otherwise fastened together, in combination with elastic supports C, resting upon a rigid wheel, as and for the purpose set forth.

111,058.—Construction of Barrels for Beer, &c.—Matthew Hawe, Albany, N. Y.

Claim.—1. In barrels and similar vessels for holding beer, ale, and other fermentations liquids, constructing the heads B arching or crowning inward by means of the bevel-pieces *a* and *b*, or *a*, *b*, and *c*, substantially as and for the purpose set forth.

2. Making the beveled line *a* of the upper edge of the head B in such a manner that the said beveled line *a* will bear against a portion of the bowel *b*, as also the cross V, substantially as and for the purpose set forth.

111,059.—Sewing-Machine.—Arthur Helwig, London, England, assignor to himself and Simon Collins, same place.

Claim.—The vibrating looper *b*, constructed and operated as described, in combination with a needle, *a*, having vertical and lateral motion, both the looper and needle operating together, substantially as and for the purpose herein set forth.

111,060.—Water-Meter.—Frederick G. Hesse, Oakland, Cal.

Claim.—1. The rotary flanged wheel W, chambered, provided with valves E and a conduit P, and arranged in a suitable casing, in combination with an endless belt, B, substantially as described.

2. The endless belt B, armed with stiffening-bars *c*, in combination with wheel W, substantially as described.

3. Stationary cam C, in combination with valves E, the intermediate connections, and the wheel W, substantially as described.

4. The annularly-grooved and flanged wheel W, constructed with valve-seats *b*, and adapted to operate, in conjunction with an endless belt, B, within a close case, substantially as described.

5. The apparatus having belt-pulley R and wheel W arranged within casing L, and adapted to operate with belt B, all substantially as described.

111,061.—Crushing and Hulling Attachment to Grinding-Mills.—George C. Hohenstein and Charles T. Glaeser, Cincinnati, Ohio.

Claim.—The described arrangement of the respectively smooth and corrugated rollers F and G, mounted in different planes, and of unequal diameter, flexible mouth-piece, N, and adjustable convex throat L, as and for the purpose set forth.

111,062.—Combined Seed-Drill, Manurer, and Potato-Digger.—Eugene C. Hopping and Eugene A. Ely, Madison, N. J.

Claim.—1. In combination with a potato-digger, the chain O, with the rotating wings P and wires N, arranged to operate substantially as and for the purposes herein shown and described.

2. The stationary racks R R, for rotating the wings of the endless chain, substantially as described.

111,063.—Beam or Girder for Fire-Proof Structures.—William Wesley Hughes, Philadelphia, Pa.

Claim.—As a new article of manufacture, a beam or girder, to the sides of which plaster of Paris or other non-conducting material is confined, as set forth.

111,064.—Apparatus for Separating Oil from Grain and other Materials.—Elias S. Hutchinson, Baltimore, Md.

Claim.—1. An apparatus for separating oil from vegetable and other matters, adapted to confine the material while the oil is removed, and afterward release and agitate it for drying, either wholly within the same chamber, or by discharging a portion into another chamber or chambers.

2. A vat for removing oil from vegetable and other matters, adapted to be turned or tipped on two axes, substantially as and for the purposes set forth.

111,065.—Feed-Cutter.—Christoph Kemper, Hermann, Mo.

Claim.—The arrangement of the fly-wheel D, its knife F, shaft E, feather-spring F', cam *e'*, slotted cam-lever G pivoted and connected to angle-lever K, lever H, guide H', set-screw *h'*, ratchet devices L I J M, pawls *i i'*, corrugated feed-roller C C', plate *a'*, sliding standard M, spring bar O, when all said parts are combined and constructed to operate substantially in the manner and for the purpose described.

111,066.—Mode of Making Bricks.—François Lambert, Los Angeles, Cal.

Claim.—1. The combination of the box E, perforated top G, follower H, and rods I I, for the purpose of forming a series of holes in bricks before they are burned.

2. As a new article of manufacture the within-described brick, for the purposes set forth.

111,067.—Combined Steamer and Condenser.—George W. Lane, Portland, Me., assignor to himself and John Alles, Boston, Mass.

Claim.—The combination of the walls *a*, cover *g*, steamer *f*, condenser *c*, tubes *h e i*, and rim *d*, to be used as herein set forth.

111,068.—Oiler.—Albert D. Laws, Bridgeport, Conn.

Claim.—The concavo-convex bottom for oilers,

formed from a disk of sheet-steel, and tempered to give and retain its elasticity, substantially in the manner set forth.

111,069. — GRAIN-BINDER. — Sylvanus D. Locke, Janesville, Wis.

Claim.—1. The twisting-pinions G H, operated independently, and arranged to clamp and hold the ends of the binding-wire between them during the process of twisting, substantially in the manner set forth.

2. In combination with the clamping and twisting-pinions G H, the racks Q R, arranged with alternating teeth, in the manner and for the purpose set forth.

3. The shield K, constructed as described, in combination with the twisting mechanism, to guide the binding-wire both to the front and rear teeth of the twisting mechanism, and to guard said twisting mechanism from entanglement with the grain, substantially as set forth.

4. The combination of the shield K and stationary jaw J of the wire-holder and cutter, arranged and operating as described.

5. The movable jaw I of the wire-holder and cutter, provided with a stud, *d*, combined with the cam U, located at the end of the guide-box M, as described.

6. In combination with the jaws I and J of the wire-holder and cutter, the pin P, substantially as and for the purpose set forth.

7. The combination of the cam W and spring L with the movable jaw I in the manner described, whereby the binding-wire will be griped, severed, and securely held, as set forth.

8. In combination with the head C and the twisting-mechanism, the latch-spring O, located and operating as described, to hold the binding-wire in engagement with the rear teeth of the twisting mechanism.

9. The arrangement of the guard-spring *g*, in connection with the stud *d*, for the purpose set forth.

10. The arrangement of the spring A in connection with the head C, shield K, and twisting mechanism, as set forth.

11. The guide-box M, when provided with the racks for operating the twisting mechanism, cams U W, for operating the cutting and griping-jaws, and the lug r, for a permanent attachment of the guide-roller N, as set forth.

111,070.—HUB FOR VEHICLES.—William I. Lyman, East Hampton, Mass.

Claim.—1. The combination of the spokes, metal casing, wooden hub, and melted sulphur, cement, or their equivalents, for the purpose of filling in around the spokes.

2. A metallic casing or shield for a hub, constructed substantially as described, and consisting of the parts A B, connected at the collars C C by the pieces *f f* extending toward the center of the hub, and leaving a space between their inner edges and the hub, and having the part B extended to form the band D.

111,071.—EMBROIDERY ATTACHMENT FOR SEWING-MACHINES.—William A. Mack, Norwalk, Ohio.

Claim.—The combination, with the support or body B, arranged for attachment to the sewing-machine, of the cam and ratchet-wheel W, lever *b*, and slotted arms A, constructed, arranged, and operated as described.

111,072.—LAMP.—Rufus S. Merrill, Boston, Mass., assignor to himself, William B. Merrill, and Joshua Merrill, same place.

Claim.—1. In an Argand lamp having the removable part of the burner provided with sleeves fitting over a burner-supporting tube, as described, the annular trough located upon the exterior of said burner-supporting tube at or just below the point to which the lower part of the exterior sleeve extends when the removable portion of the burner is placed on the tube, as herein shown and described.

2. The formation of the notched wick raising sleeve of the removable portion of an Argand burner, with inclined or beveled sides between the notches, substantially as and for the purpose shown and set forth.

111,073.—LAMP-CHIMNEY.—Rufus S. Merrill, Boston, Mass., assignor to himself, William B. Merrill, and Joshua Merrill, same place.

Claim.—A slip-chimney for Argand burners, made with a contracted neck, a cylindrical body above the neck, and a conical or tapering base or deflector below the contracted neck, as and for the purpose shown and set forth.

111,074.—LAMP-BURNER.—Rufus S. Merrill, Boston, Mass., assignor to himself, William B. Merrill, and Joshua Merrill, same place.

Claim.—1. The combination, with the inner and outer wick-tubes of an Argand burner and the ratchets or other wick-raising devices arranged upon the exterior of the said tubes, of a chamber or case inclosing the said ratchets or other wick-raising devices, and separating the exterior draught from the central draught, substantially as herein shown and described.

2. The inner and outer wick-tubes, united by means of a longitudinal fin or strip extending the whole or nearly the whole length of said tubes, as described, and combined with a tube or conduit for conveying the central draught to the inner tube, as shown and described.

3. The removable portion of the burner, provided with a base composed of a perforated plate, the outer portion of which is bent down at an angle with the remainder, so that the air forming the exterior draught must pass through two sets of perforations at an angle with one another before reaching the flame, substantially as shown and described.

111,075. — MANUFACTURE OF SAFETY-MATCHES.—L. Otto P. Meyer, Newtown, Conn.

Claim.—In the manufacture of the safety-match, gelatine prepared with diluted acetic acid or with diluted solution of carbonate or bicarbonate of soda, substantially as described, and for the purposes set forth.

111,076. — BRICK-PRESS. — James Allaire Millholland, Mount Savage, Md.

Claim.—1. The vibrating and sliding rods or levers P, operating as described, in combination with the cross-face J and operating mechanism, as and for the purpose set forth.

2. The yokes Q Q, at the inner ends of the said vibrating rods or levers, in combination with the double cams R R, for operating upon the yokes, substantially in the manner described.

111,077. — WATER-WHEEL. — Albert L. Moore and Norman S. Parker, El Dorado, Oregon.

Claim.—The buckets I, protruding forward to an angular point, and receding backwardly in a curve behind the axis of the wheel, combined as described, with chutes C arranged at a tangent to the circle whose radius extends from the axis to the farthest outward extremity of the buckets, as and for the purpose described.

111,078. — TILE-MACHINE.—Albert Moorhous, Indianapolis, Ind.

Claim.—The arrangement of the slotted screens H H and removable dies E E with the hinged shutters G G, which are locked by the T-bolts, as shown and described, for the purpose of allowing the gravel to be removed from the plunger-chamber B, as specified.

111,079.—HAT-MACHINE.—Charles M. Osgood, Amherst, Mass., assignor to L. M. Hills & Sons, New York City.

Claim.—The graduated table A, in combination with the socket C and plunger or die E, substantially as above described.

111,080.—WINDOW-FRAME.—Silas R. Owen, Skewartsville, Mo.

Claim.—1. The window-frame herein described, having the stationary stripe A A and K running the entire length of the window, bearing-stripe B shouldered at *d*, short stripe E E and L, and the removable strip *s*, when constructed in the manner and for the purposes specified.

2. In combination with the upper and lower sashes F and H, of different widths, a window-frame, having communicating grooves *t* and *f*, arranged substantially in the manner and for the purpose specified.

111,081.—MACHINE FOR THE MANUFACTURE OF PAPER CARPET-LINING.—Claudius A. Pease, Astoria, N. Y.

Claim.—1. The combination of the two sets of web-sheet-forming mechanism, A and B, and batting mechanism, with the presser-rolls H and endless-apron F, arranged together substantially as and for the purpose described.

2. The band *b* on the presser-roll H, substantially as and for the purpose specified.

3. The combination and arrangement of the endless aprons F F and M, so as to deliver to the pressing-rolls H H the sheets of newly-formed web of paper with a bat of fibrous or spongy materials between, as set forth.

111,082.—MACHINE FOR MAKING BOLTS AND NUTS. — George Richard Postlethwaite, Birmingham, Great Britain.

Claim.—1. The combination of a lower vertical die-holder or slide, made in two parts and hinged together, as and for the purpose described, a lever, as m^3, for elevating and supporting said die-holder, and an upper vertically-reciprocating die-holder or plunger *y*, as herein set forth.

2. The combination of the die-holder and lever, specified in the first claim, and the lever *s*.

3. The combination of the die-holder and lever, specified in the first claim, the lever *s*, and the setting-pin *t*.

4. The combination of the die-holder and lever, specified in the first claim, and the screw-stops and bar q^3.

5. The combination of the die-holder and lever, specified in the first claim, the plates b^2 and projections b^3 thereon.

6. The combination of the die-holders and lever, specified in first claim, the dies b b^2 b^1, lever 8, rod 11, and spring 12, as set forth.

7. The combination of the series of jointed levers, die-holders or slides, the series of levers *m* for elevating and supporting said slides or holders, the series of levers *s*, the series of upper reciprocating die or punch-holders or plungers, the series of dies a b c d, and the series of tools a^1 b^1 c^1 d^1, as set forth.

111,083.—TRACK-CLEARER FOR MOWING-MACHINES.—Benjamin F. Power, McConnellsville, Ohio, assignor to Hugh M. Cochran, and Joseph F. Sonnanstine.

Claim.—The laterally and vertically-oscillating head A, constructed as described, in combination with the spiral arms *a a* and swivel E, substantially as and for the purpose described.

111,084.—TABLE FOR DRILLING-MACHINES. Thomas Reaney, Chester, Pa.

Claim.—1. The table A, divided on the upper surface into two or more compartments, in each of which lie loosely one or more balls, as and for the purpose set forth.

2. In combination with the subject-matter of the foregoing claim, the annular channeled plate C, and the balls lying loosely therein, as set forth.

111,085.—REAMING AND COUNTERSINKING-TOOLS.—Thomas Reaney, Chester, Pa.

Claim.—The combination of the adjustable gauge B and its shoulder *i* with the rings or collars D and D', their set-screws, and the body of the tool.

111,086.—MATTING APPARATUS.—James H. Reilly, Brooklyn, N. Y., assignor to Henry G. Reed, Taunton, Mass.

Claim.—The combination of jointed needles with a chuck, drum, or its equivalent, in the manner and for the purpose specified.

111,087. — HOT-AIR ENGINE.—Alexander K. Rider, New York, N. Y., assignor to himself, Cornelius H. Delamater, and George H. Reynolds, same place.

Claim.—1. The aspirating engine, having two pistons E and M working in the same cylinder A, in combination with the internal or closed furnace C, and with passages for conducting the air from the cylinder to the furnace and again to the cylinder, as herein specified.

2. The connecting-rod G, constructed with an offset, carrying the attachment of the upper link H, substantially as described, and for the purpose specified.

3. The two offsets G^2 G^2, on opposite sides of the connecting-rod G, with or without the connecting-slot G^4, adapted to allow of reversing the engine.

4. The valve P and connected air-passages, constructed and arranged substantially as represented, so as to perform the double function of controlling the fire and of throttling the air-passages, as specified.

111,088.—AIR-ENGINE.—Alexander K. Rider, New York, N. Y., assignor to himself, Cornelius H. Delamater, and George H. Reynolds, same place.

Claim.—1. The connection H, extending upward or away from the cylinder, arranged as represented relatively to the operating parts *d d'*, and to the several connections of the working-piston E and shifter M, for the purposes set forth.

2. The cut-off valve W and seat X, protected from the action of the current of heated gas, and arranged and operating relatively to the furnace or correspondingly-heated portion of the engine, and to the cylinder B and pistons E and M, and their connections, as set forth.

3. The casting B' and casing T, constructed and arranged as represented, relatively to the furnace C, cylinder B, pistons E M, and their connections and passages, for the purposes herein set forth.

111,089, antedated January 7, 1871.—CIGAR-FILLING.—Socrates Scholfield, Providence, R. I.

Claim.—A cigar-filler or bunch, primarily arranged or held by suitable means in approximate cylindrical form, and of uniform size throughout, or nearly so, and tapered by removing a section of its interior fiber, in wedge or other suitable shape, producing an improved cigar, substantially as described.

111,090.—FENCE.—Wesley W. Sherman, St. Charles county, Mo.

Claim.—The arrangement, in a portable fence, of the posts *a*, *c*, and *d*, caps *b*, braces *e*, supports *f g h k*, and the longitudinal planks, constructed as herein described.

111,091. — COLLAPSING CORE-BARREL.—William Smith, Pittsburg, Pa.

Claim.—A core-barrel, one section of which is provided with three inclinations and moves in slides or grooves, and connected to the other sections of it by means of chains or their equivalent,

the whole being so constructed and arranged that, by drawing endwise the sections with three inclinations, it will collapse or diminish the diameter of the core-barrel, as herein described.

111,092.—MACHINE FOR SINKING SCREW-PILES.—William Sooy Smith and William Reuschel, Chicago, Ill.; said Reuschel assigns his right to said Smith.

Claim.—1. The combination, with the hub of the wheel or other turning device, of the friction-rollers K and a clamp G, when arranged for action on the shafts of screw-piles, substantially as specified.

2. The combination, with the clamp G, of the weighted cords M, substantially as specified.

111,093.—EDGING-MACHINE. — Edward H. Stearns, Erie, Pa.

Claim.—1. The combination of the saw-carrying sleeve *c*, provided with the described catches, operated by springs, and the arbor N', with its notches, substantially as and for the purpose described.

2. The rising and falling guides *l l*, which may be raised above the feed-rollers to guide the lumber, and lowered below and out of the way of the same as and when desired, constructed and operated substantially as and for the purpose described.

3. The windlasses w^2 w^2, the metal piece A^2 with the four bearings for the journals of the windlasses, the notched wheel B', the spring-crank b', the spring f^2, the arrangement of the pins *i i i i* upon the drums of the windlasses, in combination, when each is constructed and all are arranged substantially as and for the purpose described.

4. The single return-roller F, provided with spurs, and revolving in an opposite direction to that of the feed-rollers, with the said feed-rollers R R, and the saw-arbor N, and frame A, when all are constructed and arranged substantially in the manner described.

111,094. — EXTENSION-SCAFFOLD. — Asel Sweet, Westfield, Pa., assignor of one-half his right to George W. Chrisholm, same place.

Claim.—The apparatus herein described for sustaining and adjusting a builder's scaffold, when constructed with extension-bars A, B, and C, with their pulleys, bracket *k*, clamps *v v*, trip-rope H, windlass G, and lifting-rope D, all constructed, arranged, and operated as set forth.

111,095.—LUBRICATOR FOR AXLES.—Henry Thurlow, Skaneateles, N. Y.

Claim.—The box A, provided with a series of wires or wire springs C C, the ends of which protrude through the bottom of the box for the purpose of conveying heat from the car-axle to the grease in the box, melt said grease, and lubricate the axle, substantially as herein set forth.

111,096, antedated January 6, 1871.—RAIL-ROAD-SPIKE.—Henry Torstrick, New York, and Reinhold Boeklen, Brooklyn, N. Y.

Claim.—The head C of a spike, as shown, when its shank is provided with the inclined nose wider at its outer edge, as described, and for the purpose set forth.

111,097.—MANUFACTURE OF ORNAMENTAL BARS OR RODS OF METAL.—Stephen Tuddenham, Lower Marsh, Lambeth, England.

Claim.—1. As a new article of manufacture, ornamental bars or rods, such substantially as herein shown and described, made by twisting bars or rods, previously prepared as to their shape, in cross-section and to their surface, with special reference to the subsequent operation of twisting, and to the character or kind of ornamentation to result from such twisting, as herein set forth.

2. The method of attaching socket-pieces or bosses to the bars, whether said pieces be plain or ornamented, by fitting the same upon the bars before twisting them, and then securing said socket-pieces or bosses in their places by the operation of twisting said bars, as described.

3. The clamping device, substantially as described and illustrated in figs. 9 and 10, for holding the several bars of the group together and in their proper relative positions while subjected to the operation of twisting, as set forth.

111,098.—WAGON-JACK.—George H. Tule, Haddonfield, N. J., assignor to himself and Samuel Wood, same place.

Claim.—The wagon-jack composed of the post A, lever B, elbow-rod C, slide D, and guide *c*, all arranged and combined substantially as herein shown and described.

111,099.—AUGER.—Blase Walch, Frederick, Md.

Claim.—The adjustable cutter D, when constructed and applied to an auger, substantially as described.

111,100. — MANUFACTURE OF ARTIFICIAL LEATHER.—Frederick Walton, Staines, England.

Claim.—1. The manufacture of japanned and other artificial leather with oxidized oil or linoleum cement, as above described.

2. The manufacture of japanned and other artificial leather with a cement of kowrie or New Zealand gum, gum copal, dammar, or sandarac, combined with castor oil, as above described.

3. In the manufacture of japanned leather, a fleece of cotton or fiber to prevent irregularities of the base fabric from appearing on the japanned surface, as above described.

111,101.—PLANTER AND CULTIVATOR.—A. Quarles Withers, Holly Springs, Miss.

Claim.—1. The curved vibratory seed-plate E, constructed, arranged, and operating in the hopper D, substantially as and for the purposes herein specified.

2. The partitions *v v* dividing the hopper D into compartments, in combination with the vibratory plate E, for the purpose of distributing fertilizers simultaneously with planting-seeds, substantially as herein specified.

REISSUES.

4,232.—HORSE HAY-RAKE.—Newcomb M. Barnes, Tiffin, Ohio.—Patent No. 105,542, July 19, 1870.

Claim.—1. The handles F F when pivoted to the frame A B E, substantially as shown and described, and provided with springs I to operate upon the rake-head, as and for the purpose specified.

2. In combination with the above the stop-pins *d d*, substantially as shown and described, for the purpose specified.

3. The head D of a revolving rake, mounted on a frame composed of the draw-bars A A, upright posts B B, and shoes or runners E E, the several parts being constructed and arranged substantially as specified.

4,233.—TREADLE FOR SEWING-MACHINES.—John A. Bradshaw, William H. Brown, and Darius Whithed, Lowell, Mass.—Patent No. 92,786, dated July 20, 1869.

Claim.—1. The arrangement of the treadle *g'* and the rods *g* and *f'*, when attached to the segment-gear *f* and *e'*, respectively, the one in rear and the other in front of the fulcrum-shaft, substantially as specified.

2. The arrangement of the segment-gears *e'* and

[illegible] *b'*, pawls *f* and *f'*, substantially as [illegible] described and specified.

3. The caster-plates or rods *n* and *o*, with casters *p*, *q*, and *r*, when arranged in reference with each other, and operated substantially as herein described and specified.

4. The adjustable slides *o' o'* and *p p*, in combination with the caster-plates *n'* and *o*, for the purposes as specified.

4,234. — CURTAIN OR SHADE-FIXTURE.—William Campbell, New York, N. Y., assignor to Nathan Campbell.—Patent No. 44,602, dated October 11, 1864.

Claim.—1. The wedge E and pulley D, in combination with the spring roller A, all arranged substantially as and for the purpose herein set forth.

2. The wedge-bearing *i*, in combination with the pulley D and wedge E, substantially as set forth.

3. The yielding cushion *b*, in combination with a shade-roller, for the purposes set forth.

4,235.—MACHINE FOR FORMING THE BRIMS OF FELT-HATS.—William A. Fenn, Rochester, N. Y.—Patent No. 17,033, dated April 14, 1857.

Claim.—1. In combination with mechanism for stretching the brim radially, the conical rollers for feeding or rotating the hat-body.

2. In combination with feed-rollers having a continuous rotation, mechanism for arresting the moving brim, whereby the same is stretched circumferentially.

3. Rollers for feeding forward the hat-brim, an intermittent clamping mechanism for arresting the progress of the brim, and an intermittent radially-stretching mechanism, combined and coacting as described.

4. In combination with the feeding-rollers, the guide or plate N, operating in the manner and for the purpose specified.

5. The combination of the bar E, rod *n*, spring *o*, arm J, and serrated bed *m*, operating in the manner and for the purpose specified.

4,236.—APPARATUS FOR SUSPENDING GASOLIERS AND DROP-LIGHTS.—Samuel B. H. Vance, New York, N. Y., assignor to Mitchell, Vance & Co., same place.—Patent No. 70,635, dated November 5, 1867.

Claim.—1. The combination of a series of tubes and connecting-joints in an elongated and tortuous line, and crossing each other's paths as they do-send, and so connected as to form a continuous gas-passage, as also a frame capable of supporting a drop-light burner without the use of an additional frame, substantially as described.

2. In combination with two or more stationary burners, a drop-light, centrally arranged in relation thereto, when said drop-light is suspended to and sustained by a system of lazy-tongs, that not only furnish a continuous and tortuous gas-passage, but also forms within itself a frame of sufficient rigidity to sustain said drop-light, substantially as described.

3. In combination with the series of tubes and joints forming a gas-way capable of being elongated, substantially as described, and a drop-light suspended thereto and sustained wholly by said frame-work of tubes and joints, the guides and cross-head, substantially as and for the purpose described.

DESIGNS.

4,567.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,568.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,569.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,570.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,571.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,572.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,573.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,574.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,575.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,576.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,577.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,578.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,579.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,580.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,581.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,582.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,583.—DRESS-TRIMMING.—John Cash and Joseph Cash, Coventry, England.

Claim. — The design for dress-trimming, as shown.

4,584.—Dress-Trimming.—John Cash and Joseph Cash, Coventry, England.

Claim.—The design for dress-trimming, as shown.

4,585.—Pump.—Leonard Egleston, Seneca Falls, N. Y., assignor to Rumsey & Co., same place.

Claim.—The design for a force-pump, as shown and described.

4,586.—Show-Case.—José Ramon Gallegos, Havana, Cuba.

Claim.—1. The design for a cigar show-case, consisting of the stand B and body A, made in the form substantially as herein shown and described.

2. The design for a show-case, consisting of the stand B and body A, made in the form shown, and having a globe, C, and eagle D, either or both, upon its top, substantially as herein shown and described.

4,587.—Stem of a Tobacco-Pipe.—John Watts, Philadelphia, Pa., assignor to Harvey & Ford, same place.

Claim.—The design, consisting of the coiled stem *a*, with its pendent bulb *b*, substantially as described and shown in and by the accompanying drawing.

TRADE-MARKS.

135.—Cosmetics, Pomades, and Perfumeries. — Holbrook & Merrill, Boston, Mass.

136.—Worsted Goods.—Samuel McLean & Co., New York, N. Y.

137.—Gin.—I. D. Richards & Sons, Boston, Mass.

138.—Illuminating-Oil.—Jacob D. Spang, Dayton, Ohio.

139.—Kerosene and Spirits of Turpentine.—Francis Spies, New York, N. Y.

140.—Boots and Shoes.—Elmer Townsend, Boston, Mass.

141.—Akron Cement.—"The Union Akron Cement Company," Buffalo, N. Y.

142.—Whisky.—H. Webster & Co., San Francisco, Cal.

EXTENSIONS.

Thomas Nelson, of Troy, N. Y.—Letters Patent No. 16,248, dated December 16, 1856.

"Improvement in Machinery for Weaving Shade-Cord."

Claim.—1. The arrangement of the inclined planes C C, G G, around a circle, and divided from each other by the chasm or pathway Z, the same being intended as the course or track of the spool-cars.

2. The arrangement of the spool-cars, in combination with the eccentrics M and N, which operate the cars, in the rear of the inclined planes, by means of pins or equivalent apparatus passing from the cars through slots in the planes.

3. The arrangement of carriers or shuttles U U', attached to the eccentrics passing through the chasm Z, between the upper and lower planes, and traversing circularly, and delivering the woof or filling between the threads of the warp as they change their relative positions by the alternate elevations and depressions of the spool-cars.

Joseph H. Goodell, of Logansport, Ind.—Letters Patent No. 16,306, dated December 23, 1856.

"Improved Machine for Cutting Veneers from the Log."

Claim.—1. The combination and arrangement, as shown and described, of the reciprocating log-carrying slide B, unsupported by trunnions or axles for its curvilinear play, with the fixed guiding-stripe *c* and stationary knife D, when said guiding-stripe serve as the sole guide to give to the log-carrier, operated as specified, its curvilinear movement and simultaneous side-action, as and for the purposes set forth; and whereby a steadier and more reliable united double-bearing is given to the log in its two movements, the log may be secured with facility to the carrier, and the driving-power be communicated to the log in a more positive and direct manner for cutting with increased ease and precision thin veneers, as herein set forth.

2. Hinging the knife-holding frame G to the main knife-feeding slider-frame H, for the easy and double adjustability of the knife, as shown and described.

Samuel G. Lewis, of Philadelphia, Pa., executor of Lea Pusey, deceased.—Letters Patent No. 16,286, dated October 21, 1856.

"Arrangement of Railroad Platform-Scales."

Claim.—The arrangement of the platform of a railroad scale, either in the main or a subsidiary track of a railroad, substantially in the manner herein described and set forth, so that when the said platform is not in use for weighing as a railroad-scale the locomotive and train may pass directly over the same without bearing upon the said platform or scale, and also so that the cars may be passed on and off the said scale in the course of weighing without crossing the track, and therefore without using a "frog" or its substitute, as described, whereby all the advantages heretofore derived from a "siding," constructed for preserving the scale from the injurious effects of the locomotives and trains passing rapidly over it, are equally attained, and the room and expense required for the construction and use of the said siding entirely avoided.

John J. Squire, of De Soto, Mo.—Letters Patent No. 16,318, dated December 16, 1856; reissue No. 3,303, dated February 16, 1869.

"Improvement in Horse-Rakes."

Claim.—1. In combination with mechanism for raising the teeth operated by the draft of the team, means for throwing said mechanism into gear, placed under the control of the driver in his seat on the machine.

2. In a two-wheel rake, in which the teeth are raised for discharging the gathered hay by the draft of the team, mechanism, under the control of the driver in his seat on the machine, for causing the draft of the team to raise the teeth, in combination with means for automatically releasing the teeth after the hay has been discharged.

3. A feathered sliding clutch on the rake-head, in combination with a clutch-face or pins on the hub of the carrying or driving-wheel, for the purpose set forth.

4. The clutch D, and lever B for operating the same, in combination with an arm, F, on the rake-shaft, whereby the rake is lifted by the draft of the team and automatically released, substantially as specified.

Benjamin G. Dawley, of North Providence, R. I.—Letters Patent No. 16,306, dated December 23, 1856.

"Improvement in Looms."

Claim.—The use of an intermediate wheel D, or its equivalent, to balance and regulate the tension in the delivery of the warp from two or more yarn-beams combined together to form one web of wide cloth, substantially as above described.

Henry Eddy, of North Bridgewater, Mass. Letters Patent No. 16,357, dated January 6, 1857; reissue No. 1,300, dated April 6, 1862.

"Improvement in Cribs for Horses."

Claim.—1. The application and use of the inclined planes H H, with the vertical opening I between them, in combination with the sides of the crib E E, substantially as specified and for the purposes herein set forth.

2. The space *g h h*, partially inclosed by the inclined planes H H, with the opening I, substantially as specified.

3. The ventilator *e* in combination with the planes H H, substantially as described.

4. The cap K, when applied to the crib D, substantially as described and for the purpose herein set forth.

ISSUE OF JANUARY 24.

PATENTS.

111,102.—Charger for Shot-Pouches.—Thomas W. Allen, Waterbury, Conn.

Claim.—The bearing F, for the support of the lever B in a shot-charger, formed from sheet metal, and doubled to bring the two ears *a a* into line and form a space for the lever, substantially in the manner herein described

111,103. — Children's Carriage. — Rodney C. Britton, Springfield, Vt.

Claim.—The combination of the reach-arms G G, jointed to the body A, within fastenings, with the interposed spring or springs *e*, substantially as and for the purpose set forth.

111,104.—Baggage-Truck.—William Hammond Brown, Bangor, Me.

Claim.—1. The carriage and the lifting mechanism, substantially as described, arranged and combined in manner and for operation with a platform, as set forth.

2. The platform and its fare or hooks, arranged as explained, for use or in combination with the carriage and lifting mechanism, as specified.

111,105.—Automatic Lubricating-Cup.—James A. Bryan and William Stainfield, Kent, Ohio.

Claim.—The construction and arrangement, with relation to the cup A and cap B, of the valve C, cage or strainer D, stem E, check-nut F, and screw G, as and for the purpose set forth.

111,106.—Pruning-Shears.—John Calder Macedon, N. Y.

Claim.—The arrangement of the handles A B, the cutting-blades C D, spring-lever F, friction-wheel E, cam-wheel G, stop I, and hinge-joint H, when the parts are combined and operate as and for the purposes set forth.

111,107. — Bee-Hive. — Albert Claypool, Weston, Ohio.

Claim.—1. The combination of the casing A, the inclined slotted top C, the sloping honey-board E, the comb-frame G, and the racks I, all constructed and arranged substantially as described and shown, for the purposes set forth.

2. The feeding-box O, constructed in two sections, *e f*, having interposed between them layers of cloth, *h*, and divided into cells upon the upper side by transverse partitions, *g*, as and for the purpose set forth.

111,108.—Parlor-Bedstead.—Francis E. Coffin, Boston, Mass.

Claim.—The rest-blocks O upon the side rails K K of the parts G G, hinged together by the links M M, in combination with the case or cabinet A, having a top, D, and a flexibly-connected lid E, substantially as herein shown and specified.

111,109.—Sleigh-Brake.—Eustace J. Cooper, Mineral Point, Wis.

Claim.—The lever X with eccentric A, and the brake-block E, with cam D, shoulder K, and ratchets O I I, combined and operating substantially as set forth in the annexed specification.

111,110. — Steam-Lubricator. — Daniel Currie, Belleville, Ill.

Claim.—1. The combination of the cup A, piston C, hollow piston-rod B, and cup P, as and for the purpose shown and specified.

2. The combination of the cups A and P, piston C, hollow piston-rod B, and tubes G and *h*, as and for the purpose shown and specified.

111,111.—Type-Casting Machine.—William Wallace Dunn, San Francisco, Cal.

Claim.—1. The eccentrics *g'*, and rod *g*, arm 5, rock-shaft 4, adjustable arm 15, rod 14, cam-plate 13, rock-shaft 6, arms 7 and 8, set-screws 9, adjustable lever 10, and spring 12, combined and arranged substantially as described, and for the purpose set forth.

2. The cutter 18 in combination with the holder 64, pillar 65, and screw 66.

3. The punch 32 in combination with the arm 50 and set-screw 51, substantially as and for the purpose set forth.

4. The arrangement of the eccentric 69, rod 70, cam 71, pin 72, guide-frame 73, sliding-plate 74, and clamp 75, when employed in connection with the punch 32, as described.

5. The presser-foot 17, in combination with lever 55, having the adjusting-plate 57 and spring 56, as shown and described.

6. The combination of the frame 58, the cutter-bed plate 20, cutter 18, breaker 30, and cutter-plate or type-landing 16, with the foot 17 and type-slicer 19, when the parts are arranged as described for the purpose set forth.

111,112. — Governor for Electro-Motors.—Thomas A. Edison, Newark, N. J., assignor to himself, Elisha W. Andrews, George B. Field, and Marshall Lefferts, New York, N. Y.

Claim.—A yielding fly rotating against the atmospheric resistance, and so arranged as to break or close an electrical circuit, in combination with a revolving electro-magnetic motor, substantially as and for the purposes set forth.

111,113.—Machine for Cutting Paper Collars.—Alfred L. Elliot, Boston, assignor to himself and Edwin A. Eaton, Winchester, Mass.

Claim.—1. The combination of the press-block D, guides P P', wedges Q Q', and nuts R R', constructed in the manner and for the purpose as explained.

2. The arrangement of sliding and beveled dies, by which with two parts of successive dies I can cut different sizes of collars, substantially as described.

3. The combination of sliding dies, as described,

with dies for stitching or for button-holing collars, substantially as set forth.

111,114.—Flux for Welding Steel of High and Low Grades.—John Farrel, New York, N. Y.

Claim.—1. The within-described flux for welding high and low steel, substantially as described.

2. High and low steel welded together with the flux described, or the equivalent thereof, substantially as specified.

111,115, antedated January 13, 1871.—Truss.—Alexander Folleau, San Francisco, Cal.

Claim.—The combination with the pad D, of the auxiliary adjustable pad G, arranged beneath the surface of the same, substantially as described.

111,116.—Steam-Boiler Feeder.—Lucus Foote, North Fairfield, Ohio.

Claim.—The arms F G, as arranged to operate in relation to each other, and in combination with the shaft E and valves and shaft I and float, in the manner as and for the purpose set forth.

111,117, antedated January 7, 1871.—Burial-Case.—Patrick H. Griffin, Albany, N. Y.

Claim.—The thin metal struck-up case B B' adapted to contain a coffin, and to be secured as set forth.

111,118. — Thill-Coupling. — Collins W. Griffith, Cincinnati, Ohio, assignor to himself and Charles H. Mackintosh, Strathroy, Canada.

Claim.—The arrangement of the clip-sections A and A', the brackets b and b', the studs c and c', the staple B, and the key C, having a cord D, when the several parts are constructed substantially as described and shown, and as and for the purposes set forth.

111,119.—Back-Pad Press. — Edwin W. Harlow, Hastings, Mich.

Claim.—The construction and arrangement of the matrix and die-plates A B, links C, lever D, and spring-catch E, as and for the purpose set forth.

111,120.—Pump.—Patrick Harvey, Chicago, Ill.

Claim.—The cylinders A and F, provided with the annular chamber d, in combination with valve G, pipe H, and valve J, the whole arranged as described, whereby the suction-valve G may be secured below the check-valve J, substantially as and for the purpose specified.

111,121.—Evaporator.—Richard Hawley, Jr., Detroit, Mich.

Claim.—The arrangement, hereinbefore described, of the evaporating-pan A, walls B, generator C, flue D, bridge-wall E, smoke-guide F, and steam-pipes H, for the purposes set forth.

111,122.—Feed-Trough Guard.—Edwin Hovenden, Bushnell, Ill.

Claim.—1. The zigzag partitions B B, &c., or equivalent divisional pieces forming alternate feed-openings on either side of a feed-trough, as a hog or cattle guard, substantially as and for the purposes described.

2. The combination of the partitions B B, or equivalent arrangement of divisions, with the uprights b b b, &c., and the slop-boards C C, all substantially as described, and for the purposes set forth.

111,123.—Railway-Car Coupling.—Lewis Huddle and Jacob K. Huddle, Tiffin, Ohio.

Claim.—1. The combination of the rod e and springs S S with the draw-head halves A A, substantially in the manner described.

2. The combination of the toggle-lever c d draw-head halves A A, and U-spring S', the parts being so combined that the toggle-lever placed forward of the spring fulcrum of the draw-head, all as described.

3. The combination of the draw-head halves A, spring S', toggle-lever c d, springs S S, and rod e, substantially in the manner described.

111,124.—Gate.—Robert Henry Hudgin, Fairfield, Canada.

Claim.—1. The rock-shaft L, provided with joint d, in connection with the link and pin h and suspension-bars G, when constructed, arranged and operating substantially as and for the purpose set forth.

2. The latch E, secured to the gate by the rod or bars F, and operated by the connecting-rod I from the rock-shaft L, substantially as specified.

3. A gate, constructed and operating as herein described, wherein the same is suspended by suspension-bars G by the ratchet D, or its equivalent, and steadied by the pin b, said suspension-bars being pivoted to the top of the post J, substantially as and for the purposes herein set forth.

111,125. — Harrow and Cultivator.—James F. Jaquess, Commerce, Miss.

Claim.—The above-described "center-draft device" attached head for the harrow and cultivator," without any reference to the particular form or mode after which the body or parts of the implement may be constructed.

111,126.—Ash-Screen. — Edward C. Jenkins, Jr., Worcester, Mass.

Claim.—The herein-described screen, composed of the case A and the rotary sifter or screen c, the box being provided with the overhanging bearings e e, and the screen with the irregular undulating surface, and the door F, the whole operating in manner as before explained.

111,127. — Car-Spring. — James Leland, Springfield, Mass.

Claim.—A car-spring, constructed of the cylinders A B C D, &c., having the flanges b, and arranged in the manner and for the purpose shown and described.

111,128.—Method of Securing Joints of Frames, &c.—Charles F. Linscott, New York, N. Y., assignor to Edward S. Torrey and Joseph Torrey, same place.

Claim.—A key A, formed with the cylindrical sides a a' and web b, when used or employed for making or securing joints of frames, screens, &c., as herein before described and set forth.

111,129.—Sewing-Machine. — T. A. Macaulay, New York, N. Y.

Claim.—1. The shuttle E, having its lower edge and heel and toe cut away so that only its top wall and point will touch the race-face, substantially as described, and for the purpose set forth.

2. The shuttle E, constructed as described, when operating in connection with a needle and shuttle-carrier having a regular and reciprocating movement, as and for the purpose set forth.

111,130. — Gathering Attachment for Sewing-Machines.—William A. Mack, Norwalk, Ohio.

Claim.—1. The notched spring-fingers or nippers converging toward each other at the ends nearest the presser-foot, and shaped to positively retain and carry the material lying between them during their forward movement, and to their backward movement slip over the same, as described.

2. The adjustable plate-cam S, in combination with the nippers u, to measure the plait.

3. The plate-bar p, provided with the nippers u and with the opening r, as and for the purposes set forth.

4. The combination, with the presser and the plate-bar having the nippers u, of the spring o and thumb-screw b', as and for the purposes set forth.

111,131. — Sawing-Machine. — James D. Matthews, Niles, Mich.

Claim.—The combination of the saws S with the bed-springs K, the slide E, and the gearing F, B, G, H, and T, substantially as and for the purpose herein set forth.

111,132. — Grain-Drill.—Daniel E. McSherry, Dayton, Ohio.

Claim.—The receiver C, having a catch, D, and spring E, in relation to the shaft H and concave B, substantially as described.

111,133. — Compound for Preserving Drain-Tiles, Bricks, &c.—Edward Miller, Marquette, Mich., assignor to Charles H. Mackintosh, Strathroy, Canada.

Claim.—A preserving compound, when composed of the ingredients and in or about the proportions herein described.

111,134. — Meter.—Charles Moore, New York, N. Y., assignor to José F. De Navarro, same place.

Claim.—1. The combination, with the swinging or reciprocating piston of the meter, of a valve for controlling the movement of the piston, arranged so that, while said valve is lifted by the piston, it is free to drop and turn in part by its own weight and in part by the pressure of the incoming fluid, to effect its reversal at the close of the piston's stroke, substantially as specified.

2. The cylindrical valve F, constructed with open ends, and with alternately-disposed inlets f and outlets g, for operation, in relation to the ports d d' and inlet and outlet-passages or chambers of the meter, essentially as herein set forth.

3. The combination, with the valve F, constructed to operate substantially as described, of the vibrating hollow cam G, with its reversed inclines K K', set in motion by the piston, the cross-bar, or piece H, and the stops m m', substantially as specified.

4. The combination of the pinion A on the swinging piston-shaft, the toothed sector i, the hollow cam G, with its reversed inclines K K', the valve F, the cross-bar or piece H, and the stops m m', essentially as shown and described.

111,135. — Chair-Clamp for Railway-Rails. — William Morehouse, Buffalo, N. Y.

Claim.—1. The chair and clamp, consisting of a base, c^2, jaws C C, and bolts D or D', substantially as and for the purpose described.

2. The combination of the recessed fish-bars B b, chair and clamp C C c^2, and bolts D or D', substantially as described.

111,136.—Machine for Upsetting Iron.—Martin L. Munger and Corodon D. W. Gibson, Grand Blanc, Mich.

Claim. — 1. In iron-upsetting machines, the combination of the levers E and F, when connected and operating substantially as herein set forth.

2. The arrangement of the bed-plates B and C, cam D, levers E, F, and L, slides H, plates M, bolts a, rod b, plate d, bolts k, steel plates m N, and joints n, when combined and operating substantially as and for the purposes shown and described.

111,137.—Boot-Stretcher.—Isaac W. Myers, San Francisco, Cal.

Claim.—1. The skeleton foot-piece A, constructed as described, and the heel-piece B, disk D', worm e', and rack e, arranged and operating as and for the purpose set forth.

2. The boot-stretching last, composed of the skeleton A, the heel B, disk B', screw C, toe-piece D, wedge E, wings F, instep G, screw H, nut I, plate J, screw M, and bosses N, when the parts are severally constructed and arranged as described and shown, and as and for the purposes set forth.

111,138.—Hay-Rack.—Franz Louis Nagler, Irving township, Mich.

Claim.—The construction and arrangement of the bed-frame A, binding standards C D, sectional box-frames E E, and wings F, substantially as herein described, and for the purpose set forth.

111,139. — Corn-Sheller.—Franklin Nelson, Wyandotte, Mich., assignor to himself and Joseph Maseth, same place.

Claim.—The improved corn-sheller herein described and shown, consisting of the standard A, driving-wheel B, slotted yokes C, corrugated rollers D, sliding boxes E, elastic straps F, ring G, pinion H, shelling-teeth I, elastic ring K, cap L, rubber gasket N, ring O, and spout P, when said parts are constructed, combined, and arranged to operate substantially as described and shown, for the purposes set forth.

111,140. — Clamp for Carriage-Seats.—Henry J. Northrup, Lansingburg, N. Y.

Claim.—In combination with a movable carriage-seat, as described, the hinged pawl or hook F, spring H, and plates I and J, constructed and arranged to operate substantially as described.

111,141.—Machine for Pressing Fabrics.—George H. Nussey and William B. Leachman, Leeds, England.

Claim.—A pair of heated pressing-rollers, acting upon the cloth as received from a pair of detaining-rollers, combined with a pair of cool pressing-rollers to hold down the nap as the fabric cools, as set forth.

111,142, antedated December 29, 1870.—Obtaining Madder Extracts.—Alfred Paraf, New York, N. Y., assignor to Edward Sabino Renwick, trustee, same place.

Claim.—The process of manufacturing an aqueous solution of madder extract from the madder material by means of oil and soap solution without intermediate precipitation, substantially as before set forth.

111,143.—Water-Meter.—Webster Park, Norwich, Conn.

Claim.—1. The combination and arrangement of the self-closing gate F with the flexible cap B, for the purpose of giving a positive and reliable motion to the wheel of a water-meter, substantially as herein described.

2. The combination and arrangement of the wheels H M, yoke E, and gate F, for the purpose of varying the movement of the indicators according to the size of the opening, substantially as herein set forth.

3. The combination and arrangement of the self-closing gate F and cap B with the water-wheel G L, and with the wheels H M and yoke E, for the purpose of moving the indicators by both the velocity and the depth of the stream, and hence according to the quantity of water flowing through the meter, substantially as and for the purpose herein described.

111,144.—Anchor.—Gurney C. Pattison, Baltimore, Md.

Claim.—1. An extended shackle, G, provided with an inner cross-bar or stop, m, to arrest its movements, as herein described, and combined with the shank A of an anchor, fitted with a stock about midway its length, substantially in the manner and for the purpose herein set forth.

2. An auxiliary bolt, C, inserted through the end of the shank A of an anchor, outside of the pivot-bolt holding its fluke-arm B, and so combined with the latter as to afford support thereto when thrown out for engagement, all substantially as herein set forth.

111,145.—ANCHOR.—Gurney C. Pattison, Baltimore, Md.

Claim.—A stock, D', pivoted upon the shank A' of an anchor, about midway its length, substantially in the manner and for the purpose herein set forth.

111,146.—TUBE-EXTRACTOR.—Isaac S. Peters, Marshall, Mich.

Claim.—An implement for extracting tubes from wells, consisting of the dog D and bar A, when the dog is eccentrically pivoted and projects at both sides of the bar, being provided at each end with a spur which enters the metal, substantially as herein described.

111,147.—MACHINE FOR GRINDING HAND-SAWS. — Edwin S. Piper, Rochester, N. Y.

Claim.—1. The feed-rolls H H', one of which is arranged in a universal bearing so as to be self-adjusted to the other, and combined with the grinding apparatus, substantially as set forth.

2. In a grinding apparatus, the arrangement of the toggles *e* to adjust the bearings of the stones, in connection with the feeding device, substantially in the manner herein set forth.

111,148, antedated January 7, 1871.—COMPOSITION FOR COATING WOODEN STRUCTURES TO PROTECT THEM AGAINST FIRE. Anthony Pirz, Long Island City, N. Y., assignor to himself and Henry Torstrick.

Claim.—The compound herein described for protecting wooden structures against fire.

111,149.—TOY CARRIAGE.—Frederick W. Porter, Springfield, Vt.

Claim.—A toy carriage having the blocks A and B forming the two seats of the carriage, to which blocks are attached the frame *f g* and the axle *e* for the wheels, and which blocks also serve to strengthen the body, all constructed and arranged substantially as herein described and specified.

111,150.—HORSE HAY-RAKE.—Samuel Rockafellow, Moline, Ill.

Claim.—1. The handles H H, cleaner G *g g*, and links J J, when arranged to operate with the rake A D D, and thills B B, and cross-bar C, substantially as described, so that lifting the rake by the handles H H operates the cleaners G *g g*.

2. The draft-hooks L L, combined and arranged to operate with the cleaners G *g g*, thills B B, and rake A D D, substantially as described, and for the purpose specified.

111,151.—ASPHALTIC PAVEMENT.—Samuel R. Scharf, Baltimore, Md., assignor to himself and Hugh M. Funston, New York.

Claim.—1. The above-described pavement as a whole, the same having first a base of stones mixed with and laid in stiff bitumen, (obtained from long distillation of coal-tar,) and then well rolled; second, a layer of smaller stones coated with a mixture of bitumen and asphalt, also rolled; third, a layer of fine gravel or broken stones wet with said mixture, likewise rolled; and finally, covered with carbonate of lime or water cement, and finished by rolling, substantially as set forth.

2. The use of stiff bitumen, without coal-tar, in the base of an asphalt and stone pavement, substantially as described.

111,152.—COUPLING FOR SHAFTING.—Geo. A. Smith, Philadelphia, Pa., assignor to Cresson & Smith, same place.

Claim.—The combination of a clamp-coupling A constructed substantially as described, with the bolts *a* and *a'*, and the transverse grooves *c* and *c'* in the shafts B B'.

111,153. — SIZING-MACHINE. — Albert H. Sturgis, Lewiston, Me., assignor to himself and Joseph A. Pierce, same place.

Claim.—The combination of a revolving brush with a clearer or its equivalent, when the clearer is arranged in such relation to the brush that the latter will act upon the sheet of thread forward of the clearer at or near a point in line vertically below the center of the brush, as described.

111,154.—FURNACE FOR STEAM-BOILERS.—Morse K. Taylor, United States Army.

Claim.—1. The combination, with the boiler A of the water-grate E, the dumping-grate G, and the sifting-grate I, when the same are constructed and arranged substantially as described and shown, for the purposes set forth.

2. The dumping-grates G, in combination with the studs *a*, rock-shafts *b*, heads *f*, levers *d*, coupling-rods *g*, and latches *f*, all constructed and arranged substantially as described and shown, for the purposes set forth.

111,155.—MANURE-RAKE ATTACHMENT FOR PLOWS.—Marinus Van Duine and Jan De Jonge, Zeeland, Mich.

Claim.—The rake D, in combination with the wheels F and H, hangers I and C, and bearing E, and connected to the beam B of the plow A, all constructed substantially as described and shown, and arranged to operate as and for the purposes set forth.

111,156.—COFFER-DAM.—John E. Walsh, New York, N. Y.

Claim.—The combination of the loose piles D D, constructed to act as guides, with the boxes E E and shell or walls of the dam, essentially as described.

111,157.—COFFER-DAM.—John E. Walsh, New York, N. Y.

Claim.—1. The bent plates C, bolted at one end only to the inwardly-curved doors B, in the manner and for the purpose shown.

2. The angle-iron *d'* and packing *d''*, in combination with the inwardly-curved hinged doors B, having flexible bent plates C, interposed packing *d'''*, bolts *f*, and nuts *f'*, all constructed and arranged to operate in the manner described.

3. The coffer-dam herein described, composed of the outwardly-curved side walls A, strengthened by rods *e*, inwardly-curved hinged doors B, having the flexible bent metal plates C, packing *d''* and *d'''*, and angle-irons *d'*, all the parts constructed and arranged together in the manner and for the purpose shown.

111,158.—PLOW-COLTER.—Seth Way, La Porte, Ind.

Claim.—An elliptic spindle, constructed, combined, and arranged in all its parts as herein set forth, when attached to a colter for plows.

111,159. — STEAM-GENERATOR. — Samuel West, Elmwood, Ill., assignor to Elmwood Mining and Manufacturing Company, same place.

Claim.—1. A steam-generator, composed of sections A A A, when constructed substantially as described, with cross-pipes B B B and C C C, and arched top, and provided with steam-connections F and water-connections E E, and secured by bolts G G G, substantially in the manner and for the purpose specified.

The sections A A A, constructed as described, secured by the bolts G G G, when combined the plates I I, bonnets H H, grate *j*, door J, K, and supports L L, substantially as described and for the purpose specified.

111,160.—SERVING-REEL.—Joseph Henry Westcott, Medford, Mass.

Claim.—1. A serving-reel, composed of a frame one or more spools or spindles, with their regu s s s s, as herein shown and described.

2. In combination with a serving-reel, the hinges *q*, and *r*, locking apparatus *s s' t*, the guiding-*u*, and guides or their equivalents *v v v v*, for purpose as herein fully set forth and described.

111,161, antedated January 12, 1871.—MOP-HEAD.—Henry H. Wetmore, Barre, Vt.

Claim.—1. The arrangement of wires *g g* opposite openings in socket F, and annular groove on forward end of ferrule C, as and for the purposes specified.

2. A lower jaw, B, having flat shank E threaded the end, combined with a swiveled upper jaw, enable both to turn simultaneously and always preserve their relative positions.

111,162. — WINDOW-PROTECTOR.—William I. Winant, Rye, N. Y., assignor to himself, William Wilmot Kissam, and Emily Winant.

Claim. — The window-protector, made of sheet *e*, with side pieces *f f*, attached to the building at *i*, by hinges, as and for the purposes set forth.

111,163. — GRAIN-DRIER. — Levi Abbott, Lewiston, Me., and Joseph A. Sherburne, Boston, assignors to themselves and Enel W. Johnson, Boston, Mass.

Claim.—The within-described perforated tubes surrounded by the metal pipes or tubes C, provided with the perforations *d*, and allowing an air-chamber between the said tubes, when applied to a grain-elevator, substantially as and for the purposes set forth.

111,164.—SAW.—Emanuel Andrews, Williamsport, Pa.

Claim.—The cross-cut saw A provided with scoring-teeth B, clearing-teeth B', and recesses C, when the several parts are constructed and arranged as described and shown, and as and for the purposes set forth.

111,165, antedated January 14, 1871.—EARTH-SCRAPER.—Asher S. Babbit, Keeseville, N. Y., assignor to Babbit, Hinckley & Co., same place.

Claim.—1. The lever D, provided with the arm *d* in combination with the bearing-plate *d'* and holding-bar *c*⁴, as and for the purpose described.

2. The scraper described, consisting of the axle A, pole B, scraper C, with holding-bar *c*⁴, and lever D, with arm *d*, when constructed and arranged as described, for the purpose set forth.

111,166. — CONCRETE FOR PIPES, TUBES, BUILDINGS, &c. — Thomas J. Barron, Brooklyn, E. D., N. Y.

Claim.—1. The concrete herein described, constructed of the materials and by the process substantially as described.

2. The process herein described for constructing concrete.

111,167. — HOLLOW AUGER.—Aaron Bauman and Orin O. Witherell, Toledo, Ohio.

Claim.—1. The arrangement, upon a rotary stock A, of the front bits d^1 d^2, and rear bit d^3, as and for the purpose specified.

2. The arrangement, with respect to the tools, and near the internal surface of the revolving hollow shaft, of the separate and independent steam-pipe E, to discharge the chips in the manner described.

3. As an improvement in pipes for injecting steam into a hollow auger-shaft, the arrangement on the end thereof, and with respect to the tools, of the point *e'*, to stir up the chips and prevent them from clogging the auger.

111,168. — ATMOSPHERIC-PRESSURE ATTACHMENT FOR DENTAL-PLATES.—John B. Beers, San Francisco, Cal.

Claim.—1. In combination with the dental-plate A, provided with a recess, *b*, the disk *a*, or its equivalent, secured in said depression at or near its center, substantially as and for the purpose above described.

2. As a new article of manufacture, the disk *a*, prepared to be attached to dental-plates in the manner substantially described.

111,169. — LIQUID-COMPASS. — John Bliss and George H. Bliss, Brooklyn, N. Y.

Claim.—1. A compass-card of aluminum, with a frosted surface, and divisions painted upon that surface, substantially as set forth.

2. The float and compass-card, both constructed of aluminum, and combined together substantially as specified.

3. A liquid-compass, in which the liquid that floats the card is glycerine, or its mixtures, for the purposes specified.

4. A compass-card and float combined, with an inverted pivot, when the pivot projects below the upper portion of the float or floats, substantially as and for the purposes specified.

5. A compass in which the needle or parts within the bowl are protected by a coating that is not soluble in glycerine, when glycerine or its mixtures are employed as the liquid in said compass, as set forth.

111,170.—CAR-COUPLING.—Joseph Boothroyd, Michigan City, Ind

Claim.—1. The coupling-pin E, provided with an ear or lug, H, in combination with the chain I and tumbler B, provided with steps or notches, as and for the purposes set forth.

2. The tumbler B, provided at its bottom with a step or notch for holding down the lug and pin, substantially as shown and described.

111,171.—COAL-BOX.—Timothy L. Bosart, Jr., Indianapolis, Ind.

Claim.—A coal-box, having the reservoir A' and the lower chamber G separated by the adjustable inclined chute D, all constructed and arranged substantially as and for the purpose set forth.

111,172.—RAILWAY-CAR TRUCK.—Louis D. Boyce and George H. Jones, Rochester, N. Y.

Claim.—The combination, with the ordinary wheels of a car-truck, of the reverse cones C C, arranged in pairs on the intermediate elevated shaft D, their small ends adjoining, but separated from each other, to produce a surface of greater width or extent than that of the ordinary wheels, and having the bevels turning inward to produce a brake-action of the main wheels against the rails when off the track, as herein described.

111,173.—COLLAPSING CORES.—Anthony T. Brodie and Robert R. Smith, Pittsburg, Pa.

Claim.—A metallic core, consisting of the parts A B C D and shaft *g*, provided with springs *h*, said parts being held together by rings *k* and pins or screws *l*, the whole being so constructed as to yield, as and for the purpose herein described.

111,174.—GAS-GENERATOR.—John Butler, New York, N. Y.

Claim.—1. The combination of the retort G with

the retort H, located substantially as shown and described, and for the purposes set forth.

2. The furnace A, with walls constructed of non-heat-conducting materials, and provided with double doors D D', combined and arranged with the retort G suspended from the roof of said furnace, and the retort H above the said roof, as set forth.

3. The furnace, composed of two shells, the annular space C between the same being filled with non-conducting material, and provided with double doors D D', the latter to prevent cold air from entering the furnace and the former to retain the heat within the furnace, substantially as and for the purposes set forth.

4. The pipe L, incased in non-conducting material, to convey any of the volatile hydrocarbons to a gas-retort and prevent the vaporizing of such volatile hydrocarbons in their passage to the retort, and so constructed as to prevent any back pressure and to insure their entrance into the retort in a liquid form, substantially as shown and described.

111,175. — Apparatus for Carbureting Air.—Henry Albert Chapin, New York, N. Y.

Claim.—1. The arrangement, relatively with the tank A, of the chamber C, provided with a sealed lid or cover, as described, in combination with the valve by which the supply from the tank to the carbureting-chamber is regulated and made capable of operation from within the sealed upper chamber C, substantially as specified.

2. The arrangement, relatively with the sealed upper chamber, of the several pipes or connections by which the liquid is supplied to and drawn from the tank A and carbureting-chamber B, essentially as herein set forth.

3. The combination, with the gas-pipe *e* and air-escape tube *c*, of the connection *m*, substantially as and for the purpose herein described.

4. The combination and arrangement, with the carbureter and with an outer water-case or jacket E, of an air-circulating space or chamber F, provided with vents or ducts, substantially as and for the purpose or purposes specified.

111,176.—Scouring, Washing, and Wringing-Machine.—William H. Churchman, Indianapolis, Ind.

Claim.—1. The combined water elevator and projector N R S, operating within a hollow cylinder, H, substantially as described.

2. The combination of the perforated fountain-cylinder H and the wringer-basket G, as described, for the purposes set forth.

3. The described arrangement, one within the other, of the combined water-elevator and projector N R S, and the fountain-cylinder H, with its hollow shaft L, the whole constituting, in conjunction, the scouring and washing device of my machine.

4. The combination, substantially as set forth, of the centrally-disposed washing device H L N R S, with the centrifugal wringing-machine.

5. The described arrangement of the hollow shaft L, screw-threaded sleeve or nut-clutch Q P, and socket-pulley O, or devices substantially equivalent, for readily changing from a scouring, washing, and wringing device to a wringer, or the reverse, at the will of the operator.

111,177.—Die for Making Felly-Plates. Allison N. Clark, Plainville, Conn.

Claim.—For use jointly with a plain-faced drop or hammer, the die-block A, provided with the depression *a*, of the form and with the beveled or sloping margin herein described and shown.

111,178.—Hat.—James W. Corey, Newark, N. J.

Claim.—1. A felt or other soft or pliable hat, the brim of which is shaped, set, curled, or stiffened by means of a binding, the foundation of which is shellac or equivalent preparation stitched or cemented thereto.

2. As an article of manufacture, the within-scribed binding for flexible hats, consisting of fabric stiffened with shellac or equivalent mate-al, and covered with an independent or ornament fabric or finish, substantially as herein describe

111,179. — Fluid-Meter.—Robert Creu baur, Williamsburg, N. Y.

Claim.—1. The combination, with a valve, G, the crank-shaft P and the carrier N, substantial as and for the purpose hereinbefore set forth.

2. The combination of two or more reciprocati pistons with connecting-rods f^1 and a crank-sha or shafts P, with one or more rotating valves shaft-bearings S S^1, for the purpose named.

3. The ports f f^3 f^2 f^5 of the valve-casing F, combination with the ports *x y* of valve G, when t construction of the ports enables them to oper to proportion the quantity of fluid passing throu them to the requirements of the pistons, substa tially in the manner described.

4. The valve-casing ports f f^3 f^2 f^5 and valv ports *x* and *y*, either or all of them, with the closing edges in an oblique or curved direction, as to close upon each other as the blades of sors, substantially as and for the purpose herei before set forth.

5. The combination, with the main body, of c piston T and its neck *y*, of the guide-ring H wi the fluid passages *h' h'*, substantially as and for t purpose hereinbefore set forth.

6. The combination, with a cylinder, K, and piston T with guide-ring H, of the cylinder-nec K^2, substantially and for the purpose hereinbef set forth.

7. The combination of the valve G and the valv casing F, and their ports, with the passages f^1 fig. 3, and openings 3 3 and 4 4, fig. 2, leading rectly to the front of the pistons, and passages and f^7 leading to the rear thereof, for the purpo named.

8. The connecting-rod f^1, composed of the tw soft-metal eye-pieces 10 and 11, and the centr hard-metal piece 12, the said pieces being co structed so as to be connected together in th manner shown, and to be adjusted so as to shor or lengthen the rod, as set forth.

9. The longitudinal diaphragm g^7 g^7, arranged a valve, G, so as to run at an angle with the ax of the same in order to enlarge the two end open ings g^4 and g^4 of the valve, substantially as d cribed.

10. The combination of two cylinders K K pistons T T, connecting-rods f^1 f^1, and a crank shaft P, with a transverse rotary valve, G, and i corresponding ports and channels, substantially and for the purpose hereinbefore set forth.

11. The combination, with the shell of each the pistons T, of a fluid-displacing piece, s provided with a central eye through which t connecting-rod f^1 operates, substantially as and f the purpose hereinbefore set forth.

12. The combination, with the cylinders K K and channels f^6 f^7, of diffusing chambers f^{10} f^{10}, fo the purpose named.

111,180.—Variable Cut-off for Steam Engines.—William B. Cross, Sacramento, Cal.

Claim.—1. The lever for working the valve-ste combined as described, with the sliding block ha ing the inclined plane, as and for the purpose spe ified.

2. The combination, with the sliding block M, the rod O, lever P, adjustable rod or hook S, an arm R, all substantially as specified.

3. The combination, with the rock-shaft, tee and levers D, of the arm R, lever P, adjusting ro or hook S, rod O, slide M, and valve-stem C, all su stantially as specified.

111,181. — Spoke-Tenoning Machine.—Godfrey E. Culp and Matthew Flaig, Lockhaven, Pa.

Claim.—1. The spring-plate C, hanging holder clamp-frame A, feet *t*, and lever *t*, pivoted in a sui

standard, and provided with a pin working in slot *l* of the spring-plate, when all these parts constructed, arranged, and operating as described.

2. The guide-way A, provided with the transverse bars *b* and adjustable supports *a*, the side-beam also provided with transverse recesses *b* and adjustable side-clamps *d*, and the spring-plate hanging holder *c*, clamp frame A, and lever *t*, when all these parts are constructed to operate as described.

3. The adjustable brace *m* provided with sliding bars *n*, the recessed guide-way A provided with adjustable supports *a*, and the recessed side-bar B provided with the side-clamps *d*, when these parts are combined and arranged as described.

111,182.—Furnace for Burning Small Coal or Culm.—Alfred Dart, Carbondale, Pa.

Claim.—1. The combination, with the inclined plate C, of the cover D, having transverse depressions E E, substantially as and for the purpose specified.

2. The gate G, arranged with the grate C, as shown and described, for the purpose specified.

111,183.—Wine-Press.—George L. Davenport and Charles G. Case, Davenport, Iowa.

Claim.—1. In a wine-press, the thrashing mechanism, consisting of the cylinders B and C, and sieve D, armed with teeth, and constructed and arranged to operate substantially as herein described.

2. In a wine-press, the separating mechanism, consisting of the inclined sieve F, with its pitman and crank-shaft, when constructed and arranged to operate substantially as herein described.

3. In a wine-press, the combination of the rubber-covered rollers I I with the fluted distributing-roll J, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

4. In connection with the rollers I I and J, the endless apron M, and the brushes O, when said parts are arranged substantially as and for the purpose set forth.

111,184.—Removable Car-Seat Back.—Peter F. Duchemin, Somerville, Mass.

Claim.—1. A removable support, B, fitting in the corner of a car-seat, and supplied with a projecting rest, A, substantially as and for the purpose set forth.

2. The clasp C, herein shown and described, with or without its spring *f*, for the purpose set forth.

111,185.—Treating Fruit-Trees to Prevent the Ravages of Insects, &c.—Samuel J. Everett, Mahoney City, Cal.

Claim.—1. The above-described mode of treating fruit-trees, substantially as and for the purposes described.

2. The compounds No. 1 and No. 2, substantially as and for the purposes herein described.

111,186. — Tray-Holder. — Obed Fahnestock, Indianapolis, Ind.

Claim.—1. A tray-holder, consisting of a plate A, the holders B C, and the adjustable holders E E, all substantially as specified.

2. The combination, with the plate A and holders B C, of the tapes or straps H and points K, substantially as specified.

3. The combination, with the plate A and the holders B C, of the legs D, substantially as specified.

111,187.—Pipe-Coupling.—John B. Fink, Mechanicsville, Pa.

Claim.—A pipe-coupling or connection, combining in the construction the two curved portions A A, the cross-bars A^1 A^1, and the bolt A^2, the whole being constructed and arranged to operate substantially as and for the purpose set forth.

111,188. — Hoisting Apparatus.—Henry Flad and James B. Eads, St. Louis, Mo.

Claim.—1. The combination of the pulleys Q Q' and S S', receding and approaching by means substantially as shown, pulleys T U, and pulley-carriage M, enabling the vertical movement of the load by a single rope, irrespective of the position of the carriage upon its track L, substantially as described.

2. In combination with the pulleys Q Q' S S', operating substantially as described, the pulleys T U and the pulley-carriage M, the drum B, for causing the horizontal movement of the position of the carriage without interfering with the horizontal movement of the load.

111,189, antedated January 14, 1871.—Water-Closet.—Charles Frankish, Chicago, Ill.

Claim.—In combination with a water-closet or privy-seat, the sections H H, when the same are arranged to operate substantially as and for the purposes herein shown and described.

111,190.—Gate.—Willard Green Franklin, Shelbina, Mo.

Claim.—The combination of the rearwardly-extended rail b^1, weight C, pivot d', brace b^3, and pivot b^4, with the gate B and post D, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

111,191.—Steam-Boiler.—John L. Frisbie, Brooklyn, N. Y., assignor to Marshall T. Davidson, same place.

Claim.—1. The combination and arrangement of the water-leg D, the annular water-chamber F, the water-tubes G, the heating-chamber C, the smoke-tubes H, and the body B, substantially as specified.

2. The smoke-tubes H, secured as described to the crown-sheet of the boiler by means of flanges *e*, in combination with the glands *f* and sockets *g* on said sheet, and into which the glands are made to screw, essentially as shown and described.

111,192.—Steam-Radiator.—John L. Frisbie, Brooklyn, N. Y., assignor to Marshall T. Davidson, same place.

Claim.—The combination of the outer steam-pipes B B, of corrugated form, or made with hollow wings *c*, constituting interior ducts *d*, and serving to support the inner air-pipes C C, with the base A, all arranged for operation substantially as specified.

111,193. — Caster.—Francis A. Gardner, Danbury, Conn.

Claim.—1. The shell A, constructed with the flange *a*, in combination with a caster-plate, D, constructed with a face inclined at an angle of about forty-five degrees to the prime axis of the caster, and the spherical rollers C, to operate in the manner set forth.

2. The plate G, constructed with radial arms H oblique to the prime axis of the caster and about parallel with the inclined surface of the plate D, and combined with the shell A, plate D, and rollers C, for the purpose set forth.

111,194.—Pen-Holder.—Alfred M. George, Sand Fly, Texas.

Claim.—The clamp B, made independent of and placed upon the upper side of a pen-holder, one end being free and the other confined to the holder, when used in combination with the clamp C, as and for the purpose set forth.

111,195. — MEDICAL COMPOUND FOR THE CURE OF RHEUMATISM. — Rebecca Gilkinson, New York, N. Y.

Claim.—The above medical compound, substantially as described.

111,196, antedated January 14, 1871.—SPRING-CATCH FOR DOORS. — William Glue, Muskegon, Mich.

Claim.—The straight-pull spring-latch B, made in one piece, and the eccentric D, constructed as described, and arranged within the frame A so that the latch shall operate vertically with relation to the keeper C, as herein set forth and shown.

111,197. — MACHINE FOR SEWING BOOTS AND SHOES.—Charles Goodyear, Jr., New Rochelle, N. Y.

Claim.—1. In a sewing-machine, organized for sewing boots and shoes, the combination, with a stationary jaw and a movable jaw, for holding the sole or other material of variable thickness, of a mechanism constructed and operating substantially as herein shown and described, whereby the supply of thread to the needle is regulated by the relative distance of the two jaws from each other, and without reference to the stroke of the needle.

2. The means, substantially as described, for varying the ratio of the supply of thread, so that with a given thickness of stock the supply of thread may be varied without altering the degree of tension upon the bobbin.

3. The needle and awl-stocks, mounted upon one and the same axis or shaft, when said awl-stock and needle-stock are actuated by geared lever segments, substantially as herein set forth.

4. The mechanism, herein described, or its equivalent, for releasing or unlocking the sliding bar which supports the movable jaw when it is desired to move the jaw to insert or remove the work.

5. In combination with a needle having its barb on the side from which the shoe is moved by the feed mechanism of the device shown and described, or its equivalent, to prevent the dropping of loops or stitches, as set forth.

111,198. — COMPOUND FOR REMOVAL OF SCALE FROM STEAM-BOILERS.—William Thomas Grant, Neelyville, Ill.

Claim.—The within-described compound, consisting of ground shells, ground bone, and coal-tar, or any of its distillates, substantially for the purposes herein set forth.

111,199. — BASTER-GUIDE FOR SEWING-MACHINES.—Franklin T. Grimes, Liberty, Mo.

Claim.—1. The baster or basting-bar A, made up in sections jointed together, as described, and one or more of said sections made capable of sliding, subject to spring pressure or control in direction of the length of the bar, in combination with the teeth *g* at the extremities of the end sections, substantially as specified.

2. The combination of the teeth A on the face or faces of the sectionally-sliding and jointed basting-bar A, with the teeth *g* at extremities of the end sections, essentially as shown and described.

3. The combination of a ruler and measurer B with a basting-bar A, constructed in sections, for operation as herein described.

111,200.—CORN-DROPPER.—Jacob H. Gross, Niantic, Ill.

Claim.—The journal-boxes C C, vertical slotted bars E, and bolts F, combined, as described, with shaft B, for the purpose of adjusting the star-wheels at a greater or lesser height.

111,201.—GATE.—John K. Harris, Springfield, Ohio.

Claim.—The arrangement of levers M M′, chain or rope L, and vertical latch-lever J, the latter being connected to the described or any ordinary spring-latch, for the purpose of opening and closing the gate from opposite directions, substantially as herein described.

111,202. — HAND CORN-PLANTER.—James M. Harrison, Spartanburg, Ind.

Claim.—1. The combination of the levers A and D with the slide E, having the spring-plate *g* applied thereto, and the guard-plate *c*, all arranged to operate as described.

2. The dotainer plate, or lip *k*, arranged between the levers A and D, near their lower end, as described, for the retention of the charge of grain, as set forth.

111,203.—BEER-COOLER.—Carl W. Haug, New York, N. Y., assignor to himself and Henry Bunz, same place.

Claim.—A cooler for beer or other liquids, composed of two vessels, A B, the outer vessel A being composed of a cylinder, *a*, and polygon *b*, connected by a bottom, *c*, with ridges *d*, and the inner vessel being composed of a polygon, *e*, and cylinder *f*, connected by a bottom, *g*, in combination with an annular cap, *h*, and with a supply and discharge-pipe, substantially as herein shown and described.

111,204.—BEE-HIVE.—Henry L. Heckman, Brooklyn, Iowa.

Claim.—1. The combination, with the main body A, of the metallic box B, having movable bottom C, glass bottle D, and perforated slide E, provided with the metallic sheets *a a′* and funnel *d*, all constructed substantially as herein described and shown.

2. In a bee-hive, the moth-trap B D, when constructed substantially as specified.

111,205.—COCK.—William H. Hedges and Matthew E. Campfield, Newark, N. J.

Claim.—1. The packing-tubing surrounding the stem *d*, in combination with the spiral spring when said tubing and spring are arranged between the flange or seat *b* and collar *c*, and operated together in the manner and for the purpose set forth.

2. The stem *d*, provided with an opening or openings near its lower end, and constructed as described, in combination with the tubing and spring arranged as set forth.

111,206.—MACHINE FOR CUTTING AND DRESSING STONE.—Jacob Hedrick, William Tash, and Henry Kreidler, York, Pa.

Claim.—1. The combination of shaft c^9, arms c^{10} carrying sliding axles a^{11}, pulleys a^{12}, and springs a^{13}, in the manner and for the purpose herein described.

2. The driving and intermediate gear-wheels C, C^1, C^2, C^3, *e*, e^1, and e^2, in combination with the clutch-lever *e*, sliding clutches d^2 and d^3, feeding-screws E and E′, shaft D^1, gear-wheels *d*, d^1, d^2, and d^3, sliding rod *f*, with its adjustable gauge, stops f^1, sliding frame F, rod f^2, and springs f^3, constructed and arranged to operate substantially in the manner and for the purpose set forth.

3. The driving and intermediate gear-wheels C, C^1, C^2, C^3, *e* e^1, and e^2, above enumerated, shaft I, sliding and revolving wiper-wheel G having wipers *g*, in combination with the chisel or pick-shafts H having adjustable lifting-arms I, constructed and arranged to operate substantially in the manner shown.

4. The chisel or pick-shafts H, cylinder adjusting nuts *j*, adjustable stops J^2, and springs j^1, when constructed and arranged in the manner shown.

5. The hand-screw rod K, base-plate i^3, springs i^2, in combination with the adjustable lifter-arms I, and chisel or pick-shafts H, in the manner and for the purpose described.

6. The slotted guide-plate J′, in combination with the base-plate i^4 and lifter-arms I, when constructed and arranged to operate in the manner and for the purpose set forth.

7. The adjustable picks or chisels, secured to their shafts H by means of the dovetail rib *c* on the pick, and the dovetail slot *c′* in the shafts H, and held by the holding-screw *h*, in the manner shown.

8. The hand-wheel shafts M, pinions *m′*, rack-arms L, and guide-ways L′, in combination with the frame B, when the parts are constructed and arranged to operate in the manner and for the purpose substantially as described.

9. The reciprocating, sliding, and supporting-arms B^1, when constructed and arranged to operate in the manner described.

10. The temper-screw rod a^3, sliding beam a^4, and plate a^5, in combination with the sliding and supporting arms B^1, when constructed and arranged in the manner and for the purpose described.

11. The hand-screw rods B^2, in combination with the supporting arms B^1, arranged to operate in the manner described.

12. The stone-cutting and stone-dressing machine herein described, when the several parts are combined and arranged to operate in the manner and for the purpose substantially as shown.

111,207.—BOX-OPENER.—Thomas B. Henkle, Knightstown, Ind.

Claim.—The device for opening boxes and for similar purposes, herein set forth, composed of the hand-lever A A^1 A^2, fulcrum-bar B B′, and lifting-hook C C′, constructed and arranged relatively to one another, substantially as specified.

111,208. — VEGETABLE-CUTTER. — David Wallace Hersey, Pembroke, Me.

Claim.—1. The combination of the single band-wire D and the metallic rests *f f* with the boards *b* b fitted on their upper edges to receive the wire, and the straining devices *a c d*, substantially as set forth.

2. The arrangement of the bars E E with the frame A carrying the band-knife B and platen D, substantially in the manner as specified.

111,209.—FOLDING-CHAIR.—Francis March Holmes, Boston, Mass.

Claim.—1. In a folding-chair, having the two pairs of crossed levers and the two seat-supporting rungs, arranged substantially as described, the combination of the seat with the front rung by means of double-jointed or three-leaved hinges, as described.

2. In a folding-chair, made with two sets of crossed levers and two seat-supporting rungs, as described, and with the seat connected to the front rung by double-jointed hinges, as set forth, the seat, as provided with the back-stop and one or more rung-stops, arranged to operate with the chair-backs and the rear rung, substantially in manner as set forth.

3. A folding-chair as having a rigid seat or seat-frame hinged to a rung, as explained, two sets of crossed levers and a back, combined to fold as described, and the pivots of the levers so arranged with respect to the feet thereof that the chair, when folded, and resting with all its feet on a floor or horizontal plane, shall be capable of "standing alone," or maintaining itself in an erect or standing position, all substantially as described.

111,210.—BRICK-MACHINE.—Erwin C. Hubbard, Green Bay, Wis.

Claim.—1. The mold-wheel M, plungers D and *g*, and the fork V, constructed, arranged, and operating in combination substantially as and for the purposes herein shown and described.

2. The lever T and the mold-wheel, when combined and operating substantially as set forth.

111,211.—RAILWAY-CAR WHEEL. — Lewis B. Hunt, New York, N. Y.

Claim.—1. The cushion of what I term "vulcanized" wood, interposed between the rim or tire and the hub of a car-wheel, and forming the sole connection between them, substantially in the manner herein shown and described.

2. Car-wheels made in whole or in part of vulcanized wood.

111,212.—OPERATING CUTTER FOR STEAM-PLOWS.—Oliver Hyde, Oakland, Cal.

Claim.—1. In combination with the blocks E, the metal shoes L, provided with the projecting knife-edged keel *m*, substantially as and for the purpose described.

2. The colter-runner A,′ hinged to the shaft A and cutter-shaft J, as and for the purpose set forth.

111,213.—ELASTIC TIRE FOR TRACTION-ENGINES.—Oliver Hyde, Oakland, Cal.

Claim.—1. The cylindrical or polygonal elastic blocks C, either solid or provided with a central hole, when used in the manner and for the purpose specified.

2. The wedge-blocks D, provided with the side-plates *f* and the slotted links *l*, in combination with the cylindrical or equivalent-shaped elastic blocks C, and vertical metallic rims B, substantially as and for the purpose above described.

111,214. — MANUFACTURE OF LEATHER.—Samuel B. Jenks and Frederick A. Holcomb, Grand Rapids, Mich.

Claim.—The combination of a chemical with a mechanical action upon skins for the purpose of producing leather, substantially in the manner above set forth.

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111,215.—COMBINED FEED-WATER HEATER AND CIRCULATOR.—Edward L. Jones, Memphis, Tenn.

Claim.—The arrangement of the drum *a*, vertical pipes *b*, straight pipe *c*, cross-tubes *d*, cocks *h*, *i*, and *k*, and serpentine pipes *f*, with the boiler and furnace, as specified.

111,216.—DIE FOR ORNAMENTING SHEET METAL.—Charles Kaufmann, Oconomowoc, Wis.

Claim.—1. The herein-described die for forming ornaments on sheets of metal, consisting of the parts A^1 and A^2, substantially as set forth.

2. In combination with the parts A^1 and A^2, the guides B B, substantially as specified.

111,217. — POTATO-PLANTER. — Hiram J. Kent, Palmyra, N. Y.

Claim. 1. The combination of the centering-springs *p*, knife *q*, plunger F, and mechanism for imparting motion to the latter, all constructed, arranged, and operating substantially as herein described.

2. The hopper D, mounted on a tilting frame, and provided with the inclined bottom *f g f g*, the hinged trough E operated from the plunger, and the vertical stationary plates *h j*, all constructed, arranged, and operating substantially as and for the purposes described.

3. In potato-planters, the valve *t*, pivoted lever *u*, and spring *u′*, applied to the delivery-tube G, when operated automatically from the crank-shaft I, and having a regular intermittent motion, all constructed, arranged, and operating substantially as herein described.

111,218.—DEVICE FOR BENDING WOOD.—Edward Lacey, Chicago, Ill.

Claim.—1. In combination with a bending-strap, the curved links B, formed with arcs at right angles to each other, substantially as described for the purpose specified.

2. In combination with the bending-strap herein described, the adjustable clamping-handles, consisting of the metallic loop E, the adjusting screws, and the operating handles, for the purpose specified.

3. In combination with the bending-strap herein described, the links C and metal plates J, substantially as described, for the purpose specified.

111,219.—PUMP.—George H. Laub, West Lebanon, Ind.

Claim.—The combination of the barrel A, bars G, wood pipes C D, top B, band I, lugs E K, and keys, all substantially as specified.

111,220.—TOOL FOR CUTTING OFF PIPES IN OIL-WELLS.—James H. Luther, Petroleum Centre, Pa.

Claim.—1. The cutter-cylinder A, provided with the adjustable pin *h*, slots *a*, cutters *b*, pressers *c*, and beveled guide or end, constructed and operating in the manner and for the purposes set forth.

2. The mandrel D E, having its lower extremity terminating in an inverted frustum of a cone, or wedge-shaped, and provided with a stop-ring and pins, and the upper extremity of its top section threaded, and bottom provided with "jar"-pin, the two coupled by the slotted coupling F, all constructed and operating substantially in the manner and for the purposes set forth.

3. In combination with the cylinder proper and top section having the cross-T and levers, the collar H I, constructed and operating substantially in the manner and for the purposes hereinbefore set forth.

4. The cutters *b*, and pressers *c*, provided with lips *d* to retain them in place, and having their backs beveled, in combination with the tapered mandrel E, as and for the purposes set forth.

111,221.—TOOL FOR CUTTING OFF AUGER-STEMS IN OIL-WELLS.—James H. Luther, Petroleum Centre, Pa.

Claim.—The cutter-cylinder or tube A, provided with the internally-arranged cutters and pressers C C′ and retaining-nut B, in combination with the rings D E F and collar C, all constructed and operating substantially in the manner and for the purposes set forth.

111,222.—EMBALMING.—Benjamin F. Lyford, San Francisco, Cal.

Claim.—1. The solution for embalming, composed of the ingredients herein described.

2. The process of compounding said solution, as set forth.

3. The process of embalming, as herein specified.

111,223.—GRATE-BAR.—Joseph T. Marshall, Wilmington, Del.

Claim.—1. A series of revolving grate-bars, with any number of concave sides, constructed for the purposes herein shown and set forth.

2. The combination of the frame A with the pentagonal or many-sided concave bars B, geared by wheels C and ends D, all constructed and arranged substantially as herein shown, and for the purposes set forth.

111,224.—CAR-COUPLING.—John Mayben, Milroy, Pa.

Claim.—The coupling-block B, eccentrically arranged so as to change the height of the coupling, substantially as described,

111,225.—STOVE-PIPE SHELF.—James McCallum, Rochester, N. Y., assignor of one-third of his right to Harvey E. Gillam, same place.

Claim.—1. The construction of the parts A B, which attach separately to the pipe in the manner shown, for the purpose specified.

2. In combination with the separate parts A B, which constitute the shelf and cover, the overlapping straps *a a*, the marginal rod *d*, the stay-rods *f f*, and the narrow flange *g*, the whole arranged as described, and operating in the manner and for the purpose specified.

111,226, antedated January 18, 1871.—GANG-PLOW.—John R. McConnell, Marengo, Iowa.

Claim.—The arrangement in a gang-plow, and with respect to a wheel, I, and shaft H, of the wheel L and the shaft J, adjustable in the apertures of standards h^1 K, as shown and described, and for the purpose specified.

111,227.—PUMP.—John H. McGowan, Cincinnati, Ohio.

Claim.—In combination with a pump, the supplemental valve E and suction air-vessel H, arranged and operating substantially as set forth.

111,228.—COMBINED GANG-PLOW AND CULTIVATOR.—James A. Medaris, Sullivan, Ind.

Claim.—1. The arrangement of the axle A with cranks *a a*, wheels B B′, frame C, and frame platform G, all substantially as shown and described.

2. The arrangement of the frame G, side bloc I I, cultivator-plows J and J′, plows K, and sub soilers L, all as shown and described.

3. The arrangement, with the frame or platfor G, of the hinged cultivator-plows J J′, rod h, foo lever *f*, rods *i i*, false doubletree N, doubletree and singletrees P P, substantially as shown and described.

111,229.—BRACE FOR CARRIAGE AND OTHER SPRINGS.—Lumon C. Miller, Humphrey, N. Y.

Claim.—The combination and arrangement of the adjustable piece B, constructed substantially as described, with the piece A, whereby the brace is adapted to various distances between the carriage-box and spring bar, as herein set forth.

111,230.—FOLDING DESK.—John Milwain, Nashville, Tenn.

Claim.—The table or leaf B, provided with the strip A, and attached to the bracket K, having pivots working in the vertically-elongated slots in the frame, substantially as and for the purpose specified.

111,231.—PORTABLE ESCRITOIR.—Walter G. Mitchell, Holliston, Mass.

Claim.—An improved portable escritoir, A B C D E, said parts A B C D E being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

111,232.—BUGGY-SEAT.—Edward T. Mitchoff and Jesse W. Dann, Columbus, Ohio.

Claim.—1. The wooden rim *a*, attached to the metal back B, substantially as and for the purpose described.

2. The combination of the curved wooden bracing-handles *c c*, rim *a*, metal back B, and seat-bottom A, substantially as and for the purpose described.

111,233.—FLUID-METER.—Charles Moore, New York, N. Y., assignor to William Tobin, same place.

Claim.—1. The combination, with a direct course or passage for the liquid through the meter, and with a passage or chamber from which the meter draws its supply, of a free or independent differential pressure-valve operating to control both passages, essentially as herein set forth.

2. The construction and arrangement, between the main inlet and main outlet, of the differential pressure or proportioning-valve F, with a hollow body having one or more inlets *d*, and one or more outlets *e*, in combination with one or more fixed passages *b*, *c*, and *f*, and with a fluid-chamber or case, from which the motor draws its supply, and which is in communication, through the meter, with the main outlet, substantially as specified.

3. The combination, with the differential pressure or proportioning-valve F, of the adjustable gate H to or over the opening *f*, by which the motor

or its case G is supplied with fluid through the valve, essentially as described.

4. The construction and arrangement, under exposure to the fluid in the outer case G and in the exhaust-chamber O, of the valve or valves L L, having piston-heads *i i*, with the openings *k k* and *n n*, the chambers M M or N N and O, and cylinder-ports *u u*, substantially as specified.

111,234.—LIQUID-METER.—Charles Moore, New York, N. Y., assignor to William Tobin, same place.

Claim.—1. The combination, with the cylinder A of the meter, having inlet and outlet passages arranged to receive the liquid below and to discharge it above, with the free or independent piston D, provided with a valve, E, opening downward for operation, substantially as described.

2. The combination of the weighted lever F with the piston D, and the valve E closed at or toward the termination of the down-stroke of the piston, as described, and opened by the weight or weighted lever F toward the termination of its up-stroke, essentially as specified.

3. The arrangement of the safety opening or openings *k* in the cylinder A, in combination with the valvular piston D, substantially as specified.

111,235.—MEASURING ATTACHMENT FOR PACKAGED FABRICS.—Edward Morgan, Washington, D. C., assignor of two-thirds of his right to J. F. McKee, Fort Smith, Arkansas, and Charles Fair, Philadelphia, Pa.

Claim.—In combination with a rolled or folded fabric, a measuring-strip, substantially as described.

111,236.—BODY-LINING FOR LADIES' DRESSES.—Schamu Moschcowitz, New York, N. Y.

Claim.—As a new article of manufacture, a dress-lining having the body-pattern stamped or marked upon it, as herein described, for the purpose specified.

111,237.—LAMP.—Rufus Nutting, Randolph, Vt.

Claim.—The construction of lamp-collars of a single piece of metal as an article of manufacture, when adapted to glass, composition, or metallic lamps, of whatever size, style, or construction, having a downward extension, forming a metallic wick-tube, open only at the top and bottom, and having a lateral hole near the top, substantially as and for the purposes set forth.

111,238.—GATE.—Patrick O'Neill, Murfreesborough, Tenn.

Claim.—1. The combination, with the gate A, of the roller D, hinged plates F G, and operating-chain I, substantially as specified.

2. The pivoted lever L, operated in either direction by cords P P, for operating the gate, through the medium of the branch chains M and N, connected with the chain I, as shown and described.

111,239.—BARK-MILL.—Gilbert E. Palen and Florello P. Avery, Tunkhannock, Pa.

Claim.—1. The hopper A, the flanged extension-plates B *b*, and flanged, grooved, stationary grinder *b c*, combined as described, with a cup, D *d*, rotary grinder G, and shaft F, for the purpose specified.

2. The hopper A, diametrically larger in the middle than at each end, and having the ribs *o* formed, combined as described, with a bark-breaker, oblique, and rotating horn I, for the purpose specified.

111,240.—SPADE.—Harrison Parkman, Philadelphia, Pa.

Claim.—As a new article of manufacture, a spade having an angular point or cutting-edge narrowed gradually from its lower to its upper corners, concave or curved in cross-section, and straight longitudinally on its rear side, substantially as shown and described.

111,241.—STOP-VALVE.—John Paterson, Troy, N. Y.

Claim.—1. The combination, with the gates C C, having sockets P P and pins S S, of the nut *m* having arms or trunnions O O, slots R R, and grooves Q Q, for locking the gates, substantially as hereinbefore set forth.

2. The combination and arrangement of the gates C C, having ribs T T, with the valve-case having corresponding ribs U U, substantially as and for the purpose hereinbefore set forth.

3. The adjustable fulcrum-stop *k*, operated by the cam or circular incline surface L and hand-lever *l*, substantially as and for the purpose hereinbefore set forth.

111,242.—STOP-VALVE.—John Paterson, Troy, N. Y.

Claim.—The combination of the gates C G, screw-faces F F, center-pin E, ribs T T, stop H, and incline K, arms P P, and stem N, constructed substantially as and for the purpose hereinbefore set forth.

111,243.—DRAWER-PULL.—Charles H. Pierpont, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—The handle A, of a drawer-pull, jointed to the drawer or a shank projecting therefrom so as to swing downward when let go from the hand, provided with a spring or cushion, C, substantially as specified.

111,244.—PLOW.—Joseph Pinkham, New Market, N. H.

Claim.—1. The frame A′, with adjusting-screws *a″ a″ a″ a″*, combined with the beam A, pivoted at *a*, substantially as and for the purpose described.

2. The colter B, with its projecting lip b^4 inserted into the slot or mortise in the point of the share, and the yoke *b″* fastened to the standard of the plow either by the bolt *b* or the bolts and bar b^3, substantially as and for the purpose described.

111,245.—BOOT-CRIMPER.—William Polsgrove, St. Thomas, Pa.

Claim.—1. The grooved crimping-board D, provided with the sliding stirrup K, spring L, and clamp M, all substantially as and for the purposes herein set forth.

2. The within-described boot-crimper, consisting of the frame A B C, crimping-board D, with stirrup K, spring L, and clamp M, the cross-head G, with crimper E E′, levers H H, and bars I I, all constructed and arranged substantially as and for the purposes herein set forth.

111,246.—CONNECTOR FOR TELEGRAPH-WIRES.—George Bartlett Prescott, New York, N. Y.

Claim.—An insulated telegraph-connector, made substantially as herein shown and described.

111,247, antedated January 14, 1871.—PLOW.—Jackson P. Pritchard, Conn Valley, Cal.

Claim.—In combination with the plows D and D′, connected and arranged as above claimed, the holding device, consisting of the spring J and cross-piece *e*, operated by the lever K, substantially as specified.

111,248.—MACHINE FOR CUTTING SCREW-THREADS ON BOLTS.—Salmon W. Putnam, Jr., Fitchburg, Mass.

Claim.—1. Jointly, the ring *f*, constructed as de-

scribed, with the double-acting cam-grooves in its end or front face, and the spiral or inclined grooves on its periphery, terminating toward the front end in the short straight grooves, and the combination of the said ring with the hollow arbor *h*, the cylindrical piece *i*, provided on its inner surface with rolls or pins, and the lever *k*, all as shown and described.

2. The cap *n*, made to hold the dies in the grooves, and constructed with covered openings to be used in conjunction with the openings *m*, substantially as described.

3. The combination, with a hollow die-carrying arbor, of the disk *p*, located within the arbor, and connected with an indicator, and so arranged that the amount of its movement, caused by passage of a bolt through the dies, may be indicated to the operator, substantially as and for the purpose set forth.

111,249. — STAIR-ROD FASTENING. — Emil Rath, New York, N. Y., assignor to Moritz Krickl, same place.

Claim.—The button F, pivoted to the standard D, in combination with the stair-rod C, formed with the slot G, arranged and operating substantially as herein shown and described.

111,250. — CULTIVATOR. — William Benjamin Read, Gallatin, Tenn.

Claim.—A cultivator, consisting of the reversible frame A, constructed as described, having the pivoted standards *g* and adjustable braces *i* and the adjustable handles B connected thereto, all as herein described.

111,251.—MACHINERY FOR TRANSMITTING AND DISTRIBUTING MOTIVE POWER.—James Richmond, Lockport, N. Y.

Claim.—1. The combination, with the main driving pulley A′, of the prime mover A, and series of driving-pulleys C C^1 and C^2 C^3, and transmitting-wire-rope belts G G′, of the branch-distributing pulleys D D, guide-pulleys H H, and branch belts I I, substantially as and for the purpose hereinbefore specified.

2. The combination, with the branch pulleys D D, of the guide-pulleys H H, made adjustable about the axis of the pulleys D D, substantially as and for the purpose hereinbefore specified.

3. The combination of the adjustable forked guide-wheel brackets L with the circular frame M, as and for the purpose hereinbefore specified.

111,252.—HAY-LOADER.—John P. Rideout, Bowdoinham, Me.

Claim.—The combination of the roller *d*, the pulley *b*, the lines H I, and the elevator *a*, with the hay-cart, for the purposes and in the manner described.

111,253.—SETTING STONES, &c.—William Riker, Newark, N. J.

Claim.—The setting for stones, consisting of the perforated plate A and of the headed pins C C, which are riveted to the plate subsequent to the finishing of the same, substantially as herein shown and described.

111,254.—CARD FOR MARINERS' LIQUID-COMPASSES.—Edward S. Ritchie, Brookline, Mass.

Claim.—1. A mariner's compass-card, as composed of a sheet of paper, cloth, or other proper material, protected by albumen or other coagulative substitute alone, coagulated, as described.

2. A mariner's liquid compass-card, as composed of two or more strata cemented together by albumen or other like coagulative substance, coagulated, as set forth.

3. A mariner's liquid compass-card, as composed of strata covered or saturated with albumen or other like coagulative substance, coagulated, and cemented together with albumen, coagulated, as described, whether the outer covering of the card be of albumen or other coagulative material alone or of such mixture with one or more pigments.

111,255, antedated January 18, 1871.—CATTLE-STANCHION. — Joshua A. Roeback, Hermon, N. Y.

Claim.—The arrangement of the standards A A, bars B B, movable stanchions C C, guides D D, horizontal bar E, with pins *a a*, and latches G G, all substantially as shown and described.

111,256.—CULTIVATOR.—H. Murtin Rose, Clinton, Ill.

Claim.—1. The combination of the seat and its adjustable arms C′ with the bifurcated end of the tongue C, substantially as described, for the purpose specified.

2. The combination of the slotted block D′ with the driver's seat B′ and the seat-arms C′, for the purpose specified.

3. The plows and beams of a wheel-cultivator suspended beneath the axle from the upright frame E, mounted thereon by means of the bent adjustable bars H and adjustable frame I, substantially as herein shown and described.

4. In combination with the adjustable pendent bars H and plow-beams, the adjustable frames I, slotted bar J, and adjustable loops K, substantially as described, for the purpose specified.

5. In combination with the adjustable frames I and slotted bar J, the wedges *r*, substantially as described, for the purpose specified.

6. The beveled recessed blocks X and eye-bolts V, constructed as described, and applied to the beams and standards in the manner herein set forth and shown, for the purpose specified.

7. The foot-horns I′, constructed as described and adapted for adjustment upon the plow-beams in the manner set forth, for the purpose specified.

8. The jointed adjustable levers K′, constructed as described, and provided with the friction-rollers *m′*, in combination with the guide-frames I and plow-beams, substantially as and for the purpose specified.

9. The plow-beams, when connected at their forward ends to the draft-pole by means of the pivoted plates *q* and pivoted block O, substantially as described, for the purpose specified.

111,257, antedated January 14, 1871.—BELT-TIGHTENER.—George W. Runk, Franklin, La.

Claim.—1. The projecting ears *a b*, the first serrated and the second having catch *c* to work therewith, combined with a swinging eccentric shaft B, as and for the purpose described.

2. The arrangement of links C, cross-heads D, and lever E, between the two belt-clamps, as and for the purpose described.

3. The combination, with the two supporting-plates A, having projections *g* on their ends, of the two apertured adjustable plates, F F, as and for the purpose described.

111,258.—MOWING-MACHINE.—George T. Savary, deceased, Newburyport, Mass., N. Jennie Savary, administratrix, assignor to John N. Pike, same place.

Claim. — The combination of the driving-wheel, the oscillating shaft, the jointed connecting-rod, vibrating lever and pitman, all these parts being constructed, arranged, and operating as described.

111,259.—LATH-MACHINE.—Charles Schleicher, Louisville, Ky.

Claim.—1. The upper feed-roll U and its shaft V, arranged with the adjustable springs X Y in the manner described and shown, for the purpose specified.

2. The gang of disks S on the shaft R, in combination with the adjustable gauge T and gang of saws C, all as herein set forth.

3. The arrangement of the slotted bed P hinged at one end to the frame A, the screw Z, gang of saws C, gang of disks S, gauge T, fixed and yield-

feed-rolls U and U′, and the adjustable springs Y, all constructed and operating substantially as herein shown and described.

111,260.—ICE-PICK AND HOOK.—Eide H. Schmults and Jacob Baker, New York, N. Y.

Claim.—A combined ice-pick, breaker, and lifting or opening implement, consisting of the main bar A, hook *a*, flattened end *d*, enlargement *c*, and spear *b*, as described and shown.

111,261.—RAILWAY-SWITCH AND SIGNAL APPARATUS.—Adolph Schnabel and Theodore Henning, Bruchsal, Grand Duchy of Baden.

Claim.—1. The locking-slides *j*, in combination with the valve-rods of the central apparatus, substantially as described, to prevent the switches of interfering trains from being set simultaneously.

2. The locking-slide L and plunger I, in combination with the switch-rail and with the plunger H, by which the switch-rail is adjusted, substantially as set forth.

3. The combination of the switch-moving plunger H with the signal-moving plunger D^2, substantially as set forth.

4. The combination of the plungers H and D^2 with the loaded plunger F^1 and with the controlling plunger *d*, substantially as described.

111,262.—LIQUID-METER.—Henry C. Sergeant, Newark, N. J., assignor to José F. De Navarro, New York City.

Claim.—1. In a meter in which the pistons of the measuring-cylinders or chambers also act as valves for each other, the arrangement and support, within and through the opening or passage which establishes communication between the cylinders, of the bearing-box for the crank-shaft, by which the pistons, through their respective pitmen, are connected to work in unison, substantially as specified.

2. The combination and arrangement of the openings *g g′*, in the outsides of the cylinders, relatively to the bearing-box G of the crank-shaft F, whereby said box, shaft, and cranks may be inserted through the side or sides of the meter, and provision is made for establishing connection of the pitmen by which the pistons are linked to the cranks, essentially as herein set forth.

111,263.—BURIAL-CASE.—Frank B. Shearer, Columbus, Ohio.

Claim.—A coffin, constructed as set forth, when the rubber coat C contains upon one of the surfaces of contact between the body and cover a strip, *b′*, of soft rubber, forming a constituent part of the hard-rubber coat, substantially as specified.

111,264. — APPARATUS AND PROCESS FOR CANNING AND PRESERVING MEATS, FRUITS, VEGETABLES, &c.—Nicholas H. Shipley, Baltimore, Md.

Claim.—1. The flask F′, constructed and described and shown, and for the purpose specified.

2. The stopples *f f′*, when constructed with notches or holes and adapted to be employed in connection with the flasks, substantially as described and for the purposes set forth.

3. The combination of box B, receiver A, and plate B′, provided with tapering apertures to receive the necks of the flasks, substantially as described.

4. The vertically-moving platform D, arranged in the box, in combination with the box B, plate B′, and receiver A, substantially as described.

5. The vertically-movable platform G, arranged in the receiver, in combination with the box B and plate B′, substantially as described and for the purpose set forth.

6. The combination of box B, car C, platform D, guide D′, and screw-rod or equivalent, d, as and for the purposes set forth.

7. The combination of receiver A, fig. 3, with the rods A′ *e*, and a device at the bottom of the latter for the purpose of grasping the cork or stopple, substantially as described.

8. The process herein described of exhausting atmospheric air from vessels to which heat is applied, and then condensing the contents of the vessels by applying cold through the medium of water in a stream or spray, as described.

111,265.—ROCK-DRILL.—Henry Shoemaker and John Shoemaker, Putneyville, Pa.

Claim.—The combination of the tube A, sleeves B and C, grooves *a a*, slots *a′ a′*, and keys K K, substantially as and for the purposes specified.

111,266.—GATE.—Lyman W. Sibley, Ames, Iowa.

Claim.—1. The combination, with the gate, of the oblique plate L, the swinging rollers Q Q′, levers R S, and the spring *d*, the said swinging rollers and the levers being arranged on an inclined pivot, all substantially as specified.

2. The combination, with the levers R S, of the cords, levers V V′, and the guide-rollers W Y, all substantially as specified.

3. The combination, with the oblique plate L and the rollers Q Q′, of the hanging block *e*, all substantially as specified.

111,267.—PLASTER FOR WALLS. — Benjamin R. Smith and John Campbell Harris, Philadelphia, Pa.

Claim.—The compound plaster, produced of the materials and in the manner substantially as herein set forth.

111,268. — LIQUID-METER. — William E. Snediker, New York, N. Y., assignor to José F. De Navarro, same place.

Claim.—1. The combination, with the water-case or dome A, of the cylinders B B′, the reciprocating tube or outer piston D, the free or independent interior piston E, the valve F, and the several ports or passages under control of said valve and outer piston or tube, substantially as specified, and whereby the interior piston, which throws the valve to reverse the action of the outer piston, is, in its turn, reversed by the action of the outer piston or tube, as herein set forth.

2. The arrangement of the ports *h h′* in the reciprocating outer piston or tube D, relatively to the fixed ports *i i′*, *j j′*, and *f f′*, whereby the inner piston E is caused first to move alone, subsequently by its action on the valve F, to continue its motion in common with the outer piston, and then to be reversed while the outer piston completes its stroke, substantially as shown and described.

3. The combination of the sliding-stops or bumpers G G′ with the interior free piston E, exterior piston D, and cylinders B B′, substantially as described.

111,269.—STEEL GLASS-CUTTER AND KNIFE. Thelesphore Spénard, Conticooke, Canada.

Claim.—A pocket or other cutting-knife, constructed with a revolving glass-cutter, substantially as described.

111,270.—BOLSTER AND PILLOW.—Timothy S. Sperry, Chicago, Ill.

Claim.—1. In a pillow or other similar article, the combination of the outer shell or web A with the inner supporting coil or coils D and the padded case, essentially as described.

2. The inner and an outer spring or springs, A D, constructed and connected to each other so as to constitute longitudinal counter-braces to each other, essentially as described.

3. The inner and outer spring-coil or coils, provided with horizontal stays, and connected at the junction of the several parts by loop-locks or other means, as described.

4. An oval, or nearly so, spiral shell or web, in

combination with a padded case or covering, as described.

3. The combination of the inner spring-coil or coils D, the outer spring-shell or web A, the horizontal stay-springs C, and the padded covering, the whole constructed and arranged as described.

111,271.—Burial-Casket Handle.—Clark Strong, Winsted, Conn.

Claim.—1. The plate A B, having the vertical slot D and transverse trunnion-slot *a* formed therein, in combination with the lever C and trunnions *d*, substantially as and for the purpose set forth.

2. The plate, having beveled jaws *f f* formed therein, combined with the lever C, to stop and hold this lever when raised, and to prevent its front from being marred against the plate, substantially as described.

111,272.—Harvester.—Henry Stuckey, Bucyrus, Ohio, assignor to A. C. Shock, same place.

Claim.—The hinged shoe G, constructed with cars G′ G′, for the purpose of changing from a front to a rear cutter, in combination with the shifting hinged bar D′, substantially as set forth.

111,273.—Bee-Hive.—David H. Swartz, Lancaster, Ohio.

Claim.—1. The passages D, open at their front ends, and having side-perforated chambers d^1 at their rear ends applied to the bottom A and on each side of the passage C, of a bee-hive, for the purpose of attracting the moths and promoting their destruction.

2. The tube E at the bottom, the tube N at the top, and the cap L between them, all combined as described, to afford a free circulation of air through the hive.

111,274.—Lamp-Burner.—Alvin Taplin, Forestville, assignor to the Bristol Brass and Clock Company, Bristol, Conn.

Claim.—1. The deflector, composed of two plates, the upper one, D, of which forms its body and the cone, while the under and elastic plate, D′, of larger diameter, is slitted to form wings *b* at its periphery, with the rear portions of the slits under cover of the upper plate, substantially as specified.

2. The slotted and elastic deflector-plate D′, constructed with clips or slotted projections *f f*, arranged to fit opposite edges of the wick-tube, essentially as and for the purpose or purposes herein set forth.

111,275.—Shuttle for Sewing-Machine.—Eben C. Thaxter, Providence, R. I.

Claim.—The combination, with the shuttle A, of the slide *a* and the slotted spring C, having a hole at one end through which the thread passes, and riveted at the other end to the side of the shuttle, the whole constructed and arranged in the manner substantially as described, for the purposes specified.

111,276.—Sewing-Machine Motor.—William C. Thornton and James D. Cooley, Hillsville, Va.

Claim.—1. The arrangement of the pin *b* and springs *d* and *l* in respect of a sewing-machine motor, as specified.

2. The arrangement of the pin *m* and brace *r* with respect to a wheel and axle, as described.

111,277.—Millstone-Driver.—John J. Tomlinson, Bozeman City, Montana Territory.

Claim.—1. In combination with the running stone of a grinding-mill, a driver composed of the parts E and F, connected together and with the runner, substantially as shown and described, and for the purposes set forth.

2. Making provision for lateral play in a mill-driver, substantially as and for the purposes shown in fig. 2, as herein described.

3. The arms G G of the driver F, provided with friction-rollers H H, and fitted loosely in recesses in the runner, as shown and described, to provide for lateral play, as set forth.

4. The inner driver E, outer driver F G, provided with rollers H, and the links I I, arranged with reference to the spindle and runner, as shown and described.

111,278.—Loom.—Hamilton E. Towle, Newark, N. J.

Claim.—1. The lifting hooks hinged together, operating in pairs, and connected with the harness-frames, in combination with two reciprocating lifters, whereby particular heddles may be kept elevated by the alternate action of said lifters.

2. The harness-frames, the hinged lifting hooks, and the pair of pattern-rollers and reciprocating lifters, all arranged as described, and the pattern-rollers operating independently each of the other.

3. The harness-frames, the hinged lifting hooks, the pair of pattern-rollers, and vibrating beam, with pawl-arms and the reciprocating lifters, all constructed and operating together substantially as described.

111,279.—Rein-Supporter.—Ross Townsend, Liberty township, Ohio.

Claim.—The rein-supporter, herein described, consisting of a curved branching spring or flexible rod, B *b* b^1, constructed with looped or hooked ends b^2, when said rod is attached by the clamp D E, constructed as represented, so that the rod B *b* b^1 may be adjusted or removed at will, in the manner specified.

111,280, antedated January 7, 1871.—Ice-Machine.—David K. Tuttle and Orazio Lugo, Baltimore, Md.

Claim.—1. The process herein described of producing ice by the expansion of cooled compressed air in direct contact with the water to be frozen.

2. The process described for cooling the air while under compression, the same consisting in surrounding the vessels or pipes containing the condensed air with a non-congealing liquid, which is cooled by the returning air from the ice-generator alone, or with the aid of a portion of the air previously cooled, as described.

3. The combination of the vessels B and B′, the first cooled by the circulation of water, and the other by the cold non-congealing liquid, as described.

4. The combination of the vessels B B′ and C, as described.

5. The combination of the vessels C and C′ with their connections, so as to alternate, as described.

111,281.—Salt-Cellar.—John T. Walker, Brooklyn, N. Y.

Claim.—The salt-cellar provided with the clamping-spring, as specified.

111,282.—Millstone Balance.—John Walsh, Galena, Ill.

Claim.—A balance-frame for millstones, formed in two parts, B C, and provided with retaining hooks *d* clamped together on and combined with the band, as and for the purpose described.

111,283.—Bee-Hive.—William Wambach, Indianapolis, Ind.

Claim.—The arrangement, with reference to one another, of the case or box A, interior box D, with air-passages between the two, comb-frames E F, and moth-drawer C, substantially as set forth.

111,284.—Nutmeg-Grater.—Dewitt C. Warner, Chicago, Ill.

Claim.—1. The two-pronged pivoted spring D C, arranged to hold a nutmeg when being ground, [illegible] to turn back to allow a nutmeg to be placed in [illegible] to be ground, in combination with the hopper F, rotary grinding-plate H, lid E, and apartment N, as set forth.

2. The combination of the apartments N M, grinding-plate H, hopper F, spring D C, cover B, door W, and door J, as and for the purpose set forth.

111,285.—Elevator.—John Jacob Weber, St. Clair, Pa.

Claim.—In the elevator, the semicircular case A, with the cam C let into the side of the elevator B, the plank D extending up and down the shaft, the spring G, combined and as herein set forth.

111,286.—Lubricator for Railway-Car Axles.—Isaac P. Wendell, Philadelphia, Pa., assignor of one-half his right to Stephen P. M. Tasker, same place.

Claim.—The curved plate A, having a longitudinal slot, *a*, and clips *d d* and *d′ d′*, in combination with the spring C and felt or webbing B, all arranged and operating substantially in the manner and for the purpose set forth.

111,287.—Lubricator for Railway-Car Axle-Boxes.—Isaac P. Wendell, Philadelphia, Pa., assignor of one-half his right to Stephen P. M. Tasker, same place.

Claim.—1. The clips *d* on the lower side of the plate A, for forming a connection with the spring C, and confining the extreme ends of the parts B′ of the felt, substantially as above set forth.

2. The opening *f*, between the parts B′ B′ of the felt, as and for the purpose set forth.

111,288.—Gas-Generating and Blast-Heating Apparatus for Metallurgic and other Purposes.—James D. Whelpley and Jacob J. Storer, Boston, Mass.

Claim.—1. The improved gas-generator and blast-heating apparatus combined, substantially as and for the purposes described.

2. The improved gas-generator and blast-heating apparatus, substantially as described, combined with the use and application of pulverized fuel, substantially as described.

3. The utilization or conversion into use of the hot gases and products of combustion from an oven used for heating a blast of air, in combination with the heated blast, substantially as and for the purposes described.

111,289.—Bee-Hive.—Asbury Wilkinson, Greensburg, assignor to himself and William T. Gibson, Indianapolis, Ind.

Claim.—1. The arrangement of the notched bars and frames D in connection with the side B, substantially as shown and described.

2. The frame D, having one side made wider than the rest, so that, when a series of them is suitably arranged in a hive, their wide sides shall form the body of the hive on that side, substantially as described.

3. The detachable comb-frames L, constructed to rest in and be held in position by the frames D, substantially as described.

4. The combination of the hinged catches F with the hinged sides C, the latter having the springs H applied, substantially as set forth.

5. The top J, provided with the stripes *g*, arranged to press against the sides of the hive, and to yield, to compensate for expansion and contraction, substantially as described.

111,290.—Flour-Bolting Reel.—Allison L. Williams, Orth, Ind.

Claim.—1. The combination of the shaft A, disks B, ribs C, heads D, rods *a*, and wire *b*, constructed and arranged as described, to form a mill-bolt reel, substantially as herein set forth.

2. In combination with a mill-bolt reel, constructed as herein described, the perforated cylinder E and tube G, as and for the purposes herein set forth.

111,291.—Roach and Bug-Trap.—Thomas Williams, Tompkinsville, N. Y.

Claim.—The annular trough *e* filled with liquid attached to the lower end of the funnel A, combined, as described, with the vessel in which the latter is placed, for the purpose of preventing the bugs from crawling around into the funnel.

111,292.—Apparatus for Making Ice and Cooling.—Franz Windhausen, Brunswick, Germany, assignor to Louis Schneider, C. T. Buddecke, and John A. Blaffer, of New Orleans, Louisiana.

Claim.—1. The combination of the compound pump B C, valves M N O P, injector R, tank A, water apparatus S, and suitable operative mechanism, substantially as shown and described.

2. The cylinder B and piston G, in combination with the plunger R and induction water-chamber or pipe R^1, as and for the purposes specified.

3. The tank A, inner perforated cylinder S, and the funnels S^2 and S^2, the parts being arranged with relation to each other, and operating substantially as shown and described.

4. The arrangement of the air-pumps B and C in a vertical line, and connected by the operative mechanism, driven by a single crank on a central shaft, substantially as and for the purpose described.

5. The freezing apparatus, fig. 6, consisting of the tank *a* mounted upon trunnions, in combination with the inner tank *c* and cover *d*.

6. The combination of the outer and inner tanks *a* and *c*, the same being provided essentially with a gradual feeding-apparatus for the introduction of liquid to be frozen, a cold-air inlet-pipe and corresponding discharge-pipe, with the vertical sliding box-shaped cover *d*, for the purpose of securing a flow of cold air in a current adjacent to and on a plane with the surface of the liquid to be frozen, substantially as shown and described.

7. In combination, the main tank *a*, inner tank *c*, cover *d*, and freezing vessels *f*, arranged substantially as shown and described.

111,293.—Ice-Machine.—Franz Windhausen, Brunswick, Germany, assignor to Louis Schneider, C. T. Buddecke, and John A. Blaffer, New Orleans, La.

Claim.—1. The eduction-ports M, located in the walls of the cylinder, between the ends, and so arranged with relation to the induction-valves that air introduced into the cylinder at either end will be discharged, after having been compressed, cooled, and expanded, through said openings, as described.

2. In combination with the cylinder A and piston C, the pistons K and K′, with their chambers and connecting-passages, the whole being so arranged that, by the raising and lowering of the pistons, the interior spaces on both sides of the piston C will be increased or lessened, as described.

3. The combination of the main piston C and auxiliary pistons D and D′, arranged within the cylinder, substantially as and for the purposes herein described.

4. In combination with the cylinder of an ice-machine provided with an intermittent water-injecting apparatus, the reservoirs F and float-valves G, the latter being so arranged that their natural buoyancy will open the valves, and the pressure within the cylinder will close them, substantially as described.

5. In combination with the cylinder of an ice-machine, the compression, cooling, expansion, and ejecting apparatus, so arranged that the several processes will be effected within the same cylinder at each and every complete stroke of the piston, substantially as described.

111,294, antedated January 21, 1871.—Car-Starter.—Finley J. Wright and Livingston W. Wandell, New York, N. Y.

Claim.—1. The combination of the coupling-rod T, starter-plate J, and catch R, with the sliding spring-latch I and i^2, for the purposes and operating substantially as hereinbefore described.

2. The combination of the spring-latch I and i^2 with the wedge-shaped cam P, for the purposes and operations substantially as hereinbefore set forth.

3. The combination of the starter-plate J and spring-latch I and i^2 with the pawl F and ratchet-wheel E, for the purposes and operations substantially as hereinbefore set forth.

111,295.—Paint for Ships' Bottoms.—Isaac J. Wyman, New York, N. Y.

Claim.—A paint, having as one of its ingredients metallic copper, as herein substantially described, and for the purposes herein set forth.

REISSUES.

4,237.—Construction of Electro-Magnets.—Henry M. Paine, Newark, N. J., assignor, by mesne assignments, to the Paine Electro-Magnetic Engine Company.—Patent No. 103,231, dated May 17, 1870.

Claim.—The interposition of a metallic medium between the layers of the coils of an electro-magnet, or the application of a metallic medium as a clothing or covering to the wire of an electro-magnet, as and for the purpose herein specified.

4,238. — Railway Car-Truck.—William Pettit, Philadelphia, Pa. — Patent No. 38,980, dated June 23, 1863.

Claim. — Arranging the center-pin which connects a railway car or locomotive-engine and tender to the truck, and around which center-pin the truck turns, in a position to the rear of the center of the truck and between the two axles of the same, in the manner and for the purposes herein set forth.

4,239.—Compound to Increase the Friction between Belts and Pulleys.—Louis F. Robertson, New York, N. Y.—Patent No. 104,356, dated June 14, 1870.

Claim.—A compound intended to increase the adhesion of belts to pulleys, and made of the ingredients herein specified, and mixed together, substantially in the manner and about in the proportion set forth.

4,240. — Passenger-Fare Box.—John B. Slawson, New York, N. Y.—Patent No. 17,899, dated July 28, 1857; reissue No. 550, dated May 4, 1858.

Claim.—1. A fare-box, composed of two compartments so combined that the fare, on being deposited through an opening in one of them by the passenger, without the intervention of the driver or conductor, shall be temporarily arrested therein for examination and inspection by the driver or conductor, through an opening therein covered by a transparent medium, and then, when approved of, transferred directly to the second or general receiving-compartment, which, as well as the first, is made inaccessible, except by violence, to the driver or other unauthorized person, for the purpose set forth.

2. A fare-box having two compartments, into one of which the fare is first deposited and temporarily arrested previously to its being deposited in the other, when the former is provided with openings covered or protected by transparent mediums or devices so arranged that the passengers can see through one and the driver or conductor through the other, in the manner substantially as and for the purposes set forth.

4,241.—Railroad-Car Seat and Couch.—Theodore T. Woodruff, Philadelphia, Pa. Patent No. 16,159, dated December 2, 1856; reissue No. 1,439, dated March 17, 1863; extended seven years.

Claim.—1. In the ordinary long passenger railway-car, the combination of a series of seats arranged in pairs transversely on each side of the central passage-way, with diaphragms or partitions between each pair of transverse seats, at such distance apart as to permit of berths between these diaphragms or partitions.

2. The arrangement of the back frame of said transverse seats so that the frame which supports the back cushion by day may form also the partition between the lower couches by night.

3. The combination of the set of transverse seats, the supporting back frames, and the removable back cushions, by which the proper length can be given to the couch at night, and the proper support for the passenger's back by day.

4. The employment of removable cushions, which rest against the transverse back frames by day to form part of a sleeping-berth at night.

5. The combination of a pair of transverse seats and partitions on each side of the pair, and the movable seat-cushions and intermediate supports between the seats, so that the opposite day seat-cushions on each pair may be brought together and occupy the intermediate space or footway between the seats as part of a couch.

6. The combination of the pairs of transverse seats with partitions on each side of each pair, so arranged as to form a double berth below, with the additional upper movable berths between the partitions so arranged as to convert the night-car into a complete day-car, furnishing an equal number with sleeping and sitting accommodations.

7. Forming an elevated couch above the couch formed by the backs of seats, by a series of hinged frames, substantially as described.

DESIGNS.

4,588.—Heating-Stove.—Nicholas Brayer, Rochester, N. Y., assignor to "Equitable Co-operative Foundry Company," same place.

Claim.—The design for a stove, substantially as herein set forth.

4,589.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,590.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,591.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,592.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,593.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,594.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,595.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,596.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,597.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,598.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,599.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,600.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,601.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,602.—Box for Tops of Bureaus.—Daniel A. Hall and David Garrison, Philadelphia, Pa., assignors to Swan & Clark, same place.

Claim.—1. The shape or form of the box, as represented.

2. The ornamentation on the box, as described and shown.

4,603.—Box for the Tops of Bureaus.—Daniel A. Hall and David Garrison, Philadelphia, Pa., assignors to Swan & Clark, same place.

Claim.—1. The form or shape of the box and lid, as herein described and represented.

2. The ornamentation of the box, as herein described and represented.

4,604.—Sewing-Machine Stand.—Henry Loth, Philadelphia, Pa.

Claim.—The design for a sewing-machine stand, substantially as described, and as represented in and by the accompanying drawing.

4,605.—Frame of School-Desks.—Albert E. Roberts, Des Moines, Iowa.

Claim.—The skeleton end frame of a school-desk, composed of three pieces, formed, combined, and operated as illustrated in and by the accompanying drawing and specification.

4,606.—Box for the Tops of Bureaus.—Baxter C. Swan, Philadelphia, Pa.

Claim.—1. The design for a box for the tops of bureaus, as shown and described.

2. The design for the molding of the edge of the box, as shown and described.

4,607.—Box for the Tops of Bureaus.—Baxter C. Swan, Philadelphia, Pa.

Claim.—1. The design for a box for the tops of bureaus, as shown and described.

2. The design for the molding of the edge of the box, as shown and described.

4,608.—Box for the Tops of Bureaus.—Baxter C. Swan, Philadelphia, Pa.

Claim.—The design for a box for the tops of bureaus, as shown and described.

4,609.—Box for the Tops of Bureaus.—Baxter C. Swan, Philadelphia, Pa.

Claim.—The design for a box for the tops of bureaus, as shown and described.

4,610.—Bed-Quilt.—Francis C. Van Horn, Camden, N. J.

Claim.—The design for a bed-quilt, shown in the accompanying drawing, consisting of the combination of central squares of uniform size and of alternately-different colors, with rectangular border-checks of different widths.

4,611.—Cooking-Stove.—Nicholas S. Vedder and Francis Ritchie, Troy, assignors to Russell Wheeler, Utica, N. Y.

Claim.—1. The compound ornament cast on and forming part of any stove, substantially as herein shown and described.

2. The combination of the compound ornament and the ornamental border-moldings of bead and rope-work arranged together and cast upon any stove, substantially as shown and described.

3. The combination of the compound ornament and the bead-molding for border, arranged together and cast upon any stove, substantially as shown and described.

4. The combination of the compound ornament and the twisted cord-molding for border, arranged together and cast upon any stove, substantially as herein shown and described.

4,612.—Fence-Cap.—George W. Young, St. Louis, Mo.

Claim.—The design for a fence cap, substantially as above set forth.

TRADE-MARKS.

143.—Averill Chemical Paint.—Averill Chemical Paint Company, New York, N. Y.

144. — Corn-Planter. — James Selby & Co., Peoria, Ill.

145.—Lubricating-Oil.—Warfield & Co., Rochester, N. Y.

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PATENTS.

111,296. — Adjustable Reamer.—Edwin H. Adgate, Mittineague, Mass.

Claim.—The combination of the cutters D D cone S, screw-caps P P, and body of the reamer B, having the neck T for the reception of the screw-end E of the cone, the parts being constructed, and arranged substantially as shown and described.

111,297, antedated January 21, 1871.—Fastening for Door-knob Roses.—James M. Adolphus, Philadelphia, Pa.

Claim.—The shank A, having a groove, a, in combination with the spring or latch F, substantially as shown and described.

111,298. — STEAM-GENERATOR. — Christopher Ahrens and Frank Kamman, Cincinnati, Ohio.

Claim.—1. In combination with the circular water-jacket A B, the arrangement of the circulating coil of pipes into separately-detachable and separately-operating sections by means of fittings a and G, each section having vertical rows of continuous pipes H H′ I I′ K K′ K″ L L′ L″, varying in number of rows to conform to the circle, as described, and for the purpose specified.

2. In combination with the water and steam-jacket A B, extending up to a point above the discharge ends of the coil, the gauge-cocks P, located and operating in the described relation to the discharge apertures of the pipes J J′ M M′.

111,299.—MACHINE FOR WELDING TUBES.—William C. Allison, Philadelphia, Pa., assignor to W. C. Allison & Sons, same place.

Claim.—1. The sliding block *d* arranged on the rod D of a tube-rolling mill, at the rear of the head of the rod, as set forth.

2. The trough E, having a flaring end, adjoining the rolls, and carrying rollers G, as specified.

111,300. — WELL-AUGER.—Elijah Altman, Hamilton, Mo.

Claim.—An improved well-auger, formed by the combination of the point A, shaft B, tube C, flanges D, disk E, connecting-rods G, disk F, provided with hooks H, or equivalent, and disk I provided with keepers J, with each other, substantially as herein shown and described, and for the purpose set forth.

111,301. — FODDER-STAND.—John Antram and Elwood B. Mullin, Franklin, Ohio.

Claim.—The bench A, provided with legs B C D and folding arms E F, arranged to operate in combination substantially as herein specified, and for the purpose described.

111,302.—MILK-CAN.—Thomas M. Bell, New York, N. Y.

Claim.—The hoop or band B, rabbeted around the outer side of its upper edge to receive the turned-down edge of the bottom A and the lower edge of the body C, in combination with the said bottom A and body C, substantially as herein shown and described, and for the purpose set forth, whether the hoop D be used or not.

111,303.—PNEUMATIC SPRING.—John Bevan, Port Richmond, and Benjamin W. Hitchcock, West Flushing, N. Y.

Claim.—The combination of the outer flexible case A with the interior contractile or collapsible device B and inflexible air-cylinder or chamber C, for operation with or through an interior fluid or mixture, substantially as specified.

111,304. — PRINTING-PRESS GUIDE.—Alexander L. Bevans, Flushing, N. Y.

Claim.—The improved card-guiding and holding attachment for printing-presses, consisting of the guide-bars C, the vibrating-bars K, the sliding stops H, and the hooks D, all combined and arranged together and for application to a printing-press, substantially as specified.

111,305.—MANUFACTURE OF COPPERAS.—R. De Witt Birch, Philadelphia, Pa.

Claim.—1. The manufacture of copperas from waste liquor by the process described.

2. The process of neutralizing the free acid in a separate vessel from that in which the liquid is boiled to the required density.

3. The process of neutralizing, boiling, and settling the liquid in separate vessels, as described.

4. The above-described method of preventing the escape of copperas-vapor into the atmosphere.

5. The application of vapor from the heated liquid to heat the drying-blast, as described.

6. The combination of the chamber C and condenser D with the pipe G and blowing-machine.

7. The frames or slats h h, arranged in the crystallizing vessel, and operating as described.

8. The crystallizing-sticks, made in the shape and for the purpose described.

111,306.—APPARATUS FOR OPENING THE EYES OF PICKS.—Robert Blake, Scranton, Pa.

Claim.—1. The die and punch, respectively, of the form and of the dimensions relative to one another and to the blank to be operated on, herein described and shown.

2. The method of adjusting the blank in the die to be operated on by the punch, that is to say, its arms lying in and supported laterally by the walls of the notches, but free from contact with the bottoms thereof, and the eye in contact with the die at two points only, (the rounded shoulders at its two extremities,) in virtue of which the tapered punch will, in its descent, open out the eye transversely and give to it the proper form, and at the same time impart to the arms a downward curvature, all as set forth.

111,307.—METALLIC ROOFING.—George W. Bliss, Springfield, Mass.

Claim.—An improved covering for roofs, consisting of metallic plates A, having the edges turned at *c*, and either with or without the corrugations *e*, or patterns stamped therein, substantially as herein described and set forth.

111,308.—HORSE HAY-RAKE.—Olpha Bouney, Jr., San Francisco, Cal.

Claim.—1. The driver's seat *g*, provided with irons *m*, in combination with the hand-lever *k*, arranged to operate in connection with the bars and teeth of the rake, as described.

2. The combination of the spring *r*, tooth *d*, with bar *c* and connecting-shank, as set forth.

111,309.—HAT-SUPPORTER AND VENTILATOR COMBINED. — John A. Borthwick, Philadelphia, Pa., assignor to himself and George W. Hess, same place.

Claim.—A hat-supporting and ventilating device, consisting of a slotted tube arranged to be attached to the top of a hat, and containing a weighted slide, B, and pivoted supporting-arms C, the whole being arranged and operating substantially as herein described.

111,310. — BEE-HIVE.—Arthur Bradshaw, Rantoul, Ill.

Claim.—The arrangement of the slatted honey-boxes in one end of the hive, and resting endwise on the bottom thereof, with relation to the comb-frames, movable partition, and entrance, all as herein set forth, for the purposes specified.

111,311. — HEAD-STOCK FOR MILLING-MACHINES.—Amos H. Brainard, Hyde Park, Mass.

Claim.—1. The location of the pivot-pins *c c′* for supporting the block *d* in the center of the standards *a a′*, as and for the purpose described.

2. The combination of the conical spindle *g*, the worm-wheel *i*, index-plate *h*, with the worm *l*, adjustable index-arm *p*, and point *r*, substantially as described.

111,312.—WHEEL FOR VEHICLES.—Alexander D. Brown, Sr., Columbus, Ga.

Claim.—1. The angular projections *b′ b′* on the inner ends of the two parts of hub B, when constructed in the manner and for the purpose described.

2. The radial arms C, in combination with the two parts of the hub B, and axle A, having the screw-nuts *a*, when the parts are constructed in the manner and for the purpose described.

1. The divided hub B, having annular projection I and radial projections *b′ b′* in combination with the radial arms or spokes C, when constructed to operate in the manner shown.

4. The wheel herein described, as a new article of manufacture.

111,313. — WASHING-MACHINE. — Edmund P. Brown, Thomasville, Ga.

Claim.—1. The combination of the case A, two sets of rollers, B and F, and the working-bar I, the said rollers being arranged in frames as described, and the lower set having the cross-bars D between them, all substantially as specified.

2. The combination with the above of the springs *h*, substantially as specified.

111,314.—HAY-TEDDER.—Ezekiel W. Bullard, Barre, Mass.

Claim.—1. The combination, with the ends J′ of the main axle, of the supporting-arms H H, substantially as and for the purposes set forth.

2. The combination, with the slide-bars L L′, of the link M and shipper-lever K, substantially as and for the purposes set forth.

111,315. — CRACKER-MACHINE. — William Cairns, Jersey City, N. J.

Claim.—1. The combination, in a cracker-machine, of the independent cutters G and stamps M, for successive operation on the web of dough, substantially as specified.

2. The combination, with the intermittently-rotating feed-rollers C C′ and intermittently-traveling apron E, of the independently-operating cutters G and stamps M, essentially as herein set forth.

3. The combination of the pivoted block H, which carries the cutters, the slides I, and guides J, by which said block is directed in its up-and-down movement, and the slotted guide K, with its rod L, for effecting the swing of the cutters, essentially as shown and described.

4. The stamps M, having a swinging action, as described, in combination with the independent cutters G, arranged to have a swinging action in near or to one side of the stamps, substantially as specified.

5. The combination of the stripping-roller P and the scrap-delivery guide or roller Q, with the endless traveling aprons E and S, essentially as and for the purpose herein set forth.

6. The scrap-pan R, in combination with the stripping-roller P and the guide or roller Q, substantially as specified.

7. The scrap-pan R, arranged to swing or tilt as described, in combination with the roller or guide Q and the stripping-roller P, essentially as specified.

111,316.—PUMP.—Herman Camp, Rousville, Pa.

Claim.—The combination of a hollow elongated valve-piston, F, and stuffing-box C with a pump-barrel, A, and tubing of an oil-well, substantially as hereinbefore set forth.

111,317. — CULINARY VESSEL. — John H. Chappel, New York, N. Y., assignor to himself and Robert Seaman, same place.

Claim.—The bowl A, having a hoop, B, and shoulder *a*, constructed as stated, independent hoop C, and hooks *b b*, when the same are so combined and arranged as to secure either of the series of bottoms substantially as described, as and for the purpose specified.

111,318. — COMPOUND FOR ENAMELING BRICKS. — Decius W. Clark, Chicago, Ill.

Claim.—The enameling-compounds, substantially as described, and for the purposes set forth.

111,319.—CORN-POPPER.—William F. Collier, Worcester, Mass.

Claim.—1. The peculiarly-constructed screw-shank attachment C D E G, substantially as shown and described.

2. The combination of the screw-shank attachment with the popper-box or wires I and J, substantially as and for the purposes set forth.

111,320. — HORSE HAY-RAKE.—Isaac N. Condra, Genoa, Iowa.

Claim.—The handle D, secured to the rake-head A by strap *d*, provided with the notched plate H, and spring I, in combination with the tongues E and adjacent rake-teeth C′, all combined and arranged to operate substantially as described.

111,321.—BATH AND WASH-STAND.—Royal Cooper, Georgetown, D. C.

Claim.—1. The combination of the standard A with the hooks *g g* and *h*, the ring *e*, the click *d*, and the pulley *e* and the cord *f*, with the wash-stand, substantially as and for the purposes hereinbefore set forth.

2. A combined wash and bath-stand, all the parts of which are constructed and combined together for use, substantially as and for the purposes hereinbefore set forth.

111,322.—GATE.—Hosea Ballou Crandall, Brocton, N. Y.

Claim.—The arrangement, with the folding gate C and slotted platform B, of the elongated flange D and stop *g*, when constructed and operating as herein shown and described.

111,323.—GRAIN, COFFEE, AND RICE-CLEANER.—Andrew Crawford, Wilkesbarre, Pa., and Iram D. Crawford, Bloomington, Ill.

Claim.—1. The rotary wire-studded cylinder *a′*, in combination with the hollow perforated cylinder 2 furnished with the compound brush of bristles and stiff wires, substantially as described.

2. The combination and arrangement of the hopper H, vertical cylinder 1 with its rotary and fixed brushes *a* and *c*, inclined perforated cylinder 2 with its brushes *a′ b′*, inclined perforated cylinder 3 with its brushes *a″ b″*, connecting funnels G G, shaking-screen 4, sand-screen 8, and fan 5, substantially as and for the purpose specified.

111,324. — HARNESS-OPERATING MECHANISM FOR LOOMS. — George Crompton, Worcester, Mass.

Claim.—1. A pair of jacks, a leaf of heddles, a flexible connection, and an elevator, depresser, and evener, substantially as described, and so combined that the jacks of each pair are connected with the harness frames without the intervention of levers, and are forced to move simultaneously in opposite directions, as specified.

2. In combination with the above, the tightening device acting on the flexible connection, substantially as described.

3. The pair of jacks, constructed as described, arranged horizontally at the upper part of the loom and both of them above a pattern mechanism, and connected, substantially as set forth, with a leaf of heddles.

4. A pair of jacks moving simultaneously in opposite directions, and an elevator and depresser, and a pattern mechanism, one of the shoulders of one of said jacks being pivoted and constructed and combined, substantially in the manner described, so as to avoid breaking in case of accidental erroneous movement of the pattern mechanism.

5. Two horizontal notched jacks, attached, as described, to one leaf of heddles, in combination with a blade arranged between the jacks and acting as an elevator and depresser, all substantially as described.

111,325. — CARPET. — George Crompton, Worcester, Mass.

Claim.—1. As an article of manufacture, a carpet made up of two parti-colored warps, a linen

warp, a stuffing-warp, and weft-threads, when the same is so composed, substantially as specified, that the fabric has a pile either cut or uncut, or partially cut and partially uncut, upon both faces.

2. As an article of manufacture, a carpet presenting a pile either cut or uncut, or partially cut and partially uncut, upon both sides thereof, when the same is composed, substantially as specified, of two parti-colored warps, a linen warp, a stuffing-warp, and weft-threads, some of which latter are shot between sheds formed of the stuffing-warp, substantially as described.

111,326.—PLATFORM HORSE-POWER.—Frank J. Culver, Hartford, Vt.

Claim.—A horse-power, improved by having a platform made as aforesaid, and mounted on rolls, constructed as hereinbefore described.

111,327.—SCREW-DRIVER.—Moses W. Dillingham, Amsterdam, N. Y.

Claim.—The combined tape-measure and screw-driver, constructed substantially as shown and described.

111,328.—SCROLL-SAW.—William H. Dobson, Rochester, N. Y., assignor to Henry Lompert, same place.

Claim.—1. The elastic straining-spring A, provided with a rubber guard-cushion, *h*, for the purposes set forth.

2. The stretching and twisting device *b a*, constructed and operating substantially as set forth.

111,329.—COMPOUND LIQUID FOR USE IN VAPOR-ENGINES. — Joel A. H. Ellis, Springfield, Vt.

Claim.—The compound liquid herein specified for the generator of a vapor-engine.

111,330.—STUFFING-BOX FOR ENGINES.—Joel A. H. Ellis, Springfield, Vt.

Claim.—The gland of a stuffing-box for the rods of a vapor-engine, provided with a vapor-chamber, *g*, and a tube for conveying away the escape-vapors, as specified.

111,331.—VAPOR-GENERATOR FOR VAPOR-ENGINES.—John A. H. Ellis, Springfield, Vt.

Claim.—The vaporizing-vessel A, containing a fluid that vaporizes at a low temperature, and heated by the joint action of the escaping products of combustion from a steam-boiler furnace, and the exhaust steam from an engine passing through separate tubes or flues, substantially as specified.

111,332.—FLY-CATCHER.—Harriet A. Farnam, South Bend, Ind.

Claim.—The combination of the bait-cup F with the cylindrical cones B and C, substantially as described.

111,333, antedated January 29, 1871.—MACHINE FOR SPLITTING WOOD.—Frank Ficht, Dyckesville, Wis.

Claim.—1. The combination of the swiveled screw E, sliding head-block D *d'*, cutter N, and center-pin or point O, with the ways or bars C, standards B, and base-frame A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the rest P, connecting-rod Q, and bent lever R, with the base-frame A, standards B, slides or bars C, sliding cutter-head D *d'*, cutter N, and center point O, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the arm S and adjustable stops T with the sliding cutter-head D *d'* and with the lever M, substantially as herein shown and described, and for the purpose set forth.

111,334.—STEM-WINDING WATCH.—Walter H. Fitz Gerald, Carlstadt, N. J., assignor to Spadone & Fitzgerald, New York City.

Claim.—The combination and arrangement of the lever *f* and push-pin *h* with sleeve *d*, or its equivalent, so as to operate the clutch-lever *i* by means of the bow-ring, substantially as described.

111,335.—PAPER FILE.—John G. Floyd, Jr., New York, N. Y.

Claim.—The perforated leather-straps D, cords or tapes E, metallic piercers F, keepers G, and laying cleats H, or equivalent fastenings, in combination with the plates or leaves A B and flexible back C, substantially as herein shown and described and for the purpose set forth.

111,336.—DAMPER.—James M. Frear, Pittstown, Pa.

Claim.—1. The plate F, by means of which the damper may be adjusted, substantially as described, for the purposes set forth.

2. In a stove or range, the combination of the damper C and adjusting plate F, substantially as and for the purposes described.

111,337.—CARPET-STRETCHER.—Charles F. Gale, Aurelius, N. Y.

Claim.—A carpet-stretcher composed of the jointed sections B *b* C *c*, capable of a double adjustment, the adjustable connecting-pin D, and teeth when the latter, fitted in heads A A, are applied to both ends of the stretcher, and adapted to be operated by depressing the central joint at the point of connection between the parts B *b* C *c*, and locked in position, substantially as herein shown and described.

111,338.—ROAD-SCRAPER.—George B. Gallinghouse, North Madison, Ind.

Claim.—1. The device, consisting of the push-wheel C, horizontal wheel *e*, axle *a*, and bolt *b*, or its equivalent, arranged to operate substantially in the manner shown, and for the purposes set forth.

2. In a road-scraper, the incline-board D, when constructed and attached as shown, and arranged to operate substantially in the manner and for the purposes set forth.

3. A road-scraper, so constructed that the scraper-board B may be reversible and the push-wheel C and the incline-board D interchangeable, and the whole machine be thus made to operate either right or left-handed, when the said parts are constructed and arranged to operate in the manner shown, and for the purpose set forth.

111,339. — SASH-HOLDER. — Philetus W. Gates, Chicago, Ill., assignor to himself and D. R. Fraser, same place.

Claim.—The sash holding-device C, formed with a handle, *b*, and two or more chambers, *g g*, and furnished with two or more rollers, *c c*, in combination with the inclined recess *a a'*, which is of greater length than the device C, all in the manner described.

111,340.—RAILWAY-CAR TRUCK. — Charles Graham, Kingston, Pa.

Claim.—1. The connection of the springs on opposite sides of the truck by means of the bolster or car-body support carried by said springs, in combination with levers or mechanism arranged to transfer the load from one end of the bolster to the other for the purpose of equalizing the pressure on said springs, substantially as specified.

2. The combination, with the bolster D, of the springs F F', the bolts E E', the springs C C', and the levers G G', geared for operation together, essentially as shown and described.

111,341.—VALVE FOR STEAM-PUMPS.—Joseph F. Hamilton, Alliance, Ohio.

Claim.—The valve-chest A, provided with two steam-supply ports, and two or more exhaust-openings, arranged opposite each other, in combination with the piston-rod *a*, provided with two piston-heads arranged at unequal distances apart, substantially as herein described and set forth.

111,342.—DOOR-HANGER AND RAIL.—Thomas Foster Hamilton, Geneseo, Ill.

Claim.—The double open rail A, in combination with the tongued pulley E, substantially as and for the purpose specified.

111,343.—LOOM.—Emory B. Hastings, Palmer, Mass., assignor to himself, Edwin A. Sawyer, Daniel L. Thompson, and Charles A. Perley.

Claim.—1. The combination of the guide, having a spring for producing pressure upon the weft to hold it therein, and the shears for cutting off the weft while it is held by the nippers, when all are constructed and arranged substantially as described.

2. The combination and arrangement of the nipper, the shears, and the guide, when the shears are operated by the mechanism shown, or its equivalent, so that the shears will cut off the proper length of weft before it is entirely drawn in by the nipper, substantially as described.

3. The combination and arrangement of the bed-blade of the shears with the block I, by which the blade is moved out of the way of the nipper when it seizes the weft, and returns to co-operate with the movable blade at the proper time, substantially as described.

4. The combination of the lever U and stops W W' with the nipper, when all are constructed and arranged substantially as described.

5. The combination of the nipper and its adjuncts with the crank for operating the same, which works independently of that which operates the comb through the intervention of the intermediate devices or their equivalent, substantially as described.

6. The comb for beating up the weft, having both the reciprocating and rocking motions, constructed and operating substantially as described.

7. The combination of two leaves of heddles having racks upon each end of them, as described, and an intermediate pinion that engages with both of them, substantially as described.

8. The combination of the nipper and double harness-cams, and accessory mechanism for operating the heddles or harness, so that the motion of the heddles or harness will be arrested when the warps are closed upon the weft, and then continued, to open the next shed, substantially as described.

111,344, antedated January 28, 1871.—HARVESTER-RAKE.—George W. Hines, Brookfield, Wis.

Claim.—1. The combination of the adjustable bands B and C with stops E and *e*, irons *a b*, and plate F, arranged substantially as described.

2. Rake F, provided with nut G, teeth H, springs I, and rollers L, operating substantially as described.

3. The combination of the guide R, stop T, lever V, lever Y, cord X, and lever Z, operating substantially as described.

4. Dropper O, arranged to operate in combination with rake F and guide R, substantially as described.

111,345.—REGISTERING TICKET-PUNCH.—Austin D. Hoffman, Chicago, Ill., assignor to James H. Small, Buffalo, N. Y.

Claim.—1. An arm or lever, arranged so as to obstruct the mouth of a punch, and at the same time connect, either directly or by means of an intermediate mechanism, with the opposite jaw, so as to keep it from closing except when the said arm or lever, by being displaced from the mouth by the insertion of a ticket, disengages the stop, substantially as and for the purpose hereinbefore set forth.

2. The combination and arrangement, with the jaws A B and mouth *a*, of a ticket-punch, of the spring lever-stop M, and pin or shoulder *n*, substantially as and for the purpose hereinbefore set forth.

111,346. — COTTON-CHOPPER.—Joseph R. Hood, Weedowee, Ala.

Claim.—The shaft *f*, driven by the center traction-wheel *e*, arranged with the hoe *h* suspended by wire *j* to the frame *k*, whereby the hoe may be adjusted by the driver by inclining the handles, substantially as and for the purpose set forth.

111,347.—GRAIN-SEPARATOR FOR THRASHING-MACHINES.—James W. Huntoon, St. Louis, Mo.

Claim.—The combination and arrangement of fork G, shoe A, toothed bars E E, shafts D D, arms *b b*, couplings *d d*, rods *f a*, and crank-shaft C, as and for the purpose set forth.

111,348. — ELECTRO-MOTOR FOR CARS.—Solomon Jones, New Orleans, La.

Claim.—1. The combination of the pivoted bar or lever F, the electro-magnets B B' and C C', so arranged and connected by diagonal wires *b e* that the necessary power to impart the oscillating motion to the lever shall at the same instant be communicated to its opposite sides and at its extreme ends, and lever G and the mechanism by which power is communicated from its center, substantially as described, as and for the purpose specified.

2. The levers F and H H, with armatures attached, and electro-magnets B B', C C', D D', and E E', when the same are united by the diagonal connecting-wires *b e d e*, and the whole is so combined and arranged as to operate substantially as described and for the purpose specified.

3. The sliding current-breaker bars K K, each having keys *k k*, and the connecting-points K' K', when the same are so arranged in relation to the levers that the non-conductors *f' f'* and *h' h'* shall automatically complete and interrupt the currents with different sets of electro-magnets, substantially as described, as and for the purpose specified.

111,349.—PUMP.—Truman O. Jones, Galesburg, Ill.

Claim.—The arrangement of flanged cylinder B, stock A, and cylinder D, with screw-rods E and plates L, constructed as described, and operated substantially as and for the purpose specified.

111,350.—CORN-SHELLING AND CLEANING MACHINE. — Louis Kamp, Vanderburg county, Ind.

Claim.—1. The combination, in a machine for shelling corn, of the hinged cover C, adjusted by weights in the manner shown, with the cob-discharge opening O of the concave B, as and for the purpose described.

2. The improved corn-shelling and cleaning machine herein described, consisting of the cylinder A, provided with shelling-teeth, as shown, concave B, cob-discharge opening O, cover C, provided with weight I, endless belts D H F, riddles E and S, screen L, and pan P, all combined and arranged to operate substantially as described and set forth.

111,351.—BUNG-EXTRACTOR.—Josiah Kirby, Cincinnati, Ohio.

Claim.—The instrument herein described for extracting bungs, consisting of the stem C F and gravitating-dog E, connected, constructed, and operating substantially in the manner and for the purpose specified.

111,352.—BUNG. — Josiah Kirby, Cincinnati, Ohio.

Claim.—A wooden bung, constructed with a central detachable wooden plug, for the purposes specified, when the grain of the plug runs horizontally with the grain of the bung.

111,353. — CAR-STARTER. — George Byron Kirkham, New York, N. Y.

Claim.—1. The rails D D and posts E E, as represented, and for the purpose set forth.

2. The truck F, with its wheels *c c c c*, in combination with the nippers G G, wedge *g*, screw *h*, bars *l l*, pivots *f f*, and lips *i f'*, as represented, and for the purpose set forth.

3. The wheels J J, in combination with the posts I I', levers *m* and *o*, and slide *n*, as represented, and for the purpose set forth.

4. The wheel U, in combination with the wheel S, lever T, and rod T', as represented, and for the purpose set forth.

5. The combination of the wheels V X, pawl *s*, bar *t*, and springs *u u*, as represented, and for the purpose set forth.

111,354. — PUMP. — Thomas J. Lapsley, Nashville, Tenn.

Claim.—1. The combination of the plunger B with its air-chamber L and holes U, the sleeve C with its discharge-holes T, the piston flanges R R with the packing J J, the valve-chamber D with its discharge-holes E, the valve H, and pin G, by which it is held in place, substantially as and for the purpose hereinbefore set forth.

2. The combination of the lower valve-chamber F with its discharge-holes *y*, the valve H', the seat V, and receiving-pipe K, the chamber A with its discharge-pipes N N, and stand O, the lever P, and link Q, which connects it with the plunger, substantially as and for the purpose hereinbefore set forth.

111,355. — CARPET-CLEANER. — Hermann Henry Lindhorst, St. Louis, Mo.

Claim.—The shafts G G', secured by staples *g* to the transverse beams G², in combination with the beaters F F', beater-sticks *f*, tappet-heads *f'*, and cam-shaft H, when arranged to operate substantially as and for the purpose described.

111,356.—HOISTING APPARATUS.—Andrew B. Lipsey, New York, N. Y.

Claim.—1. The chain-pulleys A B, constructed with internal differential gears *c d*, a common axis, in combination with the pinion F, rotating around the eccentric hub E fast on the axis of said pulleys, the said pinion F meshing with the gears *c d* in their rotation around their axes, all arranged substantially as herein shown and described.

2. The arrangement of the gears *c d*, pinion F, eccentric E, and spindle C, with relation to the chain-pulleys A B, substantially as and for the purpose specified.

3. The pin or spindle C, having each of the parts *e*, *g*, *h*, and *f* of smaller size than the part preceding, in the order named, substantially as described, for the purpose hereinbefore specified.

111,357.—FERTILIZING COMPOUND.—Joseph M. Lowenstein, New Orleans, La.

Claim.—A fertilizing-compound, prepared in the manner described, from night-soil, sulphuric acid, bones or bone-dust, and unslaked lime.

111,358.—DISINFECTING AND VENTILATING BURIAL VAULT.—Benjamin F. Lyford, San Francisco, Cal.

Claim.—The process herein described of ventilating and disinfecting charnel vaults.

111,359. — SEWING-MACHINE.—William A. Mack, Norwalk, Ohio.

Claim.—1. The combination of the double-armed device *a a'* with the double-shouldered rod *p r* and the feed-bar *t b*.

2. The shuttle-lever *s l* and pushing-lever or rod *p r*, arranged and operating as described.

3. The combination of the pendent-rod *c r* and the walking-beam lever *f l*, for the purpose of operating the feed-bar *t b*.

4. The combination of the adjusting-thumb-screw *t s*, pendent-lever *c r*, and walking-beam lever *f l*, for the purpose of controlling the length of the step or stitch.

5. The combination of the walking-beam lever *f l* and double-armed feeding and retreating device *a a'*, for the purpose of giving motion to the feed-bar *t b*.

6. The shuttle-lever *s l* and pushing-rod *p r*, combined, and operated by the pendent-lever *p l*, as described.

7. The arm *d*, constructed as shown, and its spring *s p*, operated by a pin on the needle-bar, in the manner and for the purpose described.

8. The shuttle, provided with the removable head *h* and hooked spring *l p*, all constructed as described.

111,360.—LAMP. — Charles D. Macqueen, Philadelphia, Pa.

Claim.—1. In combination with the annular lamp L, the socket D, sliding-rod R, vertical tube T, set-screw S, and base-piece B, all arranged together substantially as and for the purpose described.

2. The socket D, constructed with the circular boss *b*, by means of which the socket is secured to the tube or gas-fixture and the lamp is supported above the bottom of the socket, leaving a space into which oil-dripping may accumulate, all as shown and described.

111,361.—HOISTING-FORK. — Elias Magruder, Cap Au Gris, Mo.

Claim.—The combination of the jointed brace *r* with the fork *r a* and the jointed fork *s i b*, said forks being hinged together at *g*, and the several parts being constructed and arranged to operate substantially as and for the purpose set forth.

111,362. — SPRING BED-BOTTOM. — Erwin Williams Maxson, Scranton, Pa.

Claim.—The arrangement of the rod *a*, wire *d*, band *c*, lip *g*, flange *g'*, and slat *f*, as specified.

111,363.—COVER FOR BINS.—Alonzo S. Maxwell, Dixon, Ill.

Claim.—The combination, with the case and cover B, provided with arms E and braces G, made in one piece, of the casings H I K and packing-strips L, all as shown and described.

111,364.—BEDSTEAD AND SPRING BED-BOTTOM.—William McArthur, Philadelphia, Pa.

Claim.—1. The springs *b*, connected at their upper ends to the ends of the slats, and at their opposite ends at the lower ends of the springs B, substantially as described.

2. The combination of the lower slats or supports F, upper slats C, intermediate coiled springs B, and pins *a'*, when the latter extend through both slats and through the springs, and can be detached by drawing them through the upper slats, as set forth.

3. The folding head-board M, hung to the end rail of the frame, and constructed and arranged to be operated substantially in the manner described.

111,365.—COMBINED ROCKING SOFA AND BEDSTEAD.—William McArthur, Philadelphia, Pa.

Claim.—1. The combination, with the said rocking sofa, of a hinged frame or frames, arranged to be folded beneath the seat, or to be drawn out and unfolded so as to form, with the sofa, a cradle or crib, all substantially as specified.

2. The combination of the subject-matter of the preceding claim, a hinged back, C, and rockers D, as specified.

3. The combination, with the arms B and the hinged arms B', of folding legs *f* and bolts *k*, as described.

111,366. — SULKY-PLOW.—Edward Meloy and Abram R. Stanley, Shullsburg, Wis.

Claim.—In combination with the plow-beam, the sulky-frame, and the king-bolt G, the levers J K, chain and pulley *j i*, and rod *k*, arranged to lift the front and rear ends of the plow-beam, substantially as described for the purpose specified.

111,367, antedated January 23, 1871.—THRASHING-MACHINE.—Joseph H. Miller, Arcadia, N. C.

Claim.—1. The cylinder rake H, in combination with the shaker X, provided with the toothed perforated transverse sections U, beaters C, and under side, constructed and arranged substantially in the manner and for the purpose specified.

2. The shaker X, provided with the toothed perforated sections U, beaters C, and under side, constructed and arranged substantially as shown and set forth.

3. The beater C, provided with the solid flange, constructed and arranged as shown.

4. The combination of the beaters C, arranged and operated as shown and described, with the perforated plates U, provided with the teeth *x'*, substantially as and for the uses and purposes set forth.

5. The arrangement of the smooth feed-roller R, toothed-cylinder rake H, shaker X, provided with the beaters C, the slatted sieve S, and fan-blower I, constructed and operated in the manner and for the uses and purposes substantially as herein shown and described.

111,368.—LAMP-CHIMNEY AND DISH-WASHER.—Charles S. Moore and Silas A. Moore, Worcester, Mass.; Silas A. Moore assigns his right to Harland Boyd, same place.

Claim.—The clamping arrangement for holding the swab, by the combination of two disks, A and A', the tube B, rod C, and spring D, substantially as and for the purposes herein specified.

111,369.—CULINARY VESSEL.—Francis Moradi, Malden, Mass.

Claim.—The above-described cooking-utensil or apparatus, the same consisting of the case A, provided with a perforated bottom, D, a cover, B, a series of horizontal ribs, G, or horizontal and vertical ribs G H, and a spiller or vessel, I, the whole being constructed, combined, and arranged together in manner and so as to operate as set forth.

111,370.—MANUFACTURE OF SUPERPHOSPHATE OF LIME.—Campbell Morfit, Sudbrook Park, England.

Claim.—Hydrochloric acid, sulphuric acid, sulphate of ammonia or crude ammoniacal liquor, and sulphate or carbonate of potassa, in the treatment of bones, bone-ash, bone-black, phosphorite, apatite, coeperite, or "Navassa guano," "Sombrero guano," South Carolina phosphate, coprolites, and the natural phosphates of lime generally, for the economical production of bi-phosphate of lime in a concentrated form, either with or without the association of ammonia or potassa salts, after the manner and by the means as herein substantially set forth and described.

111,371. — FOLDING SEITEE. — Henry T. Morse, Athol, Mass., assignor to L. Morse & Son, same place.

Claim.—1. The combination and arrangement of the cylindrical stretchers B and C, the straps F F, and the seat A, constructed as described, whether said stretchers form a part of the leg-frame or a part of the back.

2. The concave grooves *a* and *b*, in combination with the stretchers B and C, substantially as described.

3. The combination and arrangement of the seat A, the cylindrical stretchers B and C, with the legs D and E secured therein, the straps F F, the hinged back H, the jointed braces I I, and the stay-rods G, all constructed substantially as herein described.

111,372. — SEEDER AND CULTIVATOR.—James T. Mott, Postville, Iowa.

Claim.—1. The axle, constructed as described, and provided with the strips *b b*, for the purpose set forth.

2. The arrangement of the standards B B with parts *e e f f*, lever *h*, rods *l l*, bent at *n n*, and bar *m* of the cultivator, all operating as set forth.

111,373. — VALVE. — George Murray, Jr., Cambridgeport, Mass., assignor to himself, George Murray, Sr., and Henry E. Snow, same place.

Claim.—1. The lozenge-shaped sliding valve G, in combination with the sheet-copper guides C, both constructed substantially as described and shown, for the purpose set forth.

2. The combination of the spindle E, provided with right-and-left-hand screws, screws, the cap D provided with right-hand female-screw, and the valve G, provided with left-hand female-screw, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

3. The combination of the case A, the valve-seats B, the valve G, the guides C, the cap D, the spindle E, the stuffing-box F, and the hand-wheel H, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

111,374. — WASHING-MACHINE. — Andrew Jackson Nave, Columbus, Texas.

Claim.— The double cone-shaped wheel or cage E, constructed substantially as herein shown and described, in combination with the journals D, gear-wheels F G, crank H, box A, and cover B, as and for the purpose set forth.

111,375. — FANNING-MILL.—Harrison Ogborn, Richmond, Ind., assignor to Samuel T. Baker, Osceola, Iowa.

Claim.—1. The rock-shaft *w*, suspension-straps M, pivot-plates N O, adjustable rock-arm K, and rod I, in combination with shoe B, when said parts are constructed and arranged for operation substantially as described.

2. The adjustable knocker *t*, rod *n*, pin *o*, and blocks *h h'*, in combination with screens *c¹* and *d¹*, in shoe B, as and for the purpose described.

3. The shoe P, when supported at its forward end on pins *b¹*, and at its rear end by suspension-strap *e*, in combination with bell-crank *x*, and rods Y and *z*, as and for the purpose described and set forth.

4. In combination with the shoes D and P and their respective series of screens, the troughs T and V, when provided with the openings W and U, arranged as shown and for the purpose described.

5. The combined fanning-mill and grain-separator described, consisting of the several parts and mechanism hereinbefore specified, constructed, combined, and arranged to operate substantially in the manner and for the purpose described and set forth.

111,376.—PRESERVING-COMPOUND FOR THE HANDS, &c.—John W. Osborne, Brooklyn, N. Y.

Claim.—The improved composition herein described, produced by combining with paraffine any oil or softening agent, as described.

111,377. — SHOT-CARTRIDGE.—Seth White Paine, Williamsport, Pa.

Claim.—1. A shot-cartridge having its sides com-

posed of a number of plane faces, substantially as and for the purpose specified.

2. The binders c', constructed of suitable adhesive material, and applied to each layer of shot in the manner and for the purpose substantially as shown and described.

3. The hereinbefore-described shot-cartridge, consisting of the base A, the staves B, and the shot C, when the parts are constructed and arranged substantially as and for the purpose set forth.

4. A shot-cartridge having its shell divided longitudinally into a series of staves, B, which are hinged at their rear ends to or upon the base A, substantially as and for the purpose shown and described.

111,378.—Loom-Picker.—Jerome M. Parker, Leicester, Mass.

Claim.—The picker, constructed as described, that is, with but one bend or loop in the main piece, and with the end which strikes the shuttle enlarged by the addition of a filling piece on each side, strapped as set forth, and the parts united substantially as described.

111,379.—Shingle-Machine.—Willis Porter, Orono, Me.

Claim.—1. The combination of arm J, strap k, gib i, key j, feed-racks e e', geared wheels f f', guide v, springs r r', shafts F F' G, geared wheel I, and sliding boxes t t'', all operating to produce the movement of the carriage regularly up and down by the face of the saw, as set forth.

2. The shingle-flipper U, consisting of the rod and prongs p p' and arm or lever w, acting in connection with the long hoop T to tip shingles away from the saw.

111,380.—Invalid Bedstead.—William O. Reid, Vienna, N. C.

Claim.—1. The shaft H, when mounted in the side-rails of the bedstead, and provided with the arm a, and combined with the section E F of the bed-bottom, so as to subserve not only its original purpose of a pivot, but also to take the place of all other apparatus for elevating the section F, as described.

2. The combination of the hinged stopper B' with the bar a, latch b, spring c, and cord d, when all these parts are constructed and arranged as set forth.

3. The combination of the hinged stopper B' with the swinging arm I and teeth m, as specified.

111,381.—Water-Wheel.—Jacob B. Reyman, Springfield, Mo., assignor of one-half his right to Donald W. Campbell, same place.

Claim.—A hub or center for a turbine water-wheel, formed by the union of the parts n and m, bound in the manner substantially as described.

111,382. — Balance Slide-Valve for Steam-Engines.—George W. Richardson, Troy, N. Y.

Claim.—1. The packing P P P P, constructed in separate parts, so that those portions which wear alike shall be in sections by themselves, working independently of each other, and in their travel never crossing each other's lines of motion or their lines of separation, substantially as and for the purpose hereinbefore set forth.

2. The manner of breaking the joints of the packing by abutting the ends of the side-packing against the sides of the end-packing, or otherwise abutting the different sections against each other, substantially as and for the purpose hereinbefore set forth.

111,383. — Mica-Frame for Stoves.—George G. Richmond, Peekskill, N. Y.

Claim.—1. An improved mica frame for stoves, heaters, &c., in which the inner frame C is detachably secured to the recessed outer frame B by means of lugs c' formed upon its upper and lower ends, to enter recesses in the upper and lower ends of the recessed outer frame B, substantially as herein shown and described, and for the purpose set forth.

2. The inwardly-projecting lower end b^1 of the frame B, notched to receive the edges of the body A of the stove, to connect and hinge the mica-frame B C to the said body of the stove, substantially as herein shown and described, and for the purpose set forth.

111,384.—Portable Shelf and Support.—Parley D. Root, Weston, N. Y.

Claim.—A shelf-supporter formed of the parts A B, constructed and applied substantially as shown and described.

111,385. — Postage-Stamp Holder.—Julius Ropes, Ishpenning, Mich.

Claim.—The combination of the pivoted slots B, pressure-rollers C, feed-rollers D, cam-rollers E, receiving-rollers F, and springs H with each other, and with the case or box A, substantially as herein shown and described, and for the purpose set forth.

111,386. — Hand-Stamp. — Gottlieb Rost, Union Hill, N. J., assignor to himself, William Austin, Jr., and John Jungermann, New York City.

Claim.—The stamps A B, shaft C, projections N, hooked pawl O, grooved bar K, pistons D, tubes E, springs H, and stock F R G, all constructed, arranged, and operating substantially as specified.

111,387. — Water-Grate.—Joseph Ryan, St. Louis, Mo.

Claim.—1. The grate-bars A, formed in duplicate sections A^1 and A^2, having return-bend a, when arranged in combination with the cold-water sectional-pipe b^1 and steam-sectional pipe b^2 of the partitioned pipe B, and steam-pipes H and I, substantially as set forth.

2. The grates A, partitioned pipe B, tubes c, valves c^1, ash-pit pipe C, joint-pipe C', in combination with the feed-pipe D and circulating-pipe E, substantially as set forth.

3. The circulator E, spring-bend E, balance check-valve G, and feed-pipe D, when arranged within or without the fire-bed, in combination with the pipes C C', partitioned pipe B, and grate-bars A, substantially as and for the purpose set forth.

4. The grates J, acting as a bridge-wall, partitioned pipe j, bend or steam-pipe K, in combination with the circulating or feed-pipe K', balance check-valve k, and mud-drum F', substantially as set forth.

111,388, antedated January 21, 1871.—Roll for Hair-Dressing. — Elias Schnautz, New York, N. Y.

Claim.—As a new article of manufacture, a roll for the purposes specified, made substantially in the manner herein set forth.

111,389.—Base-Burning Stove.—John Q. C. Searle, New Albany, Kansas.

Claim.—1. In a magazine-stove, a water-chamber, D, in combination with a magazine having a contracted mouth, as and for the purpose described.

2. The funnels a a, arranged on the top of the stove, in combination with the chamber D, as set forth.

3. The tube b, communicating with the chamber D and with a flue or drum, as specified.

111,390.—Heater for Paper-Ruling Machines.—Louis Siebert and John Wilson Lilley, Columbus, Ohio, assignors to John R. Hool & Son, New York City.

Claim.—The heater, composed of the frame B, cover A, perforated slide D, and small slides [illegible] arranged to operate substantially as herein [illegible] and described.

[illegible],391, antedated January 14, 1871.—Cultivator-Plow.—Joseph Singer, Mendota, Ill.

Claim.—The arrangement of the arrow-shaped [illegible] G, knife E, and hinged mold-boards A and [illegible] connected adjustably by the perforated arms a [illegible] with the brace e and vertical standard, and all [illegible] arranged as shown and described.

[illegible],392.—Registering Ticket-Punch.—James H. Small, Buffalo, N. Y.

Claim.—1. The slotted connection d^1 of the punch-[illegible] C to the handle B, as and for the purpose [illegible] before set forth.

2. The combination of the trip-pawl f with the [illegible]-wheel pawl i, register-wheels H H', and [illegible] B, substantially as and for the purpose here-[illegible] before set forth.

3. The arrangement of the bell L and its striking [illegible]anism, and the register-wheels H H', and [illegible]ssistant parts, side by side and within the in-[illegible]-case D, located between the handles A B, [illegible]ntially as and for the purpose hereinbefore [illegible] forth.

4. The arrangement in a ticket-punch of the par-[illegible]-plate d^2 in the case D, in combination with [illegible] or covers f f', substantially as and for the [illegible]se hereinbefore specified.

5. The combination in a ticket-punch of the bell [illegible] with the lid f of the case D, substantially as and [illegible] the purpose hereinbefore set forth.

[illegible],393. — Burial-Casket. — Edward T. [illegible]mith and Joseph S. Winston, New York, [illegible] Y., assignors to themselves and C. H. [illegible]oyer, same place.

Claim.—The burial-casket end herein described, [illegible]g buried, glued, veneered, and compressed in-[illegible]flared and elliptically-curved form, substan-[illegible]y as herein described.

[illegible],394.—Electro-Magnetic Indicator.—Wesley D. Smith, Washington, D. C.

Claim.—1. An electrical indicator, composed of [illegible] following elements in combination: A dial [illegible]ed with signs or signals, two or more hands [illegible]ed independently over the same and mounted [illegible] shafts which are concentric to each other, [illegible] mechanism for rotating each hand, consisting [illegible]ratchet wheel upon its respective shafts, pal-[illegible] and a vibrating lever, actuated directly by an [illegible]o-magnet, the whole operating substantially [illegible]scribed.

2. In combination with the elements of the fore-[illegible]g claim, two or more revolving surfaces with [illegible]s, words, figures, or other characters arrang-[illegible]rom, and rotated directly by electro-magnet-[illegible] substantially as described.

[illegible],395.—Composition for Floors, Pave-[illegible]nts, &c.—Antonio Solari, Louisville, [illegible]y., assignor of one-half his right to [illegible]nacio Maguet, same place.

Claim.—The composition-floor or pavement de-[illegible]ed in the above specification, consisting of the [illegible]ents in the proportions and for the purpose [illegible]rth.

[illegible],396.—Bench-Vise for Wood-work.—[illegible]dwin Sprague, Allegheny, assignor to [illegible]mself and John R. Blakeslee, Birming-[illegible]m, Pa.

Claim.—The clamping-jaw B, provided with a [illegible] box, C, attachment-plate D, and combined [illegible] the clamping-jaw A and screw e, substantial-[illegible] herein described.

[illegible],397.—Bark-Mill.—Frederick Stamm, [illegible] Lampeter, Pa.

Claim.—1. The conical runner K, provided with [illegible] triangular teeth M, and graduated tapering grinding-teeth N, all constructed and arranged as shown and described, for the purpose set forth.

2. The shell A, provided with the tangential graduated teeth S, radial tapering teeth R, and arms I, provided with teeth J, all constructed and arranged as shown, for the purposes described.

3. The combination and arrangement of the shell A and runner K, constructed as described, with the breaker T, provided with shear-teeth t, and the cross-bars H, all constructed substantially as shown and described, for the purposes herein set forth.

4. The cross-bars H, with their ends G and lug V, and adjusting screws E and X, for adjusting the runner K vertically and laterally, as herein described.

5. The construction of the breaker T, attached to the shaft L, as herein described, and for the purpose set forth.

111,398.—Boat-Detaching Apparatus.—George Stancliff, New York, N. Y.

Claim. — The tackle-block, provided with the pivoted hook D, lever E, and cam F, all arranged to operate substantially as herein shown and described.

111,399.—Holder for Plates while being Warmed.—William T. Stoutenborough, Brooklyn, N. Y.

Claim.—The plate-holder, formed of the metallic ends a a, wire divisions b b, legs c, and connecting-bars d e f, as and for the purposes specified.

111,400. — Lamp-Burner. — Freeman Augustus Taber, New Bedford, assignor to Thomas S. Williams, Newton, and Philip S. Page, Malden, Mass.

Claim.—1. The improved duplex deflector, made as described; that is, with its inner cone having its base arranged above that of the outer cone, and connected to it, and otherwise arranged with respect to it, as set forth.

2. The burner, made of the instrumentalities as described, arranged as set forth; that is, of the wick-carrier with its two wick-holders and central draught-passage, and one or more inducts, the wick-elevator box, the wick-elevators connected by gears arranged outside of the said box, the duplex air-deflector, or two cones, and the foraminous supporter, all constructed and disposed relatively to each other substantially as hereinbefore described, and as represented.

111,401. — Lubricator. — John Tenwick, Grantham, assignor to Robert Charles Ransome, Ipswich, England.

Claim.—1. The combination of the crank-plate, constructed with a lubricating-cavity, and the hollow crank-pin, so arranged that the lubricating material may pass from said cavity to the journal of the crank-pin, substantially as before set forth.

2. The combination of the said crank-plate, the hollow crank-pin, and the crank-shaft, so that both the crank-pin journal and the journal of the crank-shaft may be lubricated by lubricating material supplied from the crank-plate, substantially as before set forth.

111,402.—Bed-Bottom.—Edwin C. Thompson, New York, assignor to himself and Charles L. O'Brien, Ithaca, N. Y.

Claim—1. The intersecting slats a b, crossing each other at an inclination, and kept in position by the cross-slats h, so as to form spring-sections for a bed-bottom or other article, substantially as set forth.

2. In combination with the foregoing parts, the separate frame of slats l, as and for the purposes set forth.

111,403.—Cleaning and Polishing Coffee.—William Thompson, New York, N. Y., and Samuel Thompson, Baltimore, Md.

Claim.—1. The process of cleaning and polishing

coffee by subjecting it to the action of soap-stone, or the substances herein described as appropriate substitutes therefor, in a revolving cylinder, constructed substantially as herein described.

2. The process of cleaning and polishing coffee by subjecting it to the action of water in combination with soap-stone, or the substances herein described as appropriate substitutes therefor, in a revolving cylinder, constructed substantially as herein described.

111,404, antedated January 21, 1871.—DIGGING-MACHINE.—Isaac P. Tice, New York, N. Y.

Claim.—1. The combination of the crank *g* with the arm I and helve A, shaft D, and shaft O, substantially as and for the purpose set forth.

2. The arrangement of the axle C, frame B B B, constructed as described, with the lever F, with friction-roller, substantially as described, and for the purpose set forth.

111,405. — CURTAIN-FIXTURE. — Richard Vose, New York, N. Y.

Claim.—The combination of the spring plate *e f* with the supporting-bracket *c*, the grooved roller-head *b*, and the tassel-weighted cord-loop *d*, substantially as and for the purpose herein set forth.

111,406.—COMBINED COFFEE-MILL AND APPLE-PARER.—Dewitt C. Warner, Chicago, Ill.

Claim.—The combination and arrangement, in the combined coffee-mill and apple-parer herein described and shown, of the plates G H, and the shafts Q and R, constructed substantially as and for the purpose set forth.

111,407.—PRINTING-PRESS.—Richard C. Warwick, New York, N. Y.

Claim.—The secondary or type-bed *l* and stops or rules *m*, in combination with the main reciprocating bed *g* of the cylinder or segmental two-feeder printing-press, substantially as and for the purposes set forth.

111,408.—TELEGRAPHIC PROTECTION FOR SAFES, VAULTS, AND BUILDINGS.—William B. Watkins, Jersey City, N. J.

Claim.—1. A shield or lining for vaults, safes, doors, or other parts of building, consisting of a series of strips or springs, through which the electric circuit of a line provided with battery power is completed, combined with mechanism for sounding an alarm when any strip or spring of the series is pressed apart or separated from another strip or spring.

2. A burglar-detective and police-alarm system, consisting of a main telegraph-line or lines, provided with suitable battery power, embracing police-stations, and having alarm-bells in the circuit, combined or connected with mechanism embraced within a closed circuit in banks or other buildings, which mechanism, when set in motion by the operations of burglars upon the protected parts of such banks or other buildings, will open and close the main line, so as to sound the number of the street and the number of the building, or the latter only, or any desired signal, at the police-stations.

3. The combination and arrangement of the switches *d*, *h*, *k*, and *s* with the local line for the purpose described.

4. The combination of a local and police-alarm mechanism, arranged as and for the purpose described.

5. The combination of the following elements, viz: first, a main line constructed to enter banks or other buildings; second, a local line within such buildings, embracing within its circuit a series of springs or strips arranged as and for the purpose described; third, mechanism combined with said local line for opening and closing the main line, so as to sound the number of the street and that of the building, or the latter only, when the strips or springs are separated from each other, as described.

111,409. — BURGLAR-ALARM AND POLICE-TELEGRAPH.—William B. Watkins, Jersey City, N. J.

Claim.—1. The improved automatic burglar and police-alarm, consisting of the combination of the following elements, viz: first, a street-telegraph line, constructed and arranged to enter one or more buildings; second, a local circuit placed in a building; third, devices arranged in the doors or windows of said building, so as to open or close said local circuit by the opening of said doors or windows; and, fourth, suitable mechanism brought into action by the opening and closing of the local circuit, and thereon automatically opening and closing the street circuit, so as to indicate or sound the number of a street and house, or the latter only, as described.

2. The arrangement of the spring *c f d* and fixed arm *h*, as described, so as to open and close an electric circuit.

3. An indicator, constructed with switch-keys and K, as described, in combination with a local circuit, E, for the purposes described.

4. The combination of the day-switch G with local line E and its opening mechanism B, for the purpose described.

5. The combination of a local line, E, and the device *d h* by which its circuit is opened and closed, an indicator, the day-switch, G, the operating mechanism B, and the police-line A, the whole constructed and operating as described.

111,410.—FIRE-ALARM TELEGRAPH.—William B. Watkins, Jersey City, N. J.

Claim.—1. The combination of any fire-alarm circuit or main telegraph line, A^1, with the alarm-operating mechanism in the boxes, substantially as described, and a secondary operating or building line, Z, also connecting with the mechanism and with break circuits in different buildings which have local circuits and heat-detecters arranged therein for operating said break-circuits, substantially as described, the whole arranged to be brought into operation so as to sound a different alarm from different causes through the main line under the different conditions, essentially as described.

2. The combination of the sliding or operating rod f^1 with the switch K, catch-spring g^1, stop e^1, switch M, buttons r^1 and o^1, all arranged and connected with the different lines and with the operating mechanism, as described, for the purpose of releasing the train by turning the switch K by means of an operator, as described, and by the means diverting the circuit of the main line through a break-circuit, D, and its connections, so as to sound a different peculiar signal through the main line, as described, which will indicate that fire has broken out in a building not connected with the fire-detecting lines.

3. The combination of the arm C and spring for releasing the switch K, so as to allow the spring k'' and o^1 to force back the switches K and M to their original position after they have been turned by an operator, so as to automatically close both lines after an alarm has been sounded, as described.

4. A self-acting indicator, consisting of the combination of a magnet, H, vibrating armature and lever *u*, adjustable spring *x*, stop-screw frame *v*, arm d^2, plate-card or indicator o^2, opening or glass f^2, arranged and operating essentially as described.

5. The combination of a telegraph-key, I, ring spring-arm g^2, the anvil f^1, spring K^1, with a vibrating armature, *t*, and a magnet, H, for the purpose described.

6. The combination of the following elements, viz: a fire-alarm circuit or other main line, A^1, embracing a hinged key, a^4, a secondary or operating line or circuit, V, with its battery W, magnet and armature and lever z^3, and embracing a break-circuit, y^3, a local fire-alarm circuit, U, or a series of local fire-alarm circuits combined with heat detectors, all operated as described, so that upon the commencement of a fire in a building the local circuit therein will be closed, a break-circuit p^3, will be operated so that a signal or a series of signals, which will locate the fire, will be sounded by means of the fire itself, through the main line, without the liability of deranging the main line by the breaking or derangement of any of the connecting lines.

7. The combination with a train of wheels of one or more revolving switches B, having alternate conducting and non-conducting sections thereon, springs 1 2, 3 4, and 5 6, which connect with the revolving switch and also with the main line A^1 and fire-alarm line Z, and with the break-circuit D, key I and magnet H, by means of the branch-wires and other connections described for the purpose of diverting the current of the main line alternately through the key I and plate D, or through either line, when operated as described.

8. The combination and arrangement of the switch M, buttons r^1 and *o*, with the branch-wires leading therefrom, and the catch C^2 for holding the switch M in the desired position for bringing into the circuit of the main line the coils of the magnet q^1, by means of the branches leading to and from the same, for the purpose of operating the armature r^4 in telegraphing and testing for breaks, as described.

9. The combination of the switch k^2, button m^2, switch l^2, button n^2, and branches connecting the same with the screw-posts l^4 m^4 and coils of the magnet q^4, for cutting out all other branches and connections of the main line with the mechanism, and for the purpose of detecting faults or breaks in the line when they occur in the mechanism, as described.

10. The combination of the switch r^2, buttons l^3 n^3, and ground-wire x^3, with the main line A^1, for grounding the line on either side, as described.

11. The combination of the switch s^2, button r^3, switch b^3, and button c^3, for closing both lines A^1 and Z, and for cutting out all connections of the same with the operating mechanism, so that the mechanism may be removed when desired, as described.

12. The combination of the spring-switch t^4, button o^4, branches 43 44, coils of the magnet H, and branch 54, for cutting out from the line Z the branches leading through the mechanism and for telegraphing when desired, as described.

13. The arrangement of words or characters upon the knob or handle f^3 in such manner as to indicate the condition of a train or mechanism in the boxes, as described, that is to say, whether the train is wound or unwound.

14. The combination of a telegraph line, A^1, and switches h^6 and f^6 with the battery R and the battery S'', for the purpose of renewing or repairing either battery when desired, as described.

15. The combination of the switches h^6, button l^6, battery S'', switch j^6, button k^6, and ground-wire x^6, and the switch f^6, battery R, switch p^3, button n^3, and ground-wire y^3, for dividing the line A^1 into two circuits when the ground-wires are put on in the boxes or buildings, as described.

16. The combination of two main lines A^1 and B^1, the line A^1 closed and the line B^1 open, or *vice versa*, and each having its own independent battery, both lines arranged substantially as described, so as to connect with the same operating mechanism and alarm instruments in the different boxes and buildings, and in such a manner that when a break occurs in the closed line A^1, for instance, the circuit may be instantly restored through all the instruments in the buildings and boxes by turning the switch s^2 of the open line B^1, upon the button r^3, at the battery office C^1, as described.

17. The combination and arrangement of the switches and buttons of the lines A^1 and B^1 upon the switch-board, shown in fig. 17, and the branch connecting therewith, for the purpose of testing for breaks in either line, or for switching out either line or both, when desired, essentially as described.

18. The devices herein described for automatically closing one line by the breaking of another, and consisting of a train of wheels, traveling-nut H^3, screw G^3, switch s^6, magnet C^3, and vibrating armature D^3, as described.

111,411.—FIRE-ALARM TELEGRAPH.—William B. Watkins, Jersey City, N. J.

Claim.—1. The method of operating the lever B or other device, for setting in motion the mechanism of a municipal fire-alarm box, A, by the interposition of mechanism depending for its action upon the fire, as described.

2. The method of bringing the lever B or other device of a municipal fire-alarm box, A, in a position to work the mechanism of said alarm-box by means of a cord, C, or other device, connected to an arm or wheel, b', which operates, when the gearing-train is released, so as to bring the lever B in the desired position, as described.

3. In combination with a mechanism for bringing the lever B or other device of a municipal fire-alarm box in a position to work said alarm-box, an arm or wheel, *n*, fixed to and turning with the main shaft *a*, and operated by a spring, F, or weight on said shaft, in connection with stops *r* and *s*, so as to automatically trip and release the mechanism and set the lever free to work the alarm-box, as herein described.

4. In a mechanism for operating the lever B, or its equivalent, of a municipal fire-alarm box, the method of arresting the movement of said lever in giving the alarm by means of a stop, t', or its equivalent, and thus maintain the mechanism in position to again operate said lever, as described.

5. In a mechanism for operating the lever B, or its equivalent, of a municipal fire-alarm box automatically by the fire, the arm *p* of the ratchet-pawl *m*, arranged and operating in connection with a stop, *b*, to limit the winding up of the main spring F in setting the mechanism, as described.

6. The combination of the arm *n*, or its equivalent, fixed to and carried by the shaft *a* and pawl *m*, which it carries, with the ratchet-wheels l' and k', for pulling up the cord C for automatically operating the lever B, as described.

7. The ratchet-wheels l' and k', pawl *l*, and arm *u*, made to move loosely on their shaft *a*, to allow the cord C to unwind during the descent of the operating lever B, as described.

8. The combination of a magnet, G, armature H, spring *i*, and locking-arm *g*, when operated by the fire itself, for the purpose of arresting and releasing suitable gearing-train and mechanism operated thereby, so as to operate the municipal fire-alarm boxes automatically, as described.

9. In combination with mechanism for operating the municipal fire-alarm boxes, as described, by means of the fire itself, an alarm-bell, J, or signal apparatus, for the purpose of indicating at the boxes the number of the street and building, or the latter only, from whence the alarm comes.

10. In combination with a mechanism for operating the municipal fire-alarm boxes, as described, by means of the fire itself, suitable devices operated by said mechanism for printing or recording the number of the street and the number of the building, or the latter only, simultaneously with the sounding of the alarm.

11. In combination with a printing device, N, operated by the movements of the armature H, the feeding-rolls *v* and *w*, operated by the motion of the main shaft *a*, so as to produce the proper feed of the paper, as described, when the said shaft *a* is set in motion by the action of the fire, as described.

12. The feeding-roll *w*, of the printing mechanism, arranged upon its shaft *a*, so that it will be carried forward with the forward motion of the shaft to feed the paper by means of ratchet w^2 and pawl w^3, and prevented from turning with said shaft *a* in winding up the spring, as described.

13. In combination with a printing device, N, for recording the number of the street and the number of the building, or the latter only, the break-circuit M, having metallic intervals, and its breaks of unequal length, arranged so as to operate said printing device and feed the paper so as to produce

impressions at intervals which will indicate the signal or numbers sounded.

14. A repeater or relay, or their equivalents, for sounding or indicating the numbers of streets and building, or the latter only, or any given signal through an independent telegraph line, when such repeater or relay is actuated automatically, as described.

15. In combination with a mechanism set in motion by the fire itself to operate the municipal fire-alarm boxes, the spring V, arranged so as to maintain a constant connection with the standard R, for the purpose of repeating, through the municipal lines, by means of the metallic arm W and standard T, the alarm caused by the fire and sounded and recorded at the box, by the mechanism herein described.

16. The switch-key S, for the purpose of connecting the municipal line with the mechanism described, so that the electric circuit of said line will remain closed when the switch is closed, and by opening the said switch allow the alarm to be repeated through the said municipal line by the movements of the armature in operating the arm W, as described.

17. The spring-switch S, located and arranged in connection with the mechanism described, for the purpose of being used as a key for telegraphing through the municipal line, as described.

18. The double spring switch X X', arranged so as to be connected and disconnected with either of the metallic buttons x^2 x^3, for the purpose of cutting off the electric circuit from the magnet G, and restoring it when desired, in either case keeping the electric circuit closed, and in either position, to be used, when desired, as a key for telegraphing.

19. A train of wheels, operated by a spring, F, or a weight, and the pulling-up and tripping mechanism connected therewith and operated thereby, as described, for setting in motion a second force, as described.

20. The combination of a heat-detecter, or local fire-alarm, Z, local circuit Z^2, the break-circuit M, street-line K' K', and alarm apparatus y y, with the municipal line and its boxes, the whole operating as herein described.

111,412.—Fire-Alarm Telegraph.—William B. Watkins, Jersey City, N. J.

Claim.—1. A street-telegraph line or lines, A, constructed so as to enter one or more buildings and be operated automatically, through suitable mechanism, by the agency of the fire itself, to produce an alarm simultaneously at different points within the circuit of said street-line, as described.

2. A street-telegraph line or lines, A, constructed so as to enter one or more buildings and be operated automatically, by the agency of the fire, in such manner as to indicate, by an alarm, the street and number of the building, or the latter only, in which the fire originates, simultaneously at different points within the circuit of said street-line or lines, as described.

3. In combination with a street-telegraph line, A, constructed and arranged to enter one or more buildings, a heat-detecter or local fire-alarm for closing a local circuit, and suitable mechanism operated automatically thereby, for opening and closing the circuit of said street-line, for the purpose herein described.

4. The combination of a revolving spring-arm, e, and stationary break-plate D, for opening and closing the electric circuit.

5. In a mechanism for opening and closing the electric circuit of a street-telegraph line operated automatically by a heat-detecter or local fire-alarm, a revolving spring-arm, e, in combination with a stationary break-plate, D, by which said circuit is opened and closed, constructed, arranged, and operated as herein described.

6. In a mechanism for automatically opening and closing the electric circuit of a street-line, the break-circuit D thereof, constructed with non-conductors or breaks arranged in two groups, the divisions in one group separated by long intervals, and the divisions in the other by short intervals, and each group separated by a long space, so as to indicate and communicate the street and the number of the building therein at or to as many points within the circuit as may be desired.

7. In connection with a break-circuit having non-conductors or breaks, and metallic intervals for indicating numbers, the method of indicating or sounding the cipher of any number by the use of two or more short breaks and intervals to produce short quick signals.

8. The manner of producing a succession of interruptions of an electric circuit by means of mechanism so constructed as to produce a rotary motion on the automatic closing of an electric circuit by a heat-detecter or local fire-alarm.

9. In combination with mechanism set in motion by the action of heat upon a local fire-alarm, as described, a secondary line P^2, in which the circuit is broken and closed by a revolving break-wheel, so as to indicate or sound the number of the street and the number of the building, or the latter only within said line, without sounding the said alarm within the primary line A, as herein described.

10. In a mechanism for automatically opening and closing the electric circuit of a street-telegraph line, A, by means of the fire itself, the combination therewith of a fixed break-circuit, D, and revolving break-circuit wheel, P, or two of either for the purpose of indicating and communicating the street and the number of the building thereon one or both, to any desired point or points within the street-line A, and at the same time, through an independent line, P^2, as described.

11. In a mechanism for automatically opening and closing one or more street-lines, the combination of the continuously-vibrating armature Q c lever R with its pawl S and hook or catch T, one or both, armature Z, the ratchet-wheel U, and the gearing V and W, with a fixed or revolving break-circuit, D P, or both, the several parts being constructed, arranged, and operated substantially in the manner and for the purpose as herein described.

12. The combination, with a heat-detecter, g g, its local line N O and battery M, with an automatic electro-magnetic motor for working one or more break-circuits and the line A by the action of the fire itself, as described.

111,413.—Fire-Alarm Telegraph.—William B. Watkins, Jersey City, N. J.

Claim.—1. The combination of a device operating to automatically close an electric circuit on an increase of temperature, with the circuit C F E, electro-magnet E, armature L, lever J, tripping detent M, fly Q, or its equivalent train of wheels, levers h and g, and alarm-bell j, operating as and for the purpose described.

2. The combination and arrangement of the magnet E, the armature L and its lever J, detent M, and spiral spring N, with the train of wheels, the break-circuit U, and a device operating to automatically close an electric circuit on an increase of temperature, for the purpose described.

3. The combination of the switch-key l l' with the mechanism herein described, for the purpose of cutting out the break circuit U and telegraphing, as described.

4. The combination with a device operating to close an electric circuit on an increase of temperature, and its local line F, C, and H, battery B, the magnet E, lever J, armature L, spring N, detent M, and the train of wheels and break-circuit U with the line W, and its battery Y, connecting with the buildings and alarm mechanism, as described.

111,414.—Stave-Sawing Machine.—Charles Thompson Watson, Deerfield, Mich.

Claim.—1. The combination and arrangement of the grooved and perforated saw S, adjustable fixed guides H H' M M', adjustable driving-wheel D, tongued rollers I' K', and loose pulley J, substantially in the manner specified.

2. The groove g in the interior surface of the

bow-saw, in combination with one or more rollers I K', having tongues to run in said groove in the manner and for the purpose stated.

111,415.—Machine for Disintegrating Wood.—Charles Wolff, Sr., and Charles Wolff, Jr., Cincinnati, Ohio.

Claim.—1. The feed-stop device, consisting of the elbow f^1, projections 1 and 2 on rod f^2, in combination with shifter J and clamp K, all arranged to operate as herein described and shown.

2. The combination of the shaft F, carrying pulleys f' f'' f^3, shaft G, with pulleys g g', screws H H', wheels A h' engaging with the worm on shaft G, elbow f^1, projections 1 and 2 on rod f^2, shifter J, and clamp K, all arranged to operate as herein described and shown.

111,416.—Corn and Phosphate-Drill.—John W. Wood, New Leeds Corner, and Gabriel Moore, Fair View School House, Md.

Claim.—1. The construction of the hoppers S with triplicate compartments o o' o', for distributing the seed and phosphate at one operation, in combination with the slides T, constructed, arranged, and operating substantially in the manner and for the purpose above described.

2. The combination and arrangement of the double mold-boards J J with the plows G by means of the straps or rods K, yokes L, and pivots c, substantially as and for the purpose set forth.

3. In combination with the mold-boards J the lever Q, ratchet R, double-jointed levers O O, socket f, and stem b' of the yoke E, the several parts being constructed and arranged for joint action, substantially in the manner and for the purpose specified.

4. The combination and arrangement of the slide X and pawl z with the cam-ring U and indicator W, substantially as and for the purpose set forth.

5. The combination and arrangement of the levers Z with the rods t of the slides T by means of the slots 1 2, substantially in the manner described, and for the purpose specified.

111,417.—Box-operating Mechanism for Looms. — Horace Wyman, Worcester, Mass.

Claim.—1. The pinion-and-spur or stud-wheel, the star-wheel and all the gearing therefrom, which operate the cranks through the government of the pattern-chain and its connections, when all are constructed and combined with the connectors and compound-levers to actuate the shuttle-boxes, as described.

2. The combination of the disks p and q, the bell-crank levers k and k^1, and springs k^2 j^3, as and for the purpose described.

111,418.—Tube-Holder.—Thomas Arnold, Petroleum Centre, Pa.

Claim.—The springs A, in combination with the rings A', for holding the tube B in position, and allowed to move vertically upon the same, substantially as shown and described.

111,419.—Car-Coupling.—David H. Ball, Sinnamahoning, Pa.

Claim.—In combination with a draw-bar, A, the plates or bars B, jaws C C, rods a a, arms b b, spring f, and shaft E, constructed and used as and for the purpose set forth.

111,420. — Envelope-Machine. — James Ball, New York, N. Y.

Claim.—1. The plain guides a, supporting the gudgeons of the roll of paper, and allowing said roll to adjust itself laterally in accordance with the guides c of the feed-cylinder, substantially as described.

2. The wheel d, with plain segment f, segmental step g, and wheel e, and the elliptic wheels h i, combined and operating together in relation to the feed-cylinder substantially as and for the purpose described.

3. The knife H, in combination with the rod l, disks n, loose pinion h, sleeve t, teeth r s, groove u, pin v, and cam-groove x, substantially as and for the purpose set forth.

4. The pin z, projecting from the swinging lever, and the notched disk y, operating together, in combination with the stop mechanism of the knife, substantially as and for the purpose described.

5. The platform I, having its edges bearing on the inner portions of the threads of the endless-geared screws K, so that an empty platform may be substituted for a loaded platform.

6. The combination of beaters a' b' and gauges c' d' with the platform I, as set forth.

111,421. — Grain-Drill. — Turner Barns and Hugh S. Jamison, Greensburg, Ind.

Claim.—The combination of the cut-offs S and T with the hopper R, whereby one, two, or three drills may be sown at a time, as desired, as and for the purposes set forth.

111,422.—Pipe-Wrench.—Oramel Graves Barrett, Boston Highlands, Mass.

Claim.—The combination of the latch-spring C, having a series of holes, f, in it, as described, with the double-jawed head B and the lever A, made, arranged, pivoted together, and provided with the holes b b b c c c of adjustment, all substantially as described.

111,423. — Paper-cutting Machine.—George Bates, Philadelphia, Pa.

Claim.—The combination of the cutting and scoring-disks and a graduated bar, G, so suspended that it can be brought opposite either of the scorers or cutters, as set forth.

111,424.—Harvester.—Lindley M. Batty, Canton, Ohio.

Claim. — 1. The within-described harvester-frame, the same consisting of the frame-plate A, having the standard G cast at the end and the two-part gear-cavity H I cast at the side and near the center thereof, and with all the shaft-bearings 1 1, 2 2, 3 3, cast thereon, and of the covers D and E, the side J of the cavity H I being either cast with said cavity or consisting of the sheet-metal plate J, and the several parts being arranged and combined substantially as and for the purpose specified.

2. The hub-box 15, having the ratchet-notches 20 20 formed on its inner face in such a manner as to leave the portions 21 21 of said face to bear on the face of the pawl-wheel 16, so as to form an additional journal-bearing for the driving-wheel, the several parts being constructed and arranged as is herein specified.

3. The combination and arrangement of the main frame G A I, coupling-frame L M, and heel-shoe Z, said coupling-frame having at each of its lower corners a hinge-joint with the ends of the heel-shoe, and having its upper corners united to the main frame by a rolling hinge-joint and a sliding pivot-joint, said last-mentioned joints being between the planes of the driving-wheels, and the several parts being arranged substantially as and for the purpose specified.

4. The within-described coupling-frame L N M, consisting of the coupling-bar L, cross-bar N, and brace-bar M, and with or without the eye k, the same being formed from a single bar of metal by bending it into the required form, and the several parts being arranged substantially as is herein specified.

5. The heel-shoe Z, consisting of a plate of sheet metal, having its end turned up to form one side of the sockets for the hinge-arms on the coupling-frame, and having combined with it suitable castings to form the other sides of said sockets, substantially as is herein specified.

6. The combination of the pinion 33, provided with the grooved clutch 34, forked lever 44, lever 37, rod 39, and treadle-lever 43, with arm 45, the

several parts being arranged substantially as and for the purpose specified.

7. The coiled-wire handle 7, formed on the upper end of the pawl wire 8, and encompassing the lifting-lever d, substantially as and for the purpose specified.

8. The crank-screw r, having the threaded portion thereof made in a tapering form, when used in combination with the swinging hinge-arm T on the coupling-frame, substantially as and for the purpose specified.

111,425. — WOOD PAVEMENT. — Henry M. Beidler, Philadelphia, Pa.

Claim. — 1. The boards or blocks B B, provided with notches *b b* and the strips C C, arranged as described, in connection with the blocks A A, substantially as and for the purposes herein set forth.

2. A wooden pavement, made in sections, composed of a series of blocks, A, notched boards B, and strips C, the blocks A being arranged slightly apart, and connected together by the pins *a*, and to the earth by the pins D, all substantially as and for the purposes set forth.

111,426, antedated January 21, 1871.—STALL FOR HORSES.—Samuel S. Bent, Port Chester, N. Y.

Claim.—1. The frame d, for receiving the ends or edges of the planking of the stall, and also the pivots or axes on which the manger or trough swings, the parts being constructed substantially as and for the purposes set forth.

2. The metal manger, with the frame and shoulder 6, to receive the wooden back, substantially as set forth.

111,427.—COOKING-STOVE.—Samuel Blue, Danville, Pa.

Claim.—The independent flue B, communicating with the draught-oven of a three-flue cooking-stove through an opening, c, in the lateral wall of the oven over the oven-door, substantially as specified.

111,428.—COMBINED GANG AND SUBSOIL-PLOW.—Joel L. Bond, St. Louis, Mo.

Claim.—1. The arrangement of the bent bar G, clamps *b b* and *d*, adjustable bar H, and plow D, constructed as described, and used in combination with a single plow to form a gang-plow or a subsoil-plow, as herein set forth.

2. The combination of the beam A with its plow D, the bent bar G, subsoil-plow D', frame I, wheel J, and grain-drill attachment K, all constructed and connected together as described, so that the subsoil will be turned over and cover the seed by the plow D', while the plow D at the same time makes a new furrow, substantially as herein set forth.

111,429.—MODE OF FORMING THE AIR-CHAMBER IN DENTAL-PLATES. — Mary Ann Boughton, Norwalk, Conn.

Claim.—The mode, substantially as herein described, of forming the air-chamber in plates for artificial teeth, that is to say, by placing the adhesive block *c* upon the roof of the mouth, and then taking the impression of the latter.

111,430.—CUP FOR KEROSENE-LAMPS.—Nathaniel L. Bradley, Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—In the manufacture of cups for kerosene-lamps the arrangement of the socket B upon the bottom of the cup, so as to form a bearing entirely below the bottom of the cup, substantially in the manner and for the purpose set forth.

111,431.—GRAIN-THRASHER AND CLEANER. William H. Butterworth and John Butterworth, Jr., Trenton, N. J.; said John Butterworth, Jr., assignor to said William H. Butterworth.

Claim.—1. In combination with the shaker of a thrashing-machine, the rake-heads E, when constructed as described, and for the purposes set forth.

2. In combination with fan-shaft x, shaker D and shoe G, the eccentrics *d*, jointed rods *f*, and springs *e*, arranged as described, and for the purposes set forth.

3. In combination with the stationary tail-board K, the movable tail-board J, slotted irons *h*, bolts *k*, and thumb-nuts *m*, all constructed and arranged substantially as and for the purposes herein set forth.

4. In combination with the tail-boards K and J, the shields L, arranged as described, and for the purposes set forth.

111,432. — CULTIVATOR.—Jarvis Case, La Fayette, Ind.

Claim.—1. A cultivator having the axle A attached rigidly to the tongue, and provided with the arms A' having wheels attached, in combination with the beams hinged to the body A of the axle, and extending backward far enough to cause the line of draft extending from their hinged point to the shovels to fall in rear of the longitudinal plane of the arms A', substantially as and for the purpose set forth.

2. The loops E, hinged or clasped to the axle A, in combination with the beams having the laterally-projecting arm at its front end, whereby the beams can be attached rigidly or loosely to the loops and still be at liberty to move vertically, substantially as described.

111,433. — HOT-AIR DISTRIBUTING-PIPE.—Horace C. Crehore, Boston, Mass., assignor to himself and Samuel T. Cushing, same place.

Claim.—1. The subdivided pipe a, constructed with partitions arranged to equalize the distribution of heated air into vertical series of apartments, substantially as shown and described.

2. In combination with each or either main valve, an auxiliary valve, which is opened by the closing of the main valve, and *vice versa*, and which when open diverts the hot air into another conductor or flat, substantially as described.

111,434.—BEE-HIVE.—Samuel Cuplin, Iowa Falls, Iowa.

Claim.—1. One or more double partitions, formed of slats, in the frames of a surplus honey-box, substantially as and for the purposes herein set forth.

2. The perforated feeder I, provided with a perforated flange *h*, and used for ventilating purposes, substantially as herein set forth.

3. The arrangement of the shutter J with wire-cloth *e*, sliding-door *d*, door K, and button B, all substantially as shown and described.

111,435. — INKSTAND. — Samuel Darling, Providence, R. I.

Claim.—1. An inkstand having an elevated dipping-cup within the reservoir, and an ink-receiving cavity in the upper part, constructed and operating substantially as described.

2. An inkstand having a hollow, elastic stopper, substantially as and for the purpose set forth.

111,436.—BRANDING-STAMP.—Armistead M. Darrell, Washington, D. C., assignor to himself, Solon C. Kemon, and Lysander Hill, same place.

Claim.—1. A hand-stamp, containing a reservoir, B, wick *b*, and die-plate A, constructed and arranged substantially as described.

2. In a stamp, the combination of the movable metallic strip E with the die-plate A, the former passing across the face of the latter, countersunk in a groove provided for the purpose, substantially as described.

111,437.—POTATO-DIGGER.—James Davis, Saratoga, N. Y.

Claim.—1. The pickers I I, constructed as described, and operated by means of the crank-shafts G H, pinions *f g*, cog-wheels J L, shaft K, and axle B, substantially as set forth.

2. The combination, in a potato-digger, of the axle B, wheel C, with recessed hub, cap D, ratchet-wheel *c*, and spring-pawl *b*, all substantially as and for the purposes herein set forth.

3. The arrangement, in a potato-digger, of the journal-boxes E E and *e e*, and straps *d d* and *m m*, for supporting and adjusting the crank-shafts G H with the pickers I I, substantially as herein set forth.

4. The arrangement of the plow or blade M, slotted bars N N, with beams P P, guides O O, cross-bar R, lever S, and rods *k k*, all substantially as and for the purposes herein set forth.

5. The arrangement, with frame A of the potato-digger, of the bar V, tongue W, bar X, shaft Y, projection *p*, and lever Z, all substantially as and for the purposes herein set forth.

6. The combination of the pivoted arms A' A', slotted bars B' B', roller C', and scrapers D' D', all substantially as and for the purposes herein set forth.

111,438.—COMBINED PNEUMATIC AND RUBBER SPRING.— Patrick S. Devlan, Jersey City, N. J., assignor to himself, Isaac P. Wendell, and Stephen P. M. Tasker, Philadelphia, Pa.

Claim.—1. The gum cylinder or cylinders B, having one or more recesses in their outer periphery, to contain air to react against the outward pressure of the air in the interior of the cylinders, in combination with one or more pistons, C, and the case A, substantially in the manner and for the purpose hereinbefore described.

2. The construction of the gum cylinder B with spiral ribs around its periphery, forming both a horizontal and vertical stiffening of the cylinder, and suitable guides for the same in its reciprocating movements, as above set forth.

3. The combination of the plate D and tube d, and the combination thereof with the case A and cylinder B, as and for the purpose set forth.

111,439. — SEAL FOR DIP-PIPES IN GAS-WORKS. — Grafton Douty, Columbus, Ohio.

Claim.—1. A chamber, F, for a movable dip pipe, E G, interposed between the hydraulic main B and retort, and communicating therewith through the dip-pipe, to seal and unseal the main, as described.

2. The supporting and sealing-seat H H' of the movable dip-pipe E G, as described.

3. The arrangement of the weighted lever L, connecting-rod N, and movable dip-pipe E G, for the purpose of raising and locking the dip-pipe, when unsealed, and forcing it down upon its seat when sealed, as described.

4. In combination with a hydraulic seal and gas-retort, the movable dip-pipe E G, the inclosing-chamber F, the communicating-bridge D, and the rising-and-depressing lever L, constructed, arranged, and operating as described.

111,440. — SEAL FOR DIP-PIPES IN GAS-WORKS. — Grafton Douty, Columbus, Ohio.

Claim.—1. In hydraulic seals for gas-works, a movable dip-pipe, D, having a liquid-seal for both its upper and lower ends, as described.

2. A movable dip-pipe, D, for sealing and unsealing the hydraulic main A of gas-works, having a perpetual liquid seal at its upper end.

3. A liquid seal for the upper end of a movable dip-pipe, supplied with such sealing-element by the escaping tar from the retort, as described.

4. The inverted cup J of a movable dip-pipe D, in combination with the sealing-chamber I and the hydraulic main, with which said chamber communicates, as described.

5. The combination of the upper liquid-seal and hydraulic main with a movable dip-pipe or pipes and a gas-retort, as described.

111,441.—LUBRICATING-COMPOUND.—Elisha Dyer, Jr., Providence, R. I.

Claim.—The lubricating-compound herein described, composed of animal fat, grease, or tallow, palm-oil, and paraffine, in the proportions and prepared substantially as set forth.

111,442.—TUBE-CUTTER.—Daniel E. Eaton, Boston, assignor to himself and James S. Hanscom, Cambridge, Mass.

Claim.—1. The rod a, with its inclines *f*, the cutter-stocks jointed to the nut or collar *m*, and the feed-screw *e*, combined and operating substantially as shown and described.

2. In combination with the cutters arranged to operate as described, the ring *r* and gauge-pins *t*, substantially as shown and described.

111,443.—COMPOUND FOR DRESSING AND COLORING THE HAIR.—John N. Fallis, Newport, Ky., assignor to himself and Charles Thacker, Sr., same place.

Claim.—The preparation for dressing and coloring the hair, compounded of the ingredients specified, in about the proportions stated.

111,444.—TREATING COTTON-SEED OIL TO RENDER IT DRYING.—Rasselas Farley, Cincinnati, Ohio.

Claim.—The process for converting crude cotton-seed oil into a drying oil, substantially as herein explained.

111,445.—HARROW.—August Friedemann, Waverly, Iowa.

Claim.—1. The levers K and L, when pivoted to or upon the harrow, substantially as and for the purpose shown.

2. The sections A and B, composed of the alternately long and short bars C, containing the teeth O, and connected together by means of the cross-bars D, all arranged substantially as and for the purpose specified.

111,446. — TEMPERING STEEL.—George B. Garman, Washington township, Ind.

Claim.—The method and mode of tempering steel by cleansing the fire, as above described, and the application to the steel of the said chloride of sodium in the manner hereinbefore mentioned, and the use of the said solution of chemicals in the proportions and in the manner above set forth and described, or in the use of a solution of said chemicals in substantially the same proportions.

111,447.—SEWING-MACHINE.—Thomas Garrick, Providence, R. I.

Claim.—1. The serpentine grid or rack G, substantially as described, in combination with the take-up spring 7, as its equivalent, for the purpose of producing the requisite tension and to take up the slackness of the needle-thread, as described.

2. The tilting cloth-plate M, substantially as described, in combination with a tilting presser, D, as described, for holding the fabric to be sewed obliquely to the needle, substantially as specified.

3. The combination, with a divided loop-catcher, when arranged to operate through the button-hole, substantially as herein described, of the combined gauge and spreader X, for the twofold purpose herein set forth.

4. The combination of a rotary shuttle of the material described with the magnet and shield of brass, or its equivalent, interposed between it and said shuttle, substantially as and for the purposes set forth.

5. The magnet, in combination with the tension-roller, arranged and operating substantially as and for the purpose specified.

6. The combination and arrangement of the fixed and movable casters N N^2 with the treadle or its equivalent, substantially as and for the purpose specified.

7. The shuttle-bobbin, having a groove in its flange, and combined with a spring-finger bearing in said groove, as herein described.

8. The tilting and holding-cam or button *j* or its equivalent, in combination with the cloth-plate, as described, for the purpose specified.

9. The spool-holder B^1 and the bobbin-winder, constructed substantially as described, for the purpose specified.

111,448. — BOOT-AND SHOE SOLE.—Benjamin D. Godfrey, Milford, assignor to William Claflin, trustee of the American Wire-Quilted Sole Association, Boston, Mass.

Claim.—A sole or tap-sole, made of several layers of thin leather, united by short sections of fine wire driven closely together, substantially as shown and described.

111,449.—MANUFACTURE OF RUBBER ROLLS. John Greacen, Jr., and Edward L. Perry, New York, N. Y., assignor to Combination-Rubber Company, same place.

Claim.—An elastic roll, made by first winding cord B directly upon the shaft, then wrapping the same with a filling fabric composed of rubber *a* and cords *b*, and covering the whole with a surfacing of rubber, D, the several parts being formed into a compact mass by vulcanization, substantially as herein described, for the purposes specified.

111,450. — CARTRIDGE-BELT.—William B. Hayden, Columbus, Ohio.

Claim.—The revolving cartridge belt B, arranged on the supporting belt A, substantially as and for the purposes herein shown and described.

111,451.—BEE-HIVE.—John H. Hendrick, Clinton, Ill.

Claim.—The bee-hive herein described, consisting of the main body A, with drop-door A^1, comb-frames C, board D, surplus-honey boxes E, and feed-box F F', all the parts being constructed and arranged substantially as set forth.

111,452.—FEEDING MECHANISM FOR SEWING-MACHINES.—Walter B. Higgins, San Francisco, Cal.

Claim.—The feeding mechanism described, consisting specifically of the cam-wheel *b*, constructed as described, with its cam-shaft *a*, lever *z*, with its arms, having the adjusting screw *d* and spring *e*, and slotted bar X, with teeth W, when combined and arranged as described.

111,453. — UMBRELLA.—Mason Hirsh and Leopold Hirsh, Philadelphia, Pa.

Claim.—1. As a new manufacture, an umbrella, the handle and tip of which are connected to the stem so as to be detachable from the same, as set forth.

2. The combination, with the recessed stick A, detachable handle and tip, and slides *g g'*, of spiral springs *f* connecting the tip and handle to the slide, as specified.

111,454.—MANUFACTURE OF SOAP.—James Hoagland and Isaac C. McDonald, Columbus, Ohio.

Claim. — The within-described compound for soap, composed substantially of the ingredients herein set forth

111,455. — FOLDING-CHAIR. — Francis M. Holmes, Boston, Mass.

Claim.—1. The seat, as connected to its back-supporting rung F by double-jointed hinges G, and provided with one or more stops, H, to sustain it against the front rung E, such seat being to fold over the front rung and down in advance of it, as set forth.

2. In the folding-chair, the combination of the band I with the seat and its supporting-rungs E and one or more stops H, and with the three-leaved hinges G fixed to the seat, and the back rung F, all being substantially as described.

111,456.—FASTENING FOR EPAULETTES.—William Julius Horstmann, Philadelphia, Pa.

Claim.—The combination, with an epaulette, of a hinged tongue, *b*, having a recess, *c*, at its outer end, and a spring, B, having a projection or catch *f*, substantially as described.

111,457.—MACHINE FOR CUTTING STAVES.—Amyntas J. Howell and James Murphy, Spruce Hill, Pa.

Claim.—1. The crozing and chamfering-knives G, constructed as represented and described, for the purpose specified.

2. The arrangement, in the surface of the cylinder B, of the hinged or pivoted gauges H, for determining the thickness of the staves, substantially as shown and set forth.

111,458. — GATHERING ATTACHMENT FOR SEWING-MACHINES. — Allen Johnston and William T. Johnston, Ottumwa, Iowa.

Claim.—1. The reciprocating spring C, having its outer end slotted and turned upward, in combination with the stationary spring I, placed above the former spring and having its outer end slotted and turned downward, substantially as and for the purposes herein set forth.

2. The sliding plate B and its adjusting-lever G, when combined and arranged with the slotted piece *e* and lever D, substantially as and for the purposes herein set forth.

3. The combination of the bed-plate A, sliding plate B, with spring C, levers D and G, arm H, and spring I, all constructed and arranged as described, to operate substantially as and for the purposes herein set forth.

111,459.—COATING AND DECORATING WALLS, CEILINGS, &c. — Charles T. Kemmer, Cleveland, Ohio.

Claim.—1. The herein-described process of preparing oily coatings for walls, ceilings, &c., substantially as set forth.

2. The process of treating or preparing sheeting or other textile fabric for the purpose of forming painted or printed sheets of paint with plain or ornamented surfaces, and which may be transferred to walls, ceilings, &c., substantially as herein set forth.

3. The combination of the sheeting, prepared, as described, with size and the oily coating, with a plain or ornamented surface, substantially as set forth.

4. The composition, as described, of making a water-proof flat painted surface.

5. The oily water-proof sheets or coatings, either plain or ornamented, prepared in the manner substantially as set forth, and for the purpose described.

6. The fibers of cotton, wool, wood, or their equivalents, in combination with pigments, for the purpose of giving body and strength to the described coating, substantially as set forth.

7. Sheets of paint, composed of the within-stated ingredients, ready for applying to walls or other surfaces, substantially as described.

111,460. — CANT-HOOK.— Amos Kennard, Clearfield, Pa.

Claim.—1. In a cant-hook, the combination with the ferrule B, the point C, provided with the shoulder *z*, and the screw-shank *k*, substantially as specified.

2. In a cant-hook, the ferrule B, provided with the stops *h* and *d*, in combination with the key *f* and the hook D, substantially as specified.

111,461.—LETTER-BOX.—Cyrus Levis, Philadelphia, Pa.

Claim.—A letter-box, consisting of a plate, B, hinged to the outside of a door or door-frame, and controlled by a hinged link, *h*, and arm, *i*, adapted to an opening and plate, *j*, of the said door or frame, all substantially as described.

111,462.—PROPULSION OF CANAL-BOATS.—Thomas Main, Greenpoint, N. Y.

Claim.—The screw-propeller A, when placed in the cavity in the bow of the boat and within the body of the hull thereof, in combination with a channel inclining downward to the bottom of the boat, substantially as described.

111,463. — Box. — Henry Manneck, New York, N. Y.

Claim.—A sectional folding box, composed of the bottom and sides *a b b* made in one piece, and the ends B B, separately made, with angular portions *c* at the sides and bottom, the parts A B B being secured together at the corners by metallic clamps C and corner pieces D, all constructed and arranged substantially as and for the purposes herein described.

111,464. — MANUFACTURE OF BROOMS.— Ezra P. Marble, Sutton Centre, Mass.

Claim.—In the manufacture of brooms and brushes, the utilization of the cortical envelope of the broom-corn stalk, substantially as specified.

111,465.—CARPET-LINING.—John C. Mayall, Boston, Mass.

Claim.—As a new article of manufacture, the carpet-lining A, consisting of the continuous bat C and single sheet of paper B, folded over and enveloping said bat, and with its edges *c* overlapping each other and secured, as and for the purpose herein described.

111,466.—BEE-HIVE.—John Armstrong McAnulty, Gilpin, Pa.

Claim.—1. The hive herein described, having the side boxes D D and the horizontally-sliding glass plates F F, when constructed and operating substantially as shown and described.

2. The pendent comb-cards E E, having their upper bars dovetailed to slide in corresponding dovetail grooves in the top of the hive.

3. In combination with the upper ventilating passage C and the ventilators *b b* in the lower chamber G, the air-passage *z*, guarded by the notched strip *s* and the diagonal piece of wire-cloth *x*, substantially as specified.

111,467.—FRUIT-DRIER.—John V. R. Miller, Richmond, Ind.

Claim.—1. The pan B, for generating steam and heating air, constructed with a partition, *a*, and perforations *c*, in combination with a fruit-drier, A, operating substantially as herein described.

2. The combination of the fruit-drier A, having a perforated bottom, *m n*, pan B, and furnace A', arranged relatively to one another, substantially as set forth.

111,468.—SLIDING-DOOR.—John More, New York, N. Y.

Claim.—1. The adjustable double series of sheaves M N, carried on the doors and adapted to work, as represented, on the single way E, when the lower series of sheaves, N, is adjustable or movable up and down to fit tightly to the way, substantially as herein specified.

2. The elastic stops G^1 G^2, or either of them, arranged as specified, so as to arrest the motion of the door gently, as set forth.

3. The adjusting-screws g^1 g^2, in combination with the step-plates R, struts G^1 G^2, and way or rail E, which supports the sliding doors, as specified

4. The bar or way E, made in two pieces halved together when connected to the central bolt C, and adapted to be adjusted up and down at each end, so as to carry the sheaves which support the double door, and to allow the sheaves and the bar E itself to be easily introduced and removed, in the manner and for the purposes herein set forth.

111,469. — COMBINED BAND-CUTTER AND FEEDER FOR THRASHING-MACHINES.— Samuel S. Myers and James McCauley, McAllisterville, Pa.

Claim.—1. A combined conveyer and band-cutter, consisting of sectional chutes, one or all of which shall be provided with carrier-belts C, and having the revolving knives F arranged therein, substantially as described.

2. In a band-cutter, the detachable and reversible knives F, having sickle-teeth formed on their edges, substantially as described.

3. The nut *a* provided with grooves, in combination with the knives having their ends bent to fit therein, and the nut C arranged upon the shaft G, substantially as described.

4. In a band-cutter the slotted legs I, in combination with the hinged section A for adjusting the latter, as described.

5. The combination of the carrier-belts *c*, cleats *e*, pins *n*, and revolving knives F, when said parts are relatively arranged as shown, and for the purpose described and set forth.

111,470.—MACHINE FOR MOLDING KNOBS.— Charles H. Palmer, Brooklyn, E. D., N. Y.

Claim.—1. The vertically-divided and laterally-movable mold-sections *a a*, having applied to them the neck-forming portions *s s*, in combination with a pressing-plunger, C, substantially as described.

2. The elevating device *e*, in combination with the laterally-movable sections *a a*, constructed as described, and the pressing-plunger C, substantially as described.

3. The bracing-strap *e*, and the locking devices *t t'*, in combination with the laterally-sliding mold-sections *a a* and the accessories, substantially as described.

4. The treadle G, held up by a spring, S, and connected by levers and rods to the laterally-movable mold-sections *a a*, in combination with the forked rod *n*, pin *p*, and elevating-rod e^1, said parts being so constructed that the mold-sections *a a* will be separated before the rod e^1, with its knob *d*, begins to rise.

111,471. — VAPOR-BURNER. — Robert W. Park, Philadelphia, Pa.

Claim.—1. The wings or plates J J, heated by independent jets of ignited gas from the apertures *s*, in combination with oil or vapor-passages situated below the said wings, all substantially as described.

2. The passages *h*, h^1, and h^2, formed in the body of the burner, in respect to the wings J J, and communicating with the branch B and mixing-chamber *z*, through channels *t* and *t'*, all substantially as specified.

3. The said passages *h*, h^1, and h^2, when formed between tubes H and A', substantially in the manner described.

4. The tube or sleeve H, formed in one piece with the wings J, and arranged to be fitted over and secured to the body of the burner, as specified.

111,472. — BORING AND MORTISING MACHINE.—Jacob Peters, Lebanon, Pa., assignor to Simon J. Stine, same place.

Claim.—The combination of the lever D, collar E, shaft F, and link C, when all these parts are constructed and operate as described.

111,473.—TRACE-CARRIER.—Robert Porter, Ottumwa, Iowa.

Claim.—The ring A, provided with the radial arms B, from the center-plate of which is a hinged or stationary post, G, provided with the cross-bar H, all constructed as and for the purposes set forth.

111,474.—Machine for Drilling and Tapping Water and Gas-Mains.—James Riley and Patrick Riley, New York, N. Y.

Claim.—1. In combination with the water and gas-tight cylinder or chest, herein described, a rotating or sliding cover, carrying a drill-shaft and shaft to insert the service-cock, substantially as described.

2. In combination with the subject-matter of the preceding claim, the drill-shaft E and screw-sleeve D, constructed and arranged to operate substantially as described.

111,475.—Fluting-Tongs.—Jacob C. Robie, Binghamton, N. Y.

Claim.—The handles or stops A A, to prevent the inward deflection of the shanks B and C between the semicircular spring D, and their connection with the prongs H H and *a a a*, substantially as hereinbefore described, for the purpose set forth.

111,476. — Apparatus for Preserving Milk.—Even Rönning, Broadhead, Wis.

Claim.—The water-tight receptacle A, having faucet E, perforated cover A′, and raised open platform C, in combination with the cans B B, provided with wire gauze D, all arranged as described, for the purpose of preserving milk, as specified.

111,477. — Street-Sweeping Machine.—Edward A. G. Roulstone, Boston, Mass.

Claim.—The ring P, operated by the sliding bar A, in combination with the arms M N, pivoted to the revolving plate X, substantially as and for the purpose described.

111,478.—Method of Flanging Boiler-Heads.—William B. Scaife, Pittsburg, Pa.

Claim.—The method hereinbefore described of turning the edges of a disk of metal to a position at right angle to the plane of the disk, for boiler-heads and analogous articles.

111,479. — Journal-Box.—John Schieder, New York, N. Y.

Claim.—1. A journal-box, containing two shells, provided with bearing-surfaces made of alternate layers of India-rubber cloth and sheet metal, (sheet-copper being used by preference,) said shells being adjusted by means of set-screws so that the bearing-surfaces can be brought in the required position, as herein shown and described.

2. The supporting-latches at the heads of the journal-box, provided with removable shells, substantially as set forth.

3. The swivel-arm, secured to a hanger by screws with right-and-left-hand threads, substantially as herein shown and described.

111,480.—Concrete Block for Paving.—John J. Schillinger, New York, N. Y.

Claim.—A compound for pavement-blocks, made of cement and broken stones mixed together and formed into blocks of suitable form, leaving the broken stones exposed on the upper surfaces of the blocks, substantially in the manner herein described.

111,481. — Lamp. — Hermann Alexander Schottky, Stapleton, and Theodore Simendinger, New York, N. Y.

Claim.—1. The cap H, fitting in the top of the cylinder B, in combination with the cone F and with tube E, substantially as described.

2. The internal cone F and air-pipes *c*, in combination with the cylinder B and oil-reservoir A, substantially as set forth.

3. The spring-valve *f*, secured to the wick-tube and fitting in a seat in the bottom end of the wick-jacket, substantially as described.

111,482.—Harvester.—Jacobs W. Schuckers, Philadelphia, Pa., assignor to Isaac A. Sheppard, same place.

Claim.—The combination of the internally-geared spur-wheel J, revolving with the main axle, the pinion *j*, mounted on the frame, the pinion *k* on the collar k^1, the internally-geared spur-wheel, revolving loosely on the main axle in a direction opposite to that of its fellow *j*, the pinion k^2 on the frame, the pinion *l* on the sliding sleeve, the clutch, the bevel-wheel loose on the main axle, and the crank-shaft, all these parts being constructed and operating as described.

111,483.—Harvester-Reel and Rake.—William H. Seymour, Brockport, N. Y.

Claim.—1. The reel, constructed substantially as described, that is to say, with its beaters supported at their outer ends, and left open or disconnected from the shaft at their inner ends, to permit the passage of the rake through the path of the beaters.

2. The combination with the reel, constructed substantially as described, of a vibrating or sweep-rake adapted to pass through the path of the reel-beaters and between said beaters and the reel-shaft, substantially as set forth.

3. The rake, operating relatively to the reel, as described, in combination with mechanism operated from the reel-shaft for driving said rake and timing its movements to those of the reel.

111,484.—Wringing-Machine.—Albert H. Spencer, Providence, R. I.

Claim.—1. The independent axes C D, serving as fulcrums for the levers E F and as braces for the whole machine.

2. The pressure-levers E F, hinged on the axes of the intermediate gears, and forming yielding bearings for the rollers K L.

3. A pair of wringing-rollers, provided with end gears and mounted in yielding bearings, in combination with and operated by a driving and an intermediate gear, respectively mounted upon fixed bearings, the several gears being so arranged that their relative working positions will remain the same whether the rolls be in close contact or widely separated, substantially as described.

4. The clamp O, formed of a piece of elastic sheet metal bent curved and attached to the screw N, as described.

5. The uprights A B, pivots C D, and levers E F, in combination with the gear-wheels G H I J, pressure-rollers K L, and spring M.

111,485.— Base-Burning-Stove.—Stephen Spoor, Phelps, N. Y.

Claim.—1. The separate, inclosed recesses G G H, situated around the magazine A of a base-burning heating-stove, in combination with a plate, E, situated beneath said recesses and over the combustion-chamber B, and provided with cooking-holes *a a*, substantially as and for the purpose herein specified.

2. The radial partition-plates *b b*, separating the recesses or ovens G G H, and the inclosing covers or doors *c c*, in combination with the said cooking recesses or ovens, substantially as and for the purpose herein set forth

3. The arrangement and combination of the valve-apertures *l m m*, leading directly to the flues *f g g*, and the annular diving space *n*, pipe or flue *o*, and valve-aperture *p*, leading indirectly to the said flues, in combination with a regulating damper, *q*, substantially as and for the purpose herein specified.

4. The perforated plate I and valve K, arranged between the recesses G G and flue-space A, substantially as and for the purpose herein set forth.

111,486.—Manufacture of Illuminating-Gas.—Ira N. Stanley, Brooklyn, N. Y.

Claim.—1. The process of presenting coal-gas to the hydrogen-producing material in the hydrogen-chamber A, so that the coal-gas shall be in contact with the hydrogen at the moment of its evolution at a high temperature, and shall thereby combine more perfectly therewith, and also preserve the walls of the hydrogen-chamber A, as specified.

2. The process of conducting coal-gas through the entire length of the hydrogen-retort, as and for the purposes specified.

3. The chambers A B and connections N, for the above process, when made in two separate retorts, united and cemented together, as specified.

111,487.—Umbrella.—Nicholas Starr, Homer, N. Y.

Claim.—The described joint, formed of a single piece of metal bent at *a* a^1 a^2 a^3, to form the closed socket *a* for the lower half of the rib, and open socket *a′* for the upper half of the rib, the rib and brace-rods being held by the rivets *b b′*, as described.

111,488.—Electro-Magnetic Sewing-Machine. — George Stevens and Joshua Hendy, San Francisco, Cal.

Claim.—1. Constructing the machine so that the needle-bar shall be operated directly from the electro-magnets, either with or without the intervention of levers, so that the oscillation of the armatures between two or more electro-magnets shall cause a similar movement of the needle.

2. In an electro-magnetic sewing-machine, the cups *o p r* and switch *s*, connected with the battery so as to vary the power, substantially as herein specified.

111,489.—Guard-Chain for Bracelets.—George D. Stevens, New York, N. Y.

Claim.—1. A middle stop *s* on the guard-chain of a bracelet, substantially as herein shown and described.

2. A sliding-guard, in combination with a bracelet, as described.

111,490.—Churn.—William W. Stilwell, Oxford, Wis.

Claim.—1. The fan-shaped dashers P P, arranged spirally on a dasher-shaft, beveled downward on one side and hollowed out on their under sides, with orifices *i i* through the top, all substantially as and for the purposes herein set forth.

2. The arrangement of the shaft N, swivel *h*, and slotted key *c*, substantially as shown and described.

3. The combination of the tub A, partition B, water-reservoir C, funnel D, faucet K, fan-shaped dashers P P, and the mechanism herein described for operating said dashers, when all the parts are constructed and arranged substantially in the manner and for the purposes herein set forth.

111,491. — Carriage-Body. — Chauncey Thomas, Boston, Mass.

Claim.—1. A carriage-body formed of one sheet of metal, and in which the sides are bent into shape without cutting the metal, substantially as described.

2. A carriage-body having its sides corrugated into form, substantially as shown and described.

3. In a carriage-body with corrugated sides, the depressions at the top of the sides to receive the cap-piece.

111,492. — Vehicle. — Chauncey Thomas, Boston, Mass.

Claim.—1. The whiffletree, arranged at the rear of the front axle-tree.

2. The arrangement of the whiffletree upon a pivot, substantially in line with the axis of the draw-bolt.

3. The combination, with the whiffletree, of the curved steadying and presser-spring *k*, substantially as and for the purpose specified.

4. The relative arrangement of the front supporting-irons *a a*, cross-bar *b*, transverse front elliptic spring *c*, and upward-bent front axle *h*, substantially as shown and described.

5. The bent irons *a a*, secured to the cross-bar, and terminating with a step, *l*, and having an intermediate step, *m*, the steps being arranged substantially as shown and described.

111,493. — Stove-Grate. — William S. Thomas, Kendallville, Ind.

Claim.—1. As a new article of manufacture, the grate for wood-stoves herein described, composed of the frame B, having supporting-feet, and the grate A, which is hinged to the former at *a a*, near one side, and constructed with slots a^1 a^1, to permit of the attachment of extension sections, substantially as set forth.

2. The combination of the frame B, grate A, constructed with slots a^1 a^1 and hinged to the former at *a a*, and extension sections C, provided with downwardly-projecting bent bars C′, for attachment to the main grate to form an extension-grate for wood-stoves, substantially as set forth.

111,494.—Chair. — Cyrus Tucker, Terre Haute, Ind.

Claim.—1. The yielding back D of a chair, pivoted to the seat thereof, and having springs connecting the two parts above named, so arranged that the back will automatically pass forward of a vertical line, and thus accommodate itself to the position of the occupant, substantially as set forth.

2. The within-described chair, consisting of an automatically-adjustable or yielding back, in combination with the vertically-adjustable seat, substantially as and for the purpose set forth.

3. The combination and arrangement of the back D, seat C, sockets C′ C′, and springs E E, substantially as and for the purpose set forth.

111,495.—Truss.—Cornelius C. E. Van Alstine, New Haven, Conn.

Claim.—The combination of a chambered pad, F, with a bearing, *b*, upon which rests the helical spring, provided with the seat *c*, the movable plate H, fixed plate L, and the double convex plate or head I between the said two plates, the said head I provided with a stud or screw, E, for attachment to the arm of a truss, substantially in the manner herein set forth.

111,496.—Machine for Preparing Wood-Pulp. — Michael Waissnix and Alois Waissnix, Reichenau, and Carl A. Specker, Vienna, Austria.

Claim.—The drying apparatus for wood-pulp, consisting of an endless apron, a suction mechanism, and one or more roller-presses, all constructed and operating substantially in the manner set forth.

111,497.—Fly-Exterminator.—Amasa K. Walker, Hampden, Me.

Claim.—The net *a*, in combination with the cup *c* and receptacle *en*, as specified.

111,498.—Mode of Laying Pipes across Rivers.—John Frothingham Ward, Jersey City, N. J.

Claim.—1. The within-described mode of laying light cast-iron pipes, having ball-and-socket or other flexible joints, across rivers, creeks, &c.; that is to say, by connecting together length after length on a barge or other floating object, lowering the lengths therefrom, permitting one length to come in contact with the socket of the adjoining length, and causing the barge to recede as the lengths are added, all as set forth.

2. A barge or barges or other floating structure, provided with a cradle, and otherwise constructed, for laying pipes, substantially as described.

111,499.—Door-Lock.—John Welsh, Canton, Ohio.

Claim.—The spindle J, provided with one or two

knobs, D E, in combination with the door or drawer-lock A B C, said spindle having the key-hole *e* formed through the center thereof, and the outer half of the knob or knobs being arranged to turn on the half connected with the spindle, substantially as and for the purpose specified.

111,500. — REPEATING FIRE-ARM.—Luke Wheelock, New Haven, Conn., assigno to the Winchester Repeating-Arms Company, same place.

Claim.—1. The combination of the breech-pin E and lever G, constructed with the shouldered portion G', the arm or arms A, and connecting-rods *t*, for the operation of the breech-pin, substantially as set forth.

2. In combination with the breech-pin E, constructed with the shoulder *e*, the lever G, provided with the cam H^1 and the lock-bolt H, operating to secure the breech-pin, substantially in the manner set forth.

3. In combination with the cylinder I, arranged upon or so as to form the bearing of the lever G, the slide *r* arranged upon the said lever G, and the arm or arms A provided with the bar A', a locking device substantially such as described, and arranged to operate during the passage of the said bar A' over the said slide *r*.

4. In combination with the cylinder I, arranged upon or so as to form the bearing of the lever G, the slide *s* arranged upon the said lever G, and the arm or arms A provided with the bar A', the lever L, and carrier-block D, arranged to operate the said lever L during the passage of the said bar A' over the said slide *s*, substantially as set forth.

111,501.—BOLT-REEL.—Benjamin Clayton White, Des Moines, Iowa.

Claim.—1. The combination of the bolting-cloth, the single ribs B, and the double rib B^1 B^2, when said parts are constructed and arranged together in the manner herein shown and described.

2. The improved arrangement of the metallic bands A A, the ribs B B and B^1 B^2, the bolting-cloth, and the friction-rollers *b b*, when all these parts are constructed as shown and described, for the purpose set forth.

111,502.—HARNESS SADDLE-TREE.—Philip H. Wiedersum, New York, N. Y.

Claim.—1. The cantle-plate B, provided with the square box *k*, as and for the purpose set forth.

2. In combination with the cantle-plate B, provided with the square box *k*, the rib *r*, as and for the purposes set forth.

111,503.—MECHANICAL MOVEMENT.—Jacob Woolf, Burr Oak, Mich.

Claim.—1. The bearing R S *a'* in combination with the levers I, wheel E, cranks G, and eccentric annular weight H, one or more, adapted to operate as described.

2. The stationary crank-shaft C, bent, as shown at *c*, in combination with the standards A A', levers I, cranks G, wheel E, and weight H, as described.

111,504.—MANUFACTURE OF STEEL, STEELY IRON, AND HOMOGENEOUS OR CRYSTALLINE IRON.—James D. Whelpley and Jacob J. Storer, Boston, Mass.

Claim.—1. The improved process herein described for converting wrought-iron into steel, steely iron, and homogeneous and crystalline metal, consisting in subjecting wrought-iron, on the hearth of a reverberatory furnace, to a flame of high temperature and reducing or carbonizing character, so as to fuse the same, substantially as described.

2. The method described for reducing or fusing bar or wrought-iron by charging it on a hearth of a reverberatory furnace, and subjecting it to a flame produced by bringing together a combined jet of hot air, and hot gas, and pulverized fuel, in the manner and for the purposes substantially as described.

3. The combination, with a hearth of a reverberatory furnace, of jets or openings so arranged as to project into the furnace, and over or upon the charge therein, a combined current of hot air and hot carbonaceous gas, with or without pulverized fuel.

4. The apparatus and combinations, substantially as described, for obtaining the results herein specified.

REISSUES.

4,242. — REFRIGERATOR. — Joseph Hyde Fisher, Chicago, Ill.—Patent No. 49,09[illegible], dated August 1, 1865.

Claim.—1. The warm-air flue or passage F leading from the top of the preserving-chamber C in the upper part of the ice-chamber B, in combination with the separate cold-air flue or passage *c* leading from the ice-chamber to a point in the preserving-chamber a little below the exit-level of the flue F, whereby a space is left for the warm air above the influence of the entering cold air, for the purposes hereinbefore described.

2. The construction of cooling and drying apparatus for preserving meat, vegetables, &c., whereby the cooler air after passing over or through the ice in the upper ice-chamber shall enter the lower or preserving-chamber above the level at which the meat, &c., are to be placed, and a little below the opening for the ascent of the warmer air, and by a separate passage or passages from the warmer air, for the purposes hereinbefore described.

4,243. — RUBBER ROLL FOR CLOTHES-WRINGERS.—James B. Forsyth, Boston, Mass.—Patent No. 59,798, dated November 20, 1866.

Claim.—As a new article of manufacture, a rubber roller, whose interior is composed of vulcanized rubber mixed with fibers, when the fibers are arranged substantially as above described.

4,244.—MANUFACTURE OF INDIA-RUBBER ROLLERS.—James B. Forsyth, Boston, Mass.—Patent No. 59,580, dated November 13, 1866; reissue No. 2,589, dated May 7, 1867.

Claim.—1. As a new article of manufacture, a rubber roller, constructed substantially as described, whose interior portion consists of rubber made semi-elastic by either or both the methods above described.

2. The process above described of making rollers, consisting in forming the roller of two rubber compounds, such as are above described, one for the interior portion and the other for the exterior portion of the roller, and curing or vulcanizing them at a heat suitable for vulcanizing soft rubber, all as and for the purpose specified.

4,245.—THRASHING-MACHINE.—Hugh Hanna, Pittsburg, Pa.—Patent No. 84,546, dated December 1, 1868.

Claim.—1. In a machine for thrashing grain, a reversible beater-reel, constructed substantially as described, provided with removable beater blades whose forward or working faces are arranged at an acute angle relative to a line radiating from the axis of said reel, as and for the purpose specified and set forth.

2. In combination with a thrashing-reel, constructed, arranged, and operating as above described and claimed, a concave, in one or more sections, and susceptible of being adjusted with relation to said reel, as and for the purpose hereinbefore described.

4,246. — REGISTERING TICKET-PUNCH.—Austin D. Hoffman, Chicago, Ill., assignor, by mesne assignments, to James H. Small, Buffalo, N. Y.—Patent No. 100,036, dated February 22, 1870.

Claim.—1. The combination, with a ticket-punch, [illegible] a bell, connected with the moving parts of the [illegible] so as to be rung each time the latter is operated, substantially as and for the purpose hereinbefore set forth.

2. The arrangement, in a ticket-punch, of the jaw A, bell F, bell-hammer *e*, bell-crank *f*, push-rod H, and jaw B, so as to operate as hereinbefore shown and described.

3. The combination and arrangement, with the handles A B of a ticket-punch, of the spring-pawl I, ratchet-wheel M, and a registering device, as hereinbefore set forth.

4. The combination, in a ticket-punch, of the box K for the cuttings, with a registering device, which shall indicate the number of times the jaws are actuated, substantially as hereinbefore set forth.

5. The combination, in a ticket-punch, of a bell, a registering device, and a box to receive the cuttings, arranged so as to operate as hereinbefore set forth.

4,247.—Division A.—CENTRIFUGAL SUGAR-DRAINING MACHINE.—Hugh W. Lafferty and Robert Lafferty, Gloucester City, N. J.—Patent No. 88,185, dated March 23, 1869.

Claim.—1. The annular oil-cup D, when so combined with the spindle A as to support and inclose the bearings thereof, substantially as set forth.

2. An enlarged waste-oil cup T, having a contracted rim or neck, and combined with the spindle or shaft of a centrifugal machine, substantially as herein set forth.

3. India-rubber or other elastic packing interposed between the supports of a centrifugal machine and the beams or base to which it is attached or from which it is supported, substantially as herein set forth.

4. The combination of a cone friction-pulley, M I, with the driving-spindle A of a suspended centrifugal machine, substantially as and for the purpose herein set forth.

5. The within-described combination and arrangement of the friction-pulley M N of the spindle A, the driving-pulley S, and connecting-band O, for the purpose herein specified.

4,248.—Division B.—CENTRIFUGAL SUGAR-DRAINING MACHINE.—Hugh W. Lafferty and Robert Lafferty, Gloucester City, N. J.—Patent No. 88,185, dated March 23, 1869.

Claim.—A corrugated or grooved metallic plate, arranged and combined substantially as herein described, with suitable top and bottom plates to inclose and to form the sides of the draining-basket of a centrifugal machine, as and for the purpose herein set forth.

4,249. — SHAWL. — Martin Landenberger, Philadelphia, Pa. — Design No. 4,233, dated July 19, 1870.

Claim.—1. The within design for shawls, substantially as herein set forth.

2. The checkered, the spotted, and the plain stripes of a shawl, combined substantially as set forth.

3. The spotted or speckled, zigzag, and checkered stripe in combination with the plain stripe, as herein set forth.

4,250. — SLIDING STOP-VALVE.—Henry G. Ludlow, 2d, Troy, N. Y., assignor to Ludlow Valve-Manufacturing Company, same place.—Patent No. 33,309, dated September 17, 1861.

Claim.—1. In a sliding stop-valve, the gate B, made separate from the wedge or wedges C *d*, as described.

2. In a sliding stop-valve, the wedge or wedges C *d*, made separate from the gate B and stem D, as described.

3. The combination of the gate B, stem D, and wedge or wedges C *d* in three or more separate parts, whether the stem be connected directly with the gate or wedge.

4. The gate and wedge, connected or united to each other so as to allow the wedge to play loosely upon the back of the gate and have a movement independent of the gate, essentially as described.

5. The bearing *n* between the gate and wedge, for the purpose of allowing the wedge to rock or accommodate itself to the gate and inclined surface or surfaces, as described.

6. In a sliding stop-valve, the combination of the gate B, the wedge or wedges C *d*, the incline or inclines *c*, the bearing surface *n*, the recess *h*, projection *k*, and the inlet- and outlet-openings *a* and *e* of the valve-case, constructed and operating essentially as described.

4,251. — HARVESTER.—Henry Waterman, Williamsburg, N. Y.—Patent No. 13,512, dated August 28, 1855; extended seven years.

Claim.—1. The combination of the two sets of knives described, with the cutter-bar having a curvilinear motion, as set forth.

2. The shifting-cradles, substantially as described, mounted on the frame or platform of a reaping-machine, and placed across it so as to be parallel, or nearly so, with the cutter-bar, and so arranged, as described, that when one of them is liberated to discharge a gavel of grain another shall take its place to catch the grain that is next to be cut, as set forth.

3. The flexible deflector, constructed and operating as set forth.

DESIGNS.

4,613. — DESSERT-SET. — Charles Casper, Meriden Conn., assignor to the Meriden Silver-Plate Company, same place.

Claim.—The design for a dessert-set, as herein described and shown.

4,614. — DESSERT-SET. — Charles Casper, Meriden, Conn., assignor to the Meriden Silver-Plate Company, same place.

Claim.—The design for a dessert-set, as herein described and shown.

4,615. — PLOW-CLEVIS. — John M. Cook, Marion, Ind.

Claim.—The design for a plow-clevis, herein described.

4,616.—SEWING-MACHINE SAMPLE-TRUNK.—Frederick S. Fahnestock, Chicago, Ill.

Claim.—The design for a sewing-machine sample-trunk, as herein shown and described.

4,617.—CORSET.—David H. Fanning, Worcester, Mass.

Claim.—The design for corsets, substantially as shown and described.

4,618.—CASTER-BOTTLE.—Joshua B. Graves, New York, N. Y.

Claim.—The design for a caster-bottle, as shown.

4,619.—BOTTLE-STAND.—Cyrus H. Latham and George D. Dudley, Lowell, Mass., assignors to Woods, Sherwood & Latham, same place.

Claim.—The design for a bottle-stand, substantially as shown in the accompanying photographic drawing.

4,620.—SODA-FOUNTAIN.—George F. Menchham, Newton, assignor to James W. Tufts, Medford, Mass.

Claim.—The design for the casing of a soda-water apparatus, herein shown and described.

4,621.—SUSPENDER-LINK.—Edwin Oldfield, Norwich, Conn.

Claim.—The design for a suspender-link, above described.

4,622.—THREAD AND NEEDLE-CASE.—Theodore R. Timby, Saratoga, N. Y.

Claim.—The design for a thread and needle-case, as herein represented and described.

TRADE-MARKS.

146.—MOLASSES-GATE.—George S. Lincoln & Co., Hartford, Conn.

147.—MEN'S CLOTHING.—Edward T. Steel & Co., Philadelphia, Pa.

EXTENSIONS.

JAMES P. CRAMER, of Schuylerville, N. Y.—Letters Patent No. 16,364, dated January 6, 1857.

"Improvement in Cultivator-Teeth."

Claim.—My improved cultivator-tooth, composed of a properly-shaped sheet-metal blade and shank, with an iron head cast upon the shank and embracing its outer and inner surfaces in such a manner that the said blade, shank, and head of the tooth will form but a single piece, substantially as herein set forth.

IRA GILL, of Walpole, Mass.—Letters Patent No. 16,426, dated January 13, 1857.

"Improvement in Machines for Forming Hat-Bodies."

Claim.—The forming of a hat-body within an inclosed chamber, in which a vortex is produced by means substantially such as described, said chamber diminishing in area from its open to its closed end to regulate the draught through it, and to avoid counter currents, eddies, or dead space, as set forth.

Also, in combination with the cone, on which the hat-body is formed, a register or draught-regulator within it, so as to regulate the quantity of fur or other material that is to be gathered upon its upper and lower portions, as set forth.

JOHN G. VAUGHAN, of Middleborough, Mass.—Letters Patent No. 16,425, dated January 13, 1857.

"Improved Mode of Lathing and Plastering."

Claim.—Plastering ceilings or other surfaces on lathing formed and secured so as to leave interstices between them, with parallel sides oblique to the surface of the plastering when put on, substantially as and for the purpose specified.

ISSUE OF FEBRUARY 7.

PATENTS.

111,505.—COFFEE-POT.—Niven Agnew, Delaware, Canada.

Claim.—In combination with a coffee-pot or vessel for making coffee, the percolating-cups B and C, condenser E, and tube F, arranged and operating substantially as and for the purposes herein shown and described.

111,506.—ADJUSTABLE SHUTTLE-BINDER.—Nicholas J. Allen and James C. Moody, Brunswick, Me.

Claim.—The combination, with the binder *b*, of the bolt *c*, socket *d*, eccentric piece *e*, and flange A all arranged and operating as described.

111,507.—SPARK-ARRESTER.—Thomas A Andrews, Jr., Philadelphia, Pa.

Claim.—The combination of the casting *f*, th series of dish-shaped or flanged plates *c*, *d*, and and the open cover *m*, and removable top *g*, in th manner and for the purpose substantially as s forth.

111,508.—FENCE.—Hugh M. Barber, Frank lin Station, Ohio.

Claim.—An improved fence, formed by the com bination of the metallic posts A B *b'* C, construct ed as described, boards D, and keys E, with eac other, substantially as herein shown and describe and for the purpose set forth.

111,509.—FAUCET.—Thomas W. Bartholo mew, New York, N. Y.

Claim.—As an article of manufacture, the con ical, truncated rubber bush or thimble A, mad of gradually-increased thickness from the smalle to its larger end, whereby it is adapted to be ap plied to a faucet, substantially as specified.

111,510.—CORN-PLANTER.—Leander Beck er, Jackson Township, Pa.

Claim.—1. The lever F, connecting-rod E, s shaped bar or lever *e*, journal-box d^2, pinion an axle *d*, and pinion d^1, all combined, constructed and operating as and for the purpose set forth.

2. In combination with the above, the bifurca ed connecting-bar D and agitator-bars C C, arrang ed to operate substantially as and for the purpos described.

3. The lever F, in combination with the pivote transverse bar G, perforated connecting-bars I and standards K K, with teeth i^1 and corn-drill i^2 constructed and operating substantially as and fo the purpose set forth.

4. The combination of the pivoted blocks or bar H H, staples H' H', and springs *h h* with the per forated connecting-bars I I of the cultivator-stand and drag-bars K K, substantially as and for th purpose described.

111,511.—APPARATUS FOR OILING FELLIES SPOKES, &c.—Priscus E. Bomby, Espy Pa.

Claim.—The trough, constructed with the up right iron post slotted for the adjusting of th wheel, for oiling fellies, spokes, and hubs, as spec fied.

111,512.—LAMP FOR COAL-OIL STOVES.—John Bowles, Augusta, Ga., assignor t himself and Samuel Bard, same place.

Claim.—1. Arched recesses formed as herein de scribed upon the outer side of the water-pan H and terminating in extended tubes projecting up wardly from the arches on the upper side thereo for the purpose of covering and embracing th wick-tubes of the lamp and the toothed wheels an rods operating its wicks, and to permit the water pan to rest immediately upon the lamp, the wheel being arranged and combined substantially a herein set forth.

2. The combination of jackets K K of absorben material with the outer surface of the arches an tubes projecting from the bottom of the water-pan to cover the same, substantially in the manner an for the purpose herein set forth.

3. One or more vertical transverse partition plates, *c*, secured in the wick-tubes of a lamp fo coal-oil stoves parallel to the ends of said tubes so as to divide the wide wicks usually employe therein into two or more sections, substantially in the manner and for the purpose herein set forth.

4. A spring or pawl, F, so combined with the wick-tube of an oil-lamp as to engage the teeth o the ratchet-wheel operating the wick therein when the wick is not interposed between them all substantially as and for the purpose herein se forth.

1. The combination of a cam, *g*, with the spring F, engaging the ratchet-wheel of the wick-tube, of a lamp, and with an operating-rod, G, all substantially as and for the purpose herein set forth.

111,513.—OSCILLATING BALANCE STEAM-VALVE.—John C. Bromley, Rock Island, Ill.

Claim.—The arrangement and application of the bracket Q, set-screw M, stuffing-box H, and adjustable nut N, attached to the balance plate G, as and for the purpose set forth.

111,514.—PAPER-COLLAR BOX.—Lee Churchill, Troy, N. Y.

Claim.—As a new article of manufacture, a paper-box, cut or stamped in one piece from a sheet of card-board or paper, and shaped and folded, substantially in the manner, by the means, and for the purposes herein described and specified.

111,515.—HINGE FOR GATES.—Charles B. Clark, Buffalo, N. Y.

Claim.—The coupling-bolt E of a gate-hinge, having the portion which passes through one of the knuckles reduced in diameter the length of the knuckle, so as to form a shoulder, *e'*, arranged and operating with the knuckles of said hinge, to prevent the uncoupling thereof, as hereinbefore set forth.

111,516.—BROILER.—Levi H. Colborne and David H. Lowe, New York, N. Y.

Claim.—1. The part A, made with a groove or channel, a^1, and provided with a handle, a^3, lip or spout, a^2, and lug a^4, substantially as herein described, to adapt it to serve as a stand and gravy receptacle for the broiler, as set forth.

2. The pivot D, in combination with the hinged parts B C, to adapt them for attachment to a stand, A, as and for the purpose set forth.

3. An improved broiler, formed by the combination of the parts A B C, said parts being constructed and operating substantially as herein shown and described, and for the purposes set forth.

111,517.—COOKING-STOVE.—John B. Crowley and Addis E. Chamberlain, Cincinnati, Ohio, assignors to Chamberlain & Co., same place.

Claim.—1. The flues E E' and F, arranged substantially as described, whereby the inflowing air is heated on its passage to the fire-chamber, as set forth.

2. The extension-pan or plate C, having its front flange L resting on the vertical plates of the stove-body, substantially as described.

3. The extension-pan or plate C, having its side flanges N projecting laterally beyond the vertical sides of the stove, substantially as and for the purpose set forth.

111,518.—SELF-CLOSING COCK.—William Dalziel, New York, N. Y.

Claim.—1. The cock, provided with a piston and valve, which are operated by a small portion of the liquid passing through the cock for automatically closing the same, as set forth.

2. The pipe A, divided by a partition, *b*, into two channels, *f* and *g*, connected by an aperture, *e*, which can be closed by a valve, substantially as herein shown and described.

3. The pipe *c*, leading from the main pipe A to the cylinder C, for conducting water to the piston which closes the valve, as set forth.

4. The cock B, constructed with two sets of openings, one for discharging water from the pipe A, and one for emptying the cylinder C, substantially as herein shown and described.

111,519.—CLOTHES-DRIER.—Alfred Day, Skowhegan, assignor of one-half his right to Francis Lyford, Augusta, Me.

Claim.—1. The T-shaped slide, in combination with the collar *g* and grooved standard A *a*, when constructed, arranged, and operated substantially as and for the purpose set forth.

2. The combination of the slide *i*, collar *g*, grooved standard A *a*, the cap *b*, folding and revolving arms *c*, braces *h*, lines *f*, the cord *k*, and pulley *l*, all constructed, arranged, and operating substantially as herein described.

111,520.—ASPHALT CEMENT FOR PAVEMENTS, DRAIN-PIPES, &c.—Edward J. De Smedt, New York, N. Y.

Claim.—The combination of hydrated lime, roasted brick-clay or pulverized soft brick, with heavy petroleum or the residue of the same, and Grahamite or Ritchie mineral, with natural asphalt and sand, gravel, or an equivalent substance, all treated in the manner substantially as and for the purposes set forth.

111,521, antedated January 28, 1871.—MAIL-BAG FASTENING.—D. Franklin Dodge, Lowville, N. Y.

Claim.—The combination of a jointed frame, B, hasp E, jointed lever F, bolt G, staple *h*, and catch *i*, constructed and arranged substantially as above described.

111,522.—CARRIAGE-CURTAIN KNOB.—William B. Douglass, Newark, N. J., assignor to Frederick Baumgartner, Brooklyn, N. Y.

Claim.—The new article of manufacture of a carriage-curtain knob, consisting of an elongated head, a neck, which joins said head at a point nearer to one end than the other, and a shank, substantially as and for the purposes herein specified.

111,523.—MACHINE FOR WARPING YARN.—George Draper, Hopedale, Mass.

Claim.—1. In combination with a warper, a mechanism substantially as described, or its equivalent, for running the warp-cylinder at a fixed uniform rate of speed, such as will enable the slack of the yarns to be taken up and the spools started before putting into operation the mechanism for running such spools at their normal or much faster speed, all being essentially as hereinbefore explained.

2. In combination with the fast-and-loose pulleys F G of a warper, and their train of gears C D for operating the main cylinder-shaft B, the auxiliary train of gears *a b e f* to operate with such main train, and to be operated by the loose pulley, by means and in manner substantially as described.

3. In combination with the fast-and-loose pulleys F G, and the main and auxiliary trains of gears C D *a b e f*, their belt-shifters H *h*, and the shouldered holder *k*, the spring *n*, and the stud *o*, applied to the main and auxiliary belt-shippers, such stud and spring being to operate as and for the purpose as explained.

111,524.—SASH-HOLDER.—Henry W. Drott, Cumberland, Md.

Claim.—The cross-headed bar D, rubber E, springs B, and cam-lever F, constructed, combined, and operating as herein set forth.

111,525.—FUNNEL.—Lester P. Edwards, Hamlinton, Pa.

Claim.—A funnel for filling fruit-cans in the process of canning fruit, which screws on the top of the can, and is provided with holes for the escape of the air, substantially as shown and described.

111,526.—WATER-HEATER FOR STEAM-BOILERS.—David C. G. Field, Lowell, Mass.

Claim.—1. The position of the heater in and over the boiler-flue, in order that the advantage of the use of the exhaust-steam may be combined with the use of the heat which has passed the boiler and

would go to the chimney if not thus utilized, as described.

2. The combination and arrangement of the heater B with the boiler A, (said heater being placed over and within the flue G,) and the pipes connected therewith, substantially as described, and for the purpose specified.

111,527.—STEAM-GENERATOR. — Loyal C. Field, Galesburg, Ill.

Claim.—1. The conical-shaped elevation E on the grate d, when arranged to operate with said grate and rings, A, substantially as described and for the purpose specified.

2. The arrangement of base D, rings A A′, and partial ring A″, constructed as described, with flanges B, and united by bolts K, dome C, and casing G, all as and for the purpose substantially as set forth.

111,528, antedated January 25, 1871.—BEDSTEAD-FASTENING. — Sebastian Goetz, Reed's Mills, Ohio.

Claim.—1. The box or frame A, provided with the curved or concave sides a a and end b, holes c c, and inclined projections d d d, when constructed as described and for the purpose specified.

2. The semicircular ring B, provided with the pins f, as and for the purpose herein described.

3. The combination of the box or frame A with the semicircular ring B, when both are constructed as herein described, for the purpose specified.

111,529.—INVERTIBLE TROUGH. — Francis J. Goldsmith, Concord, assignor of one-half his right to Peter F. Young, Painesville, Ohio.

Claim.—The invertible trough, A, said trough having the flattened journals C C on each end, substantially as and for the purpose hereinbefore set forth.

111,530.—FEED-GRINDER. — Myron Gore, Ottawa, Ill.

Claim.—1. The running ring D, cut alike on both sides, with ribs g h on a smooth surface, and the grooves i i, substantially as and for the purposes herein set forth.

2. The stationary ring H, (or H′,) cut, as described, with circular grooves e e and curved ribs f f, and used in combination with a running ring, substantially as and for the purposes set forth.

3. The head C, secured on the shaft B, and provided with arms a a, in combination with the grinding-ring D, substantially as set forth.

4. The movable arbor E, with head G and ring H, in combination with the movable hopper I and ring H′, all constructed and arranged, as specified, to be operated by means of the lever K and arms J J′, or other suitable means, substantially as and for the purposes herein set forth.

111,531.—LAMP.—Franklin T. Grimes, Liberty, Mo.

Claim.—1. The combination and arrangement relatively to each other of the main reservoir A, the secondary reservoir or wick-chamber B in the base of the lamp, the tubular connection or connections b, and the air-tube or passage E, substantially as specified.

2. The combination of an automatic valve or valves, d d′, with the tube or tubes b, the reservoir A, and the wick-chamber B, for operation essentially as and for the purpose or purposes herein set forth.

3. The application of an automatic valve f f to the reservoir of a lamp, so constructed that air is admitted to the reservoir A when the lamp is in use, and the orifice closed when it is inverted, substantially as specified.

4. The arrangement of the safety water-chamber F relatively to the air-tube or passage E and oil-reservoir A, essentially as shown and described.

111,532.—MACHINE FOR BORING POSTS.—Jesse R. Group, Idaville, Pa.

Claim.—In a boring-machine, the combination of the lever R, operating the auger-stock P, the friction-bar R¹, operating in its return motion as a friction brake against the pulley N³, substantially as and for the purpose described.

111,533. — LEATHER-PUNCHING AND CUTTING-MACHINE.—Emery E. Hardy and Napoleon Dubrul, Joliet, Ill.

Claim.—1. The combination of the feed-rollers D′ and E′, operating at intervals, with the reciprocating-shaft or arm G and hollow punch l, substantially as specified.

2. The combination of the adjustable bed plate n with the adjustable stripping-plate I and reciprocating-punches l, substantially as described.

3. The bed-plate n supported by the screws u or their equivalents, capable of being adjusted independently of each other, to adapt the bed-plate to the varying lengths of the different punches, substantially as described.

4. The combination of the intermittingly-moving feed-rollers D′ and E′, with the reciprocating hollow punch l, stripping-plate I, and bed-plate n, substantially as described.

5. The combination of the grooved rollers D and E with the knives m, secured in the frame K, one of said rollers being mounted in the yielding frame H, to allow it to adapt itself to the different thicknesses of leather and bear with uniform pressure thereon, substantially as set forth.

6. The arrangement of the punching devices and the slitting devices, with their operating mechanism, upon the same frame, in such relation to each other that both operations of punching and slitting may be performed simultaneously, substantially as set forth.

111,534.—CARTRIDGE-SHELL EJECTOR FOR REVOLVING FIRE-ARMS. — Gilbert H. Harrington, Worcester, Mass.

Claim.—The ejector E, having a swinging and sliding movement around a forward extension of the center-pin P, substantially as and for the purpose herein described.

111,535. — WATER-PROOF PIANO-COVER.—Henry F. Herkner, New York, and Jared W. Post, Brooklyn, N. Y.

Claim. — A new article of manufacture, a seamless water-proof piano-cover, produced in the manner and by the means substantially as set forth.

111,536.—HYDRAULIC APPARATUS.—George H. Herring, Durand, Ill.

Claim.—1. A pump, the piston of which is operated in its down-stroke by the weight of water in a tank connected or supported on the piston-rod, said tank being provided with a valve so arranged as to be opened by coming in contact with a projection, c, to cause said tank to discharge its contents into a well or reservoir, in combination with a counter-balance, by which said piston is raised when the contents of the tank are discharged.

2. Combination and arrangement of the tank B, provided with a valve, b, [illegible]mp G, and its piston F, cord or chain C, [illegible]D, counter-balance E, and flume-gate d, [illegible]tion as herein described.

111,537.—ÆOLIAN CHIMING-BELL.—Heinrich Herrmann, New York, N. Y.

Claim.—1. In æolian chiming-bells, the clapper E, formed of a quill, provided with a light knob, c, as described.

2. The combination, with a glass chiming-bell, of the light-knobbed quill clapper, as and for the purpose described.

3. The light-knobbed quill clapper of a chiming-bell, combined with a feather at the end thereof, as and for the purpose described.

111,538, antedated January 30, 1871.—DOUBLE-ACTING ROTARY ENGINE.—James P. Herron, Atlanta, Ga.

Claim.—1. The wheel C, having inlet-channels g to receive steam through the hollow shaft D, and exhaust-channels h to discharge steam near its center, in combination with a wheel, B, provided with piston-headed grooves for the purpose of causing one wheel to turn by impact and the other by reaction, substantially as set forth.

2. The wheels B and C, both provided with piston-headed grooves operating in combination, substantially as described, for the purpose of allowing steam or air to assist in turning both wheels by expansion, as set forth.

3. The construction and arrangement of the packing-block F, operating substantially as described and shown.

111,539, antedated February 1, 1871.—APPARATUS FOR TRANSMITTING POWER AND CHANGING THE SPEED.—Spencer Hiatt, Clayton, Ind.

Claim.—1. The bevel-wheels F, G, and H, arm I, and shaft C, cone-pulleys D and D′, pulleys E and E′, and belts K and L, arranged and operated substantially as and for the purpose hereinbefore set forth.

2. The lever Q, rock-shaft M, cam O, brake N, and catch-bar R, arranged and operated as and for the purpose hereinbefore set forth.

111,540.—SCAFFOLD.—Samuel Hollabaugh and Thomas W. Letts, Mount Union, Pa.

Claim.—The improved scaffold herein described, composed of the rock-posts A B C, adjustable legs or arms P P, double platform D K, ladder Q, and pinions N N, all constructed and arranged in the manner shown and described.

111,541, antedated January 26, 1871.—SHOE FOR THRASHERS. — Dennis W. Hollihan, San Francisco, Cal.

Claim.—1. The side plate or rim v′, provided with the slotted lug-plates T′, as and for the purpose described.

2. The arrangement of parts hereinafter named, to wit, the frame A, the distributer B, the screens C P Q, and conveyers T U V, when constructed as described, for the purpose set forth.

111,542.—AUTOMATIC STEAM WATER-ELEVATOR. — Charles Houghton, Roxbury, Boston, Mass.

Claim.—1. In combination with the pump-cylinder A, the water supply-pipe I, the steam-pipe F, and a steam-generator, so located as to be subjected to the action of the fire in a cooking or heating apparatus, and of sufficient capacity to contain at all times a quantity of water large enough to make steam for more than one full discharge of the pump-cylinder, when arranged so that the supply of water in the generator will be replenished intermittently, in the manner and by the means described, for the purpose set forth.

2. The poppet-valves E′ and J, located and arranged as described, in the condense-pipe E and in the water supply-pipe I, as and for the purpose specified.

3. In connection with an automatic steam-pump worked by steam generated in a cooking or heating apparatus, and a tank in which water is heated by circulation established by heat from such apparatus, the employment of a three-way cock, arranged and located as described, for the purpose specified.

4. In connection with the cylinder A of an automatic steam-pump, the perforated or wire-cloth inlet-pipe in the cylinder, substantially as described, for the purpose specified.

5. The combination with an automatic steam-pump, as described, the arrangement of the hot-water boiler G, as shown and described, as a source of supply of water for the steam-generator, as set forth.

111,543.—WHEEL AND AXLE FOR RAILWAY-CARS.—Wescom Hudgin, Athens, Ga.

Claim. — The sleeve C, having right-and-left screw-threads formed upon its ends to screw into the inner ends of the hubs of the wheels A, in combination with the wheels A and axle B, substantially as herein shown and described, and for the purpose set forth.

111,544.—CLOVER-HARVESTER.—John W. Hull and Albert G. Stiffler, Alquina, Ind.

Claim.—The bar K, spring I, and guide-blocks K′, combined, as described, with crotched bar F, to sustain the elevation of the rake and cutter until they have been lifted over the clover-heads.

111,545. — FLOUR-SIFTER.—Curtis Huntley, Lowell, Mass.

Claim.—The combination of one or more obliquely-arranged oval plates E with a tube or quill, H, and a crank-shaft, all operating in connection with a curved screen arranged within a flour or meal-scoop, as described.

111,546.—STEERING APPARATUS.—Edward Augustus Inglefield, 10 Groves End Road, St. John's Wood, England.

Claim.—1. The cylinder q^1 q^2, containing a piston, which is connected with the tiller-lever, a capstan, a gun-turret or gun-carriage, to operate the same, by pressure applied to the ends of said piston, as specified.

2. The cylinder a, provided with jacket f^1 f^2, valves h^1 h^2, and piston b, to operate substantially as herein shown and described.

3. The cylinder n, connected with the pipes l, m, o^1, and o^2, and with the steering-wheel, substantially as herein shown and described.

4. The barrel i, applied to the cylinder n, and combined with the hollow plunger v, substantially as herein shown and described.

111,547. — MODE OF FASTENING HUB-BANDS, &c.—James Ives, Mount Carmel, Conn.

Claims.—1. The mode of securing hub-bands and other metal articles by means of blank countersinking, as described, so that the remaining thin portion of metal, when punched through, will form holding-burrs, substantially as and for the purpose described.

2. The mode of fastening in place the hub-band or other metal article by means of a nail and burr combined, the burr being formed from the remaining thin portion of metal, substantially as and for the purpose set forth.

111,548.—BATTER-POT.—Edwin A. Jeffery, New York, N. Y.

Claim.—1. The combination, with a batter-pot, of an auxiliary chamber C to contain the precise quantity of batter for each cake, when provided with the means of opening and closing communication between the two, substantially as set forth.

2. The spring-lever F and valves D and E, in combination with a spout or chamber, C, and pot A, substantially as and for the purposes set forth.

111,549.—MANUFACTURE OF RUBBER FLOOR-CLOTHS, &c.—Henry W. Joslin, Jersey City, N. J.

Claim.—1. An inlaid rubber cloth, substantially as specified.

2. The process, substantially as herein described, of making rubber cloth, having a variegated surface, by imbedding, through pressure, into a rubber-cloth base, while raw, a pattern or patterns of different-colored rubber, and afterward vulcanizing the whole.

111,550. — COUPLING FOR SHAFTS FOR MILLS.—William Kean, Chicago, Ill.

Claim.—The combination of the clutch E and screw *a* with the sleeve D, key C, and shafts A B, all arranged substantially as herein shown and described.

111,551.—PREPARATION OF PLATINUM FOR FILLING TEETH.—Edward G. Kearsing and Leonzo Kearsing, Spring Valley, N. Y.

Claim.—Platina covered with gold, for dentists' use, in filling teeth, substantially as described.

111,552.—BOILER-TUBE PLUG.—Thomas La Blanc, Philadelphia, Pa.

Claim.—1. The bisected plug C, composed of wedge-shaped parts *a b*, constructed substantially as described, and temporarily held together by pins *d* and *d'*, the piece *a* being provided with the rods D E, substantially in the manner and for the purpose set forth.

2. The combination of the adjustable arm G with the rod H, substantially as and for the purpose specified.

3. The hollow plug J, when constructed, arranged, and operating with the tube A, substantially in the manner and for the purpose set forth.

111,553. — CARPENTERS' WORK-BENCH.—Robert C. Love, Augusta, Me.

Claim.—1. The combination of the slide A, slotted bench and escutcheons, the screws *d d*, washers *f*, nuts *e*, and the means herein described for preventing the slide from falling too suddenly, all constructed, arranged, and operating substantially as set forth.

2. In combination with the vertical adjustable slide A, the horizontally-adjustable and swinging button *h*, secured by a screw and nut so as to be retained in position when adjusted, all constructed, arranged, and operating substantially as herein described.

111,554. — SPRING-BED.—Nicholas Mason, Lincoln, Mass.

Claim.—The springs H, with their plates D G and pins E, applied to the side pieces A and rails C which support the slats, when constructed to operate substantially as and for the purpose described.

111,555.—CHURN.—James McBride, Ithaca, N. Y.

Claim.—1. The arrangement of the weighted lever G, the long rod H, short rod J, staff-support L, and two-parted clasp M, acting together on the dasher K, substantially as described.

2. The arrangement of the hand-lever A, rod C, crank D, fly-wheel E, shaft F, weighted lever and crank G, rods H and I, and supports L and M, acting together and constituting my machine, substantially as described.

111,556. — THILL-COUPLING.—William B. Meloney, Smyrna, Del.

Claim.—The pivoted button D, when provided with the projection or stop *d'*, and arranged to secure the detachable bolt C *c'* in place, in connection with the thill-iron B and jaws A of the clip, as shown and described.

111,557.—HARVESTER.—James Moran, Auburn, N. Y., and Casper D. Wallace, Corry, Pa., assignors to themselves and Hiram K. Needham, St. Louis, Mo.

Claim.—1. The described combination of the hand-lever *n*, rock-shaft *l*, segments *m* and *r*, link *t*, connecting-links *p p'*, shaft *e*, rocking-block *f*, and fixed pin and roller *i k*, arranged to effect the several movements hereinbefore described by the manipulation of the single lever *n*, substantially as set forth.

2. The combination, with the tongue of a harvesting-machine, of the lever *n*, notched segment *r*, pawl *s*, link *t*, and fixed pin *u* upon the body of the machine, for the purpose of rendering the body and frame fixed or movable with relation to the tongue, substantially as set forth.

3. The pin *i* and roller *k* affixed to the frame, in combination with the hinged cutter-bar and rocking-block *f*, substantially as and for the purpose set forth.

111,558. — TONGUE FOR CHILDREN'S CARRIAGES.—Edmund A. Morse, Rutland, Vt.

Claim.—The movable thills *a a*, arranged in connection with a child's carriage, as and for the purpose set forth.

111,559. — MAT.—Peter W. Neefus, New York, N. Y.

Claim.—The elastic strips D, combined with the bars C of plate B, substantially as shown and described.

111,560. — FLOOR-CLAMP.—David Nevin, Georgetown, Colorado Territory.

Claim.—The flooring-clamp, consisting of the plate A, lugs *a b*, screw *c*, lever B, and jaw C, all applied to operate substantially as herein shown and described.

111,561. — INVALID-BEDSTEAD. — John H. Oerter, New York, N. Y.

Claim.—The hinged and jointed frame K H M, in combination with the frame G and their operating-cords and pulleys, all constructed and arranged substantially as shown and described.

111,562.—CHURN.—William Parks, Meadville, Pa.

Claim.—1. The churn-dasher herein described, consisting of the vertical bars 1 2 3 4 5, the horizontally-placed perforated wings K K, notched as at 6 7 8 9 10 11, the rounded portion S, and strainer U, all constructed as specified.

2. The above-described dasher, in combination with an oscillating churn-barrel A, substantially as set forth.

111,563.—CLOTHES-DRIER.—Asahel H. Patch, Hamilton, Mass.

Claim.—The improved hanger for clothes hereinbefore described, composed of the metallic frames A B and rods or bars connecting the same, substantially as specified.

111,564.—RATCHET-COUPLING FOR BARGES, &c. — William W. Patterson and Edmond Bishop, Pittsburg, Pa.

Claim.—The shaft A, wheel B, and lever C, provided with pawl D, combined with rods *e* and *f*, arranged and operating, with relation to each other, as and for the purpose herein described.

111,565.—ARTIFICIAL FUEL.—Benjamin F. Penny, Rochester, N. Y., assignor to Thaddeus B. Curtis, New York City.

Claim.—The mode herein specified of mixing and burning anthracite and bituminous coal-dust, as specified.

111,566. — FOUNTAIN BLACKING-BRUSH.—Albert D. Pentz, New York, N. Y.

Claim.—1. A polishing-brush, A, and supply-brush B L, combined with chambers C N arranged between them, as and for the purpose described.

2. The elastic ring O and valve U with the plate R and flexible disk S, whereby the liquid can be discharged from the fountain C by means of pressure, substantially as shown and described, and for the purposes set forth.

3. The ring H, band M, and catch P, combined, as described, with the brush B and box C, to connect them, and to form an auxiliary and intermediate chamber, N, for the purpose specified.

4. The valve-screw T, disk S, plate R, and elastic ring O, combined, as described, with the apertured box C G, and brush B L, for the purpose of graduating the flow of blacking, as set forth.

111,567. — LATCH-LOCK.—Nicholas Petré, New York, N. Y.

Claim.—In combination with the bolt C and tripping-lever E, the hinged piece or limb D and its slot *f* and pin *i*, and the spring G, moving on the incline *e*, for the double purpose of allowing the bolt to be thrown and held out of and to be returned into action with the arms F, the parts being arranged to operate substantially as described.

111,568.—WINE-SIRUP AND BEVERAGE.—Alvin Davis Puffer, Boston, Mass.

Claim.—1. Concentrated wine or beer-sirups, made as herein described, or in any way substantially the same, when used for the purposes set forth.

2. Wine or beer beverages, made by mixing soda-water with the above-described sirups.

111,569.—KILN FOR DRYING MALT.—John A. Remer, New York, N. Y., assignor to himself and Henry Assenheimer, same place.

Claim.—1. A revolving and perforated annular drier, substantially as specified.

2. The combination of inner and outer buckets *c* and *d* with a revolving and perforated annular drier, essentially as described.

3. The combination, with the gates or valves, arranged around the outer periphery of the revolving drier and with the buckets which said valves control, of mechanism for automatically opening and closing, when required, the valves as they pass under the hopper that supplies the drier, substantially as specified.

4. The combination and arrangement of the shifting device or toe *q* and mechanism for controlling the same with the revolving drier B and its valves and buckets, essentially as and for the purpose herein set forth.

111,570. — PORTABLE SWING.—Daniel M. Reynolds, Chicago, Ill.

Claim.—The combination of seat S, button *s'*, cleat *s*, and pendent rods *d d*, having a shoulder for the support of the seat when employed in a swing, substantially as described.

111,571, antedated January 23, 1871.—POTATO-DIGGER. — Richard B. Robbins, Adrian, Mich.

Claim.—1. The vibrating screen B, constructed with the lateral outlet H, in combination with the guard-fingers or fenders 9 10 11, arranged and operating as described, as and for the purpose set forth.

2. The combination with the screen B, suspended by links *s s*^{1} *s*^{2} *s*^{3}, as described, of the rigid arms or cleats *m m* and central tappet-wheel *o t*, as and for the purpose shown.

3. The fender or guard-fingers 9 10 11, attached alternately to the share and vibrating screen, as shown and described, for the purpose shown.

4. The combination and arrangement of the double beam D D' D'', constructed as shown and described, and colters *h h*, substantially as set forth.

111,572.—MACHINE FOR THREADING SCREWS.—Daniel M. Robertson, East Boston, and Jason A. Bidwell, Boston, Mass.

Claim.—The threading tool-holder I', in combination with the rock-shaft I, spring T, cam Z, and arms Y Y, arranged substantially as described.

111,573.—FERRULE.—William Henry Rodden, Toronto, Canada.

Claim.—A wrought capped ferrule B, with or without the straps E, in combination with the metallic pad D, when said ferrule is made solid in one piece, substantially as herein shown and described, and for the purposes set forth.

111,574. — THILL-COUPLING. — Lewis S. Rowe, Derby Line, Vt., assignor to himself and U. T. Sheafe.

Claim.—An improved thill-coupling, formed by the combination of the guard F *f'*, countersunk-headed bolt D, ears *a'*, rubber tube E, thill-iron C, yoke B, and clip A, with each other, substantially as herein shown and described, and for the purpose set forth.

111,575. — RIVETING-MACHINE.—William Sellers, Philadelphia, Pa.

Claim.—1. In a steam riveting-machine, the continuous closed guide, attached to and opening into the cylinder, and extending from the cylinder to the post A, and covered in by a flat plate, H, substantially as and for the purposes described.

2. The combination of the cylinder, the continuous closed guide connected therewith, the semi-cylindrical or rectangular piston-rod, and the supporting-post, substantially as described.

3. The ducts in the piston and guide, operating as described, for the purposes set forth.

4. The construction and relative arrangement of the post A, supporting the punch, the guide, the cylinder, and the piston, and the post B, holding the die, as described.

111,576.—FEATHER-RENOVATOR. — James T. Sheldon, Chicopee, Mass.

Claim.—1. In combination with the cylinders B and C and head L, the valve H, arranged and constructed in the manner and for the purpose shown and described.

2. In combination with the steam and drying-cylinders, the tubes S, constructed of rubber, and stiffened by coil-springs, in the manner and for the purpose shown.

111,577.—PORTABLE BOOK-HOLDER.—Calvin W. Sherwood, Chicago, Ill.

Claim.—The rotating handle C, standards B, and pawl *b*, in combination with the bars A A' and cord *c*, substantially as specified.

111,578.—PORTABLE FENCE.—Hector Sinclair, New York, N. Y.

Claim.—1. The locking wedge-shaped cleats and socket strips *d* and *e* or *d'* and *e'* on the uprights of the panels and posts, essentially as shown and described.

2. The combination of the rails *b b*, pivoted at their ends to the uprights *a a'* of either panel, with the locking wedge-shaped cleats and socket-strips *d* and *e e*, arranged on the outsides of said uprights, substantially as specified.

111,579.—PAPER FOR USE IN THE BOTTOMS OF BIRD-CAGES.—Jasper H. Singer, New York, N. Y.

Claim.—The paper for bird-cages, herein described, the sand or gravel being attached by a farinaceous paste, substantially as hereinbefore set forth.

111,580.—BOILER-FURNACE. — Le Grand Skinner, Chittenango, N. Y.

Claim.—The horizontal flue-boiler A, sheet-iron casing and furnace G, with non-conducting lining of fire-brick H, grate D, and sliding bridge-wall E *e*, all constructed and arranged as and for the purpose specified.

111,581. — PRINTING-PRESS. — Earle H. Smith, Bergen, N. J.

Claim.—The combination with the impression mechanism, consisting of the bed and tympan, and toggle-joint, worked from the treadle K, with the inking apparatus described, or the equivalent

thereof, when operated by the same treadle, substantially as specified, the whole constituting a direct-acting self-inking treadle printing-press.

111,582.—PULLEY.—Scott A. Smith, Philadelphia, Pa., assignor to Cresson & Smith, same place.

Claim.—In a pulley cast in one piece and afterward separated, the surfaces E E, substantially as and for the purpose described.

111,583.—TANNING. — William C. Stone, Derby Line, Vt., assignor to himself and William S. Foster.

Claim.—The improved tanning process, both as applied to the tanning of skins with the hair, fur, or wool on or removed, substantially as herein specified.

111,584. — BRAKE FOR RAILWAY-CARS.—Charles W. Tierney, Altoona, Pa.

Claim.—The lever G, connected with the jointed or flexible connection between the buffer and friction-shaft E of a car-truck, so that it will serve to control the effect of the buffer upon the said shaft, and of the latter upon the brakes, as specified.

111,585.—WASH-BOARD. — Westly Todd, Allegheny, Pa.

Claim.—A new article of manufacture, viz., a wash-board provided with the projections B and C, and with grooves arranged in the manner and for the purpose hereinbefore described.

111,586.—PRISON-LOCK.—Henry R. Towne, Stamford, Conn.

Claim.—1. The coupling G, securely attached to the inner end of lock R, when constructed with projecting ears p p, arranged to engage with suitable lugs K K, when the lock stands in either the locked or unlocked position.

2. The eccentric E, provided with bearings b b containing slots L L, in combination with the shaft F containing pins c c, the cross-head D, bolt B, and pin M, all constructed, arranged, and operating substantially as and for the purpose described.

3. The combination of the bolt B, cross-head D, shaft F, cam E, coupling G, and lock R, all constructed and arranged to operate substantially as herein described.

111,587.—PERMUTATION-LOCK.—Henry R. Towne, Stamford, Conn.

Claim.—The case A, containing apertures b b in its opposite sides, in combination with an oscillating bolt or bar B, arranged so as to close said apertures simultaneously.

111,588.—FLUTING-MACHINE. — Theodore M. Tucker, Newark, N. J.

Claim.—The rack s and pinion y, the projections v and u, spiral springs s and t, the movable frame B and its roller D, constructed, combined, and arranged as and for the purpose shown and described.

111,589.—STOVE-DRUM.—Willard Twitchell, Syracuse, N. Y.

Claim.—An indirect conduit or chamber, e, filled with iron turnings or other suitable loose material, in connection with the direct draught B' B, dampers h i, and stove A, all constructed and operating substantially as and for the purpose specified.

111,590, antedated January 26, 1871.—LUBRICATOR FOR LOOSE PULLEYS.—Stephen Ustick, Philadelphia, Pa.

Claim.—1. The chamber or chambers B on the periphery of the shaft A, formed by means of the permanent tube C and the shaft A, which forms a bearing for the eye of the loose pulley, and is constructed substantially in the manner and for the purpose above set forth.

2. The chamber or chambers B, formed by the periphery of the shaft A, and the interior periphery of the tube C, whose outer periphery forms the bearing for the eye of the loose pulley, the said tube being closed at its ends, where it is made fast to the shaft A, and having an opening for filling the chamber with oil, and egress-openings to the eye of the pulley, substantially as described.

111,591, antedated February 4, 1871.—RAILWAY-CAR BRAKE.—John E. Weaver, Lancaster, Pa.

Claim.—The arrangement and combination of the plates B, D, and E, hinged to each other, (with or without the additional hinged plate C and rubber K,) together with their sustaining springs G and F, when applied and operated substantially in the manner and for the purpose specified.

111,592. — CANDY-CUTTING MACHINE.—Christopher Wentz, Albert Green, and Orlando P. Connor, Trenton, N. J.

Claim.—1. The combination of the main wheel A, attached to shaft B and crank C, the connecting-rods D D D, forming a downward drawing motion to the knife E, substantially as herein described, for the purpose set forth.

2. The cam F, affixed to shaft B, lever a, rod b, and small lever c, operating in connection with the springs d d', as herein set forth, for the purpose specified.

3. The main cog-wheel G, rotated by the lever b and cog-wheels H, I, and K, connected with the toothed rollers, as herein shown and represented.

4. The adjustable roller K, operated by the small screws e e, as herein shown and represented.

111,593. — APPARATUS FOR DELIVERING GRAIN, ORES, &c., INTO GRINDING-MILLS.—James Davenport Whelpley and Jacob Jones Storer, Boston, Mass.

Claim.—1. The feed-screw with varying pitch, in combination with device for giving it a longitudinal adjustment, as set forth.

2. The combination of the screw X, of varying pitch, with the plates P, guides T, and spring S, all constructed and arranged as and for the purpose shown and described.

111,594.—FEED-CUTTER.—John R. Whittemore, Chicopee Falls, Mass.

Claim.—The arrangement of the iron side frames or journals E E, cast in one piece, and having journals for the rollers A B and shaft carrying the cutting-knives, and slots D D for the reception of the end of the bed-plate C, with screw-holes for the adjusting screws a a and b b that regulate the same, substantially as shown and described.

111,595.—LOOM-PICKING MOTION.—Henry A. Whitten and Elijah D. Gove, Holyoke, Mass.

Claim.—The rocker, in combination with the bed and device for adjusting the same, the parts of which are constructed and arranged substantially in the manner and for the purpose shown and described.

111,596, antedated January 23, 1871.—DROP-TUBE STEAM-GENERATOR.—S. Lloyd Wiegand, Philadelphia, Pa.

Claim.—A screw-cap for boiler drop-tubes, of uniform or nearly uniform thickness of metal, with internal projections adapted to sustain an inner tube or guide to promote circulation of water, and corresponding external depressions adapted to receive the claws of a wrench.

111,597, antedated January 25, 1871.—VELOCIPEDE.—William L. Williams, New York, N. Y.

Claim.—1. The wheel g, gearing to the wheel p upon the axle e, in combination with the levers m and r, and ratchets or clamps connected with the swinging hobby-horse, the parts being arranged and acting substantially as set forth.

2. The coupling-pinion t and gear-wheel u, in combination with the wheels p and q and connections to the swinging-horse f, the parts being arranged and acting substantially as and for the purpose specified.

3. The steering mechanism, made with cords or rods that pass above but contiguous to the axis of motion of the horse, and connect at one end to the cross-head of the steering-wheel and at the other end with the bridle or rein, as set forth.

111,598.—STEAM-HEATER.—Joseph L. Winslow, Portland, Me.

Claim.—1. A radiator, composed of two or more pipes joined at either end of said pipes, of one continuous piece of metal.

2. The annular steam-spaces f, as formed by the internal surface of the outer pipe, in connection with the outer surface of the internal pipe.

3. The method of securing the internal pipe by a single bolt, said pipe being enlarged at one end and diminished at its opposite end, at an angle to the sides other than a right angle.

111,599.—VESSEL FOR HOLDING OIL.—Arthur T. Woodward, New York, N. Y.

Claim.—The combination, with a metallic vessel, of a wooden or equivalent oil or fluid-holding vessel, arranged therein substantially as and for the purposes set forth and described.

111,600.—HYDRAULIC TURNPIPE.—Samuel Adams, Michigan Bluff, Cal.

Claim.—1. The combination of the bent pipes A and C, connected by a loose joint with the flexible pipe E and nozzle F, when arranged to operate substantially as described.

2. In combination with a bent revolving pipe, C, the standard G, screw f, and projection e, substantially as and for the purpose specified.

111,601.—WATER-WHEEL.—John P. Allen, Springfield, Ohio.

Claim.—1. In combination with a water-wheel receiving the water on the under side, the inclined guides B, when arranged between two conical rings C and D, substantially as and for the purpose described.

2. In combination with the conical guide-rings C and D, the wheel E, made with two rows of buckets connected together, the inner row being made of vertical plates to receive the water, and the outer row inclined to discharge it, with the top plate concave near its outer edge, substantially as and for the purpose set forth.

3. In combination with a water-wheel having two rows of buckets, as described, the ring F, when connected to a conical ring, D, by bars g placed immediately against the discharge of the wheel, substantially as shown and described.

111,602.—COATING BRICK, WOOD, AND OTHER SURFACES ON WALLS, &c.—Edward E. Alvord, Salt River, Mich.

Claim.—The method herein described, for the coating of brick, wood, or other surfaces with cement or plaster prepared and made by the process and substantially in the proportions herein specified.

111,603.—DRIVING-POWER FOR LOCOMOTIVES.—William D. Arnett, Denver, Colorado Territory.

Claim.—The relative arrangement of the wrist-pins i i j j j' j' and cranks h h, in combination with the connecting-rods, the spur-wheels D D', and steam-cylinders B B', substantially as described, and for the purposes set forth.

111,604. — SAND-SIFTER.—William Bailey, Friendship, N. Y.

Claim.—1. In a sand-sifter having a suitable supporting-frame and a revolving wire-screen rotated by a crank, C, the described construction of the front end of the screen, consisting essentially of the ring or hollow journal E, made large enough to admit the blade of a common spade, and having its mouth entirely unobstructed, so that the sand can be shoveled directly into it without the aid of a feed-spout or conductor, substantially as described, for the purpose specified.

2. The combined sand-auger and conveyer, M E, constructed as described, and adapted to be operated either with or without the revolving screen, as herein set forth.

3. The combination of the open-mouthed revolving screen with the auger and conveyer M E, substantially as described, and for the purposes set forth.

111,605.—SCOOP AND SIFTER.—Joseph Baker, Trenton, Canada.

Claim.—1. The scoop A, provided with a detachable sifter, B, whereby sifters of different degrees of fineness may be used in connection with the scoop at will, substantially as described.

2. In combination with the combined scoop and sifter, the agitator K, having the spiral spring F applied to the thumb-piece or stem, substantially as set forth.

111,606. — FEATHER RENOVATOR.—James A. Bell, Tyrone, Pa., assignor to himself and Henry Z. Stetler, same place.

Claim.—The case A, mounted on the hollow journals so as to be revolved, and provided with the large steam-pipe F, having the extension H, also provided with the small pipe I, having the induction-cock L, exhaust M, plug O, perforations P, and the radiating tubes N, the said case and the pipe F being provided with escape-cocks, and all combined and arranged substantially as specified.

111,607.—FRUIT-JAR.—Melville R. Bissell, Kalamazoo, Mich., assignor to Salmon B. Rowley, Philadelphia, Pa.

Claim.—A glass jar, terminating at the top in a partly-blown and partly-ground bearing for a gum ring, as set forth.

111,608.—FLOWER-STAND.—Elijah D. Castelow, Meriden, Conn.

Claim.—The rotary plant-stand, as herein described, composed of a series of graduated shelves, all arranged to transmit their weight to the lower shelf, which revolves or rotates upon a track-support, the whole held together by means of a central bolt-rod, in the manner and for the purpose substantially as herein specified.

111,609.—ALCOHOL-STILL.—George Clarkson, Elgin, Ill., assignor to himself, Samuel D. Wilder, and Albert Sherwin, same place.

Claim.—1. The still herein described, having compartments B and C, constructed and arranged substantially as specified.

2. In combination with a double-chambered still, the pipes e, h, and f, valve K, and regulating-faucet D, substantially as specified.

3. The coiled pipe a, induction-pipe b, and eduction-pipe c, in combination with the double-chambered still, substantially as specified.

4. In combination with a double-chambered still constructed for continuous distillation, the glass gauges F and F', constructed and arranged substantially as described.

111,610. — STAIRWAY.—Charles Saunders Close, Philadelphia, Pa.

Claim.—1. The combination, with the opening of a spiral staircase, of a series of plates, arranged to open and close with a fan-like action, substantially as set forth.

2. The said plates C, C', C², &c., when provided at their opposite edges with rollers or wheels, f

and f, arranged substantially in the manner described.

2. The cylinder or casing A, arranged above a spiral or other stairway, as specified, and having internal flanges and grooves, and being otherwise arranged for the reception and retention of the plates C, C^1, &c., substantially as herein set forth.

4. The section of railing H', when attached to the upper plate C^4, so as to serve as a medium for operating the plates.

111,611.—Manufacture of Straw-Board for the Construction of Buildings.—Judd M. Cobb, Beloit, Wis.

Claim.—1. The prepared plastering-board as a new article of manufacture, substantially as herein described.

2. The process, substantially as herein described, for producing the plastering-board.

3. The siding for buildings, constructed and prepared in the manner substantially as herein described.

111,612.—Apparatus for Cleaning Sulphurets and other Ores.—Charles C. Coleman, San Francisco, Cal.

Claim.—1. A machine, having the cone or cylinder C, with the interior constructed as shown, and operating to separate gold and sulphurets, substantially as herein described.

2. The perforated-jet-tube E, or an equivalent device, for washing the sulphurets and retaining them always at the bottom of the cone, substantially as and for the purpose described.

111,613.—Boot-Jack.—Ezra Coleman, San Francisco, Cal.

Claim.—In combination with the ordinary boot-jack, composed of the forked board A and block B, the hinged strip D, with its adjustable toe-support or strap E, substantially as and for the purpose herein described.

111,614.—Apparatus for Feeding Pulverized Fuel to Furnaces.—Thomas Russell Crampton, Westminster, London, Great Britain.

Claim.—1. The series of conducting-tubes arranged on the same horizontal level, and grouped substantially as set forth.

2. In combination with the above, combining, as an additional element, a solid floor, without fire-bars, on which the streams from the tubes may impinge or not, as desired.

3. In combination with the subject matter of the first clause as above, combining, as an additional element, a sloping bridge-wall, as hereinbefore described, with a view, by the impingement thereon of the carbonized air from the tubes, to promote the greater homogeneity of the combination of the fuel and air entering the combustion-chamber from the tube aforesaid, as they impinge upon it and are deflected upward into the chamber beyond.

4. The combination of the stirrers Q in the reservoir O, the opening d, the box P, and the rollers L and M for delivering a sheet of pulverized fuel in equal quantities into the trough, whose bottom is the open mouths of the receiving-tubes G, arranged as above described.

5. The combination, as additional elements to the last clause of claim, of the air-nozzles from the air-chamber S, the receiving-tubes, and the conducting-tubes, the center line of the nozzles being below the center line of the conducting-tubes, as described.

6. The division of a given quantity of pulverized fuel into equal parts by passing it between adjustable rollers into a trough whose bottom is the open rectangular mouths of the tubes requiring to be equally supplied with fuel, in the manner herein described.

7. The arrangement of the rollers L and M relatively to the discharge-opening d in the hopper, so as to form a limited supply-chamber between them, as hereinbefore described.

8. The arrangement of the receiving-tubes side by side, when the sheet of pulverized fuel falls into them, thereby diminishing the length of the rollers, and in that manner avoiding too great an attenuation of the sheet of fuel passing through them.

111,615.—Apparatus for Distributing and Feeding Powdered Fuel to Furnaces.—Thomas Russell Crampton, Westminster, London, Great Britain.

Claim.—1. In an apparatus for feeding powdered fuel to furnaces, the combination of the feeding-rollers E and F with the trough B, screw-conveyer D, and the intermediate limited supply-chamber d, arranged and operating so that the latter will be kept constantly filled with fuel irrespective of the direction in which the fuel is moving in the trough, as described.

2. The combination of the hoppers A and A' with the trough B, screw-conveyer D, and elevating-buckets H and H^1, constructed, arranged, and operating so that while one hopper is supplying the fuel to the feeding apparatus for one or more furnaces the other will collect the fuel not taken from the conveyer by said feeders, and *vice versa*, as described.

3. The pressure of a series of furnaces, regulated and controlled automatically, to the same or different uniform degrees for each furnace from one and the same supply of air, as described.

4. In combination with an apparatus for feeding several furnaces from one supply with powdered fuel and air, and a fan or blower, a regulator interposed between the furnace or furnaces and the blower, as described.

5. The apparatus for feeding, regulating, dividing, conducting, and discharging powdered fuel into furnaces, the combination of the supply-hoppers A A', the conveyer D, the feeding-rollers E F, the receiving and conducting-pipes H^3 and S, with the branch-pipes L, air-regulators, air-main, and blower, substantially as described.

111,616.—Furnace for Burning Pulverized Fuel.—Thomas Russell Crampton, Westminster, London, Great Britain.

Claim.—1. The fuel-charged air, for the combustion, injected into the furnace at the rear end thereof, and near the neck, in the opposite direction from that in which the products of combustion escape, as described.

2. The fuel-charged air, for the combustion, injected into the furnace at or near the top thereof so as to be caused to pass toward the front end of the chamber, turn down and return between the incoming streams and the metal under treatment, as described.

3. The furnace, constructed and adapted to receive the fuel-charged air at its rear end, and in which the work is done in one and the same chamber within which the combustion takes place, as described.

4. The arrangement of an incoming and returning current of air and fuel within the combustion-chamber, so that the former is heated by the latter, as shown.

111,617.—Suspender.—John W. Dayton, Waterbury, Conn.

Claim.—The two parts A B of a pair of suspenders, doubled and overlapping, each part passing over an independent bar, d f, of a looping device, C, substantially as set forth.

111,618.—Hand-Vise.—James W. Devlin, Yonkers, N. Y.

Claim.—An improved hand-vise, consisting of the hollow handle A, cone B, hollow screw C, cross-head D, lever-jaws E, and springs F, said parts being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

111,619.—Saw.—Henry Disston and Thomas Oates Hill, Philadelphia, Pa., assignors to Henry Disston & Son, same place.

Claim.—A hand-saw, having the cutting edge of the blade rounded at or near its outer end, as specified.

111,620.—Device for Enlarging Wells.—Thomas Donnelly, Pittsburg, Pa.

Claim.—The combination of the stock a, sockets b, cutting-bars c, springs d, jar-stem e, and knob h, as and for the purpose described.

111,621.—Valve and Cock.—Isidore Dreyfus, New York, N. Y.

Claim.—1. A valve or cock provided with a series of ports or valve-openings, in combination with a single valve and valve-stem having a movement toward and away from said ports, and mounted or supported in a ball-and-socket or equivalent bearing, as described, in such manner that the stem may be directed to or brought in line with any one of the ports which the valve is required to close, substantially as and for the purpose set forth.

2. The central bulb or chamber, divided into three channels or compartments, communicating with one another through ports formed in a diaphragm separating them from the valve-chamber, in combination with an oscillating valve operating substantially as shown and set forth.

3. The combination of the screw-threaded valve-stem, its rotary or movable bearing mounted in the case or shell of the valve or cock, as described, and the stuffing-box formed upon said bearing, for making a steam-tight joint between it and the stem, as shown and set forth.

4. The combination, with the valve-openings or ports, of the oscillating valve, its movable bearing, and the socket which contains said bearing, the said socket being provided with a slot or slots for the passage of the valve-stem formed in the plane which passes through said ports, substantially as and for the purposes set forth.

111,622.—Heating-Stove.—Samuel H. Emery, Jr., and Chauncey H. Castle, Quincy, Ill.

Claim.—The arrangement, with the cylinder A and oven B, of the flue C, passages D E, and the pipe-collar F, all substantially as specified.

111,623.—Sifter and Strainer.—Lyman Fay, Fall River, Mass.

Claim.—The combination and arrangement of the spring e with the cross-bar E and shaft D, with its arms G G, the receptacle A, and hooks a a, operating substantially in the manner and for the purpose set forth.

111,624.—Water-Meter.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. The hollow piston, with open center and adjustable nuts B b, to act on the lever H^1, as and for the purposes described.

2. The snap-lever K, spring or springs N, and lever H^1 H^2, operated by the moving piece or piston B, which receives the pressure of (and by its motion measures) the water, substantially as herein set forth.

3. The cylinder A, hollow piston B, chambers C C', valve E, and ports F F^1 F^2, in combination with each other and with the lever K, bracket A', springs F, and lever H^1 H^2, and arranged to operate as and for the purposes described.

111,625.—Boot and Shoe Fastening.—Franklin D. Ford, New Bedford, Mass.

Claim.—1. The mode of lacing a shoe by means of the laces B B, rooved in alternate holes, substantially as herein shown and described.

2. The fastening E, for securing rings to the shoe, constructed and operating substantially as described.

111,626.—Gate-Latch.—William Fosket, Meriden, Conn., assignor to Charles Parker, same place.

Claim.—In a latch in which the lever B is arranged to operate the bolt as described, the latch-bolt constructed as a concave end, and hung to the said lever in the manner described, to allow of a rocking motion of the latch as it passes onto the keeper.

111,627.—Walking-Cultivator.—Andrew Friberg, Moline, Ill.

Claim.—1. The coupling F, composed of the pieces a and b, having the circumferential grooves c with lateral space s, connecting said grooves, to enable the coupling to be adjusted laterally and held in position, as described.

2. The adjustable shoes H, in combination with a shank or beam so curved that the shovel may be adjusted thereon at different inclinations without varying the height of its lower point, substantially as described.

111,628.—Safety Device for Hatchways.—Alexander Fries, Cincinnati, Ohio.

Claim.—1. The provision of one or more nets to be suspended within hatchways, substantially as and for the purpose stated.

2. The application, to the hatchways of a hoisting apparatus, of two series of nets, L, of which the upper ones are suspended from some point or points above the platform and the lower ones from the platform itself, substantially as set forth.

111,629.—Brick-Machine.—Benjamin M. Gard, Urbana, Ohio, and Emery R. Gard, Chicago, assignors to United States Brick-Machine Company, Chicago, Ill.

Claim.—1. The combination of the frame A, composed of the uprights a a, and connecting braces b b with the tub-bottom B, having lateral flanches c c, in the manner and for the purpose herein specified.

2. The combination of the tub-bottom B and its lateral flanches c c with the attached half-tub f, and its braced shaft-bearing h, substantially in the manner and for the purpose herein set forth.

3. The combination and arrangement of the diagonal or oblique brick-molds Q Q, the traverse belt P, and carrier-belt O, for automatically removing the bricks from the mold-wheels, substantially as herein specified.

111,630.—Water-Wheel.—James Gardner, South Lee, Mass.

Claim.—1. The gates D D for a water-wheel, made of curved outer parts and of the shorter inwardly-projecting oblique guides f, substantially as and for the purpose herein shown and described.

2. The combination of the adjusting-ring E with the gates D D and ledges l l, to constitute a sand-channel, substantially as herein shown and described.

111,631.—Clod-Fender.—Robert T. Gillespie, Millport, Ohio.

Claim.—1. The shield H, constructed as described, and provided with an adjustable sliding auxiliary shield I, substantially as and for the purposes herein set forth.

2. In combination with a plow, the slotted L-shaped bars D D, hinged bars E E, with their braces G G, and the fender H I, all constructed and arranged substantially as and for the purposes herein set forth.

111,632.—Planing-Machine.—James Goodrich and Henry J. Colburn, Fitchburg, Mass.

Claim.—1. The combination of the legs H H^1 H^2, &c., having inclines n n' and o o', with the guide-rail K, having inclines k k^1 k^2 k^3, as described, and for the purpose set forth.

2. The combination of the adjustable frame C^1 with the cutter-head D and presser-bar D^1, as herein described, and for the purpose set forth.

3. The combination of the lever B^2 with the arc B^3, adjustable weights C^4 C^4, and pressure-feet C^3, substantially as described, and for the purpose set forth.

4. The combination of the springs E^4 E^4 with the yokes E^2 E^2, the frames E^2 E^2 E^1 E^1, and the rollers E E, as herein described, and for the purpose set forth.

111,633.—HARVESTER.—William F. Goodwin, Metuchen, N. J.

Claim.—1. The double zigzag wheel G, in combination with the reciprocating zigzag disk, substantially as and for the purpose described.

2. The combination of the reciprocating zigzag wheel or disk H, sleeve A, and lever I, operating substantially as described.

3. The vibrating cutter-frame, consisting of frame-bar D, and sleeves C C^1, connected together as described, in combination with the pivoted drag or brace-bar E, arranged and operating as described.

4. The buffer-box J and slide *f*, constructed as described, in combination with the frame-bar D and vibrating lever I, as described.

111,634.—HORSE-POWER.—William F. Goodwin, Metuchen, N. J.

Claim.—1. In a horse-power, the adjustable pivotal bearing e^1, in combination with the screw-shaft F and master or worm-wheel H, substantially as set forth.

2. In combination with line-shaft F, the pivotal bearing e^1 and the removable bearing E^1, constructed as shown, for supporting said shaft in chamber E, as described.

3. In a horse-power, a screw-shaft having a thread the working face of which has a bevel equal to the pitch of the screw, in combination with a master or worm-wheel the teeth of which have their working faces beveled to correspond with the bevel on the thread of the screw, substantially as set forth.

4. In combination with the worm-wheel H and screw-shaft F, the inclosing shell or casing A A' B, provided with the sleeve B' for supporting the upper end of the worm-wheel shaft, and with the chamber E supporting shaft F, substantially as described.

111,635.—HAIR-PIN.—Charles M. Gormly, Pittsburg, Pa.

Claim.—The four-pronged hair-pin, constructed, as described, of two pins arranged transversely to each other, fastened permanently together at their looped end, and bent near the middle of their length, for the purposes set forth.

111,636.—IRON ABUTMENT FOR BRIDGES.—Jacob S. Goshorn, Fort Wayne, Ind.

Claim.—In an iron abutment for bridges, the tubular longitudinally-grooved columns B B, cut away at *m m* to allow the insertion of plates E E, in the manner and for the purpose described.

111,637.—DEVICE FOR SECURING CORKS IN BOTTLES.—Samuel L. Gouverneur, Fredrick City, Md.

Claim.—The device for securing corks in bottles, consisting of the cap-plate A, links *b*, combined with the triangular or polygon base B C D, having an adjustable locking-leg, as shown, and for the purpose substantially as described.

111,638.—APPARATUS FOR THE MANUFACTURE OF CONFECTIONERY.—William F. Goward, Boston, Mass.

Claim.—1. In combination with the plate *d* and its pins *e e*, or the mechanical equivalents of such parts, one or more flat plates or fingers so disposed with respect to the pins as to be readily inserted between them and below the confection adhering to them, for purposes hereinbefore set forth.

2. In combination, one or more fingers, arranged as described, and the turn-buttons or cams *f f*, or their equivalents, in manner and operating as explained.

3. In combination, the board or plate *d* with its pins *e e*, &c., the fingers *e e*, &c., properly mounted, and the buttons *f f* or their equivalents, for purposes hereinbefore stated.

111,639. — SECTIONAL STEAM-BOILER.—James S. Griffith and Charles E. Emery, New York, N. Y.

Claim.—1. An improved tube-head for sectional boilers, provided with an enlarged top, serving as a steam-drum and chamber for the separation of the steam and water, substantially as and for the purpose specified.

2. The return-tubes A', in each section, arranged, as shown and described, in relation to a partition, F, and the front and rear tube-heads, substantially as and for the purposes specified.

3. In combination with a steam-drum, the deflecting partition *f* and dam E, arranged substantially as and for the purposes specified.

4. A boiler tube-head, combined and connected with a tube by a stuffing-box joint, said tube-head being provided with an opening opposite the tube, through which the joint may be packed and the tube cleaned or removed, substantially as shown and described.

5. The combination of a bonnet, *p*, and gland *m*, with a bolt, *o*, substantially in the manner and for the purposes specified.

6. A boiler-tube, with nuts *r* or pins *v* secured to the ends thereof, combined with stuffing-boxes and glands, substantially in the manner and for the purposes specified.

111,640.—WINE AND CIDER-PRESS.—Thomas W. Grinter, Russellville, Ky., assignor to James L. Haven, Cincinnati, Ohio.

Claim.—The combination, in a wine and cider press, of the springs L with screw H and screw-plate I, substantially as shown, for the purpose set forth.

111,641.—BRIDGE FOR SUPPORTING SHAFT-DRILLING MACHINES.—Joseph P. Griscom, Port Carbon, and John Fritz, Mahanoy Plane, Pa.

Claim.—The combination of the track or frame A, extension pieces B B, and screws C C, all constructed as shown and described, and arranged so that there will be two extension pieces, B, each with their screw C at each end of the track, as herein set forth.

111,642.—EXPLOSIVE COMPOUND.—Joseph Hafenegger, San Francisco, Cal.

Claim.—The admixture with, or addition to, explosive compounds of a mineral oxide and oily, fatty, or resinous substances, substantially as and for the purpose above described.

111,643.—CAM FOR QUARTZ-MILLS.—Oliver P. Hart, Logtown, Cal.

Claim.—The improved cam herein shown, consisting of the sections A B, respectively provided with key-ways *e e*, in combination with the dovetailed gibs *f g* and keys *i i*, all constructed and arranged substantially as and for the purpose set forth.

111,644. — STEAM ROAD-WAGON.—Charles W. Hermance, Schuylersville, N. Y.

Claim.—1. The horizontal frame F, or its equivalent, attached at one end to the rear axle at one end, and resting upon springs at the other, thereby suspending the boiler, engine, and machinery, and permitting of all necessary vertical motion of the same, between the axle and parts which they support, substantially as and for the purposes herein set forth.

2. The springs *a a*, or their equivalents, attached to or supporting the rear of the horizontal frame which suspends the boiler and machinery, for the purposes set forth.

3. As applied to wagons propelled by steam, the double train of gears, or their equivalents, in combination with the fly-wheel and piston, substantially as herein set forth.

4. In combination with the double train of gears, the lever M, rod *m*, and movable clutch *k*, attached to the axle for the purpose of changing the speed, the circles *n*, wheels N O, pinion *p*, and crank-shaft P, all substantially as and for the purposes set forth.

5. The horizontal frame E and springs *a a*, or any other device that shall operate as their equivalents, by suspending the boiler, engine, or machinery, and allow of vertical motion to the same, between the axle and parts which they support, without ungearing itself or changing the distance between the axle and cylinders, as herein set forth.

111,645.—PUMP.—Oliver Higgins, Napoleon, Ohio.

Claim.—The combination with the cylinder A, slotted vertically at *s s*, the automatic cut-off G, provided with the guard-plates *d d* and the guide-screws *e e*, and the double-headed piston-rod D, substantially as specified.

111,646.—SPRING BED-BOTTOM.—Egbert B. Hill, Grand Rapids, Mich.

Claim.—The forked metallic spring brace B B, in combination with the upper frame F F and parts C C, or their equivalent, when constructed and arranged substantially as and for the purposes herein set forth.

111,647.—TAP-WRENCH.—George W. Huntoon and Edwin Simonds, Lowell, Mass.

Claim.—1. The plates A, constructed and arranged to retain the jaws E in place, and to resist the thrust of the thumb-nuts B, as set forth.

2. The adjustable overlapping jaws E E, constructed and arranged substantially in the manner and for the purpose set forth.

111,648.—AUGER.—William A. Ives, New Haven, Conn.

Claim.—A double-twist auger, when provided with curved edge, sloping floor-lips *b b*, and side lips or cutters *a a*, in the manner shown and described.

111,649. — BIT-BRACE.—William A. Ives, New Haven, Conn.

Claim.—The combination of the jaws C and D, the bearing *a* within the socket A, spring *d*, and sleeve B, to close the jaws, the whole constructed and arranged to operate substantially in the manner and for the purpose set forth.

111,650.—FEED-WATER APPARATUS.—James Kindel, Wilmington, Ohio.

Claim.—The described arrangement of the steam-return pump B and chamber G with their pipes F and H, live-steam-pipe I, and water-supply-pipe J, for the purpose set forth.

111,651, antedated February 3, 1871.—PLOW.—Sampson B. King, Starkville, Ga.

Claim.—The arrangement of the notched beam A, bail G, hooked and swiveled bar E, and stirrup D, all constructed to operate as specified.

111,652, antedated January 28, 1871.—ICE-CRUSHER.—Oliver B. Kinsey, Newark, N. J.

Claim.—The case A, oscillating vibratory plate B, and the adjustable plates D and E, constructed and arranged substantially as specified and shown.

111,653. — PORTABLE STALL. — Daniel P. Leach and William F. Leach, Franklin, Ind.

Claim.—The combination and arrangement of the posts A A, planks B B, clamps *a a*, treadle C, lever D, with weight E, door G, drop H, and feed-trough I, all substantially as and for the purposes herein set forth.

111,654.—DYEING AND PRINTING TEXTILE FABRICS.—John Lightfoot, Lowerhouse, near Burnley, England.

Claim.—1. The mode or method of producing a black dye or color for fabrics or yarns, substantially as hereinbefore described.

2. The treatment of the substances hereinbefore described, whereby I obtain commercial cream of tartar fit for the market.

111,655. — MEDICAL COMPOUND. — Henry Lister, Houston, Texas.

Claim.—The above-described medical compound, substantially as and for the purposes set forth.

111,656.—POTATO-DIGGER.—George C. Love, English Centre, Pa.

Claim.—1. The combination of the grooved axle A, wheel B B, circle C, roller D, bar *a*, and fork E G, constructed and operated substantially as shown and described.

2. In combination with the grooved axle A, wheels B B, circle C, fork E G, and roller *d*, the bail H, provided with the catches *e e*, operating in the cog-wheels *b b*, all substantially as set forth.

111,657. — COOKING-STOVE. — Peter Low, Cleveland, Ohio.

Claim.—1. The reservoir B, constructed with three recesses or chambers *a a a*, and used substantially as and for the purpose set forth.

2. In combination with said reservoir, a cooking-stove, the rear plate of which shall be provided with spaces to correspond with chambers *a a a*, and in connection therewith form flues, substantially as and for the purpose described.

111,658.—APPARATUS FOR EXTRACTING OIL FROM BONE-DUST.—William W. Lucas, Cleveland, Ohio.

Claim.—The box C, constructed substantially as described, and resting on a cross-bar, D, and the pan G, steam-pipes E, and the box A, when the same are constructed, combined, arranged, and operating substantially as shown, and for the purpose set forth.

111,659, antedated January 28, 1871.—FAUCET.—John R. Mackay, Meriden, Conn.

Claim.—As a new article of manufacture, the faucet described, provided with the horizontal rod or shaft D, valve E, acted upon by the spring *c* by means of the lever F, and connecting-rod G, and cock C, when combined and arranged as described, for the purpose set forth.

111,660.—SCAFFOLD.—Nicholas Martz, Lykens, Pa.

Claim.—1. The combination of the hinged sections A with the vertical ladder-supports B, the working platform C, and the diagonal braces I, constructed, arranged, and admitting of the adjustment herein shown and described.

2. The vertical supporting-ladder section B, sustained by one of its rounds *b* in a grooved seat, *a*, clamped vertically and laterally by wedges E and F, and endwise by buckled straps G, to the hinged sections A, as herein shown and described.

111,661.—MANUFACTURE OF PAPER, CORDAGE, TWINE, &c.—James H. McConnell, Springfield, Ill.

Claim.—The application of the fiber of the plant

Abutilon avicennæ to the manufacture of cordage, twine, paper, and textile fabrics, as herein set forth.

111,662.—Truss-Bridge.—John A. McKay, Auburn, Ind.

Claim.—The caps M M, when constructed and applied substantially as and for the purposes set forth.

111,663. — Type-Holder. — William McNaughton, Chicago, Ill., assignor of one-half his right to John H. Trumbull, same place.

Claim.—The plate A, when provided with the flanges *a a* and spring *b*, substantially as and for the purpose specified.

111,664.—Vent-Plug.—Charles H. Miller and William Ascough, Buffalo, N. Y.

Claim.—1. The screw-spindle B, the valve C, and the elastic cord D connecting the same, in combination with the plug A, said parts being constructed, arranged, and operating substantially as herein described.

2. In combination with the above, the spiral spring E, for the purpose and substantially as herein set forth.

111,665. — Wagon. — Alexander Moffitt, Washington, D. C.

Claim.—1. The combination of a pole or shaft attachment with a brake, when so arranged that the brake will be applied only by the raising of the pole or shafts, substantially as herein set forth.

2. The pole I, passing through a mortise in the whiffletree-bar J, or a loop attached to said bar, and attached to the hook *b*, substantially as and for the purposes herein set forth.

3. In combination with the pole I and whiffletree-bar J, the adjustable stop *e*, substantially as and for the purposes herein set forth.

4. The combination of the pole I, whiffletree-bar J, stop *e*, and supports or foot-stalls K K, constructed and arranged substantially as and for the purposes herein set forth.

5. The brake-bar stay H, passing through the head-block E, and provided with a hook, *b*, on its front end for attaching the pole, substantially as and for the purposes herein set forth.

6. In combination with the brake-bar stay H, a latch for locking the same, so that the brakes will not operate, substantially as set forth.

111,666.—Vapor-Burner.—Thomas Moore, Bloomington, and James O'Donald, Clinton, Ill.

Claim.—1. The flame-regulator, consisting of the sleeve E, wings E′, and non-conducting button H, as and for the purpose set forth.

2. In combination with the above, the burner D and wick-tube C C¹, as shown and described.

111,667.—Dental-Engine.—James B. Morrison, St. Louis, Mo.

Claim.—1. A tool-head, as a W″, having universal rotary and flexible motion at the extremity of one or more pivoted, pulley-carrying, and extensible arms, substantially as described.

2. In combination with a swiveled shaft, a spring applied substantially as shown, namely, maintaining the proper extension or elongation of the said shaft, and permitting one end of it to be turned on its axis.

3. The oscillating shaft I I′, turning on a center in line with the axis of the pulley C, and connected to the stand by a helical or other spring, K, substantially as and for the purpose described.

4. The treadle F, hinged to the frame G, the said frame being pivoted to the stand, substantially as and for the purpose described.

5. The construction of the burr-tool in two separate parts, consisting, respectively, of the perforated removable head and spindle or shank, substantially as and for the purposes set forth.

111,668. — Die for Forging, Trimming, and Shaping Spring-Clips for Carriages.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—The series of dies, constructed substantially as described, for forging, trimming, and shaping spring-clips for carriages.

111,669. — Feeding Quicksilver to Stamps and Amalgamators. — George C. Munson, Empire City, Colorado Territory.

Claim.—1. The adjustable plugs *b*, operated by means of a set-screw, and constructed and arranged in connection with the shaft C and cup or reservoir A, to cut off and deliver to the stamp-mill or amalgamator any desired quantity of quicksilver, substantially as herein shown and described.

2. In combination with the plugs *b* and shaft C, the scale or indicator *f*, substantially as described, and for the purposes set forth.

111,670.—Meat-Cutter.—Hugh B. Murphy, Allegheny City, Pa.

Claim.—The combination and arrangement of the revolving cutter-block B with ratchet-teeth *c*, pawl or lever *f*, crank A, shaft *i* provided with lifters *k*, levers *l* provided with cutters J and adjustable weights *n*, and the gum spring R, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

111,671.—Animal-Hoisting Apparatus.—Jason Newton, Marengo Township, Mich.

Claim. — The higher and lower gallows frames A and B, (detachable or not,) in combination with a winch and its appurtenances, and with pulleys P P¹ P², and gambrel-hooks H, all constructed, arranged, and operated substantially as and for the purpose set forth.

111,672.—Clock-Pendulum Rod.—Russell W. Norton, New Haven, Conn.

Claim.—The pendulum-rod, constructed with an indentation near the upper end of the flattened portion, substantially in the manner and for the purpose set forth.

111,673.—Animal-Trap.—James C. Parrish, Petersburg, Va.

Claim.—The cylinder *b*, having the projection *a*, the opening *f*, and orifice *l*, in combination with the spring *e*, the spring false bottom *g*, provided with the pin *h*, the box *i*, provided with the recesses *q u*, and the hinged cover *t*, perforated at *p* and provided with the wire *o*, all arranged and operating as described.

111,674.—Feeding Device for Carding and other Preparing Machines.—Edwin Pettitt, Manchester, England.

Claim.—In combination with the toothed cylinder A, the close concentric case B, provided with a vertical extension for supplying the fibrous material to the roller under a constant and equable pressure maintained by a weight, substantially as set forth.

111,675. — Combined Grain-Drill and Corn-Cultivator.—David B. Platt, Jeffersonville, Ind.

Claim.—1. The sliding plates J, provided with the saddles *e*, and adjusted by means *f*, substantially as and for the purposes herein set forth.

2. The wheels H H, provided with cup-shaped recesses, and operating in combination with the saddles *e e* on the adjustable sliding plates J J, substantially as and for the purposes herein set forth.

3. The agitator I, constructed as shown and described, and operating in combination with the

wheels H H, substantially as and for the purposes herein set forth.

4. The combination of the shoe K, plate *h*, beam L, wooden pin *i*, and guide-plate *j*, all constructed and arranged substantially as and for the purposes herein set forth.

5. The combination of the shoe K, plow M, bail *k*, and spring *l*, constructed and arranged substantially as and for the purposes herein set forth.

6. The arrangement of the bent rod *p*, lever *r*, spring *s*, and clutch *d*, substantially as shown and described, and for the purposes herein set forth.

111,676.—Gate.—John Pool, Elizabeth City, N. C.

Claim.—1. The oscillating lever F, carrying the latch J, in combination with the rocking-beam E, applied and operating together, substantially as and for the purpose described.

2. The band L, formed with notches *e e*, in combination with the latch J, jointed to the lever F, and operating in connection with the beam E, to which the gate is hinged, substantially as and for the purpose described.

3. The projecting rods O, in combination with the bolt N of the gate, substantially as and for the purpose described.

4. The wheel-trips W, platform G, levers V, latches P, and hand-lever T, arranged and operating with the gate E, substantially as and for the purpose described.

111,677.—Governor for Steam-Engines.—George F. Pottle, Boston, assignor to himself and Reuben K. Huntoon, Wakefield, Mass.

Claim.—The combination of the fan-disk A′ A A with the buttress-fan disk D B B, when constructed and arranged substantially as described.

111,678.—Shuttle for Sewing-Machines.—George M. Pratt, Middletown, Conn.

Claim.—The combination, with the shuttle, of the pivoted bobbin-holder B C D, the tension device, consisting of two disks or surfaces F E, the spring H, and adjusting nut I, all constructed and arranged to operate substantially as herein described.

111,679.—Cast-Iron Barrel.—Abel Putnam, Jr., Saratoga Springs, N. Y.

Claim.—As a new article of manufacture, a cast-iron barrel, combined with a porcelain lining, as specified.

111,680.—Water-Cooler.—Abel Putnam, Jr., Saratoga Springs, N. Y.

Claim.—The arrangement of the concentric jars *a b*, so connected that there is no communication between the two, the inner jar being open at the top and the outer jar being furnished with an orifice, *h*, at its lower end, all as specified.

111,681, antedated February 4, 1871.—Propelling Apparatus for Boats.—Joseph Repetti, Philadelphia, Pa.

Claim.—1. The combination of the helical springs *i i′* with the shaft *a*, wheels *c c′*, wheels *d*, and propeller-shaft *m*, and propeller *z*, substantially as and for the purpose set forth.

2. The combination of the levers *h h′* with the helical springs *i i′*, shaft *a*, wheels *c c′*, wheel *d*, propeller-shaft *m*, and propeller *z*, substantially as and for the purpose specified.

3. The arrangement of the propeller-shaft *m*, inclosed tube *n*, propeller *z*, and wheel *d*, substantially as and for the purpose set forth.

4. The combination of the lever *e*, eye *f*, sleeve *g*, and pin *k*, substantially as and for the purpose set forth.

5. The combination of the levers *r r′*, cords *t t′*, cord *u*, pulley *v*, pins *p p′*, and levers *h h′*, substantially as and for the purpose specified.

6. The arrangement of the bench *w*, guards *x x*, benches *q q′*, levers *h h′*, and *r r′*, substantially as and for the purpose specified.

111,682.—Medicated Plaster.—Albert D. Richards, Somerville, Mass., assignor to Tufts, Grosvenor & Co.

Claim.—A medicated plaster, made and coated with a compound formed of the ingredients set forth, and prepared substantially as herein described.

111,683.—Pen-Holder.—Henry Roth, Virginia City, Nevada.

Claim.—In a reversible pen-holder or stock A, having a slot, *b*, the combination and arrangement of the pivoted plate *c*, clasp *d*, and movable ferrule E, substantially as and for the purpose described.

111,684.—Box for Packing and Transporting Sheet-Metal Cans.—Charles E. Russ, Boston, Mass.

Claim.—The method of packing metallic vessels constructed with a projection or chine about their ends, by means of a box having the inner surface of its top and bottom provided with corresponding grooves to receive the projection or chine, for the purpose of firmly holding the vessel in the manner herein shown and described.

111,685.—Fertilizer-Distributer.—Christopher Salvo, Columbus, Ga., assignor to himself, Joseph C. Brewer, and Robert W. Milford, same place.

Claim.—The hopper A A′, constructed as stated, valve B, spring C, and knives D D, when the same are combined and arranged to operate substantially as described, as and for the purpose specified.

111,686.—Machine for Degerminating Malt.—Charles Sauter, New York, N. Y., assignor to himself and G. Schütz, Jersey City, N. J.

Claim.—1. The cylinders B B′ B″, arranged one above another and rotated in opposite directions, as set forth, for the purpose of breaking the germs off the grain, substantially as specified.

2. The separating-cylinder E, divided by partitions *a*, which are perforated and connected with slanting discharge plates *c*, substantially as herein shown and described, to operate as set forth.

111,687.—Corn-Planter.—Levi Scofield, Watertown, Wis.

Claim. — 1. In a seed-planter, an independent reel-marker adapted for operation at the will of the operator, except while the markers are in contact with the ground for the purpose of marking off the spaces between the hills or rows, and at the same time to throw the seeding mechanism into gear, substantially as described.

2. In a seed-planter, the reel-markers H and jointed shaft F, so arranged that the markers shall pass under the wheels M, or their equivalents, for the purpose of leaving a mark across the track of the wheels, substantially as described, for the purpose specified.

3. In a seed-planter, the reel-shaft, provided with wheels and supports at its outer ends for the purpose of supporting said ends and forming a track for the markers to cross, substantially as described, for the purpose specified.

4. In a seed-planter, the rotating reel-shaft, provided with a universal joint for the purpose of allowing the outer ends of the shaft to rise and fall while in operation, so that the markers H upon the ends of the shaft shall conform to the inequalities of the ground, substantially as described, for the purpose specified.

5. In a seed-planter, the jointed rotating reel-shaft, provided with the markers H and a pivoted box or bearing, *e*, at or near its center, substantially as described, for the purpose specified.

6. The arrangement of the vibrating-lever Q, rod

R, and clutch-lever, in relation to the shaft F and its attachments, whereby the seed-dropping mechanism is automatically operated, substantially as described.

7. The gears *a b*, shaft E, clutch-box N N, provided with a zigzag cam, *f*, and the lever O for communicating an intermittent reciprocating motion to the seed-bar T, substantially as and for the purpose specified.

8. The arrangement of the seed-boxes E, the plates V, the seed-plates Y, and the seed-bar J, having pins *h*, constructed as described and shown, and operated as and for the purpose set forth.

9. The arrangement of the cut-off *j*, the strike *l*, and the plates Y and W, when constructed as described and shown, for the purpose specified.

111,688.—ELECTROTYPE-DIE OR MOLD FOR MOLDING PLASTIC MATERIALS.—David Scrymgeour, Foxborough, Mass.

Claim.—The mode herein described of producing a matrix or mold, and also a support or backing for the same.

111,689.—ROCK-DRILL.—Jacob Shelley, Mahanoy township, Pa.

Claim.—The combination of the sleeve D and hollow spindle with the adjoining sections of a drill-rod.

111,690.—SHIRT.—Solomon Sibley, Boston, Mass.

Claim.—A shirt, with its bosom and front constructed in the manner shown and described.

111,691.—HOT-BLAST STOVE FOR HEATING AIR, STEAM, &c.—Charles William Siemens and Edward Alfred Cowper, Westminster, and Charles Cochrane, Ellowes Upper Gornal, England; said Siemens and Cochrane assign their right to said Cowper.

Claim.—1. Constructing the filling-in of regenerative hot-blast stoves of a large number of separate vertical or nearly vertical passages of sufficient size to allow of a brush or blast of air or steam being passed through them for the removal of deposit therefrom, while, at the same time, the passage so formed with extended surfaces effectually absorb and give out the heat from and to the gases and air passing through them, substantially as hereinbefore set forth.

2. Constructing the filling-in of regenerative hot-blast stoves of separate, vertical, or nearly vertical, passages, so formed with projections, contractions, roughnesses, or equivalent contrivances, that while the currents of air or gas in passing through the passages are effectually disturbed and brought into contact with extended heated or heat-absorbing surfaces, yet these passages readily allow of a brush or other cleaning instrument, or a blast of steam or air, being passed through them for removing the deposit, substantially as hereinbefore set forth.

3. Constructing such aforesaid separate vertical passages in the manner and of the various forms hereinbefore described, with reference to the accompanying drawing, or in any manner substantially the same, for the purpose of effectually absorbing and giving out the heat from and to the currents of gas and air, and yet allowing of the passage of a brush or blast of steam or air through them for the removal of the deposit.

4. Constructing the filling-in of superposed layers of bars or slabs, so arranged as to leave vertical spaces passing right through all the layers, through which brushes or blasts of air or steam may be readily passed, substantially as described, with reference to figs. 9 and 10 of the drawing.

5. The employment of blasts or jets of air or steam, or both, for the removal of the deposit in the passages of regenerative hot-blast stoves, substantially as set forth.

6. The various before-described arrangements of blast-pipes for the introduction of jets of air or steam, for clearing out the deposit from regenerative hot-blast stoves.

111,692, antedated February 4, 1871.—RAILROAD TICKET.—Joseph T. Smith, Louisville, Ky.

Claim.—Partial tickets or checks for passengers or baggage, rendered adhesive or otherwise attachable, as and for the purposes specified.

111,693.—SPRING-BOLT.—William E. Sparks, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—In spring-bolts or latches, the bolt D, constructed with inwardly-inclined sides, and the case with a corresponding opening to form a bearing for the bolt, to support it in drawing or when drawn into the case, substantially in the manner and for the purpose set forth.

111,694, antedated February 4, 1871.—DEVICE FOR REEFING AND FURLING SAILS.—William Spear, Cape Elizabeth, Me.

Claim.—1. The sail-holders E E, constructed as described, and used either in combination with the usual hoops around the mast or fastened in a channel cut into or formed upon the surface of the mast, substantially as and for the purposes herein set forth.

2. The springs *p p*, arranged as described, with the collar *p'*, for the purposes herein set forth.

111,695.—CAR-COUPLING.—Laroy S. Starrett, Athol, Mass.

Claim.—1. The combination of the link, constructed with fluted or serrated ends, with the fluted or serrated tongue or projection *f* upon rod *e*, for the purpose of giving lateral movement as well as elevation to the link, substantially as shown and described.

2. The spring *g*, in combination with the rod *e*, its fluted or serrated tongue or projection *f*, and the serrated or fluted link, substantially as described.

111,696.—BEE-HIVE.—Monroe J. Stearns, Galesville, Wis.

Claim.—1. The arrangement of the bottom A, legs B B, drawer C, damper D, screens *a a*, cleats *b b*, slide *c*, and entrances *d d*, all substantially as shown and described, and for the purposes set forth.

2. The box E, constructed as described, with slats *f f* and *h h*, guides *g g*, bar *k*, and openings *n n*, all substantially as and for the purposes herein set forth.

3. In combination with a hive formed of the two boxes E E, constructed as described, the false bottoms G G and cut-offs I I, substantially as and for the purposes herein set forth.

4. The combination of the bottom A with drawer C and damper D, the boxes E E, false bottoms G G, honey-boxes H H, cut-offs I I, and outer case J, with its guards K K, all constructed and arranged substantially as and for the purposes herein set forth.

111,697.—FOUNTAIN.—Joseph Storer, Hammersmith, England.

Claim.—A self-acting fountain of the character herein described, with the cisterns or reservoirs capable of being turned on an axis of motion, and provided with suitable tubes, and within the axis with valves or passages, so that by simply reversing the position of the cisterns or reservoirs *a a'* the action of the fountain may be continued, substantially as herein shown and described.

111,698.—COOKING-STOVE.—David Stuart, Philadelphia, Pa.

Claim.—A cooking-stove, having the front end of the oven and the front end of the lower flue depressed, as set forth.

111,699.—COMBINED REMOVABLE COCK AND FIXED SOCKET.—Cornelious Sullivan, Boston, Mass.

Claim.—The combination of the permanent thimble A, the removable tube C^1 C^1, and the spring-valve D, with the extension K of the cock H, substantially as described, and for the purpose set forth.

111,700.—SAND OR EMERY-PAPER.—George Carpenter Taft, Worcester, Mass., assignor to himself and Augustus Ball Davis, Philadelphia, Pa.

Claim.—A new article of manufacture and commerce, consisting of sand or emery-paper, or emery-cloth, rendered adhesive at the back, as set forth.

111,701.—FILTER FOR CISTERNS.—Robert W. Thompson, Mansfield, Ohio.

Claim.—1. A cistern-filter, consisting of the vessel A, provided with the necks or tubes *a*, or equivalent means for attaching it to the water-conductor, and having the detachable sponge applied thereto, substantially as described.

2. The sponge-holder B, constructed as described, and arranged within the vessel A, as set forth.

3. The detachable conical screen D, in combination with the vessel A and sponge-filter, arranged to operate as herein described.

111,702, antedated February 1, 1871.—PAPER-CUTTING MACHINE.—William H. Topham, New York, N. Y.

Claim.—1. The combination of the rotary cutter with the sliding frame *p* and vertically-sliding shaft *w* which carries the chuck and former or pattern, as herein set forth.

2. The combination of the sliding frame *p* with the clutch *s*, the gear-wheel *r*, and flange *n*, as herein set forth.

111,703.—HUB FOR WHEELS.—James L. Van Wert, Tolland, Mass.

Claim.—1. The ring C, provided with strips *a a*, in combination with the nut F and wedge E, operating substantially in the manner and for the purpose set forth.

2. In combination with the first clause of claim, the two parts H K, recesses *b b*, &c., box B, and nut G, the parts all being constructed substantially as shown and described.

111,704.—MILLSTONE BAIL AND DRIVER.—Albert G. Waldo, Milwaukee, Wis.

Claim.—1. The millstone bail C and driver B, in combination with the adjustable rubber springs I, when constructed and arranged substantially as herein described, for the purpose of interposing the rubber springs to the right or left between the bail and its driver, as set forth.

2. In combination with a driver, B, provided with lugs E, a bail, C, having interior lugs F, with rubber springs H attached thereto, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

111,705.—FURNACE FOR BURNING PULVERIZED FUEL UNDER STEAM-BOILERS, EVAPORATORS, &c.—James D. Whelpley and Jacob J. Storer, Boston, Mass.

Claim.—1. The arched combustion-chamber, in combination with grate-bars, and separate blast to the combustion-chamber and under the grate-bars, substantially as and for the purposes described.

2. The arrangement of a series of arches or deflectors under a boiler or evaporator so as to break up and deflect the current of flame and gas, substantially as described.

3. The combination of the arches B B B and C and the concave hearth, as shown and described.

4. The arrangement of the ash or cinder receptacle with the combustion-flues, as described.

5. The combination of the solidly-arched combustion-chamber with the reverberating flues and the supporting and deflecting arches, substantially as described.

6. The device, shown in fig. 3, for supporting the boiler over the concave flue, for collecting the cinders, as described.

111,706, antedated January 28, 1871.—HAY AND COTTON-PRESS.—Jacob Lewis White, Hernando, Miss.

Claim.—1. The combination of the press-box A, sliding frame *k*, inclosing the press-box and sliding up and down outside the same, follower *h*, connecting-rods *i*, and toggles *a o r*, in the manner and for the purpose specified.

2. The combination of the bifurcated lever *r* with the lower double lever *a a*, provided with the cross-block *n* and tongue *o*, as and for the purpose set forth.

111,707.—ELECTRO-MAGNETIC ALARM-BELL.—Charles Williams, Jr., Somerville, and Jerome Redding, Charlestown, Mass.

Claim.—1. An electro-magnetic striking apparatus, provided with a revolving hammer driven by a weight or other motor, and an electro-magnet which controls the action of the pins, studs, stops, detents, or their equivalents, substantially as herein described.

2. In combination with the revolving hammer and electro-magnet, the pin A, which prevents the revolution of the hammer while the magnet remains charged and the circuit closed, substantially as herein described.

111,708.—WHEEL FOR WHEELBARROWS.—George Withington, Iona City, Cal.

Claim.—The screws *e* on the ends of the spokes B, provided with adjusting-nuts C, to true the tire of the wheel both centrally and laterally, substantially as described.

111,709.—MACHINE FOR CUTTING CORN-STALKS.—John Wood, Pella, Iowa.

Claim.—The improved stalk-cutter, consisting of the frame A *d h*, provided with the central box *a* to receive the shoes or drags *i*, and with hooks *l* for attaching the shoes beneath the cutting-cylinder, and the separate or independent cylinders or wheels *c*, which are provided with knives *e* secured to arms *f*, and arranged to rotate at the sides of the frame with a space between them, all as shown and described, and for the purpose set forth.

111,710, antedated January 28, 1871.—HARNESS-SNAP.—Alonzo B. Woodard, Alfred Centre, N. Y., and William Bruen, Newark, N. J.; said Bruen assigns his right to said Woodard.

Claim.—The recessed tongue A, cast with loop *d* and bearing *e*, and the part C, with hooks *h i*, for the purposes set forth, when said tongue and part C are fitted together, as shown, and held in contact by the inclosed spring B, all substantially as herein described, and forming an improved harness-snap.

111,711.—MEDICATED SMOKING-TOBACCO.—Wesley A. Wright, Lynchburg, Va.

Claim.—1. The process of treating medicated smoking-tobacco, substantially as and for the purpose herein set forth.

2. As a new article of manufacture, medicated smoking-tobacco, when treated substantially as and for the purpose herein set forth.

111,712.—TREATING SMOKING-TOBACCO.—Wesley A. Wright, Lynchburg, Va.

Claim.—1. The above-described process of treating smoking-tobacco, substantially as and for the purpose set forth.

2. As a new article of manufacture, smoking to-

bacco, when treated substantially as above described.

111,713.—DEVICE FOR SAVING GOLD AMALGAM AND QUICKSILVER.—Oliver H. Young and Daniel J. Vaughn, Wisconsin Hill, Cal.

Claim.—1. The plates D, provided with diamond-shaped pockets or reservoirs *a*, substantially as and for the purpose described.

2. The D-shaped pockets or reservoirs *a*, when constructed as above described, for the purpose above set forth.

REISSUES.

4,252.—CULTIVATOR. — Augustus Adams, Sandwich, Ill., assignee of William A. Dryden and Cyrus E. Dryden.—Patent No. 67,173, dated July 30, 1867.

Claim.—1. The frame of a wheeled cultivator, adjustable longitudinally upon its axle or other support, for the purpose specified.

2. In a wheeled cultivator, a driver-seat adapted to be thrown into position to form a riding cultivator, and to be turned up or moved out of the way of the driver when walking, for the purpose specified.

3. The adjustable seat-bar J, in combination with the pivoted side bars I, for the purpose specified.

4. The driver's seat of a cultivator, adapted for vertical adjustment, with relation to the frame, by the means substantially as described, for the purpose specified.

5. The combination of the cultivator-frame with the bifurcated tongue or extended braces, for the purpose specified.

4,253. — MANUFACTURE OF ENAMELED BRACELETS.—Abiel Codding, Jr., North Attleborough, Mass.—Patent No. 91,604, dated June 22, 1869.

Claim.—The improvement in the construction of bracelets, which resides in uniting the outer plate *d* and inner band or plate *a* by means of flanges *c c*, substantially as described.

4,254.—COOKING-STOVE.—Charles P. Geisenhainer, Pittsburg, Pa., assignor to Esek Bussey and Charles A. McLeod, Troy, N. Y.—Patent No. 32,764, dated July 9, 1861.

Claim.—1. The arrangement in cooking-stoves of an air-flue opening under the hearth, for introducing air in the rear of the fire-basket, in such relation to the flue, for the exit of the smoke and products of combustion, as is hereinbefore described; that is to say, placing the horizontal smoke-flue in the front part of the stove, and immediately under the air-flue, for the purpose of increasing the heat of the air as it enters the stove through the flue under the hearth, by extracting the waste heat from the smoke and products of combustion before they escape from the stove.

2. Constructing the door to the fire-chamber of cooking-stoves with a flange projecting from its lower edge, so situate in relation to the hinge as that, when the door is closed, a space shall be left between the projecting flange and the grate-bars, to catch and return to the fire any smoke or gas that would otherwise escape into the room, substantially as hereinbefore described.

3. A cooking-stove, with hot-water reservoir or boiler attached, and so constructed that the front plate of the reservoir is formed by or is identical with the outer wall or casing of the vertical flue or flues in the rear of the oven, so that there is but a single plate between the water in the reservoir, and the products of combustion in the said flue or flues.

4,255.—VENTILATOR. — Melville E. Mead, Darien Depot, Conn.—Patent No. 90,180, dated May 18, 1869.

Claim.—The automatic ventilator, consisting of the two oppositely-arranged series of pivoted slats, connected by one or more rods or bars, whereby they are adapted to operate substantially in the manner herein set forth, for the purpose specified.

4,256.—SHAFT-COUPLING.—Silas C. Schofield, Chicago, Ill.—Patent No. 63,182, dated March 26, 1867.

Claim.—1. Providing the coupling-forks or heads B with gudgeons or their equivalents D, substantially as and for the purposes specified.

2. Constructing the ring A with two chambers, *a*, provided with lateral openings *b*, substantially in the manner and for the purposes set forth and shown.

3. The combination of the forks or heads B, provided with the gudgeons D, or their equivalents, with the chambered ring A, arranged and operating substantially as specified and for the purpose described.

4. In its application to a coupling for tumbling-shafts, the chambered ring, when made independent of the shaft-heads and constructed to inclose the same for the purpose of safety, substantially in the manner shown and described.

4,257.—OVERSHOE.—Henry G. Tyer, Andover, Mass.—Patent No. 68,398, dated September 3, 1867; reissue No. 2,820, dated December 24, 1867.

Claim.—The improved water-proof boot or shoe hereinbefore described, made of vulcanized rubber and elastic and inelastic cloth, when constructed with an elastic part or parts of vulcanized-rubber compound, covered and lined with elastic or extensible fabric, substantially as hereinbefore described.

DESIGNS.

4,623.—HEATER FOR MILK, &c.—George Sumner Albee, Hopkinton, Mass.

Claim.—The design for a heater, as herein shown.

4,624.—CARPET-PATTERN.—John H. Bromley, Philadelphia, Pa., assignor to John Bromley & Sons, same place.

Claim.—The design for a carpet, as shown.

4,625.—LIQUOR-HOLDER.—James A. Dunworth and Frank Dunworth, New York, assignors to "Vidvard & Sheehan," Utica, N. Y.

Claim.—The design for holding liquor, as shown.

4,626.—TYPE.—Heinrich Flinsch, Frankfort, Prussia.

Claim.—The design of the type, as described and shown in the "Characters" of the accompanying printed sheets.

4,627.—TYPE. — Andrew Gilbert, Boston, Mass.

Claim.—The design of the said type, as described and shown.

4,628.—SHOW-CASE.—Winfield S. Grove, Philadelphia, Pa.

Claim.—The design for a show-case, substantially as described and as represented in and by the accompanying drawing.

4,629.—SHOW-CARD.—Charles S. Hall, Rochester, N. Y.

Claim.—The design for an advertising-card, substantially as set forth.

4,630.—MATCH-SAFE. — Albert D. Judd, New Haven, Conn.

Claim.—The design for match-safe, as herein described and shown.

4,631.—DOVETAIL. — J. Dwight Kellogg, Jr., Northampton, Mass.

Claim.—The design for dovetailing wood, as here shown.

4,632.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the ornamental figures A, as described and shown;

2. The design for the ornamental medallions B, as illustrated;

3. The design for the foliated space, bounded by the said figures and medallions; and

4. The design for the entire pattern, including figures A, medallion B, and said foliated space.

4,633.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the ornamental stripes *a*, arranged as shown and described.

2. The design for the tablets B, bounded by the stripes *a*.

3. The design for the tablet C, as illustrated and described.

4. The design for the tablet D, as shown and described.

5. The design for the whole pattern, substantially as described and represented in and by the accompanying drawing.

4,634.—CHAIR.—Anton Kimbel, New York, N. Y.

Claim.—The design for a chair, as described and shown.

4,635.—CHAIR.—Anton Kimbel, New York, N. Y.

Claim.—The design for a chair, as described and shown.

4,636.—CARPET-PATTERN. — Christian J. Koch, Philadelphia, Pa., assignor to John Bromley & Sons, same place.

Claim.—The design for a carpet, as shown.

4,637.—SIEVE.—Robert J. Mann, Dallas City, Ill.

Claim.—The design for a metallic-band sieve, as shown and described.

4,638.—DRAWER-PULL.—Julius E. Merriman, West Meriden, Conn., assignor to Foster, Merriam & Co., same place.

Claim.—The design for drawer-pull, herein described, consisting of the peculiar-shaped connection between the head and socket, as shown in the accompanying drawing.

4,639.—OIL-CLOTH PATTERN.—James Patterson, Elizabeth, N. J., assignor to Thomas Potter, Son & Co.

Claim.—The design for an oil-cloth, as shown.

4,640.—MOLD FOR LAGER-BEER GLASSES.—John P. Pears, Pittsburg, Pa.

Claim.—In the glass mold cavity *a*, the groove *b* and convexes *c c'*, substantially as described and shown.

4,641.—MOLD FOR LAGER-BEER GLASSES.—John P. Pears, Pittsburg, Pa.

Claim.—In the glass-mold cavity *a*, the beads *b* and convexes *c*, substantially as described and shown.

4,642.—LEAD-PENCIL.—Joseph Reckendorfer and Teile H. Müller, New York, N. Y., assignors to Joseph Reckendorfer.

Claim.—The design for lead-pencils, as herein shown and described.

4,643.—BRACELET.—Theron I. Smith, North Attleborough, Mass.

Claim.—The design for a bracelet herein described and shown in the drawings.

4,644.—BRACELET.—Theron I. Smith, North Attleborough, Mass.

Claim.—The design for a bracelet, herein described and shown in the drawing.

4,645.—STOVE-PLATE.—Nicholas S. Vedder and Francis Ritchie, Troy, N. Y., assignors to Hicks & Wolfe, same place.

Claim.—1. The design for the open-work urn A, as shown.

2. The design and ornamentation of the top plate B, as shown herein.

3. The design for the cylinder-plate C, as shown by photograph.

4. The form and ornamentation of the cornice D and plate E, as herein shown and described.

5. The design for the door or window F, as shown.

6. The form and design of the curved plate G and cornice I, as described and shown by accompanying photograph.

7. The design for circular plate H, substantially as represented.

8. The design of the door J and base-plate K, as herein shown.

9. The form and design of the hearth-plate L, as shown.

10. The design and ornamentation of the leg M, as shown by accompanying drawings.

TRADE-MARKS.

148.—COMPOSITION-OIL.—Butler & Haynes, Bangor, Me.

149.—SHOES, BROGANS, AND BOOTS.—Edward Francis Jones, Farmington, N. H.

150.—SUGAR, SIRUP, AND MOLASSES.—William Moller & Sons, New York, N. Y.

151.—MACHINERY OIL.—Charles L. Morehouse, Cleveland, Ohio.

152.—ILLUMINATING-OIL.—Charles L. Morehouse, Cleveland, Ohio.

153.—LUBRICATING-OIL.—Charles L. Morehouse, Cleveland, Ohio.

154.—FACTORY OIL.—Charles L. Morehouse Cleveland, Ohio.

EXTENSIONS.

D. H. WHITTEMORE, of Worcester, Mass.—Letters Patent No. 16,417, dated January 13, 1857.

"Improvement in Machines for Paring and Slicing Apples."

Claim.—1. So arranging the slicing-knife that it shall cut the apple into a continuous spiral slice, as set forth.

2. So combining the parer and slicer with each that the operation of the two shall be simultaneous, as set forth.

THADDEUS FAIRBANKS, of St. Johnsbury, Vt. Letters Patent No. 16,381, dated January 13, 1857; reissue No. 445, dated March 31, 1857.

"Improvement in Platform Scales."

Claim.—1. My improved arrangement and combi-

nation of four bearing multiplying levers C C C C, a multiplying lever K and a lever, F, made as described, so as to act at the same time as an equalizing and a multiplying lever, the whole being applied to a steelyard weighing lever, by means substantially as set forth.

2. Arranging the suspension-bridge so that its arched standards shall extend upward by the sides of the platform, and between it and the sides of the pit, in manner as stated, in combination with arranging the transverse levers C C, and their bearings below the platform, the same affording the necessary room for the vertical play of the longitudinal levers, while it secures an advantage as regards the depth of the pit, as stated.

("An act for the relief of Francis M. Strong and Thomas Ross.")

FRANCIS M. STRONG and THOMAS ROSS, of Vergennes, Vt. — Letters Patent No. 14,119, dated January 15, 1856.

"Improvement in Platform Scales."

Claim.—1. The use of corresponding concavities and balls, in combination with the proximate faces of the intermediate bearing pieces h and the shoe g, substantially as described and for the purposes specified.

2. The adjustable bearings i, in combination with the pivots e, substantially as described, and for the purpose specified.

3. The combination of the projections on the bearings i with the the notches in the pivots e, constructed as described for the purposes specified.

ALBERT F. JOHNSON, Parkville, N. Y.—Letters Patent No. 16,387, dated January 13, 1857.

"Improvement in Sewing Machines."

Claim.—Combining the hook, when furnished with a lever or arm, as described, with the eccentric-headed screw q and the adjustable projection or screw r, for the double purpose of taking, first, the loop properly from the needle, and, secondly, for actuating the hook at the proper time for the needle to take the loop from the hook.

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PATENTS.

111,714.—SEAT FOR VEHICLES.—Daniel R. Allen, Cumberland, Me.

Claim.—1. The connections or supports D when used to uphold the seat E by such means as to permit of its oscillating motion and still keep the said seat horisontal or nearly so, as herein described.

2. The seat E, when suspended by connections D arranged underneath said seat, and with or without the springs or bars B C, as herein set forth.

3. The springs F, when applied, as herein set forth, either to the top or bottom of the supports D.

111,715. — COMPASS-JOINT.—Theodore Alteneder, Philadelphia, Pa.

Claim.—The halves a and b of a compass-joint, provided with recess c and washer d, and the combination and arrangement thereof, substantially as and for the purpose shown and described.

111,716.—LEATHER TO RESEMBLE CLOTH.—Moritz Altmann, Baltimore, Md.

Claim.—1. The process substantially herein described of producing a new kind of leather with a surface similar to cloth.

2. As a new article of manufacture, the leather herein described, with a cloth surface, for the purpose set forth.

111,717. — RECEPTACLE FOR STATIONERY ARTICLES, &c.—William F. Baade, Buffalo, N. Y.

Claim.—The arrangement of the case A^1, flexible slate and cover M^1, with the box or case B, provided with the legs or supports L^1, all constructed and arranged substantially as and for the purposes herein set forth.

111,718.—VENTILATOR.—George R. Barker, Philadelphia, Pa.

Claim.—In combination with the same chimney-shaft or main flue A, a warmed flue, having its mouth e' at or near the floor, for drawing off the vitiated air, a hot-air supplying flue, having its discharge-openings e'' above the mouth e' of the said vitiated air-flue, and the partition e', the said parts being arranged to operate together, substantially as and for the purpose hereinbefore set forth and described.

111,719.—LEATHER-PUNCHING AND FEEDING MACHINE.—William Barry, Carthage, N. Y.

Claim. — The intermittently-rotating rolls A B, allowing the edge of the leather to be sewed to project beyond one end thereof, combined with an awl, N, arranged to move across said end and perforate said edge at intervals, all in the manner described.

111,720, antedated February 2, 1871.—WATER CUT-OFF.—Rufus M. Bixby, Iowa City, Iowa.

Claim.—In connection with the pipes A B C, arranged as shown, the oblong vessel D divided into two compartments, one above each exit-pipe, in combination with the deflecting vessel F pivoted at p and provided with the opening m, and floor n or o, all said parts being constructed as and for the purposes set forth.

111,721. — STEAM-RADIATOR.—George W. Blake, New York, N. Y.

Claim.—A steam-radiator, constructed substantially as described, of steam-chambers A A, division-plates B, arranged to form return-passages therein, inlets and outlets e f, and zigzag projections C C on the outsides of the chambers, and made to break joints as regards contiguous chambers, the whole being arranged for circulation of the steam and air, as specified.

111,722.—REFRIGERATING OYSTER-CAN.—Alfred Booth, Chicago, Ill.

Claim.—1. The combination, in a sheet-metal refrigerating-can for oysters in bulk, of the flanged ends a a and the wooden covers or guards D, or their equivalents, substantially as described.

2. The combination of the case or covering E with the can, substantially as and for the purpose described.

111,723. — CURTAIN-FIXTURE.—Charles M. Brown and Cecil L. Gates, Hartford, Conn.

Claim.—The combination of the roller a, brackets a b, constructed as described, rim-flanges f h, gears g g', cord and tassel h m, substantially as and for the purpose set forth.

111,724.—COMPOSITION FOR PAVEMENTS.—Closson P. Burgess and James R. Stevenson, Rochester, N. Y.

Claim.—The composition for pavements, consisting of the ingredients in the proportions specified, classified, prepared, and used in the manner and for the purposes described.

111,725.—STUMP-EXTRACTOR.—Elisha W. Cady, Tomah, Wis.

Claim.—The grappling-hooks C C, in combination with the pulley E, and the shaft d, and the ratchet-wheel and lever f, and the hook A, the parts being connected with chains, substantially as above set forth, for the uses and purposes above specified.

111,726.—SEED-SOWER.—George A. Carman, Deer Park, N. Y.

Claim.—The metal plate a, hopper B, wheel C, with its openings d d and set-screws, arranged and operating in connection with the pipe E, formed with the semi-cylindrical portion F, which surrounds the periphery of the wheel C in one piece, as and for the purpose set forth.

111,727, antedated February 2, 1871.—DRAIN-TILE.—Aaron W. Conley, Economy, Ind.

Claim.—The tubes A and B, provided respectively with grooves a and b, in combination with the arch C, substantially as and for the purpose set forth.

111,728.—SASH-BALANCE.—James M. Connel, Newark, Ohio.

Claim.—The combination, with the sashes B C, of cords H, pulleys E F G, and pins or hooks J and I, arranged as herein described, for the purpose of operating either or both the sashes, as desired, or locking the same, substantially as explained.

111,729. — STATIONARY BELL-HOLDER.—Sylvester Croll, Philadelphia, Pa., assignor to Samuel J. Philips, same place.

Claim.—The bell A and socketed frame B, constructed substantially as described, to form a bell-mounting for harness, as set forth.

111,730.—APPARATUS FOR LEACHING BARK, &c.—Hilen C. Crowell, Morgan, Ohio.

Claim.—The steam-pipe D, laterally-perforated base-tube E, tube F having the revolving top J, and the false slotted bottom B, all constructed and arranged as shown and described, for the purpose specified.

111,731. — ORNAMENTING MIRRORS.—William M. Davis, Mount Sinai, assignor to himself and S. S. Norton, Brooklyn, N. Y.

Claim.—The method herein described of ornamenting and figuring looking-glasses, that is to say, removing portions of the silvering by a revolving scraper guided by templates or patterns, substantially as and for the purposes herein set forth.

111,732, antedated February 4, 1871.—NIGHT-LATCH.—Charles C. Dickerman, Boston, Mass.

Claim.—1. The combination of the bolt C, sliding plate D, bearing E, and guide-pin d, when constructed to operate substantially as and for the purpose set forth.

2. The combination of the bolt C, sliding-plate D, bearing E, guide-pin d, and spiral spring g when constructed to operate substantially as and for the purpose described.

3. In a latch or lock, the combination of the shell A, face-plate B, bolt C, sliding-plate D, guide-pin e, springs G and g, tumbler or lever O, with notches o and o', trunnion J, key-hole W, and key S, as and for the purpose described.

111,733. — WEIGHING-SCALES. — Franklin Fairbanks and Harvlin Paddock, St. Johnsbury, Vt.

Claim.—1. The adjustable leverage of the force F on the segment E, or its equivalent, in combination with a weighing-scale, as and for the purposes specified.

2. The within-described friction-pawls W^2, wheel W^3, and hollow cylinder X^2, or its equivalent, in combination with a weighing-scale and with registering mechanism, as specified.

111,734.—TREATING BLOOD FOR THE MANUFACTURE OF FERTILIZERS. — Levi S. Fales, New York, N. Y., assignor to the American Fertilizing Company, same place.

Claim.—The process of treating blood with soda or potash, lime, acids, heat, and agitation, substantially as and for the purpose herein specified.

111,735.—HAY-LOADER.—John E. Fell and John H. Mattocks, Maquoketa, Iowa.

Claim.—The curved bar Z, arm W, lever W', and rod X, combined and relatively arranged as and for the purpose described.

111,736. — DRILL-REST FOR TURNING-LATHES. — Henry H. Folsom, Lowell, Mass., assignor to Charles A. Chase, same place.

Claim.—The combination of a drill-holder, A, containing two or more holes, with the drill-rest B, substantially as described.

111,737.—PURIFIER, CONDENSER, &c., FOR GAS WORKS.—Andrew Fulton, Albany, N. Y.

Claim.—1. In the construction of covers for gas-purifying boxes, center-seals, condensers, and the like, sheet-lead rims, as described, for the purpose set forth.

2. In the construction of the above-mentioned articles, rubber, as described, for the purpose set forth.

3. The combination of lead and rubber in the construction of covers of purifying-boxes, center-seals, condensers, and the like, used in the manufacture of gas, substantially as and for the purpose set forth.

111,738.—PRUNING-SHEARS.—Erasmus D. Gaines and John A. Mechillen, Chicago, Ill.

Claim.—The pruning-shears, consisting of the curved blade A and handle B, the curved blade C formed upon the pivoted plate D, the pivoted handle F, angular lever H, and pivoted connecting-rods G I, all constructed, arranged, and operating substantially as herein shown and described.

111,739, antedated February 2, 1871.—COTTON-PRESS.—John B. Gridley, Louisville, Ky., assignor of one-third his right to Robert Patterson and Chauncy Rice.

Claim.—1. The chain b, when held by the side of and beneath the clutch-wheel d by means of the spoon h and lever k, substantially in the manner and for the purpose specified.

2. The finger l, in combination with the grooved clutch-wheel d, substantially as and for the purpose described.

3. The follower-bar s, guides o rigidly attached to the press at their lower ends and loose at their upper ends, and convex rubbers r, all arranged as explained.

4. The arrangement of the windlass s, cords t, sheaves u u, and follower-bar s, substantially as specified, and to the end that the follower may be drawn over the press-box by a continuation of the same motion that elevated it.

111,740.—INTERFERING-PAD FOR HORSES.—William H. Hall, Boston, assignor to himself and Joseph W. Haskins, Charlestown, Mass.

Claim. — The within-described interfering-pad, consisting of an elastic tube or cushion, A, secured in place by a wire, b, which passes through it longitudinally and extends around the inner edge

of the shoe and upon the outside of the heel, where it is fastened, substantially as set forth.

111,741.—Artificial Leg.—James Edward Hanger, Staunton, Va.

Claim.—1. The pivot C, in rear of the center rubber cushion D, pad E, and leg B, combined as described, with thigh A having solid knee protruding within the leg-piece, all for the purpose of forming an improved knee-joint.

2. The curved wooden piece G applied to an artificial leg, in combination with the spring on back part of the leg, the lifting spring, the deflecting-bar, and the mechanism of the foot, as specified.

3. The combination, with the foot, the leg, thigh, and the bent wood-piece G, of the spring K, cord L, and deflecting-bar M, substantially as specified.

111,742.—Air-Pump.—Charles B. Hardick, Brooklyn, N. Y.

Claim.—1. The valve box-lid or cover D, formed with the valve-seats *d d* in it, and with a suitably-arranged passage, A, through it, in combination with a series of valves *f f*, carried by said lid or cover, and for operation in relation to the seats *d d* substantially as specified.

2. The combination, with a valve box-lid or cover, D, its valve-seats *d d*, and valves *f f*, of a general valve-guiding and spring-holding bar E, secured to said lid or cover, so as to be readily detachable for separate removal of the valves or inspection and repair of them and their seats after the same have been collectively detached from the cylinder of the pump, essentially as described.

111,743.—Extracting Turpentine from Trees.—Benjamin I. Hazard, Georgetown, S. C.

Claim.—The method of collecting turpentine by means of V-shaped grooves, *a*, cut in the side of a tree, and channels, *b*, cut in the grooves, as and for the purpose specified.

111,744.—Bark-Mill.—John Helenbrook, Olean, N. Y.

Claim.—In the bark-mill herein described, the arrangement of the sweep K, with one of its arms elevated and provided with projections *k k* and prongs *c c c*, in combination with the frame-bars B B provided with prongs *b b*, when all the parts are constructed and arranged as shown and described, for the purposes set forth.

111,745.—Animal-Trap.—Asahel A. Hotchkiss, Sharon, Conn.

Claim.—The trap, constructed substantially as described, with its base B and upright A hinged to fold, as and for the purpose herein set forth.

111,746.—Adjustable Bevel.—Leonard D. Howard, St. Johnsbury, Vt.

Claim.—1. The inclined flanges *t* of the section *a'*, in combination with the inclined screw-head *d* of the section *a*, as described.

2. The section *a*, provided with the dovetail block *g* and screw *f*, in combination with the section *a'*, provided with a groove at its butt corresponding to the dovetail block, and with the lug *h*, as set forth.

111,747.—Clothes-Drier.—Leonard D. Howard, St. Johnsbury, Vt.

Claim.—The arrangement of the rod *a*, rings *e* fitting one within the other, socket *d*, arms *s*, and hooks *t*, all constructed and operating as specified.

111,748.—Pump.—John Humphrey, Keene, N. H., assignor to James Wilson, Bridgeport, Conn.

Claim.—In a brake mechanism for operating the piston-stem or discharge-pipe of a pump, the combination of a collar, F, provided with the hook or loop *f*, with the pin or bar *e* connected to the horizontal arm A of the operating-lever A B, substantially as and for the purposes herein specified.

111,749.—Lithographic Press.—Thomas Hunter, Philadelphia, Pa.

Claim.—The reciprocating damping-fountain D, operating as described.

111,750.—Washing-Machine.—William G. Jones, Marshall, Texas.

Claim.—1. The roller-apron F *f*, in combination with the cylinder D, substantially as herein shown and described, and for the purpose set forth.

2. The single rollers G, in combination with the cylinder D and apron F, substantially as herein shown and described, and for the purpose set forth.

3. The arms H, interior rods I, and exterior rods J, in combination with the cylinder D, substantially as herein shown and described, and for the purpose set forth.

111,751, antedated January 30, 1871.—Rubber Roller for Paper-Machines. Richard A. Kelty, Lambertville, N. J.

Claim.—The roller, herein described, consisting of the transversely-corrugated or roughened metallic core A, the rubber cylinder B, and the ribbed lining or continuous cord-coil *c*, substantially as specified.

111,752.—Sewing-Machine.—Eben A. Kimball, Abington, Mass.

Claim.—1. The thread-guide *c'*, constructed and operated substantially in the manner and for the purpose described.

2. The slotted cast-off *h*, adjustable on its bar M by means of the screw *i*, as and for the purpose set forth.

3. The within-described mechanism or its equivalent, for regulating the stroke of the needle in such manner as to insure the cast-off being always carried up into contact with the material without regard to the length of the loop, as set forth.

4. The spring N, provided with one or more friction-rolls, *q*, in combination with the cast-off bar M, operating substantially in the manner and for the purpose described.

5. The adjustable throat-plate O, constructed and applied to its supports, substantially as set forth.

111,753.—Base-Burning Fire-Place Heater.—Philip Klotz, Baltimore, Md., assignor to Bentley C. Bibb, same place.

Claim.—1. In connection with a base-burning magazine G G', the sides and top of which are air-tight when the feed-door is closed, an air-register, *v*, arranged to open directly into the magazine above the coal contained therein, substantially as and for the purposes specified.

2. The combination of the air-register *v* with the door *a* having the flange *a'*, the magazine G G', and the space around the upper end of the extension G', substantially as described, and for the purposes set forth.

111,754.—Combination-Tool.—Josiah B. Lamkin, Champaign, Ill.

Claim.—An implement constructed as herein shown and described.

111,755.—Wagon-Hound Coupling-Box and Plate.—William J. Lewis, Pittsburg, Pa.

Claim.—A coupling-box and plate, made from rolled-plate or sheet-iron having sides *a'* and ears *a''*, substantially as described.

111,756.—Rubber-Block Holder for Wagon-Brakes.—William J. Lewis, Pittsburg, Pa.

Claim.—A rubber-block holder for wagon-brakes, made of rolled plate-iron, having sides *a'* and flange *c*, substantially as described.

111,757.—Post-Hole Digger.—Aaron E. Lindsley, Paw Paw, Mich.

Claim.—The post-hole digger, herein described, consisting of a handle, A, cutting-tube B, and conical compressor C, vertically adjustable, by means of a rod, *b*, passing through guides, for the purpose of condensing and retaining the earth or sand within the tube B, substantially as specified.

111,758.—Butter-Tub, &c.—William Marsh, Waterford, Penn.

Claim.—The combination of the hook *c*, tub B, and cover A, constructed as shown and described.

111,759.—Bakers' Oven.—Alexander Martin, Allegheny, Pa.

Claim.—The arrangement of the fire-chambers *b*, grates *m*, openings 3, heat-chambers *c c*, K, and F, spaces 2, openings *n n'* in walls A' and oven-bottoms O *m'*, combined with the dampers and flue or chimney R, constructed, arranged, and operating with relation to each other, substantially as herein described, and for the purpose set forth.

111,760.—Millstone-Feeder and Grain-Scourer.—Pleasant H. Massey, South Bend, Ind.

Claim.—1. The corrugated cylinder A, when made of glass, in combination with the scourers B and shaft E, substantially as and for the purpose set forth.

2. The combination of the scourers B, shaft E, washers *a*, and nut *b*, substantially as specified.

3. The segmental scourers B, constructed and arranged upon the shaft E, substantially as and for the purpose set forth.

111,761.—Steam Land-Carriage.—Jerome B. McKinley, Spencer county, Ky.

Claim.—1. The sliding steam-cylinders A A, and stands B B in which they work; also the connections C C between the lower end of the cylinders and journal-boxes, in combination with the cross-heads D D, the eccentrics K, cranks E, gum springs F, wheel G, and platform L; also the pipes I, I, and M, the boiler N, and chimney O; also the force-pump Y with its pipe Z Z, the shaft U, and eccentrics T, by which the pump is operated, when arranged, constructed, and operated substantially as and for the purpose hereinbefore set forth.

2. The combination of the steering-post with its cranks B', and links A' A' which connect it with the platform L, when arranged, constructed, and operated substantially as and for the purpose hereinbefore set forth.

3. The combination of the wheel S, the gum spring X, the brakes R, with their foot-lever Q, and body V, with its seat and water-box W, when arranged, constructed, and operated substantially as and for the purpose hereinbefore set forth.

111,762.—Combined Key-Ring and Door-Fastener.—Bryant H. Melendy, Manchester, N. H.

Claim.—1. The hook D, held in place by a spring-arm, and having shoulders d^2 on the inner part thereof, combined as described, with the pieces A, having recesses and shoulders d^3 thereon, for the purpose specified.

2. The compensator G, constructed with a hole in its rear end and with lips or flanges g^1 g^2 upon its ends, in combination with hook D, pieces A, spring E, and spring-arm F, substantially as herein shown and described, and for the purposes set forth.

111,763, antedated February 13, 1871.—Pump-Valve.—Charles L. Merrill, Watertown, N. Y.

Claim.—A valve provided with downwardly-projecting curved arms arranged around its outer surface, leaving a water-way or passage between their rear ends and the valve-stem, substantially as set forth and described.

111,764.—Plow-Beam.—Samuel Holden Miller, Hamilton, Ill.

Claim.—1. The combination and arrangement of plow-beams B and C, the parts D and E, F and G, all constructed and operating as set forth.

2. The combination and arrangement of the front end of beam C, draft-roll I, bolt K, and double-tree L, all constructed and operating as set forth.

111,765.—Machine for Making Candy.—Thomas Mills and George M. Mills, Philadelphia, Pa. [illegible] land, O.

Claim.—1. The combination, with the rolls A A' and frame D, of the swing-frame E and adjusting-screw G, substantially as and for the purpose hereinbefore set forth.

2. In combination with the rolls A A' and side guides *c c*, the basis of frame D and pockets K K, when relatively arranged, as and for the purpose set forth.

111,766.—Riddle and Thrashing-Machine.—Daniel Murphy, Dubuque, Iowa, assignor to himself and Timothy C. Murphy, same place.

Claim.—1. The combination of the rods G L, shoe B, crank J, and lever E, when said parts are arranged for operation in the manner and for the purpose shown and described.

2. The laterally-sliding fingers *e e*, jointed rod C C', shaft D, lever E, rods G L, crank J, and riddle-shoe B, all constructed and arranged for operation substantially as described.

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111,767.—Car-Coupling.—James W. Musser and Ralph Carkhuff, Lewisburg, Pa.

Claim.—1. The longitudinally-movable and vertically-arranged supporting-bar C and segment-lever D, in combination with the supporting-bars C' and inclined slots *a*, substantially as described.

2. The laterally-yielding jaws *i* and their yielding surfaces *h* or *h'*, in combination with the longitudinally-movable coupling-pin support C, notched, substantially as described.

3. The coupling-pin D of the H-form, in combination with the guides *g g* or coupling-box herein described.

111,768.—Step and Tram-Box for Mill-Spindles.—William Giles Morment, Dyersburg, Tenn.

Claim.—The bridge-tree A, tight box B, and inwardly-concave sections E, combined as described, with screws F and jam-nuts G, to admit of both tramming and adjusting the spindle itself, as described.

111,769.—Hand-Washing Rubber.—Elwood R. Norny, McDonough, Del.

Claim.—The combination of one or more rollers with a water-trough or scoop, the journals of the roller or rollers turning in the ends of the scoop, as and for the purpose set forth and shown.

111,770.—Blind-Slat Regulator.—John T. O'Donoghue and Alexander Leavitt, New York, N. Y.

Claim.—The side-recessed stile B, combined with a slat, C, and spring-held toothed wheel D, both pivoted in the center of said recess, as and for the purpose specified.

111,771.—Animal-Trap.—Ebenezer Oliver, New York, N. Y.

Claim.—1. The door C of a rectangular wire-trap A, arranged to swing inward, and provided with a spring, D, spring catch E, and stops F, substantially as herein shown and described and for the purpose set forth.

2. The setting and tripping devices, consisting of the pivoted lever G and pivoted bait-hook H *h'*, in combination with the body or box A and spring door C D, substantially as herein shown and described, and for the purposes set forth.

3. As an improvement in the double doors of

animal-traps, the connected doors I J hung from the same pivoting points, as and for the purpose specified.

111,772.—ROLLED-BAR FOR NUT-BLANKS.—Henry W. Oliver, Jr., Pittsburg, Pa.

Claim.—The rolled nut-blank bar, made substantially as described, as a new article of manufacture.

111,773.—STAMP-CANCELER.—Amos D. Owen, Thorntown, Ind.

Claim.—1. The dies B J, secured at opposite ends of the curved arm A, the latter being pivoted at a by means of the radial arms C C, when constructed, arranged, and operating substantially as and for the purposes set forth.

2. The shield H, in combination with the tube F and the die B, when all are constructed and arranged substantially as described and shown, for the purposes set forth.

111,774.—CORN-PLANTER.—John Morse Parsons, Charles City, Iowa.

Claim.—1. The combination of the arms C, axle-tree B, gudgeons D, thimbles or sleeves F, and wheels A with each other, for the purpose of supporting and operating the planting device, substantially as herein shown and described.

2. The seed-drums E, seed-droppers Q, weights R, short tubes S, and strikers T, in combination with each other and with the arms C and conductor-spouts U, for the purpose of receiving the seed and transmitting it to the said conductor-spouts in quantities to form the hills, substantially as herein shown and described.

3. The conductor-spouts U u^1 u^2, constructed substantially as herein shown and described, in combination with the seed-distributer E Q R S T, as set forth.

4. The dischargers J, clappers or plates K, spring L, plungers M, sliding rods N, sliding weights O, in combination with each other and with the conductor-spouts U, stamps I, arms C, and gudgeons D, substantially as herein shown and described, for the purpose of receiving the seed from the conductor-spouts U and introducing it into the ground, as set forth.

5. The combination of the arm H and curved stop and guide P with the thimbles or sleeves F and sliding weights O, for the purpose of holding the said weights, and dropping them at the proper time, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the smoothers B' C' D' E' with the frame-work and operating parts of the planter, substantially as herein shown and described, and for the purpose set forth.

7. The spacing device, consisting of the gear-wheel I', gear-wheel J, tilting-shaft K, rock-bar L', arms N', springs O', inclined projection P', quadrant Q', spring S', lever V', connecting-rods W', slides X', rollers Y', and catches Z', in combination with each other and with the wheels A, arms C, and operating parts of the planter, substantially as herein shown and described, and for the purpose set forth.

8. The combination of the incline T' and wire ring U' with the quadrant Q' and tilting-shaft K' of the spacing device, substantially as herein shown and described, and for the purpose set forth.

111,775.—SUPPORTING-CORES.—Enos B. Phillips, Cambridge, Mass.

Claim.—Flat-headed chaplets inserted in patterns previous to molding, for the purpose described and herein set forth.

111,776.—ADJUSTABLE ATTACHMENT OF CAMS FOR FLIERS OF PRINTING-PRESSES.—Charles Potter, Jr., Plainfield, N. J.

Claim.—The within-described improvement in the fly mechanism in printing-presses, consisting of the terminal piece A' and the locking means a, arranged to serve relatively to the shaft A, the axially-adjusting means C, and fly-cam B, substantially as and for the purposes herein set forth.

111,777.—CLOTHES AND HAT-HOOK.—Reuben W. Randall, Biddeford, Me.

Claim.—The combination and arrangement of the hooks a and b, pivot f, spring clamp e, and spring c, as herein described, and for the purposes set forth.

111,778.—COFFEE-MILL.—François Raymond, Woodhaven, N. Y., assignor to the Lalance and Grosjean Manufacturing Company, of New York City.

Claim.—The ring A having the notched studs P, and the stationary grinder having the inclined flanges I, combined with the box top and each other, all substantially as specified.

111,779.—MACHINE FOR CLEANING AND SCOURING WHEAT.—Ephraim Russell, Minneapolis, Min.

Claim.—The series of spiders A A, having teeth a a a arranged alternately upon shaft E, in combination with the perforated metallic case C, constructed and arranged to operate in the manner shown.

111,780.—GATE.—Cyrus W. Saladee, St. Catharines, Canada.

Claim.—1. The adjustable brace-block g, constructed and operating in the manner and for the purposes set forth.

2. The combination of the posts p and b, the hook r, and studs d d', constructed as described, and operating as and for the purposes set forth.

111,781.—CULTIVATOR.—Marshall Sattley, Taylorville, Ill.

Claim.—The axles B B, each extending out about one-third the distance between the hubs of the wheels, combined as described, with a right-angled bar, C C, and obtuse-angled bar, D D, the former fastened to said axles at the outer part and the latter at the inner part, near the hub, all as and for the purpose set forth.

111,782.—SEWING-MACHINE SEAT.—Sarah A. Sexton, New York, N. Y.

Claim.—The hinged seat C, screw D, pedestal E, bar F, collared rod J L, and tube G, combined with a sewing-machine, as and for the purpose described.

111,783.—WEAVING TUBULAR FABRICS.—Guilford Smith, South Windham, Conn.

Claim.—The extending twines or cords a a, applied and controlled substantially as herein described, and passing through the tubular fabric in the weaving operation without being incorporated therein.

111,784.—APPARATUS FOR INJECTING PRESERVATIVE LIQUIDS INTO WOOD.—William H. Smyth, Steubenville, Ohio.

Claim.—The combination of a liquid-holder and air or gas-condensing chamber, an air-pump, and an attaching-cup, adapted for attachment to a tank or the end of a piece of timber, for charging the timber by the action of compressed air or gas on the said liquid, substantially as specified.

111,785.—BEDSTEAD.—George Snowden, Hudson, N. J.

Claim.—The side-rails A having the headed pins a b thereon, the end-pieces B having the slots c d therein, and the end-threaded rods E, all combined and described, for the purpose specified.

111,786.—PRAIRIE-PLOW JOINTER.—Andrew J. Spicer, Galesburg, Mich.

Claim.—The semicircular colter for cutting loose a ribband of turf from the landside of the furrow, being turned in the manner and for the purpose set forth and described.

111,787.—EXCAVATOR.—Thomas Symonds, Portland, Me., assignor to John B. Curtis, same place.

Claim.—The combination of the buckets F F, of the arms A A and B B, applied as described, the handle Q, the shaft H, and the ropes, arranged as set forth.

111,788.—MACHINE FOR CUTTING CHEESE, BUTTER, &c.—James H. Thomas, Lynn, Mass., assignor of one-half his right to Benjamin F. Larrabee, same place.

Claim.—The arrangement of the knife-bar e and knife f, the spring f and its supporting-bracket c, and the treadle k, in combination with the table A, as and for the purposes herein shown and set forth.

111,789.—REMOVING SLAG FROM FURNACES.—John Thomas, Hokendauqua, Pa.

Claim.—The improved mode of removing slag or liquid cinder by discharging it while in a liquid state into a strong current of running water, whereby it is disintegrated and flows away with the water, all substantially as specified.

111,790, antedated February 11, 1871.—COMBINED FENDER AND GAUGE-WHEEL.—Alexander B. Thornton, New Berlin, Ill.

Claim.—The arrangement, with reference to the beams A and plows C, of the fenders H, slotted standards J, and adjustable brace-bars K, all constructed as and for the purpose specified.

111,791.—APPARATUS FOR THE TREATMENT OF ALCOHOLIC AND OTHER SPIRITS.—Reuben D. Turner, New York, N. Y.

Claim.—1. The combination of the air-blast, vents, or nozzles e, the burners h, the ozone-tubes f, exposed to the cooling action of water on their exterior, with the tank A and its rose or sprinkler D, and distributing plates or devices for spreading or dividing the liquid in its descent within the tank under exposure to the ozone or ozonized air, substantially as specified.

2. The combination, with the elements recited in the preceding claim, of the suction-fan or device L, essentially as specified.

3. In combination with the ozone-distributing devices or tubes f, the tank A, provided with a charred lining or interior surface b, substantially as described.

111,792.—METHOD OF ATTACHING HANDLES TO SAWS.—Samuel W. Valentine, Bristol, Conn., assignor to Porter Saw Company, same place.

Claim.—The combination of the saw-plate D, flanges B B, T-bolt C provided with the pins b b, as described, and the nut c, the whole combined and operating together substantially as and for the purpose described.

111,793.—DOUBLE-SHOVEL PLOW.—Robert Paten Van Horne, Gratiot, Ohio.

Claim.—In combination with the main beam A, branch beam B, plows H H, hook D, handles I I, adjustable braces L L, stretchers K N, and clamping bolts E F, arranged relatively one to the other, the removable plow-beam P provided with the shovel O, constructed as described, for the purpose specified.

111,794, antedated February 1, 1871.—SMUT AND WHEAT-SEPARATING MACHINE.—William H. Wash, Howardsville, Va.

Claim.—1. The arrangement of the main shafts B B, in combination with the counter-shaft J and their respective pulleys and bands, for operation substantially as set forth.

2. The arrangement of the blast and exhaust-fans Q and Q' and their respective air-passages with relation to the beater P and separator X, in such manner that the blast from the fan Q is taken up and discharged by that Q', as shown and described.

3. The arrangement of the weighted valve l at the grain-exit of the cylinder N, to prevent the escape of grain except under a pressure of air sufficient to open said valve, as specified.

4. The combination of the convex or curved chute k beneath the hopper, whereby the grain from the tubes f is delivered to the air-blast in a thin broad sheet, as described.

111,795.—ASH-SIFTER.—William Weaver, Greenwich, N. Y.

Claim.—An improved sifter, consisting of the box A, hopper B provided with a door or cover, C, sieve D, long handle F, bars or ways E, ash-chamber G, chute or cinder chamber H, sliding door or gate I, and door J, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

111,796.—MACHINE FOR BUNDLING WOOD.—William L. Williams, New York, N. Y.

Claim.—The treadle k and roller l, acting against the cam surface 2 of the lever g, in combination with the band m and supports c, the parts being constructed and arranged substantially as and for the purposes set forth.

111,797.—PAPER-TRIMMING MACHINE.—William P. Yeoman, Waukegan, Ill.

Claim.—The feed-table H, combined with the spring guide N' N, which serves the purpose of holding the different lengths of paper rolls and of guiding the paper to the knives, as described.

111,798.—CHEWING-GUM.—Thomas Adams, Hudson City, N. J., assignor to John D. Adams, same place.

Claim.—The chewing-gum prepared from the material and in the manner specified, as a new article of manufacture.

111,799.—SULKY ATTACHMENT FOR BREAKING-PLOWS.—Asa H. Allison, Charlottesville, Ind.

Claim.—The beam J, in combination with the rear lifting device F, d, h, and f, clevis I, rack H, clamp b, and lever D, as and for the purpose set forth.

111,800, antedated February 3, 1871.—TOBACCO-PRESS.—Herman H. Alms, Kansas City, Mo.

Claim.—1. The cam e, constructed as described, with belt and weight e, in combination with and operated by the treadle k, substantially as and for the purposes set forth.

2. The arrangement of the treadle k, lever m, and spring n, in combination with and operating the two cams e and h, substantially as described, and for the purposes set forth.

3. The arrangement of the cam h and pulleys i i, i'', in combination with the weight g and treadle k, substantially as described.

4. The movable rammer b and head s, in combination with the jointed rod d and cam e, constructed as described, and for the purposes set forth.

5. The combination of check-lever and spring o with the cam h, pulleys i i i'', weight g, and pin on the rammer-head, arranged substantially as described, and for the purpose set forth.

6. The automatic sliding funnel-bracket, operated by means of the cam h and weight g, substantially as shown and described.

111,801.—TYING BROOMS AND BRUSHES.—James H. Anderson, Terre Haute, Ind., assignor to Thomas Marston, Jr., Walter L. Peck, and Clarence I. Peck, Chicago, Ill.

Claim.—1. The improvement in tying brooms, brushes, or whisks, herein described, with two or more wire or metallic braces with projections, secured down, by pressure or percussion, to such an angle to the plane of the broom-handle as to thoroughly fasten the cross-wires binding the corn or other material to the handle.

2. The arranging the said wire or metallic braces with projections, so secured down, by pressure or percussion, as described, upon the corn or other material on the handle, in a winding or cork-screw form, substantially as set forth.

111,802.—PAPER-BAG MACHINE.—Charles F. Annan, Boston, assignor to himself and Herbert S. Merrill, Cambridge, Mass.

Claim.—1. A grooved shaft, L, provided with sliding collars *b c*, substantially as and for the purpose set forth.

2. The leading roll M, suspended in arms *e*, pivoted to the frame-work, and made adjustable, by screws or otherwise, for the purpose set forth.

3. The paste-box N, supported in arms 21, adjustable by the screws 26, in combination with the arms *e*, adjustable by the screws 19, as and for the purpose described.

4. A knife-bar, *s*, provided with a bent projection, 48, and screw 49, for regulating the inclination of the knife V with respect to a brake-roller and former, substantially as described.

5. A brake, *u*, provided with a revolving roller, 53, operating substantially in the manner and for the purpose set forth.

6. A slotted plate, 67, in combination with a slotted stud, 60, to allow of the employment of different-sized gear, as described.

7. A dovetailed piece, *d*, provided with openings 15 16, in combination with a sliding collar *b* and grooved shaft L, for the purpose set forth.

111,803.—PAPER-BAG MACHINE.—Charles F. Annan, Boston, assignor to himself and Herbert S. Merrill, Cambridge, Mass.

Claim.—The adjustable arm B, with its split socket C, in combination with the former A, provided with a projection, *a*, as and for the purpose described.

111,804.—DEVICE FOR LABELING CIGARS.—Reuben H. Andrews, Washington, D. C.

Claim.—The combination of threads with cigars, substantially as described, and for the purposes herein set forth.

111,805.—PRINTING-PRESS.—Amos H. Bangle, Brooklyn, Cal.

Claim.—1. The slotted cam-arms S, transverse rod *t*, and adjustable pressure-rollers *s*, when employed as and for the purpose specified.

2. The fountain *y*, hung upon journals at each end, and tilted into contact with the distributing-rollers by the sliding frame L, substantially as and for the purpose described.

3. A printing-press, combining the features herein specified, that is, having the sliding form-bed B, hinged platen P, and sliding frame L operated by the cam-cylinder C in the manner described, and having a tilting fountain, *y*, the whole constructed and arranged to operate in the manner and for the purpose specified.

111,806.—CONCRETE FOR PIPES, BRICKS, &c.—Thomas J. Barton, Brooklyn, E. D., N. Y.

Claim.—1. The coating herein described for concretes, substantially as specified.

2. The coating herein described for concretes, substantially as and for the purpose specified.

3. The concrete herein described, composed of soluble silicates, coke-dust, sand, and ashes, compounded in the manner and proportions substantially as specified.

111,807.—BED-BOTTOM.—Van Boll, Seville, Ohio.

Claim.—The combination of the splint bottom D and adjustable frame A, provided with the keys E and dowels constructed and arranged in relation to each other substantially as and for the purpose set forth.

111,808.—CORN-PLANTER.—Cyrus F. Bilhimer, Irwin's Station, Pa.

Claim.—1. The hollow axle S, with wheel J secured thereto, in combination with the spindles *a a* and set-screws *b b*, constructed and arranged to operate substantially as and for the purpose specified.

2. The rocking cross-bar L, with foot-rest lever K and pivoted lever M, so as to enable the operator to work the dropping mechanism either by hand, foot, or automatically, substantially as herein set forth.

3. The combination of the rocking-bar L, pivoted or hinged lever M, pins *d d*, and wheel T, substantially as and for the purposes herein set forth, arranged and connected as described, for operating the dropping mechanism.

4. The corn-boxes G, droppers H, and slide-valves I, constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The arrangement of the corn-boxes G with their droppers H, the plows X, and the curved shovels B, substantially as shown and described, and for the purposes herein set forth.

111,809.—SPRING-SUPPORTER FOR CARRIAGES.—Daniel H. Brown, Utica, Mo.

Claim.—In combination with the elliptical spring A the slotted tubes G H I, connected to the curved plates K K′, coil-springs B C, rings D E, and pins *a c b*, all constructed and arranged to operate substantially as set forth.

111,810.—MILLSTONE-PICK.—Henry J. Brunner, Nazareth, Pa.

Claim.—1. The notched gibs *d d*, blanks or cheek-plates *f f*, and one or more blades C D E G, in combination with the wedge-shank or head A, substantially as and for the purpose herein specified.

2. The combination of the taper shank of shaft A, slotted blades C D E G, notched gibs *d d*, either with or without the cheek-plates *f f*, and the key *g*, or its equivalent, constructed and arranged substantially as and for the purpose herein set forth.

111,811.—COOKING-STOVE.—Eseck Bussey, Troy, N. Y.

Claim.—The jacket B, constructed as described, and inclosing, in whole or in part, a sheet-metal reservoir placed in the rear of a cooking-stove, said jacket B fitting closely around said reservoir and combined therewith, substantially in the manner and for the purposes herein described and set forth.

111,812.—COOKING-STOVE.—Eseck Bussey, Troy, N. Y.

Claim.—1. Attaching or securing the reservoir B to the rear of a cooking-stove by means of one or more lugs or projections, *a a*, fitting into corresponding notches or recesses, *c c*, cast in the back part of the top plate A of the stove, substantially as herein described and specified.

2. The raised auxiliary top plate D, in combination with the reservoir B and principal top plate of the stove, A, when combined with damper E, in the manner and for the purposes hereinbefore described.

3. The damper E, located above the rear center vertical flue of the stove, and below the plane of the raised extended top D, whereby the necessity of a damper in the stove-pipe is obviated, as herein fully described and set forth.

111,813.—LAMP-BRACKET FOR SEWING-MACHINES.—Henry Campbell, San Francisco, Cal.

Claim.—As a new article of manufacture, the lamp-bracket for sewing-machines, consisting of the socket B, standard C, brace E, swivel-arm D, plate F, with catches *g h*, and the spring catch *k*, all as described.

111,814.—BREECH-LOADING FIRE-ARM.—Martin J. Chamberlain, Springfield, Mass.

Claim.—1. The retractor I, moving upon the pivot *i′* and having the projection *k* thereon, and operated by means of the curved part *f* of the breech-block, all constructed substantially as described.

2. The projection H′ upon the trigger, operating within the recess *h′* and upon the bearing *b′*, substantially as herein described.

3. The vertical projection *a′* upon the trigger, in combination with the elongated part *a* of the hammer, all constructed and operating substantially as described.

4. The safety-button *m*, secured to the hammer upon the pivot *g*, in combination with the breech-block F and lock-frame A, constructed and operating substantially as set forth.

111,815.—APPARATUS FOR THE MANUFACTURE OF BESSEMER STEEL.—Henry Chisholm, Cleveland, Ohio.

Claim.—The combination of the body A and section D, (containing the tuyeres, air-chambers, &c.,) constructed and arranged in relation to each other substantially as and for the purpose specified.

111,816.—LET-OFF MECHANISM FOR LOOMS.—John Clegg, Warwick, R. I.

Claim.—1. The warp-lever B, slotted actuating-rod C, spring *h*, adjustable collar *i*, escapement-wheel D, escapement-lever F, with fingers *o p* and arm *q*, beam-gear A, and suitable intermediate gearing, all constructed, arranged, and operating substantially as described.

2. The collar *i*, provided with a set-screw and suitable locking device, in combination with the automatic spring let-off motion, substantially as and for the purposes specified.

111,817.—MACHINE FOR THE MANUFACTURE OF MOLDINGS.—Joseph C. Cooke and Henry A. Whiteley, Preston, Conn.

Claim.—In a molding-machine, the arrangement of a rotary polisher beyond the cutting-tool of the same, substantially as and for the purpose set forth.

111,818.—ROTARY STEAM-ENGINE.—Philipp Cramer, Providence, R. I.

Claim.—1. The main steam-chamber E, in connection with two or more auxiliary steam-chambers F, mounted upon the pipe-shaft B, provided with suitable eduction-valves, operated by the direct pressure of steam, and arranged to deliver two or more columns or jets of steam into an interior or exterior space at right angles to the line of the axis of the engine, substantially as described.

2. In combination with a rotary steam-engine having a main and two or more auxiliary steam-chambers, and valves operated by the direct pressure of steam, the sliding rod O, stop-blocks *m* and *n*, sliding block G, and cam-pulley Q with sleeve *k*, the whole being arranged to control the action of the valves, substantially as shown and described.

111,819.—FEED-CUTTER.—John Criley, Shiloh Hill, and Whitney Gilbreath, Rockwood, Ill.

Claim.—1. The knife-plate or board N, having curved slots *n n′*, and carried on two pins or anti-friction-rollers O O′, substantially as and for the purpose described.

2. The combination and arrangement of the rocking draw-knife M N *n n′* and fixed knife L, substantially as described.

3. The combination and arrangement of the treadle V, pitman U R, cranks *s s′*, shaft S, balance-wheel T, knives M, and slotted plate or board N *n n′*, and L, as described.

111,820.—APPARATUS FOR SMOOTHING AND PRESSING PAPER DURING THE MANUFACTURE.—Daniel Crosby, Hampden, Me.

Claim.—The method of smoothing and compressing paper while in a moist state, by passing it between one or more pairs of press-rolls, the upper ones of which are smooth and the lower ones jacketed with any suitable material, as described.

111,821.—DENTIFRICE.—Oliver Danforth, Bibb county, Ga.

Claim.—A dentifrice or tooth-wash, composed of the ingredients in or about the proportions above specified.

111,822.—HUB AND AXLE.—Carlos R. Donner, Sonora, Cal.

Claim.—The box B, with its interior constructed as described, and having the supplemental steel boxes *a a*, in combination with the oil-cups C and D, the holding-nut F, with its projecting hub or shoulder *b*, and the cap H, with its lugs *c c*, all constructed and arranged substantially as and for the purpose set forth.

111,823.—SHELL-FUSE.—Ellis Drake, Stoughton, assignor to himself and John S. Smith, Leicester, Mass.

Claim.—1. The combination and arrangement of parts, as herein shown and described, whereby a time-regulator, a time, a percussion, and a concussion-fuse are contained in the same fuse-case, substantially as described.

2. A plunger, C, arranged loosely upon a square or angular shank, B, formed with a fuse-case, in combination with a fulminate upon the shoulder of said fuse-case, as and for the purpose set forth.

3. The grooves *c c*, formed upon the inner wall of the front end of a fuse-case, substantially as and for the purpose set forth.

4. The plunger D, formed or provided with legs *b*, in combination with the groove or grooves upon the inner wall of the front end of a fuse-case, when said plunger is connected with the cap, substantially as described.

5. The case A, formed with the slot *a*, shank B, and grooves *c*, in combination with the plungers C and D, and cap F, substantially as described.

111,824.—RAILWAY ALARM.—George Draper, Hopedale, Mass.

Claim.—My special railway-alarm apparatus, as composed of the lever B, its retractive spring *e*, the connecting-rod I, the rocker-arm D, the pawl *g*, the ratchet *f*, the grooved wheel *e*, the endless wire-rope E, the escapement-wheel A, the hammer G, its spring *m*, and the belt H, all arranged substantially in manner and to operate as described.

111,825.—GAS-BURNER.—Antoine Ernest Dupas, New Orleans, La.

Claim.—1. The combination of the duplicate concentric rings of jets A B, with gas-chambers C D, when the latter are connected with a bifurcated section of pipe E, and respectively supplied with gas through passages G G′ and H′ H″, in the manner herein described, for the purpose set forth.

2. The combination of the regulating-key I with the inner ring of jets B, when said key is employed in connection with a passage, H, which above the key is divided into branch passages H′ H″, as described, for the purpose set forth.

111,826. — Corn-Planter. — Arthur Edwards, Cuba, Miss.

Claim.—The combination of the oscillating post I, arms H H, levers G G, arms *e e*, and the arms *f f*, all constructed and operating substantially as set forth.

111,827.—Magazine for Breech-loading Fire-Arms. — William H. Elliot, New York, N. Y.

Claim.—1. The arrangement of the radial arms or partitions of the cartridge-space, as herein shown, whereby the cartridges are held in rows and circles, substantially as specified.

2. The combination of spring A with the hub *c* and radial arms *c'*, substantially as and for the purpose set forth.

3. The stop *k* with its spring *l*, in combination with curve *v*, when operating together substantially as and for the purpose specified.

4. The combination of the radial arms *c'''* with the partition *g*, substantially as and for the purpose specified.

5. The stationary ratchet *d*, in combination with spring A, hub *c*, and radial arms *c'''*, substantially as shown.

6. In combination with a magazine constructed substantially as herein shown, the slide or fastening *m* and loop *m'*, whereby the magazine may be attached to the arm or carried upon the belt as a cartridge-box, as specified.

7. The curve backward in the outer ends of the radial partitions, as and for the purpose specified.

8. The form of the end of the radial partition, viz., longer at one corner than the other, substantially as and for the purpose specified.

9. The arrangement of the radial partition of the cartridge-space, whereby a certain geometrical arrangement of the cartridges is effected, substantially as specified.

111,828. — Spool-Silk Case.—Samuel Elmer, Ashtabula, Ohio.

Claim.—The spool-case, consisting of the standard A, grooved case C of a greater diameter than the standard, and having ledge J at its lower end, glass plates F, which inclose the case C and hold the spools in place, and through which all the spools can be seen, when constructed and arranged in the manner and for the purpose described.

111,829.—Gauge for Saw-Filer.—James E. Emerson, Trenton, N. J.

Claim.—The bent-metal spring-gauge plate C, in combination with the file, straight or bent, or other equivalent device, when constructed, applied, and used in the manner and for the purpose shown and described.

111,830, antedated February 4, 1871.—Traveling-Trunk. — Harry Hubbard Evarts, Chicago, Ill.

Claim.—1. The bottom D, resting on the flange *d*, and formed with pieces E united thereto, and rising from the interior of the trunk, substantially as and for the purpose described.

2. The end pieces E, united to bottom D, and rising internally from said bottom, against the sides of the trunk, to the top of the lid A', substantially as and for the purpose described.

3. The flanges C, projecting inwardly beyond the side pieces B, for strengthening the trunk and supporting its bottom, substantially as and for the purpose described.

111,831.—Fence.—Oaker F. A. Faulkner, Mount Pleasant, Iowa.

Claim.—The herein-described trestle-fence, composed of panels, the horizontal bars A of which are supported at one end upon trestle-legs *c* a permanently secured thereto, and at the other end upon the adjacent panel and diagonal stakes *b b*, and riders C, whereby the panels are braced and locked together, substantially as set forth.

111,832, antedated February 10, 1871.—Bedstead and Bed-Bottom.—Frederick G. Ford, Baltimore, Md.

Claim.—1. The separate or independent [illegible] trass-holder E F *h*, in combination with the bedstead, said holder being supported on springs substantially as and for the purpose set forth.

2. In combination with the above, the slats stiffened with braces *a*, and faced on their ends with sheet metal, substantially as and for the purpose specified.

111,833.—Tackle for Hoisting Sails.—George A. Ford, Oswego, N. Y.

Claim.—1. The combination of the runner D, the blocks D', E E, G G, and H H, and the halliards F, all constructed, arranged, and operated as described and shown, for the purposes set forth.

2. The combination and arrangement of the devices employed for raising fore-and-aft sails, consisting of the runners D and K, the blocks D', E, G G, H H, I, M M, and N N, and the halliards F F and L L, all constructed and operated substantially as described and shown, for the purposes set forth.

111,834. — Mortising-Machine. — Joseph W. Fowle, Boston, Mass.

Claim.—1. In a mortising-machine, in which a boring-tool is used to remove the bulk of the material to be cut away, the combination of the slotted chisels with their driving mechanism, as herein shown and described.

2. The combination of the chisel-guiding and depth-gauging piece *r* with the combined boring tool and chisels, substantially as and for the purpose set forth.

111,835.—Griddle.—Titus D. Gail, Waukegan, Ill.

Claim.—The handles B, or their equivalents, in combination with the griddle A, the whole constructed substantially as and for the purpose described.

111,836. — Fire-Extinguisher. — Joseph Gardner, Bedford, Ind.

Claim.—The combined arrangement of the alkali-chamber A, acid-chamber B, mixing-chamber C, equalising-pipe U, branches V W, discharge-pipe S, and cocks N, O, T, X, and Y, as and for the purposes stated.

111,837. — Machine for Nailing Shoe-Soles with Wire.—Louis Goddu, Boston, Mass., assignor to Elmer Townsend, same place.

Claim.—1. The combination of the movable work-supporter M and its elastic lifter O with a nailing-machine, as composed of the guide-nose, the nail-driver and its operative mechanism, the mechanism for feeding the wire, that for receiving it and transferring the nail portion of it to the guide-nose passage, and, finally, mechanism for severing a nail from the wire, all being substantially as hereinbefore described.

2. The combination of the binding mechanism or toggle R, its spring S, and arm T, with a nailing-machine, substantially as described, such binding mechanism being for the purpose as mentioned.

3. The arrangement and combination of the catch-slide *u'* and the arm P (provided with springs) and constructed substantially as described) with the lever E and its supporting frame.

4. The combination of the operative lever E, as described, with the frame A, the nose B, and the nail-driver *o*, the transferrer F, and the feed-wheel I, all arranged, constructed, and provided with mechanism for operating them, in manner and through the action of such lever, substantially as hereinbefore explained.

[illegible]—Water-Meter.—Robert C. Gray and William B. Brittingham, La Fayette, Ind.

[illegible].—1. The recessed valves E E^2 and E^1 E^3, in reference to the ports *e* g^2 and *e'* and g^3, in respective seats, and channels *c* and c^1 in the case, substantially as set forth.

2. In combination with the foregoing elements, ports *f* and f^1 in the seats, and channels c^2 and c^3 in the sheet, substantially as set forth.

3. The hollow valves E and E^1, rigidly connected by the hollow stem E^2, and provided with apertures F^1 and E^3, respectively, with reference to the ports and ports D *f* and D' *f'* and exhaust openings A^1 *g*, substantially as set forth.

[illegible]. — Chimney-Top. — Richard W. Griffith, Georgetown, D. C.

[illegible].—The separate chimney-top A and case B, having the air-passages *h*, the case having an opening, A, and projection *d* all around, arranged and operating substantially as and for the purpose set forth.

[illegible].—Cotton-Press.—Robert J. Harrison, Raleigh, N. C.

[illegible].—1. The combination of the upright revolving lever G, the adjustable locking-plate M, the angular bolt Y, with the end D of the press, the notched and slotted platen-arm E, all operating substantially as described, for the purpose specified.

2. The lever G, constructed with the rounded metal face H, bar I, and strap J, arranged in bearings as described, for the purpose specified.

3. The arrangement of the lever G and horizontal platen-arm E with relation to each other and the press, whereby both are adapted to be operated by the same windlass, as herein shown and described.

4. The doors of the press, composed of the stripes and parallel bars O, in combination with the fixed metal loops P, removable metal loops Q, studs R, and wedges S, when arranged as herein described, for the purpose specified.

111,841.—Animal-Trap.—Sanford H. Hart and Hubert C. Hart, Unionville, Conn.

Claim.—1. The trigger *s*, pin *t*, and platform E, combined and arranged to operate as and for the purpose set forth.

2. The jaws *a a'*, spring B, platform E, trigger *s*, and pin *t*, all arranged to operate as shown.

111,842. — Earth-Closet. — Duncan C. Hartman, Baltimore, Md.

Claim.—The water-tight cylinder A, constructed as described, having the rocker M on the bottom, and the cover C, as set forth.

111,843.—Clothes-line Fastener.—Henry J. Hendey, Wolcottville, Conn.

Claim.—The clothes-line fastener herein described, having corrugated cam C, corrugated backplate A, spring B, and pins *b' b'*, substantially as and for the purposes specified.

111,844.—Hand-Stamp.—Horace Holt and William W. Secombe, New York, N. Y., assignors to "Secomb Manufacturing Company," same place.

Claim.—1. The intermediate disk, locked and actuated by a device connected to or carried by the stem or spindle by which said disk is operated.

2. The combination of the locking and unlocking devices *s m* of the intermediate disk or type-wheel with a stem or spindle, F, having an axial and reciprocating motion, and with the stamp-head, as herein described and set forth.

3. The segmental slot or slots *c* in the socket or guide C of a hand-stamp, in combination with the pin *a*, for limiting the turning or swiveling movement of the stamp-head, as described.

4. The depressions *d* at the ends of the slot or slots *c*, to form seats for the pin to hold it and the stamp-head in either of the extreme positions in which the latter may be adjusted, as described.

5. The combination of the segmental slot or slots *c*, pin *a*, spring E, tubular shank D, and socket or guide C, constructed and operating substantially as described.

111,845. — Spike-Extractor.—William S. Hough, Johnstown, Pa.

Claim.—The combination of stand A, curved lever *b*, and vertical bar *c*, provided with orifice and catch E, all constructed as and for the purpose set forth.

111,846. — Pen-Holder. — Isaac Jacobs, New York, N. Y.

Claim.—1. A metallic pen-holder, composed of two concentric tubes, one being of zinc, the other of copper or other metal or alloy which will form a voltaic couple with zinc, the outer tube being perforated to permit, when the pen-holder is griped for writing, the fingers and thumb, or one or more of them, to come in contact with the two metals of which the compound pen-holder is composed, substantially as and for the purposes shown and described.

2. The combination of the herein-described pen-holder and the pen, substantially in the manner specified, so that the pen shall be in contact with but one of the metals of which the holder is composed, substantially as and for the purposes set forth.

111,847.—Sash-Cord Fastener.—William N. Jackson, Muncie, Ind.

Claim.—The cord-fastener, slotted and concaved as shown, when combined as described with an inclined circular opening in the sash, all as and for the purpose set forth.

111,848.— Thrashing-Machine.—William N. Jackson, Muncie, assignor to himself and Benjamin F. Jackson, Anderson, Ind.

Claim.—1. The concave C, constructed with a central groove, c^2, and a set of parallel diagonal grooves, c^3, and ribs c^4 on each side of the central groove, such sets converging toward the discharging side of the concave, substantially as set forth.

2. In combination with the thrashing-cylinder of a thrashing-machine, a concave having a reciprocating motion parallel to the axis of the cylinder, substantially as set forth.

3. The combination of the vibrating concave C, constructed as described, and the cylinder B, having alternate annular grooves *b* and elevations b^1, and longitudinal serrations b^2, substantially as set forth.

4. The combination of the feed-rollers E and E^1 and thrashing-cylinder B, when severally constructed, with the alternate annular grooves *b* and *e* and elevations b^1 and e^1, and longitudinal serrations b^2 and e^2, as shown and described.

111,849. — Machine for Lining Pasteboards.—Gustav L. Jaeger, New York, N. Y.

Claim. — 1. The pasteboard-cylinder, provided with gripers *c c'*, in combination with the pasting-roller F and with the paper-cylinder G, all constructed and operating substantially in the manner herein shown and described.

2. The spiral cylinder-brush P, in combination with the paper-cylinder G and the pasteboard-cylinder E, substantially in the manner set forth.

3. The combination of the yielding-table O with the fly P, the paper-cylinder G, and the pasteboard-cylinder E, substantially as described.

111,850. — Stove-Oven Grate.—W. G. James, Richland Centre, Wis.

Claim.—As a new article of manufacture, the

within-described oven-plate, made of a single piece of solid sheet metal, with its ends and sides a a turned down, and with openings e at each corner to allow the heat to pass upward, all as shown and described.

111,851.—TREATING BONES, HORNS, HOOFS, &c., FOR MANUFACTURE OF FERTILIZERS. — William Burr Johns, Philadelphia, Pa.

Claim.—The process of desiccating and rendering friable bones, horns, hoofs, and other animal matter, by subjecting these substances, or any of them, to the action, at the commencement of the operation, of steam in contact therewith, and afterward to the action of heat evolved from steam not in contact with the substances, in one entire and continuous operation, completed in one vessel or apparatus.

111,852. — ATTACHMENT TO PLOWS FOR SUBSOILING.—Rose Johnson, Lawrence, Kansas.

Claim.—The combination of the shank A, made in two pieces hinged together, and provided with the plate C, secured by the bolts a a, all substantially as set forth.

111,853.—GRAIN-DRILL.—Benjamin Kuhns, Dayton, Ohio.

Claim.—The combination of the beam B, links a, and shifting drag-bars A, substantially as set forth.

111,854.—PLOW.—John Lane, Chicago, Ill., assignor to Hapgood & Co., same place.

Claim.—The plow-block K, V-shaped in cross-section, and formed, as described, to have affixed thereto the land-side, share, mold-board, and standard.

111,855.—MACHINE FOR BENDING WOOD.—Obadiah Marland, Boston, Mass.

Claim.—1. The combination of bars a, by means of half pivots and links, substantially as described.

2. The combination, with bars a, of two sets of pivots and links, one on which the bars turn, and the other for reinforcing the former.

3. The combination, with the bars a, of spanner-bars d or pieces f, substantially as and for the purpose specified.

4. The spanner-bars d, with notched and beveled edges, and with their backs curved at the edges, substantially as shown in fig. 6.

5. The combination, with a chain made up of bars a connected at their ends, of clamp-bearing pieces f, by means of trunnions, arranged substantially as and for the purpose set forth.

111,856. — METALLIC-CARTRIDGE.—Edwin Martin, Springfield, Mass., assignor to himself, Samuel W. Porter, and James F. Cranston, same place.

Claim.—1. A metallic cartridge-shell having the fold c made therein, making the shell of three distinct thicknesses at the juncture of the head with the cylindrical part, all constructed substantially as and for the purposes herein described.

2. An annular fillet or corrugation upon the interior of the head of the shell, in combination with the fold c, all constructed substantially in the manner and for the purposes specified.

111,857.—COMBINED CULTIVATOR AND HARROW.—John Maxton, Seybrook, Ill.

Claim. — The arrangement of the harrow-sections A A with teeth b b and shovels h h, connected together by the rod C and hinges B B, the front hinges having notches i i, to which the chains d d and cramer D are secured, and provided with the hinged handles E E, all as shown and described.

111,858.—BOOK-SUPPORT.—John McCa land, Alexander McCausland, and W liam J. A. McCausland, Providen R. I.

Claim.—1. The book-rack F, cover-fingers h and spring fingers i i', the latter operated by t thumb-piece s, all constructed and operating as scribed.

2. The hollow screw-clamp, elbowed stand book-holder, and table I, the latter being mou upon the standard and capable of a rotary and v tical adjustment thereon, as and for the purpo specified.

3. In combination with an adjustable book-h er, the newspaper or manuscript-clamps H H', and for the purposes specified.

111,859.—TURNING-LATHE.—Frederick Miles, Philadelphia, Pa., assignor to Fe ris & Miles, same place.

Claim.—The combination of cone-shaft H, gu wheel I, series of gear-wheels q on screw-shaft with the adjustable segmental arm J, carrying t intermediate gear K, clamp N, bolt M, nut-hou P, and graduated stud O, substantially as and the purpose described.

111,860.—WASH-BOILER.—Stephen S. Mile Delta, N. Y.

Claim.—The false-bottom plate D, constructed one or more angular partition-plates J, arranged open and close along their edges a, substantiall as described, for the purpose specified.

111,861.—COFFEE-POT.—Watson J. Mille Middletown, Conn., assignor to Simon & Miller, same place.

Claim.—1. In combination with the pot A, t closed removable cylinder G arranged within th pot to form a space around and beneath the cyli der, substantially as set forth.

2. In combination with the pot A, the removabl cylinder C arranged within the pot as describe and provided with the valve d, as and for the pur pose described.

111,862.—CONSTRUCTION OF CAR-AXLES AN SHAFTS. — James Montgomery, Croto Landing, N. Y.

Claim.—1. A hollow axle or shaft, having inter nal longitudinal wings or ribs and external wing or ribs, either curved or straight, substantially a and for the purpose set forth.

2. As an improvement in the method of makin journals, by attaching to the shaft a steel thimbl the thimble tapering, as described.

111,863.—MANUFACTURE OF SHOE-SHANKS Stephen Moore, Sudbury, Mass., assignor to himself and Homer Rogers, same place.

Claim.—1. In a machine for making shoe-shanks the combination, with a shank-molding mechanism, of an intermittently-moving feed-apron and a cutting or severing mechanism, arranged to operate substantially as described.

2. In combination with the cutting or severing mechanism, the lifter a^2, for supporting the blank substantially as described.

3. The combination, with a rotating-mold cylinder, of the inclined table A^2, for directing the blank to the open mold, substantially as described.

4. In combination with the inclined table A^2, the finger a^6, for transferring the blank from the table to the mold, substantially as described.

5. In a machine for molding shoe-shanks, an intermittently-rotating mold-cylinder and a drop-hammer, arranged to operate together, substantially as described.

6. The die or mold, made with the blunt edge f and the guards g g, substantially as shown and described.

The combination of a mechanism for feeding strip to the cutting or severing mechanism, anism for cutting the strip into blanks, and anism for molding the blanks into shanks, ntially as described.

In a machine for molding shoe-shanks, a die- der, having a series of peripheral dies adapt- for molding the shanks, each fastened in the e of the cylinder, substantially as described.

In combination with a machine for molding shanks, the mechanism for varying the feed the blank-forming material, substantially as de- ed.

In combination with the dies, substantially as described, a drop-hammer, provided with a shaping, substantially as described.

111,864. — PORTABLE LAUNDRY. — Jacob Morrison, Indianapolis, Ind., assignor to Matilda D. Morrison, same place.

Claim.—1. A portable laundry, the side plates or walls of which are constructed with grooves or channels, and which are so arranged with reference to the other plates or sheets of the device as to hold said sheets in position by a series of rods or bars, substantially in the manner set forth, for the purpose of enabling the parts to be separated and folded, as herein described.

2. The combination and arrangement of the drying-chamber, the steam-eduction pipe C, and the pipes B and B' B', substantially as and for the purposes set forth.

3. The combination and arrangement of the horizontal flues A' and B substantially as and for the purposes set forth.

4. The combination of the flues A', B, and D, and the sad-iron heating-chamber, substantially as and for the purpose set forth.

5. In a drying apparatus constructed substantially as described, the combination of the valve or damper in the mouth of the pipe C, and the pipes or flues B B' B', substantially as and for the purposes specified.

6. The arrangement of the slides which admit the air to the drying-chamber in regulated quantities, such slides being in the side walls of the chamber, as shown.

111,865. — MECHANISM FOR OPERATING PUNCHING AND EYELETING-MACHINES.—Charles H. Morse, Boston, assignor to himself and William A. Brown, Lynn, Mass.

Claim.—1. The levers F G H, in combination with cams B^1 B^2 B^3 and arms Q Q^1 Q^2, having arms R Z and catches S Z', substantially as described.

2. The levers e and treadles b, or their equivalent treadle, c, and rod d, in combination with arms Q Q^1 Q^2, substantially as described.

3. The combination of the adjustable plates P, treadles b c, and levers F G H, by which the throw of levers F G H is adjusted, substantially as described.

4. The arrangement of levers F G H, arm R Z, and rods or arms Q Q^1 Q^2, so that, by the throw of levers F G H, the same look with catches S upon arms R Z, substantially as described.

111,866.—WHIFFLETREE-PLATE.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—As an article of manufacture, a whiffletree-plate formed from two parts, c and d, each part being substantially like the other, and combined in the manner described.

111,867.—ATTACHMENT FOR SEWING-MACHINES.—Schamu Morits Moschoowitz, New York, N. Y.

Claim.—The combined hemmer and braider, constructed and operating as herein described, all parts of which are in one, and move with the presser-foot, under the operation of the feed-surface, substantially as described.

111,868.—BARREL.—Henry G. Porter, Grand Rapids, Mich.

Claim.—1. A sectional barrel, having the middle section or hoop rabbeted to form shoulders for the end sections to rest upon, and fastened together by means of metallic stripe running lengthwise of the barrel over the end sections and under the middle section, substantially as herein set forth.

2. A sectional barrel, A B, having its end rabbeted to form a shoulder for the head D to rest upon, and said head confined by means of a metal band, d, with or without the wooden band b, substantially as and for the purposes herein set forth.

111,869. — ELEVATOR AND CONVEYER. — Thomas J. Powell, Naples, N. Y.

Claim.—1. The combination and arrangement of the elbow H with the hook-lever E and pawl G, as herein described, whereby both are locked or released by one action of the elbow.

2. The arrangement of the double shoulders e d of the elbow and the pins or stops f g of the lever and pawl, operating conjointly, in the manner and for the purpose specified.

3. The arrangement of the hook-head p, the incline s, and the wedge-head v of the lever and pawl, operating in connection with the eye or catch K, in the manner and for the purpose specified.

111,870.—COOKING-RANGE.—John A. Price, Scranton, Pa.

Claim.—1. The combination of the flues r with the chamber h, located beneath the flues in the base of the range, for the purpose of forming a soot-receptacle, as set forth.

2. The combination of the flues r, chamber h, and damper s, for the purpose of regulating the temperature of the oven, as explained.

3. The arrangement of the ash-chamber e, heating-closet f, and soot-receptacle h, within the base a, as specified.

111,871. — COMBINED AGRICULTURAL IMPLEMENT.—Charles R. Rand, Dubuque, Iowa.

Claim.—The combined implement, consisting of the frame D, mounted on wheels centrally and made adjustable on its axle, said frame being provided with the brackets E, stirrups f' and g', and bars i and m, for attaching and operating its various attachments, substantially as described.

111,872.—STOCK-CAR.—Amos Rank, Salem, Ohio.

Claim.—1. The combination, with a stock-car, of adjustable and flexible or elastic partitions, constructed substantially as hereinbefore set forth, to prevent injury to the stock from the jerking of the cars.

2. In combination with a cattle-car, the rolling slatted partition, shown in fig. 5, constructed to operate as set forth.

3. In combination with a cattle-car, the flexible canvas partition, shown in fig. 6, constructed to operate as set forth.

111,873. — RAILWAY STOCK-CAR. — Amos Rank, Henry King, and Joel Sharp, Salem, Ohio.

Claim.—1. The combination of the reservoir, arranged beneath the floor of the car, with the watering-troughs arranged above the reservoir, substantially as hereinbefore set forth.

2. In combination with a stock-car, a water-reservoir and watering-trough, arranged in relation to one another as aforesaid, and an atmospheric pump for supplying water to the troughs in regulated quantities while an excess of pressure is maintained on the surface of water in the reservoir.

111,874. — CHIMNEY FOR LIME-KILNS.—William Rennyson, Norristown, Pa.

Claim.—The combination of the funnel-shaped

base A, tube B, and cap or damper C, with its operating mechanism, all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

111,875.—Device for Obstructing Ants. Emery Rooks, Trenton, Tenn.

Claim.—The combination of the rod A, cylinders D D', flange E, and with or without the feet B and flange C, all constructed and arranged substantially as and for the purposes herein set forth.

111,876.—Horse and Cattle Powder.—Abraham Rudisill and Manrow Sell, Sell Station, Pa.

Claim.—A horse and cattle powder composed of Glauber salts, resin, sulphur, fenugreek, ashes, soot, antimony, and saltpeter, substantially as herein set forth.

111,877. — Fire-Extinguisher. — Enno Sander, St. Louis, Mo.

Claim.—In connection with the acid-chamber D and tank A of a carbonic-acid gas-generating apparatus the downwardly-opening valve H, crossheads I L, side rods J J', and operating-screw M, connected and operating substantially in the manner and for the purpose set forth.

111,878. — Bedstead-Fastening. — John Schepler, Lambertville, N. J., assignor to himself and Schickle, Harrison & Co., same place.

Claim.—The plates B B, secured at their lower ends to the bed-posts, and their upper portion inclining outward therefrom, in combination with inclined receptacles in the side pieces, so arranged that pressure or weight upon the bed will securely wedge the ends of the side pieces against the posts, substantially in the manner set forth.

111,879.—Concrete Pavement.—John J. Schillinger, New York, N. Y.

Claim.—A pavement composed of a concrete sub-bed laid in sections separated from each other by strips of paper or other suitable material interposed between them, and of pavement-blocks formed of cement, with pieces of broken stones imbedded in their surfaces and united to the sub-bed by means of cement, substantially in the manner shown and described.

111,880. — Spur-Attachment to Overshoes.—Henry Schwandt, New Orleans, La.

Claim.—The hollow removable spur-shank described, having spring *y* and thumb-screw *z*, in combination with the catch *d*, when constructed and arranged substantially as and for the purpose specified.

111,881.—Lubricator.—Nicholas Seibert San Francisco, Cal.

Claim.—1. The arrangement of the cock M, passages S S', and tubes O and P, with the oil-reservoir F and gauge J R, as herein shown and described, for the purpose specified.

2. The improved lubricator, consisting of the parts herein described, constructed and arranged substantially as specified.

111,882.—Japanning Eyelets, Buttons, &c. — Stephen N. Smith, Providence, R. I.

Claim.—1. The herein-described process of coating or japanning eyelets, buttons, and similar articles, that is to say, by sprinkling the liquid upon a mass of the articles while the latter are kept in motion, tumbling or rolling over or against each other, substantially as set forth.

2. The inclined rotating cylinder A, arranged to operate substantially as and for the purpose set forth.

111,883. — Corn-Dropping Attachment for Hoes.—Edmund L. Staples, Chillicothe, Ohio.

Claim.—As an improvement on the patent of Cotton and Staples, No. 68,907, the holes K in the seed-pocket H, and the projection *j* on the spring J, as and for the purpose set forth.

111,884. — Locomotive-Boiler Furnace. Andrew Jackson Stevens, San Francisco, Cal.

Claim.—1. The flues A A', with dampers C C, in combination with the deflecting-plates B B, and for the purposes set forth.

2. In combination with the foregoing, the steam-jet pipe D, as and for the purposes set forth.

111,885.—Apparatus for Ascertaining the Proof-Spirits in Fermented Mash.—Giuseppe Tagliabue, New York, N. Y.

Claim.—1. The areometer, constructed and graduated substantially as herein described, so as to indicate directly the percentage of proof-spirits to be expected from a grain-mash or other saccharine solution without the necessity of complex calculation or the use of a table.

2. The funnel A, constructed with a valve to be closed by hand in substantially the manner described.

3. The combination of the plug or valve B and packing C with the funnel A, substantially as set forth.

111,886.—Paper-File.—Jesse F. Tapley, Springfield, Mass.

Claim.—As a new article of manufacture, an improved bill and letter-file, consisting of the rigid or stiff portions A C and the flexible sides B, the same being used in combination with an elastic band, all constructed and arranged substantially as herein described.

111,887. — Cooking-Stove. — Nicholas S. Vedder, Troy, N. Y.

Claim.—1. The arrangement of the reservoir C at the rear of a cook-stove in such a manner as to form a chamber, E, through which the products of combustion must pass, whether a direct or an indirect draught is used, substantially as and for the purpose set forth.

2. The chamber E, formed by the back plate of the stove and the front of the reservoir C, and divided into side-down and center-up flue by means of plate *f*, substantially as and for the purpose described.

3. The openings *e*, in the top plate of the stove over the side flues and covers *d*, in combination with the openings *f* in the top plate G, substantially as and for the purpose set forth.

111,888, antedated February 3, 1871.—Clothes-Drier. — James K. Wagner, Potsdam, N. Y.

Claim.—The arrangement of the rack A B, cord C, with ring *a* secured by the bolt or pin *d*, and provided with the hook *b* at its end, all as shown and described.

111,889, antedated February 4, 1871.—Pincers for Shoe-Makers.—Michael Walpole, Milford, Mass.

Claim.—1. The slotted handle C, provided with ratchet-teeth *a a* on each side of the slot, substantially as and for the purposes herein set forth.

2. The fulcrum E, provided with toothed projections *b*, tenon *c*, head *d*, and spring *f*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

3. The combination of the jaws A B, handles C D, teeth *a a*, fulcrum E, projection *b*, tenon *c*, head *d*, and spring *f*, all constructed and arranged as described, to operate substantially as and for the purpose herein set forth.

111,890.—Joiners' Plane.—George Allen Warren, North Bridgewater, Mass.

Claim.—1. The lateral adjuster, as described, as composed of the disk *b*, the journel *c*, the socketed shank *d*, with its clamp-screw and head, as set forth.

2. The arrangement of the said lateral adjuster, as described, with the bed of the stock and with slot *e* of the plane-iron, all being substantially as and to operate as explained.

111,891.—Tip for Wooden Shovels.—William P. Wentworth, Seneca Falls, N. Y.

Claim.—1. The combination of the grooves *a* and the ears *c*, substantially as described and shown.

2. The combination of the grooves *a* and the rings *b*, substantially as described and shown.

111,892.—Gauge for the Construction of Seat-Cushions.—John H. Williams, Pleasant Hill, Ohio.

Claim.—1. The combination of the grooved bar A with the sliding bars B B, slides E E, pivoted arms D D, spreading-arms C C, adjustable beveling-guides F F, and soft-metal corners J J, when constructed substantially as and for the purpose specified.

2. In combination with the elements of the above claim, the adjustable arm I, substantially as specified.

111,893. — Vapor-Burner. — Joseph S. Wood, Philadelphia, Pa.

Claim.—1. The tube *a*, constructed with a notched aperture, *a'*, at its upper end, in combination with the horizontally-adjustable tube C, carrying a ring-burner, G, on the arms of its upper end, substantially in the manner and for the purpose described.

2. The chamber *s*, in combination with the tube C, perforated arm *g*, burner G, and lamp-tube *a*, in the manner and for the purpose described.

111,894.—Planing-Machine.—Solomon A. Woods, Boston, Mass.

Claim.—1. In combination with the bed *a*, a removable bed, arranged to operate in conjunction with a cutter-head and feed-rollers, substantially as described.

2. In combination with a planing-machine, the described apparatus for oiling, arranged and operating as set forth.

3. The combination, with the nuts *p* and the screws working therewith, of the check-nuts *q* and clamping-collars *r*, arranged and operating substantially as set forth.

4. The combination, with the cutter-head frame, having its uniting bar located as described, of the bearing-bar *s*, as specified.

111,895, antedated February 2, 1871.—Scroll-Sawing Machine.—Samuel Manker Young, Jacksonville, Ill.

Claim.—1. The slide H, constructed as described, and provided with clamp *b*, thumb-screw *d*, and spring *e*, substantially as and for the purposes herein set forth.

2. The head J, secured at any height desired by thumb-screw *f*, and its inclination adjusted by tapper-screw *g*, substantially as and for the purposes herein set forth.

3. In combination with the head J, constructed and adjusted as described, the eccentric roller or cog *i*, constructed and operating substantially as and for the purposes herein set forth.

4. In combination with the saw I, and its upper bearing, formed on the slide H, the bar N, spring-hook *k*, and set-screw *m*, constructed and arranged to operate substantially as and for the purposes herein set forth.

REISSUES.

4,258.—Machine for Scraping Leather. James T. Barnstead, Peabody, assignor, by mesne assignments, to George L. Newcomb, Salem, and James Perkins, Peabody, Mass.—Patent No. 101,081, dated March 22, 1870.

Claim.—1. A machine for removing grease from leather, having the jointed vibrating arm F, carrying a scraper, I, arranged to reciprocate over a curved bed-plate, B, which is provided with adjusting screws and springs, substantially in the manner as set forth and shown.

2. In a machine for scraping grease from leather, the combination of the knife I and brush H, in the manner and for the purpose substantially as set forth.

3. The brush K, for the purpose of cleaning the knife, arranged and operated in the manner described and shown.

4,259. — Perforated Sheet-Rubber.—John Haskins, Boston, Mass.—Patent No. 67,298, dated July 30, 1867; reissue No. 3,100, dated August 25, 1868.

Claim.—The article of perforated rubber-sheets as a new article of manufacture, the same being used as and for the purpose set forth and described.

4,260.—Burning-Kiln.—Balthasar Kreischer, New York, N. Y.—Patent No. 81,793, dated September 1, 1868.

Claim.—1. The arrangement of flues F F, controlled by dampers *m*, substantially as herein described, for carrying off the vapor and the products of combustion, and openings *e f*, controlled by dampers *g* and *j*, and flues *d*, communicating with an adjoining kiln-chamber or intermediate flue D, as required.

2. The flues F F, in combination with flues or passages E in the hollow doorways C, substantially as described.

3. The double arch G in the kiln-chambers, in combination with openings or tubes H, and with a chamber or passages, *p*, connecting with the grate or fire-place, as herein set forth.

4. The outside flues *d d*, connecting with the kiln-chambers through base-openings *e e*, provided with dampers *g* and *j*, and serving to carry the heat from one kiln-chamber to either of the succeeding chambers or to the smoke-stack, substantially as described.

5. The bottom flue D, provided with branches running to or from the kiln-chambers, in combination with the outside flues *d d*, when constructed and arranged substantially as described.

4,261.—Folding-Lounge.—James W. McDonough, Chicago, Ill. — Patent No. 60,400, dated December 11, 1866.

Claim.—1. The rails *a a* of the frames A A' of a folding-lounge, constructed substantially as and for the purpose described.

2. The frames A A' of a folding-lounge, provided with the rails *a a*, in combination with the head H H', substantially as described.

4,262.—Machine for Figuring Carpenters' Squares. — Norman Millington, Shaftsbury, Vt., assignor, by mesne assignments, to The Eagle Square Company.—Patent No. 10,136, dated October 18, 1853; extended seven years.

Claim.—1. The fastening-pins or their equivalents for limiting the movement of the dies and re-

taining them in the chase, in combination with a series of separate dies and chase in their proper positions to stamp the several numbers on a square, so that they can all be moved together to change from one square to another, and that each die may be struck and be made to operate separately, as set forth.

2. A series of chases hinged to a common support, and containing each a series of separate dies, which may be successively brought into position for use, substantially as and for the purposes herein specified.

3. The combination of the revolving chase-wheel W with the lateral-moving anvil A, by which the relative position of the square to be stamped and the required chase is so regulated that the line of the square to receive the impression is brought under the chase containing the desired figures, substantially as herein set forth.

4,263.—MACHINE FOR CUTTING STONE.—George Morgan, Brooklyn, N. Y.—Patent No. 22,569, dated January 11, 1859.

Claim.—1. The arrangement, in the tool-stock of a stone-cutting machine, of a series of cutters fastened together, and having their edges graduated one above the other, so that the combined series will present an inclined serrated cutting edge, substantially as and for the purpose herein specified.

2. In combination with a series of cutters fastened together and having their edges graduated one above another, as described, a movable table to hold the stone to be cut and present it to the cutters, substantially as herein set forth.

4,264.—MACHINE FOR CHANNELING STONE.—Thomas Ross and Rockwood Barrett, Rutland county, Vt., assignees, by mesne assignments, of Andrews T. Merriman and Thomas Ross.—Patent No. 59,856, dated November 20, 1866.

Claim.—1. In a stone-channeling machine, adapted to move automatically over the face of the rock operated upon so as to feed the cutting device up to the work, the combination of the following instrumentalities, all mounted on a movable truck-frame, viz: A gang of reciprocating cutters, all fastened together; a steam-generator, cylinder, and piston to operate said cutters; an automatic adjustable valve-gear, so constructed and operating that the steam-valve is changed and the motion of the cutters thereby reversed by the concussion of the cutters with the rock; and an automatic feeding mechanism to feed the machine up to the work as the latter progresses, all constructed and combined to operate substantially as herein set forth.

2. In combination with the instrumentalities described in the foregoing claim in a stone-channeling machine, as therein set forth, the cutter-frame with the steam-cylinder rigidly attached thereto, and so hinged to the truck frame that the cutter-frame may be inclined to either side, or retained in a vertical position to cut a channel diagonal to the horizon or vertical, substantially as described.

4,265.—MACHINE FOR REDUCING CRACKLINGS, &c., FOR FERTILIZERS.—Armor Smith, Cincinnati, Ohio.—Patent No. 71,545, dated November 26, 1867.

Claim.—1. The combination of the box or trough-frame B and cord E and pulleys G G', irrespective of the particular cutting apparatus used, substantially as herein described, and for the purposes herein mentioned.

2. The combination of the wheel A with cutters C, box or trough-frame B, with cord E and pulleys G G', substantially as herein described, and for the purposes herein set forth.

DESIGNS.

4,646.—INFANTS' SHOE.—Willard M. Carpenter, Rowley, Mass.

Claim.—The design for an infant's shoe, substantially as shown and described.

4,647.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a stocking fabric, substantially as described and illustrated in and by the accompanying drawing.

4,648.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a stocking fabric, substantially as described and as illustrated in and by the accompanying drawing.

4,649.—CALENDAR CLOCK-DIAL.—Daniel J. Gale, Sheboygan Falls, Wis., assignor of one-half his right to Aaron Huyck, same place.

Claim.—The hereinbefore-described design for an astronomical calendar clock-dial, substantially as and for the purpose set forth.

4,650.—FLOWER-STAND.—Hiland H. Kendrick, Fulton, N. Y.

Claim.—The standard A and flower-pot or plant-supporting arms B B, extending outward radially from the standard, together constituting a design for a flower-stand, as represented and described.

4,651.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the ornamented square *b*, as illustrated.

2. The design for the ornaments *d* between the stripes *a*.

3. The design for the central ornament *e* within the square tablet formed by the crossing stripes *a*.

4. The design for the ornamental square tablets F and G, bounded by the said stripes *a*.

5. The design for the entire pattern, including the stripes *a*, border *b*, ornaments *d* and *e*, and tablets F and G.

4,652.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the figures A, as shown and described.

2. The design for the foliated ornamentation B, as described and represented.

3. The design for the whole pattern, including the figures A, foliated ornamentation B, and spots C.

4,653.—ENGINE-GOVERNOR CASE.—John Augustus Lynch, Boston, Mass.

Claim.—The design, substantially as described, for the case of an engine-governor.

4,654.—FLOOR-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,655.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,656.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,657.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,658.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,659.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil cloths, carpets, or other fabrics, shown and described.

4,660.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,661.—FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York City.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,662.—FRINGE.—Henry Asbury Truitt, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—The design for a knitted fringe or braid, substantially as described and illustrated in and by the accompanying drawings.

4,663.—TASSELED FRINGE.—Henry Asbury Truitt, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—The design for a tasseled fringe or border, substantially as described and illustrated in and by the accompanying drawings.

TRADE-MARKS.

155.—PLOW AND OTHER AGRICULTURAL IMPLEMENTS.—John C. Bidwell, Pittsburg, Pa.

156.—SMOKING-TOBACCO.—John W. Carroll, Lynchburg, Va.

157.—SMOKING-TOBACCO.—John W. Carroll, Lynchburg, Va.

158.—SMOKING-TOBACCO.—John W. Carroll, Lynchburg, Va.

159.—GINGER-ALE AND WINTER BEVERAGE.—Anderson Carson and William Lemon, Hartford, Conn.

160.—COMPOSITION COATING.—David B. Crockett, New Haven, Conn.

161.—STOVE.—Ignatius Droege & Co., Covington, Ky.

162.—PREPARATION FOR THE HAIR.—Charles E. Georger, New York, N. Y.

163.—LACE GOODS.—Abraham G. Jennings, New York, N. Y.

164.—ILLUMINATING OILS OR BURNING-FLUIDS.—William E. Jervey, New Orleans, La.

165.—MEDFORD RUM.—Daniel Lawrence & Sons, Boston, Mass.

166.—MEDICAL COMPOUND.—Pemberton, Taylor & Co., Atlanta, Ga.

167.—MEDICINAL PREPARATION.—Walter S. Wells and John J. Stell, New York, N. Y.

168.—MEDICINAL PREPARATION.—Walter S. Wells and John J. Stell, New York, N. Y.

EXTENSIONS.

SAMUEL R. SMITH, of Cincinnati, Ohio—Letters Patent No. 16,454, dated January 20, 1857.

"Improved Method of Feeding Lumber laterally in Sawing-Machines."

Claim.—1. The combination of mechanism by which the lateral adjustment of the log is effected, as described, such consisting of the spring *g*, the stationary-bearing roller *m*, or its equivalent, the lever *l*, the toggles *h i*, the slide-bar *f*, the catch mechanism T, the pinion *t*, and the rack or racks applied to the carriage V, substantially as described, the whole being arranged and operating together, essentially as specified.

2. Making the carriage or head-block V movable independently of the ways or frame on which it is supported, and combining with said carriage and its movable rack a lever and pawl or an equivalent device, whereby said carriage may be moved toward the saw by the hand of an attendant applied to the said lever.

DANIEL W. SHARES, of Hamden, Conn.—Letters Patent No. 16,498, dated January 27, 1857; reissue No. 45, dated March 12, 1861.

"Improvement in Harrows."

Claim.—1. A series of colter-teeth, H, formed substantially as specified, and arranged diagonally to the line of motion so as to form a harrow that loosens, mollifies, and harrows the soil, as described.

2. The tooth G, at the front end of the center-bar, formed with two divergent wings, in combination with a series of harrow-teeth, H, on the diagonals bars B B', as set forth.

PETER COOK, of Tonawanda, N. Y.—Letters Patent No. 16,529, dated February 3, 1857.

"Improved Machine for Cutting Veneers."

Claim.—The swinging box or head formed of the plates *i i*, said box or head working over concave beds B B and cutters C C, when the above parts are arranged substantially as shown, to allow the bolt F to feed itself to the cutters by its own gravity.

DISCLAIMERS.

SAMUEL R. SMITH, of Cincinnati, Ohio.—Letters Patent No. 16,454, dated January 20, 1857.—Filed January 28, 1871.

"Improved Method of Feeding Lumber laterally in Sawing-Machines."

Second claim of specification disclaimed.

FRANCIS M. STRONG and THOMAS ROSS, of Vergennes Vt.—Letters Patent No. 14,119, dated January 15, 1856.—Filed January 10, 1871.

"Improvement in Platform-Scales."

Second and Third claims of specification disclaimed.

ISSUE OF FEBRUARY 21.

PATENTS.

111,896.—MACHINE FOR CUTTING AND MITERING PRINTERS' RULES.—Frank H. Aiken, Franklin, N. H.

Claim.—1. The tool-holder S, sliding on rod T, the cutter R, and set-screws V, combined with the bed A and adjustable holder N, substantially as specified.

2. A printer's rule-cutting and mitering apparatus, consisting of the cutters D C, the gauge therefor, the adjustable holder, and reciprocating tool and tool-holder, all arranged on one bed or platform, substantially in the manner specified.

111,897, antedated February 4, 1871.—GOVERNOR-VALVE CONNECTION.—John F. Allen, Harlem, N. Y.

Claim.—The combination, with a valve and stem, A B, of the pulleys C B, weighted rope D, slotted spring-rod I K, and crank H, as and for the purpose specified.

111,898.—FISH-HOOK.—Levi Arnold, Belchertown, Mass.

Claim.—The metallic block or piece A B, provided with perforations to receive the line, and with a sliding ring for securing it, substantially as shown and described.

111,899.—MACHINE FOR CUTTING SCREWS.—James S. Atkinson, Ormsby borough, Pa.

Claim.—1. The abutment *d* with its inclined lateral faces *s*, a groove *s'* at the base of each incline, and a shoulder or stop, *s*, at the opposite end of each incline, and the combination of such abutment with the rod *m* and wedge-shaped catches *o*, reciprocating knocker *k*, and collars *l l'*, substantially as and for the purposes set forth.

2. The subject-matter of the foregoing claim, in combination with a toggle, *g*, leading to each of the die-holders of a screw-cutting machine, substantially as described.

3. The combination of the abutment *d*, constructed substantially as described, catches *o*, knocker *k*, operated by any suitable means, and rod *m* having stops *l l'*, in connection with any suitable mechanism for opening the dies.

4. The arrangement of drip-pan *t* with perforated bottom, inclined table *v*, and receptacle or vat *w*, for receiving and drawing off the oil, substantially as described.

111,900.—MACHINE FOR CUTTING LEATHER.—Horace Z. Baker, Pawtucket, R. I.

Claim.—1. The combination of the longitudinally-sliding rolls *k k'*, the former provided with the circular knife *n* and tongue *l*, the latter with grooves *o m*, into which the knife and tongue work, all as and for the purpose specified.

2. The combination of the rolls *k k'*, knife *n*, and groove *o*, with the adjusting-screw *s'* and frame 1 2 3, as and for the purpose specified.

111,901.—CURRIER'S TOOL.—James T. Barnstead, Peabody, Mass.

Claim.—1. The improved currier's tool, made substantially as described.

2. A currier's tool, having that part of the stock against which the knife bears made thicker than the opposite side, in the manner shown and set forth.

3. The improved method of attaching and holding the handles of a currier's tool, as described and shown.

111,902.—TAP FOR OIL-CANS.—Jabez A. Bostwick, New York, N. Y.

Claim.—In combination with each other and with a can or other vessel to contain liquids, the within-described hollow valve and discharge-tube G, and the seat C B for said valve, perforated and secured to the vessel, all substantially as and for the purpose herein set forth.

111,903.—SPRING CARRIAGE-CUSHION.—Thomas S. Burnett, Syracuse, N. Y.

Claim.—The cushion B and frame C D, the said frame having a stationary bearing at its front edge, on the face piece E, and its rear edge being supported by the spring *c c* in such manner as to have vertical movement, substantially as and for the purpose specified.

111,904.—WOOD PAVEMENT.—William Bushnell, Elizabeth, N. J.

Claim.—1. The herein-described mode of cutting two-shouldered paving blocks from a single block, as shown and set forth.

2. The dowel, made and applied to the blocks of the pavement, as set forth.

111,905.—WIRE-STRETCHER.—Albert Byington, Rochelle, Ill.

Claim.—The frame A, provided with the groove *a* and clutch C, in combination with the spindle D and clutch C, substantially as described.

111,906.—WASHING-MACHINE.—William H. Carman and Richard P. McCollum, Philadelphia, Pa.

Claim.—1. The corrugated oscillating or turning tub, with the projections F upon the outside, substantially and for the purpose as hereinbefore set forth.

2. The combination of the corrugated oscillating or turning tub with the loose weighted roller or rollers, working inside, and the lugs or projections F, secured to the tub, substantially and for the purpose hereinbefore described and set forth.

111,907.—CHURN.—Franklin B. Chapman, Salisbury, Mo.

Claim.—The combination, in a revolving churn, of the stationary dasher-wings J J, and the disk L, and revolving dashers N N, arranged and operating substantially as described.

111,908.—VALVE FOR WATER-ENGINES.—Abraham Coates, Watertown, and George W. Lascell, Syracuse, N. Y.

Claim.—The arrangement of the disk *a* having the transverse opening *e* that forms the induction-port, the disk *a'* having the transverse orifice *f*, the flat plate *c*, and the concavo-convex plate *f*, as described.

111,909.—WASHING-MACHINE.—John Court, Memphis, Tenn.

Claim.—The combination of the box, the swinging slatted frame oscillating on a pivot in the box, and the vibrating rubbing-teeth pivoted each side of the swinging frame, these parts being constructed to operate in combination, as set forth.

111,910.—TREATING BLOOD FOR THE MANUFACTURE OF FERTILIZERS AND AMMONIACAL SALTS.—John J. Craven, Jersey City, N. J.

Claim.—1. The process of treating blood by the use of salt-cake or its equivalent, as described.

2. The process, herein described, for obtaining ammoniacal salts from blood by treating it with salt-cake or other equivalent acid salt, substantially as described.

111,911.—PLOW.—Francis Cremer, Elmwood, Ill.

Claim.—1. The combination of the suspended adjustable beams G G, cross-bar H, swiveled vertical screw I, upright plate C *e d*, and guides *e f*, with the axle B of a wheel-plow, to admit of a vertical adjustment of the shovels F, as described.

2. The up-and-down adjustable cross-bar H, supporting the vertical plow-beams, substantially as and for the purpose herein shown and described.

3. The combination, with a wheel-plow, of the chain L and pulleys *l l l*, arranged and described, to equalize the draft.

111,912.—MANDREL FOR GAUGING AND CUTTING SOLDER-WIRE.—Lewis Cutting, San Francisco, Cal., assignor to himself and Francis Cutting.

Claim.—The cylinder A, with recess F and slot E, when operated as described, for the purpose set forth.

111,913.—VEGETABLE-CRUSHER.—Reuben Daniels, Woodstock, Vt.

Claim.—The grinding rolls A B, mounted and operated as set forth, combined with the scroll-hopper B' and oscillating feeder-block D, provided with the hooked plate I, as and for the purpose specified.

111,914.—BASE-BURNING STOVE.—Edward Mortimer Deey, New York, N. Y.

Claim.—1. The hot-air chamber H, provided with its boiler E, radiators I I, steam-pipe coil N, cold-air passage G, and register R, substantially as and for the purposes set forth.

2. The reservoir K, provided with water-supply pipe L, steam-pipe N, and steam-exhaust pipe O, for the purposes substantially as described.

3. The boiler F, provided with water-supply pipe L, having an air-cock, M, steam-pipe, N, and drain-cock, *f*, in combination with the hot-air chamber H and reservoir K, substantially as and for the purposes specified.

4. The coal-magazine E, in combination with the grate B C, hot-air chamber H, and reservoir K, substantially as and for the purpose described.

111,915.—FASTENING END-BOARDS IN WAGONS.—George W. Diller, Odell, Ill., assignor to himself and George B. Woodbury, same place.

Claim.—In combination with the end board of a wagon-box, the hinged cleat I, staple or eye K, and hook L, arranged to operate substantially as and for the purposes herein shown and described.

111,916.—CONDENSER AND FEED-WATER HEATER FOR STEAM-ENGINES.—Joseph Dilworth and John Cobourg Hodgins, Toronto, Canada.

Claim.—1. The perforated plate *h* in the chamber *f*, above the upper ends of the vertical tubes *b* of the feed-water heating apparatus, for the purposes set forth.

2. The blow-cocks or valves applied to and combined with the chamber *f* and perforated plate *h*, for the purposes set forth.

111,917, antedated February 11, 1871.—FANNING-MACHINE.—Edward P. Doremus, Washington, La.

Claim.—The combination of the wheel A and pins *a a* with the levers F F, rods *f f*, beam *e*, and fan D, all arranged to operate as set forth.

111,918.—LUBRICATOR FOR WHEELS, PULLEYS, AND JOURNALS.—Edwin Donden, Lykens, Pa., assignor to himself and Charles Broome, same place.

Claim.—An improved oiler for the journals of loose pulleys and other wheels, formed by the combination of the hinged lid or cover C, eccentric or cam D, and spring E, with each other and with the hole or cavity B leading in through the hub of the said pulley or wheel, substantially as herein shown and described, and for the purpose set forth.

111,919.—REFLECTOR.—Francis P. Doyle, New York, N. Y., assignor to himself and John Cooke, same place.

Claim.—The follower D, with lip E, screws F, and nuts G, when used in combination with the back B C and glass A of a gas-light reflector, substantially as and for the purposes described and set forth.

111,920.—CRUET-STAND.—Josiah W. Ells, Pittsburg, Pa.

Claim.—As a new and improved article of manufacture, a complete cruet-stand made of a single piece of glass; that is to say, the plate C, with bottomless receptacles E for the cruets, surrounding-flange B, central support S, and handle K, of one piece of glass, by pressing it to such shape while in a molten or plastic condition in a mold, substantially as shown and described.

111,921.—MACHINE FOR FORMING ARTIFICIAL STONE.—Josiah S. Elliott, Boston, Mass., assignor to the Union Stone Company, same place.

Claim.—1. The machine, herein shown and described, for manufacturing artificial stone, consisting of the ram B, mold C, feeder B', core *n*, and off-bearing table *h*, constructed, combined, and operating as set forth.

2. The combination, in an artificial-stone machine, of the ram B, oscillating feeder B', and movable mold C, with their connections, when constructed, arranged, and operating substantially as and for the purpose herein described.

3. The combination, herein shown, of the ram B, oscillating feeder B', movable mold C, and off-bearing table *h*, with their connecting and operating mechanism, as herein set forth.

4. The combination and arrangement of the mold C, shaft *d*, cams X and W, and their connections, as shown and described.

5. The arrangement of cams W and X, shaft *d*, and core *n*, with their connections, as herein shown and described.

6. The combination of the ram B and feeder B' with their operating mechanism, when constructed and operated in the manner set forth.

7. The combination of the lever *s* and the pivots *u* and *t* with the table *h* and the scraper *v*, as and for the purposes described.

111,922.—MACHINE FOR MOLDING TUYERES.—Samuel English, Troy, N. Y., assignor to himself and James Ostrander, same place.

Claim.—1. The combination, with the tapering mold B, of two or more pointed parallel core-rods A, the removable head F G at the large end of the mold, the removable piston or follower D, fig. 2, perforated to receive and support the slender core-rods, and fitted to slide within the small end portion of the mold, and the screw E for moving the piston or follower in the mold, substantially as described.

2. The combination of the horizontally-operating pointed core-rods A and pressing-screw E with the mold B, furnished with the removable head F G and follower D, and mounted on horizontal trunnions *b b*, and provided with the movable stops J J, or their equivalent, substantially as described.

3. The arrangement of the vertically-movable counter-weighted platform V, in combination with the mold B, mounted on horizontal pivots *b b*, and furnished with stops J J', removable head F G, piston or follower D, and the horizontally-operating pointed core-rods A, and screw E, or its equivalent, substantially as described.

111,923.—PRESS FOR HAY, COTTON, &c.—Christopher D. Findlay and David D. Craig, Macon, Ga.

Claim.—1. The screw A, in combination with

the perforated nut F, fluted tube D, and the balls G, substantially as specified.

2. The combination of the screw A, perforated nut F, tube D, flanges I K, and balls L, substantially as specified.

3. The combination of the tube D, rods M, and bed N of the frame, all substantially as specified.

4. The combination of the screw A, nut F, tube D, balls G L, rods M, bed N, follower B, and the case, all substantially as specified.

111,924.—HORSE-HOLDER ATTACHMENT TO CARRIAGES.—George W. Goodwyn, Petersburg, Va.

Claim.—The lever b c d, pivoted to the side of the carriage, and engaging with the toothed ring a on the hub of the wheel, as shown and described.

111,925. — CULTIVATOR-PLOW. — William Gowen, Bartlett, Tenn.

Claim. — The plow F, having the snake-head point, narrow neck, and long the mold-board, gradually widening upward from said neck, as shown and described.

111,926. — EARTH-CLOSET.—Edmund Griffith, Wilmington, Del.

Claim.—1. The cover C, the eye a, the slide H, and rod e, in combination with the shoe G, and rod e having a loop formed on its upper end, when all are combined and arranged in the manner described.

2. The vacuum-board L, when arranged to operate substantially as shown.

3. The board L, hopper B, slide H, rods e e, eye a, lid C, and shoe G, when all are combined as specified.

111,927.—MILLING-TOOL.—Lovi Griswold, Branford, Conn.

Claim.—The cutter a, arranged longitudinally in the spindle A, constructed with the shank B, collars D E, the said cutter threaded and combined with the sleeve C, around the said spindle, between the said two collars, for the adjustment of the cutter, substantially as described.

111,928. — CARRIAGE.—Chauncey Holmes Guard, Toronto, Canada.

Claim.—The springs C C applied edgewise to the body D at front and rear, as described, for the purpose of producing an end-pressure support.

111,929. — FIRE-PLACE.—Joseph Hackett, Louisville, Ky.

Claim.—The tile A, combining the following features of construction: first, thick on top, whereon is received the largest portion of heated gases, to prevent cracking; second, circularly curved on its outer face, to cover the throat of the flue; and third, orally recessed on its inner face, to retard the gases, complete the combustion, and evolve a maximum of heat before it reaches the flue, all for the purpose of forming an improved fire-back for stoves.

111,930.—MAKING CIDER.—George B. Hamlin, Willimantic, Conn.

Claim.—Preparing the apples, for the expression of the juice, in a cut condition, substantially as herein set forth.

111,931.—PATTERN FOR CASTING GROOVED ROLLERS.—John Herald, Unadilla, N. Y.

Claim.—The pattern-plate A, provided with the rim a, which will provide in the mold a depression for receiving the annular plate C, as set forth.

111,932.—COW-MILKER.—Elisha A. Hewitt, Groton, Conn.

Claim.—1. The arrangement of the teat-pieces having the stationary stop-collar and bulge with the series of flexible tubes and main conduit, as and for the purposes set forth.

2. In combination with the stationary stop and bulge, the adjustable or variable tubes to enter the teat of the cow more or less, as described.

111,933.—SELF-ADJUSTING CAR-TRUCK.—Edward Hipkins, Burford township, Canada.

Claim.—The combination of the frame H, longitudinal pieces G, hangers K, clutch-pulleys I, and circular pieces C, substantially as and for the purpose set forth.

111,934. — CAR-TRUCK.—Edward Hipkins, Burford township, Canada.

Claim.—1. The combination of the lever O and rotating tables C and D, connected together by rods Q, and working on the center pins I, substantially as set forth.

2. The rotating tables C and D, with receptacles H, in combination with the axles E, formed with collars to enter said receptacles, as and for the purpose described.

111,935.—HAT-SIZING MACHINE.—James H. Hopkins, Newark, N. J., assignor to himself and William Carrollton, same place.

Claim.—1. The combination of the boards P, levers R, sliding rods S, and levers T with each other and with the water-tank A, hinged covers B, and semi-cylindrical rubber D, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the rubber or equivalent springs H, sliding bearings F, and set-screws I with the shaft E, rubber D, and concaved perforated hinged covers B, substantially as herein shown and described, and for the purpose set forth.

111,936.—FLY-TRAP.—Peter D. Horton and Ezra T. Bryan, Marengo township, Mich.

Claim.—1. The net-work bag A, provided with distending strips $e\ e\ e'\ e'$ and props $p\ p$, when the entire device is adapted to be removed from the door, window, or other opening, as herein described, whereby a stationary frame is dispensed with.

2. In combination with the bag A, made, provided, and applied as described in the preceding clause, the converging wings or partitions c c, having an opening, i, between them, at the center, to form a trap, substantially as set forth.

111,937. — STEAM-ENGINE. — John Houpt, Springtown, Pa.

Claim.—The combination of a plurality of low-pressure engines with a primary high-pressure steam-cylinder, A, receiving its steam from any suitable steam-generator, and having a steam-dividing self-clearing jet-condenser, D, and a superheater, G, communicating between it and the several low-pressure engines, and operating together, substantially as and for the purpose hereinbefore set forth and described.

111,938. — ROOFING-TILE.—Charles Howard, Warren, Ohio.

Claim.—The tile A, provided with the cross-bars D, grooves D', sunken portions E E, and ribs F F F, in combination with the tile B, provided with the cross-bars D, grooves D', and longitudinal grooves C, and tongues C', when said parts are constructed and arranged with relation to each other, as and for the purpose as herein set forth.

111,939.—SNOW-SHOVEL TIP.—Eber Hubbard, Seneca Falls, N. Y.

Claim.—A malleable-iron snow-shovel tip, made with flanges or arms furnished with points or spurs designed to be driven into the wooden shovel, for the purpose of holding the tip to the shovel in such a manner as to obviate the necessity of using nails, screws, bolts, or rivets for that purpose, substantially in the manner and for the purposes set forth and described.

111,940.—EXCAVATING-MACHINE.—Joseph M. Hughes and Andrew J. Mapes, Independence, Mo.

Claim.—1. The hinged frame A, (of curved bars,) the bounds B, balancing-frame D, and overbalancing-bar G, combined with a rotary spading device K L, as and for the purpose described.

2. The subject-matter of first claim, combined with a foot-stand, I, arranged with respect to the driver's seat, as and for the purpose described.

3. In an excavating-machine, the arrangement of the spades L in a plane parallel to the axis of their rotating-shaft, to strike the earth downward at an acute angle, and pitch the earth upwardly at a corresponding angle into the receptacle.

111,941. — MACHINE FOR STRAIGHTENING BOLTS.—Charles E. Hunter, Hinsdale, N. H.

Claim.—1. The combination, with the block or "sow" A, having the grooves B and C, of the shank-holding plate F, bars E I, and their clamping-bolts, all substantially as specified.

2. The combination, with the above, of the adjusting-key H, substantially as specified.

111,942. — LIFTING-JACK. — Benjamin F. Johnson, Glasgow, Mo.

Claim.—The stand A B, lifting-block C, lever D, guide-rod G, and holding-pawl, all combined and arranged substantially as specified.

111,943. — LOCK-STOP COCK. — J. Evans Jones, Tidioute, Pa.

Claim.—In combination with a stop-cock, the bridle D, cap G, bolts E and F, the nuts I and J, rod K, and lock M, arranged substantially as and for the purposes herein shown and described.

111,944.—DRAFT-DEVICE FOR THREE HORSES.—Owen W. Jones, Columbus, Wis.

Claim.—The three-horse draft attachment to wagons, substantially as shown and described.

111,945. — COMPOUND FOR PLATING AND POLISHING.—Michael J. A. Keane, New York, N. Y.

Claim.—Pure silver, chloride of gold, cyanide of potassium, and prepared chalk, combined in the proportions and applied as and for the purpose specified.

111,946. — SASH-HOLDER. — William Haskell King, Newark, N. J., and Jared Rowland, Williamsburg, N. Y., assignors to William Haskell King.

Claim.—Curved inclined planes, in combination with the springs J J, shafts H H, and sleeves I I, constructed and operated in the manner and for the purpose shown.

111,947.—SECURING STEEL OR IRON PINS IN WOOD. — Richard Kitson, Lowell, Mass.

Claim.—The method, substantially as described, of fastening steel or iron bolts or pins in wood by means of an adhesive and corroding agent applied as specified, and by driving or forcing the bolt or pin into the wood, as set forth.

111,948. — PASSENGER - REGISTER FOR CARS.—John Kurz, Philadelphia, Pa.

Claim.—1. The arrangement of the levers D, D^1, and D^2, brackets C, C^1, C^2, C^3, C^4, and C^5, and spring E, in combination with the hollow sill A and deflecting plate B, substantially in the manner and for the purpose specified.

2. In combination with the above, the rod F, lever D^2, pawl-and-ratchet-wheel G, shafts H, H^1, and H^2, with their gearing and dials M, M^1, and M^2, all arranged and operating in the manner and for the purpose set forth.

111,949.—HORSE-POWER.—Daniel L. Lamon, Boston, Ga.

Claim.—The combination and arrangement of the bed-wheels C and J, wheels I and M, pinion-wheels H H, L, and P, and shaft E, substantially as and for the purposes herein shown and described.

111,950.—REFRIGERATOR.—John H. Lester, Niantic, Conn.

Claim.—1. The air-space d, outside of the main filling material D, and within the exterior wall A of a refrigerator, with means E for ventilating or for closing the ventilation of such space, as herein set forth.

2. The hair-felt refrigerator herein described, having coarse hair felted and used in a dry state between rigid walls or casings, with provision for ventilating the outer surface of the felt and keeping dry the entire non-conducting material, substantially as and for the purposes herein set forth.

111,951.—BASE-BURNING STOVE.—Dennis G. Littlefield, Albany, N. Y.

Claim. — The combination with direct-draught stoves, the employment of an inverted siphon, the short arm of which communicates with the combustion-chamber, and the long arm with the smoke-pipe, for conveying a portion of the products of combustion to the base, substantially as set forth.

111,952.—METHOD OF ATTACHING HANDLES TO SCRAPERS.—Edward C. Locke, Providence, R. I.

Claim.—The combination of a perforated scraper-plate, A, a pair of arms, C C, securely fastened to the same, the arms moving in different directions on a hinge, D, which is attached to each of said arms C C, a hinge, D, passing through the head of a tongue, E, the tongue E with perforations to correspond with those of the scraper-plate A, and used in conjunction with them, and a thumb-screw, J, or its equivalent, substantially as described, and for the purposes set forth.

111,953.—SAW-TOOTH SWAGE.—John Lough, Buckingham, Canada.

Claim.—1. The combination of the griping and lifting devices $n\ n^1\ o\ n^2\ n^3\ g^2$, with the holding devices m, as described.

2. The combination of the griping and lifting devices with a holding device and die, and anvil, as described.

3. The combination of an irregularly-formed wedge and rock-shaft with devices for griping, holding, and lifting the rod, as described.

111,954.—BEAM-COMPASS.—Josiah Lyman, Lenox, Mass.

Claim.—The manner of attaching a permanently-pivoted adjustable pen or point-holder, P h, to the end of beam-dividers, as shown and described.

111,955, antedated February 17, 1871.—BATHING-BRUSH. — Joseph Marshall, Brooklyn, N. Y.

Claim.—A bathing-brush having a back and bristles combined with a bristle-plate having the groove a filled with water-proof composition, the sponge-holder B detachably fastened by the screw b, and the sponge E clamped in a groove of the holder D by a wire, c, all relatively arranged and put together to form an improved article of manufacture.

111,956.—MILLSTONE.—John W. Masury, Brooklyn, N. Y.

Claim.—The millstones, herein described, consisting of the metallic plates A A, having beveled recesses on their outer edge, and provided with the stone slabs c c, with or without the furrows a

b b, when these parts are constructed and arranged as shown, for the purpose specified.

111,957.—LEATHER-PUNCHING MACHINE.—John Matheis, Ottawa, Ill.

Claim.—A punching-bar, composed of the vertical bar A, the cross-head B, the blocks E E with notches G G G, the screws F F, and the needles or awls C C, in connection with a machine for punching leather straps for fly-nets, substantially as and for the purpose described.

111,958.—WASHING-MACHINE.—Erwin W. Maxson, Scranton, Pa.

Claim.—1. The hanger *k*, when connected with its supporting standards by bars e^1 e^2, all constructed, arranged, and operating as specified and shown.

2. The arrangement of the hangers *k*, bars e^1 e^2, adjustable rails *m*, standards *l*, sliding frame A B, and roller *f*, all constructed and operating as specified and shown.

111,959.—BURGLAR-ALARM.—John McDowell, Washington, Pa.

Claim.—The combination of devices for weighing, for throwing liquid, and for telegraphing, when all are operated through the medium of the same yielding section of the floor, substantially as herein described.

111,960.—LAMP-BURNER.—William C. McGill, Cincinnati, Ohio.

Claim.—1. The combination of the sliding wick-tube A and spiral spring C, as herein set forth.

2. The valve-plate D, sliding wick-tube A, in combination with guide *a*, body B, and openings *b* and *c*, when arranged in the manner and for the purpose herein shown and described.

3. The wick-tube A, valve D, and spring C, arranged and operating substantially in the manner and for the purpose set forth.

4. The combination and arrangement of the sliding wick-tube A, valve D, spring C, guide *a*, and body B, when constructed substantially in the manner herein shown, and for the purpose specified.

111,961.—PUMP.—Charles L. Merrill, Watertown, N. Y.

Claim.—1. The combination of the pump-stock A with the flanged cap C and air-vessel B, when so arranged that the downward pressure of the air-vessel will cause the cap to grasp the periphery of the stock so as to prevent it from splitting, substantially as shown and described.

2. The foot-valve *e*, with hooks *g g'*, plate *i*, and bolt *f*, in combination with the head E, having the raised narrow face, constructed and arranged substantially as shown and described.

3. The combination and arrangement of the pump-chamber D, foot-valve *e*, plunger F, piston G, and valve *i* with the stock A, cap C, and air-vessel B, when all are constructed and operated as shown, for the purpose set forth.

111,962.—INDIA-RUBBER SHOE.—Christopher Meyer, New York, N. Y., and John Evans, New Brunswick, N. J.

Claim.—One or more transverse ribs, in rubber shoes or sandals, formed by thickening the substance itself in the lines or directions thereof while in the sheets, by means of rolling-dies, as and for the purpose described.

111,963.—COOKING-STOVE ATTACHMENT.—Nathan S. Minnis, Oil City, Pa.

Claim.—In combination with a warming-closet to a cooking-stove, the grate A, ash-pan B, grid-iron C, movable baker D, draught E and F, constructed as and for the purpose set forth.

111,964.—ANTI-RATTLING WASHER.—Benjamin Morton, Fertility, Pa.

Claim.—The combined washer A *a*, when made and applied to the spindles of vehicles, in the manner and for the purpose specified.

111,965. — PLOW. — James Oliver, South Bend, Ind.

Claim.—1. A colter and plow-point formed of one piece, when said colter has the same curve given it (or nearly so) that the mold-board of the plow has, to which it is to be attached, substantially as shown and described.

2. In combination with the standard *e*, when curved as described, the curved, grooved, and slotted brace *e* and beam *d*, when all the parts are arranged as and for the purpose specified.

111,966, antedated February 11, 1871.—DEVICE FOR GRINDING THE FLAT FACES OF VALVE-SEATS.—Samuel J. Peet and Daniel Sawyer, Boston, Mass., assignors to Samuel J. Peet.

Claim.—The pair of disks or plates A A, provided with cutting-surfaces, as described, in combination with the rod B, provided with the conical wedge *d* and the screw *c*, arranged and operating together substantially as and for the purpose set forth.

111,967.—CURTAIN-FIXTURE.—Phineas W. Phillips, Salem, Mass., assignor to James F. Almy, same place.

Claim.—A shade-roller, in which the following elements are combined, viz: A flanged metal cap, a hollow slotted roll, and metal step, made and used substantially as described, the whole operating together in the manner and for the purpose set forth.

111,968. — FELTED FABRIC.—James Ezra Pollard, Franklin City, Mass.

Claim.—As a new article of manufacture, the fabric, as hereinbefore explained, composed of feathers and wool, or equivalent felting material, arranged and felted, or felted and fulled, as described.

111,969.—MINIATURE WAR GAME.—Casimiro Portillo, New York, N. Y.

Claim.—The above-described construction and arrangement of parts, constituting a new game for players, substantially as specified and set forth.

111,970.—LARD AND BUTTER BOX.—William Pratt, New York, N. Y.

Claim.—A double-walled box or passage made of paste or straw-board, rendered impermeable to air, moisture, or oleaginous substances, by any of the well-known varnishes or cements, and this whether the spaces between the walls are filled with non-conducting substances or not.

111,971. — FIRE-PLACE GRATE.—William Pulsfort, Louisville, Ky.

Claim.—The bar E with its hooks F, in combination with the grate A, the jambs C, and back D, substantially as and for the purpose hereinbefore set forth.

111,972.—CAR-COUPLING.—Samuel H. Reed and George A. Reed, Fredericktown, Ohio.

Claim.—The combination of the jaw B and pin C with the link D *d* d^1 d^2, whereby said jaw and pin will be made to register with the openings *d* d^1, respectively, thus forming a double safety lock, substantially as shown and described, and for the purpose specified.

111,973.—MACHINE FOR BRONZING.—Israel L. G. Rice, Cambridge, Mass.

Claim.—1. The table or block A, constructed with the leaf *a*, chamber or receptable *b a''*, chambers for the reception of the rollers B B and cleaning-brushes C C, aperture or spout for feeding the bronze to the bronzing-rollers, and receptacle for the brush E, substantially as and for the purpose set forth.

2. The velvet or other suitably-covered bronzing-rollers B B, in combination with the receptacle or reservoir N, with its spout and reciprocating brush E, for equalizing the distribution of the bronze upon said rollers B B, all constructed and arranged substantially as set forth.

3. The casing or block A, constructed as described, in combination with the brush E, receptacle N, rollers B and D, revolving brushes C C, shafts G and I, pulleys K^1 K^2 K^3 K^4 K^5 and J^1 J^2 J^3 J^4 J^5, belts L, and connecting-rod F, all constructed and arranged substantially as and for the purpose set forth.

111,974.—SPRING BED-BOTTOM, SEAT, &c.—Charles Rich, Poughkeepsie, N. Y.

Claim.—The combination of spiral springs A B C D with tubes, clasps, or hooks *a b d*, with lining or packing E inside the tubes, clasps, or hooks, all susceptible of being rolled or folded up, as described.

111,975. — PLOW. — Alexander Rickard, Schoharie, N. Y.

Claim.—The flanged rotary perforated cap G, combined with a hollow beam D and draft-rod E, as set forth.

111,976.—PRIVY.—Frank Riedel, San Francisco, Cal.

Claim.—A suspended seat and seat-frame, *a b*, for privies, moving on the vertical rods *c'*, and having the cords *e*, pulleys *f f*, and weight *d*, substantially as described.

111,977.—IMPLEMENT FOR SLITTING AND LOOPING RAGS FOR CARPETS.—Daniel A. Russell, Windham, Ohio.

Claim.—The pivoted knife A, provided with an aperture, *b*, for uniting carpet-rags, as set forth.

111,978.—SHIRT.—Adolphe Salmon, New York, N. Y., assignor to Cahn & Salmon, same place.

Claim.—A shirt provided with two openings, one upon each shoulder, extending through the collar-band in such manner that the shirt may be passed over the head of the wearer, and that the size of the collar-band may be changed without disturbing the relative position of the collar-buttons upon the back and front of the neck, substantially as described.

111,979, antedated February 6, 1871.—CORN-PLANTER.—Joseph Schott, Peoria, Ill.

Claim.—1. The adjustable colter G, in combination with the bent plates H, when constructed and arranged substantially as and for the purpose herein specified.

2. The sliding block N, sliding plate *v*, and block and brush, fig. 7, combined with the lever K, cam C, and springs L and R, when constructed and arranged to operate substantially as and for the purpose specified.

111,980.—REVOLVING SHOW-CASE.—William J. Scott, Albany, N. Y.

Claim.—1. A revolving show-case, consisting of a series of flat cases projecting radially from a center, as herein described, and for the purpose set forth.

2. The combination of the heads C C, front panels D D, and covers E E, when arranged to revolve around or with a central shaft, J, substantially as and for the purpose herein specified.

111,981. — HOSE-RING. — George Sewell, Brooklyn, N. Y.

Claim.—The closed screw-ring A, in combination with the open screw-ring B, arranged so as to attach hose to couplings, substantially as described.

111,982.—STEAM-ENGINE.—Joel Sharp and Joseph W. Thompson, Salem, Ohio.

Claim.—1. The cylinder B, steam-chest C, slides M, bed-plate D, pillow-block K', lugs *k b*, as arranged and cast in one piece, and the pump E, in combination with the boiler, substantially as and for the purpose set forth.

2. The arrangement of the driving-shaft transversely across the top of the boiler, in pillow-blocks K K', and at right angles to the line of the engine, arranged in relation to the smoke-chamber G, substantially as and for the purpose set forth.

3. The base A', with the circular basin B, as arranged, in combination with the boiler A, for the purposes and in the manner substantially as set forth.

4. The arrangement of the arm H with the piece I, having a slot at right angles to said arm, in combination with the crank-pin *a*, wrist and link J, operating conjointly, as and for the purpose substantially set forth.

111,983. — PUMP.—George F. Shaw and Henry F. Shaw, West Roxbury, Mass.

Claim.—The combination, in a pump, of the tube A, provided with the valve *d*, and a retractor, constructed, arranged, and operated substantially as described and shown.

111,984.—NON-CONDUCTING MATERIAL FOR COVERING STEAM-BOILERS, &c.—Benjamin F. Smith, New Orleans, La., assignor of one-half his right to G. L. Laughland, same place.

Claim.—1. The hulls of cotton or rice-seed, either separately or combined, as a basis for a non-conducting covering for boilers, pipes, and other purposes.

2. The hulls of cotton or rice-seed, either separately or combined, treated in the manner above described, for the purpose specified.

111,985.—RAILWAY-CAR COUPLING.—Marcus B. Smith, Mattoon, Ill.

Claim.—The combination of the lever B B, secured in position by plates *c c*, in combination with the levers *t t*, *i*, and D, and notch *e*, when combined in the manner substantially as described, in combination with the bumper P, draw-bar U U, and spring *s*, to receive the shock of concussion from the link *r*, when operated in the manner and for the purposes as herein set forth and described.

111,986. — HEEL OF BOOTS AND SHOES.—Homer S. Smythe, Darlington, Wis.

Claim.—The permanent leather piece A, threaded and socketed metallic plate B C D, detachable rubber piece E, metal block F, and threaded bolt I, all combined, constructed, and relatively arranged as and for the purpose described.

111,987.—HARVESTER.—George H. Spaulding, Rockford, Ill.

Claim.—1. The pivoted compressing-fingers, constructed substantially as described, and arranged to be operated by the knee of the binder.

2. The cylinder D, with the teeth *a a* arranged spirally thereon, in combination with an endless revolving apron, all operating substantially as set forth.

3. The bows D D, in combination with revolving apron B and cylinder H, all constructed and arranged to operate as described.

111,988. — CONSTRUCTION OF CYLINDER FOR CARDING AND OTHER MACHINES.—Joseph M. Stone, North Andover, Mass.

Claim.—As a new manufacture, the cylinder herein described, consisting of a thin cylindrical

shell, having thick heads integral with the shell, and the exterior shafts fitted and driven into the said heads.

111,989, antedated February 20, 1871.—CRADLE FOR CHILDREN.—William J. Stowell, Baltimore, Md.

Claim.—1. The cradle or crib A, arranged and guided within a portable frame, and to swing only endwise upon suspenders or rods *a*, which are made with or without the springs *b*, and are attached to the posts of the portable frame and cradle or crib, substantially in the manner described.

2. The horizontally-vibrating treadle or lever D, made with or without the rod *d'*, in combination with the cord *b'* and endwise-swinging cradle A, substantially in the manner described.

111,990.—COMBINED AUGER AND REAMER.—Owen W. Townsend, Fond du Lac, Wis., assignor to himself and George O. Trowbridge, same place.

Claim.—The auger A, provided with the cutting-bit *a*, having its exterior diameter coincident with the inner edges of the knives *c'* of the reamer C, and in combination therewith, substantially as and for the purpose specified.

111,991.—SPINNING-WHEEL.—Franz Voegtli, Montgomery City, Mo.

Claim.—1. The treadle C, combined with the wire D, hinged to the frame A, and provided with bent supports *c*, substantially as and for the purposes set forth.

2. The slide M, its spring *m'* and pin *m*, combined with the rods *n n*, the bar O, the shaft L, having the screw-groove *l*, and the flier H, substantially as set forth.

111,992, antedated February 11, 1871.—SEEDER.—Tennis Vreeland, Oneida, Ill.

Claim.—The distributer J, when provided with radial flanges *j j j j* and side flanges *j' j' j' j'*, constructed, as shown, so as to form discharge-spouts at the corners, substantially as described, and for the purpose set forth.

111,993.—BALING-PRESS.—Edwin R. Wallace, Jonesville, S. C.

Claim.—The baling-box D, straps *b*, and plates *c* and *d*, open at both ends, and revolving in frames A B C D, combined, as described, with two followers, rotating on a right and a left screw, for the purpose specified.

111,994.—BREECH-LOADING FIRE-ARMS.—William G. Ward, Edgewater, N. Y.

Claim.—1. A groove on the front end of the hammer, constructed to engage with the upper end of the trigger-bolt, substantially as shown and described.

2. The combination of a groove on the front end of the hammer, and a notch in or hook on the rear upper end of the trigger-bolt, substantially as and for the purpose specified.

3. A cam on the front end of the hammer, to press down the trigger-bolt and diminish the travel of the trigger, when constructed substantially as shown and described.

4. The stop B^4, in combination with the trigger, for limiting the movement of the trigger-bolt, substantially as shown and described.

5. The combination of the tongue and groove for preventing displacement of the parts, substantially as shown and described.

6. In combination with a breech-loading fire-arm provided with lugs s^5, the magazine Z, provided with the pivots z^5, as and for the purpose specified.

111,996.—SASH-HOLDER.—William M. Warren, Watertown, Conn.

Claim.—The herein-described sash-lock, consisting of the lever C, one arm of which is formed into a projecting nose, *c*, the other arm *c* extending to a cam, D, which said cam is provided with a spindle, F, for operating the same, and the lever provided with a spring, *f*, to throw the nose of the lever outward from the case, the whole being constructed and arranged in the manner herein described.

111,996.—PRESSED NUT-BLANK.—Frank Washbourne, Brooklyn, N. Y., assignor to Steele & Johnson Button Company, Waterbury, Conn.

Claim.—As a new article of manufacture, the pressed nut-blank herein described, concaved upon one or both faces, substantially as and for the purposes set forth.

111,997.—PISTON-PACKING.—George Wells, Providence, R. I.

Claim.—The segments B B B, the V-shaped pieces A A A, when placed between the upper and lower piston-plate, and operated by a spring coiled about the post of the lower plate, all arranged and combined as described, and for the purposes set forth.

111,998.—HOOP-SKIRT.—James O. West, New York, N. Y.

Claim.—The hoops *a*, braces *f*, and the back-straps *e*, fastening in front, combined as described, with the side-suspending hip-straps *b b* of a hoop-skirt, for the purpose specified.

111,999.—WASHING-MACHINE.—Lawrence White, Orford, Iowa.

Claim.—An improved washing-machine, formed by the combination of the pivoted rack C, spring or springs D, pivoted beater E F, jointed lever G, connecting-rod H, and pivoted lever I, with each other and with the box A, substantially as herein shown and described, and for the purpose set forth.

112,000.—FAUCET.—William Crosby Wise and John Ashman, Chelsea, Mass.

Claim.—1. The arrangement and combination of the elastic ball B, cup G, collar F, rod D, bar or grating H, and shell A, substantially as and for the purposes shown and described.

2. In combination with an elastic ball-valve, the self-adjusting cup G on the end of a valve-rod, substantially as described, and for the purposes set forth.

112,001, antedated February 6, 1871.—CONDENSING DOUBLE-END LOCOMOTIVE-ENGINE.—Joseph P. Woodbury, West Roxbury, Mass.

Claim.—1. The crescent-shaped hot-water tank, in combination with the pipes O O' and condenser T, arranged substantially as and for the purpose set forth.

2. The combination of the throttle-valves S S, the rods R R'', and tube R, substantially as described, and for the purpose set forth.

3. The combination of the reverse-links L'' M with the actuating device H H^1 H^2 H^3 H^4, L L', G'' G' G, F E'', substantially as described.

4. The segment-gear P^{iv}, in combination with the throttle-valve stem S and the ratchet P^{iv}, substantially as described, and for the purpose set forth.

5. The telescopic rod H, in combination with the beveled gears G G' and rocker-shaft F', substantially as described, and for the purpose set forth.

112,002, antedated February 18, 1871.—SLIDE-VALVE.—John C. Woodhead, Pittsburg, Pa.

Claim.—The central casing E, with diaphragm F, when employed in connection with two valves, as described, for the purpose set forth.

112,003.—REFINING IRON, REDUCING ORES, &c.—John F. Allen, Tremont, N. Y.

Claim.—Passing molten metal, in the form of a shower or spray, through pulverized alkaline earths or oxides of iron, either with or without the admixture of pulverized carbon, such as charcoal or anthracite coal, substantially as herein shown and described, and for the purpose set forth.

112,004.—TOWEL-HOLDER.—Henry Alsop, Elkhart City, Ill.

Claim.—The hereinbefore-described towel-holder, consisting of the frame A, provided with the eye B and pivoted bearing C, in combination with the roller D, substantially as and for the purpose specified.

112,005.—PAPER-BAG MACHINE.—Peter Edward Armstrong, Philadelphia, Pa.

Claim.—1. The combination of the reciprocating knife H and the rotating arm *h*, operating as set forth.

2. A reciprocating or vibrating blade, *p*, in combination with the plate *a*, by which paste is transferred from a reservoir to the said blade, substantially in the manner described.

3. The combination of the grooved rollers *h h*, wheels *j j*, and plate F.

112,006.—CORN-PLANTER.—James M. Aitchison, Omar, N. Y.

Claim.—1. The disk F, hinged projection F^2, and spring *f'*, in combination with the pivoted bar E^2, rod and spring *e'*, and the pivoted comb-like device *e*, substantially as and for the purpose set forth.

2. The arrangement of the rollers B B and B^2 F, pulley B^1, handle B^2, belt C, pulley D, vertically-movable trough D^1, belt or chain *f*, pulley F^1, cam F, pivoted bar E^2, spring and cord *e'*, agitator bar *a*, and trough E, all arranged and operating substantially as and for the purpose set forth.

112,007.—BUCK-SAW FRAME.—John Gulick Baker, Philadelphia, Pa., assignor to Henry Disston & Son, same place.

Claim.—The recessed metal socket *i*, in combination with the strips *h h'* and diagonal G, as set forth.

112,008.—HAND-CAR.—William T. Beckman, Petersburg, Ill.

Claim.—1. The bolster F, provided with the shaft G and rack H, in combination with the sector H^1, shaft B, and lever C, substantially as and for the purpose specified.

2. The levers D and D^2, in combination with bolster F, rack H, sector H^1, shaft B and lever C, substantially as and for the purpose described.

112,009.—WINDOW-WASHER.—Charles Edward Bell, Greenfield, Ohio.

Claim.—1. The window-washer herein described, having the perforated reservoir D provided with the regulating slide F, the inclined plane G, and the clamps B H and B' C, substantially as specified.

2. In a window-washer, the perforated reservoir D with air-tight regulating slide F, and the inclined plane G, substantially as specified.

112,010.—PORTABLE WATER-CLOSET.—Petter Bergqvist, Austin, Minn.

Claim.—The combination and arrangement of the frames or boxes A A'', lined cover C, receivers G and E, the latter provided with a lid consisting of the two parts E' and E''', tube F, and air-pipe D, substantially as and for the purpose set forth.

112,011.—SEAL-LOCK.—Wilson Bohannan, Brooklyn, N. Y.

Claim.—The pivoted seal-holder I, carrying an arm, M, which is held by the shackle C in manner substantially as described.

112,012.—MACHINE FOR CLEANING GARDEN-WALKS.—Peter Boice, Chatham village, N. Y.

Claim.—The knife *f*, of the character specified, connected to the frame *a* and supported by the swinging axle *b* and wheels *c*, and adjustable in the depth of cut by the yoke *k* and wheels *m*, as and for the purposes set forth.

112,013.—DETACHABLE MAGAZINE FOR COOKING-STOVES AND RANGES.—Lewis Bridge, Philadelphia, Pa., assignor to David Stuart and Richard Peterson, same place.

Claim.—The magazine, composed of the sheet-iron body, the cast-iron ring E, arranged for the reception of the cover F, and the cast-iron ring *d* for fitting a boiler-hole of the stove, all substantially as and for the purpose described.

112,014.—MOP-HOLDER.—John Brizee, Alvarado, Cal.

Claim.—The mop-holder, consisting of the side wires *b b*, parallel locking-wires *d d*, and sliding wire *f*, substantially as and for the purpose above described.

112,015.—VALVE-GEAR FOR DIRECT-ACTING ENGINES.—Adam S. Cameron, New York, N. Y.

Claim.—1. The arrangement of a rod, F, secured in one of the pistons of a direct-acting engine, and extending alongside the other cylinder, said rod serving to actuate the steam-valve of the auxiliary or main cylinder, substantially in the manner herein shown and described.

2. The steam-chambers O, receiving steam from behind the throttle, and valves *i*, provided with tappets *k* extending into the cylinder A, for the purpose of cushioning or arresting the steam-piston, substantially in the manner herein set forth.

112,016.—SEWING-MACHINE FEEDING MECHANISM.—Mary P. Carpenter, San Francisco, Cal.

Claim.—1. A feed-motion for sewing-machines, consisting of two feed-rollers arranged opposite each other on opposite sides of the cloth, and each operated independently of the other by means substantially as herein described.

2. The combination, for supporting and operating the feed-roller which is arranged above the material, of the socket K, fitted to the presser-arm, the spindle *e*, passing through said socket, the bevel-gears *c d*, on the said roller and spindle, the ratchet-wheel *f*, on the said spindle, and the pawl *l*, carried by a pawl-box or carrier working upon said spindle, operated by some vibrating portion of the machine, all constructed substantially as herein described.

3. The combination, for supporting and operating the feed-roller which is arranged below the material, of the shaft H, the ratchet-wheel *j*, on said shaft, the pawl *p*, carried by a pawl-box or carrier oscillating around said shaft, and the rod *q'*, attached to the said pawl-box or carrier and connected with an arm of the needle rock-shaft, all substantially as herein described.

4. The combination, with the arms P or P', attached to the rock-shaft C, of the adjustable sliding connections *r* or *r'* of the rods N or *q'*, and their respective connections with the feed-rollers G or G', substantially as and for the purpose set forth.

112,017, antedated February 18, 1871.—SIGNAL-BOX FOR FIRE-ALARM TELEGRAPHS.—Stephen Chester, New York, N. Y.

Claim.—1. The combination of a swinging-bar or

lever with sliding bar and lever, for winding in such manner that the lines described by the independent movement of hanging-bar D with sliding bar C, and by the winding-lever A, shall intersect each other at the point from which both start, but shall separate and depart from each other from thence, while the swinging of the movable bar D is capable of being deflected from that position by the resistance of the bar A when the point of the former is caused to impinge upon the latter.

2. The attachment of a movable bar or swinging-lever to the actuator of fire-alarm boxes, for the purpose of causing the said actuator to engage with the winding apparatus of said machinery substantially for the purpose and in the manner described.

3. The arrangement of the movable lever in such a manner that it will be governed in its motions by gravity, as and for the purpose as set forth.

4. The combination of a spring or springs with the movable lever, as and for the purpose as set forth.

5. The combination of the spring H with the movable bar D, substantially for the purpose and in the manner described.

112,018. — PUMP. — Nathan T. Coffin, Knightstown, Ind.

Claim.—The sheet-metal lining B, secured in the interior of the wooden stock A by turning or flanging the ends of the tube, forming the lining into grooves cut in the stock, substantially as set forth.

112,019.—BINDER FOR SEWING-MACHINES. Jacob L. Coles, Newark N. J.

Claim.—1. The auxiliary U-shaped folding-guide B, provided with edge-gauges *h* and *i*, in combination with the main U-shaped folding-guide A, over which the braid is folded, as and for the purposes specified.

2. In combination with the auxiliary and main folding-guides A B, the spring-presser C, as and for the purposes specified.

112,020.–LUBRICATOR FOR STEAM-ENGINES. Henry C. De Land, Syracuse, N. Y.

Claim.—1. The method of automatically lubricating the machinery of a steam-engine by means of an oil-cup, B, having within it a stationary slotted or perforated tube, F, with a capped sliding tube, E, thereon, and provided with the head A and cock D, constructed and arranged to operate substantially as described.

2. The capped loosely-sliding tube E, in combination with the slotted or perforated tube F, when constructed and arranged to be operated substantially as and for the purpose set forth.

112,021.—IMPLEMENT FOR DRIVING SPOKES INTO HUBS OR WHEELS.—Wesley Edwards, Indianapolis, assignor to himself, John Holloway, Crawfordsville, and John F. Snider, Indianapolis, Ind.

Claim.—The combination of the adjustable screw-bolts E F and P F and adjustable spring G, all arranged to operate substantially as set forth.

112,022.—FRUIT-DRIER.—Benjamin F. Ella, Dayton, Ohio.

Claim.—1. A fruit-case, *h i*, combined with tubes *k*, in the manner and for the purpose specified.

2. The combination of the shaft *d*, radial arms *e*, and fruit-cases *h i*, in the manner and for the object specified.

112,023. — MOSQUITO-NET.—Jacob Joseph Alexander Ergenzinger, Atlanta, Ga.

Claim.—The frame or canopy A for a mosquito-net, constructed in the manner herein shown and described.

112,024.—PATTERN FOR APPLYING MEASUREMENTS AND LAYING OUT GARMENTS. Sarah C. Ewing, Indianapolis, Ind.

Claim.—The patterns A, B, C, D, and E, shaped and graduated as set forth, and for the purpose described.

112,025. — FLOATING WATER-ELEVATING WHEEL.—Charles Friedrich Fisher, New Orleans, La., assignor to himself, Lewis Moses, Bernard Moses, Gustave Moses and William Bogel, same place.

Claim.—1. The combination and arrangement of the spur wheel H, wheel D, and block-pulley C operated by the chain E working upon spur wheel D.

2. The relative arrangement of the buckets upon the links of the chain, so that they are raised by the junction of the planes of both pulleys at their point of attachment to said chain, and consequently in turning over the upper pulley C project beyond its periphery.

3. The well in boat A, with guard M, in combination with the apparatus, substantially as described.

4. The combination of hexagonal wheel or pulley I, at the bottom of frame B, with square pulley C at the top, carrying the chain with its attached buckets, substantially as described.

112,026. — APPARATUS FOR CARBURETING AND GENERATING GAS. — Fisher Ames Fisher, Westfield township, N. J.

Claim.—1. The construction and arrangement of the induction-siphon, and distributing-pipe *B'*, substantially as set forth.

2. In combination with distributing apparatus as covered by claim 1, the wicking distributed between the wire nettings W W W W, substantially as set forth.

112,027, antedated February 21, 1871.—KNITTING-MACHINE.—G. W. Folts, Boston, Mass., and James L. Branson, Chicago, Ill.

Claim.—The combination of the cylinders A B, bed-plate H, grooves F S, and stop device I *h*, all constructed and operating substantially as and for the purpose set forth.

112,028.—WATER-WHEEL.—Charles James Fox, Charlotte, N. C.

Claim.—1. The reversible case or frame in which the water-wheel is placed, so adapted that the shaft of the wheel can be changed from a vertical to a horizontal position by the means substantially as described.

2. The water-wheel N, consisting of a cylinder having the buckets formed in its side and partly inclosed, so that the water will be received, retained, and discharged on the outside, at the furthest point from the center, substantially as shown.

3. The combination of the float-valve D, levers C and G, and connecting-bars *a c*, when so arranged as to open and permit the closing of the gate, substantially as specified.

4. In combination with the float-valve and its levers, the screen P, case M, rod L, and wheel N, when all are arranged as described.

112,029.—LUBRICATOR.—Stephen F. Gates, Cambridge, assignor to the Lowell Oil-Cup Company, Lowell, Mass.

Claim.—1. The combination of the glass globe *c* and the stand *m*, both constructed as shown and described, the latter with a concave recess and a screw-furnished tubular recess below it, and the former with a rounded lower end conforming to the shape of the recess first named, when the globe and the stand are connected by a collared and screw-furnished bushing, in the manner and for the purpose set forth.

2. The combination, substantially as described, of the bolt *b*, having a conical head, *f*, the conical follower *d*, the compressible packing *e*, and screw-cap *c*, each constructed, as shown and described.

all operating in the manner and for the purpose specified.

112,030.—HAY-TEDDER.—Luke Hale, Hollis, N. H.

Claim. 1. The shaft *d*, with fingers *i i*, spring and cogged segment *s*, in combination with the wheel D, having alternate arcs of unequal cogs *a* all constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The arms *r r*, with fingers *i' i'*, bar *p*, rod *n*, crank-wheel *m*, and pinion *k*, in combination with the cog-wheel D, all constructed and arranged to operate substantially as herein set forth.

3. The bar *t*, with teeth or fingers *i' i'*, crank-wheels *m m'*, shaft *h*, and pinion *k*, in combination with the cog-wheel D, all constructed and arranged to operate substantially as and for the purposes herein set forth.

112,031.—LOUNGE AND BED.—John C. Hall, Cincinnati, Ohio, assignor to himself and Allen C. Richards, same place.

Claim.—1. A convertible lounge and bed, consisting of the devices A, B, and G, of which the device G is hinged to A and is erect or nearly so when the article is used as a lounge, and is capable of being turned down to a horizontal or nearly horizontal position when employed as a bed, substantially as described.

2. A convertible lounge and bed, consisting of the frame A, legs B *b*, and hinged bed-frame G, which latter is capable of being maintained in its turned-down position by the sliding arms C C' of the lounge, substantially as herein explained.

3. The combination of the frame A, legs B *b*, sliding arms C C', boards D D, bars F F', links *f f'*, and hinged bed-frame G, for the purpose described.

112,032. — OIL-CLOTH PRINTING MACHINERY.—William Hudson Halsey, Philadelphia, Pa.

Claim.—1. The block J of an oil-cloth-printing machine, when secured to a traversing bar or frame, H, by elastic or spring connections, arranged substantially in the manner described, so as to maintain the block in a horizontal position and prevent it from swaying.

2. The bar H, attached to the printing-block as described, and arranged to be adjusted vertically in the traverting frame G.

3. The combination of the lever K and rod L with the bar H and printing-block J, the whole being arranged and operating substantially as described, for the purpose specified.

112,033.—HOLDER FOR NEEDLES IN SEWING-MACHINES.—Henry J. Hancock, New York, N. Y.

Claim.—The needle-guard G, constructed essentially as described, in combination with the needle-bar F, the pin or projection *f*, and the set-screw *g*, arranged to look with the needle-bar, as described.

112,034.—ROAD-BED.—Napoleon B. Heafer, Bloomington, Ill.

Claim.—The pulverized matter herein described, when prepared in the manner and of the materials specified, and used to form a road-bed.

112,035. — FAUCET.—William H. Hedges, Newark, N. J.

Claim.—1. The loose conically-pointed handle or lever F, under control of a stop, *m*, arranged to serve as a fulcrum, in combination with the tapering recess *e* in the valve or its stem, or plate E covering the outer end of the latter, and a spring operating to close the valve, substantially as specified.

2. The combination of the locking surface or ridge *a* with the tapering recess *e* and cone F of the lever or independent handle, arranged to act on the valve under the combined action of a stop or fulcrum and spring controlling the valve, essentially as herein set forth.

3. The flexible cup-packing D over the outer end of the valve-stem, in combination with the annular recess *f*, at the base of the chamber, in which said packing is arranged, substantially as specified.

112,036.—TRIP-HAMMER.–Benjamin Hershey, Erie, Pa.

Claim.—The combination of the torsional spring L, S-shaped cam H, and drop-hammer D C, when the same are arranged and operate substantially as described.

112,037.—SPRING FOR VEHICLES.—Benjamin Hershey and Richard Dudley, Erie, Pa.

Claim.—1. The horizontal rod D, when the same is secured in a transversely-sliding friction-plate in such manner as to allow of the necessary revolution of the rod to form a torsion spring, substantially as described, and for the purpose specified.

2. The rods D D, having lateral arms D' D', friction-plates *f f*, and standards C C, when the same are so combined and arranged as to operate substantially as described.

112,038.—SCHOOL-DESK AND SEAT.–Charles J. Higgins, Indianapolis, Ind.

Claim.—1. The desk, constructed with the legs crossing each other and supported by the casting G, as shown, in combination with the hinged seat F, lid C, and end pieces D, all arranged and operating substantially as and for the purpose set forth.

2. The casting G, formed and applied to the intersection of the legs A A', substantially as and for the purpose set forth.

3. The seat-hinge, consisting of the socket H, bearings *i i*, and pin J covered with rubber, all as described and specified.

112,039. — PLOW-COLTER. — Ephraim C. Hodge, Oneonta, N. Y.

Claim.—The colter D *d*, in combination with yoke B, stops E E, slide-rods C C, and beam A, whereby the colter may be used on either side of the beam and adjusted at the will of the operator, as and for the purpose set forth.

112,040.—FOLDING-CHAIR.—Francis March Holmes, Boston, Mass.

Claim.—The back rung F, pivoted to the longer levers B B', as described, and connected to the seat by means of the "two-leaved hinges" or arms G G, extended from the said rung and pivoted or hinged to the seat, all substantially as specified.

112,041.—FOLDING-CHAIR.—Francis March Holmes, Boston, Mass.

Claim.—The rungs E F, as arranged with their axes at unequal distances from that of the pivotal bar *a*, and the seat, as provided with the elevating cam I, or its equivalent, and hinged or connected with the back rung F, as explained, and such rung pivoted to the levers B B', all being substantially as hereinbefore described and as represented.

112,042.—WINDOW-SASH LOCK.—Bennet Hotchkiss, New Haven Conn.

Claim.—The within-described construction of the slotted plate *a c*, adapted to fit in the window-frame, as shown, with a recess underneath for the head of the bolt to be adjusted backward and forward therein, in combination with the bolt *b g* and threaded knob *h*, as and for the purposes herein set forth.

112,043.—HYDROSTATIC SCALE.—Orvis D. Hudson, Waupun, Wis.

Claim.—In a hydrostatic scale, constructed as described, the vertical ribs *c* on the outer side of

the inner vessel D, for the purpose of keeping the latter in a vertical position and equidistant on all sides from the vessel, substantially as and for the purpose set forth.

112,044.—BASE-BURNING STOVE.—George G. Hunt, Chicago, Ill.

Claim.—1. The movable gas-ring or rings or diaphragm G G², when made in the manner and used for the purposes hereinbefore set forth and described.

2. Making the coal-reservoir of a base-burning stove detached and movable from the main body of the stove, for the purposes hereinbefore specified.

3. The perforated plates *e e*, or their equivalents, in combination with the cover *m* and reservoir R, when used for the purposes hereinbefore specified.

112,045.—MANUFACTURE OF PAPER AND LEATHER-BOARD.—Carleton B. Hutchins, Ann Arbor, Mich.

Claim.—1. Hair in the manufacturing of leather-board and paper, substantially as herein described.

2. The combination of hair and potato pomace in the manufacture of paper and leather-board, substantially as set forth.

112,046.—MANUFACTURE OF FLOUR.—Elias S. Hutchinson, Baltimore, Md.

Claim.—As an improvement in the manufacture of flour from wheat or any grain, removing the oil from the meal by a chemical agent after grinding and prior to bolting, substantially as explained.

112,047.—VALVE.—John Johnson, Brooklyn, N. Y.

Claim.—In a globe-valve, the combination of a conical, double-seated, flexible valve and a conical recessed seat, their arrangement with reference to each other being such that, when the valve is pressed into its seat, its diameter may be enlarged so as to insure its fitting against the conical walls of such seat, substantially as and for the purpose set forth.

112,048.—HALTER-BUCKLE AND RING.—Llewellyn E. Jones and Theodore M. Barber, Syracuse, N. Y.

Claim.—A halter put together by buckles, made in clusters and applied as shown, so that the parts can be taken up or lengthened out or readily detached at any time with very little if any stitching or riveting, substantially as specified.

112,049.—STEAM-GENERATOR.—James L. Judge, Milwaukee, Wis.

Claim.—1. Hollow grates F, connected to the front bottom cylinder D and the back top cylinder D, and connected to fire-box A by pipes H and I, and with the boiler B by pipes O, forming a circulation of water from the bottom of the fire-box A with the boiler B, all in combination substantially as described.

2. Side cylinders D, both top and bottom, connected with tubes E and G, and the side cylinders connected with the fire-box by pipes H and I, to form a circulation of the water, substantially as described.

3. The basket, composed of cylinders D, tubes E, grates F, tubes G, with connecting-pipes H and I, air-tubes K and M, and connecting-pipes O, in connection with fire-box A and boiler B, all in combination, substantially as described.

112,050.—TUCK-MARKER FOR SEWING-MACHINES.—James Franklin Kellogg, North Bridgewater, Mass.

Claim.—The combination of a pressure-clamp, A, with the adjustable gauge G and arm F of a tuck-marker, substantially as described, for the purposes specified.

112,051.—LATHE.—James Kievlan, Chicago, Ill., assignor to himself and William Wisdom, same place.

Claim.—1. In combination with the head and tail-spindles, the former of which revolve on their own axes, and also around a common axis, as described, cutters arranged to turn off the stick while revolving around the same common axis.

2. The cutters Z, suspended on rods W, between the spiders, and constructed with tail-pieces and springs *s*, in combination with the cam which brings the cutters into action, substantially in the manner set forth.

3. In combination with the cutters and cam last aforesaid, the pinions 5, shafts 4, revolving with the spiders, and fixed spur-wheel 6, substantially as set forth.

4. In combination with the lathe-head Q Q' and shaft F, independently revolving, the adjustable friction-wheels N, communicating motion to the lathe-heads, substantially in the manner set forth.

5. In combination with the tail-spindles and cam V, the stirrups X, arranged to operate the spindles substantially in the manner set forth.

6. In combination with the tail-spindles, the spring-latches Y, and cam V for detaching said latches from the spider-rim, substantially in the manner set forth.

112,052.—DUMPING-CAR.—Sidney D. King, Middletown, N. Y.

Claim.—1. The inclined planes C C, in combination with the platform D, rollers *a a*, and box G, arranged as described, so that the box will move forward and dump itself, substantially as set forth.

2. The arrangement, with the platform D, of the spring-hook *b* and lever *f*, operating with the projection *d* on the turn-table, as and for the purpose herein set forth.

3. In combination with the platform D, the latch *g*, spring-bar *h*, bar *k*, and stop *s*, arranged as described, and for the purposes set forth.

4. The combination of the turn-table B, inclined planes C C, platform D, and box G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

112,053.—FOLDING-BEDSTEAD.—Kasimir Kronkel, New York, N. Y.

Claim.—The sliding sleeves *d* and toes *e*, in combination with the pivoted side rails and the head and foot-pieces, as herein shown and described, for the purpose specified.

112,054.—CASTING SOLDER-WIRE.—Edward M. Lang, Portland, Me.

Claim.—1. The improved method of manufacturing solder-wire, viz., by the combination of the furnace F, crucible G, nozzle and valve H and N, and the wheel C having a flat and smooth surface in rotation, substantially as herein described.

2. The winding or coiling machinery, consisting of the shaft J, the truck K, and the tub M, or equivalent, operating in conjunction with the casting apparatus, as herein described.

112,055.—DUMB-WAITER.—Tolbert Lanston, Washington, D. C.

Claim.—The dumb-waiter herein-described, having cylinder D, piston-rod E, provided with guiding-lugs *c c*, pipes F and G, cocks *f* and *g*, together with the operating-rod H, actuating both cocks by simultaneously opening one and closing the other, substantially as specified.

112,056.—BOOT.—Jacob S. Lewis, Baltimore, Md.

Claim.—The within-described boot, having an unlined leg, cut three-quarters high, slotted at its top, as described, provided with the strap and buckle, all constructed substantially as and for the purpose set forth.

112,057.—MODE OF LASTING SHOES.—William H. Lovejoy, Lowell, assignor to himself and Christopher Robinson, Lynn, Mass.

Claim.—The improved mode of connecting the upper to the insole, viz., by the two ranges of sew[s], one of which is carried through the other and the upper, and the other through the insole alone, as set forth.

112,058.—ENGINE-GOVERNOR.—John D. Lynde, Philadelphia, Pa.

Claim.—1. The combination of the weights A and [B] curved arms B and their connections, springs C [and] valve-stem D, valve M, with its surrounding [chambers] and its disk *g*, substantially as and [whereby] to perform the functions herein set forth.

2. The construction of the valve M, with its [parts] *a b c d* and disks E *f g*, substantially as set [forth] and for the purpose made known.

3. The supplemental disk *g* and its combination [with] the valve M, substantially as and for the purpose herein set forth.

4. The combination of the valve M with the case [and] the annular steam passages *i i* and passage *h*, [substantially] as set forth.

5. The combination and arrangement of the pulley [F] and brake L, substantially as described.

6. The arrangement of the springs C *c*, weights [A] B, arms B, collar F, head G, standard P, handle [I], pulley N, brake L, valve-stem D, valve M and [its] immediate surrounding devices, all substantially as herein set forth, and whereby to more evenly [regulate] steam-engines.

112,059.—QUARTZ-MILL.—David D. Mallory, Mystic Bridge, Conn.

Claim.—The combination, with the double cylinder A A' and grinding-wheels B *a*, of the hopper [I] and its forked center feed-pipes *b b'*, and the exhaust-pipe H, provided with the regulating-valve I, when constructed and arranged to operate substantially as specified.

112,060.—AIR-PUMP.—Robert Mudge Marchant, London, England.

Claim.—1. The combination of a series of two or more water and storage-chambers, A B, the pump-barrel C, the plunger D with its rod D', and the connecting-pipe or passage E between each consecutive pair of chambers, substantially as and for the purpose or purposes herein set forth.

2. The arrangement of the water and storage-chambers A B, the inlet and outlet-valve *a b*, the connecting-pipe or passage E, the pump-barrel C, and the plunger D with its rod D', essentially as described.

112,061.—HARNESS-SADDLE TREE.—John H. Martin, Columbus, Ohio.

Claim.—1. The terrets or rein-loops *a a* and yoke A, formed of one piece of metal, substantially as described.

2. The pad-plate B, formed with a perforated chamber, *c*, and with partitions which form recesses within said chamber, all in the manner and for the purpose described.

3. The slotted plate *b*, recessed at *o o* to receive a T-shaped head, *b*, in combination with a spring, *s*, inclosed in a cup, C, substantially as described.

112,062.—CARPENTER'S PLANE.—William Miller, Boston, Mass., assignor to himself and C. E. Woodman, same place.

Claim.—1. The combination of plane A, yoke C, and rollers I, substantially as described.

2. The combination of plane A, yoke C, rollers I, and single or bifurcated finger H, substantially as described.

3. The combination of plane A, yoke C, rollers I, finger H, and staff or handle J, substantially as described.

112,063.—AUGER-BIT.—John C. Mills, Rochester, N. Y., assignor to himself and Richard Leake, same place.

Claim.—The combination of the slotted shaft A with its screw or auger *a*, the slotted plates or cutters B B with their cutters *d d* and *e e*, the screw [C] and the bolt *f*, all constructed and arranged as described, and for the purposes set forth.

112,064.—FENCE.—John Morton, Thornville Mills, Mich.

Claim.—The combination of the outside planks or boards C C, formed with overlapping ends and notched at *b b*, the keys *k*, the posts A A, with their rails B B, the pickets D D, arranged between said rails and planks, and secured thereto, together with the foot-braces E E, all constructed and arranged, and united or secured, substantially as shown and described.

112,065.—TOBACCO, HAY, AND COTTON-PRESS.—Lewis H. Moss, Browningsville, Ky.

Claim.—The double-acting dogs *n n'*, in combination with the levers G G, wheels E E, shafts *e' e'*, gear-wheels *e e*, and platen-stem D, when constructed and arranged to operate substantially as and for the purposes set forth.

112,066.—ROTARY STEAM-ENGINE.—Joseph C. Mossholder, Lebanon, Oregon.

Claim.—A rotary engine, having a cylinder, *a*, with segments *b b*, heads A A', valves C C, levers *y y'*, with coupling-arm *z*, rotary piston-carrying wheel B, with springs *s s*, pistons G G, piston-rods *r r*, rollers *v v*, and cam *p*, ports *m n m' n'*, exhaust-ports H H, and shaft D, all constructed and arranged as set forth.

112,067.—CURTAIN.—Robert Nenninger and Friedrich Brüuer, Newark, N. J.

Claim.—The combination of a curtain, made of a textile fabric, coated with a compound of linseed oil and a suitable pigment, with a cornice provided with corner blocks *a*, and with parting stripe *b* interposed between the folds of the curtain, substantially in the manner herein shown and described.

112,068.—MANUFACTURE OF SILICON STEEL.—Charles M. Nes, York, Pa.

Claim.—The improved steel or steel-like metal herein described and denominated silicon steel, in which the ratio of silicon to carbon is not less than one to two.

112,069.—APPARATUS FOR STEAMING OIL-WELLS.—William Nevins, Titusville, Pa.

Claim.—The sectional steam-pipe herein described, provided with a valve, D, at its lower end, and arranged to be rotated and elevated by means of a tubular screw, B, at its upper end, when constructed and operated in the manner and for the purposes specified.

112,070.—BOTTLE-CORK.—William Harrison Newton, Newport, R. I., assignor to himself and Samuel W. Francis, same place.

Claim.—As a new article of manufacture, a cork or stopper for bottles and like articles, interlaced or sewn with wire or cord in such manner that one portion of the cork cannot be drawn from the bottle without the other, substantially as herein shown and described.

112,071.—CLOD-CRUSHER.—Joseph B. Okey, Indianapolis, Ind., assignor to himself and Ferdinand A. Lehr, same place.

Claim.—In a clod-crushing machine, the stationary teeth or cutters C C, their lower surfaces being so formed as to present an acute angle with reference to their sides, in combination with the teeth of a revolving cylinder, the latter being so constructed as to nearly fill the space between the stationary ones, and thus, in conjunction therewith, form cutting-edges or devices, substantially as and for the purpose set forth.

112,072.—CLOTHES-DRIER.—Enos L. Parker, Painesville, Ohio.

Claim.—The combination of the C-shaped hinge

a, webbing hinges b, and posts A A, substantially as and for the purpose as hereinbefore described.

112,073.—HARNESS-PAD.—Martin W. Pond, Elyria, Ohio.

Claim.—The plates F F and pads B C, in combination with the flexible back-band A, constructed and arranged to operate in the manner described.

112,074. — CLOTHES-WRINGING HOOK.—James H. Pratt, Lynn, Mass., assignor to himself and Benjamin F. Larrabee, same place.

Claim.—The hook A, provided with projections B, set-screw D, and shield F, substantially as and for the purpose set forth.

112,075. — PASTEBOARD-BOX. — William Pratt, New York, N. Y.

Claim.—1. A box the body of which is made of straw or pasteboard, having straight grooves rolled or compressed therein at the lines where the board is bent to form the angles, and without cutting away any of the material or scoring for that purpose, and also having its lapping edges for the seam rabbeted by pressure or rolling, and without cutting or scarfing the material for such purpose.

2. A top or bottom for a box made of straw or pasteboard, by drawing the blank through and compressing it in dies, so as to leave the edges turned up at right angles to the blank, and without scoring or partial cutting to effect this, and without corner cutting at the angles of the same.

3. A paste or straw board-box, with the sides formed by compressing grooves into the angles of the same, and rabbeting by compression the margin of the stock for the joint or seam, and wherein the tops and bottoms are turned up by compression and fastened by a broad surface to the sides, and where the top is so formed that it may be sealed by means of a disk cemented into a rabbeted mouth pressed into the same, and having no projection above the surface of the box when sealed up.

112,076.—DOOR-LOCK.—Johnson M. Quinby, Westbrook, and A. S. Dyer, Cape Elizabeth, Me.

Claim.—The slide A, working in the shank b, and capable of being pushed into the slot c in the escutcheon, as herein described, and for the purposes set forth.

112,077.—MODE OF MANUFACTURING GOLD, SILVER, OR PLATED-WARE.—Henry G. Reed, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The process of ornamenting gold, silver, or plated-ware, substantially as herein described.

112,078. — SIFTING-SHOVEL. — Thomas F. Rooney, Chicago, Ill.

Claim.—A shovel, composed of a piece of sheet metal, having its body formed of a series of parallel bars, made by punching slits between them and bending them transversely, substantially as described.

112,079, antedated February 20, 1871.—COMBINED GANG-PLOW AND CULTIVATOR.—Orestes Sampson, Petersburg, Ill.

Claim.—The combination of the main frame B, mounted on wheels a, and provided with the seat C, with the auxiliary frame D having the adjustable tongue G attached, and adapted to carry either plows or cultivators, whereby the implement is fitted to be used either as a gang-plow or a cultivator, as set forth.

112,080.—GRINDING-MILL.—George Selsor, Philadelphia, Pa.

Claim.—1. The combination, in a grinding-mill, of a bar having two inclined grinding-surfaces one coarser than the other, and a shell with two inclined grinding-surfaces, the whole being arranged substantially as described, so that the material operated on, after being broken by passing over one surface of the bar, shall be further reduced in contact with the other grinding-surface as set forth.

2. The combination of the shell A, having two inclined grinding-surfaces and arranged horizontally, and a vertical spindle, E, adjusted by a screw, D, or its equivalent, and carrying a double inclined horizontal bar, B, as set forth.

112,081.—HOT-AIR FURNACE.—Samuel H. Sexton, Baltimore, Md.

Claim.—1. The reversible damper-pipe S arranged in connection with the elbow-pipe R and radiating flues I I′, in the manner shown and described, to admit of changing the damper from side to side to suit the construction of the chimney and the location of the discharge-flue W.

2. The combination of the pipes I I′, the pipe R with its elbow, the pipe S, the damper s, and discharge-pipe or chimney.

3. The arrangement of the magazine D and damper P with the fire-chamber, the upper chamber I, columns M, and plates O, all constructed substantially as and for the purpose described.

112,082.—FRUIT-CAN.—Joseph S. Shaneman and Joseph S. Hoon, Beaver Falls, Pa.

Claim.—The plunger C, provided with packing a and air-tube b, and used in a fruit-can substantially as and for the purposes herein set forth.

112,083.—KITCHEN-TABLE. — John Shaw, Whitby, Canada.

Claim.—The combination of the kneading-trough A, bake-board B, movable top C, held to the table-board B by three cleats, D D D, or hinges G, the cupboard E, and the spice-drawer F, substantially as described.

112,084.—MANUFACTURE OF METAL TUBES AND COLUMNS. — Frederick H. Smith, Baltimore, Md.

Claim.—The manufacture of metallic columns and tubes, substantially in the manner herein shown and described.

112,085.—SPRING BED-BOTTOM.—Howard Smith, Groveton, N. H., and James Potter, Portland, Me.

Claim.—A spring bed-bottom, as herein described, that is, combining the two parts I I b, the two cross-bars put together without bolts, and the coiled springs attached to the slats by means of the looped and slitted leather pieces f fastened to the slat, as herein set forth.

112,086.—DEVICE FOR SEPARATING EYELETS.—Stephen N. Smith and Solomon W. Young, Providence, R. I., assignors to Union Eyelet Company, same place.

Claim.—A sieve, the apertures of which correspond in size or shape with the form or outline of a single eyelet, whereby the eyelets are caused to pass singly through said apertures when agitated, substantially as described.

112,087.—GRAIN-CLEANING MACHINE.—Jay Sternberg, Webster City, Iowa.

Claim.—1. The combination of the drums C, having buckets a, as described, the boxes H K, and cut-offs e, substantially as specified.

2. In combination with the drums C and operating-belt, as described, the shaft n, cam r, and arm s, constructed and arranged to operate substantially as and for the purpose specified.

112,088. — PRODUCING GAS FROM SOLID CARBONS.—Levi Stevens, Washington, D. C.

Claim.—The process herein described of volatilizing solid carbon, and uniting or combining it with superheated steam for heating purposes.

112,089.—ATTACHMENT FOR RANGES AND STOVES. — David Stuart, Philadelphia, Pa., assignor to Stuart, Peterson & Co., same place.

Claim.—The combination, substantially as described, of the bottom or hearth-plate of a range or stove, and a platform so arranged that it may be brought to a position either beneath or projecting beyond the said plate.

112,090.—CHEESE-VAT.—Ezra H. Stuart and Walter A. Stuart, Cedarville, N. Y.

Claim.—1. The movable perforated steam-pipes C C, arranged one on each side in the air-tight space of the double vat A B, substantially for the purposes herein set forth.

2. The case B, provided with faucet a at each end, a faucet, b, at the bottom, in combination with the milk-vat, A, perforated pipes C C, with their screw plugs d d, cross-pipe D, connecting-pipe E, and levers G G, all constructed and arranged substantially as and for the purposes herein set forth.

112,091.—LIQUID METER.—William G. Stuart, Chicopee, Mass.

Claim.—1. The metal plate a, arranged in combination with the sliding weights N N and cup-leather d′ d′, substantially as and for the purpose set forth.

2. The combination and arrangement of the rod B, sliding weights N N, and flexible tubing C with the parts it envelops, substantially as described.

3. The flexible tubing c c, sliding weights N N, pipe C C, and cup-leathers d′ d′, all combined and arranged substantially as shown and for the purpose described.

4. The vessel V, suspended between two centers or points g′′, operating and adjustable within barrel A, all arranged to perform the function herein set forth.

112,092, antedated February 16, 1871.—MEAT-TENDERER.—Levi B. Tarbox, Collierville, N. Y.

Claim.—The combination of the bottom A, standards B B, top C, handle D, pin a, rubber blocks c c, projections i i, and screw-pins d d, all constructed and arranged substantially as and for the purposes herein set forth.

112,093.—GRAIN-DRILL.—John H. Thomas and Phineas P. Mast, Springfield, Ohio.

Claim.—1. The pivoted plate or lever n, having the pinion P mounted thereon, and arranged to gear into the driving-wheel I, in combination with the arm L, provided with the lug r or its equivalent, arranged to operate substantially as described, for automatically disconnecting the grass-seed distributer by the rising of the hoes, as set forth.

2. A grain-drill, provided with a grass-seed sower, having its agitator connected with the operating mechanism, substantially as described, whereby the agitator is thrown out of gear by the elevating of the hoes, as set forth.

3. The plates A, provided with the projections e, or their equivalents, in combination with the sliding bar B and the supporting rods d, all arranged to operate substantially as set forth.

4. In combination with the lever C, the rock-shaft f and toggle-joints a b, for simultaneously operating both ends of the sliding bar B and the drag-bar thereto attached, substantially as set forth.

112,094.—HANDLE FOR CROSS-CUT SAW.—Edward W. Tilton, Oshkosh, Wis.

Claim.—The device herein described, consisting of the spring-clasp E and screw-rod R, operating in combination with the socket C and saw-blade A, substantially as and for the purposes specified.

112,095.—COTTON-PRESS.—Gabriel Utley, Chapel Hill, N. C.

Claim.—1. The swords C C, provided with teeth b b bent downward, and each with one tooth b′, above the other teeth, bent upward, substantially as shown and described, and for the purposes set forth.

2. The construction and arrangement of the box A, bar B, swords C C, levers D D, springs f f, cord n, follower E, pawls h h, ratchets k k, windlass G, and cords i i, all substantially as and for the purposes herein set forth.

112,096. — WHIFFLETREE-HOOK. — Amos Verbeck, Sterling, Ill.

Claim.—The combinaton of the screw-bolt B with head D and pendulum A, constructed and arranged as described, so that when said head and pendulum point in opposite directions their outer ends shall be about equal distance from a line drawn longitudinally through the center of the bolt, substantially as herein set forth.

112,097.—PROPORTIONAL SCALES FOR THE CONSTRUCTION OF TOOTHED GEAR.—John Walker, Philadelphia, Pa.

Claim.—The scale, consisting of the divisions A, B, C, and D, their letters and numerals, and lines a a′, &c., b, c c′, &c., d, and e, the whole being constructed and arranged as set forth.

112,098. — WHIFFLETREE. — Joseph Ward, Honeoye Falls, N. Y.

Claim.—The curved plate B, secured to and used in combination with bars A A, as and for the purpose set forth.

112,099. — WHEEL FOR VEHICLES.—James Weathers, Greensburg, Ind.

Claim.—The combination of the tire D, provided with a continuous groove on its inner side, with the set-screw b passing through the fellies C and securing the tire, all as shown and described.

112,100.—WATER-WHEEL. — William N. Whipple, Niles, N. Y.

Claim.—1. In a water-wheel, the plate C′, when formed with the recesses c c and the projections C, substantially as and for the purpose specified.

2. The arrangement of the plates c′ c″, in connection with the plates c c′, the bolts b b, and the top and bottom plates C C′, the whole being constructed substantially as and for the purposes set forth.

112,101.—WRENCH.—Rollin White, Lowell, Mass.

Claim.—1. The chuck B, constructed, as described, of a central plate a, cut out and provided with the screw-rods b b, and side-plates c c, all substantially as and for the purposes herein set forth.

2. The combination of the handle A and adjustable or movable chuck B, constructed and arranged substantially as and for the purposes herein set forth.

112,102.—DUST-PAN.—Henry Whittemore, Orangetown, N. Y.

Claim.—The improved dust-pan, consisting of the bottom A, sides B, socket c, long handle D, and removable pin e, constructed as described, for the purpose specified.

112,103.—DRIVING MECHANISM FOR ROVING, SLUBBING, AND OTHER MACHINES.—Alfred Wilcock, Richard Robinson, and Frederick Wilcock, Rochdale, Great Britain.

Claim.—The combination, with the pair of cones

e e and their driving-strap *d*, of an auxiliary strap, to assist the stopping and starting of the bobbins, whether the said strap be applied on a separate pair of auxiliary pulleys or on the ends of the cones themselves.

REISSUES.

4,266.—PAPER-FOLDING MACHINE.—Cyrus Chambers, Jr., Philadelphia, Pa.—Patent No. 15,842, dated October 7, 1856; reissue No. 4,079, dated July 26, 1870.

Claim.—1. The register-pins I I', located between the first pair of folding-rollers and in the line of the first fold in such position as to present the paper to be acted upon by the first-folding device.

2. The register-pins I I', adjusted and retained in adjustment by means of slides *c c'* and screws *s s'*, bar K, block M, and screws 1 and 2, substantially as set forth.

3. The combination of the register-pins I I', bars Q Q', and stops S, and carrying-tapes T T, or their equivalents, for correctly presenting and retaining the paper in position to receive the second and succeeding folds, substantially as described.

4. The combination of bars Q Q' and stop-bar S, for guiding and retaining the paper in position for receiving the various folds.

5. The folding-blades E, F, G, and H, receiving a motion equal to or greater than the surface motion of their respective folding-rollers, by the shape of the cams 6, 8, and 10, actuating said blades, substantially as shown and described.

6. The mechanism described, or its equivalent, for arresting at will the moving part of the folding device, the same consisting of the treadle 21, shaft 20, and levers 19 and 18.

7. The confining-bars Q Q' in a paper-folding machine, substantially as and for the purpose set forth.

4,267.—PIPE AND FIXTURE FOR WELLS.—John H. Duck and Elias K. Whitcomb, Elgin; said Whitcomb assigns his interest to James T. Whipple, Chicago, Ill.—Patent No. 58,721, dated October 9, 1866.

Claim.—1. In driven wells, a screen, when suspended within the main tube and detached from the point, the filtering surface projecting below the main tube into the water-course, substantially as described, and for the purpose specified.

2. The detachable point H, constructed as described, with its shank adapted to be inserted into the collar of the pipe L while being driven, substantially as and for the purpose specified.

3. The main tube L and the removable suspended screen S, detached from the point H, adapted for connection with a pump, for the purpose specified.

4,268.—SEAT FOR SCHOOL-DESKS.—George W. Hildreth, Lockport, N. Y.—Patent No. 55,293, dated June 5, 1866.

Claim.—1. The pivot and corresponding socket, in combination with the seat-arm and standard, when so constructed that without the aid of the bolt and nut the seat will be properly supported, and will be capable of turning up and down, substantially as described.

2. The bolt *f* and nut *g*, in combination with the seat-arm *a*, the support *e*, pivot *c*, and the socket, substantially as described, and for the purposes specified.

3. The trunnion and socket, when made tapering, and combined with the seat-arm, support, and bolt and nut, substantially as described, and for the purposes set forth.

4. The spring I and stops *d d*, for the purposes herein specified and shown.

4,269.—Division A.—HOISTING APPARATUS. Otis Brothers & Company, Yonkers, N. Y., assignees of E. G. Otis, deceased.—Patent No. 124, dated January 15, 1861.

Claim.—1. The pawls *f f*, and the teeth of the racks C C, constructed of hook form, essentially as shown and described, for the purpose set forth.

2. The arrangement of the ropes T, U, and V, combined and operating substantially as and for the purpose set forth.

3. The arrangement of the slide or belt-shipper S, in connection with the shoe or brake Z and rope T, substantially as shown, to admit of the simultaneous application of the brake and the shifting of the belts O P on the idle-pulleys J K, as set forth.

4,270.—Division B.—HOISTING APPARATUS. Otis Brothers & Company, Yonkers, N. Y., assignees of E. G. Otis, deceased.—Patent No. 124, dated January 15, 1861.

Claim.—The counterpoise, combined with the platform or cab of the hoisting apparatus through the intervention of the hoisting-drum, substantially as herein set forth.

4,271.—Division C.—HOISTING APPARATUS. Otis Brothers & Company, Yonkers, N. Y., assignees of E. G. Otis, deceased.—Patent No. 124, dated January 15, 1861.

Claim.—The counterpoise, combined with the safety-stop mechanism of the platform or cab through the intervention of the hoisting-drum, substantially as and for the purpose herein set forth.

4,272.—BARREL.—Henry G. Porter, Grand Rapids, Mich.—Patent No. 102,432, dated April 26, 1870.

Claim.—1. A barrel, constructed of three cylinders A B B, the middle cylinder A overlapping the others, and constructed in one or more sections, substantially as shown and described.

2. In combination with a barrel having a series of horizontal sections, A or B, beveling the inner edges of the top section and the circumference of the top C, so, when placed together, they form an even surface on top, as shown and described.

3. In combination with the top C and horizontal sections A or B, the elongated brace *b*, which extends on the exterior of the sections, and is bent over on the cover and under on the bottom, all as set forth.

4. In combination with the top section B and cover C, or bottom section and bottom proper, the metallic brace *c*, passing from the inner part of the section, between it and the cover, or bottom, and over and upon the cover, or bottom, as set forth.

5. The ribs D, when arranged in a barrel, constructed of three or more horizontal sections, to extend either the full length of the barrel or only between the upper and lower sections of the same, substantially as and for the purpose described.

4,273.—HOISTING-MACHINE.—Henry J. Reedy, Cincinnati, Ohio.—Patent No. 78,829, dated June 9, 1868.

Claim.—1. In combination with the platform of a hoisting-machine and a cord or cords for elevating or depressing the same, two sheaves attached to and operated by the same horizontal shaft, for the purposes specified herein.

2. The combination, substantially as described, with a hoisting-platform, of the suspending-rope E, weights H H', rollers *d*, sheaves F F', and shaft G, or their mechanical equivalents, by which the platform is both balanced and enabled to be elevated and depressed in the manner explained.

3. The arrangement, substantially as described, of the shaft P, ratchet-wheel R, rubber S, lever T, and pawl U V, or their mechanical equivalents, for the purpose set forth.

4,274.—ELECTRO-MAGNETIC GATE-OPENING APPARATUS.—William Robinson, Brooklyn, N. Y.—Patent No. 105,494, dated July 19, 1870; antedated July 8, 1870.

Claim.—1. The arrangement of the lever I, for operation by the wheels of a passing vehicle or train, and relatively to the circuit-closer of an electro-magnet apparatus, that the wheels depressing said lever will actuate the circuit-closer for operating a gate or signal, substantially as shown and described.

2. The combination of the lever or levers e with the gate or signal B and circuit-closer of a battery, arranged so as to operate the gate or signal by the action of the passing vehicle, substantially as specified.

3. The circuit-closer to the battery, so constructed that when the circuit is closed by the action of a moving vehicle or train, it will temporarily remain closed for a specified length of time, or until the vehicle or train has passed a certain distance beyond the point at which it closed the circuit, essentially as specified.

4. The combination of a bell or alarm with a circuit-closer, constructed or arranged for prolonged action, and under control of a moving vehicle or train, substantially as herein described.

5. The combination, with a circuit-closer arranged for operation by the vehicle while in motion, of clock-work for prolonging the action to said circuit-closer, and operating to keep the armature of the magnets in prolonged hold on or control of the gate or signal, substantially as specified.

6. The circuit-closer or its stand or frame, or a portion thereof, hung or arranged so as to be shifted out of working position by a vehicle or train passing in the one direction, and afterward returning to its normal position for control of the circuit-closer by a vehicle or train passing in the opposite direction, essentially as herein set forth.

4,275.—BED-LOUNGE.—James Seymour, administrator, William H. Coolidge, and Charles Stimson, Leavenworth, Kansas, assignees of William H. Colley, deceased. Patent No. 103,301, dated May 24, 1870.

Claim.—The frame A, having bottom, back, and inclined head-rest, all as described, combined with the hinged seat and swinging head-rest, constructed and relatively arranged therewith to form an improved compound lounge and bed, as shown and described.

4,276.—SAW-FRAME.—The Bissell & Moore Manufacturing Company, New York, N. Y., assignee of Daniel Moore and Edwin Moore.—Patent No. 94,500, dated September 7, 1869.

Claim.—A saw-frame made with end pieces *a b*, a tightener, *d*, and compound thrust-braces, substantially as set forth, introduced between the end pieces so that the ends of the said braces nearest the saw shall be spread apart by the act of drawing the other ends of such braces nearer together, substantially as described.

DESIGNS.

4,664.—POCKET-BOOK TIP.—James C. Arms, Northampton, Mass.

Claim.—The design for a metallic tip for pocket-book straps, herein shown and described.

4,665.—HAND-STAMP FRAME.—Jermain P. Barnes, Rochester, N. Y.

Claim.—The design for a hand-stamp frame, as herein set forth and shown.

4,666.—RAILROAD-STATION INDICATOR.—Francis F. Bibber, South Boston, Mass.

Claim.—The design for a railroad-station indicator, as shown.

4,667.—SPOON.—Elise De Busson, Yonkers, N. Y.

Claim.—The handle and bowl of an ordinary spoon placed in the relation to one another shown in the drawing, and above described, to form a new design for a spoon.

4,668.—CLOTHES-LINE REEL-IRON.—Daniel Densmore, Red Wing, Minn.

Claim.—The design for clothes-line reel-irons, as shown.

4,669.—STUCCO CENTER-PIECE.—James John, Chicago, Ill.

Claim.—The design for a stucco center-piece, as shown.

4,670.—SHAWL.—Martin Landenberger, Philadelphia, Pa.

Claim.—The design for a one-faced striped shawl, as herein described.

4,671.—CARPET-PATTERN.—Charles S. Lilley, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain, or other carpeting, in the form similar to the photographic print accompanying this specification.

4,672.—CARPET-PATTERN.—Charles S. Lilley, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain, or other carpeting, in the form similar to the photographic print accompanying this specification.

4,673.—TYPE.—Andrew Little, New York, N. Y.

Claim.—The design for printing-type, as shown.

4,674.—OIL-CLOTH PATTERN.—James Paterson, Elizabeth, assignor to Richard H. Reeve and Benjamin C. Reeve, Camden, N. J.

Claim.—The design for an oil-cloth pattern substantially as described, and as illustrated in and by the accompanying drawing.

4,675.—PARK-SEAT.—Edward O. Schwagerl, St. Louis, Mo., assignor to himself and Shickle, Harrison & Co., same place.

Claim.—The design for a park-bench or seat, substantially as above set forth.

TRADE-MARKS.

169.—FERTILIZER.—George Bourne, Baltimore, Md.

170.—HATS, CAPS, AND STRAW-GOODS.—Dunlap & Co., New York, N. Y.

171.—COTTON-BALE BANDS AND TIES.—James Jennings McComb, Liverpool, England.

172.—CORDS, FRINGES, RIBBONS, &c.—Silbermann, Heinemann & Co., New York, N. Y.

173.—PAINT.—J. Lee Smith & Co., New York, N. Y.

174.—MEDICINE.—George H. York & Co., Cambridge, Mass.

EXTENSIONS.

AZEL S. LYMAN, of New York, N. Y.—Letters Patent No. 16,568, dated February 3, 1857.

"Improvement in Accelerating Fire-Arms."

Claim.—The employment of the accelerators or additional charge-chambers, in the manner and for the purpose substantially as described.

Also, covering the muzzle and exhausting the air through an appropriate aperture, whereby the atmospheric resistance is removed from the front of the projectile while passing along the bore, as set forth.

JAMES STIMPSON, of Baldwinsville, Mass.—Letters Patent No. 16,557, dated February 3, 1857.

"Improved Method of Joining Boxes, &c."

Claim.—The joining of boxes, drawers, furniture, &c., by means of round tenons and mortises, and a half-lap or secret joint, as herein set forth and explained.

JULIA M. MILLIGAN, of New Albany, Ind. Letters Patent No. 16,602, dated February 10, 1857; reissue No. 493, dated September 15, 1857.

"Improved Abdominal Supporter."

Claim.—The bandage *a*, substantially as described, provided with a series of cords, *g*, and laces *h*, or their equivalents, applied and operated substantially in the manner and for the purposes set forth.

SETH C. ELLIS, of Jersey City, N. J.—Letters Patent No. 16,534, dated February 3, 1857.

"Improved Machine for Cutting Tenons on Blind-Slats."

Claim.—The arrangement of the rotating disks H H with their slots *a a* disposed in reference to and in combination with the same, for the purpose of regulating the revolution of the slat so as to direct the saws in cutting perfectly cylindrical axes or tenons to it, substantially as set forth in the within specification.

Also, the feeding apparatus, to wit: the sliding box N, disks M, with the wheels L and R lying within the jaws J J, and the lever P, with the eccentric on W acting together and in combination with the disks H H and saws, substantially as set forth in the within specification.

ISSUE OF FEBRUARY 28.

PATENTS.

112,104, antedated February 11, 1871.—TOY PROPELLER.—Arthur M. Allen, New York, N. Y.

Claim.—A toy propeller, consisting of the wheel B, provided with a loaded rim, as described, journaled between reaches, and operated with a string, side wheels E E, front wheel A, with a reach carrying an image, the whole constructed, arranged, and operated as set forth.

112,105. — SAD AND CRIMPING-IRON.—Charles Anderson, Montana, Iowa.

Claim.—1. The notched projections a' a^2, the slotted projections C' d^1, and the lock-lever or button E, said parts being constructed and operating in connection with each other and with the parts A B C, substantially as herein shown and described, and for the purpose set forth.

2. An improved combined crimping and sad-iron, formed by the combination of the three parts A C D, handle F, and heater B with each other, substantially as herein shown and described, and for the purpose set forth.

112,106. — PYROMETER.—William Henry Bailey, Albion Works, Salford, Great Britain.

Claim.—1. The combination of the tube containing the porcelain sections F, and the case containing the registering mechanism, when the said case is adjustable on the tube, as and for the purpose described.

2. Using short lengths of porcelain, earthenware, or other suitable material, in the construction of pyrometers, which are not liable to break in pieces when subjected to a high temperature, or broken in carriage.

112,107.—WASHING-MACHINE.—William C. Bain and John J. Kendall, Troy's Store, N. C.

Claim.—The tub A, bottom D, dasher E G G, slats I, levers L, crank device J N O, and handles K, all constructed, arranged, and combined in a washing-machine, as described.

112,108.—WRENCH.—Elias Beach, Titusville, Pa.

Claim.—In a pivoted cogged lever-wrench, the arrangement and combination of the fixed abutment H, screw-stem F, traveling locking-nut G, rack D, and the fixed and movable jaws C and A, operating substantially as described.

112,109.—WRENCH.—Elias Beach, Titusville, Pa.

Claim.—1. The combination of the movable jaw D with the guides C of the fixed jaw A, and the adjusting devices H and I, as described.

2. The combination of a movable cogged jaw D, made adjustable, as described, with the cogged lever-handle E, holding-roller G, and stock B C, of the fixed jaw A, as described.

3. The fixed jaw A, having a stock, B C, arranged to form guides C to the movable jaw D, supports for the adjusting-screws H I, and for the actuating-lever E, as described.

112,110. — WASHING-MACHINE.—Theophilus Beebe, Northport, N. Y.

Claim.—1. The combination, with the fixed rubber, of the swinging board D, suspended on the shaft E, supported in bearings F, said bearings being arranged between the springs G H in the slotted posts, and having the blocks L and temper-screws M combined with them, all substantially as specified.

2. The cup pieces N of the brake O, confined in the slots in the hangers by the tensions of the rod Q, substantially as specified.

112,111. — APPARATUS FOR CARBURETING AIR.—Alexander Dalrymple Bell, San Francisco, Cal.

Claim.—1. In an apparatus for the manufacture of pneumatic-gas, the combination of two carbureters or two sets of carbureters acting alternately, in a manner substantially as described, and for the purpose of preventing excessive refrigeration, substantially as described.

2. In an apparatus for the manufacture of pneumatic-gas, the combination of the air-pumps B and B', arranged to operate in a manner substantially as described, and for the purposes set forth.

3. The combination, in one machine, of two complete sets of apparatus for generating pneumatic-gas in a manner substantially as hereinbefore described, and for the purposes hereinbefore set forth.

112,112.—CHEESE-TURNING APPARATUS.—John Q. Black, Richland Centre, Wis.

Claim.—1. The turn-table D, carrying the radial shafts E E and cheese-blocks F, said shafts being simultaneously rotated by means of the toothed wheel C and pinions *d*, in the manner described, so as to effect the turning of the cheese, substantially as specified.

2. The cheese-blocks F F, provided with the fingers *e e* and *f f* at opposite ends, for holding and reversing the cheese and transferring it from one to another, as specified.

3. The jointed lever G, combined with the turn-table D, gear-wheel C, and shaft A, to operate substantially as herein shown and described.

4. The locking-pin *i*, arranged in combination with the disks C D and shaft A, substantially as and for the purpose herein shown and described.

112,113.—STRAW-CUTTER.—Bengt C. Blomsten, Waupaca, Wis.

Claim.—The combination of the treadle G, connecting-rod O, lever P with its connections, lever R, and adjustable crank-arm *m*, as described.

112,114.—SAWING-MACHINE.—N. H. Bolton, Omro, Wis.

Claim.—The carriage C, adjustable rest E E' spring-retracted discharger H, inclined guide I, and saw-gauge O, all combined as described, and operated in connection with the saw, for the purpose specified.

112,115. — DRILL.—Theodore V. Boyden, Bridgeport, Conn.

Claim.—1. One or more grooves or channels, *a*, formed in or along the outer edge or periphery of a drill, substantially as and for the purpose set forth.

2. In combination with one or more grooves *a*, a reservoir or recess for receiving and feeding the oil to the grooves in a drill, substantially as herein described.

112,116.—ODOMETER.—David L. Branning, Tampa, Florida.

Claim.—1. The combination, with the reducing train or the axle of the final wheel thereof of an odometer, of the adjustable arms E, substantially as specified.

2. The combination, with the reducing train or the axle of the final wheel thereof, and the bell-hammer, of the adjustable arm E, substantially as specified.

3. The combination, with the adjustable arm E, of the adjustable pointers L, substantially as specified.

112,117.—FEED-CUTTER.—Henry A. Buck, Fredonia, N. Y.

Claim.—1. The combination of the reciprocating connecting-rod, slotted as described, at the ends next the feed-wheels, the vibrating arms oscillating on the axes of the feed-wheels, the pins on the arms working in the slots in the connecting-rod, the pawls mounted on the vibrating arms, the ratchets on the feed-wheel shafts, and the feed-wheels, all these parts being constructed to operate in combination substantially as hereinbefore set forth, so as to enable the feed-wheels to work at varying distances apart.

2. The combination of the driving-shaft, the rotating cutter, the stationary knife, the vibrating lifting-plate, and the cam and pitman which vibrate said plate, all these parts being constructed to operate in combination substantially as hereinbefore set forth.

112,118. — GRAIN-DRIER.—John Buckingham, Wethersfield, Conn.

Claim.—1. The perforated bottom B and perforated gate C, the steam-heated coil D D, and connecting tubes E, and the horizontal ventilators F, all combined as described, with the bin, for the purpose specified.

2. The horizontal ventilators F and flue G, combined as described, with the bin A, for the purpose specified.

112,119. — SELF-CENTERING CHUCK FOR LATHES.—George O. Buckley, New Bedford, Mass.

Claim.—The jaw-carrier or center-block B, the rotary sleeve or collar D, the wedges C, and the jaws A, constructed, arranged, and combined as described and represented, the whole constituting a self-centering lathe-chuck.

112,120.—APPARATUS FOR HEATING LIQUIDS. David H. Burrell, Little Falls, N. Y.

Claim.—1. The cylindrical coil of pipe filled with water, laid horizontally, or nearly so, as a fire-box, the lower part of the coils constituting the grate over the ash-pit.

2. The combination of the several coils with a horizontal pipe running the entire height, for the escape of air and steam from the top of each coil.

3. The combination of the several coils by a pipe at the bottom, to let out the water and sediment.

112,121.—PROJECTILE FOR ORDNANCE.—John G. Butler, United States Army.

Claim.—1. The combination of the metallic disk B with the wedges C C' C'', &c., and the movable studs D D' D'', &c., substantially as and for the purpose hereinbefore set forth.

2. The safety-pins or keys E E' E''', &c., or ring F, substantially as and for the purpose hereinbefore set forth.

3. The roughened or serrated surface *g h* of the stud-sockets, in combination therewith, substantially as and for the purpose hereinbefore set forth.

112,122. — HOT-AIR FURNACE.—Benjamin F. Campbell, Boston, Mass.

Claim.—A casing, exterior to both the fuel and ash-pit openings of a furnace, provided with a channel or flue and damper, substantially as described.

112,123.—DOOR-KEY.—Charles C. Carpenter, Huntsville, Ala.

Claim.—The combination of pivot C, pean B, spring D, bolt E, countersink F, pin G, slot H, rivets I I, bold J, and socket K, substantially as and for the purpose hereinbefore set forth.

112,124.—GUN-SIGHT.—Frederic A. Churchill, Pittsfield, Mass.

Claim.—1. The bead or front sight A, composed of the tube and two or more convergent pins, substantially as herein shown and described.

2. The perforated sight C, made vertically adjustable by the cam E, as shown and described.

112,125.—SHUTTLE FOR SEWING-MACHINES. Theodore Colston, Hartford, Conn., assignor to himself and Charles E. Billings, same place.

Claim.—1. The spring of rubber or other elastic material, inserted from the outside of the shuttle through a hole at right angles to the axis of the bobbin, for the purpose of pressing the sliding socket *c* against the end of the bobbin-spindle, substantially as described.

2. The herein-described arrangement of the devices *c* and *d* within the shuttle, whereby they can be placed in position from the outside through an aperture which does not require to be closed up to prevent the spring from escaping.

112,126. — LAP-BOARD.—Daniel P. Cook, Hartford, Conn.

Claim.—1. The combination of the sections *a b c*, hinged together as described, with the grooved rails *d* and *e*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

2. The combination of the parts specified in the immediately preceding clause with the detachable legs *h i n*, hinged, as described, to their respective base pieces, and provided with stop-pawls, as described, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

112,127. — MAGAZINE FIRE-ARM.—Joshua Davis, Limestoneville, Pa.

Claim.—1. The curved tube *i*, follower *m*, friction-pulleys *o* and *p*, chain or string *n*, hollow pulley *q* and its inclosed spring, in combination with the hooked lever *r*, and lever *h*, with its curved

arm a^1, in the manner and for the purposes substantially as set forth.

2. The combination of the hooked slide a^1, cog-wheel b', and cogged segment c', with the hammer e and spring h, for drawing out the empty cartridge-cases, substantially as set forth.

112,128.—WATER-WHEEL CURB.—Walter S. Davis, Warner, N. H.

Claim.—1. The circle of cams B, quartered alternately into recesses and projections, two of each on the upper and lower sides of the circle, so that when made to revolve it will open one or more gates alternately, substantially as set forth.

2. The circles having the cams B, quartered into recesses and projections, as described, in combination with the levers D and gates a, when arranged to operate substantially as specified.

112,129.—PRESERVING FISH BY FREEZING. Samuel H. Davis and David W. Davis, Detroit, Mich.

Claim.—Thin water-proof sacks, or their equivalents, for containing fresh fish and animal matter, and subjected to the process of freezing, substantially as herein described.

112,130. — MEADOW-CULTIVATOR.—Frank Philip Devenport, Carthage, Ill., assignor to himself, Johon W. Cherry, and Thomas Logan.

Claim.—The combination of the bars E E E, cutting-fins F F F with the shear C, and the land-side bar D, beam and handles of the cultivator, operating substantially as set forth.

112,131.—CORN-HUSKING BENCH.—Joel E. Draper, Northville, assignor to himself and Robert Dunlap, 1st, South Lyons, Mich.

Claim.—The combination of the section A B C, the section D E F, and the braces I, the several parts being constructed, arranged, connected, and operated substantially as described and shown, for the purposes set forth.

112,132.—COOKING-STOVE.—Lemuel Dunham, Lincoln Centre, Me.

Claim.—1. The pipe-connection E, chamber B and flue C, combined as described, with, and arranged above, the adjustably-grated Franklin stove A, for the purpose specified.

2. The end-grooved plate K, movable on the horizontal bottom of flue C, to adjust the back wall J and hold it by friction in any position, as described.

112,133.—PORTABLE FEED-RACK.—Edwin Farquhar, Aukenytown, Ohio.

Claim.—1. The pivoted racks J, provided with horizontal troughs, K, when constructed severally as described and shown, and arranged to operate as and for the purposes set forth.

2. The arrangement of the platforms G, troughs I, racks J, and bars K, with the roof, constructed as described, and frame and runners or sills, B, when combined together, substantially in the manner and for the purposes described.

112,134. — ATTACHING KNOBS TO THEIR SPINDLES.—William A. Fenn, Rochester, N. Y.

Claim.—1. The spring-sleeve E, provided with one or more lugs, f, in combination with the square spindle, having screw-threads b upon its corners, and the knob-shank C, having interior screw-threads b', and one or more recesses g, for the purpose specified.

2. The rose G, having the flange p, in combination with the spring-sleeve E, spindle D, and knob-shanks C, for the purpose specified.

112,135.—TRACTION-ENGINE.—George W. Fitts, Oberlin, Ohio.

Claim.—1. The arrangement, in a steam-vehicle, of the vertical boiler A, axles O, driving-wheels B, large pinions D, shafts and cranks C G, small pinions K, pitmen R, cylinders F, water-tank E, and steering apparatus H I J V, as herein described and set forth.

2. The combination of hollow axles O with the boiler of steam-vehicles, for the purpose of conveying water to the boiler and for keeping said axles cool, substantially as set forth and described.

112,136.—PRESERVING BLOCKS OF WOOD.—Edgar M. Fowler, New York, N. Y.

Claim.—1. The process herein described for impregnating blocks of wood, the same consisting of devices for holding the blocks in position so as to receive the injected liquid at the end or through the blocks by means of hydraulic pressure, as described, and for the purposes set forth.

2. The tanks, gaskets, pipes, and in combination with the binding-levers for holding the blocks in position, as described.

112,137. — LIGHTNING-ROD. — Joseph R. Fricke, Pittsburg, Pa.

Claim.—As an improved article of manufacture, a copper-cable lightning-rod or conductor, when constructed as herein described and shown.

112,138. — REVOLVING-BATTERY GUN. — Richard Jordan Gatling, Indianapolis, Ind.

Claim.—1. The cocking-plate or cam N, arranged laterally adjustable in the breech-case of the gun, substantially as and for the purpose set forth.

2. The arbor l', eccentric j', and slide i, in combination with the laterally-adjustable cocking-plate N, all arranged as set forth.

3. The cocking-plate N, arranged longitudinally adjustable to permit the regulation of the firing-spring v, as set forth.

4. The perforated cascabel-plate D, in combination with the perforated diaphragm-plate b, relatively constructed and arranged, as and for the purpose set forth.

5. The plug P, in combination with the perforated cascabel-plate D and perforated diaphragm-plate b, all relatively constructed and arranged as and for the purpose hereinbefore specified.

6. The worm-gear or its equivalent, of less diameter than the circle described by the locks, in combination with the perforations in the diaphragm and cascabel-plate, to permit the removal of the locks, in the manner and for the purpose described.

7. The plug P, having the lug and ring with lip projection, the latter having an inner transverse groove in which the rear lugs of the locks work when the gun is revolved, the said plug not being designed to receive any part of the force of the charge, but used with its appendages for the purpose of preventing the locks from working forward or backward at the time they are passing the slot in the rear cam and the perforation in the diaphragm during the revolution of the gear, all as described.

8. The cylindrically-formed locks H, working in uniform-sized perforations, made longitudinally and entirely through a revolving lock-cylinder, in contradistinction to locks and perforations reduced in diameter at their front parts, as shown and described in my patent dated August 9, 1865.

9. The lever F, acted upon by the spring w to hold the bottom t' closed, and allow it to be automatically opened when its lower part comes in contact with the hopper, in combination with the feed-box T, for the use and purpose specified.

10. The nut I, arranged on the shaft A, to hold the carrier-block F and cylinder G in place, and to act as guide for the locks, substantially as specified.

112,139.—BEE-HIVE.—Joseph H. Gisler, St. Louis, Mo.

Claim.—A bee-hive, consisting of the housing A A', sashes D D', hinged to a frame, E, door B, cupboard F, side openings f, honey-chambers F', metallic moth-trap C, ventilating-tubes I, trough H, partition-plates h h', all constructed, arranged, and combined to operate substantially as and for the purpose described.

112,140. — BALING SHORT-CUT HAY OR STRAW. — William Hadwin, Rochester, N. Y., assignor to himself and Isaac S. Wilson.

Claim.—In bales for short-cut hay or straw, the continuous wood covering on two opposite sides of the bale, composed of the series of wide and narrow slats B' and D', placed with their edges in contact and held in position by the cords C, as herein shown and described, for the purposes specified.

112,141.—GRAIN-SEPARATOR AND FANNING-MILL.—Samuel S. Hammond and John S. Paden, North East, Pa.

Claim.—1. The combination of the shaker E with the shoe D, blocks o p, and spring q, all arranged as described, for the purpose of imparting a double motion to the shoe, substantially as herein shown and described.

2. The general combination of the shoes C D, springs f q, blocks o p, and shaker C with each other, to operate substantially as herein shown and described.

112,142.—EXTRACTOR FOR OIL-WELLS.—Hart Harris, Tidioute, Pa.

Claim.—1. The wicker-heads or jaws H H and reins k k, in combination with ring G, spring K, and chain D, constructed, connected, and arranged to operate within an interiorly-cylindrical socket, substantially as and for the purpose herein set forth.

2. In combination with the inclosed wicker-heads H H and their reins k k, the inclosing-socket A, having longitudinal slots f f cut therein to permit an outward play of the heads, substantially as and for the purpose herein set forth.

3. In combination with the subject-matter of the last claim, the outer ring or band L encircling the socket, to prevent too great a movement of the heads and reins, substantially as herein set forth.

112,143.—SCREW-DRIVER.—Henry L. Hildreth, Lockport, N. Y.

Claim.—1. The cylindrical pawl-case C, reversible pawl D, spring E, and annular ratchet G, constructed, arranged, and operating substantially as described, for the purpose specified.

2. The combination and arrangement of the foregoing parts with the screw-driver F, tubular socket B, and handle A, in the manner and for the purpose set forth.

112,144.—PROJECTILE FOR ORDNANCE.—B. B. Hotchkiss, New York, N. Y.

Claim.—The means herein described for expanding packing to a definitely-fixed limit by pieces which are and remain firmly connected at one end to the main body, the same consisting of the buttons extending inward at or near the rear ends, and sliding forward on the periphery in grooves which are not only inclined or wedge-like, but have square shoulders at their forward ends, as specified.

112,145.—BELT-GEARING.—George C. Howard, Philadelphia, Pa.

Claim.—The improvements in belt-gearing described in the foregoing specification, and illustrated in the drawing accompanying the same and forming a part thereof, consisting substantially of the combination of the driving-pulley C, belt K, tightening-pulley Z, pulley D, and levers J, as and for the purposes set forth.

112,146.—LAWN-MOWER.—Amer Ingrham, Philadelphia, Pa., assignor to William L. Boyer & Brother, same place.

Claim.—In a hand lawn-mower, the planetary-gear C C c' c'' c''', the rotary cutter D, and the intervening gear-wheels E E', the said parts being constructed and arranged to operate together substantially as and for the purposes hereinbefore set forth and described.

112,147.—HARVESTER.—Isaac A. Johnson, Rockford, Ill., assignor to himself and Frederick H. Manny, same place.

Claim.—1. The combination of the driving-wheels, the gear-frame, the main frame pivoted thereto, and the bifurcated tongue hinged to the rocking-frame outside the driving-wheels, as set forth.

2. The tubular interlocking boxes g, constructed as described, and forming the trunnions on which the two frames vibrate.

112,148.—SHIP'S WINDLASS.—Christopher Contsworth Jordeson, Montreal, Canada.

Claim.—The combination of the capstan b, constructed as described, with the shaft c, having the screw d, when operating as described, for the purpose set forth.

112,149.—HARROW AND FIELD-ROLLER.—Abraham S. Keagy, Harristown, Ill.

Claim.—1. The revolving harrow herein described, consisting of the sectional revolving harrows G G, arranged to move abreast of each other, but each having an independent upward or downward motion, as specified.

2. The revolving harrow herein-described, having sectional harrows G G turning upon independent axles k k, screwed into the independent frames H H, connected to the horizontal rod E by the arms I I, and provided with the trough or seat D, substantially as and for the purpose hereinbefore set forth.

3. The combination of the teeth i i, frame C, and harrows G G, substantially as described.

4. The combination of the rod M, frames C and L, and rollers O O, substantially as described.

112,150.—ANIMAL-POKE. — Lewis Kelley, Saranac, Mich., assignor to himself and Joel Andrews, same place.

Claim.—The arrangement of the rock-shaft C, bell-crank E, spring F, needles G, and lever D, with the yoke A, when the several parts are constructed and operated substantially as described and shown, for the purposes set forth.

112,151. — STEAM AND WATER-ENGINE.—Henry James King and Daniel Charles Mulock, Middletown, N. Y.

Claim.—1. The cross-head F, grooved on the upper and convex on the lower edge, combined with guides G G', convex on the upper and grooved on the lower edge, as described, for the purpose of enabling both edges to be oiled.

2. The concavo-convex sides i i and concavo-convex core h, combined with intermediate springs j j, arranged as described, to form a double-acting valve.

112,152. — STUBBLE ATTACHMENT FOR PLOWS.—Jesse Kinney, London, assignor to himself and Cyrus Kinney, Ingersoll, Canada.

Claim.—The device C, when constructed, attached, and operating substantially as and for the purpose herein set forth.

112,153.—SEPARATING METAL FROM ORES. Solomon W. Kirk, Philadelphia, Pa.

Claim.—The ingredients above specified, mixed in an increased or diminished proportion to suit the different characters of the ores to be operated upon, when placed in an air-tight crucible or retort, and acting upon the ore with the chloride of carbon in its nascent state, as and for the purpose herein set forth.

112,154.—COMPOSITION FOR POLISHING.—Carl J. H. F. Kleemann, New York, N. Y., assignor of one-half his right to Arnold C. Franck, same place.

Claim.—1. The combination of Armenian bole, oxalic acid, and water, as a polish for metals and metallic substances.

2. The manufactured article, as set forth in my specification.

112,155.—Machine for Patching, Punching, and Embossing Button-Holes of Paper-Collars.—Charles Lang, Jersey City, N. J., assignor of one-half his right to Henry G. Clagstone, New York city.

Claim.—1. The method of cutting out and applying the strengthening patches to paper collars and cuffs, and cutting or punching therein the button-holes, substantially as herein specified, that is to say, by first cutting out the patch, then pasting it upon the collar, and then cutting or punching the button-hole in both patch and collar, the entire operation being effected by one forward travel of the punches, and by a practically simultaneous operation.

2. The combination of the punch and die D and H with the punch and die E and G, and mechanism for operating the same in rapid succession, for cutting out the patch and pasting it upon the collar, and cutting the button-hole in both patch and collar, substantially as herein specified.

3. In a machine for cutting the button-holes in and applying the patches to paper collars, the combination, with the punches D and E, of the cams I J, mounted on the shaft C, and arranged and operating substantially as and for the purposes herein specified.

4. The combination, in a machine, for the purposes herein specified, of the following members, to wit: the patch-cutting and pasting-punches D D D and dies H H H, the button-hole cutting-punches E E E and dies G G G, the gum-dampening or applying mechanism *n m t*, the cloth-feeding devices K *q q*, and a collar-carrier, B *r*, all arranged and operating substantially in the manner and for the purposes herein specified.

112,156. — Sawing-Machine.—George W. Lombard, Westminster, Mass.

Claim.—1. The saw-supports H, grooved at I, and provided with lining I', as described, and for the purpose specified.

2. The grooved and groove-lined driving-wheel A, formed in two parts, and adjustably attached together, as and for the purpose described.

112,157.—Pump.—David Loomis, Joy Winters, and Albert Stark, Clyde, Ohio.

Claim.—The piston-cylinder A, with flanched branches *b b* formed on it, in combination with the flanched cylinder D, with valves connected to it, substantially in the manner shown and described.

112,158. — Spring Bed-Bottom.—Joseph E. Lord, Quincy, Ill.

Claim.—The arrangement of the longitudinal slats A and the transverse slats B, supported at their ends by and secured to the exterior surface of the frames C and passing alternately over and under each other—this arrangement in combination with the arrangement of the springs D, secured at each extremity by passing it through an aperture in and clamping it to the under side of alternate longitudinal and transverse slats, substantially as shown and described.

112,159.—Governor for Steam-Engines. John Augustus Lynch, Boston, Mass.

Claim.—1. The combination of the helical cam-lifter E with the propeller A and its case D, all being to operate substantially in manner as described.

2. The propeller-case neck I, made as an oil-reservoir to open into the body of the case D, and arranged with the driving-gear F, the valve-wire *e*, and the valve-case K, substantially in manner as described.

3. The combination of the spring *m*, provided with means for varying its tension, as described, with the valve M, the propeller A, its case D, and the helical cam-lifter E, all being arranged and combined substantially in manner and so as to operate as described.

112,160. — Urn for Stoves.—Orville F. Mack, Charlestown, Mass.

Claim.—The pivoted urn D, in combination with hinged cover E and standards C, substantially as described.

112,161. — Corn and Cotton-Scraper, &c.—Cyrus Marsh, 2d, Natchez, Miss.

Claim.—A corn-scraper, consisting of a beam, A, wheels H G, adjustable arms C C', scrapers E E' and M, the latter set in motion by the wheel H, through the pinion K, and wheel L, and all constructed and arranged as and for the purpose shown and specified.

112,162.—Treadle for Sewing-Machines. Francis E. Mills, San Francisco, Cal.

Claim.—1. In combination with a sewing-machine treadle, pivoted at the sides, making that portion of the foot-board on which the heel rests adjustable to different heights relative to the pivot.

2. In combination with a sewing-machine treadle, pivoted at the sides, a foot-board, with its forward part hinged to the oscillating frame and its back part resting on a pendulous rod or some other movable support, capable of being raised or lowered with reference to the axis of the treadle, substantially as and for the purpose described.

3. In a sewing-machine treadle, pivoted at the sides, the sliding heel-stop, substantially as described, or any other equivalent device for holding a movable ledge against the heel.

112,163.—Explosive Compound.—William Mills, New York, N. Y.

Claim.—1. The within-described wax-like production, which I have named oxidized carbolic acid, as a new article of manufacture.

2. The oxidized carbolic acid herein described, in combination with metal, or metallic, or earthy oxides, or their carbonates, substantially as herein described.

3. The oxidized carbolic acid herein described, in combination with metal or metallic and earthy oxides, and sawdust, or any other ligneous substances, treated with niter, substantially as and for the purpose herein set forth.

4. The oxidized carbolic acid herein described, in combination with alcohol, spirits, or ether, and metal or metallic oxides, for the purpose of producing an explosive varnish, substantially as and for the purposes herein set forth.

112,164.—Portable Furnace.—Dwight B. Montague, Springfield, Mass.

Claim.—1. The combination of the outer case B, inner shell C, openings I at the bottom, openings *b* at the side, ports *x* at the bottom, space D, and gate F, with flange G and ports *d*, the parts being all constructed and arranged together, as described.

2. The cover, formed of a number of rings fitting into each other, when provided with teats *p p*, as described.

3. In combination with the gate F, the triangular projections *f f*, as described.

112,165. — Portable Book-Holder.—Charles C. Moore, New York, N. Y.

Claim.—The shaft C or its equivalent, with one or more catches at *b*, the tube *g*, attached or detached, and square hole *c* in handle, the handle F, the wheel D, and toothed tube E or its equivalent, the spiral spring B or its equivalent, in combination with plates U and L and cord A, substantially as herein set forth, and for the purposes described.

112,166. — Harvester. — Daniel Mulock, Mount Hope, N. Y.

Claim.—1. The brace H, bolt *l*, and adjustable wedge *r*, combined as described, with the finger-bar L for adjusting the finger-bar, as set forth.

2. The rack-lever N, pinioned shaft *w*, drum *t*, spring *o'*, and chain M, combined, as described, with the hinged finger-bar, for the purpose specified.

112,167.—Wheel for Vehicles.—Daniel Mulock, Mount Hope, N. Y.

Claim.—1. The flange *a*, combined, as described, with the detachable and adjustable flange *b*, for the purpose of tightening or readily removing the spokes.

2. The wrought-iron tire D, rolled with outwardly-extending indentations *e* thereon, as and for the purpose described.

112,168.—Stair and Floor-Plate.—Peter W. Neefus, New York, N. Y.

Claim.—A sheet of elastic material, *s*, arranged in alternating ridges and grooves, and combined with stripe *c* in the depressions, substantially in the manner and for the purposes specified.

112,169.—Combined Cotton-Planter and Guano-Distributer.—John H. Nicholes, Sumter, S. C.

Claim.—1. The combination of the plows Q R T, shaft B', bar C' D', bars G, levers E, clutches C C, wheels A, shaft B, gears I J, and stirrers N, all arranged to operate substantially as shown and described.

2. The spouts W Y, coverer Z, plows Q R T, shaft B', lever E, pawl-lever F', and ratchet G', all arranged as specified.

3. The shaft B', lever E', bar C' D', sliding bars G, levers E, clutches C, wheels A, axle B, gears I J, shaft K, stirring-wheels N, and hopper L, all constructed and arranged as specified.

112,170.—Steam-Engine.—Powell F. Nickerson, Smyrna, Del.

Claim.—The cylinder B, stationary head E, moving piston M, and sliding steam-chest H, constructed and arranged to operate substantially as and for the purposes herein shown and described.

112,171.—Cotton-Planter.—Rufus F. Norwood, Charlotte, N. C.

Claim.—1. The combination, with the hopper A, of the grooved and toothed roller K, spring gate H, and the gates L, substantially as specified.

2. The spring cutting-off gate H, combined as described, with pins I projecting from the grooves of the roller D, for the purpose specified.

112,172.—Chandelier Gas-Burner.—Rufus Nutting, Randolph, Vt.

Claim.—1. The combination of the lower chamber G and socket H with the base E and upper chambers A A A.

2. The combination of the whole device, including the socket, lower chamber, base, upper chambers and their sockets, and the burner-tips with an ordinary gas-burner, or directly with the end of the gas-pipe, substantially as and for the purposes herein described.

112,173.—Faucet. — Cornelius B. O'Sullivan, New Orleans, La.

Claim.—The chamber B B, in combination with the gland C C, valve-rod D, and the body of the faucet, substantially as described and set forth.

112,174.—Gate.—Charles N. Owen, Salem, Ohio.

Claim.—In combination with a gate, the spring E, vibrating arm D, chain or link F, and latch G, these parts being arranged for joint operation as set forth.

112,175.—Mattress.—William H. Pack and Joseph S. Vanhorn, Jersey City, N. J.

Claim.—As an article of manufacture the improved mattress described, having its central part stuffed with hair and its two ends stuffed with inferior material, the head part being wedge-shaped or not, at option.

112,176.—Countersink.—Frank H. Palmer, Foxcroft, Me.

Claim.—The apertured lug E, having threaded shank H, and the slotted bridge D, combined, as described, with a thumb-nut, I, to fasten the counter B and reamer A to the boring-bit, so that either tool will come into action according as the lug E is at the upper or lower side of the bridge D.

112,177.—Pump.—John S. Patric, Rochester, N. Y., assignor to Hiram Lawton, same place.

Claim.—The arrangement of the connecting-rods *e*, cross-bar G, piston-rod *f*, and compound lever H, as and for the purposes set forth.

112,178.—Stove-Pipe Thimble.—James D. Pierce, Milwaukee, Wis, assignor to himself and John B. Smith, same place.

Claim.—1. A stove-pipe thimble-head, with groove or indentation C in it for the outside band to rest in, substantially as described.

2. A thimble-head, A or B, with groove C, in combination with cover D, with buttons E E to hold it in place, substantially as described.

112,179.—Adjustable Animal Power.—Nicholas Potter, East Troy, Pa.

Claim.—1. The sleeve-boxes C, in combination with the frame A and with the track-frame B, substantially as herein shown and described, to pivot or hinge the said frame B to the said frame A, as and for the purpose set forth.

2. The combination of the shaft D, rigid arms E, friction-rollers F, long lever G, rope or chain H, drum or pulley I, crank or lever J, and pawl K, with each other and with the frame A and track-frame B, substantially as herein shown and described, and for the purposes set forth.

112,180. — Baldric. — Virgil Price, New York, N. Y.

Claim.—1. An ornamental baldric, belt, or chain, made in sections of metal plates, substantially as herein shown and described.

2. The plates A, having the T-shaped pins *a*, in combination with the plates B, which contain slots for the reception of pins *a*, all arranged substantially as set forth.

112,181.—Method of Coating and Finishing Sword-Scabbards.—Virgil Price, New York, N. Y.

Claim.—1. A process, herein described, for securing a bright and durable surface on steel and iron sword-scabbards, the same consisting in polishing and coating, substantially as described.

2. The improved scabbard herein described, produced of material and by the process described.

112,182, antedated February 24, 1871.—Lamp-Chimney.—James M. Rankin, Jr., Brooklyn, N. Y.

Claim.—An improved lamp-chimney, the parts of the broader sides of the body A of which are made flat, meeting each other at an obtuse angle and with a slight swell or convexity, with its narrower sides projecting downward into the round convex base A, and with its upper end C flaring or bell-shaped, substantially as herein shown and described, and for the purpose set forth.

112,183.—Valve for Condensers.—George H. Reynolds, New York, N. Y., assignor to himself, Cornelius H. Delamater, and Alexander K. Rider, same place.

Claim.—1. The within-described arrangement of the passages A' A relatively to the steam coming

from the engine and to the condenser, and to the large tight self-acting valve D, the latter being provided with means for holding it steadily open, in addition to being free to act automatically, all substantially as herein set forth.

2. The within-described construction and arrangement of the valve with India-rubber or other elastic and noiseless seat, and with a separate seat to serve when the rubber shall fail, all substantially as herein specified.

112,184.—SEWING-MACHINE TREADLE.—Leo W. Sapp, Cleveland, Ohio.

Claim.—1. The rocking-lever D, in combination with the treadles pivoted at the heel, and operating substantially as and for the purpose described.

2. The arrangement of the foot-treadles E E, as described, namely, pivoting them at the heel to the front bar B and connecting them at the toe to the rocking-lever D, as and for the purpose set forth.

112,185.—BOTTLE-STOPPER.—Fredrich Schlich, New York, N. Y., assignor to himself and Adrian Feyh, same place.

Claim.—The collar or band *b*, made as a closed ring, with the projecting lugs *c d* and bow or loop *e*, to be closed by bending after the band is placed upon the bottle, as set forth.

112,186.—LUMBER-WAGON.—Jacob Skeen, Mound City, Mo.

Claim.—1. The combination of the fifth-wheel B B′ B″, the plate D, the rails E, and the arch cross-bar H, all constructed and arranged substantially as described and shown, for the purpose set forth.

2. The fifth-wheel B, B′, and B″, constructed substantially as described and shown.

3. The combination of the lower portions B B′ of the fifth-wheel, made in two pieces, constructed and arranged substantially as described and shown, for the purposes set forth.

4. The combination of the lower portion B of the fifth-wheel and bounds C, made together in one piece, and the part B′, all constructed and arranged substantially as described and shown, for the purposes set forth.

5. The combination of the tongue C′, provided with the dowel *i*, with the bounds C, provided with the hollow radial arm *f*, all constructed and arranged substantially as described and shown, for the purposes set forth.

6. The means employed for lengthening and adjusting the length of the wagon, consisting of the rails E, provided with sleeves F, the hollow rails Q, the slot *p″*, stay-pins *p‴*, and holes *p⁗*, all constructed and arranged substantially as described and shown.

7. The means employed for raising the load to be carried, consisting of the truck I, provided with the shaft K, lever M, ratchet-wheels L L′, pawl L″, and chains O, all constructed and arranged substantially as described and shown.

8. The means employed for moving the load to be carried into a desired position, consisting of the truck I, rails E, and pins *l″*, all constructed and arranged substantially as described and shown.

9. The combination of the casing R, the hind wheels P, and the spindles *n*, all constructed and arranged substantially as described and shown, for the purposes set forth.

10. The combination of the casing R, hind wheels P, the spindles *n*, and the friction-rollers S, all constructed and arranged substantially as described and shown, for the purposes set forth.

11. The combination of the windlass U, provided with bars V, the casing R, and the hind wheels P, arranged with an open space between them, all constructed and arranged substantially as described and shown, for the purposes set forth.

12. The arrangement of the side rails Q and E, the cross-bars Y, the rails G, and the plate D, all constructed and arranged substantially as described and shown, for the purposes set forth.

13. The timber-wagon above described and shown, as an entire organization, with its several parts constructed, combined, arranged, and connected substantially as and for the purposes set forth.

112,187.—GEARING AND UNGEARING PINIONS AND WHEELS.—John Skinner, Hadley, Mich.

Claim.—1. The combination of the mechanical devices herein described, by means of which motion is given to machinery by friction, with the device for throwing the pinion and spur-wheel into gear, substantially as and for the purposes herein set forth.

2. The pinion D, provided with a plain face, E, outside the cogs, as described, and for the purposes set forth.

3. The band C, provided with right-angle flange *c*, in connection with the spur-wheel B, when constructed, secured, and operating as and for the purposes specified.

4. The lever F, provided with arms *f* and friction-wheels G, in connection with the band C, as and for the purposes set forth.

5. The levers H J and bearing I, when constructed, combined, and operating as and for the purposes set forth.

112,188.—FIRE-PLACE.—John Smith, Brantford, Canada.

Claim.—1. The combination, with the fire-chamber A and descending and ascending sheet fire-flues B and C in rear of the fire-chamber, of the sheet air-heating flue E, between and against the sides *q* and *r* of the fire-flues, air-heating chamber F, over and against the top plate of the fire-chamber, and inlet and outlet air-passages *g g*¹ or *g*² and *h h*¹ or *h*², all arranged as described, when the ends *p p′* and *n n′* of the fire-flues, and the rear side *o* of the ascending one, are outside radiating plates, as set forth.

2. The combination of the fire-chamber A, descending and ascending sheet fire-flues B and C, having outside radiating plates, as described, sheet air-heating flue E, air-heating chamber F, sheet air-heating flue T, between and against the sides *o* and *e* of the fire-chamber and descending fire-flue, air-passage or passages *f* or *f*, and apertures to admit cold air and discharge it when heated, all arranged as herein set forth.

112,189.—SEWING-MACHINE.—William T. Smith, West Zanesville, Ohio, assignor to himself and William T. Maher, same place.

Claim.—1. The slotted adjustable support D of the supplemental needle *b*, in combination with the horizontal slotted arm C and the needle-bar B, which carries it, as hereinbefore described.

2. The vertical adjustable carrier *g* of the supplemental needle *b*, in combination with its horizontally adjustable support C, in the manner and for the purpose described.

3. The adjustable thread-guide *k* of the take-up arm I, for the supplemental needle, as described.

4. The flange *c* of the supplemental needle-support D, and the flange *g* of the carrier for said needle, arranged to brace each other when adjusted to work, as described.

5. The combination of the needle-bar B, the horizontal slotted arm C, the adjustable supplemental needle-support D, the adjustable needle-carrier *g*, with the adjustable thread-guide *k* of the take-up I, and the supplemental presser-foot F, the several parts being constructed, arranged, and operating as described.

6. The double-bearing saddle-shaped spring K, in combination with the staple *s*, frame J, adjusting screws *t*, and the thread-spools, as and for the purposes described.

112,190.—VENTILATOR.—Daniel M. Sprogle and Joseph E. Dickson, Annapolis, Md.

Claim.—1. The chamber D, constructed as described, and combined with a pipe or flue used for introducing air into buildings, chambers, or apartments, substantially as and for the purposes set forth.

2. The chamber D, constructed as described, and combined with the pipe or flue A by means of the pipe or flue E, either alone or in connection with the tank or chamber H, substantially as and for the purposes set forth.

3. The pocket I, combined, as described, with the pipe or flue A and the water-pipe J, substantially as and for the purposes set forth.

4. The system of pipes, flues, and chambers, consisting of the water-pipe F, the chamber D, the flue E, the tank or chamber H, the flue A, the pocket I, the water-pipe J, and the tank or reservoir M, for the purpose of producing pure, warm, or hot moist air, or pure, cool, moist air, for ventilating, warming, and supplying hot-air chambers, substantially as herein set forth

112,191.—CORN-HARVESTER.—Clement Smith Stull, Poolesville, Md.

Claim.—The combination and arrangement of the gathering-arms E E, guide-rod G, receiving-board H, and discharging-rack I, substantially as and for the purpose herein specified.

112,192.—TUYERE.—Peter Sweeny, New York, N. Y.

Claim.—The pipes A, B, C, and G with the valve D, combined and arranged substantially as and for the purpose described.

112,193.—FLEXIBLE FASTENING FOR GLASS.—Warren H. Taylor, Stamford, Conn.

Claim.—The combination of the guard-wires E E and flexible washers R R with a suitably-formed metallic door or window, substantially as and for the purposes hereinbefore described.

112,194.—FENCE.—Jeremiah W. Teller and William Townsend, Lapeer, Mich.

Claim.—In combination with the posts A, the bars B, cleat-bars C, and slats *a*, when arranged and operating substantially as herein described.

112,195.—STEAM-HEATER.—Walter Thomson, Detroit, Mich., assignor to "Detroit Novelty Works."

Claim.—The arrangement of the pipes B, provided with slots *b*, with the pipes C and steam-chamber A, substantially as and for the purposes set forth.

112,196.—HORSE-COLLAR.—William J. Thorn, New York, N. Y.

Claim.—1. Wooden collar-bars, when said bars are steamed and bent in the manner substantially as described.

2. The curved straps B B B′ B′, united by the pintle *b*, adapted for the upper stays and joint of the collar-bars, and also as a support for the terrets, all in the manner described.

3. The sheath C and buckle D on one end of one of the collar-bars, in combination with the loop *c* on the other collar-bar, substantially as described.

112,197.—MACHINE FOR FELTING HAT-BODIES.—Joseph Vero, Dewsbury near Leeds, England.

Claim.—The felting or "planking" of the bodies of hats, or other coverings for the head, by means of the apparatus shown and described, the predominant features of such apparatus consisting in the nature and arrangement of the screws or worms.

112,198.—FENCE.—John Waddle, Bakerstown, Pa.

Claim.—An improved fence, consisting of the end posts A, braces B, iron rod C, short rods D, nuts E, iron supports F, panels G, and cross-bars H, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

112,199.—FIRE-PLACE.—Jerome W. Wetmore, Erie, Pa.

Claim.—The shelf for fresh fuel in the fire-places or fire-boxes of stoves and other heaters, constructed as and for the purpose hereinbefore set forth.

112,200.—MODE OF ATTACHING SPOKES TO WHEELS.—Jefferson G. Wiggins, Lima, N. Y., assignor to J. S. Galletine, same place.

Claim.—The arrangement of the socket C, nut D, and felly-plate F, when each part is constructed substantially as described, with the spoke A and felly B, for the purposes set forth.

112,201.—MEDICAL COMPOUND OR LINIMENT.—Galen S. Wood, Vassalborough, Me.

Claim.—The manufacture or preparation of a compound, which is denominated Wood's Universal Liniment, in the proportions and for the purposes set forth.

112,202.—WATER-WHEEL.—Larnard M. Wright, Fort Edward, N. Y.

Claim.—1. The combination of the pipe B with the circular plate E, so as to make the upward pressure of water on the plate E equal to the pressure downward on the disk, added to the weight of the pipe B, disk C, plate E, and their attachments, which are moved by the screw F.

2. The combination of the cross-head L with the internal screw F and the upper box J, as and for the purposes set forth.

3. The arrangement of the boxes P and N N N with the holders R and O, as and for the purpose described.

4. The cylindrical part of the disk on its outer diameter, and fitting within the bed plate D, as and for the purposes described.

112,203.—JEWELER'S COMBINED CALIPERS AND POISING-TOOL.—Francis E. Allen, Keene, N. H.

Claim.—The jaws *e e*, provided with indentations, and combined with spindle *c* and arm *g*, substantially as and for the purpose set forth.

112,204.—TARGET-ALARM.—Andreas Anderhub, New York, N. Y., assignor to John Bayer, same place.

Claim.—The nose *c*, on the rod C, which carries the center-plug B of a target, in combination with the check-lever D and *d*, escapement-wheel E, lever *h*, and alarm shafts *i*, all constructed and operating substantially in the manner herein shown and described.

112,205.—COOPER'S CROZE.—Vincent Applegate, Marline P. Jacobs, and Samuel F. Roby, Harrison county, Ind.

Claim.—The combination of the plate A, bit-holder C, with rib *a*, V-shaped bit or knife D, and head-block E, with rib *b*, all constructed and arranged substantially as and for the purposes herein set forth.

112,206.—BURNING HYDROCARBON LIQUIDS FOR LIGHT.—Thomas J. Barron, Brooklyn, E. D., N. Y.

Claim.—The hydrocarbon candle herein described, having tubes A, *c*, and *d*, of prepared paper, metal tip *n*, filling B, wick *y*, chamber *z*, bottom *o*, and plug *r*, when constructed and arranged substantially as specified.

112,207.—ELECTRICAL TICKET-CHECKING APPARATUS.—Marcus Bebro, Manchester, Great Britain.

Claim.—The combination of the box *a*, its roller *c* having projecting points, and insulated wires, arranged to be struck by said points, as specified.

112,208. — Sad-Iron Heater.—George Benns, Rockford, Ill., assignor to Lucius M. West, same place.

Claim.—The specific device described, consisting of the vessels A B, bottom C D, cover E, and pipe F, when combined as described.

112,209. — Combined Cotton-Chopper, Scraper, &c.—William C. Bibb, Madison, Ga.

Claim.—The arrangement of the hoe D, operated as described, with the adjustable scrapers F and adjustable plows E, substantially as and for the purpose set forth.

112,210. — Door-Check. — Charles Bird, Lower Merion township, assignor to himself, Charles J. Field, and T. P. Sargent, Philadelphia, Pa.

Claim.—The bar D, hinged to a door, and having corrugations *f*, in combination with a fixed plate E, for guiding the bar, and elastic arms *d*, adapted to the corrugations, all substantially as set forth.

112,211.—Keyless Padlock.—Wilson Bohannan, Brooklyn, N. Y., assignor to American Seal-Lock Company, New York city.

Claim.—1. The tumbler F, constructed with a projecting heel, *f*, and so constructed and applied that it may be retracted by the action of the end *e'* of the shackle, substantially as and for the purposes described.

2. The combination of the shackle E, bolt B, tumbler F, and dog H, all constructed and arranged to operate substantially as and for the purposes set forth.

112,212. — Shovel-Plow. — Francis H. Bowlds, Fairfield, Ky.

Claim.—The combination of the beam A, standard B, tongued shoe D, and shovel C, the parts being constructed and arranged substantially as shown and described.

112,213.—Triturator.—Elijah Brady, New York, N. Y.

Claim.—1. The revolving adjustable bed-plate D, mortar H, connected therewith by means of clamps or equivalent devices, and the revolving pestles I, combined and operating substantially as described.

2. The shaft G, cross-head K, and spindles L, adjustable longitudinally on the cross-head and loosely fitted to enter the recesses *o*, thereby admitting an independent vertical movement of the pestles, as and for the purposes specified.

3. The combination of the standard B, shafts E, F, and G, revolving bed-plate D, mortar H, and pestles I, as and for the purposes set forth.

112,214.—Apparatus for Lifting Barrels, &c.—John S. Brewer, Chicago, Ill.

Claim.—The sling A, in combination with ropes or chains C C and hooks D D, or the equivalent, the whole arranged substantially as and for the purpose specified.

112,215.—Street-Car.—Charles B. Broadwell, New Orleans, La., assignor to himself and Ignatius Caulfield, same place.

Claim.—The application to a street or other railroad-car, at or near either or both of its ends, of a central vertically-adjustable wheel, made also capable of turning on its vertical axis, so as to steer the car onto or off the track, or around curves, substantially as specified.

112,216.—Stop-Valve.—Sidney Broadbent and Willard B. Culver, Scranton, Pa.

Claim.—1. The arrangement of the conical expander C, the external expanding-ring D, the stop-shoulder *d*, the spindle E, cylindrical seat *c*, and passages *a b*, substantially as and for the purpose herein described.

2. The combination of the spindle E, ring D, conical expander C, and spring *h*, substantially as and for the purpose herein specified.

112,217.—Shower-Bath Apparatus.—Cyril P. Brown, Hudson, Mich.

Claim.—1. The combination of the pump B C D, rod *b*, nut *d*, spring E, loop *f*, and food-pad G, with its slotted plate and hook *e*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the tub A, pump B C D, spring E, foot pad G, chamber H, conductor I, rose J, and curtain L, with the hoops *k k k'* and bar K, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

112,218. — Carpenter's Plane. — James Raymond Brown and William Brown, Boston, Mass.

Claim.—1. The combination of the two planes A and K and the sectoral plate or sword A', under the arrangement and for operation essentially as herein set forth.

2. The combination, with the two planes A K, of the tubular support X, the screw *r* contained in the same, the shelf *y*, and the stud *p*, said parts being arranged for joint operation, as herein shown and set forth.

3. The chuck *n*, constructed substantially as herein explained, in combination with the tubular support X, screw *r*, and shelf *y*, for the purpose stated.

4. The combination of the bar or rest D, the slot F, cam-block G, rack *b*, and iron E, the whole operating as herein explained.

5. The mode herein described of attaching the scoring-spur B to the beam L, the same consisting of the two screws U and V, formed and applied substantially as before set forth.

6. The combination, with the plane A, of the fence J, applied to the under side of the bed-plate, and the arms *g*, located on the upper side of said plate and hinged both to the plane and fence, for operation substantially as shown and set forth.

7. In combination with a matching-plane, an adjustable plate so made as to constitute a sword to such plane, and a carrier for the additional or second cutting-iron thereof, for purposes stated.

8. An adjustable plate, which combines a fence and iron-carriage so applied to the plane-beam as to be enabled to raise and lower the same from or into action, for purposes stated.

9. The combination of the planes A K, the beam L, the rod or screw S, and the adjustable sword or plate A, under the arrangement herein shown and set forth.

112,219.—Water-Wheel.—Henry Bushnell, New Haven, Conn.

Claim.—1. A tidal wheel with reversible curved floats or buckets, substantially as described, for the purposes specified.

2. The radial float-wheel C, fitted to turn for a limited distance on its shaft D, in combination with one or more reversible curved float-wheels, B B', and a lever mechanism, G H I, whereby the curved floats or buckets will be automatically reversed upon the changing of the direction of the current, as described.

112,220.—Apparatus for Heating Propagating-Beds.—William Chalmers, Philadelphia, Pa.

Claim.—The arrangement of the furnace A, circulating pipe or pipes B B, and the water-reservoir D, substantially as and for the purpose set forth.

112,221.—Hedge-Trimmer.—George Clark and Samuel P. Clark, Dover, assignors to themselves and Franklin B. Ives, Princeton, Ill.

Claim.—1. The combination and arrangement of the frames A and F, arm H, handle h, vertical arc *e*, crank-shaft *f'*, and roller I, all substantially as represented and described, for the purposes specified.

2. The knives E, operated from the wheel C' by belting or gearing and cranks, in combination with the frames A and F, arm H, handle h, and vertical arc *e*, all substantially as specified.

3. The roller I, for holding down the tops of the plants while being severed, in combination with the knives E, substantially as represented and described.

112,222.—Steam Safety-Valve.—Gilbert H. Clemens, Chicago, Ill.

Claim.—1. The valve H in combination with the chambers G and G', arranged as described, whereby the said valve is closed by the pressure of steam, substantially as and for the purpose described.

2. The primary valve K in combination with the main valve H, the whole arranged substantially as and for the purpose described.

3. The enlarged stem *e* of the primary valve K, in combination with opening *f* of valve H.

4. The adjusting-nut A', in combination with base A and bulk-head or cap F, substantially as and for the purpose described.

5. The bolt D and yoke E, in combination with base A, the whole arranged substantially in the manner and for the purpose specified.

6. The combination of the stirrup M with lever O, bolt *h* and valve-stem L with spring N, substantially as and for the purpose described.

7. In combination, the steam safety-valve, with adjusting-cup T and whistle, substantially as and for the purpose described.

112,223.—Binder for Sewing-Machines.—Jacob L. Coles, Newark, N. J., assignor to himself and James W. Corey, same place.

Claim.—1. The fellers D and E, adapted to operate upon both edges of the binding fabric, in combination with the U-shaped guide B, over which the binding fabric is folded, as and for the purpose specified.

2. In combination with the devices enumerated above, the auxiliary spring-presser F, substantially as described.

112,224.—Baling-Press.—Thomas J. Corning, San José, Cal.

Claim.—In a double-acting horizontal baling-press, having two chambers and followers B B', the combination of the rack A, segmented toothed wheel D, and lever E, operated by power applied to the ropes H H which pass over the pulleys F F', substantially in the manner and for the purpose described.

112,225.—Shutter-Fastener.—Jonathan L. Devol, Parkersburg, W. Va.

Claim.—In combination with the shutter-fastening herein described, composed of the frame C, hook-lever D, keeper E, and spring F, the cam-lever G G', arranged and operating as set forth.

112,226.—Fermentation and Purification of Organic Substances. — Rudolph D'Heureuse, New York, N. Y.

Claim.—The mode, to assist a fermentation or germination, the purification of organic fluids from nitrogenous or deleterious matter, the preservation, curing, or improving of organic substances, by artificial currents of air or other gases through said substances, in close receptacles, and at a higher than the common atmospheric pressure, substantially as, and for the purposes hereinbefore described and set forth.

112,227.—Saw.—Henry Disston, Philadelphia, Pa.

Claim.—The recess *e* in the blade, for the reception of a detachable tooth, in combination with holes *t t* bored in the blade, and arranged in respect to the corners of the said recess, substantially as and for the purpose herein set forth.

112,228.—Mortising-Machine.—William Downing and William H. Soley, Philadelphia, Pa., assignors to Westford Warner, same place.

Claim.—1. The flexible endless-chain cutter H, constructed and arranged as shown and described, and for the purpose specified.

2. The combination of the flexible endless-chain cutter, the sliding feed-table, the gauge, and the clamp, these members being constructed and operating as described.

112,229.—Railway-Car Spring.—Richard Dudley and Benjamin Hershey, Erie, Pa.

Claim.—1. The V-shaped springs D D when they are upset at the angles *d d' d'*, substantially as described, as and for the purpose specified.

2. The combination of the V-shaped springs D D, having lateral arms D' D', friction bed-plate B, and slide C or rocking-plate G, substantially as described.

112,230.—Operating Ordnance. — James B. Eads, St. Louis, Mo.

Claim.—The electric battery or machine N, and wires O and R *r*, in combination with a gun-carriage, substantially as and for the purpose described.

112,231. — Lozenge-Cutting Machine.—Winslow P. Eayrs, Nashua, N. H.

Claim.—1. The roller K, provided with the spirally-arranged spur *k*, wheel L, and spur *l*, in combination with the rollers B and C, apron D, cutters H', arms H, and springs I, when all are constructed and arranged substantially as and for the purpose set forth.

2. In combination with the elements of first claim, the feeding-roller B and inclined apron J, arranged as and for the purpose specified.

112,232. — Apparatus for Tanning.—Lewis C. England, Philadelphia, Pa.

Claim.—1. The frame F, provided with guides and bars, or other suitable devices, for suspending the hides, all arranged so as to operate substantially as described.

2. The diagonal braces B B' and upright shaft R, in the manner and for the purpose herein specified.

3. The guides U, U^1, U^2, U^3, and U^4, or their equivalents, so as to retain the frame F in a horizontal position, as herein specified.

4. The apparatus herein described, consisting of a frame, F, in combination with suitable devices for giving the same a vertical vibratory movement, substantially as set forth.

112,233.—Heating Apparatus.—Michel G. Fagan, Troy, N. Y., assignor to himself and Albert C. Corse, same place.

Claim.—In a stove-drum or other equivalent parts of heating apparatus, the means employed, or their equivalent, for securing a permanent gas-tight joint between the ends of the cylindrical portions thereof and the end plates or other contiguous portions of said apparatus, consisting of the rings C and C', attached to or upon the ends of said cylinders A and B, respectively, and from thence projecting horizontally outward or inward and thence upward, so as to form a rebate, D, for the reception of the cover E, in combination with said cover, and with suitable bolts G passing through said parts, substantially as shown and described.

112,234.—PLOW.—John B. Ferguson and Samuel M. White, Big Lick, Va.

Claim.—The within-described reversible point G, provided with a shoulder and notch near each end, secured under the edge of the notched landside D by means of the ear *d* and bolt *b*, and used in combination with the mold-board C and share E, all substantially as set forth.

112,235. — CLOTHES-RUBBER. — Seymour Foster, Lansing, Mich.

Claim.—The rubbing-block A herein described, having recessed upper surface to fit the knuckles of the hand, and corrugated under surface *b*, in combination with the elastic straps B B, substantially as and for the purpose specified.

112,236.—MODE OF FASTENING HARROW-TEETH.—George Fry, Newaygo, Mich.

Claim.—The slotted metal-plate *d*, in combination with bolt *c*, tooth *b*, and notched beam A, all arranged and constructed substantially in the manner and for the purposes set forth.

112,237.—NECK-TIE RETAINER.—Eli B. Gibbud, Waterbury, Conn., assignor to himself and Benjamin H. Bradley, same place; said Gibbud and Bradley assignors to John Bachelder, Norwich, Conn.

Claim.—The base of a neck-tie, consisting of the two plates *a* and *c* and the covering, all secured together in the manner herein set forth, as an article of manufacture.

112,238, antedated February 22, 1871.—WRENCH AND OILER.—Edwin B. Gifford, Westport, Mass.

Claim.—1. The combination and arrangement of the socket A, the curve B, and annular handle H, as described, and for the purpose specified.

2. The combination and arrangement of the curved tube B, spring-valve *c*, discharge nozzle *a*, and cap C, substantially as and for the purpose described.

112,239. — WOODEN PAVEMENT.—Jackson Grant, Milwaukee, Wis.

Claim.—1. In a wooden pavement, an upper block, B, with a bed-block, C, each constructed and connected with the other, substantially as described and shown.

2. The arrangement, in a wooden pavement, of the upper block B, constructed substantially as described and shown, so that it shall rest upon and be connected with four of the bed-blocks C, constructed substantially as described and shown.

3. The means employed for connecting two or more longitudinal series of blocks B or C, consisting of the hooks D D', constructed and arranged substantially as described and shown.

4. The blocks B C, provided each with a rectangular and beveled tongue, and corresponding recesses, substantially as described and shown.

112,240.—SPOON.—Florian Grosjean, Brooklyn, N. Y.

Claim.—A sheet-metal spoon with both the shank of the handle stiffened by lips of the same sheet metal turned inward, and the junction of the shank with the bowl stiffened by a forked hollow bead, substantially as before set forth.

112,241. — STRAW-CUTTER.—Phillip Peter Gross, Palmyra, Mo.

Claim.—The combination of the clamping-block R, lever T, rod U, lever V, spring-bar W, link Y, and arm K, fastened to the rock-shaft J, to work the clamping-block, when arranged substantially as described.

112,242.—ELECTRO-MAGNETIC SIGNAL APPARATUS.—Augustus Hahl, Washington, D. C., assignor to "The Electric Clock and Bell Company," same place.

Claim.—The combination of a movable permanent magnet and a fixed coil, arranged and operating as described, with a slotted or perforated plate or case, *w*, and a movable signal, *m*, as shown, whereby the reversal of a single current is caused to reverse the position of the signal with relation to the apertures *v* in the plate or case, substantially as set forth and for the purpose specified.

112,243. — BEE-HIVE.—Hiram S. Harned and Frank S. Elliott, Boonesborough, Iowa.

Claim.—1. The movable bottom C, and grooved entrance blocks D, in combination with the brood-chamber A, all substantially as described.

2. The division-board G, provided with the screens *d d* and pins *f f f f*, and placed between the brood-chamber A and chamber H, all as and for the purposes set forth.

3. The combination with the brood-chamber A, constructed as herein described, of the nucleus-cap I, chambers J J, frames K K, troughs or feed-boxes *m m*, and entrances *m' n*, all substantially as and for the purposes herein set forth.

112,244, antedated February 17, 1871.—LADY'S SUPPORTING-BRACE.—Mary Harris, New York, N. Y.

Claim.—1. The back connecting-strap G, shoulder-straps A A, adjustable breast-strap E, and waist-strap F, arranged substantially as and for the purpose described.

2. The combination of an adjustable breast-strap, E, adjustable waist-band F, and adjustable supporting-straps A A, substantially as described.

3. The breast-strap E, in combination with the straps A A.

4. The pockets B D' D'' C, in combination with the breast-strap E and waist-band F, substantially as and for the purpose described.

112,245.—GUIDE FOR SEWING-MACHINES.—Franz Herterich, Jersey City, N. J.

Claim.—The combination of the slide D D', sliding guide E E', spring F or its equivalent, and the toggle-joint G, substantially as set forth.

112,246. — GRATE FOR BURNING COAL-SCREENINGS.—George W. Hildreth, Lockport, N. Y.

Claim.—1. A fire-grate, consisting of rocking bars, which, when closed, form a level, smooth, and imperforate upper surface, and which, when open, admit the air through side upward apertures, substantially as herein set forth.

2. A grate composed of bars, whether movable or stationary, having each an inclined upper surface, upon which coal-dust or fine coal may rest and burn, while air is admitted between the lower edge of that surface and the upper edge of the next bar, substantially as herein set forth.

112,247.—ANCHOR.—William M. Hughes, San Francisco, Cal.

Claim.—1. An anchor, having the double shank A A', the flanges B B', the shackles or ring-plate D, with the flukes E E', and grooves or slot H, and the rivets or joint-pins F, when combined and arranged to operate substantially as herein described.

2. The combination of the shackle-plates with the flukes E E' and the double shank A A' of the anchor, as described.

112,248.—BOLT-HEADING MACHINE.—Thomas Hull and Nicholas Thomas, Chicago, Ill.

Claim.—1. The combination of die-blocks W W', levers V V, pitman T², lever O², and rock-shaft B², all constructed and arranged as described.

2. The combination of the U-shaped spring H², cross-head G², bracket C, pitmen I 2, the collar-arms K, and header F², when arranged substantially in the manner and for the purpose specified.

112,249.—PRINTING PRESS.—George Washington Hunt, New York, N. Y., assignor to himself, George Place, and Charles F. Hardwick, same place.

Claim.—1. A crank-shaft, revolving at a uniform speed, in combination with the hinged or vibrating platen of a printing-press, and with a knee-joint, one link of which is constructed and acted on by the said crank, substantially as set forth.

2. The combination of the platen, the slide P to which the platen is jointed, and the stationary segments *i i*, all substantially as and for the purpose described.

3. The projections *i i*, arranged on the cross-bar I around the tension-rods, in combination with tube having like projections, and so attached to the said rods as to admit of being turned thereon, all substantially as set forth.

4. The revolving cylinder Q and its pin S, in combination with the shaft *w* on which the cylinder slides, and which imparts a rotating motion to the same, and with the stationary hub R and its scroll-groove, arranged substantially as set forth.

112,250.—FLOOD-FENCE.—Charles R. Hunter, Douglas, Ill.

Claim.—The combination of the anchor A and the pintle E, provided with horizontal bearing-arms *m m'* and washer *f*, with the fence-sections B B, provided with the hinge-arms C C, substantially as specified.

112,251.—HORSE-POWER.—James W. Huntoon, St. Louis, Mo.

Claim.—The bed-piece A, provided with standards *a a' a²*, combined with top piece B, cog-wheels C C' C², pinions *b b' b²*, and shaft G, all arranged in the manner shown and for the purpose described.

112,252.—WAGON-BRAKE.—Reuben Hurd, Morrison, Ill.

Claim.—1. The frame A, in combination with the eye-screw bolts *a³ a³* and screw-bolts *a' a'*, substantially as shown and described.

2. The brakes or stops E E, constructed as shown, in combination with the frame A, rod B, sleeve C, movable connecting-bars D D, link *f*, lever F, and rod G, substantially as set forth.

3. The combination of the brake-handle H, pinion *h'*, pawl *h³*, spring *h⁴*, and segmental bar *h²*, substantially as shown and described.

112,253.—MACHINE FOR WARPING YARN.—Daniel Hussey, Lowell, Mass.

Claim. — 1. In combination with a warper, a mechanism, substantially as described, or its equivalent, for running the warp-cylinder at a rate of speed such as will allow an attendant to change each spool and substitute a fresh one, and tie its thread to the warp, such mechanism being the arm H, its latch *b*, stud *c*, shaft *d*, worm *e*, bevel-gears *f g*, and driving-pulley *k*, arranged with the warp-cylinder operative machinery, and to operate therewith, as explained.

2. The said additional mechanism, or combination and arrangement of the arm H, the latching devices *b c*, the bevel-gears *f g*, the worm *e*, and the driving-pulley *k*, applied together and for use in manner as described.

112,254. — ROCK-DRILL.—Simon Ingersoll, Brooklyn, N. Y.

Claim.—1. The feed-rod *d'* and plunger *e*, in combination with any suitable feeding device, and the piston P, substantially as and for the purpose set forth.

2. The combination of the feed-rod *d'* with the crank-lever *h'*, pawl *l'*, ratchet-wheel nut *m*, and feed-screw D', all constructed and operated substantially as and for the purpose described.

3. The legs B B B, with their extensions *b b b*, adjusted with screws, working into the inclined longitudinal grooves *b' b' b'*, substantially as and for the purpose set forth.

112,255.—METHOD OF FORMING SPUR-LIPS OF AUGER-BITS.—William A. Ives, New Haven, Conn.

Claim.—The process herein described for forming the spur-lips of auger-bits.

112,256, antedated February 23, 1871.—LOW-WATER INDICATOR. — Hiram Kimball, Randolph, Vt.

Claim.—1. The elevated reservoir A, connecting-pipe H, test-pipe F, float B, lever C, slotted valve-stem R, and guides G G', when constructed, combined, and arranged to operate as described.

2. The removable chamber Q and separable valve and stem R E, as and for the purpose specified.

112,257.—HEAD-BLOCK FOR SAW-MILLS.—William A. L. Kirk, Hamilton, Ohio.

Claim.—1. The sliding bar D, in combination with the sliding knee of a head-block of a saw-mill, and an eccentric or cam for holding the bar in position, substantially as and for the purpose set forth.

2. The serrated or toothed rack upon the sliding knee, when used in combination with the sliding bar D, substantially as and for the purpose set forth.

3. The adjustable knee of a head-block, when composed of the parts B and C, arranged in the manner and for the purpose specified.

112,258.—CHEST-PROTECTOR.—Peter Lear, Boston, Mass.

Claim.—As a new article of manufacture, the chest or lung and spine-protector, constructed as herein shown and described, viz., with elastic connecting straps at top and bottom.

112,259.—SOAP COMPOUND.—Henry Loos, Lawrence, Kansas.

Claim.—A soap compound, made of the ingredients herein described, and mixed together about in the proportion specified.

112,260. — STOVE-PIPE DAMPER.—William H. Lutz, Lancaster, Pa., assignor to himself and William Boas, same place.

Claim.—The combination and arrangement of the bar A *a a'*, lever-bar B, rack C, a simple or elbowed lever, D, and tension-rod F, together with the damper E, operating substantially in the manner and for the purpose specified.

112,261.—LATH-MACHINE.—John C. Mackay, Ionia, Mich.

Claim.—1. The fibrous non-conductor *a* on the saw-arbor C, in combination with the cylinder or sleeve *a'*, saws *b b b*, and washers *a''*, in the manner and for the purpose described.

2. The pivoted grooved guide-way H, having points 1, 2, and 3, arm *h*, and weight *h'*, in the manner and for the purpose described.

3. The friction-pulley *e*, when constructed from disks of pasteboard, as described, and used in combination with the pulleys D' D', in the manner and for the purpose shown.

112,262. — BEE-HIVE. — Gideon Marsh, Steamburg, N. Y.

Claim.—The inverted tub A, tubular post B, and arms C C, in combination with the honey-box D, slide *h*, and inverted tub or cap E, all constructed and arranged substantially as and for the purposes herein set forth.

112,263.—HARVESTER.—James S. Marsh, Lewisburg, Pa.

Claim.—1. One or more laterally-compressing or directing grain-guides, projecting forward of the ordinary guard-fingers, arranged between the extremities of the cutting apparatus of a reaper, and adapted to direct the standing grain toward the draft-frame and to otherwise operate, substantially as described.

2. The grain-guides made adjustable by means of devices under control of the attendant when the machine is in operation, substantially as described.

3. A flexible guard or fender, G, applied to the revolving rake and beater-arms, substantially as described.

4. The auxiliary draw-rod D', in combination with the transverse rod *b*, the draw-bar D, and an adjusting device, substantially as described.

5. The cast-metal platform F, with the depressed corner portion F', in combination with the shaft and wheel of the crank-wheel C, and with the cover-plate *c*, when all these parts are constructed in the manner described and shown.

112,264.—PAPER-FOLDING MACHINE.—John McAdams, Brooklyn, N. Y.

Claim.—1. The doubler or folder E, in combination with feeding-rollers and belt, arranged to work through the bottom of said folder, substantially as specified.

2. The presser, composed of endless traveling-belts F F', in combination with a doubler or folder, and the feeding devices arranged as described and in front of said presser, essentially as described.

3. The combination and arrangement of the belt H and its pulleys *i j k* with the follower I of the packing-receptacle or receiver J, essentially as shown and described.

112,265. — FEED-CUTTER.—James B. McClinton and William McClinton, Galion, Ohio.

Claim.—1. The rollers B B', plates C C, cap D, having a retaining pawl or dog, H', attached, rods *d d*, and spring D', when the same are combined and arranged substantially as described.

2. The T-shaped lever J, pitman-rods K K, dogs H H, ratchet-wheels G G, and connecting-bar L, secured to the fly-wheel as stated, when the same are so combined and arranged as to impart to the feed-rollers an adjustable and uniform movement, substantially as described.

112,266. — TEA-KETTLE.—Charles W. McClure and William A. Shepard, Wooster, Ohio.

Claim.—The combination of breast B and handle A, latch *d*, and catch G, all arranged to operate substantially as described.

112,267. — COMBINED HARVESTER AND BINDER.—John M. McKesson, Lincoln, Nebraska.

Claim.—1. The combination of the concave elevating-apron H^1 of the segmental grain-platform and the rake-floats K^1 of the reel, by the combined action of which the cut grain is elevated.

2. The spring-finger O^1 O^2, in combination with the receiver O, substantially as and for the purpose set forth.

3. The revolving frame Q^1 and sliding bottom Q^2 of the hopper Q, in combination with the operating mechanism composed of the cranked rock-shaft Q^3, connecting-rods *q* and q^4, oscillating lever Q^5, sliding bar q^3, and spring q^7, substantially as set forth.

112,268.—SASH-HOLDER.—Joseph W. Megaw, Wilmington, Del.

Claim.—The W-shaped spring *d*, attached to the window-sash firmly at one end, and slotted at *s* to receive the pin *n*, and forced against the sash by the rollers on the opposite side, substantially as specified.

112,269.—DEVICE FOR TRANSMITTING AND REVERSING ROTARY MOTION.—William Henry Merrick, Philadelphia, Pa.

Claim.—The combination of two friction-wheels, to which a positive rotary motion is imparted in contrary directions and in fixed bearings, with a friction-wheel, D, also, arranged to revolve in fixed bearings, and an adjustable idler-wheel, E, the whole being arranged for operating substantially in the manner described.

112,270.—APPARATUS FOR USING ELECTRICITY AS A REMEDIAL AGENT.—George Munro, Philadelphia, Pa.

Claim.—The arrangement of the platform A, the adjustable stand D, vessel B, and wires *e f*, connected to a battery, all as and for the purpose described.

112,271. — CRADLE. — Richard W. Myers, Glen Gardner Station, (Clarksville Post Office,) N. J.

Claim.—1. A cradle composed of several sections, A B C C, provided with loop-plates and hooks, arranged substantially as described.

2. In combination with the within-described arrangement of sections, loop-plates, and hooks, the side slats *a' a'*, applied to lock the whole together in the manner set forth.

112,272.—SPOOL SHOW-CASE.—Richard H. Norris, Paterson, N. J.

Claim.—The combination of the case A, having a slanting front, and the drawers with glazed fronts, having a corresponding slant, substantially as herein described.

112,273.—COUPLING FOR PLOWS.—George Owen, Jacksonville, Ill.

Claim.—1. The improved coupling-joint, composed of the roller K, with its stem *l* and key *m*, and the eyes L L, all constructed and arranged substantially as and for the purpose herein specified.

2. The double cultivators or plows, provided with the coupling-bars D and E, jointed thereto by the couplings K L L, with the coupling-bar G jointed thereto by the slotted clevises H H and pins or bolts *k k*, and with the side clevises M M, all constructed and arranged substantially as and for the purpose herein specified.

112,274.—CASE-SHOT.—Seth White Paine, Williamsport, Pa.

Claim.—A shot, A, having the form of a short cylinder, with its ends correspondingly doweled and recessed, substantially as and for the purpose specified.

112,275.—WASH-BOILER.—Thomas U. Parker, Mifflintown, Pa.

Claim.—The improved wash-boiler, formed by the combination with the vessel A, of the bottom *a* provided with the base *b c*, the ribs *d d*, tubes *e e*, and caps and rose-heads *f f*, all constructed and arranged as herein shown and described, to operate as specified.

112,276.—FIRE-ESCAPE LADDER.—William B. Peregoy, Baltimore, Md.

Claim.—In combination with the drum *b*, provided with the offset *f*, the jointed ladder, or its equivalent, as shown and described.

112,277.—SHOW-CASE FOR SPOOL-THREADS.—Alexander C. Phillips, Chicago, Ill.

Claim.—1. The combination of a glazed inclosing-case and a revolving reel of vertical wires, as and for the purpose specified and shown.

2. The combination of the vertical shaft B, carrying wheels C and E, with the wires D and springs G, substantially as described and shown, and for the purpose specified.

112,278.—LOCKING DEVICE FOR WINDOW-CORDS. — Charles R. Rand, Dubuque, Iowa.

Claim.—The locking device, consisting of the case E, pivoted lever U, rollers T T', pawls U', and springs V, all arranged and operating substantially as described, for the purpose specified.

112,279.—SPOKE AND FELLY-MACHINE.—David Reed and Thomas E. Pierce, Sullivan, Ind.

Claim.—1. The combination of the screws *f f* with cranks *e e* and plate *h*, for raising and lowering the felly-table K, substantially as herein set forth.

2. The slotted hub-table M, raised and lowered as described, and provided with the adjustable center block N, as herein set forth.

112,280.—NAIL-MACHINE.—Henry Reese, Baltimore, Md.

Claim.—1. The combination of the quadrant-blocks provided with transverse grooves *d'*, the dies *f*, and knife-edges m^1, substantially as shown and described.

2. The combination of the quadrant-blocks, provided with sliding boxes, the toggle-levers *g n*, connecting-rods *i*, arm *a'* and eccentric *y*, as specified.

3. The combination of the quadrant-blocks, collars *q t*, cogged sectors *r u*, crank *v*, connecting-rod *w*, and eccentric *y*, as described.

4. The arrangement of the toggle-levers *g n*, ties *e*, ribs *a*, rollers *f*, and boxes *h o*, as set forth

112,281. — INSULATOR FOR TELEGRAPH-WIRES.—Zenas C. Robbins, Washington, D. C.

Claim.—1. A new manufacture in the shape of an improved insulator for telegraph-wires, said manufacture being composed of two metallic portions of substantially the within-described shape, combined with and insulated from each other, substantially as herein represented and described.

2. The longitudinally-open and, at the same time, the retaining shape of the body *a* of the metallic supporting portion *a b* of my improved insulator for telegraph-wires, combined with and insulated from the wire-holding portion of said insulator, substantially as herein set forth.

112,282.—SAD AND FLUTING-IRON.—William D. Robertson, Knoxville, Tenn.

Claim.—1. The stand A, in combination with an invertible flat-iron, C, and a removable fluting-iron, B, substantially as and for the purposes specified.

2. The invertible flat or steaming-iron C, having a removable handle, D, with pivoted branch E, and provided with a slotted lug, C', ear F, and thumb-screw H, substantially as and for the purposes specified.

3. In combination with the invertible iron C, the thumb-screw H, when placed in the back of said iron, and employed to hold the heater in close contact with the face-plate when in an inverted position, as specified.

112,283.—SAFETY-PLUG ATTACHMENT TO STEAM-BOILERS.—Andrew Robes, Somerville, and John C. Chapman, Cambridgeport, Mass.

Claim.—The pipe B, leading from the interior of the boiler to the fire-box or furnace, and provided with a plug or disk of fusible alloy, in combination with an auxiliary pipe, D, communicating with a supply of water, operating substantially in the manner and for the purpose described.

112,284.—ICE-MACHINE.—Adolphe Rock, Boston, Mass.

Claim.—1. In an apparatus for cooling and freezing liquids, the employment of two or more "chargers" interposed between and connected with the condensing and evaporating parts of the apparatus, substantially as and for the purposes herein set forth.

2. The combination, in an apparatus for cooling and freezing liquids, of one or more "chargers," and the pump, fig. 3, interposed between and connected with the condensing and evaporating parts of the apparatus, for the purpose of rendering said apparatus automatic in its operation, substantially as set forth.

112,285. — PROCESS AND APPARATUS FOR CURING HIDES.—Adolphe Rock, New Orleans, La.

Claim.—1. The within-described compound or liquid, composed of the ingredients substantially as set forth.

2. The method herein described of preserving and curing hides, by means of immersing the same in a liquid composed of pyroligneous acid, glycerine, crystallized carbolic acid, and water, substantially as herein set forth.

3. The piston C, with sleeve D and hooks *a a*, constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the cistern A, shaft B, piston C, sleeve D, hooks *a a*, platform E, rollers G G', and a suitable mechanism for raising and lowering the piston, substantially as and for the purposes herein set forth.

112,286.—MODE OF MOLDING AND CASTING PIPE-ELBOWS.—George Ross, Newport, Ky.

Claim.—The mode of molding and casting pipe-elbows by a self-supporting core, when arranged and adapted to be operated substantially as herein described, and for the purpose set forth.

112,287.—SELF-LOADING SCRAPER.—Ansell P. Routt and John J. Keeton, Liberty Mills, Va.

Claim.—1. The hoes *f h*, operating as specified, in connection with the body A of the cart, which is arranged to oscillate on the axle B, substantially as shown and described.

2. The device, composed of the fixed arm or bracket *b*, and the rod *d*, provided with rigid arm *e* and handle *c*, arranged, as specified, in connection with the axle B and body A of the cart, to lock said body in the forwardly-inclined position, as specified.

112,288.—HARVESTER.—Jacobs W. Schuckers, Philadelphia, Pa., assignor to Jonathan W. Grubb, same place.

Claim.—The combination of the coupling-frame, the finger-beam hinged thereto, the pitman working in a guide in the coupling-frame, the cutter-bar, and the link-rod pivoted both to the pitman and cutter-bar, all these parts being constructed and operating as described, to insure the working of the cutters at varying inclinations of the finger-beam, as set forth.

112,289.—HARVESTER-RAKE.—Francis B. Scott, Lancaster, N. Y.

Claim.—1. The roller H, when provided with sliding bearings I, arranged with the rake-arms D, and tracks G^1 G^2, and operating substantially as hereinbefore set forth.

2. The combination of the shifting-bar J with adjustable roller H, and tracks G G^1 G^2, substantially as and for the purpose hereinbefore set forth.

3. The spring-guard N, arranged with the camway G G^1 G^2, and combined and operating with the adjustable roller H and shifting-bar J, substantially as hereinbefore set forth.

4. The combination, with the laterally-adjustable roller H, of the projection *o* and flanged guard *f*, as hereinbefore specified.

112,290.—STOVE-PIPE SHELF.—Jerome D. Scott, Friendship, N. Y.

Claim.—The combination of the two plates A A', connected together by means of arms a a' and screws s s, with the independent ring R, constructed of two segments hinged together at one end, and fastened at the other by the screw-bolt c, substantially as and for the purposes set forth.

112,291. — VAPOR-BURNER.—James Shay, Cincinnati, Ohio.

Claim.—The described arrangement of neck C, having the orifices I I' and e e', the nipple B, bar D, chamber E, and adjustable cap or cover F, for the purpose explained.

112,292. — NUMBERING AND PAGING-MACHINE. — Alpheus C. Sine, Cincinnati, Ohio.

Claim.—1. In connection with the pad or table B and inking-roller C, the swinging arms D D', when the arms are provided with swinging frame L, and revolving figure-disks P, as and for the purpose specified.

2. In connection with the swinging frame D D' E', frame L, and revolving figure-disks P, the pawl W, wheel S, disks R, springs r t, and retaining-pawls d, constructed and operating substantially in the manner and for the purpose specified.

112,293.-AUTOMATIC FAN.-Charles Bridges Smith, Griffin, Ga.

Claim.—The fan-motor herein described, consisting of the clock-work B', the vertically-vibrating rods C and E, the adjustable horizontal connecting-rod b, and the adjustable fan-slide E', when constructed and arranged to operate substantially as specified.

112,294.—COOLING, FREEZING, AND PRESERVING SOLIDS, LIQUIDS, AND GASES.—Daniel E. Somes, Washington, D. C.

Claim.—1. The process of preserving food, hides, or other animal or vegetable substances by the application of cold to tight vessels, in which the same are placed, and the conduction of the electricity therefrom, substantially as set forth.

2. The method of atomizing liquids by forcing them against wire gauze or its equivalent.

3. The atomizing device C C¹ D, in combination with the shaft A, substantially as set forth.

4. The elements in the preceding clause, in combination with the tank B, substantially as set forth.

5. The combination of the atomizing devices C C¹ D, shaft A, evaporating-tubes E, and blower F F¹, substantially as set forth.

6. The combination of the shaft A, box I², evaporating-tubes E, pumps C, air-chamber H h, and tubes h', substantially as shown in figs. 7 and 8.

7. The combination of the shaft A, atomizing devices C C¹ D, and condenser L, substantially as set forth.

112,295.—RUBBER TIRE FOR STEAM-CARRIAGES.—Louis Sterne, London, England.

Claim.—1. A wheel-tire, constructed of segmental blocks of India rubber, and secured to the rim of the wheel, as shown in figs. 1 to 4, and herein described.

2. In combination with the rubber tire B and rim D of the wheel, the staples G, secured by bolts, having a sliding motion in a radial direction in suitable guide-ways H H, substantially as herein shown and described.

112,296. — SAW-JOINTER FOR CIRCULAR-SAWS.—John H. Stevenson, Birmingham, Ohio.

Claim.—1. The segmental blade B, provided with a lip, h, and capable of two-fold adjustment, one upon its pivot, and the other out and in from the main stem, substantially as and for the purposes herein set forth.

2. The arrangement within the main stem A of the bent screw-rod a and nut b, for the purpose of adjusting the blade B, substantially as herein set forth.

3. In combination with the stem A and blade B, the slotted brace C, constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the stem A, screw-rod a, nut b, blade B, lip h, brace C, and bar D, all constructed and arranged to operate substantially as and for the purposes herein set forth.

112,297.—WASHING-MACHINE.—John Taylor, Philadelphia, Pa.

Claim.—The combination of the vessel C and its stationary rubber with the movable rubber, and with devices, substantially as described, for imparting a horizontal and intermittent reciprocating motion to the said rubber.

112,298.—STEAM AND HYDRAULIC PRESS.—John F. Taylor, Charleston, S. C.

Claim.—1. The method herein described of raising the platen by hydraulic pressure, when the latter is applied directly from the pistons of steam-engines through the medium of their piston-rods of unequal diameter, substantially as described.

2. The method herein described of passing live steam that has been used for one propulsion of the piston of a steam-cylinder around from the rear to the front of the piston, and then passing it to another cylinder to operate the piston therein.

3. The external chamber y, in combination with a steam-cylinder, in the manner described, and for the purpose of forming a cushion to prevent the concussion of the piston against the cylinder-head.

4. The method herein described of raising the platen by an initial hydraulic pressure applied with exhaust steam, and a completing hydraulic pressure applied with live steam.

112,299.—GRAIN-DRILL.—John H. Thomas, Springfield, Ohio, assignor to himself and Phineas P. Mast, same place.

Claim.—1. In combination with a cup, A, having its interior of a volute form, substantially as described, the feed-wheels B, having a groove around its periphery, substantially as set forth.

2. A feed-wheel, B, consisting of a cylindrical body, having journals, m, at each end, with radial flanges, e, having ribs, c, arranged radially on their inner faces, substantially as described.

3. The seed-cup A, having its opposite sides provided with holes I to form bearings for the journals of the feed-wheel or the shaft, and having the gradually-increasing and laterally-projecting ledge l formed thereon concentric with holes I, substantially as herein set forth.

112,300, antedated February 18, 1871.—HEDGE-TRIMMER.—James M. Vannosdall and Oliver W. Vannosdall, Newark, Ill.

Claim.—The combination of the projecting frame A and pivoted frame B with the rock-shaft O and cross-piece L, substantially as and for the purpose specified.

112,301. — CONSTRUCTION OF WOODEN BOXES.—William F. Veber, Perrysburg, Ohio, assignor to S. P. Tolman and C. C. Roberts, same place.

Claim.—A wooden box sewed in one or more places, substantially as and for the purpose set forth.

112,302.—PLOW.—Harvy Washburn, Pultney, N. Y.

Claim.—The beam D, mold-board A, land-side B, standard B', brace-rods E F, in combination with the handles A', when the handles are on a line with the beam at the heel of the mold-board, as set forth.

112,303, antedated February 25, 1871.—CLOTHES-PIN.—Hiram J. Wattles, Rockford, Ill.

Claim.—1. A clothes-pin, provided with a supplemental spring-clamp for grasping the line, as described.

2. The pin described, with its parts a a and spring b b', when constructed specifically as shown and described, for the purpose set forth.

112,304.—FRUIT-PRESS.—Gabriel J. Wells, South Vineland, N. J., assignor to John W. Snyder.

Claim.—1. The double lever c c', constructed with central longitudinal apertures, and arranged in connection with the ratchet-bars k k and the plunger-rod A, in the manner specified.

2. The combination of the lever c' with the block having convex ends, and with a guide-way for said block, as described.

3. The arrangement of the ratchet-bars k k, guide-block l, dogs m, and weighted levers n, all constructed and operating substantially as set forth.

112,305.—CARTRIDGE.—Rollin White, Lowell, Mass.

Claim.—The combination of the cartridge-case and cap herein described, one provided with an annular tongue and the other with a groove, all substantially as set forth.

112,306.—PAPER BOX.—John Warren Wilcox, New York, N. Y.

Claim.—The paper box herein described, that is, provided with the strengthening central overlap e at the sides, as set forth, and also the closing laps g, h, and f f, cut and folded, as and for the purposes specified.

112,307.—UMBRELLA.—James Willis, Stockbridge Works, Near Sheffield, England.

Claim.—1. The constructing an umbrella with a runner, which is opened, and held open, (at the time when the umbrella is opened,) by means of strips of metal or springs, connected at one end to the ribs, and at the other end to the fabric forming the gutter, as herein described.

2. The umbrella runner, constructed with the sides of its slot strengthened by doubling the metal, substantially as before set forth.

112,308.—SEWING-MACHINE.—William C. Winters, Rochester, N. Y.

Claim.—The arrangement, in connection with a cloth-supporting bed, having needle-hole or groove and feed-openings, as shown, of the feeding-dog, having the feeding-points e¹ and e² and guide g, all as described.

REISSUES.

4,277.—HAT. — John P. Beatty, Norwalk, Conn.—Patent No. 68,116, dated March 23, 1869; antedated February 2, 1869; reissue No. 3,855, dated March 1, 1870.

Claim.—1. A ventilator for hats, consisting of corrugated or crimped wire, substantially as described.

2. The ventilator or corrugated wire F, when attached to the leather or sweat E, as a new article of manufacture.

3. A hat having its sweat secured in place by a wire, arranged and attached in a zigzag form between its lower edge and the body of the hat, and so as to leave its upper edge loose, substantially as herein shown and described.

4,278.—GLOVE.—Remus D. Burr, Kingsborough, N. Y.—Patent No. 80,707, dated August 4, 1868.

Claim.—1. In a glove or mitten, the palm portion or inside of the hand and the thumb, formed from a single or continuous piece, so united to the back portion that no seam shall be presented between the thumb and palm portion on the inside, substantially as described and shown.

2. The said continuous palm or inside piece, when extended to form the whole of the fore-finger, substantially as described.

3. The back piece, fig. 2, formed with a projecting gore-shaped piece, which fits into and forms the junction between the base of the fore-finger and thumb, substantially as and for the purpose specified.

4. As an article of manufacture, a glove formed of the palm piece, fig. 1, back, fig. 2, finger piece, fig. 3, and thumb piece, fig. 4, the several parts being shaped and united as shown and described, whether the wrist portion be extended to form a gauntlet or not.

4,279.—STEAM-ENGINE.—Philip Estes, Leavenworth, Kansas.—Patent No. 108,576, dated October 25, 1870.

Claim.—1. A variable cam, formed of two parts, S T, arranged and operating to move the cut-off point forward or backward, in the manner described.

2. A steam-supply chamber, C, and an exhaust-chamber, D, on opposite sides of a piston-cylinder, A, having inlets e e, outlets d d, and piston B, all combined as described, with double-headed valves F G, the one operating differentially, and the other always at full stroke, for the purpose specified.

4,280.—FOLDING-CHAIR.—Francis March Holmes, Boston, Mass. — Patent No. 111,455, dated January 31, 1871.

Claim.—1. The seat, as connected to its back-supporting rung F by double-jointed hinges G, and provided with one or more stops, H, to sustain it against the front rung E, such seat being to fold over the front rung and down in advance of it, as set forth.

2. In the folding-chair, the combination of the band I with the seat and its supporting-rungs E F, and one or more stops, H, and with the three-leaved hinges G fixed to the seat and the back rung F, all being substantially as described.

3. In a folding-chair, as made or composed of a back, D, a seat A, and two crossed sets of levers, B B' C C', pivoted together substantially as set forth, the seat A arranged and combined with the longer set of levers or a rung thereof, and a seat-supporting rung, E, of the shorter set of levers, in manner so that such seat, during the act of folding the chair, shall move or slide forward on or over and drop more or less below or in front of the said rung E, so as to have the top or sitting surface of the seat in front of and the bottom surface of the seat next to the said rung E, as described, the same being in order to show the upholstered or sitting surface of the seat in front with the front of the back of the chair when the chair is folded.

4. A folding-chair, composed of a back, D, two sets of crossed levers B B' C C', and a seat, A, arranged and combined so that when the chair may be folded the supports of the seats shall be between the seat and the back, substantially as represented.

5. A folding-chair, composed of a back, D, two sets of crossed levers, B B' C C', and a seat, A, arranged and combined substantially as described, so that when the chair may be folded the supports of the seat shall be between the seat and the back, and the chair be self-sustaining, as set forth, when its four feet may be resting on a floor, as explained.

4,281. — HARVESTER. — Henry F. Mann, Pittsburg, Pa., for himself and as assignee of Jacob J. Mann.—Patent No. 15,044, dated June 3, 1856; extended seven years.

Claim.—1. The guiding plate G arranged upon the front rail or finger-bar, over which the forward edge of the apron E extends, and under which the

guiding pieces *c* pass, substantially as and for the purpose described.

2. The bar or plate H at the back of the platform, arranged with its edge above the apron, in combination with the front guiding plate G, having its edge below the apron, substantially as described.

3. In combination with a conveying and elevating apron, having the top and bottom cleats affixed thereon, the recessed roller for giving a positive motion thereto, as and for the purpose described.

4. The stationary concave receiver I, having a continuous surface, arranged as described, at the side of a harvesting-machine having an elevated side delivery, so as to receive the cut grain from the elevating and delivery apparatus, and collect the same into gavels preparatory to their being discharged from the machine.

5. The revolving rake J, in combination with the stationary concave receiver I, having a continuous surface, as and for the purpose described.

4,282.—BREAST-PUMP. — Morris Mattson, New York, N. Y.—Patent No. 85,318, dated December 29, 1868.

Claim.—The combination, with a vacuum-glass, of an elastic exhausting bulb, A, having or employing a single valve or valvular apparatus located at the end of the bulb furthest from the vacuum-glass, substantially as and for the purposes set forth.

4,283.—LOCK-NUT.—John Miller, Jr., Marshalltown, Iowa.—Patent No. 106,927, dated November 1, 1870.

Claim.—The combination of the elongated plate a convex on its outer surface, the bolt C, and nut I concave on its inner surface, and the spring E, substantially as and for the purpose hereinbefore set forth.

4,284.—LAMP.—Albert H. North, Hartford, Conn., assignor to Rufus S. Merrill; said Merrill assigns two-thirds of his right to William B. Merrill and Joshua Merrill, Boston, Mass.—Patent No. 23,483, dated April 5, 1859.

Claim.—The employment in lamp-burners, for the purpose of raising and lowering the wick or wicks therein contained, of two or more ratchet or spur-wheels, arranged to impinge upon or engage with said wick or wicks, and geared to move in unison to effect the raising and lowering of the same, substantially as herein shown and described.

4,285.—SPRING FOR BEDS, &c.—Charles Rich, Poughkeepsie, N. Y., assignor to the Metallic Union Spring Company, same place.—Patent No. 106,980, dated August 30, 1870.

Claim.—1. The bearings B, constructed and arranged upon the upper and lower coils of the spiral springs, in the manner and for the purposes herein described.

2. The clasps or sleeves C, constructed and combined with the bearings B, so as to form a hinge-joint and allow the structure to be rolled or folded together, substantially as and for the purpose set forth.

3. The rod D, attached to the clasps or sleeves C, in combination with the coiled springs A, substantially as set forth.

4,286.—MODE OF SECURING SPRINGS IN UPHOLSTERY.—Wendell Wright, New York, N. Y.—Patent No. 16,254, dated December 16, 1856; extended seven years.

Claim.—1. The bed-bottom, cushion, or seat, whose upper slat or plate is supported by the upright springs only, as set forth.

2. The spring A, secured to its seats B B by having annular grooves *c* made in the seats, one in each, and having the greater portion of the coils at the ends of the spring made or bent in a horizontal form, and somewhat larger in diameter than the grooves *c*, substantially as and for the purpose herein shown and described.

DESIGNS.

4,676.—SCREEN.—William N. Bartholomew, Newton Centre, Mass.

Claim.—The design for drawing-charts, as herein shown and described.

4,677.—DRAWER-PULL.—Pietro Cinquini, West Meriden, Conn., assignor to Parker & Whipple Company.

Claim.—1. The design for a drawer-pull, as shown.

2. The design for the box-like elevation C C, as shown.

4,678.—DRAWER-PULL.—Partrick J. Clark, West Meriden, Conn.

Claim.—The design for a drawer-pull, as shown in the drawing.

4,679.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,680.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,681.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,682.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,683.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,684.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Horner Brothers, same place.

Claim.—The design for a carpet, as shown.

4,685.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa., assignor to Horner Brothers, same place.

Claim.—The design for a carpet, as shown.

4,686.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a fabric for cotton hose, substantially as described and illustrated in and by the accompanying drawing.

4,687. — WINDOW-SASH HOLDER.—Cassius M. Drury, Granby, N. Y.

Claim.—The herein-described design for a sash-fastener.

4,688. — BED-QUILT.—Frederick William Eger and Henry H. Kunze, Philadelphia, Pa.

Claim.—The design for the configuration of a bed-quilt, consisting of the series of blocks A B, subdivided by crosses *c d*, and alternating with each other, as shown.

4,689.—SUGAR-BOWL, &c.—John H. Hobbs, Wheeling, W. Va.

Claim.—1. The design, encircled by the band B C D, consisting of the sheaf of grain.

2. The design, consisting of band or shield B C D, and the sheaf A arranged within such band or shield.

3. The design shown in the drawing, consisting of a series or succession of bands or shields, and sheaves of grain arranged within such bands or shields.

4,690.—SCHOOL-SEAT.—William H. Joeckel, New York, N. Y.

Claim.—1. The design for the legs or standards of a school-seat or bench, as shown.

2. The design for the side pieces or back-support of a school-seat or bench, as shown.

4,691.—OIL-CLOTH PATTERN.—Henry Kagy, Philadelphia, Pa., assignor to Thomas Potter, Son & Co.

Claim.—The design for an oil-cloth, as shown.

4,692.—WINDOW-FASTENER.—William Nelson, Anderson, Ind.

Claim.—The design herein shown and described for a window-sash fastener.

4,693. — REFLECTOR. — August Wilhelm, Philadelphia, Pa.

Claim.—The design for a reflector herein shown and described.

TRADE-MARKS.

175. — GLUE. — Baeder, Adamson & Co., Philadelphia, Pa.

176.—BEER.—Benjamin Bates, Baltimore, Md.

177.—CHICCORY.—Blume & Co., New York, N. Y.

178.—LOCKS AND HARDWARE.—Hillebrand & Wolf, Philadelphia, Pa.

179.—SHIRT.—Lewis Levi, New York, N. Y.

180.—WHISKY.—Vidvard & Sheehan, Utica, N. Y.

181.—SEWING-MACHINE.—Wheeler & Wilson Manufacturing Company, Bridgeport, Conn.

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PATENTS.

112,309.—HOSE-SPRINKLER.—William Anderson, San Francisco, Cal.

Claim.—The supplying-pivot with alternate holes and spaces, in combination with the rotating collar B, fitted to said pivot, with alternate holes and spaces, so as to cut off and renew the supply of water alternately as the collar revolves, and sprinkle the entire area within its reach around the pivot instead of a single track.

112,310.—LOCOMOTIVE SPARK-ARRESTER.—Joseph G. Armstrong, New Brunswick, N. J.

Claim.—1. The spark-arrester herein described, having a wide space between the internal casing M and the outer casing D, with provision, as specified, for inducing a descending current therein and throwing down the sparks, while the gases without sparks are drawn inward at the base of the casing M and carried upward again, as set forth.

2. The simply conical director or spreader M, turning the ascending current outward without turning it downward, when arranged, as represented, relatively to the casings M and D and to the top piece D', the latter being formed, as shown, to arrest and smoothly turn into the space between M and D the outer portion of the current rising near the axial line of the structure, as set forth.

112,311.—TOOL FOR CARRIAGE-MAKERS' USE.—George Atkinson, San Francisco, Cal.

Claim.—1. The adjustable tool-holder C, provided with dovetail grooves *d*, substantially as and for the purpose above described.

2. The bar A, in combination with the tool-holder C and wedge or key *b*, substantially as and for the purpose above described.

3. The gauge or fender E, provided with the guard *f*, and secured upon the tool-holder C by means of the set-screw *e*, in the manner and for the purpose above described.

112,312.—POTATO-PROBE.—John A. Beal, Waterford, N. Y.

Claim.—The within-described potato-probe, consisting of a cutting-tube open at both ends, and provided with a handle on one end, as set forth.

112,313.—HINGE FOR CARRIAGE-DOORS.—George W. Beers, Bridgeport, Conn.

Claim.—The combination of the socket C with orifice D and arm F, the lever part of the latter curved downward at an angle to correspond with the depression of the socket, and furnished with a pintle, G, all arranged as described.

112,314.—STOVE-LEG.—James Birckhead, Jr., Baltimore, Md.

Claim.—A stove-foot fastening, composed of the lugs B B, arm C, and its shoulder D, and the self-locking spring-bolt or key E passing through the lugs B B and against or behind the shoulder D, the whole constructed, arranged, and operating together, substantially as and for the purpose described and represented.

112,315.—CLOTHES-PIN.—Orris A. Bishop, Chicago, Ill.

Claim.—The clothes-pin, constructed as described, having the ends *a a'* bent into triangular loops, carrying the rollers *b b*, and having the ring *c* passed around the coil A, for the purposes specified.

112,316. — MANUFACTURE OF ROCHELLE SALTS AND BORAX.—Victor G. Bloede, Brooklyn, N. Y.

Claim.—The mode herein described for the purification of Rochelle salts or borax-lye by the application of blood, substantially in the manner and for the purpose herein set forth.

112,317.—BEE-HIVE.—Felix Brewer, Waynesville, Mo.

Claim.—The roof-shaped bars L L' I, in combination with the brood-chamber A a a' O O' and the detachable honey-chamber B b b' N N' P P', as and for the purposes described.

112,318.—THILL-COUPLING.—Theodore Burr, Battle Creek, Mich., assignor to Allen Muir and Henry Muir, same place.

Claim.—A thill-coupling, substantially as set forth and described in this specification.

112,319.—EVAPORATING-PAN FOR SACCHARINE LIQUIDS.—Francis G. Butler, Bellows Falls, Vt., assignor to himself and James B. Williams, Glastonbury, Conn.

Claim.—An evaporating-pan, having corrugs

tions running across the whole width of the bottom, in combination with a system of scum-arresters, forming elevated compartments upon the flaring sides, substantially as and for the purpose set forth.

112,320.—Door-Securer.—William H. Caldwell, Wheeling, W. Va.

Claim.—A portable door-fastener, consisting of the elastic plate A with the aperture *e* therein, studded plate B, and bar D, substantially as and for the purpose herein set forth.

112,321, antedated March 2, 1871.—Toe-Calk Bar.—Ralph B. Caswell, Springfield, Mass.

Claim.—The bar for toe-calks, constructed, as described, of steel center-piece A and iron side plates B D, the parts being formed, combined, and arranged substantially as shown.

112,322.—Glass-Flattening Furnace and Leer.—James Clabby, Lenox, Mass.

Claim.—1. In combination with the flattening and annealing ovens, the railway, shifting-table, and tracks, (placed between such ovens,) and the cooling-oven, into which the cars are alternately run, substantially as described.

2. The piling-box or car, made with provision for piling the sheets vertically, and so that the several piles shall stand independently each from the other, substantially as described.

3. In combination with the flattening and annealing-ovens, the cooling-oven, made with a series of compartments in line, and separated each from the adjacent ones by a damper or dampers, substantially as shown and described.

4. In combination with the main furnace and the flattening-oven, the arch g^3, forming, with the roof, a flue extending directly over the oven, said flue extending down the opposite side of the oven from the furnace, and opening into the oven through the openings, substantially as shown and described.

112,323.—Spring Bed-Bottom.—Alexander Cole, Manamuskin, N. J.

Claim.—1. The combination of the vertical strip A, having an inwardly-projecting seat, B, the fixed guide-rods D, bent, as shown, and secured in the said strip and seat, and coiled springs surrounding the guide-rods, as and for the purpose set forth.

2. The same, combined with slats E when the latter are made with notches or slots open at their ends, as shown and described, and permitting the removal and insertion of the slats without moving the rods.

3. The combination, with the fixed rods, the springs, and slats, of the removable strip, cord, or strap F, inserted between the upper face of the slats and the horizontal part of the guide-rods, as and for the purpose described.

4. The combination, with the bent wire-rods C, and with the spiral springs, tapering from the top toward the middle, of the tubular conical pieces H, as and for the purpose set forth.

112,324.—Water-Wheel.—Edward E. Coleman, West Cummington, Mass.

Claim.—1. The cylinder A, having the floats B B arranged upon the outside, in a curve unbroken from end to end, and in a curve constantly increasing from their tops to their lower ends, forming a wheel, to receive the water at its top, the parts being all constructed and arranged substantially as shown and described.

2. The arrangement and construction of the gates *t*, hinged at one side of their centers, and at the ends of the pieces *o o*, &c., and having the shields *g*, the whole being constructed and arranged as shown and described.

112,325.—Toy-Horse and Carriage.—John B. Cuzner, Bridgeport, Conn.

Claim.—1. The combination of the carriage-body, the hind wheels fixed thereto, the reach, the front wheels and axle pivoted to the reach, the driving mechanism, and the horse mounted on the front axle, all these parts being constructed and operating as set forth.

2. The combination of the carriage, the horse, its pivoted legs, and the mechanism to propel the toy and move the legs of the horse, all these parts being constructed to operate substantially as set forth.

3. The combination of the double crank-shaft, he horse, its pivoted legs, the trace-rods connecting the crank-shaft and the front legs of the horse, and the rods extending inside the body of the horse from the front legs to the hind legs, all these parts being constructed to operate as set forth.

4. The combination of the pivoted legs and pivoted feet, constructed and operating as set forth.

112,326.—Mackerel-Line Holder.—Ebenezer L. Decker, Southport, Me.

Claim.—The combination of the strip *a*, cleat *g*, cap *c*, annulus *f*, and spring *e*, substantially as herein described and for the purposes herein set forth.

112,327.—Sewing-Machine.—Joseph William Dufour, Stratford, Conn.

Claim.—The combination, with the slotted plate A, of the adjustable nut C, guide-pin B, and friction-roller D, substantially as described.

112,328.—Steam-Boiler.—Edward Evans, North Tonawanda, N. Y.

Claim.—1. The furnace F and water-jacket F', arranged with the smoke-chamber D, and in front of the main boiler or boiler proper, as hereinbefore set forth.

2. The arrangement, with the direct-flue B and man-holes *p*, of the transverse water-pipes H H, with a space B', left between each two rows of pipes, as hereinbefore shown and described.

112,329.—Medical Compound for Cure of Catarrh and Asthma.—Erastus Field, Ostrander, Ohio.

Claim.—The herein-named combination of ingredients, or their equivalents, for the purposes and in the manner set forth, substantially as described.

112,330.—Machine for Grinding the Cutters of Mowers, &c.—Henry Clay Fisk, of Wellsville, N. Y.

Claim.—A hand instrument for grinding reaper-teeth, provided with a flat stone, K, and having the shaft *d* of said stone K coincident or parallel with the plane of the crank-wheel G, and forming an angle with the connecting-shaft or main-bar, substantially as and for the purpose specified.

112,331.—Machine for Making Hooks and Eyes.—Jeremy Taylor Ford, San Francisco, Cal.

Claim.—1. The combination of the forming-plates L and P with their grooves and the curves *a a*, together with the sliding plates M and N, the incline O, and the punch Q, the whole operated substantially as and for the purpose herein described.

2. The combination of the sliding plate M and the loosely-attached inclined plane O with its springs N', or equivalent device, to raise the plate N and drop it behind the bight of the wire, substantially as herein described.

3. The combination of the sliding carriage *d* with the plates *c* and the peculiarly-shaped lever *e*, together with the vibrating bifurcated arm *g*, lug A, stub A', and the cam *f*, operating as described.

4. The combination of the bed-plate *r* with its gradually-curving sides, the pointed shouldered rods *i i*, and the curved rod *k*, together with the spring-bar *n* and bar *j*, for forming the eyes, substantially as herein described.

5. In combination with the main shaft B and the reciprocating-bar W, the two sets of feeding devices and the two sets of forming devices herein described.

112,332.—Churn.—Thompson Freeman, Westfield, Ill.

Claim.—The reciprocating frame, consisting of the bent bar *e*, with handle and shoulder-piece *h*, having the strap *f*, in combination with the drum *g*, rod *i*, dasher-handle *j*, connected by pin *u*, and churn A, for the purpose of obtaining a combined reciprocating and rotary motion of the dasher, substantially as described.

112,333.—Attachment for Revolving Mold-Boards for Plows.—Joseph S. Godfrey, Leslie, Mich., assignor to himself and Sears M. Loveridge, Pittsburg, Pa.

Claim.—1. The arrangement of the standard *d*, shank *c'*, and eye *c* with the box *a* and mold-board *a*, with suitable connections to the plow-beam, substantially as set forth.

2. The arrangement of the hollow standard *d* to admit the shank *c'*, with eye *c*, shank *c'*, and plow-beam *b*, substantially as described.

112,334.—Grain-Cleaner and Fertilizer-Sifter.—James A. Green, Mill Dale, Va.

Claim.—In the grain-cleaner and fertilizer-sifter herein described, the arrangement of the shifting shoe with the hopper V and spout V', eccentric L, adjusting-wheel T, and windlass R and cords S, when constructed and operating as shown, for the purpose set forth.

112,335.—Screw-Propulsion.—Erastus C. Gregg, Trumansburg, N. Y., assignor to Alexander H. Gregg and Chauncy P. Gregg, same place.

Claim.—The arrangement and combination of the whole, consisting of the anterior chamber or chambers, the funnel-shaped contractions, and the separated rear vents, as set forth.

112,336.—Seeding-Machine.—Philip M. Gundlach, Belleville, Ill.

Claim.—1. The hooking or latching devices M, pivoted to the rocking-beam bearings L of the longitudinally-shifting hoes, and applied to loops *p* on the stationary beam E, substantially as and for the purposes described.

2. The rope or chains *s s*^{1}, connected respectively to the latching device M and to an arm, *s*^{2}, rising from rocking beam F, and extending back to the rear of the machine, substantially as described.

3. The grain-conductor G^2, pivoted directly or indirectly to the drill-hoes, and supported above upon pins or rollers *d'* on bearings *d*, substantially as described.

4. The serrated or roughened surface *v* on the plate, beneath the valve or cut-off *b'*, over which surface the seed-slide moves, whereby the grain is prevented from escaping from the hopper except when discharged by the movements of the seed-slide, substantially as described.

5. The combination of the pivot *g*^{1} and the removable pin or key *g*^{2} with the drill-tubes, all constructed substantially as described.

112,337.—Compound for Kindling Fires.—Joseph L. Hannum and Samuel H. Stebbins, Berea, Ohio.

Claim.—The herein-described fire-kindler, when composed of the several ingredients specified, or their equivalents, substantially as described, and for the purpose set forth.

112,338.—Lawn-Mower.—Benjamin Harnish, Lancaster, and David H. Harnish, Pequea, Pa.

Claim.—1. The arrangement and combination, in a hand-mower, of alternate bill-hooked and star-pointed sickles I I', with their beaters *i i i i*, revolving horizontally over a circular row of radiating guards K, sustained by hangers L, in the manner specified.

2. In combination with the central disk and beaters *i*, the loose cylinder S surrounding the shaft H, when resting on the sickle-disk, in manner and for the purpose set forth.

112,339, antedated February 25, 1871.—Composition for Pavements.—Charles B. Harris, New York, N. Y.

Claim.—A composition for paving, flooring, and roofing, composed of steatite and clay, together with mica or micaceous rocks, crushed or pulverized, and mixed with asphalt, as herein described and set forth.

112,340.—Spring for Vehicles.—John R. Hiller, Woodland, Cal.

Claim.—1. The semi-elliptic wooden springs D, resting upon and secured to the reaches C, as described, and having their united ends provided with a slot, *e*, and secured to the plate *f*, or equivalent device, by the bolt *h*, substantially as and for the purpose above described.

2. The wooden springs or braces J, in combination with the boxes H and India-rubber buffers *i*, substantially as and for the purpose above described.

112,341.—Harvester-Rake.—Solomon T. Holly, Rockford, Ill., assignor to John P. Manny, same place.

Claim.—The combination of the reel revolving on a fixed stud, the rake rotating on a shaft eccentric to and passing through the reel-hub, and a link connecting the rake-arm with the reel-hub, all these members being constructed and operating substantially as set forth, so as to dispense with guides, cams, or gearing.

112,342.—Door-Clamp.—Henry O. Hooper, Diamond Springs, Cal.

Claim.—The upper and lower sets of worm-wheels G upon their respective screw-rods F, together with the shaft I and the worms H, when constructed to operate upon the posts C of the clamp, substantially as and for the purpose described.

112,343.—Taper-Holder.—Thomas W Houchin, Morrisania, N. Y.

Claim.—The combination of the tube A, yoke D, and spring E, when the same shall be constructed and operate substantially as and for the purpose set forth.

112,344.—Metallic Garter.—Henry A. House, Bridgeport, Conn.

Claim.—1. A garter, composed of dissimilar metals, substantially as described, and for the purpose set forth.

2. The combination of metallic stay-strips *c*, clasp-plates, and springs, substantially as described.

112,345.—Bobbin-Winder.—Henry A. House, Bridgeport, Conn.

Claim.—The within-described improved bobbin or spool-winder, consisting of the hand-wheel G, frame-section A *b* B *d*, hinged together at *g a*, spindle S, wheel C, and clamp-screw J, the said parts being constructed and arranged as shown.

112,346.—Method of Knitting Stockings, &c.—Henry A. House, Bridgeport, Conn.

Claim.—1. The method herein described of producing two or more stockings or socks in continuous lengths, when the two or more are made separable by a draw-thread introduced, during the process of knitting, between the ends of one and the selvedged top of the next, all as specified.

2. As a new manufacture, the continuous knit-work for forming two or more complete stockings,

made divisible by means of a draw-thread, b, and which, when divided, will leave each stocking with a selvedged top, as herein set forth.

112,347, antedated March 1, 1871. — APPARATUS FOR EVAPORATING AND CONCENTRATING LIQUIDS.—John Howarth, Salem, Mass.

Claim.—1. The combination of the boiler A, pipe D, and cistern G, substantially as described.

2. The combination of the boiler A, pipe D, cistern G, and column B, substantially as described.

3. The column B, having perforated bottom H and perforated vessel K, and cap F, as and for the purpose set forth.

4. The combination of the injector P, pipe S, boiler A, pipe D, cistern G, and column B, substantially as described.

5. The combination of the last combination with the pipes E E' and tank C, substantially as described.

6. The tanks C, constructed in compartments C^1 C^2 C^3, connected by siphon-pipes V V', and having pipes, O, running through the bottom, substantially as described.

7. The combination of the tank C, constructed substantially as described, pipe n, and column B, by which means I precipitate the impurities contained in the hot liquid to be evaporated, and whereby this liquid is purified before passing to and through the evaporating column, thus securing the greatest economy of the evaporating agent.

8. The combination of the steam and the waste products of combustion, and by the means substantially as described, for heating and evaporating liquids.

9. The process described, whereby I am enabled to use the heat from the waste products of combustion twofold; that is, in heating the liquid in tank C, and in evaporating or concentrating the same liquid when passing through the column B, the porous filling of which is first heated by the products of combustion passing through the coke or other agent on its way to the pipes in the bottom of tank C, substantially as described.

112,348, antedated March 1, 1871.—APPARATUS FOR EVAPORATING AND CONCENTRATING LIQUIDS.—John Howarth, Salem, Mass.

Claim.—1. The combination of tank B, injector K, and boiler A, substantially as described.

2. The combination of pipes or heaters F, connected as shown, pipes R T, and boiler A, substantially as described.

3. The combination of tank B, having divisions C, D, and E, connected by siphon-pipes n o, heaters F, and pipes R T.

4. The mode of utilizing the condensed steam used to charge the heaters F F, by returning the same to the boiler, after it has done its work, by the means substantially as described.

5. The mode of employing the waste products of combustion, by means of injector K, in the partial evaporation of liquids in pans or divisions C and D, and completing the evaporation in the division E by the employment of the balance of steam generated through heaters F, substantially as set forth.

112,349.—APPARATUS FOR REMOVING OIL FROM VEGETABLE AND OTHER MATTERS. Elias S. Hutchinson, Baltimore, Md.

Claim.—1. In combination with a separator for evaporating the chemical from the material treated, and a condenser for receiving the chemical, a treating vat, arranged to allow a portion of the chemical to be drained or dipped before the contents are discharged for drying.

2. A vat constructed and arranged to allow chemical to rise through the meal or other material, the mingled oil and chemical to flow off at top, and then the chemical to be drained off or partially drained off at bottom, and the treated material to be subsequently discharged without exposure to the air until the chemical has been separated therefrom by evaporation, substantially as explained.

3. A vat having a perforated bottom, diaphragm, a drip-pipe, and any arrangement for discharging the contents without exposure to the air.

4. A vat having, in connection with a discharge-opening or openings at or near the bottom, a rake, screw, or other mechanical appliance for discharging the treated material into a receptacle or drying apparatus, substantially as described.

5. The gate-valve G, or any substantially-equivalent valve or gate, kept up to its seat by openings to prevent the entrance of meal between the valve and seat, as set forth.

6. The eccentric K, in combination with the gate-valve G or its equivalent, substantially as described.

7. In combination with any arrangement of vats or receptacles for treating vegetable or other matter with a chemical for removing oil, an apparatus for separating the chemical by evaporation, having a conveyer or conveyers for moving the meal over heated surfaces, and afterward discharging it therefrom, without external openings through which vapor will escape.

8. An apparatus by which meal is conveyed over a heated surface by a mechanical contrivance such as will move the meal along a fixed course and discharge it at a desired point or points, in combination with oil-extracting vats and vapor-condenser of any suitable form.

9. The relative arrangement of the separator and condenser, substantially as described, with the latter chiefly or wholly below the level of the former, for the purposes explained.

112,350. — APPARATUS AND PROCESS FOR REMOVING OIL FROM GRAIN, SEEDS, &c. Elias S. Hutchinson, Baltimore, Md.

Claim.—1. The portable dumping-vat herein described, having a cap which can be opened sufficiently to allow the free discharge of the meal or contents, and yet be withdrawn with the vat, substantially as set forth.

2. The vat, having perforated diaphragms at bottom and top, and inlet and outlet-pipes, constructed to be moved with a derrick or windlass, substantially as shown.

3. The hopper, constructed to receive the contents of the vat, or a greater or lesser portion thereof, and having a screw-conveyer, substantially as set forth.

4. In combination with any apparatus for separating chemical from vegetable or other matter by evaporation, and afterward recovering it by condensation, one or more vats, arranged to be upset into a receptacle provided with a screw-conveyer, or its equivalent, to feed it into the separator.

112,351.—CHANDELIER.—Charles F. Jacobsen, New York, N. Y.

Claim.—1. In a double-cone reflecting-chandelier, having pipe rings or tiers of light, with flanges and glass pendants, the supplementary branch-lights c n, constructed and arranged substantially as described.

2. The spider or radiating pipes, so arranged as to form supports for the double-cone reflector and convey gas to the branch-lights without obstructing the rays of reflected light, substantially in the manner set forth.

3. In combination with a double-cone reflecting-chandelier, having pipe-rings, with flanges and glass pendants, the truncated diaphanous cones and chimneys B C and b b, constructed and arranged substantially as hereinbefore set forth.

112,352.—CULINARY VESSEL.—Carrie Jessup, New Haven, Conn.

Claim.—The herein-described cooking utensil or boiler A, constructed with two or more compartments within the same vessel by the divisions B C, and each compartment provided with its independent cover E, as and for the purpose specified.

112,353.—MACHINE FOR CUTTING LEATHER. Aberdeen Keith, North Bridgewater, Mass.

Claim.—1. The arrangement and combination of the pivoted feed-board B^2 with the conical rollers E F, the cutting-knife M, arranged with them, as specified.

2. The arrangement and combination of the pivoted feed-board B^2 with the conical rollers E F, the cutting-knife M, and mechanism as described, or its equivalent, for adjusting, substantially as and for the purpose as explained, the declination of the knife in accordance with the variation of the distance between the feed-rollers.

3. The arrangement and combination of the ledge B^3 and gauge E^3 with the pivoted feed-board B^2, the table or platform A^2, the conical rollers E F and their operative mechanism, and the knife M.

4. The arrangement and combination of the ledge B^3 and the gauge E^3 with the pivoted feed-board B^2, the table or platform A^2, the conical rollers E F and their operative mechanism, and the knife M, and mechanism as described, or its equivalent, for adjusting, substantially as and for the purpose as explained, the declination of the knife in accordance with the variation of the distance between the feed-rollers down to the varying thickness of the leather while passing between them.

112,354. — ATTACHING KNOBS TO THEIR SPINDLES.—John F. Keller and Nathaniel Sehner, Hagerstown, Md.

Claim.—The plate provided with a screw-threaded cylindrical aperture, and the rose-plate, constructed in two parts, and so connected as to revolve together, in combination with the flanged shank of the knob and the spindle, substantially as shown and described.

112,355. — MITER-MACHINE.—Theodore E. King, Boston, Mass.

Claim.—1. The horizontal guide I, extending longitudinally along the blade of the saw, substantially as and for the purpose set forth.

2. One or more looped springs L, in combination with the guide I, substantially as and for the purpose set forth.

3. The combination of the horizontal guide I, one or more springs, L, and the guide-frame G, with the centrally-pivoted table D, operating substantially in the manner and for the purpose described.

112,356.—TAKE-UP FOR CORSET-LOOMS.—Julius Kuttner, New York, N. Y.

Claim.—1. The rollers d, having yielding surfaces of bristles or their equivalents, to form a take-up in a loom for weaving corsets or gored articles, substantially as set forth.

2. The rollers d, having surfaces of the character specified, in combination with the pins e, bar b and loom for weaving corsets and similar gored articles, all arranged and operating as set forth.

112,357.—ELEVATOR AND CARRIER.—Timothy W. Lackore, Worth, Ill.

Claim.—1. The adjustable or swinging frame, consisting of the rails A, secured to the end pieces B, the latter being pivoted to their supports, substantially as set forth.

2. The combination of the swinging frame with the truck D, provided with the wheels a, the pulley b, and dog c, all constructed and arranged to operate substantially as described.

3. The dog c, provided with the arms g and d, and so pivoted to the rails a that it can be adjusted thereon to hold the truck at any desired point, substantially as set forth.

4. The trip, consisting of the arms m m, hinged to a central block having a hole through it for securing it to the rope, and having a set-screw, o, or its equivalent, whereby the trip may be adjusted higher or lower thereon, substantially as described.

112,358.—APPARATUS FOR BURNING HYDROCARBON OILS.—James R. Lee, Grass Valley, Cal.

Claim.—1. The independent pans D, with their supply-tubes a, and the regulating-boxes F, constructed and operating substantially as and for the purpose herein described.

2. The perforated pipe K, placed in the furnace as shown, with the perforations on the rear side so arranged as to direct the steam backward, and thus, by creating a partial vacuum, to cause the flame to tend in that direction, substantially as and for the purpose set forth.

112,359. — BURGLAR-ALARM.—Robert Lee, Cincinnati, Ohio.

Claim.—In combination with the laterally-yielding bolt A, forming a fastening and detent or trigger, as described, the hammer or percussor H, with its sear or heel G and spring J, for throwing and locking the said bolt and sounding the alarm, constructed and operating substantially as shown and set forth.

112,360.—TELEGRAPH APPARATUS.—Landy Tunstall Lindsey, Jackson, Tenn.

Claim.—1. The arrangement of levers L L', adjusting-screws i i' i'' i''', and the electrical conducting-wires connecting therewith as traced, in conjunction with toothed wheel W and spring N, or their equivalent, for causing an automatic movement of printing-lever L'', in the manner as described.

2. The arrangement of a lever, a, adjusting-screw m, post Q, having proper electrical conducting-wires connecting therewith, controlled and operated in the manner as described, and for purposes set forth.

3. The combination of lever L'', rubber roller I, magnets E E', controlled and operated as described, for giving the impression of the type to the paper.

4. The combination of the bar A, arms f f' thereon, rollers G H, arms n, adjusting-screws g g', constituting an adjustable feed movement for the paper, and controlled by the magnets E E', lever L'', and adjusting-screws p p', in the manner described.

112,361.—HARVESTER.—John Pells Manny, Rockford, Ill.

Claim.—1. The combination of the driving-wheel, tongue, gear-frame, movable driver's seat, hinged finger-beam, grain-wheel, the link K, and the lever L, in front of the axle, all these parts being constructed for joint operation, as set forth.

2. The combination of the tongue hinged to the main axle, the gear-frame vibrating on said axle, the finger-beam hinged to the gear-frame, the grain-wheel, the lifting-lever on the tongue, and the link-rod K, connecting the lever with a post on the finger-beam and crossing the joints of the tongue, the gear-frame, and the finger-beam, all these members being constructed and operating in combination, substantially as described.

112,362.—HARVESTER.—John Pells Manny, Rockford, Ill.

Claim.—The combination of the driving-wheel, tongue, gear-frame, movable driver's seat, hinged finger-beam, grain-wheel, the link G', and the lever secured to the finger-beam and crossing both its joint and the main axle, all these parts being constructed, as set forth, for joint operation.

112,363. — HARVESTER-RAKE. — John P. Manny, Rockford, Ill.

Claim.—1. The combination of the reel, rotating continuously on a horizontal axis with the continuously-rotating rake mounted on an axis intersecting that of the reel, and inclined backward and upward at an angle acute to the finger-beam, these parts being constructed and operating in combination substantially as hereinbefore set forth.

2. The combination of the horizontal reel-hub or shaft, the bevel-gear r', mounted thereon and concentric therewith, the rake-shaft, inclined at an angle acute to the reel-shaft, and the bevel-gear r', mounted on and concentric with said rake-shaft, all these parts being constructed to operate in combination, substantially as hereinbefore set forth.

112,364.—Cheese-Curd Sink.—Homer C. Markham, Collinsville, N. Y.

Claim.—A cheese-curd sink, having its bottom beveled toward the center and provided with the longitudinal channel B, the perforated metallic or wire-gauze strainer A, the aperture t, and funnel C, all constructed and arranged as described, and for the purpose set forth.

112,365. — Mowing-Machine.—Homer C. Markham and Dewitt C. Markham, Collinsville, N. Y.

Claim.—The combination of the flexible connection F G H with the cutter-bar E and frame C C', the several parts being constructed and arranged to operate as heretofore set forth.

112,366, antedated March 3, 1871.—Propeller.—Alexander J. Marshall, Warrenton, Va.

Claim.—The paddle G, formed and hinged as shown, and its cross-head F, the uprights H H, with their projections H' H' and their grooves *f f*, when each is constructed and all are arranged and combined substantially as and for the purpose described.

112,367. — Oiler. — Edward McDuff and Emory D. Forrow, Warwick, R. I.

Claim.—The combination and arrangement of the inclined tube E, annular air-chamber C C, annular opening I, and tube F, as shown, and operating substantially as described.

112,368. — Wash-Boiler.—John McInnes, Oxford, Pa.

Claim.—1. The combination of the plate A, tubes *g g g*, collars C C, detachable tubes B *b*, and detachable spray-tube D, all constructed as described, when said tubes B *b* are provided with openings *o'* corresponding to openings *o* in the collars, and with sockets *e e* adapted to receive the prongs of a lifting-fork, E, substantially as and for the purposes herein set forth.

2. In connection with a detachable and removable spouting apparatus, having a plate, A, and tubes B B, and adapted to be used in any common wash-boiler, as described, the application of sockets *e e* to the walls of the tubes B B, for the purpose of receiving the tines of a lifting instrument, substantially as herein set forth.

112,369, antedated February 25, 1871.—Propelling Canal-Boats. — Harrison B. Meech, Fort Edward, N. Y.

Claim.—The tube B, in combination with the inductions B' B' and wheels C and F, constructed and operating substantially as set forth.

112,370. — Water-proof Compound for Coating Cloth, Wood, Metals, &c.—Peter E. Minor, Schenectady, N. Y.

Claim.—The manufacture or preparation of the compound denominated "Minor's air and water-proof compound," of the ingredients substantially in the manner and for the purposes set forth.

112,371. — Cooking - Stove.—William N. Moore, Neenah, Wis.

Claim.—1. The plate I, when constructed and operating substantially as specified.

2. The combination of the flues R and L and damper O with the chamber G, plate I, and the flue or box J K, substantially as described.

112,372.—Boring-Machine.—John Henry Pardieck, Acton, Ind., assignor to himself and Samuel M. Brown, same place.

Claim.—1. The boring and spoke-tenoning machine, composed of the vertically and horizontally adjustable table J, provided with the movable rest K, boring apparatus B C D E F G, hub-holder Q *e e* R, and spoke-holder S T V, all constructed and arranged substantially as and for the purpose set forth.

2. The vertical rod Q, provided with nuts *e e*, and fixed in the adjustable bar R, in combination with the boring apparatus specified in the first clause of claim, and the spoke-holding device, composed of the vertically-adjustable plate S, arms T, and link V, arranged substantially as and for the purpose set forth.

112,373. — Vapor - Burner. — Robert W. Park, Philadelphia, Pa.

Claim.—1. The dome F and its perforated flange G, substantially as shown.

2. The tube C and the distributing-rod D, as shown.

3. The tube C, rod D, and the inner dome E, as shown.

4. The dome F, perforated flange G, and the clutch H, as shown.

112,374.—Machine for Pointing Blanks for Cultivator-Teeth.—John Pedder and George Abel, West Pittsburg, Pa.

Claim.—In a machine for cutting and pointing wrought-metal blanks, a pair of movable dies, each such die having a double-beveled cutting-edge coming to a point, *e'*, and a die-face extending therefrom of a form suitable for pointing the blank, in combination with top and bottom die-plates *h h'*, which prevent the vertical spread of the metal, but permit the plate and blank to move longitudinally while the cutting is being done, substantially as described.

112,375.—Bale - Tie. — James E. Perkins, San Francisco, Cal.

Claim.—A bale-tie, A, having the folding ends *c* and *d*, in combination with an open rectangular link *e* and the loop *f*, when constructed and operated substantially as herein described.

112,376.—Lining Walls with Felt, &c.—James Phillips, Chicago, Ill.

Claim.—The lining A, composed of felt, tarred paper, or other equivalent non-conducting material, placed between the different layers of a brick, stone, or concrete wall, for the purpose specified.

112,377.—Cooking-Stove.—Samuel Pierce, Boston, Mass.

Claim.—1. The sliding plates *a a*, when arranged to slide under the reservoir S, as and for the purposes hereinbefore described.

2. The combination of the cooking or fuel-chamber *u*, the fire-chamber *w*, the hinge or deflecting-plate *d*, the inclined or curved front plate *c*, the rear grate *g*, and the bottom-grate *h*, all constructed and arranged to operate as and for the purposes set forth.

3. The combination and arrangement of the fire-box *w*, feeding-chamber *u*, and register *v*, all constructed and arranged as and for the purposes hereinbefore set forth.

112,378, antedated February 25, 1871.—Tack.—Asahel A. Porter, New Haven, Conn.

Claim.—As a new article of manufacture, a tack, constructed as described, with a point, bent head, and flange, as set forth.

112,379.—Machine for Shaping and Cutting Gear-Cutters.—Francis A. Pratt, Hartford, Conn., assignor to "The Pratt & Whitney Company," same place.

Claim.—1. The combination of the templet O, lever K, adjustable fulcrum L, sliding carriage and tool-carrier H, with the slide G, substantially as described.

2. In combination with the subject-matter of the first claim, the slide D E and head-stock A B, substantially as described.

3. The combination of the templet O, lever K, adjustable fulcrum L, slide G, sliding carriage H, with the stand Q and milling-tool spindle *h*, substantially as described.

4. In combination with the slide G, sliding carriage H, stand Q, spindle-carriage shaft *h*, the double-jointed radius bars, the pulleys, support R, and head-stock A B, substantially as described.

112,380.—Combination Camera and Developing-Box.—Eneas C. Ratzell, Philadelphia, Pa.

Claim.—1. The combining of the camera and developing-box in such manner as described, as a new article of manufacture.

2. The combination called the carrier, and the mode of placing the dipper and ground glass therein, the whole to be used in the manner and for the purpose set forth.

3. The arrangement of the camera and bath receptacle in such a manner as described, for use and purpose set forth.

4. The tank for holding the developer and water in the manner and for the purpose set forth.

5. The placing of the pliers in the center of the door, for the use and in the manner set forth.

6. The manner of arranging the eye-hood so that the head can be tightly placed thereon without the difficulty of fastening it to the head, the whole to be used in the manner and for the purpose set forth.

112,381. — Punching - Machine. — J. C. Rhodes, South Abington, Mass.

Claim.—The combination of the cams *w* and *z*, or their equivalents, the intermittently-reciprocating slide *c*, operated thereby, the bed *g*, feed-roll *e*, shafts *j* and *n*, ratchets *i*, *k*, and *k'*, pawls *p* and *s*, and the punch or punches, the whole arranged in relation to one another and operating substantially as described.

112,382.—Washing - Machine.—John W. Ricker, Chelsea, Mass.

Claim.—1. A socket or bearing, L, composed of two pieces, *h i*, applied to the shaft of a washing-machine, in combination with an elastic band, I, operating substantially in the manner and for the purpose set forth.

2. The base B, formed in two pieces, *c d*, pivoted together and applied to a washing-machine, substantially in the manner and for the purpose described.

112,383. — Curtain - Fixture. — Charles Robin, Chester, Conn.

Claim.—The herein-described curtain-fixture, consisting of the chambered-plate A, constructed with the perforation *a*, bearing *d*, and V-shaped slits *e*, substantially as specified.

112,384.—Machine for Making Printers' Leads.—Isaac Schoenberg, New York, N. Y.

Claim.—The combination of the shouldered rolls B and C, the movable and interchangeable collar I, adjustable collar D, cap J, and set-screw H, substantially as described.

112,385.—Slide-Valve for Steam-Riveting Machines.—Coleman Sellers, Philadelphia, Pa., assignor to William Sellers & Co., same place.

Claim.—1. The combination, with a steam-riveting-machine, of the balanced equilibrium-valve L, constructed and operating substantially as and for the purpose described.

2. The combination of the openings 1' 2' 3', the connecting-duct *d*, the recesses *e e*¹ *e*², and the ducts or hollow bosses *f f f*¹ *f*² *f*³, substantially as and for the purpose described.

112,386.—Machine for Polishing Thread.—Samuel Semple, Sr., John Semple, Samuel Semple, Jr., and Robert A. Semple, Mount Holly, N. J.

Claim.—The combination, in a drying and polishing-cylinder, of the brushes *a a* and the grooved rollers or sections of rollers *b b*, constructed as shown, substantially as and for the purpose specified.

112,387. — Paint - Brush. — Frederick S. Shearer, Washington, Ill.

Claim.—The cylindrical or oval expanding spiral spring C, with its corresponding hollow cylindrical or oval base, in combination with the cone D, either circular or oval, the cup or shell B, either cylindrical or oval, with its socket *b*, screw *d*, handle A, and bristles E, substantially as and for the purposes described.

112,388.—Bee - Hive.—Samuel Archabald Short, Fredrick Jackson Short, John Bunion Short, and Jasper Kile, Decatur, Ala.

Claim.—1. In a bee-hive, comb-frames and honey-frames constructed substantially as herein described, so that the honey-frames will be within the upper ends of the comb-frames, as set forth.

2. The combination of the end pieces A A, bars B C C, bottom D, comb-frames E *b*, honey-frames G *d f*, glass plate *e*, and lid H, all constructed and arranged substantially as and for the purposes herein set forth.

112,389.—Apparatus for Removing Oil from Vegetable and other Matters.—Thomas Sim, Baltimore, Md.

Claim.—1. The inclined vats A A, &c., constructed, arranged, and operating substantially as and for the purpose specified.

2. The combination and arrangement of a series of inclined vats, as herein described, with an evaporating-cylinder, substantially as and for the purposes set forth.

112,390.—Retort for Producing Bisulphide of Carbon.—Thomas Sim, Baltimore, Md.

Claim.—1. The cleaning-out pipe A, provided with a vapor-tight cap or cover, in combination with a retort, constructed and operated substantially as herein described.

2. In combination with a retort and its connections, as herein described, the grate D, substantially as and for the purposes specified.

3. In combination with a tube, B, for introducing materials into the body of a retort, the hinged cover *b''* and forked lever or collar *b'*, substantially as and for the purposes specified.

4. In combination with a retort and its appendages, constructed and operating substantially as herein described, the arrangement of an interior and exterior wall, forming fire and air spaces above the furnace I, substantially as and for the purposes described.

112,391.—UTILIZING THE SILKY DOWN OF THE WILD COTTON. — Michael Hodge Simpson, Boston, Mass.

Claim.—1. The hereinbefore-described method of treating the *Asclepias* fiber or seed-down, as explained, such being for combining it, under circumstances as stated, with one or more other fibrous matters, as mentioned, and subsequently subjecting the mixture to the operations of a picker and a carding-engine.

2. The improved article or fibrous composition, made of the materials and in the manner as set forth.

112,392.—PRUNING SHEARS.—Frank Smiley, Batavia, N. Y.

Claim.—The arrangement, with the knife B and bearing A, provided with a flat face, of the cutter-blade D, having a beveled edge, *d*, arranged back of the face of the bearing B, so as to insure a slanting and easy cut, as hereinbefore set forth.

112,393.—WATER-CLOSET VALVE.—Alfred J. Smith, San Francisco, Cal.

Claim.—The compressing-spring G and cylinder D, in combination with the valve *b* and stem K, when these several parts are arranged and operated substantially as and for the purpose set forth.

112,394.—GANG-PLOW.—James W. Suras, San Leandro, Cal.

Claim.—The axles C and D, arms F and G, and link H, in combination with a single lever, I, when constructed to regulate the depth of the furrow without leaving the seat, substantially as described.

112,395.—GRINDING-PAN AND AMALGAMATOR. — William H. Thoss, West Point, Cal.

Claim.—1. In combination with the pan constructed as described, the revolving arms *f* and the mullers *e*, constructed wedge-shaped or tapering toward the front or inside, while the outside is so curved as to fit the inner periphery of the rim *b*, substantially as and for the purpose set forth.

2. In combination with the revolving arms *f*, the mullers *e*, when constructed wedge-shaped or tapering toward the front or inside, while the outside is so curved as to fit the inner periphery of the rim *b*, substantially as and for the purpose described.

112,396. — STREET-LANTERN. — Augustus Tufts, Malden, Mass.

Claim.—In combination with the cone-chimney *b*, and with the cylinder *c* and its air-openings or passages *e*, the shield or guard-cylinder *g*, when the parts are all constructed and relatively arranged substantially as shown and described.

112,397.—COOKING-STOVE.—Alvin Warren, Swanton, Ohio.

Claim.—In a cooking-stove, the arrangement of the oven H behind the smoke-flue, and on top of the stove, the triple flues F F F, the triple-winged damper F′, and the drying-chamber E, as specified.

112,398.—SAFETY-BRIDLE.—James Weatherhead, San José, Cal.

Claim.—In combination with the face-straps *d d* and side-straps *g*, the ring *f*, and single rein or strap D, and lines B B, substantially as and for the purpose above described.

112,399.—FIRE-GRATE.—George Wellhouse, Akron, Ohio.

Claim.—1. The revolving ring H, in combination with the stove A, substantially as and for the purpose set forth.

2. The combination of the ring H and web or blower I, in the manner as and for the purpose set forth.

3. The bar F, having a projecting oblique lug, G, for the purpose specified.

4. The ring H, blower I, and damper J, as arranged, in combination with the stove A, and operated in the manner as and for the purpose set forth.

112,400. — HAY-KNIFE.—George F. Weymouth, Dresden, Me.

Claim.—The improved hay-knife above described, consisting of the curved blade A, having knife-edged serrations B and handles C C placed as shown, all substantially as specified.

112,401. — CLAW-BAR. — Charles Winter, Chillicothe, Ohio.

Claim.—The combination, substantially as described, of the claw-bar A *a* B, recesses or sockets C C′, duplex claws D D′ *d d′* E, and retaining device F, for the purpose described.

112,402. — STEAM-GENERATOR. — John C. Woodhead, Pittsburg, Pa.

Claim.—1. A quadrangular steam-generator, constructed of sectional boxes, forming the walls of the furnace, and having its opposite sides connected by tubes, substantially as described.

2. In combination with the above, a furnace-crown, consisting of a series of cellular metallic boxes so arranged and connected that the steam arising from the furnace cellular walls will pass through the same, the said crown being fully in contact with the heat from the furnace, substantially as and for the purpose described.

3. In combination with the above, a furnace-crown, composed wholly or partly of cellular plates or cellular boxes, so relatively arranged with the furnace-walls that the steam arising therefrom will pass into said crown, substantially as and for the purpose set forth.

112,403. — ANIMAL-TRAP. — William D. Wrightson, Queenstown, England.

Claim.—The combination of the suspended tripping detent or stop *b* with the projecting lip *c* of the platform B, and the suspended self-setting guide-arm *d*, arranged and operating as described.

112,404. — BRUSH.—John Ames, Lansingburg, N. Y.

Claim.—The handle A, slotted side cars B, plate C, and bristles D, combined as described to form an improved sash-brush.

112,405.—CLOD-FENDER.—Fortune L. Bailey, Freeport, Ind.

Claim.—The construction of the head-block A, with mortise or cavities, into which the rods or slats are put, and made secure by set-screw, wedge, or rivet, that they may be moved or taken out at will, in combination with the rods, and for the purpose set forth, or its equivalent.

112,406.—RULER.—Hugh S. Ball, Spartanburg, S. C.

Claim.—The case A, spring *d*, and detachable end sleeves *e e*, combined, as described, with the blotter-roll B, to allow of its ready removal and replacement with new blotting-paper, as described.

112,407.—FANNING-MILL.—Benjamin Barney, Time, Ill.

Claim.—The fanning-mill herein described, having the suction-spout H, chest box J, air-passages K, riddle C, fan D, eccentric F, rock-shaft *g′*, and adjustable hinge G, all constructed substantially as described, and combined and arranged for operation in the manner and for the purposes set forth.

112,408.—ICE-CUTTING MACHINE.—Lafayett Barnum, Bridgeport, Conn., assignor to himself and A. R. Hale, same place.

Claim.—1. The driving-shaft *d*, crank and cam-shaft *e*, in combination with frame *a*, feed-foot *n*, and saw S, arranged and operating, as specified, to actuate the saw and at the same time propel the machine.

2. The feed-shoe *m* with adjustable steel toe, in combination with lever *k*, hinge-joint, and spring *g*, arranged as described, to compensate for curved motion of lever *k*, for the purpose specified.

3. The adjustable propelling-cam *i*, in combination with shaft *e*, lever *k*, feed-shoe *m*, and saw S, arranged as shown, to vary the length of cut.

112,409.—MANUFACTURE OF ICE.—Thomas J. Bigger, Kansas City, Mo.

Claim.—An ice-house, constructed as described, of double sides A A, sliding roof B, and iron bottom or floor C, for freezing ice, substantially as herein set forth.

112,410, antedated February 28, 1871.—MACHINE FOR HEADING BOLTS AND SPIKES. Reinhold Boeklen, Brooklyn, N. Y., assignor to himself and Henry Torstrick, New York city.

Claim.—Jointly, the application direct of the upsetting or heading die to the extremity of one of a pair of toggle-jointed bars, and the combination with said device of a crank and connecting-rod or other equivalent mechanism to operate said toggle-jointed bars in the usual manner, for the purpose of imparting to the die simultaneously a forward and a rolling movement, the former to stave up and compress the metal, the latter to reduce and spread the staved-up portions into the proper shape, substantially as described.

112,411.—WASHING-MACHINE.—Joseph Boswell, Levi M. Boswell, Jonathan Palmer, and Jonathan H. James, Wilmington, Ohio, assignors to themselves and Thomas Starbuck, same place.

Claim.—1. The combination of the vertical, corrugated, rubbing-board N and the cylinder J, carrying the radial wings K, when said wings are extended to bear against the rubbing-board, substantially as described, for the purpose specified.

2. The washing-machine, consisting of the box A, divided into two compartments, B C, by the partition D, the hinged cover, the removable dasher H, the cylinder J, having the radial India-rubber wings K, and the vertical rubbing-board N, all arranged and operating substantially as and for the purposes specified.

112,412.—WATER-WHEEL.—Ellery C. Boyles, New York, N. Y.

Claim.—1. The case A, constructed with a raised outer hollow rim, *c*, having a transverse section of an inverted V or similar shape, with alternately-disposed openings or passage-ways *d*, for the water through the opposite sides of said rim, substantially as specified.

2. The annular gate C, of an inverted V or similar shape in its transverse section between its peripherical rims *e* and *f*, and provided on opposite sides, between said rims, with alternately-arranged openings *i* and alternately-disposed chutes *h*, constructed to direct the water downwardly, forwardly, and in reverse lateral directions, essentially as herein set forth.

3. The hollow buckets *m*, set to incline upwardly in a forward direction, and made pointed at their upper ends, in combination with the raised hollow rim of the case A, essentially as described.

112,413. — COTTON-PRESS. — Rhodom M. Brooks, U. S., Ga.

Claim.—1. In the cotton-press herein described, the lever M and rope, in combination with the screw I, as shown and described, for the purposes set forth.

2. The arrangement of the bed E of the bale-box upon a single bottom timber, A, as herein set forth.

3. The combination of the screw I with one or more longitudinal grooves, *a*, collar J with one or more feathers, *b*, with or without the driver K, nut G, and top timber B, all substantially as and for the purposes herein set forth.

112,414.—PAPER-CUTTING MACHINE.—Samuel Brown, Philadelphia, Pa., assignor to himself and Cephas R. Carver, same place.

Claim.—1. The construction and arrangement of the rods G G, stub-ends H H, spheres B B and F F, yokes L, shaft D, and cranks E E, as and for the purpose herein specified.

2. The bar M of the clamping-frame, having a series of rectangular-shaped recesses N N N, in combination with the screw-shaft T, plate Q, arms R R R, plate O having openings P P P, and set screws S S, substantially as set forth.

3. The yoke L, constructed as herein shown, and applied in the socket of a ball-joint, substantially as set forth.

112,415.—GOVERNOR FOR DIRECT-ACTING ENGINES.—Adam S. Cameron, New York, N. Y.

Claim.—The mechanism, substantially such as herein set forth, whereby the steam-piston of a direct-acting engine is caused to partially or wholly close the throttle-valve whenever the stroke of said piston increases beyond the desired limit.

112,416.—GOVERNOR FOR DIRECT-ACTING ENGINES.—Adam S. Cameron, New York, N. Y.

Claim.—The mechanism, substantially as herein described, for regulating or stopping the supply of steam to the steam-cylinder of a direct engine, according to the greater or smaller speed of the piston, by the action of the said piston against a tappet or tappets extending in the interior of the cylinder, said tappet or tappets being connected with or acting on the throttle-valve in the manner substantially as set forth.

112,417.—BUTT-HINGE.—John W. Carleton, New Britain, Conn., assignor to the Union Manufacturing Company, same place.

Claim.—In the manufacture of butt-hinges, the pintle, previously prepared by roughening or equivalent devices, and inserted into the hinge after the two parts are set together, substantially in the manner described.

112,418.—MACHINE FOR CUTTING SHEET METAL.—Charles R. Choate, East Saginaw, Mich.

Claim.—The arrangement of the treadle J, two bars E, two cranks *b*, shaft *d*, balance-wheel I, two bars H, two arms G, and the movable rocking cutter-head E, substantially as described.

112,419.—BIT-BRACE.—William Cleveland, Lawrence, Mass., assignor to himself and James Swan, Seymour, Conn.

Claim.—The head B and body A, united by the stud *a d*, set into a corresponding recess in the body A, and so as to turn freely therein, substantially as and for the purpose herein set forth.

112,420. — STEAM-ENGINE GOVERNOR.—Charles A. Condé, Indianapolis, Ind.

Claim.—The segmental-toothed cams *d*, applied to the ball-arms of a governor, and connected with

the toothed tapering block *a* on the valve-rod, substantially as herein shown and described.

112,421.—CARPET-CLEANING MACHINE.—John Crew Craft, Baltimore, Md., assignor to himself and Antonio Rocello, same place.

Claim.—The arrangement of the carrying-belts *b'*, cords *b*, vibratory beaters, and rotatory brushes, as specified.

112,422.—STEAM-REGULATOR FOR PAPER-DRIERS.—Daniel Crosby, Hampden, Me.

Claim.—A safety-valve arranged substantially as described, with reference to the pipe by which steam is conducted from a boiler to the driers of a paper-machine, or any other vessel that communicates with the boiler, as to regulate by its movements the admission of steam to such vessel, allowing only enough to pass to maintain a constant quantity within the latter.

112,423.—METALLIC PISTON AND VALVE-ROD PACKING.—George M. Cruickshank, Providence, R. I.

Claim.—1. The improvement in metallic packing for piston and other similar rods, consisting of the segments B and C, corresponding in form, having parallel sides, and of a width sufficiently less than the diameter of the rod with which they are to be used to prevent their contact while compensating for their continuous wear, and at the same time to practically surround the rod, substantially as shown and described.

2. The segments B, C, F, and G, in combination with the guide-blocks D, E, H, and I, all provided with springs, arranged and operating as described.

112,424, antedated February 25, 1871.—GRAIN-THRASHING AND SEPARATING MACHINE.—John Culham, Grand Rapids, Mich.

Claim.—1. The combination, with the seive G, of the agitating-bars H and I, moving in opposite directions, substantially as herein described.

2. In combination with the seive G, of the endless belts N and P and the partition O, substantially as herein described.

3. The combination and arrangement of the endless belt P, elevator Q, and vibrating-chute R, substantially as and for the purposes set forth.

4. The arrangement of the hand-wheel W, endless screw U, and cog-wheel V, in combination with the rod Y and eccentrics *s s*, when used for the purposes herein described.

112,425.—COOKING-STOVE.—David Curtis, Mishawaka, assignor to himself and C. B. Graham, South Bend, Ind.

Claim.—The revolving drum D, in combination with the interior revolving shelf or shelves, substantially for the purpose set forth.

112,426.—LIGHTNING-ROD.—Sylvanus D. Cushman, New Lisbon, Ohio.

Claim.—1. A lightning-rod, composed of three or more iron wires, and three or more copper wires, said iron wires being laid together to form the body or core of the rod, and said copper wires being arranged between the iron wires on the outside of the rod, in such a manner as that an iron wire is interposed between any two adjacent copper wires, as is hereinbefore specified.

2. A lightning-rod, composed of three or more iron wires and three or more copper wires, said iron wires being coated with zinc or tin, and being laid together to form the body or core of the rod, and said copper wires being arranged between the iron wires on the outside of the rod in such a manner as that an iron wire is interposed between any two adjacent copper wires, as is hereinbefore specified.

112,427.—HOSE-BRIDGE.—Patrick Daily, New York, N. Y., assignor to himself and John J. Kehoe, same place.

Claim.—The improved hose-bridge, consisting of a pair of short rails, each composed of the grooved and tapered wood bar A and iron bar D, and provided with points E or I, connected by levers arranged for withdrawing them; also provided with the points K, connected by links, all substantially as specified.

112,428.—COVER FOR OPENINGS IN SIDEWALKS.—William Dale, New York, N. Y.

Claim.—1. The combination of the metallic dish A A^1, bull's eyes A^2, and wooden block C, or other non-slippery material, used as a filling for the cavity of the dish between and around the bull's-eyes, substantially as set forth.

2. In combination with the vault-cover composed of the parts A A^3 C, the openings A^4, near the periphery of the dish A, and surrounding the non-slippery filling C, substantially as and for the purpose set forth.

112,429.—ROTARY-PUMP.—Francis Oliver Deschamps, Philadelphia, Pa.

Claim.—1. A pump, in which are combined the following features, namely, an annular chamber, a piston adapted to the same and connected to a shaft arranged to revolve concentrically as regards the chamber, a sliding-head to move across or recede from the said chamber, and suction and discharge-valves and passages, all being arranged substantially as described.

2. In a pump, the sliding head M, adapted to a recess, *f*, in the casing, and operated by a rod, *g*, or its equivalent, in such a manner that it shall be caused to move across and recede from the annular chamber B', as set forth.

3. The said sliding head, when operated by a cam, *h'*, on the driving-shaft, through the medium of a spring-bar, P, and rod *g*, substantially in the manner described.

4. The combination and arrangement, substantially as described, of the inlet-branch H, semicircular passage B, annular chamber B', through which a piston traverses in one direction, and outlet-passage C.

5. The casing of the pump, consisting of plates A and A', bolted or otherwise secured together, and having formed between them the semicircular passage B, annular chamber B' communicating with the same, and recess *for* securing the edges of the disk G.

112,430.—MACHINE FOR CUTTING FILES.—James Dodge, Manchester, England, assignor to David Blake, Spencertown, N. Y.

Claim.—1. The combination of the presser h, link *l*, and weighted foot-lever *e*, for the purpose of steadying and elevating the presser at will.

2. The combination of the carrier *x*, grooved and otherwise constructed as described, the chisel *y*, provided with the pin, as set forth, and with or without the rubber springs *z z*.

3. The combination of the carrier *x* with the hammer by means of the slotted adjustable piece *v*, in the manner described.

4. The arrangement of the carrier within the recess in the end of the presser-lever, and of the bent lever *u* connected to said presser-lever, and designed to confine said carrier within said recess, as described.

5. The combination of the carrier *x* and chisel *y*, the pieces *v* and *a'*, the adjustable wedges *b'* and *c'*, and the hammer, all as and for the purposes set forth.

6. The combination of the moving pattern *f*, arm *j*, eccentric *i*, connection *k*, lever *l*, and screw *m*, for the purpose of automatically increasing and diminishing the tension of the spring *g*.

112,431.—COUPLING FOR RAILWAY CARS.—Henry Dübs and Sampson George Goodall-Copestake, Glasgow, Great Britain.

Claim.—1. The diagonal coupling-bars 6 and 7, pivoted within the lugs 10 of the detachable curved frame ends or abutments 2 and 3, arranged and operating together, as herein shown and described.

2. The transversely-movable and detachable metallic frame ends or abutments, applied to the ends of a car or locomotive in the manner herein shown and described.

112,432.—TOBACCO-PIPE.—Patrick J. Dwyer, Elizabeth Port, N. J.

Claim.—1. The herein-described pipe, constructed with the enlarged shank B, in which is the chamber *c*, the mouth of which terminates beneath the stem C, and provided with plug *e*, all arranged as shown.

2. In combination with the above, the passage *a*, when communicating with chamber *c* by means of passage *b*, said passage inclining inward to the center of the pipe, as shown, and for the purpose described.

112,433.—BASKET FOR HOUSE-PLANTS.—Albert P. Eastman, Washington, D. C.

Claim.—The basket for house-plants herein described, consisting of the rigid frame *c d*, and the movable sections *f*, substantially as and for the purpose specified.

112,434.—SULKY-PLOW.—Milo A. Elliott, Stratford Hollow, N. H.

Claim.—1. The arm J, projecting laterally beyond the plow, and following in the rear thereof, for the purpose of preventing the sod from falling back into the furrow.

2. The application of the downwardly-projecting and rearwardly-curved arm P to the cross-bar E of a plow-frame, for the purpose of balancing the machine and enabling the plow to run with uniform steadiness.

112,435.—STRETCHER FOR PAINTINGS.—James Fairman, New York, N. Y.

Claim.—1. The joining-plate C, provided with the rib *a*, and applied to a stretcher, substantially as herein shown and described.

2. The forked wedge D, combined with the joining-plate C, to straddle the same when spreading the stretcher, as specified.

112,436.—BODY LANTERN-HOLDER.—Samuel C. Fessenden, Stamford, Conn.

Claim.—A body lantern-holder, consisting of the pad A A, provided with the pocket C, match-case K, and straps H I F G, as and for the purposes set forth.

112,437.—STOVE-LEG.—Amon L. Finch, Sing Sing, N. Y.

Claim.—The stove-leg shank *b* and dovetail lugs *c c*, made in substantially the manner specified, for the reception of the transverse tapering key *d*, as set forth.

112,438.—PUMP-PISTON.—John S. Follansbee and George Doolittle, Bridgeport, Conn., assignors to the Forrester Manufacturing Company, same place.

Claim.—In combination with the tube or piston-rod A B, and piston *a b*, constructed with an annular groove, the cylinder C with its annular flange *c* corresponding to the said groove in the piston, in the manner substantially as herein set forth.

112,439.—SHOE.—Samuel W. Francis, Newport, R. I., assignor to himself and William Harrison Newton, same place.

Claim.—1. An overshoe or other covering for the foot, made of rubber, cloth, or other suitable material, combined with a spring united with the same, and arranged around or partly around the opening in the shoe, to operate substantially in the manner shown and set forth.

2. An overshoe or other covering for the foot, having a yielding or collapsible heel or rear portion, combined with a spring extending wholly or partly around and united with the upper part of the same, substantially as and for the purposes shown and described.

3. In combination with the collapsible heel and its recoil spring, arranged together as described, the stud or projection for facilitating the operation of drawing off the shoe, substantially as set forth.

112,440.—GUARD-FINGER FOR HARVESTERS.—George Fyfe and Chester Hard, Ottawa, Ill.

Claim.—The mode of attaching the steel plate A to the finger, by means of the dovetailed groove C in the finger, and the dovetail shank or tongue on the plate B, substantially as described.

112,441.—DINING-TABLE.—Samuel R. Garner, Independence, Iowa, assignor to himself and S. M. Marquett, same place.

Claim.—1. In combination with the slides C D E, the slats G H on the top, and the slats K on the leaves of the table, substantially as and for the purposes herein set forth.

2. In combination with the slides C D E, the levers L, arranged substantially as shown and described, and for the purposes herein set forth.

3. The combination of the slides C D E, legs I I, bars J J, slats G, H, and K, and levers L L, all constructed and arranged as described, and used in connection with a leaf-table, substantially as and for the purposes herein set forth.

112,442.—STEP-LADDER.—M. Boland Geary, New York, N. Y.

Claim.—The side pieces A A of the step-ladder, slit for the greater part of their length to form three strips, *a b c*, the outer ones, *a b*, being bent outwardly, and the inner one, *c*, laterally thereto, forming a triangular or compound truss, substantially as shown and described.

112,443.—OIL-CLOTH PRINTING MACHINERY.—Ebenezer A. Goodes, Philadelphia, Pa., assignor to Philadelphia Patent and Novelty Company, same place.

Claim.—1. The reciprocating carrier C and arm D, in connection with the oscillating frame B and rod K, and their operating mechanism, substantially as and for the purpose described.

2. The combination, in a printing-machine, of the reciprocating block-carrier C, the oscillating carrier-frame B, the intermittent feed mechanism N O P, and the endless band L, substantially as and for the purpose described.

3. In a machine for printing oil-cloth, the feeding device, consisting of the hinge-bar O, spring S, slide P, and ratchet N, and adjustably connected to its operating mechanism, all combined and arranged substantially as and for the purpose described.

4. The combination, with the oscillating frame B and the printing-frame C, of the cam H and set-screws A A, substantially as and for the purpose described.

112,444.—TENONING-MACHINE.—Lyman Gould, Norwich, Conn.

Claim.—The combination of devices for adjusting tenoning-machine cutter-heads, consisting of a screw, F, with a hand-crank, working within a tubular adjusting-screw, E, and clamp-nut, J, the latter on the lower cutter-head stock, and screw E working in the clamp-nut L on the frame, and the bearing C^3 on the upper cutter-head support, all for the purpose of operating either head independ-

out of the other, or both together, substantially in the manner described.

112,445.—PRINTER'S CASE.—William H. A. Gresham, Atlanta, Ga.

Claim.—The improved tabular case for printers' use, having the compartments arranged as specified, and the sliding bottoms, the latter being provided with spring stops, all substantially as specified.

112,446. — LAMP-CHIMNEY. — George W. Griswold, Factoryville, Pa.

Claim.—In combination with a glass chimney for lamps, a removable and replaceable and freely-expanding and contracting shield, suspended within the chimney, and that not only protects the glass from the heat of the lamp or burner, but also allows the glass surrounding it to contract and expand unrestrainedly, as set forth and described.

112,447. — GRAIN-SEPARATOR. — Philander Griswold, Hudson, Mich.

Claim.—The arrangement of the rock-shaft E, bent arms *e e*, and pivoted levers G G, substantially as shown and described and for the purposes set forth.

112,448.—CLAMP FOR THILL-COUPLINGS.—John W. Guider, St. Joseph, Mo., assignor to himself and John Kieffer, same place.

Claim.—The curvilinear pointed lever A, in combination with the pivoted link or frame B, constructed substantially as described and shown, as and for the purpose set forth.

112,449. — BIRD-CAGE.—Gottlob Günther, New York, N. Y.

Claim.—The arrangement, on a bird-cage, of a spring flap, forming an ornament for the cage, and being capable of closing the opening *a* when the feed-cup is removed, and serving to retain said feed-cup in position when the latter is inserted in the opening *a*, all as herein shown and described.

112,450. — STOP-COCK AND VALVE.—William Haas, New York, N. Y.

Claim.—The plug A of the stop-cock, fitted into the shell B and carrying the worm *a*, arranged and operating in connection with the worm *b* upon the spindle C, which has its bearings in the lugs *d* of the shell B, as herein shown and described.

112,451.—VALVE FOR STEAM-ENGINES.—Joseph L. Harley, Baltimore, Md., and Xaver Fendrich, Georgetown, D. C.

Claim.—1. In combination with the valve-rod, the shield *d* and steam-chamber *i* therein, communicating with the steam in the chest by means of the passages *e*, as and for the purpose described.

2. In combination with the valve open at top and bottom, the jacket *g* and exhaust passage *b'* through it, as and for the purpose described and represented.

3. The combination of the chest, valve, and inlet-ports with the exhaust-port *b*, when the latter is connected with the exhaust-passage *b'* or with a passage underneath the chest, or through the cylinder, so as to use one or both exhaust-passages at the same time, substantially as described.

112,452.—METALLIC HUB.—John H. Harper, Pittsburg, Pa.

Claim.—In combination with the spindle E, the box A with oil-chamber *f*, screw-flange B with oil passage and screw *a*, the spokes C C, flange D, and bolts *b b*, all substantially as and for the purposes herein set forth.

112,453.—COMPOSITION FOR LUBRICATING MACHINERY.—Edmond Q. Henderson, Charlotte, N. C., assignor to John C. Burroughs and Richard A. Springs, same place.

Claim.—The manufacture or preparation of a compound denominated anti-friction lubricating-paste and oil, of the ingredients, in the proportions, and for the purposes set forth above.

112,454.—POST-HOLE DIGGER.—Bryant B. Herrick, Decatur, Mich.

Claim.—The interior offset B formed in the lower end of a tubular spade or post-hole digger A, substantially as and for the purpose herein set forth.

112,455.—DOOR-CHECK. — Levi S. Hicks, Peoria, Ill., assignor to himself, J. Perrin Johnson, and John Buell, same place.

Claim.—The elastic single-wire spring-catch C, when secured to the wall as described, and combined with the eye or holder D, all substantially as and for the purposes set forth.

112,456.—RAILWAY-CAR BRAKE.—Luther Hill, Stoneham, and Seth D. Tripp, Lynn, Mass.

Claim.—The combination, with the rod C, of the studs F, levers G, shaft H, and brakes E, all substantially as specified.

112,457.—TRUSS.—Adam Hinoult, Montgomery, N. Y.

Claim.—The strap D, provided with loop E, and adjustably-attached to the pad by means of the staples C C and pin F, as shown and described.

112,458.—FEED-BAG FOR HORSES.—Walter A. Hough, South Butler, N. Y.

Claim.—1. The feed-bag, consisting of the parts A and B, arranged substantially as shown and described.

2. The strap F, in combination with the reservoir-tubes B B, provided with the valvular covers E E, arranged to operate as shown and described.

112,459.—SHADE-HOLDER FOR LAMPS.—Mark Wiggins House, Cleveland, Ohio.

Claim.—The improved shade-holder, constructed as hereinbefore set forth, with a series of hook-ended arms, hinged to a ring, and fitted at their butt with palms to embrace the lamp-font.

112,460, antedated March 1, 1871.—LAMP-CHIMNEY.—Mark Wiggins House, Cleveland, Ohio, assignor to the Cleveland Non-Explosive Lamp Company, same place.

Claim.—1. The lamp-chimney, constructed above the throat substantially in the form of a portion of a parabolic spindle, as hereinbefore described.

2. The slip lamp-chimney, constructed both with a choke between its base and support, and with the lower end of its base rounded inward, as hereinbefore described.

3. The slip-lamp chimney, constructed with a supplementary shoulder upon its base for engagement with the ends of slip-chimney fastenings, as hereinbefore set forth.

112,461.—HORSE HAY-RAKE.—James Howard and Edward Tenney Bousfield, Bedford, England.

Claim.—The combination of lever *g*, link A, arm *i*, frame *d*, shaft *k*, friction-rings *m*, and bands *l*, substantially as and for the purpose specified.

112,462.—TONGS FOR ROLLING BARRELS.—Mark W. Ingle, Indianapolis, Ind.

Claim.—The combination and arrangement of the levers A B C D and E F G H, the ratchet I K, with the pawl on the arm E F, and the centers *b* and *b*, when constructed and used in manner and form substantially as set forth.

112,463. — PITMAN. — George W. Jayson, Lodi, Ohio.

Claim.—The combination of the bisected head A with pipe-box C, oil-cup *a*, nut D, and the pitman B with its solid circular projection *b*, all substantially as and for the purposes herein set forth.

112,464.—PASTE FOR PAPER-HANGINGS.—John Jones, New York, N. Y., assignor to himself and Henry A. Smith, same place.

Claim.—A paste, composed of the ingredients in or about the proportions specified.

112,465.—TWINE-HOLDER. — Edward M. Judd, New Haven, Conn.

Claim.—1. The bracket *c*, having an eye or opening through which the cord is passed, in combination with the twine-holder *a*, that is supported by said bracket, as set forth.

2. The open hemispherical twine-holder *a*, made with an eye at one side to set over the pin *d* of the bracket *c*, as set forth.

112,466.—CLOTHES-PIN OR CLASP.—Amos L. Keeports and William Yount, Littlestown, Pa.

Claim.—As a new article of manufacture, the pin or clasp A, constructed as described, and provided with the locking-coil I, substantially as and for the purpose specified.

112,467.—PUTTING UP HAMS.—Samuel Edward Kelly, Philadelphia, Pa.

Claim.—As a new article of commerce, a ham or other joint of cured meat inclosed in an air-tight metallic integument.

112,468.—LIME-KILN.—Thomas A. Kirk, Kansas City, Mo.

Claim.—The plates of the side furnaces G G, inclined as specified, and arranged to leave a space, *g*, adjacent to the lining of the kiln, substantially as shown and described, for the purpose set forth.

112,469.—FASTENING FOR SEATS FOR WAGONS OR SLEIGHS.—John G. Knapp and John F. Robertson, Warwick, N. Y., assignors of one-third their right to James H. Holly, same place.

Claim.—The bar D, provided with the shoulder *d*, the lug E, and the spring F, when constructed as described, and combined with the seat C and rail B, in the manner and for the purpose substantially as specified.

112,470.—POTATO-PLANTER.—George Knowlton, Johnstown, Pa., assignor for one-half his right to N. Haynes, same place.

Claim.—The plow, the coverers, and cylinder, constructed and combined substantially as and for the purposes set forth.

112,471.—REVOLVING FIRE-ARM.—Edwin S. Leaycroft, Brooklyn, N. Y., assignor, by mesne assignment, to "Colt's Patent Fire-Arms Manufacturing Company," Hartford, Conn.

Claim.—The center pin d, free to turn on its axis, and the movable support *f*, in combination with a many-chambered cylinder, *e*, free to turn on the center pin, all constructed and arranged substantially in the manner hereinbefore specified, for the purpose set forth.

112,472.—REVOLVING FIRE-ARM.—Edwin S. Leaycroft, Brooklyn, N. Y., assignor, by mesne assignment, to "Colt's Patent Fire-Arms Manufacturing Company," Hartford, Conn.

Claim.—The combination of the ejector *k* and gate *g*, when located at opposite ends of the revolving breech, so that the act of operating the ejector effects the removal or opening of the gate, substantially as and for the purpose set forth.

112,473.—RAILROAD CATTLE-GUARD GATE.—James H. Mallory, La Porte, Ind.

Claim.—1. The combination, with the rising and falling platform B, of the gates E E, hinged on each side of the track, and arranged to close by falling transversely across the said track, substantially as specified.

2. The combination, with the reciprocating platforms B B', of the hinged gates E E and the guides *a a*, when constructed substantially as specified.

3. The combination of two platforms to operate a gate or gates, one closing the same when any additional weight comes thereon, and the other opening the same of its own weight when the additional weight from the former is removed, substantially as herein set forth.

112,474. — BACK-REFLECTING MIRROR.—Richard Mason, Newark, N. J., assignor to himself and Matthew Ely, same place.

Claim.—The bar D, lever-sided frame C, the frames F and E, and cord H, as and for the purpose specified and shown.

112,475.—VENTILATOR AND CHIMNEY-TOP.—James McGowan, New York, N. Y., assignor to himself and Daniel H. Waring, same place.

Claim.—The funnel-shaped cap B, in combination with the spiral fan or worm C and conical or concave fans F F F F, substantially as shown and described, and for the purposes set forth.

112,476.—APPARATUS FOR RECTIFYING AND REFINING SPIRITS.—Frederick Meaney, Philadelphia, Pa., assignor to himself and Henry D. Fling, same place.

Claim.—1. The combination of the stills A and B, arranged one above the other, and communicating by means of return-pipes *d*, substantially as described.

2. In combination with the above, the gauze partitions *a*, and masses of pumice-stone, or other equivalent material, above the same, in each of the said stills.

3. The return-pipes *d*, when perforated at or near the top or bend to prevent them from siphoning, as described.

4. The arrangement, in a still, of a flutter-wheel or wheels, *f*, for the purpose specified.

5. The tube *p*, its enlargement or boxes *q*, the short pipes p^1, and caps q^2, and the connecting-pipe *r*, when the whole is arranged within a vessel through which a cooling liquor is caused to pass.

6. The arrangement of the above in a chamber, *i*, surrounded by a chamber, *j*, containing cooling liquor, and surmounted by a chamber, *k*, containing a mass of pumice-stone or equivalent material, all substantially as specified.

7. The combination of the vessel C with the stills A and B, when arranged to communicate with the latter by separate pipes *s* and *s'*.

8. The combination and arrangement of the stills A and B, vessel C, and condenser D, the whole being constructed, connected together, and arranged for joint operation, substantially as herein described.

112,477.—Tin Can.—John F. Merrill, Cincinnati, Ohio, assignor to himself and Alexander Stewart, same place.

Claim.—The fruit-can A, having the swell or enlargement *a*, for the objects herein described.

112,478.—Take-up Mechanism for Looms. John Michna and George Fischer, New York, N. Y.

Claim.—1. The stationary pin-bar H, in combination with the take-up rollers and the depresser *e*, arranged and operating substantially as described, for the purpose specified.

2. The rocking flap *c* in the batten, to allow said batten to come close up to the pin-bar H, substantially as set forth.

3. The depresser *e*, in combination with the pin-bar H and with the batten of a loom, substantially as described.

112,479.—Combined Baker and Broiler. William H. Miller, Brandenburg, Ky.

Claim.—In combination with the centrally-perforated baking-pan A, having the downwardly-flaring funnel E, the cylinder B, open at the bottom and provided with the cover C, as and for the purposes specified.

112,480.—Shuttle for Sewing-Machines. James D. Moore, Grinnell, Iowa.

Claim.—1. The frame C, made of one piece of metal, and provided with holes *a a* and slots *b b*, substantially as shown and described, and for the purposes herein set forth.

2. In combination with the frame C, with its holes *a* and slots *b*, the block D, provided with a recess containing the headed pin *d* and spring *e*, all substantially as and for the purposes set forth.

3. The combination of the shuttle A, bobbin B, frame C, and block D, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

112,481. — Cotton-Chopper and Grain-Cultivator.—Daniel Mosely, Osark, Arkansas.

Claim.—1. The arrangement, with each set of three chopper-blocks A A, of the scoops *a a*, blades *b b*, and plow *d*, substantially as shown and described.

2. The arrangement of the adjustable bars J J, runner K, standards L L, and adjustable tongue M, substantially as shown and described.

112,482.—Sad and Fluting-Iron.—Frederick Myers, New York, N. Y.

Claim.—1. The employment of the convex-fluted plates, in combination with connecting apparatus for holding them together for use of one as a sad-iron, one of said plates being properly arranged therefor, while admitting of the required oscillation for fluting when disconnected for the purpose.

2. The combination, with the two parts A and B of the sad and fluting-iron, of the capped stud E, wedge M, and stud K, the latter fitting in a recess, G, and either provided with the pivot L, and the plate A with a bearing for it, or not, all substantially as specified.

112,483. — Reed for Organs and Melodeons. — Augustus Newell, Chicago, Ill.

Claim.—The tongue A of a melodeon-reed, having its shank *b* grooved on the upper face, to give elasticity thereto and enable it to spring closely to its seat, when combined with the rivet and block, as set forth.

112,484. — Straw-Cutter. — Amon Park, Germanville, Iowa.

Claim.—The described arrangement of the feeding-band J I, spring-bed M, bar K, and reciprocating each D, said hand and bar being adjustable for the purpose of varying their throw or movement, substantially as herein shown and described.

112,485.—Apparatus for Aging Whisky and other Spirits.—Josiah Peiffer and Samuel Richards, Valonia, Pa.

Claim.—1. Frame B B B C C C, placed upon grooved or equivalent rollers R R running upon the rails or tracks M, moved by cranks I, and pitman H O, all constructed and arranged in the manner and for the purposes set forth.

2. The combination of the frame B C, rolls R, track M, crank *i*, pitman H O, and heating-pipes *a a*, all constructed, combined, and arranged as and for the purposes set forth and described.

112,486. — Combined Cotton and Corn-Planter.—Louis A. Perrault, Natchez, Miss., assignor to himself and Joseph Huber, same place.

Claim.—1. The arrangement, with one track, drill-opener, and covering-scraper, of a corn-planting hopper, dropping-slide, and the operating devices therefor; also, the cotton-dropping devices, consisting of the vibrating shoe W, hopper R, cupped disk T, and the bristles V, all substantially as specified.

2. The corn-hopper D, cut-off slide F, lever H, rod K, dropper-slide G, eccentric M, rod N, all arranged substantially as specified.

3. The cotton-hopper R, cupped disk T, bristles V, and vibrating shoe W, all combined and arranged substantially as specified.

112,487.—Faucet.—Solomon Pfleger, Reading, assignor to himself and James Shoemaker Pfleger, Tamaqua, Pa.

Claim.—A faucet, consisting of a stationary conical tubular valve B, open at the end, and of a movable casing, A, having an outlet or nozzle, and fitted to and closing the end of the valve, so that the latter will be retained against its seat by the water with a pressure proportioned to the pressure of the water, as set forth.

112,488.—Treadle.—George Kendall Proctor, Salem, Mass.

Claim.—The connection of one treadle, A, to the crank, by the ordinary connecting-rod F, and the other, B, by the rigid arm and the connecting-rod H, all substantially as specified.

112,489.—Lubricating Compound.—Victory Purdy, Poughkeepsie, N. Y.

Claim.—The above-described anti-friction compound, substantially as specified.

112,490. — Fertilizer and Seeding-Machine.—Archibald Putnam, Owego, N. Y., assignor to Elizabeth Putnam, same place.

Claim.—1. The combination of the bent rods B B, as shown and described, with the rock-shaft E, all as set forth.

2. The arrangement of the slotted elbow-holder F, elbow I, eccentric R, and pitman G, all as and for the purposes set forth.

3. The arrangement of the cog-wheel T, eccentric R, lever S, and lever-catch M, all substantially as set forth.

4. In combination with the hopper A, with its openings P, the agitator-rods B, rock-shaft E, and slotted plates C C, all constructed and operated substantially as set forth.

5. The combination of the eccentric R, elbow I, shaft E, pitmen G and H, clutch D, elbow N, and seed-bar O, all arranged and operating substantially in the manner and for purposes hereinbefore set forth.

112,491.—Rotary Pump.—George W. Putnam, South Glens Falls, N. Y.

Claim.—The arrangement of the inlet-pipe A, with branches *a a'*, each with a valve, *b b'*, said branches leading into the cylinder B, one on each side of the partition C, in combination with the rocking piston D, with valves *d d'*, and discharge-pipe E, all substantially as and for the purposes herein set forth.

112,492.—Hat-Brush. — Robert Dunbar Radcliffe, Palmyra, N. Y.

Claim.—The within-described hat-brush, composed of the pieces A A and strips B B, substantially as herein set forth.

112,493.—Refrigerating Show-Case.—Thomas L. Rankin, Lyndon, Kansas, assignor to himself and D. W. Rockwell, Elyria, Ohio.

Claim.—The combination of the show-case A B C D, ice-pan E, trough G, and outlet-tube *a*, all constructed and arranged substantially as and for the purposes herein set forth.

112,494.—Device for Starting and Stopping Cars.—Philip Rhoads, Carlisle, Pa.

Claim.—1. The pins *i*, arranged diagonally upon the ratchet-wheel E, and operating in reference to the swinging lever F, substantially as and for the purpose described.

2. The guard V, in combination with the swinging lever F, substantially as and for the purpose described.

3. The swinging lever F, the chain or rope S, in combination with the gear-wheels E and F, and inclined hangers G, as and for the purposes herein described.

4. The two drums *a a'*, constructed as described, and arranged upon the brake-shaft of a car, one operating upon the car-starter and the other upon the car-brake, substantially as and for the purpose described.

5. The shifting-cylinder *b*, in combination with spring *t* and shaft T, as and for the purpose herein set forth.

112,495.—Pipe-Molding Machine.—George Richardson, Milwaukee, Wis.

Claim.—1. In combination with the central core C, bar F, and guide N', the bolt N and lever O, substantially as set forth.

2. The arrangement with reference to each other of the mold B, central core C, and lateral shoulder-ed cores P Q, substantially as and for the purpose set forth.

3. The core R, for the purpose of forming a shoulder on the outside of the pipe or coupling, around branch-openings therein, when arranged and operating substantially as set forth.

112,496.—Sulky-Cultivator.—Richard B. Robbins, Adrian, Mich.

Claim.—The spring *h*, connected with the shank of the side rail of the frame D, and the pendent arm of the cross-bar, and in combination therewith, substantially as specified.

112,497.—Hand-Plow.—Nelson Rue, Harrodsburg, Ky.

Claim.—The within-described hand-plow, composed of the bent bars A A, wheel B, perforated plates E E, and handles D D, adapted to receive either of the plow-beams C, L, or I, all constructed substantially as set forth.

112,498.—Mechanical Movement. — Edward G. Russell, Ravenna, Ohio.

Claim.—The combination of the oscillating beam A and crossed connecting-rods C D with the reciprocating rod B, substantially as and for the purpose specified.

112,499.—Railway Car-Brake.—Lyman Alphonzo, Russell, Shrewsbury, Vt.

Claim.—1. The spiral spring, working inside the buffer E, the lever H, pivoted at I, and the spring L on the movable block K, all combined, as described, with push-pin D in the buffer, to receive the back-acting force on said pin, in the manner specified.

2. The springs T L and lever H, combined, as described, with the movable buffer E, for the purpose of dividing up the strain thereon that occurs after the end of the slot in the shackle has reached the pin B.

3. The combination, with a brake-cord and winding-shaft, of movable block K, pulley O, pivoted lever H I, and push-pin D, all arranged, as set forth, to allow the slacking of the locomotive to operate or not to operate, the brake, as may be desired.

112,500.—Stove-Pipe Cleaner. — David Sanford, Ashton, Ill.

Claim.—A single round metal rod, C, having a spiral coil, B, in contact with the inner surface of the pipe A, and susceptible of being moved up and down therein, for the purpose specified.

112,501.—Twine-Holder.—Joseph B. Sargent and Purmort Bradford, New Haven, Conn., assignors to Sargent & Co., same place.

Claim.—1. The arrangement, in a twine-holder, of the independent or detached ball D, resting in the seat G, formed around the opening through which the twine passes, substantially as described.

2. In a twine-holder, the securing device, consisting of the ear *d* or the tongue *e*, one or both formed upon one part of the holder during the process of casting, substantially in the manner and for the purpose set forth.

112,502.—Dovetailing-Machine.—James M. Seymour, Newark, N. J.

Claim.—1. The tipping table C, having the adjustable stop or fence E, in combination with the saws or cutters M^1 and M^2 and form K, in the manner and for the purpose described.

2. The oscillating table G, in combination with the saws or cutters M^1 and M^2 and form J, in the manner and for the purpose described.

3. The tipping reciprocating table C, having the adjustable fence E, in combination with the removable form L, in the manner and for the purpose described.

4. The tipping reciprocating table C, having the indicator line *o o'*, in combination with the saws or cutters M^1 and M^2 and forms K or L, in the manner and for the purpose described.

5. The adjustable stop or fence E, in combination with the graduated scale R arranged upon table C, in the manner and for the purpose described.

6. The tipping reciprocating table C, having the adjustable stop or fence E, indicator line *o o'*, in combination with the temper or set-screw F, in the manner and for the purpose described.

112,503. — Wooden Pavement. — Eaton Shaw, Portland, Me.

Claim.—A pavement consisting of the wooden blocks B B, isolated from each other by the elastic material C, and resting upon sills A A buried in the sand, wooden strips *c c* being also inserted in the sand between the sills, substantially as and for the purposes described.

112,504. — Guard for Circular Saws.—George W. Shipman, Ischua, N. Y.

Claim.—A guard, E, for circular saws, arranged to be automatically moved back and forth, substantially as described.

112,505.—Breech-loading Fire-Arm.—Dexter Smith and Martin J. Chamberlin, Springfield, Mass.

Claim.—1. The swinging or oscillating bolt a, when retained in position by the spring d, and operated by the ordinary movements of the hammer, trigger, and breech-block, in loading and discharging the arm, substantially as described.

2. The breech-block D, when provided with trunnions or pivots e and e' firmly secured thereto, in combination with the lever d, whereby the said block is operated, substantially as described.

3. The friction-spring h, secured to the swinging breech-block D, in combination with the lock-frame and the operating lever c attached to the pivot or bearing of the said breech-block, substantially as herein described.

112,506.—Spark-Arrester.—James Smith, Altoona, Pa.

Claim.—The combination of the shield or casing B and a grated or wire-gauze pipe or casing, A^1 or A^2, the whole being arranged in the smoke-box of a boiler, substantially as described.

112,507.—Horse Hay-Rake.—Solomon P. Smith, Waterford, N. Y.

Claim.—1. The teeth C, drag-bars B, and the teeth support A of a horse hay-rake, connected with their holding-spring, as described, so that the force thereof will be at its maximum degree when the teeth are down and working, and will diminish in proportion to the height at which they may rise or be elevated from the ground, essentially as described.

2. In a horse hay-rake, the combination of the drag-bars B, yokes or arms D, springs E, and axle or rake-head A, these parts being constructed and arranged to operate as described.

112,508.—Plow.—S. M. Stewart, New Harrisburg, Ohio.

Claim.—The connecting-piece C, in combination with the slide F, substantially as and for the purpose set forth.

112,509.—Medical Compound for Treating Fever and Ague.—George E. Swan, Mount Vernon, Ohio.

Claim.—The medical compound herein described, compounded in the manner, proportions, and for the purpose specified.

112,510.—Device for Cooling Journals of Car-Axles.—Henry G. Thompson, Milford, Conn.

Claim.—1. An axle-box, with the chamber A extending from it, and having flaps, arranged substantially as set forth, in combination with the axle a b, having the opening passing from its end beyond the journal, and provided with lateral discharge-tubes, as specified.

2. The screen u and stopper w, in combination with the air-chamber A, flaps n, axle a b, and openings m^1 m^2, substantially as and for the purposes specified.

112,511.—Cooling Journals of Car-Axles. Henry G. Thompson, Milford, Conn.

Claim.—1. The tubular nozzle f, passing through the journal-box and entering the hole i, and acting as an injector to force a current of air through the hollow journal and out at the lateral openings, to keep the journal cool and prevent dust passing into the journal-box, as set forth.

2. A perforated screen, introduced in the air-passage, to exclude foreign substances, in combination with the tubular injector-nozzle f and hollow journal, as and for the purposes set forth.

112,512.—Cooling Journals of Car-Wheel Axles.—Henry G. Thompson, Milford, Conn.

Claim.—1. The cap-plate r and flat ring o, in combination with the tubular nozzle h and hollow journal b', substantially as and for the purposes specified.

2. The movable screen g, applied between the air-chamber e and the hollow journal, in combination with the nozzle h to convey air into the hollow axle, as and for the purposes set forth.

112,513.—Device for Cooling Journals of Railway Cars.—Henry G. Thompson, Milford, Conn.

Claim.—The tube d or division in the hollow journal or axle, combined with the lateral openings h i, to effect a circulation of atmospheric air through the hollow journal to convey away frictional heat, substantially as set forth.

112,514.—Non-heating Handle for Sad-Irons, &c.—William H. Towers, Boston, Mass.

Claim.—1. The improved method herein described, for preventing the heating of the handles of sad-irons, the same consisting in uniting the handle to the body of the iron by means of a non-conducting compound, so as to insulate the metal of the handle from the body of the iron, substantially as described.

2. The improved sad-iron herein described, composed of a body, A, handle B, and composition C, combined so as to operate substantially as described.

112,515.—Lubricator.—John Ernst Uhl, Renovo, Pa.

Claim.—1. The reservoir E, in combination with a rod, G, which receives an intermittent vertical movement from the valve or other part to be lubricated through the medium of mechanism, substantially as herein described.

2. The combined arrangement of the vertically-reciprocating tube or hollow rod G, collar H, groove g', and tube I, operating substantially, as herein described, to effect an intermittent discharge of oil from the reservoir and equalize the pressure above and below the oil, as explained.

3. The tappet movement K J, in combination with the vertically-reciprocating rod or tube G and reservoir E, as described.

4. The combined arrangement of the gauge-tube S, recess R, packing-rings s s', communication-ports r r', and screw-cap T, to indicate the quantity of oil contained in the reservoir.

5. The steam-pipe P and cock Q, employed in combination with the reservoir E, in the manner and for the purposes specified.

112,516.—Combined Corn-Planter and Cultivator.—Franklin Underwood, South Rutland, N. Y.

Claim.—1. The combination of the cups P, sliding plates L, sliding bar K, connecting-bar J, crank-gear wheel E, gear-wheel D, and roller T, with each other and with the boards N O, hoppers M, frame A, wheel C, and tongue S', substantially as herein shown and described, and for the purpose set forth.

2. The combination of the shaft R, spouts Q, bars S, braces T, plows U, covering wings V, lever W, and catch-bar or plate X, with each other and with the bottom boards N O, sliding plates L, sliding bar K, connecting-bar J, crank-gear wheel E, gear-wheel D, wheels C, and frame A, substantially as herein shown and described, and for the purposes set forth.

3. The combination of the racks A', gear-wheels B', shaft C', cranks D', connecting-bars E', bar F', jointed arms G', and guide-arms H', with each other and with the frame A and sliding bar K, substantially as herein shown and described, and for the purpose set forth.

112,517.—King-Bolt.—Wendel Vondersaar, Indianapolis, Ind.

Claim.—1. The head-block A, provided with notch b b', lugs c c', and constructed substantially as and for the purpose set forth.

2. The king-bolt N, provided with the male-screw thread o, shoulder p, and forks q q', and constructed substantially as and for the purpose set forth.

3. The combination of the head-block A, spring-block C, coupling H H', and king-bolt N, substantially as specified and shown.

4. The combination of the head-block A, spring-block C, spring D, coupling H H', king-bolt N, axle O, fifth-wheel G, and braces K and m, substantially as specified and shown.

112,518.—Wheat-Roaster.—George W. Waitt, Philadelphia, Pa., assignor to himself and Robert B. Fitts, same place.

Claim.—The apparatus hereinbefore described for roasting the grain, that is, the steam-chest A, chamber B, and rotating shaft E, with stirring parts F and G, arranged and combined substantially as and for the purposes specified.

112,519.—Plaster-Sower.—Thomas J. West, Alfred Centre, N. Y.

Claim.—1. The agitators, having their sides G arranged parallel with and in close proximity to the sides A of the hopper, and the points L in the throat B, substantially as specified.

2. The guard P, combined, as described, with the hopper, to prevent its bottom from being wetted by the damp grass.

112,520.—Ticket-Holder.—Henry Wexel, Providence, R. I.

Claim.—The spring H and shield I, combined, as described, with the cylinder and shaft of a ticket-holder, for the purpose specified.

112,521.—Tobacco-Press.—Abraham N. Zell, Lancaster, Pa.

Claim.—In the press herein described, the arrangement of the hinged rack-bar R, links K and L, lever E, with pin d, notch F, and platens A and B, when all constructed and operating as shown and described, for the purpose set forth.

112,522, antedated February 25, 1871.—Combined Bag-Holder and Scales.—William Zimmerman, Lebanon, Pa.

Claim.—The combination, in the bag-holder herein described, of the upright D, handle extension K, feet B, braced seat C, bag-rest F, and metal slide-way H, substantially as described and shown, and for the purpose set forth.

112,523.—Breech-loading Fire-Arm.—James M. Mason, Washington, D. C.

Claim.—1. A bolt for breech-loading fire-arms, provided with a cam upon it which causes the cartridge to be forced tightly into the gun when the same is rotated, substantially as set forth.

2. In combination with a breech-bolt, provided with a single or double cam on its forward end, a short cylinder or recoil-block having a single or double cam, substantially as set forth.

3. In combination with a breech-bolt, provided with a single or double cam or similar device, and the recoil-block resting against the front end of said bolt, with a corresponding single or double cam or similar device, an extractor for the cartridge-shell, as set forth.

4. In combination with a breech-bolt and recoil-block, both provided with corresponding cams on their front and rear ends, respectively, an elongated metal strap, D, connected with the recoil-block lying on top of the breech-bolt, and provided with a recess on its under side, which acts over a cam placed at the rear end of the bolt and causes the two to be drawn together, or their adjacent ends kept in contact, substantially as and for the purposes set forth.

5. The combination of the bolt C, provided with cam H, with the recoil-block D' connected with the strap D, having a recess, z, substantially as and for the purposes set forth.

6. The combination of the strap D, extractor d, recoil-block D', cam x', bolt C, provided with arm F and cams H and x, all constructed and operated substantially as and for the purposes set forth.

7. In combination with a breech-loading gun, provided with a mortise through the stock in the rear of the gun-barrel, a cartridge-shell receiver, substantially as set forth.

8. The combination of the beveled metal frame b and the extensible sack K with the gun-stock A, all substantially as and for the purposes set forth.

REISSUES.

4,287.—Treating Fruits to Dry, Saccharify, and Preserve Them.—Charles Alden, Newburg, assignor of part interest to Alden Fruit-Preserving Company, New York, N. Y.—Patent No. 100,835, dated March 15, 1870; reissue No. 4,011, dated June 7; 1870.

Claim.—1. The process of evaporating the moisture from vegetable and animal substances by exposing the same, first, to a comparatively low temperature and to currents of rarefied air of little force, and then advancing them gradually toward a higher temperature and to currents of air of an increased force and rarefaction, as specified.

2. Saccharified fruit, obtained by exposing fruits to a saccharifying or super-maturing process, substantially such as herein described.

4,288.—Device for Securing Pulleys to Shafts.—John H. Buckman, Cincinnati, Ohio, assignor to himself and Peter W. Reinshagen, same place. — Patent No. 98,144, dated December 21, 1869.

Claim.—1. A pulley or gear-wheel, with the solid or continuous hub A, and slitted projections a a, adapted to be contracted to fit its shaft, substantially as herein set forth.

2. The driving rings B B', adapted to surround and contract the hub of a pulley and fasten it to its shaft.

3. The truncated hub A, with slits a a, in combination with the tightening rings B B', operating in the manner and for the purpose specified.

4,289.—Shawl-Strap. — George Crouch, Westport, Conn. — Patent No. 82,606, dated September 29, 1868.

Claim.—1. The rigid cross-bar A, connecting the ends of the handle B, and provided with loops, c, for the straps D, substantially as and for the purposes set forth.

2. The loops C C, made of the leather of the handle, and secured to the rigid cross-bar A, as and for the purposes set forth.

3. The rigid cross-bar for a shawl strap, made of sheet metal, corrugated and covered with leather, as and for the purposes set forth.

4,290.—Atmospheric Dental Plate.—Nehemiah T. Folsom, Laconia, N. H.—Patent No. 60,871, dated January 1, 1867.

Claim—One or more packing-ridges of any suitable material, extending wholly or partially around at or near the edge and surface of a dental plate, substantially as and for the purposes herein set forth.

4,291.—Pessary. — William R. Gardner, Leonardsville, N. Y.—Patent No. 105,191, dated July 12, 1870.

Claim.—1. The pessary, made with the lips a and

d and intermediate notches upon a bottomless cup, for receiving the lips and neck of the uterus, in combination with the curved end *b* for resting upon the pubic bone, substantially as specified.

2. The lips *c* and *d* of the bottomless cup, united by the hinge *i*, in combination with the frame *a b*, substantially as and for the purposes set forth.

4,292.–Division A.–SKATE.–James L. Plimpton, New York, N. Y.—Patent No. 37,305, dated January 6, 1863; reissue No. 3,906, dated April 5, 1870.

Claim.—A skate, constructed with rollers or runners that cramp, arranged and operated substantially in the manner and for the purposes herein set forth.

4,293.–Division B.–SKATE.–James L. Plimpton, New York N. Y.—Patent No. 37,305, dated January 6, 1863; reissue No. 3,906, dated April 5, 1870.

Claim.—The plates H H, provided with hooks *g* at their ends, and racks *f* at their front edges, in combination with the spring I and plates G, the latter being applied to the stock or foot-stand A, and provided with slots *e* at their ends, and all arranged, as shown, to form a fastening at the front part of the skate, as herein shown and described.

4,294.–APPARATUS FOR PITCHING BARRELS. Louis Schulze, Baltimore, Md.—Patent No. 106,964, dated August 30, 1870.

Claim.—1. In an apparatus for pitching barrels, organized substantially as described, the arrangement of the pipe or conduit which conveys the blast from the air-forcing apparatus to the furnace, substantially in the manner set forth, whereby the air is caused to enter the furnace and, without change of direction, to pass up through the fire.

2. The retort-shaped furnace, provided with openings for the entrance and discharge of the air, arranged in opposite ends or sides of the furnace in such relation to each other that the air will enter the furnace, pass up through the fire, and escape or pass out from the furnace without abrupt change of direction, as shown and described.

3. In a barrel-pitching apparatus, substantially as described, the formation of the upper part of the furnace with sides gradually inclined or drawn in toward the opening or conduit, through which the heated air passes from the furnace to the barrel to gradually condense and direct the blast, substantially as shown and set forth.

4. A barrel-pitching apparatus, in which an air-forcing apparatus, an air-heating furnace, and a frame or stand to support the latter above the ground are combined with suitable pipes, for operation substantially as herein shown and described.

5. The formation of the air-heating furnace in two sections, provided with openings for the entrance and discharge of the blast, as described, the upper section being removable from the lower, for the purposes set forth.

6. The combination of the upper and lower furnace sections and the door formed in and making part of the upper section, substantially as and for the purposes set forth.

7. The formation in the upper section of the air-heating furnace of an opening, closed by isinglass or other transparent material, as and for the purposes described.

8. The employment, in connection with a barrel-pitching apparatus, organized and operating substantially as herein described, of a barrel-support or table, adjustable substantially in the manner set forth, so that the blast-pipe of the apparatus may be fitted to barrels of various sizes, as specified.

9. The combination, with the end of the blast-pipe within the barrel, of a revolving nozzle, substantially as shown and described, to direct the blast to any particular part of the barrel.

10. The formation, in the end or nozzle of the blast-pipe which is within the barrel, of slots, openings, or perforations, substantially as shown and described, for diffusing the blast through all parts of the barrel, as set forth.

11. The water-jacket or its equivalent, applied to the blast-pipe at the point where it passes through the barrel, substantially as and for the purposes described.

DESIGNS.

4,694.—PICTURE-FRAME.—John H. Bellamy, Charlestown, Mass.

Claim.—The design for a frame, as herein set forth and described.

4,695.—BELL-CRANK AND ESCUTCHEON.—Pietro Cinquini, West Meriden, Conn., assignor to Parker & Whipple Company.

Claim.—1. The design for a bell-crank, with the ledge *a* around its edge and the scroll or leaf-work in the space inclosed by said ledge, substantially as described and shown.

2. The design for a bell-shaft or door-knob escutcheon, with the ledge *a* around its edge, the central hub, and contiguous to the screw-holes, and raised ornamental work in the space inclosed by said ledge, substantially as described and shown.

4,696. — PEDESTAL FOR A CAKE-DISH. — George Gill, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The design for a pedestal, as described and represented.

4,697.—TABLE-CASTER.—William Parkin, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—1. The design for a caster, as set forth and shown.

2. The design for the handle, as shown.

4,698.—BUCKLE-FRAME.—John E. Smith, Waterbury, Conn.

Claim.—The design for a buckle-plate, as described and shown, in the accompanying drawing, above the line *s s* in fig. 2.

4,699.—BACK OF A CHAIR OR SOFA.—George Unverzagt, Philadelphia, Pa.

Claim.—1. The design for the back of a chair or sofa, consisting of strips A and cross-pieces B, connected together and crossing each other substantially as described, and as represented in and by the accompanying drawing.

2. The design for the ornaments C and D, for the back of a chair or sofa, substantially as shown and described.

TRADE-MARKS.

182.—HAT.—Nathan A. Baldwin, Milford, Conn., James H. Prentice, Brooklyn, and John R. Waller, New York, N. Y.

183.—SPOOL-COTTON.—Lewis Coleman & Co., Boston, Mass.

184.—SALVE.—Robert Dobbins, Binghamton, N. Y.

185.—SOAP.—Leberman & Co., Philadelphia, Pa.

186.—MEDICINE.—Ridenour, Coblentz & Co., Springfield, Ohio.

187.—PAPER.—Union, Manufacturing Company, Springfield, Mass.

EXTENSIONS.

EDGAR HUSON, of Ithaca, N. Y.—Letters Patent No. 16,648, dated February 17, 1857; reissue No. 2,500, dated March 5, 1867.

"Improvement in Wagons."

Claim.—1. The use of two or more side splinter-bars, when they extend from any convenient point at or near the forward ends of the side springs to the head-block, and the use of the said splinter-bars, whether attached directly to the forward ends of the said side springs, or by any convenient means intervening between them, as described.

2. Also, fastening the pole or thills to the side splinter-bars or other convenient part of the platform or frame, at or near or in rear of the ends of the side springs, as described.

3. Also, so making the frame or platform as to leave the extremities of it open so as to receive the pole or thills between and back of the forward ends of the side springs, thus bringing the team or horse nearer the wagon, thereby lessening the draft and requiring less room in which to turn.

SAMUEL R. WILMOT, of Bridgeport, Conn. Letters Patent No. 16,668, dated February 17, 1857.

"Improvement in Operating Valves of Steam-Engines."

Claim.—The valve-motion, herein described, for operating the valves of steam-engines, and consisting essentially of a twisted traverse-rod, of a traveling slide, and of the stops which limit the turning of the slide, or their equivalents, combined together and operating, substantially as herein set forth.

JOHN DAVID BROWNE, of Cincinnati, Ohio. Letters Patent No. 16,678, dated February 24, 1857.

"Improvement in Hinges."

Claim.—In making one part, *b*, of the bearings of a hinge concentric to the other part *a*, as herein described and set forth.

CALVIN ADAMS, of Pittsburg, Pa.—Letters Patent No. 16,676, dated February 24, 1857.

"Improved Keeper for Right-and-left Hand Door-Locks."

Claim.—The use of a beveled keeper, such as described, when employed in connection with a double-faced lock, having a blunt bolt, so that the lock may be used on a right or left-hand door without changing any of its parts, as herein set forth.

DAVID A. WOODWARD, of Baltimore, Md. Letters Patent No. 16,700, dated February 24, 1857; reissue No. 2,311, dated July 10, 1866.

"Solar Camera."

Claim.—1. Adapting to the camera-obscura a lens or lenses and reflector in rear of the object-glass in such manner that it is made to answer the two-fold purpose of the camera-obscura and a camera-lucida, substantially as and for the purposes specified.

2. The arrangement and combination of the condensing lens H or lenses D′ and H, negative slide or holder N, and achromatic lens or lenses E, made adjustable, with regard to each other, for condensing the sun's rays upon and through the negative and focusing them upon prepared paper, cameras, or other suitable material for photographic purposes, substantially as described.

JOHN BENEDICT, of Kenosha, Wis., administrator of ANDREW LEONARD, deceased.—Letters Patent No. 16,688, dated February 24, 1857; reissue No. 575, dated July 27, 1858; reissue No. 1,229, dated October 8, 1861.

"Improved Cast Seamless Thimble-Skeins for Wagons."

Claim.—A cast seamless thimble-skein, substantially such as specified, which is not made seamless by lifting, turning, or otherwise being manipulated with after it leaves the mold.

JOHN BENEDICT, of Kenosha, Wis., administrator of ANDREW LEONARD, deceased.—Letters Patent No. 16,688, dated February 24, 1857; reissue No. 575, dated July 27, 1858; reissue No. 1,228, dated October 8, 1861.

"Improved Mode of Casting Seamless Skeins for Wagons."

Claim.—1. The manner, substantially as described, of producing the core I, which gives the internal form of the axle-skein, and that part of the mold which gives the external form of the butt thereof.

2. The manner, substantially as herein described, of producing that part of the mold which gives the external form of the wearing part of the thimble-skein.

3. The manner, substantially as herein described, of producing an unbroken impression in sand of the external shoulder *g* of the axle-skein.

4. The manner, substantially as herein described, of uniting the base of the green-sand core with the lower section of the sand-mold, which gives the external form to the thimble-skein.

5. The manner, substantially as herein described, of holding in true position or centering the green-sand cores.

6. The manner, substantially as herein described, of producing, as a whole, a sand-mold which turns out in one operation of casting a finished, seamless, and shouldered cast thimble-skein.

WILLIAM CLEVELAND HICKS, of Summit, N. J.—Letters Patent No. 16,797, dated March 10, 1857; reissue No. 1,952, dated May 9, 1865; reissue No. 3,798, dated January 18, 1870; reissue No. 3,880, dated March 1, 1870.

"Improvement in Breech-loading Fire-Arms."

Claim.—The combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the reciprocating extracting-hook, arranged in such manner that its bill enters within the periphery of the said chamber, so that it may engage with the flange of the cartridge therein when the breech is closed by the forward movement of the closing-piece, even though the cartridge be not expanded.

Also, the combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt

of the barrel, and the reciprocating extracting-hook, arranged in such manner that when the barrel is closed by the forward movement of the closing-piece, and when the bill of said hook is in its most forward position, the said bill is both within the periphery of said chamber and in advance of the rear of the space in which the cartridge is received, so that said bill may engage with the unexpanded front side of the flange of the cartridge when the latter is within the said space.

Also, the combination, substantially as set forth, of the breech-closing piece, moving longitudinally with the barrel, the cartridge-chamber at the butt of the barrel, and the extracting-hook described, arranged in such manner that but one side only of the flange of the cartridge is engaged with the bill of a hook inside of the cartridge-chamber, thereby enabling the cartridge remnant to be readily disengaged from the extracting-hook.

Also, the combination and arrangement, substantially as set forth, of the hook, with the breech-closing-piece, moving in the line of the barrel in such manner that the said hook performs the two functions of transmitting a blow to the primer and of extracting the cartridge remnant from the breech of the fire-arm.

LEWIS B. MYERS and HENRY A. MYERS, of Elmore, Ohio.—Letters Patent No. 16,772, dated March 3, 1857.

"*Improvement in Seeding-Machine.*"

Claim.—Measuring and distributing grain, seeds, or fertilizers, by two or more piston-heads and one rod, or their equivalent, operating in and out of an aperture, in the manner and for the purpose substantially as described.

DISCLAIMER.

DAVID A. WOODWARD, of Baltimore, Md. Letters Patent No. 16,700, dated February 24, 1857; reissue No. 2,311, dated July 10, 1866.—Filed February 23, 1871.

"*Solar Camera.*"

Disclaims the First claim of specification, and also all photographic instruments, except those in which the achromatic lens is placed at or near the condensing lens, so that the light from the latter may pass through the former.

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PATENTS.

112,524.—REIN-HOLDER.—John R. Ackenback, Saddle River, N. J.

Claim.—The combination with an arm and support, as described, of a curved spring, having the slot *b'*, to allow its tension to be graduated according to the thickness of the reins.

112,525. — DRY-DOCK.—George A. Albertson, New York, N. Y.

Claim.—The combination of the platform B, chains C, and heavy floats F with each other and with the piles A, forming the sides of the dock, substantially as herein shown and described, and for the purpose set forth.

112,526.—MACHINE FOR COILING WIRE.—Elias B. Allen, Charles O. Small, and Alonzo P. Small, Augusta, Me.

Claim.—1. The combination of the cam *e''*, the rod *f*, sector *l*, pinion and gear *o p*, the gear and hollow shaft *q r*, and the hoop *s*, together with the pins *t' t'*, substantially as described.

2. The combination of the cam *e'*, rod *f'*, and lever *l'*, the rods *o'*, *p'*, *q'*, and *r'*, coiling-pins *t'*, and the hoop *s*, substantially as described.

3. The winding-shaft *a'*, with its drum *b'* and friction-pulley *c*, as described, in combination with the hoop *s* and the coiling-pins *t' t'*.

112,527, antedated February 28, 1871.—GARDEN-HOE.—John P. Avery, Norwich, Conn.

Claim.—A hoe, constructed as described, as a new article of manufacture.

112,528. — CARRIAGE-PERCH.—Isaac Preston Bacon, Bedford, Mass.

Claim.—The improved perch as made, with its two connection-bars C C arranged as described, to form on their two opposite sides re-entering spaces for reception of the wheels, and also with strengthening plate or plates applied to the said bars at their junction, all being substantially as specified.

112,529.—CHIMNEY-CAP.—Thomas D. Bailey, Lowell, Mass.

Claim.—1. A bracketed chimney-cap, substantially as described, the brackets of which perform the three-fold office of holding the cap to the top of the chimney, of increasing the ornamentation, and of conforming to the architectural design of the structure, substantially as set forth.

2. In combination with a chimney-cap, constructed as described, the short adjustable wind-shields *f*, susceptible of being so arranged and disposed as to produce wide or narrow apertures between them, in the manner and for the purpose specified.

3. In combination with a chimney-cap, constructed and arranged substantially as described, a slide, guide, or bar, *g*, and removable sliding wind-shields *f*, operating in the manner and for the purpose set forth.

4. In combination with a chimney-cap, provided with sliding wind-shields, substantially as described, the top plate *a*, arranged in the manner and for the purpose set forth.

5. The top-slotted bracket, provided with a recess, *a*, when applied to the inclined plate A and the face of the chimney, in the manner and for the purpose specified.

112,530.—HARVESTER.—Lindley M. Batty, Canton, Ohio.

Claim.—1. The within-described harvester-frame and casing, the same consisting of the frame-plate A, having the crank-shaft standard *i* (with or without the shield N) and the partial cavity *h* cast at its ends, and with all the shaft-bearings 64 64 65 66 67 67 cast thereon, the covers B and *g*, the hinged cover C, and the sheet-metal plate 68, the several parts being constructed and arranged substantially as is herein specified.

2. The combination, with the crank-shaft standard *i*, of the plate *j* and the cover E, for the purpose of forming a receptacle for tools, substantially as is herein specified.

3. The combination of the brace-bar P, clamping-piece *a*, with flanges a^1 a^1 a^2 a^2, arranged as shown, coupling-bar Q, and brace-plate *b*, the several parts being arranged and connected substantially as and for the purpose specified.

4. The pivot-pin 4, formed on the finger-bar R, and fitting in a corresponding circular-shaped groove in back-arm of the heel-shoe T, substantially as and for the purpose herein specified.

5. The retaining-pin 3, secured in the shoe T and working in a slot in the finger-bar R, said finger-bar having a sliding pivot-joint, 4, with said shoe, substantially as and for the purpose specified.

6. The broad end-arm 6, at the heel of the finger-bar R, when said arm is constructed as shown, so as to serve both to control the rolling motion of the finger-bar and to protect the end of the knife-bar, substantially as is herein specified.

7. The spring 10 or its equivalent, when used in combination with the finger-bar R, hinged in the heel-shoe T, for the purpose of keeping the points of the fingers U elevated, when not forced down by the driver, substantially as is herein specified.

8. The lever 8, pivoted on the standard 7, provided with the stop 9, and fixed on the heel-shoe T, when said lever acts in combination with the arm 6 to control the rolling motion of the finger-bar R, substantially in the manner herein described.

9. The combination of the finger-bar arm 6, lever 8, rod *p*, double-crank shaft *n m*, rod *l*, and lever Z, the several parts being arranged substantially as and for the purpose specified.

10. The combination of the finger-bar R, provided with the V-shaped notch 27 on its front edge, and the finger U, provided with the backward-sloped face 26, the several parts being arranged and operating substantially as is herein specified.

11. The grain-shoe W, consisting of the bed-plate G, having a slot cut therein for the knife-bar, and with the upper central part cut away in the crescent-form 60, grain-side *c*, and standard *d*, for securing the tracker-rods, the several parts being arranged substantially as and for the purpose specified.

12. The combination of the spring runner *e*, with slot *e'*, grain-shoe W, and adjusting-screw *f*, the rear end of said runner being of a C-form, and the said adjusting-screw passing through the slot in the upper arm and bearing on the lower arm of said runner, substantially as and for the purpose specified.

13. The method herein described of securing the tracker-rods 24 in the grain-shoe W by inserting their bent ends in holes in the grain-side *c*, and dropping them between the side *c* and standard *d*, substantially as and for the purpose specified.

14. The circular nut 16, provided with the hole 61, having a square section at the center and at right angles to the axis of the hole, and with its upper and lower sides rounded off, when used in combination with the knife-bar shank 13 and the square-ended pitman-pin 15, substantially as and for the purpose specified.

15. The combination of the sliding clutch 36, forked lever 37, axle-pin 38, and horizontal shipping-lever 39, provided with the treadle-arm 43, the several parts being arranged substantially as and for the purpose specified.

16. The broad treadle-board 45, pivoted on the rods 44, hinged on the main frame A, when arranged and used in combination with the shipping-lever 39, substantially as and for the purpose specified.

112,531, antedated February 28, 1871.—FEEDING MECHANISM FOR SEWING-MACHINES. — Robert M. Berry, Brooklyn, N. Y.

Claim.—The feed-bar B, surface C, link E, slotted vibrating-lever D, with its pin *d*, fulcrum *e*, and operating crank-pin *b*, all constructed, arranged and operating substantially as and for the purpose hereinbefore set forth.

112,532.—FRUIT-DRIER.—Jacob S. Biddle and Theodore S. Lingenfelter, Pattonville, Pa.

Claim.—The fire-place A, constructed separate from the chamber B, with rims *a* and doors D, and so arranged as to form, with the bottom of chamber B, an air-chamber, E, substantially as herein described.

112,533. — SHIRT-POLISHING MACHINE.—Ezra B. Blackwell, Newton, Mass.

Claim.—1. The reciprocating hand-polisher A, pressed by a uniform weight, combined, as described, with a flat table, B, so that a pushing movement will operate it without the unequal pressure of the hand.

2. The improved ironing-tool, consisting of the part A *a*, strap *b*, and eye-piece *c*, put together as described.

3. The combination, with the eye-piece *c*, of the actuating-rod or handle *d*, having the adjustable weight *f* thereon, as and for the purpose described.

112,534.—CAR-BRAKE AND STARTER.—Eduardo Bonneval, Boston, Mass.

Claim.—1. The brake-shoes G, constructed in the form of a curved wedge, substantially as herein shown and described, to adapt them to the purpose set forth.

2. The combination of the braces E, plank, plate, or frame F, and shoes G, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the chains H and J, either or both, with the brake E F G, substantially as herein shown and described, and for the purposes set forth.

112,535. — TREATING MARINE PLANTS TO OBTAIN GELATINE, &c.—Gustav Bourgade, New York, N. Y.

Claim.—The herein-described process of treating marine plants and maritime lichens for extracting the gelatine contained therein, as set forth.

112,536. — CAR-COUPLING.—Godfrey Brenner and George T. Polk, Poughkeepsie, N. Y.

Claim.—The pivoted lever J, movable on one side of its fulcrum in the keeper L, and angled on the other side thereof, to connect one end with chain H at a point opposite to the guide I, combined, as described, with curved spring-hook F G, pivoted in the bumper B, for the purpose of enabling the cars to automatically uncouple if one is thrown from the track on either side of the road.

112,537.—OIL-CAN HOLDER.—William Stoddard Brick, Fitchburg, Mass.

Claim.—In combination with the cup-shaped holder B, legs *c*, and set-screw *e*, the spring *a*, when all are combined to operate as set forth.

112,538.—APPARATUS FOR CARRYING DRAIN-PIPES.—Daniel W. Brown, Woodbridge, N. J.

Claim.—1. The combination of the rotating platform C and apron E with the body A of the vehicle or apparatus, substantially as specified.

2. The combination of the adjustable rollers D D with the apron E and rotating platform C.

3. The combination of the lifting uprights H with the rotating platform C, the apron E, and the body A of the vehicle or apparatus, for operation in connection with the removable board I, essentially as described.

4. The combination, with the wheel B, of the ratchet *i*, the spring-borne pawl *k*, and the rod or handle *n*, essentially as and for the purpose or purposes herein set forth.

5. A hand vehicle or apparatus for handling and carrying pipes and other articles made of soft or plastic material, constructed and organized substantially as herein described.

112,539. — APPARATUS FOR EVAPORATING SACCHARINE LIQUIDS.—Francis G. Butler, Bellows Falls, Vt., assignor to himself and James B. Williams, Glastonbury, Conn.

Claim.—1. A series of dampers, *e*, arranged under an evaporating-pan or compartment, *c'*, or a finishing-pan, *c''*, substantially as and for the purpose set forth.

2. In combination with the dampers *e*, constructed and arranged as described, the fixed or hinged pans *c' c''*, substantially as and for the purpose set forth.

112,540.—COMBINED DRILL AND SEEDER.—John E. Buxton, Owatonna, Minn.

Claim.—The oscillating apron E, provided upon one side with the conveyer-spouts F, and arranged for operation between the bottom of the hopper and the spouts C D, in such manner as to discharge the grain into the drill-spouts in streams and into the broadcast spouts in a sheet, substantially as herein shown and described, for the purpose specified.

112,541. — SEEDING MACHINE. — John E. Buxton, Owatonna, Minn.

Claim.—1. The perforated bar E, interposed between the bottom of the hopper and the spouts C D, and adapted to be turned in its bearings to direct the seed from the hopper through the holes G, ei-

ther to the drill-spouts or broadcast spouts, substantially as described, for the purpose specified.

2. The perforated oscillatory bar E, in combination with the drill-spouts C and broadcast spouts D, substantially as described, for the purpose specified.

112,542. — POWDER-FLASK. — Joseph T. Capewell and George D. Capewell, Woodbury, Conn.

Claim.—1. The cap or cover for a powder-flask, composed of a plate, flange, and tube, all made in one piece by stamping, substantially as herein shown and described.

2. The rim *a*, having slots *e*, combined, as described, with the pins *f*, projecting from the flask, one of said pins being screw-shaped, and bearing with its head against the rim, to prevent accidental detachment, as set forth.

112,543. — TEA-KETTLE. — Edward Card, Providence, R. I.

Claim.—1. The hinged or pivoted half-covers, with their edges moving in opposite directions to open the kettle, substantially as described.

2. The flange *h*, extending beyond the division line of the cover when closed, substantially as described.

3. The combination of the plane surface *i i*, flange *e*, and groove *h*, substantially as described.

112,544. — MARBLEIZING PAPER. — Thomas Carson, Brooklyn, N. Y.

Claim.—The improved process herein described for marbleizing paper, substantially as specified.

112,545. — WATER-WHEEL. — Joel T. Case, Bristol, Conn., assignor to National Water-Wheel Company, same place.

Claim.—1. The case B, constructed with its chutes *a a'*, having inlets upon separate lines around the said case, substantially as and for the purpose described.

2. In combination with the foregoing, the rotating gate A, provided with openings *b*, corresponding with the inlets of the chutes in separate lines around the gate, substantially as and for the purpose described.

112,546.—ANIMAL POKE.—Harlow F. Chapin, Rochester, N. Y.

Claim.—1. The prick-pin or pins *i* and spring or springs *s*, applied to the girts *g* and *e*, substantially as described, in combination with the check-strap *n*, for the purposes set forth.

2. The neck-strap *d* and pad *e*, in combination with the side-bars and fixed cross-bar of an ordinary animal poke, substantially as and for the purposes set forth.

112,547.—REFRIGERATOR.—Andrew Jackson Chase, Boston, Mass.

Claim.—The improved refrigerator, composed of the case, and the two aprons and trough arranged within such case, substantially as described and represented, the arrangement involving the longer apron applied to the next adjacent side of the case, so that there may be no passage between such side and the upper edge of the apron for the air of the box to circulate through, all being as set forth.

112,548. — BURNISHER FOR BOOTS AND SHOES.—Robert Chauncey, Syracuse, N. Y.

Claim.—The burnishers A B, with covers *a b*, for forming the heating cavities, the clamping devices *h i e*, carriage C D, and bed E, all constructed and operated as and for the purpose specified.

112,549, antedated March 9, 1871.—CLIP FOR BUGGY-SPRINGS.—Richard A. Clark, Unadilla, N. Y.

Claim.—1. An improved clip, formed of the parts A and B, constructed and adapted to each other, in the manner described.

2. The packing and friction-plate, in combination with A and B, as described.

3. The packing, when turned up to cover the part A, as set forth.

4. The improved clip, when all the parts are constructed and arranged and operate in the manner described.

112,550.—CREEPING-DOLL.—Robert J. Clay, New York, assignor to himself and Tasker H. Marvin, Brooklyn, N. Y.

Claim.—1. A creeping-doll, having the arms and legs connected by a rod, *g*, and pitmen, with the crank-shaft *h*, substantially as herein shown and described.

2. The wheels *n m*, combined with a creeping-doll for propelling the same, while the hands and feet make the imitation motions, as set forth.

112,551. — KEYING WHEELS TO SHAFTS.—Charlie B. Cole, Chester, Illinois.

Claim.—The coupling, formed of two laterally and oppositely-beveled pieces A B, applied as and for the purpose specified.

112,552.—LADDER.—James H. Conley, Philadelphia, Pa.

Claim.—The side ropes A, steps B, suspension-rope C, body-brace E, outriggers F, man-rope G, and the guys K, when combined and arranged as shown and described.

112,553. — WOOD-BENDING MACHINE. — E. A. Comer, Metropolis, Ill.

Claim.—The lever E, provided with weight, bending-strap G, grooved former *a'* K, link-strap I *d e*, foot-lever B, and plunger *c*, combined as described, and for the purpose specified.

112,554.—MACHINE FOR FEEDING RIVETS AND INSERTING THEM IN SHOES, &c.—Lyman Arnold Cook, Woonsocket, R. I.

Claim.—1. The combination of the tube or conduit B, the magazine A, the force-pump *c*, the feeder *m*, and the awl *l*, all being arranged and applied together, substantially in manner and to operate as explained.

2. The tube B, as applied to the air-pump conduit and the frame, in manner so as to be capable of being moved to carry the work to be riveted either up to or away from the feeder, as occasion may require, being substantially as explained.

112,555. — HEATING-STOVE.—William Cottingham and John W. Stafford, Troy, Ohio.

Claim.—The improved furnace herein described, consisting of the jacket *m*, the feed-collar *r*, leading into the main drum and fire-box *a*, the concentric drums *b*, *c*, and *d*, provided with caps *n n*, and communicating with the flue *l* by means of pipe *i* and the connecting-pipes *e f h*, each of said parts being constructed and arranged as herein shown and described.

112,556. — MOP-HEAD.—James Davis, Chicago, Ill.

Claim.—1. The adjustable jaw E', screw-threaded as described, in combination with thumb-nut D, and grooves or channels *h h* of the handle, substantially as and for the purpose described.

2. The ferrules B B', in combination with the jaw E, substantially as and for the purpose described.

3. The combination of the jaws E E', ferrules B B', thumb-nut D, and handle A, substantially as and for the purpose described.

112,557. — GAS-RETORT. — Darius Davison, New York, N. Y.

Claim.—1. The inner retort B, made capable of being slid out or removed from the outer retort, and constructed with openings at its opposite ends, the one of which is provided with a lid, substantially as specified.

2. The lid *g* of the inner retort, constructed or provided with a triangular handle *h*, arranged to take its bearing on the outer retort, substantially as specified.

3. The combination and arrangement of the outer and inner retorts A and B, provided with lids at their approximate ends, and having an interposed space, *d*, between them in communication at reverse ends of the combined retort with the outlets *f* and *e*, whereby a uniform distribution and perfect circulation of the vapors and gases are established in intimate contact with the hot surfaces of the retorts, essentially as herein set forth.

112,558. — BITTERS.—Antoine Desaulniers, Oswego, N. Y.

Claim.—The manufacture or preparation of a compound, which is denominated French bitters, of the ingredients, in the proportion, and for the purposes set forth.

112,559. — WAGON-BOX AND HAY-RACK. — Samuel Dickson, Sandwich, Ill.

Claim.—1. The bottom board B, provided with cleats C and C', arranged as described, in combination with sides A A', the whole constructed substantially in the manner and for the purpose specified.

2. The girts E, provided with straps *f* and tie-girt G, in combination with side board A', the whole arranged substantially in the manner and for the purpose set forth.

3. The sides A A', girts E, straps *f*, tie-girt G, and upright H, the whole arranged in combination substantially in the manner and for the purpose described.

112,560.—STONE-CRUSHER.—Andrew Dietz, New York, N. Y.

Claim.—The combination and arrangement of the reciprocating tapering and toothed or ribbed breaker B, the crank or eccentric *d* on the revolving shaft *c*, the rod *f*, and the stationary tapering and toothed or ribbed outer surface or receptacle C, substantially as shown and described.

112,561.—PUMP.—Isaac Dillingham, Rockbottom, Mass.

Claim.—The described glass pump-cylinder *a*, having the segmental rings *f* provided with packings *i*, the hinges *k*, and the vertical connections *g*, as and for the purpose herein set forth and described.

112,562. — PROCESS OF MANUFACTURING TYPE-BLOCKS.—Daniel A. Draper, Cambridge, Mass.

Claim.—The herein-described process of manufacturing type-blocks or wheels; that is to say, heating the metal or blank to the degree indicated, subjecting it to the blow or pressure in the dies while in such heated state, and then repeating the blow or pressure upon the block after it has cooled and while it is in the dies, substantially as and for the purposes set forth.

112,563.—MAGAZINE-GUN.—Henry J. Drew, Dixon, Ill.

Claim.—The combination of the cover, cartridge-bearer, and connecting-rods, as specified.

112,564. — REPEATING FIRE-ARM.—Henry J. Drew, Dixon, Ill.

Claim.—The grooved cover *d*, arranged to slide on the flat upper surface of the breech-piece, in combination with the projection *b*, formed in one piece with the recoil-block of the breech or firing-pin, as set forth.

112,565. — BREECH-LOADING FIRE-ARM. — Joseph Duval, Laprairie, Canada.

Claim.—1. The slotted lever f^3, in combination with the tumbler d^1 and hammer e^2, the latter being adapted to operate the tumbler by means of the sliding movement of the lever, as shown and described.

2. The novel combination of the lever f^3, slotted hole f, pin g', slot h, pin e, tumbler d^1, and extractor h^4, all working together and with other parts of the gun, substantially in the manner and for the purpose described.

112,566.—SLEIGH.—Robert Elliott, Chester, Pa.

Claim.—1. The hubs G, in combination with the spokes F, attached directly to the sleigh-runners D, substantially as and for the purpose specified.

2. In combination with the foregoing, the running-gear A B C of two sets or pairs of sleigh-runners, one set being rigidly attached to one axle, and the other set oscillating freely on the other axle, and operating together, substantially in the manner and for the purpose described.

3. The braces H, rigidly connecting the front axle, hubs, spokes, and its set of runners, substantially as described.

112,567.—COTTON-PLANTER.—De Witt C. Ellis and George N. Deming, Rochester, N. Y.

Claim.—The arrangement, in a cotton-seed planter, of the horizontally-rotating feeding-arms *s* upon the bottom of the cylindrical hopper D, in combination with the vertically-rotating distributer *o*, working in a slot at the periphery of the hopper-bottom, the parts being constructed and operated by a system of gearing, substantially as and for the purpose described.

112,568. — ENVELOPE.—Edward S. Ellis, Trenton, N. J.

Claim.—The improved letter-envelope, having the lapel A notched and perforated, as shown, and provided with the lapel B, all substantially as specified.

112,569.—SAW.—James E. Emerson, Trenton, N. J.

Claim.—1. The clearer twin tooth *b*, having cutting-edges *b'* and *b''*, constructed in the manner herein described.

2. The saw-tooth *a*, having the points *a'* and *a''* set to the opposite sides of the blade by twisting them at an angle with the sides of the blade of the saw, in the manner shown.

3. The combination, in a saw, of the twin teeth *a*, having scoring-points *a'* and *a''* set to cut the width by twisting, as herein shown, and twin clearer-teeth *b*, having the planing-edges *b'* and *b''*, to cut on askew, in the manner and for the purpose described.

112,570. — CHILDREN'S CRIB.—George W. Ennis, Orange, N. J., assignor to himself and J. P. Ennis, same place.

Claim.—The frame A B, standards C, pivoted hangers F, buttons H, and projecting cross-pieces E, combined, as described, with an ordinary crib D, for the purpose specified.

112,571.—PAPER-COLLAR.—Nathaniel Evans, Jr., Boston, Mass.

Claim.—A paper-collar, when the same is made by uniting to a straight neck-band, A B, a curved check-piece, C D, substantially as described and for the purpose set forth.

112,572.—HEAD-BLOCK FOR SAW-MILLS.—John S. Everitt and Charles H. Avery, Oshkosh, Wis.

Claim.—1. The rotating dog-head A, provided with the blades C C, in combination with the inclines D D of journal-box B, substantially as and for the purpose specified.

2. The rotating dogs and shafts, provided with collars E and F and springs, as shown and described, in combination with the journal-box B, arms H, connecting-rod I, and lever G, substantially as and for the purpose set forth.

112,573.—ELEVATOR.—Zebulon C. Favor, Chicago, Ill., assignor to himself and Oscar C. Chase, same place.

Claim.—1. The improved elevator, formed by cars B B, wheels D D, axles E E, ropes C C, partition N, worm-shaft *g*, all arranged substantially as specified.

2. The partition N, for separating the ascending and descending cars, substantially as described.

112,574.—NUT-LOCK.—Lyman Fay, Worcester, Mass.

Claim.—The eye-formed washer, in combination with the holding-cap, having an elastic packing between it and the washer, and an eccentric-locking pin, substantially as described.

112,575.—TRACK-CLEARER.—Henry Fellows, Bloomington, Ind.

Claim.—A hinged track-clearer, constructed in the form described, consisting of a series of rods which have their front ends rigidly attached to a hinged block, and as they extend backward expand and curve inwardly and spirally, so as to present, when taken together, a form similar to that of the mold-board of a turning-plow, all as set forth.

112,576.—NEEDLE AND HOLDER FOR SEWING-MACHINES.—George M. Frary, St. Louis, Mich., assignor, by mesne assignments, to Carpenter Sewing-Machine Needle Company, New York city.

Claim.—1. The combination of a longitudinally-split eye-pointed needle, having the split extending from the eye upward through its top, with a needle-arm adapted to clamp or hold both of the divisions of the needle, as described.

2. The cleft swinging clamp *g*, in combination with the split needle *b*, arranged and operating as herein described.

3. The slide-piece *a*, with the spring *d*, in combination with the needle *b* and the thumb-screw *e*, constructed and operating as and for the purpose herein described.

112,577.—POTATO-MASHER.—Charles Adolph Frederick, San Francisco, Cal.

Claim.—The cylinder B, having perforated sides and bottom, and the jacket E, both provided with flanges, whereby they are suspended in the bed-plate *a*, and secured in place by buttons, in combination with the double convex plunger C, as shown and described.

112,578.—TUCK-CREASER FOR SEWING-MACHINES.—Henry W. Fuller, New York, N. Y.

Claim.—The combination with the tuck-marker, the operative members of which are connected and together adjustable with reference to the cloth-plate and needle, of the lever E, the reach and the follower, or their equivalent, for the purpose of actuating the tuck-marker by a motion imparted directly from the revolving shaft of a sewing-machine, substantially as specified.

112,579.—MOWING-MACHINE.—Solomon Fuller, Somers, Conn.

Claim.—1. The finger-bar jointed to the shoe, as described, in combination with the lever *i*, holder 4, and spring *k*, arranged and operating as set forth.

2. In combination with the divider *c'* and nose-piece *c''*, made adjustable by spring-catch *n*, the cutters *f f''*, constructed and operating as described.

112,580.—UNIVERSAL MANDREL.—James Gallatin, Jr., New York, N. Y.

Claim.—As my improvement in universal mandrels, of the species herein described, the split, tapered, and screw-threaded extremity *c* of the cone B, jointly with the nut *b*.

112,581.—TEA-KETTLE.—Peter V. B. Gantz, Albany, N. Y., assignor to Charles E. Gantz, same place.

Claim.—1. The combination of the gear E, or a section of the same, with the cover B, when the said cover is pivoted to the body of the kettle, substantially as and for the purpose set forth.

2. In combination with the bail-handle D, the gear F, or a section of the same, substantially as and for the purpose set forth.

3. In combination with the gear F and bail-handle D, the pressing-finger G, when all are arranged substantially as and for the purpose set forth.

4. Operating the cover B to uncover or cover over the opening A, by the movement of the handle or bail D, when the means used are the gears E and F, or sections of the same, combined with the cover B, arranged to swing on a pivot, the bail-handle to be operated substantially in the manner as set forth.

112,582.—HARVESTER-CUTTER.—Thomas Garrick, Providence, R. I.

Claim.—The spring-knife C, constructed as described, in combination with the harvester-finger, as and for the purpose specified.

112,583.—PLASTER-SOWER.—Charles E. Gladding, Towanda, Pa.

Claim.—1. The combination of the pivoted bars G, connecting-bar H, pivoted bars I, connecting-rod J, pivoted support K, and cam-wheel L, with each other and with the drive-wheel A, axle B, and hopper D, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable plate E, clamping-nuts *e'*, and pivoted arms F, with the discharge-opening in the bottom of the hopper D, when used in connection with the pivoted arms or bars G and I, substantially as herein shown and described, and for the purpose set forth.

112,584.—FANNING-MILL.—Reuben Gipson, Shelby, Ohio.

Claim.—1. The sieve C and board *c*, in combination with the hopper D, opening *d*, outlet *e*, and fan E, when said parts are constructed and arranged substantially as shown, and for the purpose specified.

2. The arrangement of the sieve C and board *c*, hopper D, opening *d*, fan E, sieve F, and drawer H, all substantially as shown, for the purpose set forth.

3. The combination of the hopper B, valve *k*, sieve C, board *c*, with the hopper D, opening *d*, outlet *e*, fan E, sieve F, drawer H, and opening *f*, when all constructed and arranged as shown and described, for the purpose set forth.

112,585.—ELECTRICAL ALARM-LOCK.—Fréjus Girard, Havana, Cuba.

Claim.—1. The spring E, arranged as represented relatively to the lock B C, and having connections, G H, to a battery, and to suitable alarm mechanism, so that the introduction of the key shall induce an alarm, substantially as set forth.

2. In combination with the above, the adjusting-lever M and its connections, by which the alarm may be thrown into and out of use, at pleasure.

112,586.—LAMP.—Henry J. Goff, Dubuque, Iowa.

Claim.—1. The flattened isolated wick-tube, one side of which is formed to a greater or lesser extent of wire-gauze, and said wire-gauze portion inclosed by an enlarged chamber, F, which connects with a small tube, E, leading from the oil-reservoir, all in the manner herein described and shown.

2. The flattened wick-tube J, with the enlarged surplus wick-holding tube portion J', constructed and arranged as described.

3. The flattened tube J, combining in its construction the enlarged chamber J', wire-gauze portion *g*, and enlarged chamber F, all as and for the purpose herein described.

4. The wire-gauze *a*, attached directly to the perforated cap *a'*, in combination with the wire-gauze *c* in reservoirs A, and the wire-gauze *g* of wick-tube J inclosed in a chamber F, as shown and described.

112,587.—COW'S-TAIL HOLDER.—William H. Gray, Ashfield, Mass.

Claim.—The combination of the pincers *a*, knobs *b*, spring *c*, and comb A, as specified.

112,588.—COATING SHEET-IRON WITH ZINC.—John D. Grey, Pittsburg, Pa.

Claim.—The process of coating iron with a film of zinc by passing sheets of the former through a flux of sal ammoniac, then through the molten zinc, again through the same flux, then through smoothing-rolls, and finally impinging thereon a current of cold air as it rises from the bath, all substantially as described.

112,589.—BREECH-LOADING FIRE-ARM.—Henry Hammond, Hartford, assignor to Lewis Hammond, Collinsville, Conn.

Claim.—1. The combination of the breech-block G, the thumb-piece H, with its projection *f*, and the ejector *j*, constructed and arranged substantially as herein described.

2. The combination of the projection *f* for operating the ejector, the oblique slot *i*, whereby the ejector is moved rearward more rapidly than the breech-block, and the beveled edge *o*, for allowing the projection *f* to pass over the ejector, substantially as herein described.

3. The peculiar form given to the heel *q* of the hammer, which, in connection with the breech-block, prevents its being snapped when at full-cock and the breech is open, the notch *s*, which will allow the breech-block to pass when the hammer is at half-cock, and prevent the hammer being moved when the breech is open, substantially as herein specified.

4. The checked or serrated rear of the breech-block, and the checks or serrations on the front of the hammer at the parts which come in contact when the block is open, or partially so, so that if the hammer is allowed to rest upon the block it will prevent the latter from being closed, substantially as herein specified.

5. The combination of the spiral groove G' with the locking-bolt *e*, for the purpose of forcing and guiding the breech-block to the rear, substantially as herein described.

112,590.—WINDOW-SCREEN.—John Hancock, Jr., Providence, R. I., assignor to Charles L. Spencer, trustee; and Charles L. Spencer, trustee, assignor to John Hancock, Jr., and Benjamin Morse.

Claim.—The sides A A and B B, in combination with the roller, when constructed to operate substantially as set forth, and for the purpose specified.

112,591.—ROTARY STEAM-ENGINE.—Aaron S. Harlan, Bloomington, Ill.

Claim.—1. The lower cylinder, provided with the flanges *g g' g*, the half rings *j*, the passages *h*, and the ribs *i*, all arranged together, as specified.

2. The upper cylinder, provided with the circumferential grooves *m* and the longitudinal recesses *n*, as described.

3. The combination of the upper cylinder, constructed as specified in the second claim, with the lower cylinder, constructed as specified in the first claim.

112,592.—POTATO-DIGGER.—William D. Harrell, Moore's Hill, Ind.

Claim.—A potato-digger, provided with teeth B (having heels D D) rigidly secured to the bar E, and the interchangeable and removable teeth designated by C C, and the one shown in fig. 2, all arranged in the manner shown, and for the purposes specified.

112,593.—GAS-RETORT.—George W. Harris, Elizabeth, N. J.

Claim.—1. A retort made of fire-clay or other suitable material, the form of which is produced by the combination of two retorts into one double retort, consisting of an upper and lower chamber, each of suitable size, the division or partition between said chambers being perforated with a number of holes about one-half inch in diameter, more or less.

2. A combination of a lower chamber, containing a false bottom of perforated tile, in connection with the upper chamber, having a perforated bottom or septum, all in the manner as and for the purposes substantially as hereinbefore set forth.

112,594.—SKY-LIGHT, CONSERVATORY, AND OTHER GLAZED STRUCTURES.—George Hayes, New York, N. Y.

Claim.—1. The hollow metallic bar or rafter C^1 or C^2, constructed, substantially as described, of plates *a* and *c*, bent to support or connect each other and to form gutters *b b*, arranged in juxtaposition to each other, and under cover of the base or bases which support the glass, as herein set forth.

2. The clip H, constructed of sheet metal bent to form a groove, *h*, a rebate, *i*, and a gutter, *k*, essentially as and for the purposes described.

3. The transom K, made of sheet metal, with cast-iron blocks *n*, and intermediate wooden filling *q*, substantially as specified.

112,595.—MEDICAL COMPOUND FOR TREATING BRONCHIAL AND LUNG DISEASES.—Shelby Wadan Helm, Bachalor Valley, assignor to Britton Capell and William J. Rose, Little Lake Valley, Cal.

Claim.—The medicine hereinbefore described and set forth, under the name and title of Helm's California Herb Bronchial and Lung Balsam.

112,596.—OIL-WELL DRILLING.—John R. Hill, Rouseville, Pa.

Claim.—The mode of closing the water-courses encountered in drilling oil and other artesian wells, herein set forth and described.

112,597.—CHEESE-HOOP.—Artemus Holdredge, West Burlington, and Benjamin F. Harrington and Henry H. Harrington, New Berlin, N. Y.

Claim.—1. A rectangular cheese-hoop, composed of the parts A B and C I, secured together by the fastening devices herein shown and described, or their equivalents, substantially as specified.

2. The improved rectangular pressing-case, composed of two or more horizontal sections, the sides of each being provided with cleats, and respectively with projections Q and notches P, and hinged and locked together, substantially as specified.

112,598.—CONSTRUCTION OF LAMP.—Jonathan J. Hoyt, Chelmsford, and John E. Crane, Lowell, assignors to the Lowell Oil-Cup Company, Lowell, Mass.

Claim.—The metallic ring *b*, when secured to the outside of the neck of a glass lamp, in the manner described, to facilitate the removal of the lamp-top, as set forth.

112,599.—SECURING WHEEL-TIRES.—Anthony Huegler, Sullivan, Mo.

Claim.—The metal corner-pieces F F, metal felly E, and bolts and nuts *d e f g h*, combined, as described, with the serrated ends of the tire B, for the purpose set forth.

112,600.—MACHINE FOR DRESSING YARN OR THREAD.—Gilman Jaquith, West Concord, Mass.

Claim.—The combination of corn-cobs with spooling or other machines used in the manufacture of thread, for trimming and dressing it, substantially in the manner described.

112,601.—EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.—Albert W. Johnson, Middletown, Conn., assignor to himself, Rufus Baker, and Oscar D. Lee, same place.

Claim.—1. The combination, with the thread-carrier or carriers, of the twisted shank or spindle, and the fast-and-loose ratchets, and their pawls, operated by a connection with the needle or needle-bar, substantially as herein described, to produce the intermittent revolution of the carrier or carriers.

2. The inclined stationary guide, and vibrating and sliding connection, in combination with the revolving thread-carrier or carriers, substantially as herein described, for producing a movement of the said carrier or carriers toward and from the needle, as and for the purpose herein set forth.

112,602.—HAY-TEDDER.—William G. Kenyon, Wakefield, R. I.

Claim.—1. The combination of the hollow driving-wheels, the plates C, and the reel or reels that carry the forks, these parts being constructed and arranged as described, so that the reel passes through the wheel wholly on one side of its center, substantially as set forth.

2. The combination of the short stiff tines *i* with the elastic ones *e* and bars *c*, substantially as and for the purpose set forth.

112,603. — WASHING-MACHINE. — Osman Smith King, Painesville, Ohio.

Claim.—The combination of the lever, connecting-rod, and fly-wheel, operating to revolve the disk of the washing-machine, and arranged in relation thereto, as shown and described.

112,604.—SKATE.—Moses Kinsey, Newark, N. J.

Claim.—1. A heel-plate, B, having ears *a a*, slotted to fit over and be suspended from nails already attached to the boot, as described.

2. A foot-support, A, having perforated ears *c c*, curved forward to catch upon and firmly hold to the edge of the boot-sole, without pins, screws, or any other attachment.

112,605.—HARVESTER-RAKE. — David R. Kinyon, Raritan, N. J., assignor to himself and Job C. Kinyon, same place.

Claim.—The combination, with the reel or rake of a harvester, of the shaft F, having the universal joints I I, the pulley J, provided with the sleeve H, and secured in the bearing, made adjustable, as described, and the pulley K on the shaft B, all arranged to operate as shown and herein set forth.

112,606.—PROCESS OF REFINING AND WHITENING THE PRODUCT FROM SULPHURETS OF LEAD AND ZINC.—George T. Lewis, Philadelphia, Pa.

Claim.—The process of refining and whitening of the products obtained by reducing the sulphurets of lead and zinc with fuel, by passing these products through a heated tube, substantially as described.

112,607.—REFINING AND WHITENING THE PRODUCT FROM ORES OF LEAD AND ZINC. George T. Lewis, Philadelphia, Pa.

Claim.—The process of refining and whitening of the product obtained by reducing the sulphurets of lead and zinc with fuel, by subjecting it to the action of a highly-heated current of air, as above described.

112,608.—MANUFACTURE OF CARBONATE OF LEAD, &c.—George T. Lewis, Philadelphia, Pa.

Claim.—1. The manufacture of carbonate of lead or white lead directly from the sulphate of lead, through the agency of the soluble carbonates heated under pressure.

2. As a new article of manufacture, carbonate of lead, produced by treating sulphate of lead with soluble carbonates heated under pressure, as the basis of a pigment, or as a material to be used in the manufacture of acetates and other commercial salts of lead, or orange mineral, or other commercial oxides of lead.

112,609.—BASE-BURNING-STOVE.—De Marcus Madden, Penn Yan, N. Y., assignor of one-half his right to Ralph T. Wood and Farley Holmes, same place.

Claim.—1. The rotary conical grate U, arranged to be raised and lowered without rotation, while its axis remains vertical, substantially as specified.

2. The combination of a conical center grate, U, having vertical motion of translation, with a surrounding base-grate, V, substantially as specified.

3. The adjustable conoidal center grate, substantially as specified.

4. An adjustable magazine, capable of being raised and lowered by means of an elevating-screw, *s*, substantially as specified.

5. The combination of an adjustable magazine with an adjustable grate, capable of being moved toward or from each other, substantially as specified.

112,610.—MANUFACTURE OF BOTTLED MINERAL WATER.—Thomas Maloney, Des Moines, Iowa.

Claim.—1. The glass thimble, or its equivalent, substantially as described, and for the purposes specified.

2. The process of preparing effervescent mineral waters in bottles by introducing one of the component parts by means of a graduated measure or thimble, in the manner described.

112,611. — SAFETY-VALVE. — Stewart C. Marsh, Newark, N. J.

Claim.—The piston *a*, cylinder *b*, spring *d*, valve *j*, and guide-nut *k*, all constructed, combined, and arranged as and for the purpose hereinabove set forth.

112,612.—MACHINE FOR CUTTING SCREW-THREADS ON BOLTS. — Henry Martin, Louisville, Ky.

Claim.—1. In combination with a rotating spindle of a bolt-threading machine, a bolt-holding mechanism, comprehending a stock integral with or attached to the end of the spindle, a socket-piece connected to the extremity of said stock by gudgeons or otherwise, but so, nevertheless, that a rocking motion may be imparted to it in a plane at an angle to the plane of its rotation, and a device, also connected to said stock, to clamp and firmly hold the bolt in its socket, substantially as described.

2. In combination with the bolt-holding mechanism, set forth in the first clause of claim, a series of interchangeable chucks or bushings, P, as set forth.

3. The bolt-holding and centering device D, consisting of the slotted head S, the hand-lever S^1, and its head-holder, S^2, in combination with a rocking holder, N, substantially as described.

4. The frames C C, in combination with the outside guides B B of the main frame A, shaft *a'*, bolt-carrying spindles *b*, constructed and operating substantially as and for the purposes described.

5. The weight W', oscillating arm K K^1, union K^2, and adjusting device R', in combination with the suspending and spindle-driving shaft *a'* and with the movable spindle and gear-supporting frame C, substantially as and for the purpose herein described.

6. In combination with one or more rotating and vertically-movable bolt-holding spindles, and one or more screw-threading dies fixed upon a permanent table, a clutching apparatus located on said spindle, by which the motion of rotation of the latter may be reversed, a lever and a catch, the former weighted at one end for holding the movable section of the clutch-apparatus in contact with one of the stationary sections thereof, and a hook on the other end to engage with the catch when said central section of the clutch is brought in contact with the other stationary section, and a frame or other device integral with or attached to the spindle, the whole combination being such that the die, in drawing the spindle toward them, while cutting, shall force the frame to release the hook of the lever from the catch, and thus cause the reversal of the clutch apparatus and the reversal of the movement of rotation of the spindle.

7. The tripping device *g*, *g'*, *g''*, *g'''*, and *e''*, applied as and for the purpose described in both threading-machines.

8. The loaded lever G, rock-shaft g^4, clutch-arm I, and rod g^3, in combination with knife-edge g^2, tripping device *g g'*, and the vertically-movable spindle-frame C, substantially as described.

9. The combination of the tap-bed M, oil basin A^1 and V, gang of vertical spindles *b*, bolt-holders D, and vertically-movable frame C, substantially as described.

10. The machine, constructed as herein described, for threading bolts and withdrawing them from their taps, and also adjusting them to an inclined position for ready removal, all as set forth.

112,613.—MODE OF MAKING WELLS.—William Mason, Providence, R. I.

Claim. — The mode of constructing wells by means of the cement *a* and cylinder *d*, in the manner set forth.

112,614.—COMBINED CLOTHES-RECEPTACLE, IRONING-BOARD, AND DRIER.—Samuel T. McDougall, Brooklyn, N. Y.

Claim.—The combination of the receptacle A, board B, and drier C, when the same shall be constructed and operate substantially as and for the purposes set forth.

112,615.—MOP-HEAD.—Joseph Messinger, Springfield, Vt.

Claim.—1. A mop-head, wherein the binder is operated by means of a tubular screw, said screw being formed of skeleton or open screw-threads, in the manner and for the purposes herein described.

2. A mop-head, wherein the ends of the binder pass between the open threads of a screw and work up and down in grooves or guides formed in the handle, in the manner and for the purposes herein described.

3. A skeleton-screw, operating the binder of a mop-head by direct action, and without the medium of a collar, yoke, or nut.

4. The combination of binder, cross-head, and handle with a tubular skeleton-screw.

112,616.—TREADLE FOR SEWING AND OTHER MACHINES. — George W. Miles, Lynn, Mass.

Claim. — The combination of the treadle A B with the bar or lever C, the fulcrum D, and the sliding head G, when combined and arranged to operate substantially as set forth.

112,617.—POTATO-PLANTER.—John C. Mills, Rochester, N. Y., assignor to himself and Richard Leake, same place.

Claim.—1. The roller D, provided with grooves *i*, and operating substantially as and for the purposes herein set forth.

2. The arrangement, on the inside of the hopper E, of the clip H, slide G, and knives *f f*, substantially as shown and described.

3. The combination of the V-shaped frame A, handles B B, axle *a*, wheels C C, roller D, hopper E, slide G, with knives *f f*, shovels I I, and gauge-wheel K, all constructed and arranged substantially as and for the purposes herein set forth.

112,618.—PIPE-CONNECTION. — James M. Morehead, Brooklyn, N. Y.

Claim.—The improved unions herein shown, consisting of the parts B and C, formed with the inner threaded surfaces *b b'*, and concentric ridges E E', and groove to receive the packing D D', in combination with the threaded nut A and pipes F F', the whole constructed and operating as herein shown and described, for the purpose set forth.

112,619.—BURGLAR ALARM-DRAWER.—Jeremiah Murphy, Boston, Mass.

Claim.—The arrangement in the drawer A of an alarm-gong, B, and knob *b*, directly connected with the same, as described, and the latch or lock *a*, located in the front of the drawer and operated from the under side of the same, as and for the purpose shown and set forth.

112,620. — EARTH-CLOSET. — Solomon D. Newbro, Lansing, Mich.

Claim.—The cover C, bar A, and feeder B, in combination with the frame E, F, and D, and hopper Q, substantially as set forth.

112,621.—MODE OF ATTACHING PIPES TO SINKS, DRAINS, &c. — Aaron B. Nott, Fairhaven, Mass., assignor to himself and P. E. Merrihew, same place.

Claim.—1. The annular double-seat flange *e*, formed within a raised portion, *d*, of the flanged bowl A, in combination with lugs *i i n n*, substantially as and for the purposes described.

2. The flanged tube F, constructed as described, and combined with the seat *e*, substantially as described.

3. The flanged nut N and pipe P, in combination with the flange *e* and lugs *n n*, and with the flanged tube F, substantially as described.

112,622.—FRUIT-GATHERER.—Cornelius Ostrander, Poughkeepsie, N. Y., assignor of one-half his right to Alson Ostrander, same place.

Claim.—The combination of the rotary cutters *a a* and the frame D, substantially as and for the purpose hereinbefore set forth.

112,623. — PAPER-CUTTING MACHINE.—Charles Paine, Boston, Mass., assignor to himself and Cyril C. Child, same place.

Claim.—1. The revolving knife-bed D, operating substantially in the manner and for the purpose described.

2. The combination of the revolving knife-bed D, one or more guide-pieces *b*, and the table A, substantially as and for the purpose set forth.

112,624. — GLOBE-HOLDER AND COOLER COMBINED, FOR VAPOR-BURNERS.—Jason J. Palmer and Franklin G. Palmer, Pittsburg, Pa.

Claim.—A globe-holder, G, and cooling-tube, B, combined, substantially as described.

112,625.—SKIRT.—Charles W. Peirce, Jr., Bristol, Pa.

Claim.—As a new article of manufacture, a skirt, having its lower edge printed in imitation of a

binding, said printed portion being partially turned in and stitched to the inner face of the skirt so as to form a doubled edge, substantially as described.

112,626.—MACHINE FOR TAPPING BOILERS. Parley I. Perrin, Taunton, Mass., and Joseph L. Hewes, Newark, N. J., assignors to Parley I. Perrin.

Claim.—The spindle F and tool H, combined, as described, with an intermediate sleeve, *o*, having a slight lateral play upon said spindle, for the purpose of enabling the tool to get out of line with the latter without being strained thereby.

112,627.—WASH-BOILER.—Charles W. Powell, Bloomfield, Conn.

Claim.—1. The perforated frame A, circles C C, open bottom B, open space D, and adjustable or removable discharge-tubes E E, constructed and arranged with slides, to operate substantially as and for the purposes described.

2. The combination of the perforated frame A with circular slides and removable discharge-tubes, arranged substantially as and for the purposes described.

112,628. — TREATING COTTON-SEED. — Joseph J. Powers, Memphis, Tenn.

Claim.—The treatment of cotton-seed meal or hulled cotton-seed by a heating and drying process, previous to packing for shipment, substantially as herein specified.

112,629.—FINGER-BEAM FOR HARVESTERS. Amos Rank, Salem, Ohio.

Claim. — The longitudinally-corrugated sheet-metal finger-beam for harvesters, hereinbefore described.

112,630. — SLEIGH. — Amos Rank, Salem, Ohio.

Claim.—The combination of the elastic ⊃-shaped runners, the upper members of which support the seat of the sleigh, with a spring interposed between the upper and lower members of the runners, substantially as described.

112,631. — BELL.—Joshua Regester, Baltimore, Md.

Claim.—1. The bell A, which is operated by a rope attached to its crown, and which is also supported upon a vibrating yoke, D, with its mouth directed upward, and so that the center of gravity of the bell falls below the axis of motion of the yoke, in combination with spring-clapper supports *e*, substantially as described.

2. The perforated base-piece G, constructed with fulcrum-pins *t t*, isolated as described, the U-spring *s s*, when confined by the pin *g*, having a bearing against the inner side of the pins, and at the same time the whole length of the arms of this spring, from the head of the pin *g* to their tips, having freedom to play when under tension or released, substantially as and for the purpose described.

112,632. — HAIR-TONIC. — Sarah Amanda Reybert, Plainfield, N. J.

Claim.—An improved vegetable hair-tonic, prepared of the ingredients and in the manner substantially as herein set forth and described.

112,633.—CARPET-FASTENING.—Joseph A. Robbins, Medford, assignor to himself and Martin W. Ford, North Chelsea, Mass.

Claim.—The plate or lever A, provided with bent end B and orifice C, in combination with the wire D and staple E, substantially as described.

112,634.—MOLD FOR SUPPOSITORIES.—Joseph A. Robbins, Medford, assignor to himself and Francis V. Holmes, Boston, Mass.

Claim.—1. The mold D, arranged on rod E, with spiral spring H, substantially as described.

2. The mold D, constructed as described, in combination with the block A hinged at the larger ends of the conical recesses B, as and for the purpose set forth.

112,635. — SAFETY-HASP OR LATCH.—Charles E. Robinson, Boston, Mass., assignor to himself and Charles W. Brunner, Savannah, Ga.

Claim.—In a hasp, constructed as described and shown, the curved lip *e*, in combination with the spring-bolt E, when arranged thereon as specified, and so as to operate as and for the purpose set forth.

112,636.—MACHINE FOR FEEDING FUEL TO FURNACES.—Alexander Rodgers and Esau Tarrant, Muskegon, Mich.

Claim. — 1. The discharging-throat *e*, leading from a delivery apparatus outside of the furnace, combined, as described, with the transverse guide E, L-shaped in form, and arranged against the inner side *d* of the furnace, for the purpose specified.

2. The deflecting-plates *f f*, arranged within the furnace for the purpose of guiding the fuel in the desired direction, substantially as herein shown and described.

3. The L-shaped transverse guide E, combined, as described, with plates *f f* pivoted thereon, and adjustable with reference thereto, for the purpose specified.

4. The troughed screen-hopper D, the fuel-receiver and conveyer A B *a b c*, the guide E, and the deflectors *f f*, all combined, as described, to successively perform their respective functions and bring about the common result of depositing the comminuted fuel within the furnace, on the principle specified.

112,637.—GAS-BURNER.—Mark Rosenway, New York, N. Y.

Claim.—The gas-burner A, constructed to operate substantially as shown and described.

112,638.—BOOT-JACK.—Joseph Rouard, San Francisco, Cal.

Claim.—The combination of the foot-board A, frame G, and the vibrating arm H, when constructed so as to be adjustable by the handles K, as and for the purpose described.

112,639.—WINDOW FOR RAILWAY-CARS.—Ernest A. Schoeller, Connellsville, Pa.

Claim.—The detachable frame D, provided with stripe J, sash *e*, blind *f*, and springs *h*, the whole being constructed as described, and held in position through the medium of stripe *g* and *i* and the springs *h*, as and for the purpose set forth.

112,640. — HORSE-CAR STARTER.—Henry Schreiner, Philadelphia, Pa.

Claim.—The sliding rack-bars A A, the toothed eccentric swinging levers D D, the stationary block a^4, the slotted guides E E, pole or shafts F, and chains or ropes *c' c'*, the pulley G on the braking-lever, chain or rope *g'*, bar *g''*, and chains or ropes *g'''*, the said parts being constructed and arranged to operate in combination with the bottom frame and the four wheels of the car, substantially as and for the purpose hereinbefore set forth and described.

112,641.—SHAFT-COUPLING.—Freedom G. Shepard, Battle Creek, Mich.

Claim.—1. The combination of a separate smooth metal guard-ring, E, with the ordinary coupling-

ring C of a pair of forked shaft-couplings, when said guard-ring is so placed and attached as to cover the ends of the coupling-pins and secure them in place, substantially as and for the purpose specified.

2. In forked shaft-couplings, the arrangement and combination of the separate grooved and recessed guard-ring E, ordinary coupling-ring C, and projecting coupling-pins *p p'*, to the end that said pins and guard-ring may mutually secure and protect each other, substantially as set forth.

112,642.—SEALING CANS AND OTHER VESSELS FOR PRESERVING FRUITS, MEATS, &c. — Nicholas H. Shipley, Baltimore, Md.

Claim.—1. A can, provided with stay-rods *e*, as and for the purpose specified.

2. The combination of the notched rings *f* and *g* and the plug *h*, as and for the purpose described.

3. The method of closing a can by forcing a plug, inclosed within a ring, downward upon a notched ring secured to the top of the can in such manner that the notches of said lower ring pass between the plug and the upper ring, and are clinched by the latter upon the plug, as set forth.

4. The method of hermetically sealing a can during the process of ventilation, as set forth.

5. The method of connecting the rings *f* and *g* by passing the prongs *m* of the former through slits in the cover of the latter, and then turning the prongs down upon the cover, as explained.

6. The steamer, consisting of the basin *p* and adjustable cover *q*, for utilizing the steam generated in the process, as substantially set forth.

112,643.—SHUTTLE FOR LOOMS.—Charles Elbridge Smith, Lowell, Mass., assignor to himself, John S. Jaques, and Frank T. Jaques, same place.

Claim.—1. In the loom-shuttle the two springs C D, as combined and arranged with the spindle-arm *c*, as set forth, and provided with a stop-groove, *f*, arranged in the inner spring to receive the pin *e* under circumstances as hereinbefore explained.

2. The improved loom-shuttle, as made, with the springs C D, the notch *f*, and the pin *e*, arranged and applied to the shuttle-body, and the spindle-arm *c*, as set forth, and with the shuttle-body extended over so as to cover the spindle-head, all substantially as described and represented.

112,644.—SKY-LIGHT.—Charles Scott Snead, Louisville, Ky.

Claim.—1. The combination of the raised cover M with the hollow ridge-pole F, provided with perforations *m* and *t* in its sides and top, and with shoulders *a*, substantially as and for the purpose specified.

2. The combination of the ridge-pole F, provided with the cover M and perforations *m t*, the purlin I, gutters L, barge plates A B *s*, and eave-plate P *v*, substantially as herein shown and described.

112,645.—BOILER-FLUE BRUSH.—Benjamin M. Spencer, Newark, N. J.

Claim.—1. The divided or segmental cylinder A, as shown and described.

2. In combination with segmental cylinder A, flanged disks or heads *c* and *c'*, whereby said cylinder segments are held together, as and for the purpose shown and described.

3. In combination with segment cylinder A and flanged heads *c* and *c'*, the guard-ring G, by which the guards are secured, independent of said heads, all constructed and arranged substantially as described.

112,646.—VELOCIPEDE. — Manassa Staudt, Summit Hill, Pa.

Claim.—1. The combination of the levers E and I, links F, G, H, and J, and the cross-bar or stud D with the cranks *a* and *b*.

2. The axle B, ratchet-wheel L, spider-wheel M, pawls N, and the springs *h*, in combination with the cranked axle A and its attendant wheel.

112,647.—PACKING FROM ASBESTUS AND OTHER FIBROUS MINERALS.—Chase A. Stevens, New York, N. Y., assignor to Abijah Richardson, Boston, Mass.

Claim.—1. Packing of asbestus or other mineral fiber, made in the form of a rope, or in octagonal, square, or flat form, by compressing the fiber, prepared in a flocky state, and freed from silex or other gritty matter, into a dense and adhesive structure, substantially as specified.

2. Packing of asbestus or other mineral fiber, prepared in a flocky condition, and freed from silex or other gritty matter, compressed into the form of rope, or square or flat form, and having the strengthening-cords B or B' imbedded in the surface, and arranged either parallel, spirally, or braided on, all substantially as specified.

3. Packing of asbestus or other mineral fiber, prepared in a flocky state, and freed from silex or other gritty matter, compressed into the form of rope, or square or flat form, and having the strengthening-cords B or B' imbedded in the surface, as described, and also having the binding thread or cord C, all substantially as specified.

4. Packing of asbestus or other mineral fiber, prepared in a flocky state, and freed from silex or other gritty matter, made into the form of a compressed rope or other like structure, covered with canvas or muslin or any other equivalent fabric or material, substantially as specified.

112,648.—FIBROUS MINERAL PACKING FOR JOURNALS, BEARINGS, &c. — Chase A. Stevens, New York, N. Y., assignor to Abijah Richardson, Boston, Mass.

Claim.—A packing for journals and other parts of machinery, prepared from asbestus, amianthus, or other fibrous mineral, substantially as and for the purposes set forth, so as to free said fibrous minerals from all earthy matter and grit and produce a clean flocky fiber, highly lubricating, and indestructible by heat or acids.

112,649.—TREATING ASBESTUS AND OTHER MINERAL FIBERS FOR USEFUL PURPOSES. Chase A. Stevens, New York, N. Y., assignor to Abijah Richardson, Boston, Mass.

Claim.—1. The cleansing of mineral fibers from silex and all other earthy matters, and preparing the same for the uses and purposes as herein set forth.

2. For cleansing and preparing mineral fibers by a chemical process, or by the use of any or all of the machinery or mechanical appliances, as herein set forth.

3. The preparation of fibrous minerals and mineral fibers for the applications and purposes as herein set forth.

4. The preparation of fibrous minerals and mineral fibers for commercial, mechanical, manufacturing, and chemical purposes and uses, prepared chemically or by machinery, in whole or in part, as herein set forth.

5. The preparation of fibrous minerals and mineral fibers for the manufacturing of packing for steam and caloric engines, pumps, journals, and bearings, as hereinbefore set forth, by all or any portion of the machinery or the mechanical appliances.

112,650.—TREATING ASBESTUS AND OTHER FIBROUS MINERALS.—Chase A. Stevens, New York, N. Y., assignor to Abijah Richardson, Boston, Mass.

Claim.—1. The herein-described process for the treatment of asbestus, amianthus, hornblende, and other fibrous minerals, with fluorine gas or hydrofluoric-acid gas, for eliminating the silex and other foreign matters and producing a pure fibrous condition of said minerals.

2. The process of treating silex or silicates with fluorine or hydrofluoric acid, fibrous mineral substances, as and for the purpose set forth.

112,651.—Machinery for Forming Packing from Asbestus and other Fibrous Materials. — Chase A. Stevens, New York, N. Y., and Isaac Lindsley, Pawtucket, R. I., assignors to Chase A. Stevens; and said Stevens assignor to Abijah Richardson.

Claim.—1. The funnel-shaped fiber-compresser, consisting of the two sets of staves or bars, arranged for having the simultaneous to-and-fro radial movements, substantially as specified.

2. The combination, with the compressing-staves or bars, of the plates E F, having the radial grooves D, substantially as specified.

3. The combination, with the said compressing-staves or bars, of the tappet-ring K and springs R, substantially as specified.

4. The combination, with the compresser, of the cord-guide *x y*, substantially as specified.

5. The combination, with the compresser, of the covering-fliers *d* and bobbin-carrier *e*, substantially as specified.

6. The combination, with the compresser, of the drawing-rolls, substantially as specified.

7. The combination, with the drawing-rolls, of the guide K, substantially as specified.

112,652.—Stirrup for Riding-Saddles.—Leonard S. Taylor, Sigel, Mo.

Claim.—The combination, with the stirrup A, of the pivoted foot-piece B, springs C, and rods D, all substantially as specified.

112,653, antedated March 1, 1871.—Fertilizer. — Thomas Taylor, Washington, D. C.

Claim.—The combination of night-soil with peat, clay, soluble silicates, a persalt of iron, and tincture of quassia, in all proportions, when combined substantially in the manner and for the purpose as set forth and described.

112,654, antedated February 28, 1871.—Apparatus for Making Ice and Refrigerating. — Archibald B. Tripler, New Orleans, La.

Claim.—1. A vacuum, created in the cold-generating chamber A above the surface of the fluid which covers the heat-conducting coil or coils E, air-pump B, and expansion-chamber C, for the purpose of getting rid of the heat generated by the compressed air, substantially as described.

2. The revolving winged propeller J, located and arranged at the bottom of the refrigerating-case for the purpose of imparting to the fluid surrounding the receiver a continuous circulating motion, substantially as described.

3. The intervening fluid-chamber G of the refrigerator, having its continuity interrupted by means of the partition *a*, located and arranged near the winged propeller for the purpose of accelerating the circulation of said fluid, as herein shown and described.

4. The circulating-chamber G, closed on one side of the receiver and open only at its bottom, for the purpose of causing the flow of the liquid over, upon, and through the reticulated diaphragm on to the top of the receiving-chamber F and down the opposite side of said chamber G, as herein shown and described.

5. In the process of making ice, the gradual reduction of the temperature of the air to the freezing-point by producing a vacuum within said freezing-chamber, substantially as herein described.

6. A chemical absorbent, used for condensing purposes, injected in a state of solution in a pipe or pipes leading to the vacuum-pump, for the purpose of condensing the vapors produced by the vacuum, substantially as described.

7. The slide-valve *s*, or its equivalent, at the top of the receiver F, for the purpose of opening communication with the receiver and vacuum-chamber, in order to produce a vacuum in said receiver, substantially as described.

8. The article under preservation covered with an antiseptic compound, and, while in this condition, submitted to vacuum, for the purpose of more thoroughly diffusing the antiseptic compound in the animal matter under preservation, as herein described.

9. For the purpose of ventilating and cooling, a current or currents of air, while under compression, passed through a coil or coils of pipe, or other conductors, while submerged in a liquid partially non-congealable and under the influence of vacuum, as herein described.

10. The compressing air-pump B, the heat-conducting pipes E, and the expansion-chamber C, located and arranged within a single receiver and connected directly to each other, so that they will all be subjected to the same degree of cold, in the manner herein described.

11. The combination of a refrigerator having an inner receiving-chamber, F, surrounding-case D, and intervening vacuum and liquid-chamber G, with a cold-generating chamber, A, having a compressing air-pump, B, a coil or coils of pipe, E, for transmitting heat, an expansion-chamber, C, and a vacuum-chamber for absorbing and vaporizing said heat, the two vessels A and F being connected to each other by an automatic pressure-valve, the several parts being constructed and arranged as herein shown and described.

112,655.—Fastener for Spinning-Rings. Charles Edward Trowbridge, Whitinsville, Mass.

Claim.—The spring-catch or ring-fastener, arranged on the under side of or underneath the ring-rail, and extended up within the spindle-opening thereof, and constructed substantially in the manner described, so as to enable such fastener to catch or take upon the inner flange of the lower race of the ring, or upon a shoulder or its equivalent made in or on the ring, all substantially as set forth.

112,656.—Machine for Blocking Ribbons, &c. — George Vincent, Stockton, Cal.

Claim.—The disks C and D, with the grooves H H and the points I I I I, in combination with the standards A B, substantially as and for the purposes hereinbefore set forth.

112,657.—Attaching the Hair-Springs of Watches. — Constant W. Wadsworth and Carl Cullberg, Peekskill, N. Y.

Claim.—The collar or sleeve D, having a screw-thread cut upon its outer or inner surface, in combination with the balance-wheel staff B and the hair-spring collet C, one or the other of the parts B C having a screw-thread cut upon it corresponding with the screw-thread of the said collar or sleeve D, substantially as herein shown and described, and for the purposes set forth.

112,658.—Wire Fence.—Charles A. Wakefield, Pittsfield, Mass.

Claim.—1. The combination, with a weight A and yoke *m*, to which it is attached, of a series of levers *n*, or *n* and *r*, for operation on the wires *d*, substantially as specified.

2. In combination with the wires *d*, attached at their one end to a pendent weight or weights, of the adjusting-pins *e*, formed with an annular shoulder, *f*, and the locking recess *g* in the post within which said pins are fitted to turn and slide, essentially as described.

112,659.—Refrigerator.—John H. Welsh, Erie, Pa.

Claim.—1. The vase G, on the top of the refrigerator, in combination with the cloth-covered body A A, as and for the purpose specified.

2. The acid-vessel or disinfectant-chamber C, with its porous cork D, the movable bottom E E, the body A A, covering I, and vase G, in combination, constructed and operated substantially as set forth for the purpose specified.

112,660.—Anti-friction Journal-Box.—Henry P. Westcott, Seneca Falls, N. Y.

Claim.—1. The hub or box F, with a head or cap, E, made in two parts, designed to fit into a groove, D, cut in an axle, A, to hold the axle in place, and for the purpose of an oil-box, arranged substantially in the manner as and for the purposes set forth, and described.

2. An axle, A, in combination with sleeve H, rollers B B, and separating-rings E, all constructed and arranged substantially in the manner as and for the purposes set forth.

3. The loose thimble or sleeve H, upon an axle or shaft A, in combination with the anti-friction rollers B B, the separating rings C, the groove D in the axle A, the hub F, and the cap E, in two segments, substantially in the manner as and for the purposes set forth and described.

112,661.—Hat.—William H. White, Baltimore, Md.

Claim.—1. Appliances on a detachable hat-brim frame and hat-brim, by which the two are held together at desired points, for the purpose substantially as shown and described.

2. Appliances on a detachable hat-brim frame, to which can be fastened the draw-strings run into the fabric-brims for the purpose of holding the desired tension, substantially as shown and described.

3. The method of joining the brim and sweatband or body of a hat by the use of three seams, as and for the purpose set forth.

112,662.—Child's Carriage.—William B. Whitney, Leominster, Mass., assignor to himself and F. A. Whitney, same place.

Claim. — The cross-bar G, upper and lower springs E B, braces H, and bracket D, combined, as described, for hanging the body of a child's carriage.

112,663.—Broadcast Seeder and Cultivator Combined.—Lyman Wight, Whitewater, assignor to himself and Orison G. Ewing, La Grange, Wis.

Claim.—1. The hollow axles F, cast solid with the ends B of the seed-box A, substantially as herein shown and described, and for the purpose set forth.

2. The cone-pulley E′ fast to the hub of the wheel, the endless chain F′, and the pulley D′ fast to the end of screw-rod N, all combined as described, for the purpose of revolving the latter as the vehicle moves forward.

3. The combination of the brackets or supports V, shaft W, pivoted lever X, chains Y, and cross-bar A′, with each other and with the plow beams A, substantially as herein shown and described, and for the purpose set forth.

4. The spring I′, pivoted lever H′, and pulley-block of G′, combined, as described, with the band F′, for the purpose of holding the latter in sufficient frictional contact with the pulleys to rotate the screw.

5. The rod J′, passing loosely down through bar A′, and collared at K′, above it, combined, as described, with lever H′, to allow the elevation of said bar A′ to raise the end of lever, slacken the chain, and stop the rotation of screw, as set forth.

112,664.—Copy-Holder.—Henry R. Williams, Buffalo, N. Y.

Claim.—The combination of the spring-holder I and pieces A E, provided with the loops or ferrules D F, spring H, and clamping device B C, when constructed and arranged as herein described, and for the purpose specified.

112,665. — Carriage-Brake. — August Wnuck, Cincinnati, Ohio.

Claim. — In combination, substantially as described, with the sliding bars H H′ J J′, rubbers I I′, levers L L′, or their equivalent operating medium O P R, the radius-rods G G′, to be hinged or pivoted to the body of the vehicle and to its rear axle, as and for the purpose explained.

112,666. — Blind-Slat Machine.—George F. Woolston, Washington, D. C.

Claim.—1. The gang of circular saws C′, each having the teeth *c*, *c′*, and *c″*, in combination with the metal disks *c*, constructed and arranged to operate in the manner described.

2. The adjustable guides *f f f*, in combination with the gang of adjustable saws having the slitting teeth *c* and planing teeth *c′* and *c″*, and edge-planing cylinders E and E′, with cutters E″, constructed and arranged to operate in the manner described.

3. The bent and coiled spring O, screw *n*, rock-shaft *m*, and frame K, with the revolving shaft *j′*, connecting-stirrups *p*, and feed-roller F, all constructed and arranged to operate in the manner described.

4. The blind-slat machine above described, consisting of the combination of the adjustable feed-rollers F F′ F″ and the means of operating them, the gang of adjustable circular and planing saws C′, adjustable guides *f f f*, and planing cylinders E and E′, with their cutters E″, when constructed and arranged in its several parts to operate in the manner and for the purpose set forth.

112,667.—Water-Wheel.—Pierce W. Yarrell, Littleton, N. C.

Claim.—1. The series of buckets G G united at their ends, as shown and described, and arranged horizontally on the periphery of the wheel, substantially as and for the purpose described.

2. The combination, with the casing, of the removable foot and the removable arms, substantially as and for the purpose described.

3. In combination with the shaft of the wheel and the arms D, the removable piece E, arranged and operating as described.

112,668.—Roll for Forming Horseshoe-Blanks.—William Acheson, Pittsburg, Pa., assignor to Charles L. Fitzhugh, same place.

Claim.—The construction of the collars E E′, with the recesses *e e′*, jointly, with the cutters G G of sufficient length to cross the groove *b* and extend into said recesses *e e′*, as shown and described.

112,669.—Clothes-Wringer.—August Albrecht, Philadelphia, Pa.

Claim.—1. The lever D, carrying the roller G, in combination with a non-adjustable spring, E, situated between the said roller and the fulcrum of the lever.

2. The combination of the frame A, having fulcrum-pins *f*, and the lever D, having a forked end, *h*, as specified.

3. A clothes-wringer, consisting of two frames A A, two rollers G G′, and two levers D D, when the spindles of said rollers are the sole means of connecting the frames and levers together.

112,670.—Railroad-Station Indicator.—Granville W. Alexander, Chicago, Ill.

Claim.—The combination of the frame L, carrying-rollers N, with the levers G G, carrying-clutches I, and the plates C C′, exhibiting the names of cross-streets or stopping-places, substantially as specified and shown.

112,671.—Railroad-Station Indicator.—Joseph Bell Alexander, Washington, D. C.

Claim.—1. The combination of the slider N with

the springs S, S′, S″, and S‴, as arranged in the box-frame C, C′, D, and D′, for the purpose of indicating streets, stations, names, or numbers of separate printed cards operated in continuous rotation either directly or reversely, substantially as described and set forth.

2. The combination of the pulley E with the pawls *f* and *f′*, chain F, spiral springs R and R′, and with the crank-wheels L and L′, substantially as described, and for the purpose set forth.

3. The combination of the indicator above described with the setting-pulley G, substantially as described, and for the purpose set forth.

4. The combination of the chains *l* and *l′*, the pulley and pinion 8, rack 3, bar 4 and 3 with its notch 2, forked lever Z, lever Y, axle X with its spiral spring 1, and the trip 9, as arranged, substantially as described, and for the purpose set forth.

112,672. — FENCE. — William Altick and Franklin P. Grimes, Dayton, Ohio, assignors to Wilson & Grimes, same place.

Claim.—1. The hereinbefore-described post A, provided with the cross-bar B and offsetting ground pieces C, substantially as and for the purpose specified.

2. The adjustable clips E, constructed as described, and combined with the posts A and a suitable horizontal board, substantially as and for the purpose shown.

112,673. — DOOR-CHECK.—Charles R. Anderson, St. Louis, Mo.

Claim.—The door-check, consisting of a lever, B, carrying a roller E, the axes C *c* of which are perpendicular to the face of the door, so that the movement of the latter will not act to raise the lever nor rotate the roller, all substantially as described.

112,674. — VENTILATING MILK-CAN.—Lauren B. Arnold, Lansing, N. Y.

Claim.—1. A ventilator inserted into the cover or other part of the top of a can, composed of the tubular part or parts B and D and the transverse section or sections C, substantially as set forth.

2. The section or sections C, when the perforations or series of holes F, or equivalent holes, are made in one or more of them, as described.

112,675.—BENCH-PLANE.—Joseph R. Bailey, Woonsocket, R. I., assignor to himself and Selden A. Bailey, same place.

Claim.—In a bench-plane, the eccentric or curved bar E, for securing the bit, when combined with a plate, F, interposed between it and the bit, and arranged to slide at right angles to the latter, substantially as and for the purpose set forth.

112,676.—ROTARY HARROW.—John W. Barton and Thomas Holmes, Emporia, Kansas.

Claim.—The combination of the harrows A A, bearings B B, cross-bar C, with iron stirips D D, brace-rods E E, set-screws G G, and draft-rods H H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

112,677. — HAT-PRESS. — Samuel Beatty, Norwalk, Conn.

Claim.—1. The combination of an elastic cushion of confined air or similar elastic medium with the diaphragm and die of a press, in which the pressure to press the hat, bonnet, or other article to be pressed is applied to the press-head and die to bring them together to press the hat, substantially as hereinbefore described.

2. The combination and arrangement of the diaphragm clamping-ring and flange of the die, whereby the annular elastic fold *m* of the diaphragm is employed to press the brim of the hat, and protected from rupture when under pressure, substantially as hereinbefore described.

112,678.—SEWING-MACHINE.—Joseph Bennor, Philadelphia, Pa.

Claim.—1. The cam-disk J, having one edge permanently secured in position, in combination with the pivoted lever K, and screw-rod L, located within the shaft, with its head extending outside for regulating the throw of the cam, and thereby the length of the stitch, substantially as described.

2. The shuttle-carrier Q, constructed and arranged substantially as described, whereby the shuttle is carried with its point lower than its heel, as set forth.

3. The needle-bar G, in combination with the jaw *y* and cam-ring *z*, all constructed and arranged to operate as herein described.

4. The arrangement of the spring *r* within a cavity formed in the upper end of the presser-bar I, in connection with the adjusting-pin *q*, said bar and pin having their bearings in the head *a a′*, as herein described.

112,679.—LOOM.—William H. Booser, Potter's Mills, Pa.

Claim.—The pattern-chain for looms, composed of blocks or sections linked together and grooved in the sides, and operating to move the harness through levers intervened for that purpose, substantially as described and represented.

112,680.—CARVING-TOOL.—Myron T. Boult, Battle Creek, Mich.

Claim.—The within-described carving and molding tool, as shown and set forth.

112,681. — HOOP-SKIRT.—Morris P. Bray, Birmingham, Conn., assignor to himself and Downs & Bassett, same place.

Claim.—In a hoop-skirt, in which are combined transverse springs D and vertical springs F to form the bustle, the arrangement of diagonal springs I I, substantially in the manner and for the purpose specified.

112,682. — SAWING-MACHINE.—George W. Braymer, Penn Township, Mich.

Claim.—The combination of the grooved sill D, chain E, sheave F, post G, lever H, sliding-bar *m*, stirrup N, saw-guide *i*, and hand-lever K, when constructed, arranged, combined, and operated as set forth.

112,683.—CLASP FOR ARTIFICIAL LIMBS.—Samuel F. Burd, Mercer, and Joseph F. Denniston, Pittsburg, assignors to Artificial Limb Manufacturing Company, Pittsburg, Pa.

Claim.—The combination of the lacings and the metallic clasp, constructed as described, when used in connection with an artificial limb, substantially as and for the purposes set forth.

112,684.—STEAM-VALVE.—Adam S. Cameron, New York, N. Y.

Claim.—1. The arrangement of a supplementary steam-passage, *e*, extending from the valve-seat to the end of the cylinder, between the ordinary port *a′* and the cylinder-head, and controlled by the main slide-valve C, the whole being constructed and operating substantially as shown and described.

2. The arrangement of a pipe situated on the outside of the steam-chest, and forming the connection between the supplementary port *e* and the interior of the main cylinder, said pipe being provided with a valve, *f*, substantially as and for the purpose set forth.

3. The recess *h* and passage *g*, in combination with the cavity *d* and stop-valve *i*, substantially as and for the purpose shown and described.

112,685.—PISTON-PACKING.—Adam S. Cameron, New York, N. Y.

Claim.—The screw-wedges *a a′*, fitted to screw on the piston-rod, and provided with shoulders or cups, *c c′*, in combination with the split rings *c c′*, all constructed and operating substantially in the manner and for the purpose herein shown and described.

112,686. — FURNITURE-PAD. — David H. Clark and Henry Winson, New Haven, Conn.

Claim.—As an article of manufacture, the herein-described furniture-pad, consisting of the securing-band C, cushion A, and covering B, all secured together and to the furniture, substantially as set forth.

112,687.—FANNING-MILL.—George E. Clarke, Racine, Wis.

Claim.—The fanning-mill herein described, as a new article of manufacture, consisting of the said several parts, constructed and arranged as specified and shown, to allow of said mill being set up and taken apart with facility and dispatch for the purpose of transportation, as aforesaid.

112,688, antedated March 3, 1871.—ROTATING CYLINDER-ENGINE.—Robert Livingston Cohen, Philadelphia, Pa., assignor to himself and William L. Lance, Plymouth, Pa.

Claim.—1. In a rotary engine, consisting of a cylinder supported in a trunnion eccentric to the shaft of a fly-wheel, to a pin on which the piston-rod is connected, the combination of ports *w w′* in the face of the cylinder with a steam-port *n* and exhaust-port *q* in the bearing, when the said ports are arranged as described.

2. The slotted trunnion *e* and bearing *f*, in combination with the washer *x*, key *v*, set-screw *y*, and pulley G, as set forth.

112,689.—CUTTING APPARATUS FOR HARVESTERS. — George W. Cook, Genesco, and Francis M. Duncan, Aledo, Ill.

Claim.—1. The curved guards *d*, having a gradual upward inclination from the finger to the top of the finger-bar, and constructed with the guiding-surface *c* and wedging-point *e*, substantially as and for the purpose herein described.

2. In combination with the guards, constructed as specified in the preceding clause, the slotted fingers *m*, having the side opening *n*, and arranged in line with the cutters *a*, substantially as and for the purpose set forth.

3. A series of concavo-convex serrated knives, *a*, arranged upon a horizontal shaft, in combination with guides, constructed substantially as herein described.

4. An improved cutting apparatus for mowers, reapers, and harvesters, composed of a series of concavo-convex cutters serrated as herein described, and as shown at *b*, in fig. 1, arranged upon a horizontal shaft, a series of curved guards, *d*, with guiding-surfaces *c e* and slotted fingers *m*, in line with the knives, all applied to a finger-bar, *g h*, and constructed and operating substantially as herein described.

112,690. — GRAPPLE.—Edwin G. Crandal, Belfast, N. Y.

Claim.—The adjusting instrument herein described, consisting of the elevating-pole F, recessed arm A, and forked lever H, provided with notched tines *f*, when constructed substantially as and for the purpose specified.

112,691. — MOLDING-MACHINE.—James H. Culver, San Francisco, Cal.

Claim.—1. The combination of the rotating rollers W W and feeders M and M′, as and for the purposes herein set forth.

2. The spindle Y, with the carving attachment N′, in combination with the rollers W W and feeders M and M′, as and for the purposes herein recited.

112,692. — HARVESTER-CUTTER. — Henry Cutler, Central Village, Conn.

Claim.—The combination of the outer guard-finger or shoe, the outer cutting section beveled upon its under side, and the elastic shear-plate G, secured at its rear edge to the finger-bar, its forward part being left free and bearing with a yielding pressure on the cutter, all as herein specified.

112,693. — LOCKING STOP-COCK.—Ellwood Davis and Jacob M. Stiles, Camden, N. J.

Claim.—A faucet-lock, securing one end of a sliding key passing transversely through the plug of the faucet, and held securely at its point of entrance, all substantially as set forth.

112,694. — BREECH-LOADING FIRE-ARM.—William C. Dodge and Philip T. Dodge, Washington, D. C.; said Philip T. Dodge assigns his right to said William C. Dodge.

Claim.—1. A frame for a breech-loading gun, having the cheeks I, with the locking-recess formed therein, substantially as described.

2. The compound breech-block, composed of the parts B and C, the latter being provided with thumb-piece E, and said parts being united by socket-joint, substantially as described, whereby the bearing is thrown upon the solid metal of the parts, substantially as set forth.

3. The hammer D, provided with the shoulder *r*, arranged to operate in relation to the part C of the compound breech-block, substantially as described.

4. The combination of the breech-block B C with the cheek-pieces I of the frame, constructed with the locking-recess, substantially as described.

5. The shoulder *r*, with the incline *o* at its front, in combination with the locking part C for forcing the latter to its seat in the recess, substantially as set forth.

6. The swinging breech-block, having its locking-face or shoulder constructed substantially as described, whereby the breech is locked before it is entirely closed, and the arm thereby rendered more safe, substantially as herein set forth.

112,695. — SPRING-SEAT FOR WAGONS.—Willoughby P. Elam, Petersburg, Ill.

Claim.—A spring-seat for wagons, consisting of the seat D, the springs A, and cross-bar or bottom C, all constructed and arranged substantially as described.

112,696. — CHILD'S CARRIAGE.—Roscoe G. Elder, New York, N. Y.

Claim.—The arrangement in a perambulator of a body with flat or partially flat bottom, straight sills, springs below the sills, and cross-bars connecting said sills in front and rear, all constructed and operating in the manner substantially as herein set forth.

112,697. — LADDER.—George Henry Ellis, London, England, assignor to Augustus Salem Dimsdale and Edward Bovino Lovell, same place.

Claim.—A sheet-metal ladder, formed of the hollow pillars *a a*, connected in lengths, in combination with the hollow rounds *b b* and the rods *c c*, constructed substantially as herein described.

112,698, antedated March 7, 1871.—FURNACE FOR TREATING ORES, &c. — William Ennis, Philadelphia, Pa.

Claim.—1. The chambers J J′, with their steam-pipes *r*, openings *h l*, and covers *m*, arranged in re-

spect to the chamber H, communicating with a fire-place, F, substantially as described.

2. The openings *c'* in the arch *c*, arranged in respect to the passages *k* of the partition *i*, substantially in the manner described.

3. The combination of the fire-place F, arch *c* with its openings *c'*, partition *i* with its passages *k*, and two or more chambers, J and J'.

4. The chambers J and J', communicating with each other and with a fire-place below, but having independent valves or dampers above, substantially as set forth.

5. The openings *g*, arranged in the side walls A in respect to the partitions *c* and *i*, substantially as set forth.

112,699.—MECHANICAL MOVEMENT.—William A. Fenn, Rochester, N. Y.

Claim.—1. The divided pulley D, having one-half stationary and the other adjustable on its shaft, when combined with the interior wheels C C receiving motion from an external source, as herein described.

2. The construction and arrangement of the pinion D, interior wheels C C, and external driving rim B, as herein described, whereby a square contact surface is attained with the outer rim and an angular one with the pinion, as specified.

3. In combination with the interior wheels and pulley, the swinging boxes or bearings *d' d' f*, as described.

112,700.—GRAIN-DRILL.—Silas N. Gallup, Macedon, N. Y.

Claim.—1. The combination of cogged wheels I I' and strap K with the oscillating bars F G, substantially as set forth.

2. In combination with the bars F G and drag bar H, the movable frame D E E, substantially as set forth.

112,701. — ALE OR BEER-COCK.—Henry Getty, Hoboken, N. J.

Claim.—1. The hollow-box or projection B, with its recess C, and thumb-screw A, for the purposes shown and described.

2. The coupling O, constructed as shown, for the purposes specified.

3. The combination of the hollow box or projection B with the recess C, thumb-screw A, and coupling O, the whole arranged substantially as shown, and for the purposes specified.

112,702.—MACHINE FOR MAKING BOOT AND SHOE-HEELS.—Charles W. Glidden, Lynn, assignor to McKay Heeling-Machine Association, Boston, Mass.

Claim.—1. A series of radial slide-blocks, arranged and operating substantially as described.

2. The combination, substantially as described, of the positioning slide-blocks, the block for clamping the lifts in place, and the mechanism for tacking the lifts together.

3. In combination with each slide-block, an elastic presser, *l*.

4. The radial placing blocks *k* and vertically-moving clamp-block A, made adjustable for heels of various sizes, substantially as described.

5. In combination with the sliding blocks, a swiveling lift-receiving plate, *d*, and a breast-gauge, *i*.

112,703. — STAINING GLASS.—Ebenezer A. Goodes, Philadelphia, Pa.

Claim.—1. The photochemical process, as above described, for permanently staining designs upon glass.

2. The application of light and heat to a salt of silver for the purpose of producing and permanently staining upon glass, letters, designs, &c.

3. The combined use of collodion, salts of silver, iron, potassium, &c., when subjected to light and heat, for the purpose of permanently staining designs upon glass.

112,704.—ELECTRO-MAGNETIC BURGLAR-ALARM.—William B. Guernsey, Jersey City, N. J.

Claim.—1. An electro-magnetic alarm, provided at each window, door, or place to be protected, with means or appliances for forming two distinct connections, one for giving an alarm and the other for locating the point at which the alarm is given, substantially as explained

2. The switch S, or substantially-equivalent device, in combination with a second or indicating circuit, and a circuit which is previously closed, to give an alarm.

3. Conducting-wires arranged in two or more circuits in such a manner that the closure of one circuit may be caused either by the breaking or closure of another circuit, substantially as herein explained.

4. The short-circuiting switch-lever L, or its equivalent, in combination with the resistance-magnet and closed and open circuits, substantially as herein described.

5. A resistance, located in near proximity to an alarm, and employed to control a number of openings which the said alarm is to protect.

6. The device by which the alarm is made to break the main circuit so as to render the alarm continuous, substantially as set forth.

112,705.—ELECTRO-MAGNETIC BURGLAR-ALARM.—William B. Guernsey, Jersey City, N. J.

Claim.—1. The arrangement of my continuous conductor or conductors, patented October 11, 1870, to serve as a barrier for the protection of safes, vaults, windows, &c., substantially as herein set forth.

2. The combined coils W and W', arranged substantially as represented, so that they will be either severed or brought into contact by an attempt to pass through an opening, or to pierce a door, wall, or other object which they are employed to protect.

112,706.—ELECTRO-MAGNETIC BURGLAR-ALARM.—William B. Guernsey, Jersey City, N. J.

Claim.—A battery, a conductor, and an alarm mechanism, so arranged and combined that the short-circuiting or severing of the conductor, or the doing of any act which is to be detected, will cut out or disconnect the battery from a magnet or other electro-motor, and thereby cause an alarm.

112,707.—DOUGH-KNEADER.—Herbert Henry Hawes, Mount Meridian, Va.

Claim.—1. In a dough-kneader, the combination of the roller E with the adjustable guide-board K and box A, provided with parallel adjusting-grooves *h h*, substantially as specified.

2. In a dough-kneader, the combination of the roller E with the box A, inclined guide K, small roller F, and scraper H, substantially as herein shown and described.

112,708.—SWING.—Francis Hovey, Ipswich, Mass., assignor to himself and John Albert Brown, same place.

Claim.—The pole D, joined to the swing, as described.

112,709.—TRUSS. — Henry Howe, Council Bluffs, Iowa.

Claim.—The flat metallic plate F, covering the entire outer face of the pad, in combination with the diagonal groove in the wooden back, in which the belt A closely fits, as herein set forth and shown, for the purpose specified.

112,710.—CONFECTIONER'S MOLD.—Henry S. Howe, Rutland, Vt.

Claim.—The grooved bars A A, in combination with the plates C C, arranged as and for the purpose set forth.

112,711.—SAW-GUMMER.—David Huffman, Luray, Va.

Claim.—1. The combination of the frame A, its adjustable mandrel on which to suspend a circular saw, and the arm B, carrying a rotating cutter in a curved path eccentric to the center of the saw, said cutter being driven from a shaft the axis of which coincides with the fulcrum of said arm B.

2. The combination of the frame carrying the arm B and its rotating cutter, and the split nut *e* and screw-shaft C connected to the arm B, and operated through the medium of devices substantially as described.

3. The arm B carrying the cutter, and having its pivot coinciding with the axis of the driving-shaft, and provided with detachable pulleys *e* or equivalent devices, whereby the arm may be adjusted without interfering with the operation of the cutter, substantially as described.

4. The combination of the cutter, capable of a limited lateral movement, and the forked lever A' and cam *f*, or their equivalent.

112,712.—SHOW-CASE.—John A. Hughes, Somerville, assignor to John A. Hughes & Co., Boston, Mass.

Claim.—1. The application of the plate *a*, arranged, constructed, and combined, as above set forth, to a glass show-case, the frame-work of which is covered with metal drawn upon it for the purpose of avoiding a sharp corner.

2. A show-case, constructed as above described, as an article of manufacture.

112,713.—PAD FOR HORSE-COLLARS.—Lemuel L. Hull, Oskaloosa, Iowa.

Claim.—A solid molded India-rubber collar-pad, substantially such as set forth.

112,714.—FIRE-ESCAPE.—John Ivory, New York, N. Y.

Claim.—The shanks or offsets B B of the lower ends of the upper sections of the ladder, having slots *a a* and notches *b b* in them, in combination with the rounds C and *c*, as described, and for the purpose set forth.

112,715.—DRAFT-EQUALIZER FOR THREE HORSES.—Henry F. Jerauld, Vandalia, Ill., assignor to Jerauld & Stolle, same place.

Claim.—1. The strap C, bar F, strap G, pins E and J, and double and single-trees I and L, all combined and arranged substantially as set forth.

2. In combination with the elements C F, G, E, J, I, and L, the sleeve K, as described.

112,716.—BEDSTEAD.—George A. Jeremiah, New York, N. Y.

Claim.—The combination of the bedstead A with rollers D in its frame, and with folding legs C, and with or without the folding head-board, substantially in the manner herein shown and described.

112,717.—WINDOW-BUTTON. — Albert D. Judd, New Haven, Conn.

Claim.—1. The lever B, constructed or provided with the stud *b*, and combined with the plate A, constructed with the slot E to receive the said stud and form a bearing for the lever, substantially as set forth.

2. In combination with the lever B and plate A, constructed and arranged to operate as described, the spring F, and flange *d* on the stud, as and for the purpose specified.

112,718.—BRUSH.—David L. Keeler, Norwalk, Ohio.

Claim.—1. A shoe or other brush, A, provided with a hinged end piece, B, extension handle D, and loop C, substantially as shown and described, and for the purpose set forth.

2. In combination with the brush A, the loop C, and extension handle D, when constructed and arranged to operate as and for the purpose set forth.

112,719.—MACHINE FOR MAKING AND SETTING BLIND STAPLES.—Jeremiah Keith, Charlton, Mass.

Claim.—1. In combination with the supporting-table *c*, the carrier-plate *f*, sliding forward and feeding the wire, and back and slipping upon the wire, the severing cutter *s*, the bender-plate *t*, and the driver b^3, all combined and arranged to operate substantially as described.

2. In combination with the mechanism for cutting, forming, and driving the wire-staples, the cutters t^2, for nicking the wire, substantially as shown and described.

3. In combination with the bender and driver, the beak *q*, made to retreat after the wire is bent and before the driver descends, substantially as described.

4. In combination with the feeding, cutting, bending, and driving mechanism, the arm P^2 and link m^2, for effecting the feed movement of the slat-rod, substantially as described.

112,720. — TREADLE-MOTION. — Eben B. Keyes, Charlestown, Mass.

Claim.—In combination with the stand or frame and crank-shaft, a vibratory treadle-lever, pivoted at its upper end vertically above the shaft, and provided with a diagonal or oblique slot, in which the crank or wrist-pin moves during the vibrations of the treadle, substantially as shown and described.

112,721.—MACHINE FOR CUTTING SPLITS.—Ebenezer Knight, Elizabeth, Ind., assignor to himself, Rufus S. Mitchell, and Edward S. Compton, same place.

Claim.—1. The arrangement of the frame A, slides B B, pins *a a*, and screw *b*, substantially as shown and described, and for the purposes set forth.

2. The combination of the slide D with bit *d*, guide *f*, cutters *e e*, and cam-lever E, substantially as and for the purposes herein set forth.

3. In combination with the cutting-slide D, the lever G and spring or weight H, substantially as and for the purposes herein set forth.

112,722.—METER.—Albert D. Laws, Bridgeport, Conn.

Claim.—1. The auxiliary valve-pistons *f g*, rod *h*, and reciprocating and rotatory valve *m*, said valve being loosely hung upon the rod *p*, and so as to be capable of radial play and rotative movements with respect to the rod and pistons.

2. In combination with the reciprocating and rotatory valve *m*, auxiliary cylinder *e*, main cylinder *a*, and main cylinder-pistons *c d*, the valve-pin *r*, extending directly from the auxiliary cylinder into the main cylinder, and into position to be alternately operated by direct contact with the main cylinder-pistons.

3. In combination with the reciprocating and rotatory valve *m*, the meter-wheel *t*, intermittently and progressively rotated, substantially as described.

112,723.—MODE OF ATTACHING SEATS TO WAGONS.—Joseph L. Linville and William Shimanour, Findlay, Ohio.

Claim.—A seat-raising attachment, consisting of the upper rail D, standards F F, and lower rail G, provided with dowel-pins *k k*, and the pivoted clasp L, having the flange *o* and the thumb-screw *m*, all arranged relatively one to the other, as set forth.

112,724. — PERMUTATION-LOCK.—Samuel Loyd, New York, N. Y.

Claim.—The bolt-plate C, provided with openings H H H H, in combination with the notched wheels *a*, arranged within the tumblers D, substantially as shown and described.

112,725.—MANUFACTURE AND TREATMENT OF ALCOHOLIC SPIRITS.—Orazio Lugo, Baltimore, Md.

Claim.—1. The process herein described of treating alcoholic spirits or solutions containing alcohol, substantially as herein described, and for the purpose set forth, the same consisting in the purification and deodorization of high-wines, low-wines, whiskies, rums, brandies, wine, must, and fermented beer, by the use of the chemical agents herein mentioned.

2. The successive treatment of alcoholic spirits, first by a compound of chlorine, and then by a compound of sulphur, as set forth.

3. The treatment of spirituous liquids with the herein-mentioned chemical agents during the process of distillation, substantially as herein described, and for the purpose set forth.

112,726.—COOLING AIR IN THE MANUFACTURE OF ICE.—Orazio Lugo and James B. McPherson, Baltimore, Md.

Claim.—1. The free-working piston-pump, substantially such as herein described, in combination with suitable devices for cooling the air compressed by the pump, and subsequently expanding the same so as to cool or refrigerate air for making ice, cooling, and refrigerating, as set forth.

2. The process of cooling and saturating with watery vapors or moisture the air before compressing the same, as and for the purpose herein described.

3. The process herein described of cooling compressed air by passing said air through coolers filled with a porous material saturated with cold water.

4. The method of cooling air by letting it expand in comparatively large chambers before using it for making ice or cooling purposes, substantially for the purpose herein set forth.

5. The railway N N and trucks *o o*, carrying pans O O, and the ice-house M, substantially as herein described and shown, when used in combination with currents of cold air for the purpose of making ice.

6. The pressure-blower A, in combination with the cooler B and the pump D, substantially as and for the purpose set forth.

7. The cooler E, in combination with the pump D and the chamber H, substantially as shown and described.

8. The chamber H and pipe L, in combination with the galleries *m m* of the ice-house M, substantially for the purpose set forth.

9. The pipe or conduit E, in combination with the ice-house M and the interior of the cooling-house S, for the purpose set forth.

10. A house for forming ice, having non-conducting walls, and tracks for trucks or cars suitable for introducing water and removing ice when formed.

112,727. — COMBINED BAG-HOLDER AND FILLER.—William F. Lum, Waterloo, Wis.

Claim.—1. The shovel A, having handles, B, in combination with the flexible tube or slack-bag C and holder D, having hooks E, in the manner herein described.

2. The shovel or bag-filler A, having handles, B, when constructed in the manner and for the purpose described.

3. The bag-filler and holder herein described, as a new article of manufacture.

112,728. — COMPOUND FOR LUBRICATING WOOL.—John James Lundy, Leith, near Edinburgh, North Britain.

Claim.—1. The manufacture or use of a mixture or emulsion produced by adding Gallipoli, olive, or other saponifiable oil to a solution in water of a caustic alkali, soda ash, or potash, or mixture thereof, and then incorporating the same therewith.

2. The employment, either separately or in conjunction with the before-mentioned or other lubricants, of solutions of tungstate or phosphate of soda, chloride of magnesium, or of such salts or compounds as shall possess the power of preventing or arresting the effects of fire arising from spontaneous combustion or otherwise.

112,729.—DRESS-SWORD.—James M. Mason, Washington, D. C., assignor to Alexander & Mason, same place.

Claim.—1. A dress-sword, made in two or more parts, capable of being disconnected and connected together, substantially as described.

2. In combination with a dress-sword blade, as above, the handle C, made partially hollow, and provided with the screw-driver D, substantially as set forth.

3. The combination of the sword sections A A', whose upper and lower ends are each formed with extension-pieces one-half the thickness of the blade, and with dovetailed shoulders *s* of any suitable form, and the parts connected together by one or more screws *z*, all substantially as and for the purposes set forth.

112,730.—PUMP.—Benjamin Franklin McKeehan, Clarksburg, W. Va.

Claim.—1. The combination of the bell-shaped plunger J, with its disk *d*, valve *e*, leathers *f f*, and hole *i*, with the pipe D and casting A, all substantially as and for the purposes herein set forth.

2. The combination of the casting A, handle B, standard E, spout C, pipe D, plunger J, chamber G, pipe H, and valve I, when all are constructed and arranged substantially as shown and described, and for the purposes herein set forth.

112,731.—HOSE-TUNNEL FOR CITY RAILWAYS.—Laurence Myers, Philadelphia, Pa.

Claim.—The within-described box D, with its recesses *f f*, ribs *e e*, and covers F G, as set forth.

112,732.—COMPOUND FOR DESTROYING POTATO BUGS.—Lemuel Pagin, Niles, Mich.

Claim.—1. The combination of the fine flour and middlings with the Paris green, for the convenience of scattering the Paris green evenly over the vines, as set forth.

2. The combination of all the ingredients herein named, compounded as and for the purpose herein described.

112,733.—MACHINE FOR GRINDING WOOD-PULP.—Sanford A. Perkins, Topsham, Me.

Claim.—1. A device for raising the weights of a wood-pulp grinding-machine, consisting, essentially, of a series of screws, with pinions fixed thereon, and operated by cog-wheels, substantially as described.

2. The central shaft R, and wheel A, with its cog-wheels D and C, acting in connection with the pinions and their screw-rods, as set forth.

3. In combination with the rods and pinions, arranged as described, the carriages and weighted levers, operating as set forth.

4. The latches H, with catch at the extremities, arranged to hold the lever G out of perpendicular line to be lifted by the rising of the weight, as set forth.

5. In combination with the screw-rods I, the cross-head J, nut K, and rods L L, connecting the cross-head to the guides or weight, as set forth.

6. The rods *i*, when made with a neck in the extreme end, and provided with a spring, as set forth.

7. The guides O, sliding on rods, and connected to the lifting-rods and weights, as described.

112,734.—WOOD-PULP MACHINE.—Sanford A. Perkins, Topsham, Me.

Claim.—A band, placed, as described, on the stone of a pulp-grinding machine, for the purpose set forth.

112,735.—ROLL FOR HUSKING CORN.—Peter Philip, Stockport, N. Y.

Claim.—1. The arrangement, in a pair of husking-rolls formed substantially as described, of the spiral series of spikes D, in relation to the spiral grooves E, whereby said spikes are made to enter said grooves as near the edge *d'* as practicable, as and for the purpose specified.

2. In combination with the spiral grooves E, of the husking-rolls A A', the partitions D', when the upper surfaces of said partitions are made concave, as shown in fig. 2 of the drawing, and for the purpose set forth.

3. The differential husking-rolls A A', provided with spiral grooves E and partitions D', formed as shown, and the spiral series of spikes D, all combined and arranged as described, and operated by equal gears C C', in the manner specified and set forth.

112,736.—DEVICE FOR PREVENTING BACK-LASH IN MACHINERY.—John L. Post, Ashley, Pa.

Claim.—1. The combination of the wheel A, having flanges A^1 and A^2, with projections *e* and *e'*, and stops *g'*, springs C, rod c^1, washer *c*, ring-plate F, having lugs *d* and d^1, recesses *g*, and projections *h* and *h'*, all constructed and arranged as and for the purposes set forth.

2. The wheel A, having a channel or chamber for the reception of springs, and projections for the support of the springs, all substantially as shown and specified, and for the purposes set forth.

3. The combination of the springs C, washers *c*, and rod c^1, all constructed and arranged substantially as and for the purposes set forth.

4. The ring-plate F, having recesses *g*, and projections *d* and d^2, and grooved projections *h* and *h'*, all substantially as specified and shown, and for the purposes set forth.

112,737.—MACHINE FOR SLOTTING AND CUTTING METAL.—Salmon W. Putnam, Jr., Fitchburg, Mass.

Claim.—The combination of a work-supporting table, mechanism to impart feed-movements to said table, a reciprocating cutter, and mechanism to impart to the work-supporting table slight reciprocal movements to remove the work away from the cutter after every forward thrust thereof, and before it commences to retreat, and back again to the cutter after every backward movement thereof, and before it is again thrust forward, substantially as and for the purpose herein described.

112,738. — POLISHING COFFEE. — John T. Randall, Baltimore, Md.

Claim.—1. The employment, substantially in the manner herein described, of turmeric in the process of renovating coffee.

2. The employment of turmeric and soap-stone conjointly in the process of renovating and polishing coffee, substantially in the manner set forth.

112,739.—WASH-BOILER.—Henry R. Robbins, Baltimore, Md.

Claim.—1. The trap *b*, provided with the external flaring guard *i*, and with internal partitions of any desired number, and with a central pipe passing down through the bottom of the boiler, said partitions and pipe being provided with openings located with respect to each other, as described.

2. The plate *l*, arranged beneath the boiler, and secured between the nuts *v* and the shoulders or ends of the elbows *e e*, as herein shown and described, for the purpose specified.

112,740.—CASTER FOR SEWING-MACHINES. Benjamin F. Ryder, New York, N. Y., assignor to Sargent & Company, New Haven, Conn.

Claim.—The arrangement of a caster upon a swinging slide, combined with a clamping device, when arranged to be thrown out of a perpendicular position, and by its own gravity returned to a perpendicular position, substantially in the manner described.

112,741.—SEED-TUBE FOR CORN-PLANTERS. Levi Scofield, Watertown, assignor to himself and Justin B. Wait, Farmington, Wis.

Claim.—1. The discharge-valve of a seed-planter, constructed with apertures to permit the operator to see the grain in the receptacle or spout on the opposite side of the valve, substantially as herein described.

2. In combination with the slotted or perforated valve the seed-tube, provided with one or more side openings, so that the seed to be dropped is held in view of the operator from the outside, at or near the point at which the seed enters the ground, substantially as herein described.

112,742. — BEER-COOLER FOR BEER ON DRAUGHT.—Hugo Sell, New York, N. Y.

Claim.—The combination of a vat, C, containing a serpentine pipe, D, with a frame, A, capable of supporting one or more barrels B, substantially in the manner herein shown and described.

112,743.—CARRIAGE-CLIP.—Moses Seward, New Haven, Conn.

Claim.—As an article of manufacture, the herein described carriage-clip, having a central sharp bend, *a d*, substantially as and for the purpose set forth.

112,744.—SEWING-MACHINE NEEDLE.—John J. Sibley, New York, N. Y.

Claim.—As a new article of manufacture, the sewing-machine needle herein described, having the form, and grooved as set forth.

112,745.—SEWING-MACHINE.—William Sidenberg, New York, N. Y.

Claim.—The combination, with the presser-arm H, of the adjustable and removable arm J, for guiding the needle-bar, the latter being operated from the arm F, all substantially as described.

112,746.—SUSPENDER.—Sydney E. Smith, Washington, D. C., assignor to himself and Frederic G. Ford.

Claim.—A pantaloon-suspender constructed of a single piece of webbing, with an adjustable tag at one or both ends, for operation as shown and described, as a new article of manufacture.

112,747. — SEWING-MACHINE.—Greenleaf Stackpole, Elizabeth, N. J.

Claim.—1. The combination, with sewing-machines, of the feeding-chains, adapted to receive the material between their faces, hold it firmly while passing beyond the needle, and discharge it.

2. The combination of feeding-chains and the horizontally-reciprocating needle, when operated, substantially as described, to form stitches alternately through the material and over the edge.

3. The gear-wheels B^2 E and their connections, communicating a slower movement to the shuttle-mechanism than to the needle, so as to perform only a half-reciprocation of the shuttle for each complete reciprocation of the needle, as specified.

112,748. — FLORAL-BRACKET.—Elizabeth Mary Stigale, Philadelphia, Pa.

Claim.—1. A bracket, arranged for attachment to

a wall, window-frame, or other object, and having a recess or trough for the reception of earth, all substantially as described.

2. The said bracket, when combined with a glazed frame and adapted to a window, as set forth.

3. The said bracket, when provided with a detachable trough or basin, C, suspended within the bracket by flanges a a, substantially in the manner described.

4. The short tubes or perforated projections b in the bottom of the said trough or basin, for the purpose specified.

5. The combination of the said trough with a drip-receiver, D, arranged beneath and within the hollow bracket, as described.

6. The projecting ledge or dasher h, at the back of the bracket, for the purpose specified.

112,749.—HAIR-RESTORATIVE.—William P. Thomas and Joseph F. Boardman, Elko, Nevada.

Claim.—The said compound, prepared substantially as described.

112,750.—HARVESTER.—Ausbert H. Wagner, Chicago, Ill.

Claim.—1. In a reaping or mowing-machine, a male and a female spur-gear wheel, positively driven in opposite directions by the same gear-wheel, and caused to mesh with, and impart motion to, a crank-shaft pinion upon opposite sides of the same, substantially as and for the purpose specified.

2. In combination with the main frame A, the hinged frame B′, the pole A′, the segment C′, and the detent D′, the foot-lever E′, the lever V, and the toothed segment Z, for the purpose of securing vertical adjustment to the forward end of said main frame, substantially as shown and specified.

112,751.—APPARATUS FOR DISTILLING PETROLEUM AND OTHER LIQUIDS.—William Gray Warden, Philadelphia, Pa.

Claim.—1. A still or boiler, consisting of a vessel, A, having an internal flue, B, closed at the top, so as to have a downward draught, in combination with a continuous annular flue surrounding the vessel and communicating with the fire-place, and, through tubes a, with the said internal flue, all substantially as set forth.

2. The combination of the vessel A, the continuous annular fire-place surrounding the vessel, and the annular flue E, substantially as described.

112,752.—MACHINE FOR CUTTING TEXTILE AND OTHER MATERIALS.—Albin Warth, Stapleton, N. Y.

Claim.—1. The face of the feed-wheel G, provided with two, more or less, annular grooves, l, combined and operating in connection with the scrapers m, as and for the purpose herein shown and described.

2. The combination of a feed-wheel, G, and rotary platform B, with a rising-and-falling cutter-bar, F, substantially as set forth.

3. The standard L rising from the rotary platform B, and forming the guide for the presser-foot H, in combination with the rising-and-falling cutter-bar, F, substantially as described.

4. The trigger L, with its adjustable fulcrum, in combination with the standard I, handle K, and presser-foot H, substantially as set forth.

112,753. — FASTENING FOR TEXTILE FABRICS.—Albin Warth, Stapleton, N. Y.

Claim.—The guide-plate A, carrying the curved needle B, constructed and operating in the manner shown and described.

112,754.—WOODEN SHANK FOR SHOES AND BOOTS.—Jeremiah Mears Watson, Sharon, Mass.

Claim.—A wooden shank-stiffener, made from several separate strips or layers of wood, substantially as herein described.

112,755. — APPARATUS FOR VULCANIZING RUBBER. — Henry W. Weicker, Woonsocket, assignor to himself and George W. Miller, Smithfield, R. I.

Claim.—1. A steam-heating press-box for vulcanizing rubber or other substances, having hollow sides, top, and bottom for the admission of steam into the same, substantially as herein set forth.

2. One or more hollow doors hinged upon hollow journals to a steam-heating press-box, having hollow sides, top, and bottom, substantially as and for the purposes herein set forth.

3. A steam-heating press-box, constructed with hollow sides, top, bottom, and door or doors, having its entire outer surface covered with non-conducting substance, held in place by any suitable means, substantially as and for the purposes herein set forth.

4. In combination with the steam-heating press-box herein described, the arrangement of pipes and stop-cocks, as and for the purposes set forth.

112,756.—SHUTTER-FASTENER.—Peter L. Weimer, Lebanon, Pa.

Claim.—The combination of the interlocking turn-buttons F, with recessed in their shanks to receive the projecting arms of the respective buttons, the plates D, pins H, and springs K, the arms serving also to hold the shutters open by engaging in a catch in the wall, all arranged as and for the purpose set forth.

112,757.—CARRIAGE-AXLE.—Edward Wells, New Haven, Conn.

Claim.—1. The combination of the cap E, provided with the chamber h, with the box B, axle-spindle A, and nut C, when the said box is provided with openings from the chamber to the axle, and the said cap threaded to take hold of the box both in front and rear of said chamber h, substantially as set forth.

2. In combination with the foregoing, the arrangement of the internal annular chamber d in the box at its rear end, as specified.

112,758. — LANDAU CARRIAGE. — Edward Wells, New Haven, Conn.

Claim.—In Landau carriages, the construction of the top in two or more parts, constructed and arranged to close into or onto the other, substantially as described.

112,759.—LATHE-DOG.—Henry K. White, Chelsea, Mass.

Claim.—A lathe-dog, having an encompassing sleeve, the sharpened front edge of which is or may be brought into a plane with the dog-teeth or bits, so that the edge of the sleeve, as well as the edges of the teeth, enter the wood, substantially as described.

112,760.—WASH-BOILER.—Wolcott B. White, Rome, N. Y.

Claim.—The combination of the perforated diaphragm or bottom, B, and the upright, hollow, perforated chamber and conductor E, with the perforated cylindrical top or cover I, all constructed as shown and described, for the purposes specified.

112,761, antedated March 6, 1871.—PORTABLE STEAM-GENERATOR.—James E. Woodruff, Buffalo, N. Y., assignor of one-half his right to James F. Rowley, same place.

Claim.—1. The oval-shaped cylinder A, having the oval-shaped fire-box C, provided with the diaphragm P, and surrounded by the water-space D, all constructed and arranged as herein described, and for the purpose specified.

2. In combination with the above, the hinged ash-pan Q, for the purpose specified.

112,762.—GATE. — Claiborne Wright, Mason, Ill.

Claim.—In combination with the gate B, with its post C and latch E, the cross-piece H, cords e e, and swords or levers G G, all substantially as and for the purposes herein set forth.

112,763.—BREECH-LOADING FIRE-ARM. — William C. Dodge, Washington, D. C.

Claim.—1. A frame for a double-barreled breech-loading gun, consisting of an arm at the front for hinging the barrels to, a breech or recoil piece for covering the rear open ends of the barrels, and a neck or rear portion, constructed substantially as described, whereby the locks may be located within the same, while the hammers are located outside thereof, substantially as set forth.

2. The lever-guard L, provided with the hook P, or its equivalent, arranged to lock the barrels in position, substantially as described.

3. One or more adjustable wedges, applied to the arm A of the frame, substantially as set forth, for adjusting or tightening up the barrels to the breech, to compensate for any wear of the parts.

REISSUES.

4,295.—HARNESS-RING.—Horace N. Eames, Newport, assignor to Hiram R. Olmstead and Richard W. Jones, Syracuse, N. Y.—Patent No. 100,384, dated March 1, 1870.

Claim.—A harness-ring, having one or more radial projections constructed on a plane with the body of the ring, and having straight slots cut therein, substantially as described.

4,296. — CARPET-LINING.—Joel F. Fales, Walpole, Mass.—Patent No. 52,835, dated February 27, 1866.

Claim. — A carpet-lining, substantially as described, the filling of which and the paper adjoining such filling are retained together by means of stitches or sewing.

4,297. — ELECTRO-MAGNETIC BURGLAR-ALARM.—William B. Guernsey, Jersey City, N. J., assignor to Cyrus B. Martin, Newburg, N. Y.—Patent No. 108,257, dated October 11, 1870.

Claim.—1. A continuous conductor or conductors, the severing of which or of either of them will cause an alarm to be sounded, said conductor or conductors being arranged in relation to the several elements of the alarm in such manner that the short-circuiting of such conductors, or of the two parts of such single conductor, shall also cause an alarm; an electrical conductor or conductors (for protective purposes) which, or the parts of which, are so arranged with regard to the other elements of the alarm that they can neither be severed nor short-circuited without causing an alarm.

2. In an alarm, such arrangement of continuous conductors, or of a conductor, which cannot be severed without causing an alarm, with regard to the various points to be protected, that the attempting of acts which the contrivance is intended to prevent will create a short-circuit between such conductors or between two parts of a single conductor, and so cause an alarm to be sounded.

3. The combination, in an electro-magnetic alarm, of a continuous circuit or circuits with a sufficient resistance or resistances, and an alarm or alarms, when the said combination is so arranged that the severing or interrupting of the said circuits, or of either of them, shall cause the said alarm or alarms to sound; and also, that the short-circuiting or diverting the course of the electrical current in said circuit or circuits around or past the said resistance or resistances shall sound an alarm, or cause an alarm to be sounded, this when the whole arrangement is properly combined with a sufficient battery, and with "connections" or contrivances at points to be guarded, which will, upon the doing of certain acts, or the happening of certain things, short-circuit the said electrical current or currents past or around the said resistance or resistances, and so to give the desired alarm.

4. In a burglar or fire-alarm, the combination of an open and a closed circuit to operate, substantially as set forth.

4,299.—DEVICE FOR CUTTING BOLTS AND RIVETS.—Jesse Johnson, Cochransville, Pa.—Patent No. 65,391, dated June 4, 1867.

Claim.—1. In bolt-cutting devices, the combination of the toothed stock of the movable cutter, integral therewith or otherwise, and the toothed segment levers, arranged and operating therewith, substantially as described.

2. The combination of knives A and B with levers E and F, screw D, frame C, and top and bottom plates, figs. 3 and 4, all constructed, arranged, and operating in the manner and for the purpose shown and explained.

4,300.—MAKING THICK PAPER.—Samuel G. Levis, Kellysville, Pa., assignor to James C. Beach.—Patent No. 10,519, dated February 14, 1854; reissue No. 2,789, dated October 22, 1867; extended seven years.

Claim.—1. Running or operating two or more forming-cylinders, in connection with the press-rolls, by means of or in combination with two endless felts, so arranged that the water passes through the felts and runs off at the ends of the rolls.

2. Passing or carrying a sheet of paper-pulp through or between the press-rolls, and expressing the water therefrom between two endless felts, so arranged that the water may pass through the felts in front of the rolls and run off freely at the ends.

3. The combination of the two forming-cylinders, C and D, the two endless felts, E and H, the guide-roll K, and the two squeeze-rollers F F′, arranged and operating substantially as described.

4,301. — STEAM-GENERATOR.—Abraham L. Pennock, Philadelphia, Pa.—Patent No. 103,363, dated May 24, 1870.

Claim.—1. A boiler, in which a partition or partitions is formed by circulating-tubes, constructed substantially as described, and supported between the ends of the boiler so that they may be turned to bring their edges against the adjacent tubes, substantially as specified.

2. A partition, consisting of circulating tubes, each rounded at one edge, and bearing with its opposite edge against, or overlapping, the adjacent tube, as specified.

4,302. — STEAM-BOILER. — Patrick Quinn, South Newmarket, N. H.—Patent No. 110,158, dated December 13, 1870.

Claim.—1. A combustion-chamber placed between tubes in a tubular upright boiler, and having the flames admitted into it both through the bottom and sides of the boiler, substantially as herein set forth.

2. A hollow perforated drum, or its equivalent, provided with hollow arms or pipes, and placed within the combustion-chamber of a steam-boiler, the hollow arms or pipes communicating with the outside air, substantially as and for the purposes herein set forth.

3. The feed-water pipe m, inclosed within one of the vertical tubes c, so arranged as to conduct the feed-water through the boiler and combustion-chamber and deliver at the bottom of the boiler.

4,303.—BUTTON-HOLE.—Benjamin M. Smith, New York, N. Y., assignor to Charles Goodyear, Jr., and Leonard A. Sprague, same place.—Patent No. 75,212, dated March 3, 1868.

Claim.—The shield-piece a, made from a single piece of metal folded to overlap and protect the wearing portion of a button-hole, the other part of said button-hole being left flexible, substantially as described.

4,704.—LAMP.—Lewis White, Waterbury, Conn., assignor, through mesne assignments, to Rufus S. Merrill, Boston, Mass.; said Rufus S. Merrill assignor of two-thirds of his right to William B. Merrill and Joshua Merrill, same place.—Patent No. 25,475, dated September 13, 1859.

Claim.—1. The arrangement, in a lamp-burner, of shafts or spindles carrying two or more wick-raising toothed wheels which impinge upon the wick, and provided with pinions, geared together, substantially in the manner shown and described, so that by rotating one shaft the other will also be put in motion, thereby causing all the wheels upon the shafts to act in unison upon the wick.

2. The combination of the wick-tube with the parallel shafts, arranged on opposite sides of the tube, carrying two or more toothed wick-raising wheels, and geared together, substantially in the manner shown and described, so that the rotation of the one shaft will cause the rotation of the other in the opposite direction, for the purposes set forth.

3. The combination, with the wick-tube and wick-raising devices, of means, substantially such as herein shown and described, whereby the said wick-raising devices may be removed, when required, from contact with the wick contained in said tube.

DESIGNS.

4,700.—ORGAN-CASE.—Charles Edwin Bacon, Buffalo, N. Y., assignor to himself and George A. Prince.

Claim.—The design for reed-organ cases, as shown.

4,701.—HAME-TOP.—Mathew F. Boland, Philadelphia, Pa.

Claim.—The design for hame-top, as shown in the accompanying photographic illustrations.

4,702.—MUFF.—Simon Herzig, New York, N. Y.

Claim.—The design for a muff, as herein shown and described.

4,703.—FRAME OF A SHOW-CASE.—Benjamin Hill, Malden, Mass.

Claim.—The design, as described and represented.

4,704.—STOCKING.—James Hogg, Philadelphia, Pa., assignor to Fleming Brothers, same place.

Claim.—The design for stocking, as shown in the accompanying photographic illustrations and diagrams 1 2.

4,705.—INKSTAND.—Thomas S. Hudson, East Cambridge, Mass.

Claim.—The design for an inkstand, consisting of a representation of the hull of a vessel, with two "inks" forward and aft, as shown, and with or without a sponge-cup between the inks.

4,706.—SAW.—William Kidd, Duncan's Mills, Cal.

Claim.—The design for a saw, as shown.

4,707.—ORNAMENTATION OF GLASS-WARE.—Frederick Ladner, Philadelphia, Pa., assignor to Ladner & Bird, same place.

Claim.—The design for the ornamentation of glass-ware, substantially as shown and described.

4,708.—FASTENING FOR BEDSTEAD.—William H. McPherson, Nashville, Tenn., assignor to himself and William N. Carr, Sr., same place.

Claim.—1. The shape or conformation of the tenon C, as shown and described.

2. The shape or conformation of the socket E, as represented and set forth.

3. The shape or conformation of the wedge G, as shown.

4,709.—GARDEN-TOOL.—Roswell A. Moore, Kensington, Conn.

Claim.—The design for a miniature garden-tool, substantially as set forth.

4,710.—SPOON OR FORK-HANDLE.—William Parkin, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The design, substantially as shown and described.

4,711.—FLOOR OIL-CLOTH PATTERN.—Joseph Robley, Brooklyn, N. Y., assignor to William M. Brasher & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being wrought upon floor oil-cloth in the form similar to the drawings accompanying this specification.

4,712.—FLOOR OIL-CLOTH PATTERN.—Joseph Robley, Brooklyn, N. Y., assignor to William M. Brasher & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being wrought upon floor oil-cloth in the form similar to the drawings accompanying this specification.

4,713.—FLOOR OIL-CLOTH PATTERN.—Joseph Robley, Brooklyn, N. Y., assignor to William M. Brasher & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being wrought upon floor oil-cloth in the form similar to the drawings accompanying this specification.

4,714.—GROUP OF STATUARY.—John Rogers, New York, N. Y.

Claim.—The design for a group of statuary, as herein shown and described.

4,715.—SPOON OR FORK HANDLE.—George Sharp, Philadelphia, Pa.

Claim.—1. The contour or profile of the side and end edges of the handle A B, substantially as shown.

2. In combination with the said contour or profile of the side and end edges of the handle A B, the ornamental configurations on the upper surface of the same, substantially as shown in fig. 1.

3. In combination with the said contour or profile of the side and end edges of the handle A B, the ornamental configurations on the under surface of the same, substantially as shown in fig. 2.

4,716.—BACK OF MITTEN.—William S. Tooker, Kingsborough, N. Y., assignor to himself and Elliot Thomas, same place.

Claim.—The design for the back piece of a mitten, substantially as described and illustrated.

4,717.—CARPET-PATTERN.—John T. Webster, New York, N. Y., assignor to Daniel M. Read and Charles A. Read, Bridgeport, Conn.

Claim.—The design for a carpet, as shown.

4,718.—PAINT-BRUSH.—John L. Whiting, Boston, Mass.

Claim.—The design, substantially as described, for a paint-brush, such design being composed of the four characteristics hereinbefore first enumerated.

4,719.—SPOON OR FORK-HANDLE.—George Wilkinson, Providence, R. I., assignor to Gorham Manufacturing Company, same place.

Claim.—The design for spoons and forks, substantially as herein set forth.

4,720.—INKSTAND.—Lucius L. Woodruff, Cleveland, Ohio.

Claim.—This particular shape of cottage-bottle, with a gable roof, as shown in the annexed drawings, to be used for containing writing-inks.

TRADE-MARKS.

188.—BOOT-HEEL.—Francis Hacker and Frederick Richardson, Providence, R. I., assignors to "Reversible Boot-Heel Company," same place.

189.—SOAP.—Leberman & Co., Philadelphia, Pa.

190.—DRESSING COMPOUND.—E. R. Millard, Waltham, Mass.

191.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

192.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

193.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

194.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

195.—SIRUP.—William Moller & Sons, New York, N. Y.

196.—GRAY CLOTH.—L. Pomeroy's Sons, Pittsfield, Mass.

EXTENSIONS.

FRANKLIN N. CLARKE, of New Haven, Conn., administrator of ELIZUR E. CLARKE, deceased.—Letters Patent No. 16,719, dated March 3, 1857.

"Machine for Cutting Pasteboard for Boxes."

Claim.—1. The method of attaching and adjusting the cutters, in combination with the main cylinder, when the whole is constructed, arranged, and made to operate substantially as herein described.

2. The combination of the spring-clamp M with the main cylinder and cutters, when constructed and made to operate substantially as herein described.

G. F. HUTCHINS, of East Douglas, Mass., administrator of CHARLES HUTCHINS, deceased.—Letters Patent No. 16,732, dated March 3, 1857.

"Improvement in Machines for Making Axes."

Claim.—The preparation of the bar or block of iron by longitudinal rolling between rolling dies, operating substantially as herein described, to form it with a projection on one face in the middle of its length, and two projections on the opposite face, one at each end, substantially as described, in combination with the cross-rolling between segment-dies under a mode of operation, substantially such as herein described, to reduce the thickness of the cheeks toward the edges and to form the required swell on the edges of the cheeks, substantially as described, and for the purpose specified.

ISSUE OF MARCH 21.

PATENTS.

112,764.—COMPOSITION FOR PAVEMENTS.—Nathan B. Abbott, Brooklyn, N. Y.

Claim.—The composition, formed of coal-tar, pitch, or asphalt, and creosote, with the other ingredients named.

112,765.—BED-BOTTOM.—John H. Allyn, Whitesborough, N. Y.

Claim.—1. The manner of connecting or tying the cross-slats together by means of the long and short connections, substantially as shown and described.

2. Holding the ends of three slats over one spring by means of long connections, as shown at E E; also, the ends of two slats over one spring by means of short connections, as shown at D D, substantially as shown and described.

112,766.—PRESSING AND BALING HAY.—George H. Aylworth, Brighton, Ill.

Claim.—The arrangement, in the press herein described, of the vertical frame A, presser-bar B, cords *c d*, and eccentric pulley C, when all these parts are constructed and operated as shown and described, for the purpose set forth.

112,767.—HAT AND CAP-HOLDER.—Charles Beeny, Albany, N. Y.

Claim.—The spring A, plate B, and staple C, with or without rubber D, combined and arranged in the manner and for the purpose herein shown and described.

112,768.—PUMP-PISTON.—Daniel W. Bell, St. Louis, Mo.

Claim.—1. As a new article of manufacture, a packing, D, for piston-heads, made of vulcanized rubber, substantially of the shape and form as shown and described.

2. The piston-head B, rubber ring D, having a beveled edge, *b*, and follower H, its edge *a* beveled to correspond with the bevel of *b*, the edge of the latter rising and playing freely above the follower, and the pressure of the follower on the ring maintained and adjusted by bolts and nuts, and all arranged and constructed for joint operation, as and for the purpose shown and specified.

112,769.—HORSESHOE-MACHINE.—Uriah Billings, Cambridgeport, Mass.

Claim.—1. The endless chain E, one or more carriages, F, formers H, and actuator G, the frame or table A, the rails *i i*, the rollers L L, the presser, the creaser I, the spreading-die K, and the heel-contracting dies N N, all arranged and combined as and to operate as specified.

2. The shears *p n*, the rails *i i*, the abutment *k*, the rollers L L, the presser, the creaser I, the spreading-die K, the heel-contracting dies N N, all the endless chain E, and one or more formers, H, and actuator G, arranged and combined substantially and to operate as explained.

3. The arrangement and combination of the fingers P P with the heel-contracting dies N N, combined and to operate with a spreading-die K, a creaser, I, a presser, bending rollers L L, one or more formers, A, and actuators G, and an endless chain, E, in manner substantially as described.

4. The combination of the sectoral creaser-block I, grooved as described, the arms *w* and *x*, and the nose *a* of the actuator, as and for the purposes set forth.

112,770.—PISTON-ROD PACKING.—James H. Blessing, Albany, N. Y., assignor to himself and Frederick Townsend, same place.

Claim.—1. The combination of the vulcanized rubber cylinder G, made long enough to be compressed endwise, in combination with the chamber B, compressible metallic sectional packing-cylinder

b' b' b' b', gland C *c*, and steam inlet-passage *a*, all substantially in the manner and for the purpose herein described.

2. The channels formed on the compressible sectional packing-cylinder *b' b'* with the chamfered edges, in the manner and for the purpose herein described.

3. The combination of the steam-channels and chamfered edges of the packing-rings with the intersecting splits of said rings, said intersecting splits being arranged to break joints, substantially in the manner described and for the purpose set forth.

4. The combination of the split ring *b*, which is not grooved, with the split rings *b'*, which are chamfered and grooved, and with the vulcanized rubber cylinder G, chamber B, gland C *c*, and steam-passage *a*, substantially in the manner described.

112,771.—TAP AND NOZZLE FOR OIL-CANS.—Jabez A. Bostwick, New York, N. Y.

Claim.—1. As a new article of manufacture, the within-described metallic tap for oil-cans and other vessels, constructed of the opened-bottomed cup D, threaded to screw into the nozzle of the can, the recessed or countersunk lid F secured thereto, and the valve H K, operated by a screw, G, working centrally through the lid, said parts being formed and combined substantially in the manner herein set forth.

2. In combination with the subject-matter of the first claim, the within-described metallic, countersunk, scored, and threaded nozzle A, as herein set forth.

112,772.—GLASS-BLOWER'S MOLD.—Samuel R. Bowie, New Bedford, Mass., assignor to himself and William L. Libbey & Brother, same place.

Claim.—1. The rotary mold for forming the outer surface of a blown-glass article, when constructed substantially as herein set forth.

2. The combination of a stationary axial bed or bottom-former with the rotary mold or body-former, substantially as and for the purpose set forth.

3. As a mold made with a series of peripheral rollers, as and for the purpose set forth.

4. In combination with a rotating mold made in two sections or parts, B B, as described, mechanism as specified for opening and closing the same, as set forth.

5. In combination with the stationary axial support or bottom-former and the rotary mold or parts B B, mechanism for rotating the latter, substantially as set forth.

112,773.—HORSE-SHOE.—Joseph Brackett, Lynn, Mass.

Claim.—1. The flexile metallic band B, as provided with the tongue or tongues *b*, arranged as described, in combination with the horse-shoe A, as furnished or made with a peripheral groove or grooves, *a*, to receive such tongue or tongues, all being substantially as specified.

2. The combination of such and a fastening, either elastic or melastic, applied to the band for connecting its ends and holding it in place in the shoe and on a hoof, as set forth.

112,774.—STREET-LAMP.—George Brandon, New York, N. Y.

Claim.—1. The glass top B, corrugated as and for the purposes herein set forth.

2. The ring G^1 G^2, made in separate pieces, matching upon the ring H, and holding the parts A B of the lamp together, as specified.

3. The felt E, or its equivalent, arranged, as represented, relatively to the parts A B of the lamp and to the confining means, as specified.

112,775.—MACHINE FOR UPSETTING BOLTS.—Benjamin Briscoe and Joseph A. Briscoe, Detroit, Mich., assignors to The Michigan Bolt and Nut Company, same place.

Claim.—As an improvement in the method of forming the heads of bolts, supplementing the upsetting action of the heading-tool, when forced up and held by a cam in the usual manner, by another action of said heading-tool, effected by forcing the wedge K down between the rear end of said tool and a solid bearing in the block H, as herein described.

112,776.—GREEN GLAZE FOR FLOWER-POTS.—John E. Brooks, Yarmouth, Me.

Claim.—An improved green glaze for flower-pots, prepared of the ingredients in the proportions and manner substantially as herein described and set forth.

112,777.—HORSE HAY-FORK.—Benjamin F. Brown, Catlin, Ind.

Claim.—The combination, with the barbed bars A B, pivoted together, and having the eyes E for the attachment of the hoisting-rope, of the bars F H, the toggle-jointed bars O, and the trip-catch, all arranged substantially as specified.

112,778, antedated March 9, 1871.—DEVICE FOR TRANSPORTING EGGS.—Abner H. Bryant, Chicago, Ill.

Claim.—The pockets for egg-carriers, herein described, formed by the strips A A, slit at *b*, the transverse strips B, slit at *c*, and the partition-sheet D, as and for the purpose specified.

112,779.—PNUEMATIC TELEGRAPH.—Edward A. Calahan, Brooklyn, and George B. Field, New York, N. Y.

Claim.—1. The mode herein specified of operating a printing-telegraph instrument by alternate pressure and exhaust pulsations of air or gas, substantially as set forth.

2. The valves *c d*, operated alternately by a rocking-lever, combined with the pressure and exhaust-pipes and the tube connecting to the distant instrument, substantially as set forth.

3. The cylinder *m*, piston *n*, and escapement *s*, for moving the type-wheel *p* by the alternate pressure and exhaust pulsations, substantially as specified.

112,780, antedated March 18, 1871.—COMBINED GAUGE AND TRY-SQUARE.—Frederic Castle, Montana, Iowa, assignor to himself and Newbury J. Eaton, same place.

Claim.—The construction of a combined sliding-gauge and try-square, wherein the stock A, eccentric B, blade C, studs D and E, bracket F, set-screw *b*, square G, and set-screw *c* are arranged relatively to each other, and operate in the manner and for the purpose set forth.

112,781.—PEN-HOLDER.—Benjamin Charles, Akron, Ohio.

Claim.—1. The elastic band *f*, in combination with the clamp *c*, as set forth.

2. The metal slips or springs *h*, in combination with the cap or cover B, as and for the purpose set forth.

112,782.—THRASHING-MACHINE.—Francis G. Chesman, Lemont, Ill.

Claim.—1. The combination of the revolving grain-meter D with a thrashing-machine, when arranged to receive, measure, and deliver the grain, substantially as described.

2. The combination of the measuring-buckets *e*, pins *i*, lever *h*, and scale-beam *g*, substantially as specified.

3. In combination with the revolving meter D the hinged board or flap *e*, arranged to operate as set forth.

4. The trough for the reception of grain from the meter, having the sliding bottom F, arranged to operate substantially as described, whereby it can be made to deliver the grain at either side of the machine, as set forth.

112,783.—THILL-COUPLING.—Newton J. Clark, Clarkston, Mich., assignor to himself and Milton H. Clark, same place.

Claim.—The spring G, provided with latch or stud H, in connection with the strap C, bolt or rivet D, and hook E, when each part is constructed substantially as described, and arranged to operate as set forth.

112,784.—EGG AND FRUIT-CARRIER.—William J. Clark, Lena, Ill.

Claim.—A series of compartments formed of a face-plate of paper, or similar material, and a series of bent pieces attached thereto, forming the main portion of the compartments, as set forth.

112,785.—LAPPET-LOOM.—Joseph Clough and Joseph Crompton, Chicopee, Mass.

Claim.—1. The cam-wheel E, provided with one set of fixed tappets, H, the two sets of adjustable tappets G I, and combined with the sliding rods for working the needle-bars, the wheel *i*, chain, lever, and pattern-wheel *m*, all substantially as specified.

2. The combination, with the cam-wheel E and pattern-wheel *m*, of the friction-wheel *g*, wheel *r*, friction-disk *y*, and the eccentric shaft *s*, all substantially as specified.

112,786.—COATING GAS AND WATER-PIPES.—Nicholas Clute, Schenectady, N. Y.

Claim.—The composition, for the purposes set forth, composed of the several ingredients in quantity and proportion of each as herein described.

112,787.—BLOTTING-PAD.—Alfred Q. Collins, Cambridge, Mass.

Claim.—The combination and arrangement of the springs *g* and *e* with the raised pieces *d d*, screw *c*, and top *a*, all constructed as and for the purposes set forth.

112,788.—SAWING-MACHINE TABLE.—Jonathan Creager, Cincinnati, Ohio.

Claim.—The described arrangement of veneer-saw C, supporting-rollers D, obliquely-ascending series of gauge-rollers M N, and the bearing-off rollers H, for the purpose set forth.

112,789.—FIRE-SHOVEL.—Isaac W. Denning, Allegheny City, Pa.

Claim.—Fastening the shank to the blade of a shovel in the manner shown and described, that is to say, by riveting the shank through the blade and grooving the blade, and applying the strap G, substantially as set forth.

112,790.—WASHING-MACHINE.—William James Dodge, Syracuse, N. Y., assignor to himself, Alanson T. Briggs, and William Henry Thrall, New York city.

Claim.—A washing-cylinder, constructed with openings A A, rods or bars B B B B B, partition C, corrugated periphery D D, and with plain or corrugated sides, substantially as and for the purpose hereinbefore set forth.

112,791.—BLIND-WIRING MACHINE.—Elijah F. Dunaway, Cincinnati, Ohio.

Claim.—1. The slotted slide G, combined with the screws *h*, having beveled heads, as and for the purpose described.

2. The pawl *m*, combined with treadle mechanism L O P Q R S F, for the purpose described.

3. The combination broad-faced and slotted standard A *e*, table B, beds C D, and parts E, all constructed and applied to form the supporting-frame of a blind-wiring machine.

112,792.—BALANCING VERTICAL-RECIPROCATING MASSES.—William F. Durfee, Bridgeport, Conn., assignor to himself and Jackson & Wiley, Detroit, Mich.

Claim.—A piston, P', and cylinder C, combined, as described, with a pipe, T, receiving steam at boiler-pressure, for the purpose of neutralizing vertically-movable masses of matter, as described.

112,793.—ADJUSTABLE BEVEL.—Willard C. Ellis, Springfield, Mass., assignor of one-half his right to Rufus A. Russell, same place.

Claim.—In combination with the beam and blade of a bevel, the device for adjusting the same, consisting of the nut *c*, screw *d*, and recessed cam-lever *e*, the parts being constructed and arranged substantially as shown.

112,794.—SAWING-MACHINE.—Jacob Felton, Fairmount, Ind.

Claim.—The hollow pivoted beam G, rope *i*, and roller *j*, combined, as described, with beam F, for the purpose specified.

112,795, antedated March 10, 1871.—MAGAZINE FIRE-ARM.—Harbert K. Forbis, Danville, Ky.

Claim.—1. In combination with the sliding barrels A B, the spring-feeding device M *m' m''*, the parts being constructed and arranged substantially as set forth.

2. In connection with the barrels A B and feeder M *m' m''*, the lipped spring-jaws J J' *d*, operating as described, and for the purpose specified.

112,796.—CHURN.—David Frankfoder, Wakarusa, Ind.

Claim.—The combination of the beaters E', rock-shafts E, rocker-arms F, connecting-rod I, lever H, and standard G, arranged with relation to each other and the churn-box A, and detached lid A', as and for the purpose set forth.

112,797.—HORSE-COLLAR PAD.—John Fraser, Dowagiac, Mich., assignor to himself and John J. Hardy, same place.

Claim.—In a horse collar pad, wherein a metallic shield is interposed between the cushion and cover, the lining A, where its ends are extended, worked up, or drawn over the ends of the cover B and secured thereto, substantially in the manner and for the purposes herein set forth.

112,798.—TELEGRAPH-SWITCH.—Alexander H. Freeman, Chicago, Ill.

Claim.—1. The telegraph-switch connector, consisting of a pressure-rod, E, working in a tube, D, to which is attached a clasp, F, with hooks *f f*, constructed and operating substantially as described and shown.

2. The pressure-rod E, cut at its outer extremity to fit the wire of a switch-board, to increase the connecting-surface of the metals.

3. The clasp F, having bent hooks *f f*, shaped to surround the wire of a switch-board, to increase the connecting-surface.

4. The combination of the clasp F, the pressure-rod E, tube D, and spring G, when the said spring forms a solid connection between the rod E and tube D, substantially as and for the purpose set forth and shown.

5. The detachable forked connector, constructed to clasp under the lower switch-wire and press upon the upper switch-wire, whereby the connecting-surface is increased and holes in the switch-wire are dispensed with, as described and shown.

112,799.—BIT-BRACE.—Raymond French, Seymour, Conn.

Claim.—In combination with a split socket and screw-sleeve, the transverse mortise through the socket-head, as and for the purpose described.

112,800.—LOOP FOR STIRRUPS.—Josiah B. Gathright, Louisville, Ky.

Claim.—The method, substantially as herein shown and described, of attaching stirrups to saddles, and also, as specific means to this end, the

stirrup-loops operating substantially as shown and described.

112,801.—Vise for Joiner's Use.—Jonathan Good, Lancaster, Pa.

Claim.—1. The central four-sided column A, in combination with the jaws B C, operating at right angles, arranged substantially in the manner and for the purpose specified.

2. The top sliding plate D, with the screw arrangement I, in combination with the center A, jaws B C, slides G H, all operating in the manner and for the purpose herein set forth and shown.

112,802.—Machine for Sewing Boots and Shoes.—Charles Goodyear, Jr., New Rochelle, N. Y.

Claim.—1. The combination, with a boot and shoe sewing mechanism, of a jack adjustable on axes intersecting each other, as shown and described, such jack being mounted on a shaft which rests on a pedal, and is connected therewith, and with the column or other support of the sewing-machine, in the manner substantially as shown and described, so as to be capable of swinging within given radiuses, as herein set forth.

2. In a boot and shoe sewing-machine, in connection with which a jack is used, adjustable and supported substantially as herein described and claimed in the preceding clause, a jack-supporting shaft composed of two parts, jointed, to admit of their rigid adjustment, with respect to each other, below the pivot or support of the revolving jack.

3. The sleeve of the jack, its supporting shaft, and the spring, when arranged as described, and for the purposes set forth.

4. In a sewing-machine adapted for the sewing of boots and shoes, the curved needle actuated by geared lever segments, and provided with a guard or support constructed and operating substantially as herein shown and described, whereby the awl or other auxiliary piercing instrument is dispensed with.

5. The combination with the edge-gauge, whether the same to be movable or not, of a yielding auxiliary side gauge and its locking device, arranged to assist in holding the work firmly in position by pressing the side of the boot or shoe during the stitching process.

6. In a boot and shoe sewing mechanism, employing as the piercing and stitching instrument a curved needle mounted in a segmental needle-stock, for the purpose of dispensing with the cast-off, locating the barb on the side of the needle opposite to whence the material to be sewed is fed, substantially as herein shown and described.

7. The combined edge-gauge and welt-guide working concentrically with the needle, substantially as shown and described.

112,803.—Breech-loading Fire-Arm.—Gardner B. Gray and Joseph H. Romans, Mount Vernon, Ohio, assignors of one-third their interest to Davis T. Ruth, of same place.

Claim.—1. The combination of projections and corresponding cavities or seats on and in the breech and barrel of a breech-loading fire-arm, as herein described, whereby the parts may be readily coupled for operation or uncoupled, as set forth.

2. In a breech-loading fire-arm, the combination of the set-stud or button D with the coupling above claimed.

112,804.—Combined Ore-Crusher and Amalgamator.—Lyman Griswold, Denver, Colorado Territory.

Claim.—1. The elastic pads *k k*, secured to the sliding frames G, and connected with the levers *m*, substantially as herein shown and described.

2. The chute C, having its inner side open and bottom inclined, and the plates *c c* combined as described with case A, for the purpose specified.

3. The plate E, combined, as described, with strip F, yoke *g*, wedge *h*, and handle *i*, for the purpose of securing or detaching the said plate, as set forth.

112,805.—Railway-Rail Chair.—Samuel M. Guest, Ypsilanti, Mich.

Claim.—1. A rail-chair, having the flanged shoulders B C cast in one piece with the base-plate A, as herein described, in connection with the elastic cushion E, covering plate F, clamp G, and key H, arranged and operating in the manner and for the purpose set forth.

2. The combination of two rail-chairs, constructed as herein described, with a cast-iron cross-sleeper, as and for the purpose set forth.

112,806.—Churn.—Heman S. Gurney and Horace Merrill, Memphis, Mich.

Claim.—1. The dasher J, in combination with the rod I, when the former is constructed and operating as set forth.

2. The combination of the body A, standard B, plate C, shaft D, lever E, segment F, standard G, pinion H, rod I, and dasher J, substantially as and for the purposes set forth.

112,807.—Mouse and Animal-Trap.—George L. Hart, New Britain, Conn.

Claim.—1. In a mouse or animal-trap, the bait-hook *f*, having the counter-balance *f'*, for the purpose set forth.

2. In a mouse or animal-trap, the combination of the spring-bow *b* with the lever *c* connected to it by means of the loop *c'*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

112,808.—Apparatus for Cutting the Ends of Cigars.—Mathias Joseph Hinden, Detroit, Mich., assignor to Adolph Freund, same place.

Claim.—The device herein described, wherein the bed A, adjustable guide B, plate C, arm D, knife E, and spring F are constructed substantially as specified, and arranged to operate as and for the purposes set forth.

112,809.—Sand-Screen.—Samuel Holdsworth, Maspeth, N. Y.

Claim.—A wire-screen constructed with offsets, substantially as seen at C, and provided with the ties D in the angle formed thereby, substantially as and for the purposes herein described.

112,810.—Cord-Guide for Sewing-Machines.—Henry Horn, Milwaukee, Wis., assignor to John O. Fairbairn, same place.

Claim.—The trough-like shoe B, provided on its under side with grooves, and having projecting from it the spring arm and cord-guide, all constructed in a single piece, and adjustable on the presser-foot by means of the screw *e*, as described.

112,811.—Thill-Coupling.—Benjamin F. Horton, Ithaca, N. Y.

Claim.—1. In combination with the hook and disk, the arrangement of the locking-slot *f* in the upper and rearward part of the hook *d*, substantially as set forth.

2. The ear-pieces *g*, fast to the sides of the disk *e*, substantially as set forth.

3. The rubber *k*, when situated in the bottom of the slot *i*, and thrusting the cross or locking-piece *m'* against the hook *d*, as set forth.

4. The shaft-bar *h*, when it has the slot *j'*, made by the projections *j*, as set forth.

5. The combined whole, consisting of the upper and rearward slotted hook *d*, the deep-slotted disk *e*, with the rubber *k* and ear-pieces *g*, and shaft-bar *h*, with projections *j*, arranged and used substantially as set forth.

112,812.—Sash-Holder.—Philo B. Hovey, New London, Conn.

Claim.—The combination of the friction-stop B, pivoted to the arm E, which arm is pivoted to the case at F', and forced upward by the spring G, the stop B being released from the window-frame by depressing the thumb-piece, all the parts being arranged as and for the purposes set forth.

112,813.—Bee-Hive.—Washington J. Kelly, Commerce, Mich.

Claim.—The combination, in a bee-hive, of the case D, the cap F, honey-box F', provided with comb-frames, moth-traps B, detachable comb-frames A, and door E, the several parts being constructed, arranged, and operated substantially as described and shown.

112,814.—Curtain-Fixture.—William C. Kennedy, Commerce, Mich.

Claim.—The arrangement of the cords D D and H H, screw-eyes E, E, F, and I, rod B, roller C, and spools *a*, with relation to each other and the shade A, substantially as described, for the purpose set forth.

112,815.—Clothes-Wringer.—Alexander King, Philadelphia, Pa.

Claim.—1. The arrangement of the parts A and B, hinged together at C, and connected by one or more straight, loose bolts H, provided with thumb-screws, as shown and described.

2. The arrangement of the parts A and B, provided with elastic bearings for the wringer-rolls, the guards M, and the bolt H, provided with elastic bearing.

112,816.—Drawer-Pull.—Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—1. The improved drawer-pull, having the handle attached to the shank by a ball-and-socket joint, the socketed part having the notch G, to admit the stem D of the handle and allow it to hang vertically, all substantially as specified.

2. The socketed escutcheon-plate of the shank, consisting of the iron back I and sheet-metal cap, the latter having the socket either formed out of it or of another piece, and attached, all substantially as specified.

112,817.—Shaft-Coupling.—Darius Knickerbocker and Samuel Knickerbocker, Allegan, Mich.

Claim.—The construction and arrangement of the rim A, plugs C, and thongs *a*, or their equivalents, with relation to each other and the cross-pins B of a universal coupling, in the manner and for the purpose set forth.

112,818.—Rectifying High-Wines.—Archibald K. Lee, Galveston, Texas.

Claim.—The receiving-tub A, the distributing-tub C, the rectifying-tubs 1 2 3 4, having a pipe H, attached, each being constructed as stated, and so combined and arranged as to furnish a vacuum apparatus for the rectifying of high-wines or other like product of distillation, substantially as described.

112,819.—Physician's Saddle-Bag.—Andrew M. Leslie, St. Louis, Mo.

Claim.—A physician's saddle-bag, formed of two cases B B', hinged at C by the central uncut portion of the leather cover piece C, having the form shown, and the cuts or divisions *e f e' f'*.

112,820.—Wash-Board.—Charles Letterman, Syracuse, N. Y., assignor to John W. Throop.

Claim.—A finely-perforated sheet of metal, B, for the rubbing-surface of wash-boards, substantially as and for the purpose herein specified.

112,821.—Planing-Machine.—Charles Levey, Toronto, Canada.

Claim.—The arrangement, in the planing-machine herein described, of the swiveled screws W W, crank-shafts R T, bevel-gears U V, brackets or bearings S S, bars or nuts X X, tubular rods Y Y, journal-boxes H H, feed-roll C, with its worm-wheel I, the driving-shafts G G, arms or plates L L, carrying the sliding worms J J, rods Z Z, bars A' A', and coiled springs B', all constructed and operating as specified.

112,822.—Cotton-Press.—Eli W. Long and Isaac N. Patten, Memphis, Tenn.

Claim.—1. The combination and arrangement of the horizontal screw A with nuts D, arms *e e e e*, toggle-joints G G, and arms or levers F F and F' F', constructed substantially as shown and described.

2. The combination and arrangement of the arms F F and F' F', toggle-joint G, rods J J, dummy H, and platens K and I, constructed substantially as shown and specified.

112,823.—Toy Puzzle.—Samuel Loyd, New York, N. Y.

Claim.—Section C, with openings A and D, section H, with recess F and openings D and A, section I, with recesses D D and J J, and bolt E, all combined substantially as described.

112,824.—Boiler for Heating Purposes.—James A. Maynard, Newtonville, Mass.

Claim.—1. A boiler composed of two or more portions, connected by the tubes *h* or *i*, which serve as radiators for heating the air passing in contact with their external surfaces, as and for the purpose described.

2. The circulator E, in combination with the furnace B and a boiler provided with radiating-tubes *h* or *i*, operating substantially as set forth.

3. The combination of the portions *a c d e* with their radiating-tubes *h*, the radiating-tubes *h i*, furnace B, and circulator E, operating substantially in the manner and for the purpose described.

112,825, antedated March 2, 1871.—Hydrant.—John McCann, Albany, N. Y.

Claim.—The combination of the notched lever F and the stop-link H with the valve *a* and its rod G, and the spring *e*, which closes said valve in opposition to the pressure of the water in the main, substantially as and for the purpose set forth.

112,826.—Railway Shifting-Truck.—Patrick Henry McWilliams, Detroit, Mich.

Claim.—The combination of the truck-frames A and D, provided, respectively, with the axles B and E and the wheels C and F, with the platform M, the sockets *a*, the bearings *b*, the level-bolsters H, the lugs L, the fulcrums K, the levers J and I', and bolts I, all constructed substantially as described and shown, for the purpose of enabling either truck to be depressed and support the other truck and platform M, or be elevated and be supported in turn.

112,827.—Platen Feed-Guide.—Edward L. Megill, Brooklyn, N. Y.

Claim.—As an improvement upon feed-guides, consisting of the parts B, D, and A, providing the part B with teeth C C to penetrate the tympan, substantially as described.

112,828.—Manufacture of Iron and Steel.—John W. Middleton, Philadelphia, Pa.

Claim.—1. The combination, with a hot-blast ore-reducing furnace, of the deep crucible A, the adjustable tuyere-pipes *a'' a''*, and the vertical series of tuyere-holes *a' a'*, the said parts being constructed and arranged substantially as described, for the purpose of more effectually causing the separation of the metal and slag in the crucible, and allowing the tuyere-holes in the latter to be

successively closed with facility, as the melted metal and slag rise in the said crucible, until the same be full.

2. In an ore-reducing furnace, the annular shoulder or contraction a^4 a^5, in combination with the spherical chamber a''' and crucible A, substantially as and for the purpose hereinbefore described and set forth.

3. The hot-blast chamber, channel or flue B, around and under the crucible A, substantially as and for the purpose hereinbefore described and set forth.

4. The arrangement of the purifying, decarbonizing, and kneading-chamber E, aside from and in relation to the direct-blast passage-way D D, substantially as and for the purpose hereinbefore described and set forth.

5. The combination with the hot-blast of an ore-reducing furnace of a special heat-generating furnace C c', substantially as described, for the purpose of intensifying the heat of the blast sufficiently to enable the workmen thereby to melt either cast or malleable iron when the same has at any time become chilled or solidified in the said ore-reducing furnace, and thus avoid the great expenditure of time, labor, and money, heretofore required in clearing out such chilled or consolidated mass.

6. The combination with a hot-blast ore-reducing furnace of a special-blast superheating furnace, C c', in a close channel, D, which communicates with the said ore-reducing furnace, and contains a vessel, d', for refining by gravitation, substantially as described, for the purpose of producing refined cast-iron or malleable iron and steel direct from the ore, in a condition to be formed into ingots, and finally into bars, by the usual rolls or hammer, during the same heat, as hereinbefore set forth.

112,829. — CRANE. —John W. Middleton, Philadelphia, Pa.

Claim.—1. The attachment of a horizontally-swinging crane-bar, D, to the under side of an elevated bridge or truss-frame, A, by any suitable intermediate connecting device, in such manner as to leave the whole area of the ground or floor beneath its circuit clear and unobstructed by its support, substantially as and for the purposes hereinbefore set forth.

2. The combination of a horizontally-swinging crane-bar, D, with the under side of a traveling carriage supported upon suitable track-rails B B, secured along the inner sides of the bottom sills a'' a'' of an elevated bridge or truss-frame, A', substantially as and for the purposes hereinbefore set forth.

3. The combination of a series of deeply-grooved rim-wheels on each side of the carriage C with a corresponding track-rail or rails fixed on the inner sides of the sills of the bridge or truss-frame A, the said parts being arranged to operate together, substantially as and for the purposes hereinbefore set forth and described.

4. The circular double-track rail d'' on the bottom of the carriage C, in combination with the wheels 3 and 4 on the crank-bar D, and the central bolt d', the said parts being arranged to operate together substantially as and for the purposes hereinbefore set forth.

5. The combination of the circle of teeth 6 with the under side of the crane-bar D, supported as described, and with the operating-pinion 7 on the shaft 8, the said parts being arranged to operate together substantially as and for the purpose hereinbefore set forth and described.

6. The pulley-wheels 10 and 11, in combination with the hollow bolt d', the toothed cylinder 5, and the burden rope or chain E, the said parts being arranged to operate together substantially as and for the purpose hereinbefore set forth and described.

7. The combination, with an elevated bridge or truss-frame, A, of a carriage, C, provided with a swinging crane-bar, D, beneath, without any under-supports, and the said carriage being provided with any sufficient steam-power generator and operative engine, whereby the movements of the carriage forward and backward on the track-rails of the said elevated bride or truss-frame, and the operation of the crane, may be effected substantially as and for the purposes hereinbefore set forth.

112,830.—PEAT-MACHINE.—Hermann Mielisch, Racine, Wis.

Claim.—1. The combination of the rack-shaft H, pinion I, cutter-box L, sliding cutter N, straps P, and levers Q and R, substantially as described.

2. The shaft H, with its operating mechanism, in combination with the sliding frame and the stop F, substantially as set forth.

112,831.—APPARATUS FOR REFINING METALS. — Adolph Millochau, New York, N. Y.

Claim.—The crucible made with a descending tube, opening at the lower end into the fire-space below the crucible, as and for the purposes specified.

112,832, antedated March 14, 1871.—APPARATUS FOR REMOVING PAINT, VARNISH, &c.—Theodore F. Moody, Toledo, Ohio.

Claim.—The combination of the lamp A, generator B, provided with pipe C and rods *b*, when constructed and arranged substantially as shown and described, and for the purpose set forth.

112,833.—SASH-HOLDER.—James B. Morgan, Davenport, Iowa, assignor to himself and Maurice J. Keating, Rock Island, Ill.

Claim.—The shifting axle F, with shoulder *d*, fitting a corresponding countersink, *d'*, in the wheel or roller, in combination with the oblique or inclined slot, substantially as shown and described, and for the purposes set forth.

112,834.—WAGON-SEAT.—Valentine Myers, Cogan Station, Pa., assignor to himself and John M. Phelps, same place.

Claim.—1. In connection with a wagon seat, the double inclined wood springs M and spiral springs W, arranged for joint operation, as specified, so that the coiled springs perform the double functions of auxiliary springs, and of stops, to positively resist a too great descent of the seat, as herein set forth.

2. The wood spring M and metallic springs W, combined and arranged as represented relatively to each other and to the seat E, when provided with the adjustable straps C and saddles B, or their equivalents, connected as represented, and adapted to serve relatively to wagons of various widths, substantially in the manner and for the purposes herein set forth.

112,835. — ROAD-SCRAPER. — William T. Nichols, Chicago, Ill.

Claim.—The chain or other like connections *g*, applied between the draft-pole C and rear part of the hinged scraper-bed A, substantially as described.

112,836.—TELEGRAPH APPARATUS.—Henry C. Nicholson, Mount Washington, Ohio.

Claim.—1. The relative arrangement of the double-line telegraph herein described, for the purpose of communicating a double line of signals simultaneously or separately, at will, the signals being united by sound or printing to produce a single message.

2. The arrangement of the dots and dashes in the double-line alphabet, figures, &c., as described, and for the purpose specified.

112,837.—SWEEPING-MACHINE.—George S. Norris, Baltimore, Md.

Claim.—1. The case A, when mounted upon long rollers A^2, which form an unbroken support the entire length of the case, and closed at the ends by elastic sheets A^1, substantially as set forth.

2. In combination with the case A, mounted upon long rollers A^2, and closed at the ends by elastic sheets A^1, the hinged drop-pans H and I, substantially as and for the purpose set forth.

112,838.—MACHINE FOR GRINDING SAW-TEETH.—John L. Otis, Leeds, Mass.

Claim.—1. In combination with a stand for carrying and supporting an emery-wheel shaft, the tubular bearing, composed of the arms A' and cap or cover E, and their recesses *e*, projections *e*, and flanges *f*, as and for the purpose described and represented.

2. In combination with the stand, the arrangement of the arms F, G, H, and *p*, and their respective adjustments, as and for the purpose described.

3. In combination with the saw-plate clamp and its carriage, the ring or yoke *z*, for supporting the clamp in the carriage and allow it to be turned with the saw, substantially as described.

112,839.—PREPARING TIN SALTS FROM TINNERS' WASTE.—Adolph Ott, New York, N. Y., assignor to New York Metal and Chemical Manufacturing Company, same place.

Claim.—The process of preparing tin salts from tinners' waste, substantially as described.

112,840.—SHUTTER-FASTENER. — Charles Pabst, Wilmington, Del.

Claim.—The combination of plate I, the eye G, links E F, the keeps K, and fastening-pin H with its plate.

112,841.—ELECTRO-MAGNETIC MOTOR. — Henry M. Paine, Newark, N. J., assignor to Mahlon S. Frost, New York city.

Claim.—A box-frame with openings in its periphery to receive fulcrum-magnets, substantially as and for the purpose herein set forth.

112,842.—BIT AND DRILL-BRACE.—George G. Parker and William P. Dodge, Prospect, N. Y.

Claim.—1. The combination of the collar or coupler C, having the tightener D, with the disk and shank B^3, and tool-holder a^1, substantially as herein described and for the purpose set forth.

2. The combination of the brace or stock A, shank a^1, gearing B B^1 B^2, coupler C, and tightener D, substantially as shown and described.

112,843.—GATE. — Noah Parker, Trimble county, Ky.

Claim.—The slotted plate E provided with pintles, the bar or plate F provided with the catch *e*, the double and single-headed clamping-screws with their winged-nuts, arranged, as shown and described, in connection with the gate A and posts D D', whereby said gate may be adjusted and locked, as specified.

112,844.—ANIMAL-TRAP.—James D. Pell, New York, N. Y.

Claim.—1. The automatic self-catching trigger D D d' pivoted on the top of the trap, and bent into the shape described, when combined with loop B and spring C, for the purpose specified.

2. The central chamber a^3, to receive a single bait, combined, as described, with a series of open chambers, a^1, surrounding it, and each provided with a loop, B, and trigger D, operating, as specified, to catch the invader before he reaches the bait.

112,845.—PREPARING SEED-CORN.—John Meek Petit, Monroe township, Ohio.

Claim.—A compound for protecting seed-grain, composed of the three ingredients, tar, lime, and sulphur, applied as described, for the purpose set forth.

112,846.—BROILER.—Edward B. Phelps and James P. McLean, Brooklyn, N. Y.

Claim.—The independent cover A or A', with swinging damper E or slide-dampers G G', with or without the regulating cut-offs F F', all constructed, arranged, and operating in the manner and for the ostensible purpose of broiling meat, &c.

112,847.—LUBRICATOR. — Tapping Reeves, Little River, Cal.

Claim.—1. The valve D, two valve-seats c^2 f^2, valve-stem E, and notch i^2, in combination with the tube C, cap F, reservoir A, and plug I, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the tube L and passage g^4 i^4 i^3 with the reservoir A, top piece G, plug I, tube C, valve D, and stem E, substantially as herein shown and described, and for the purpose set forth.

3. An improved lubricator, consisting of the reservoir A, stem B, tube C, cap F, passage b' c^1 f^1, valve-seats c^2 f^2, valve D, valve-stem E, top G, plug I, cup H, notch i^2, passage g^1 i^1 g^2, passage g^3 i^3 i^4, and passage g^4 i^4 i^3, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

112,848.—MANUFACTURE OF NITRO-GLYCERINE. — Edward A. L. Roberts, Titusville, Pa.

Claim.—The process hereinbefore described of making nitro-glycerine by gradually increasing the amount of sulphuric acid in the acid bath simultaneously with the pouring in of the glycerine, substantially as described.

112,849.—MANUFACTURE OF NITRO-GLYCERINE.—Edward A. L. Roberts, Titusville, Pa.

Claim.—1. The process of mixing glycerine and mixed acids to form nitro-glycerine by introducing the glycerine into a bath of mixed acids, (nitric and sulphuric,) in which a rapid circulation of the fluid contents of the bath is maintained, substantially as and for the purposes described.

2. The apparatus, hereinbefore described, for the manufacture of nitro-glycerine, consisting of a mixing-vessel, having a diaphragm or diaphragms, in combination with a paddle-wheel for creating and sustaining a rapid circulation of the fluid contents of the mixing-vessel, substantially as and for the purposes hereinbefore described.

3. The mixing-vessel, traversed by hollow diaphragm or diaphragms, communicating with an exterior and surrounding vessel or reservoir of water, for the purpose of making nitro-glycerine, substantially as hereinbefore described.

112,850. — ELECTRIC AND OTHER FUSE-HEADS.—Edward A. L. Roberts, Titusville, Pa.

Claim.—The priming-chamber *d* in the fuse-head *a*, charged partly with a violent and not easily-exploding substance, such as nitro-glycerine or its compounds, and partly with gunpowder or other easily-exploding substance, communicating with an electric exploder or other means of firing, substantially as hereinbefore described.

112,851.—"CHAFE-IRONS" FOR WHEELED VEHICLES.—Edward P. Roche, Bath, Me.

Claim.—1. The combination, with the main frame or support A, of the chilled iron or hardened-steel bearing or block *l*, for purposes stated.

2. The combination, with the frame and roller of a chafing-iron, of the combined shield and scraper *k*, under the arrangement and operating as herein-before explained.

3. The spring-catch *g*, herein described, in combination with the offset *b* and pin *d*, for the purposes stated.

4. The general construction and arrangement of a chafe-iron for wheeled vehicles, composed of the main frame *a b c*, with its hardened bearing *l*, the

roller *e*, and the spring-catch *g*, the whole being in manner and for the purpose as hereinbefore explained.

5. The employment of the spring *i* in the locality and for the purpose explained.

6. The general frame or body of the chafe-iron, as composed of the rectangular portion *a*, the offset *b*, and the curved deflector or wheel-guard *c*, when such component parts are cast or produced in one homogeneous piece of metal, as explained and exhibited.

112,852.—WINE-BASKET.—Jean Roussillon, Epernay, France.

Claim.—A willow wine-basket, formed in two hinged parts A B, having covers D D and compartments F G H, all constructed and arranged as and for the purpose described.

112,853.—STEAM-ENGINE.—Stephen P. Ruggles, Boston, Mass.

Claim.—1. In combination with the spiral or cam-shaped piston, the spiral or cam-shaped stationary surfaces in the cylinder, for the purpose of imparting to the piston and its rod a rotating motion in addition to their reciprocating motion, substantially as and for the purpose described.

2. The combination, with a reciprocating and rotating piston, of inlet-ports, constructed as described, and so arranged as that the steam shall act upon one side only of the piston, substantially as described.

3. In combination with the piston and its rod, the pivoted connection *d* and springs *e*, for the purpose of allowing the steam to force the ends of the piston against the cylinder, substantially as described.

4. In combination with a reciprocating and continuously-revolving piston, the spiral-spring packing *f*, as and for the purpose described.

5. The combination of the regulator, cam-boss or sleeve F, rods *o p*, and cut-off valve *h*, for the purpose of operating said cut-off variably.

6. In combination with the balance or band-wheel G and the reciprocating and rotating shaft D, the cross-head and three-armed lever, so that, while the balance or band-wheel may rotate with the shaft D, it shall not partake of the reciprocating motion of said shaft, substantially as described.

112,854, antedated March 10, 1871.—HORSE HAY-RAKE.—John H. Schoonmaker, Bethlehem, assignor to himself and Alexander Selkirk, Albany, N. Y.

Claim.—In a horse hay-rake, the combination of the adjustable clevis M, draft-rod H, and loop G with the rake-head B, shafts C, and lever L, substantially as and for the purpose set forth.

112,855.—HOISTING-MACHINE.—John Scott, Pontiac, Mich.

Claim.—The combination of the driving and reversing-gear C D E G H I J, drum F, rope M, sheaves R S N, rollers O Q, guides P, platforms or chairs L, frame K, and latches T, when arranged substantially as and for the purposes set forth.

112,856.—HOISTING-MACHINE.—William Sellers, Philadelphia, Pa.

Claim.—1. The combination, with the brake-lever L, of the belt-shifter cam K, actuating the lever in the manner and for the purpose specified.

2. The combination of the belt-shifters, the brake, the geared clutch-shaft N, adjustable stops *r r*, and bell-crank O, the combination being and operating in the manner and for the purposes set forth.

3. The combination with a hoist of a swing-frame, H, as and for the purpose described.

112,857.—BUCKLE FOR SUSPENDERS.—Abraham Shenfield, New York, N. Y.

Claim.—The suspender buckle, formed of the body *a*, with openings 3 and 4 for the suspender, at the sides of the bar 2, and the hook 5, for the ring or attachment of the suspender ends, in combination with the swinging clamp *c*, connected to the body *a*, as and for the purposes set forth.

112,858.—COMPOUND FOR TREATING CATARRH, &c., BY INHALATION. — Dana Slade, Chicago, Ill.

Claim.—The mixture or compound called an "inhalent, for catarrh, sore throat, and bronchitis," made of the ingredients in the proportions and for the purposes set forth.

112,859, antedated March 7, 1871.—ELECTRIC FUSE.—Henry Julius Smith, Boston, Mass.

Claim.—1. A fuse, constructed with two chambers, when the shell forming one of the chambers with its wires and charge forms an independent fuse, as described, and fits closely within the shell containing the common powder, as specified.

2. Attaching the wires by passing them through the sides of the fuse-head, substantially as described.

3. A nick or nicks, cut into the side of the fuse, substantially as described, for the purpose described.

4. Securing the fuse-wires to the fuse-head by a plug driven into the mouth of the fuse, when the plug insulates the wires and closes the magazine, substantially as shown in fig. 3.

5. A fuse, consisting of one cup, with its wires entering through the sides and secured by a plug pushed in from the mouth, substantially as described.

112,860.—HAND-TOOL FOR CARVING AND ENGRAVING.—George B. Soley, Philadelphia, Pa.

Claim.—1. The hand-stem, consisting of the case A, the open frame *a'*, the rotary spindle B with the conical cavity in its upper end for the bearing-screw 3, and the fixed collar *b''* provided with the pulley-cord grooves around it, all constructed and arranged together substantially as and for the purpose hereinbefore set forth and described.

2. In combination with a hand-implement, constructed and arranged for engraving, carving, and routing, substantially as hereinbefore described, the endless cord G, take-up weight I, and pulleys D E F, arranged to operate together substantially as and for the purpose hereinbefore set forth and described.

112,861.—GAUGE FOR SAW-TABLES.—Franklin L. Sprague, Keene, N. H., assignor to William H. Doane, Cincinnati, Ohio.

Claim.—1. The sliding removable saw-gauge A', constructed as described, with the holding-screw E, in combination with the slide-way D and table A, arranged to operate in the manner set forth, and so that when detached from will leave the table-top smooth, as described.

2. The manner herein described of operating the sliding removable gauge A' upon a slide-way, D, on the edge or end below the top of the table A, substantially in the manner described.

112,862.—CULTIVATOR.—William D. Stroud, Oshkosh, Wis.

Claim.—The wing *c* and screw-bolt *e*, in their relation to the tooth *a*, friction-brace *d*, and lag-bar *b*, as hereinbefore set forth.

112,863. — DAMPER.—Leonard S. Taylor, Sigel, Mo.

Claim.—The combination, with a stove-pipe or other flue, of the transverse slotted tube B, open at the ends, and the revolving slotted tube D arranged therein, all substantially as specified.

112,864. — STUMP-EXTRACTOR.—Albert D. Tilyou, Norwich, assignor to Cornelius A. Church, New Berlin, N. Y.

Claim.—The combination and the application of

the lever A, as strengthened by the truss-braces B B and rods H, and block G, and band C, with eyes I I and chain attached, operated with the power or stump-extractor applied at the staple D, substantially as and for the purposes hereinbefore set forth.

112,865. — BRAKE FOR RAILWAY-CARS.—Lewis W. Tracy, New York, N. Y., assignor to himself and James E. Grannies, same place.

Claim.—1. The twisted blade or plate *l*, and the cross-head *n*, in combination with the spring *p* and connections to the brakes, substantially as specified.

2. The combination of the brake-shafts *u*, pulley *s*, drum *r*, twisted plate *l*, cross-head *n*, chain-wheel *g*, arm *h*, and chains or connections between the parts, substantially as and for the purposes set forth.

112,866.—TUYERE.—Eben Tracy, Vermontville, Mich.

Claim.—The cylindrical blast-pipe D, provided with a surrounding annular channel, *a*, and segments *b*, in connection with the cap G, provided with the flange *a'*, and segments *b'*, the movable bottom plate E, blast-pipe C, cylinder B, and box A, the whole arranged and operating as herein described, for the purpose set forth.

112,867.—ROLL FOR THE MANUFACTURE OF PLANTERS' HOES.—John T. Tyler, Pittsburg, Pa.

Claim.—The roll B', provided with a sunken die, *b'*, in combination with the roll B, substantially as described, and for the purpose set forth.

112,868. — MACHINE FOR COILING BED-SPRINGS.—Matthew Van Vleck, Albany, N. Y.

Claim.—In combination with the slotted table or its equivalent, the slides B and mechanism to draw them asunder, the cones *c* and mechanism for rotating the same, and the stop or support *a*, substantially as described.

112,869. — COMBINED HARROW, SEEDER, AND ROLLER.—Joseph Vessot, Sr., and Samuel Vessot, Jr., Joliette, Canada.

Claim.—The frame *f*, attached by pivots *f'* to the shafts, and the frame *g'*, attached by pivots *g* to it, with springs *f''* and *g''*, attaching the harrows *f'''* and *g'''* to the cross-bars *f''* and *g''*, substantially in the manner and for the purpose described.

112,870.—COMBINED POTATO-PLANTER AND DIGGER.—James Carroll Walker, Farmington, Mich.

Claim.—The combination of the wheels A, the axle B, and the frame C with the devices for planting and for digging potatoes, substantially as described and shown.

112,871.—HAND-STAMP. — John Walters, Norfolk, Va., assignor to William O. Hickok, Harrisburg, Pa.

Claim.—A slide B, spring C, and lever E, in combination with the head A of a hand-tool for paging and lettering, substantially as and for the purpose hereinbefore set forth.

112,872. — VEGETABLE-GRATER. — Jacob Wehrle and William Wittlinger, Cincinnati, Ohio.

Claim.—1. A "rotary grater," composed of centrally divided and hinged case A C D E, rotary cylindrical grater F, fitted with detachable head G and hopper H, located upon one side of the case A, operating in the manner and for the purpose specified.

2. The inclined knife-edged perforations *a* of the grater, designed to cut in one direction only, as and for the purpose specified.

112,873. — MACHINE FOR GRINDING CARRIAGE-SPRINGS.—Hebron Mayhew Wentworth, Gardiner, Maine.

Claim.—1. The combination and arrangement of the carriage B and the frame H, provided with adjustments, as described, with the main frame A and with the grinding and feed-wheels C D E, arranged in the adjustable carriage and frame H, as set forth.

2. The combination and arrangement of abutment *z* and the presser *t* with the grinding and feed-wheels C D E, arranged, supported, and provided with mechanism for revolving them, all being substantially as described.

112,874, antedated March 16, 1871.—FINISHING PAPER BOXES. — Seth Wheeler and Edgar Jerome, Albany, N. Y.

Claim.—The paper box which has been made by shaping unflocked paper into the form desired, and has the flocking applied directly to its surface, all in the manner herein set forth.

112,875. — BARREL. — Henderson Willard, Grand Rapids, Mich.

Claim. — A barrel or other similar package, constructed as described, in which the cylinder is formed by winding the material on itself two or more times around a form until the desired thickness and strength are attained, and in such a manner that the package shall have a vertical grain, substantially as shown and described, and for the purpose set forth.

112,876.—WINDOW-CURTAIN FIXTURE.—Thomas Charles Williams, East Randolph, Wis.

Claim.—The cords C C and balance-weight D, arranged in front of the curtain, and combined, as described, with the roller F and slat E, for the purpose specified.

112,877.—GLASS FOR THE MANUFACTURE OF SPECTACLES.—Thomas Atwood Willson, Reading, Pa.

Claim.—The alloy and process of making pink or colored glasses which will render the colored glasses apparently white to the eye of the wearer and relieve the eye from the effect of the bright penetrating rays of light, as herein described and set forth.

112,878.—BOLSTER-BLOCK AND PIER OR ABUTMENT PLATE FOR BRIDGES AND ROOF-TRUSSES.—Joseph M. Wilson, Philadelphia, Pa.

Claim.—1. The bolster-block B, constructed with cheeks or lugs A A.

2. The steel or wrought-iron plate D, in combination with the rollers C or blocks C', and with the steel or wrought-iron bolster-block, constructed as shown and described.

112,879. — COMPOSITION FOR STAINING WOOD.—John Winger, Kansas City, Mo.

Claim.—The above-described staining composition, substantially as specified, for the purposes set forth.

112,880.—MECHANISM FOR MANUFACTURING HEADS FOR PICTURE-NAILS.—Leopold Wolf, Meriden, Conn., assignor to the Meriden Malleable Iron Company, same place.

Claim.—The series of pairs of dies represented in figs. *a b c d* of drawing, when jointly applied on the method herein described, for the manufacture of caps for the heads of picture-nails.

112,881. — STEAM-HEATER. — Charles J. Wood, Baltimore, Md.

Claim.—1. The double-inclined partition C, in combination with the distinct inlet-opening 3 and the distinct outlet-opening 4, substantially as and for the purposes hereinbefore set forth.

2. The sloping or tapering upper and lower edges of the said shallow chamber, substantially as and for the purpose hereinbefore set forth and described.

3. The horizontal partition V and the open space W, in combination with the double-inclined partition C and plates A A', substantially as and for the purpose hereinbefore set forth.

112,882. — RUFFLING ATTACHMENT FOR SEWING-MACHINES. — Frederic B. Zay, Findlay, Ohio.

Claim.—1. In combination, the spring-plate separator M, secured to the elastic projection *e*, and provided with the slot *n*, the spring presser-foot I, secured to the projection *k*, and the gatherer E, provided with the slot *f*, and secured to the curved arm C, all constructed and operated substantially as and for the purpose hereinbefore specified.

2. The bed-plate A, straight arm B, curved arm C, slide A, and gatherer E, spring G, plate L, provided with elastic projections *k* and *e*, spring-presser foot I, and spring-plate separator M, all arranged relatively one to the other, as and for the purposes hereinbefore specified.

112,883, antedated March 10, 1871.—SAW-MILL. — Emanuel Andrews, Williamsport, Pa.

Claim.—The gange-bars F and G, arranged substantially as and for the purposes set forth.

112,884. — CLOTHES-WRINGER.—Alfred M. Bailey, Middlefield, Conn., assignor to "The Metropolitan Washing-Machine Company," same place.

Claim.—1. In a clothes-wringing machine of otherwise ordinary or suitable construction, the combination of a clothes-shelf or board hinged to the frame of the machine, and a support or supports for holding said shelf when unfolded in an inclined position, substantially as shown and described, so that the shelf, when unfolded, may be used to convey or direct the clothes away from the rolls, and when not in use may be folded up against the frame to cover, or partially cover, the rolls, as set forth.

2. The combination, with the frame of a wringing-machine, of a flap or shield hinged or otherwise secured to the same, and arranged in front of but below the lower roll, so that the water dripping from the clothes as they pass between the rolls may be returned to the tub and prevented from dropping upon the floor.

3. The combination of the fixed hinge or pivot-plates, arranged on each side of the frame as described, with the movable shelf and shield suspended between and supported by said plates, substantially in the manner shown and set forth.

4. The combination, with vertically hinged clamps or brackets, of the hinged flap or shield, so recessed at its ends as to hold the brackets when extended in proper position for the attachment of the wringer to the tub, substantially as herein shown and described.

5. The butt-hinge clamps or brackets secured to the machine on the inside of the legs of the frame, substantially as shown and described, so that when folded up they shall be contained on all sides within the frame of the machine, for the purpose stated.

6. The bracket-supporting hinge-leaf, provided with one or more ribs, in combination with corresponding grooves in the legs of the machine, into which the said ribs enter when the leaf is applied to the frame, as and for the purposes shown and set forth.

7. In a clothes-wringing machine such as described, the arrangement of the hinged shelf, flap, and brackets, substantially in the manner shown and set forth, whereby the machine is rendered compact, and may be packed without danger of injury to the parts above specified.

112,885.—ROCK-DRILL.—Albert Ball, Claremont, N. H., assignor to Sullivan Machine Company, same place.

Claim.—1. The combination of the rack-pivot R', operated by the pinion R and lever S, with the platform L and the adjustable legs L *g*, substantially in the manner and for the purpose set forth.

2. The wheels B and C, combined with the sliding shaft D and the nut-gear H, in order to feed the right-hand spindle *l* in one direction, or so as to operate the wheel E' and the nut-gear H', in order to feed the left-hand drill-spindle *l'* in the opposite direction, substantially as hereinbefore described.

3. The sliding shaft D, wheels E and E', clutches F and F', rests G and G', the wheel B, and lock-bar K, so combined with a right or left-hand nut-gear and drill-spindle that when operated in the manner described they will reverse the movement of the drill-spindle, substantially as hereinbefore set forth.

4. The combination of the spring-bolt *d* and the shaft D, substantially as and for the purpose set forth.

5. The pivoted lock-bar K, combined with the nut-gears and spindles described, substantially as and for the purposes set forth.

112,886.—SASH-HOLDER.—William Thomas Bausmith, Aberdeen, Md.

Claim.—In combination with the plate A, handle B, flange C, rubber ring D, and screw E, the face-plate G and central screw *d*, substantially for the purposes herein set forth.

112,887.—IRON RAILING.—Samuel S. Bent, Port Chester, N. Y.

Claim.—The sockets *d*, cast upon the rails or frame *b c*, and receiving the ends of the parallel bars *a*, as and for the purposes set forth.

112,888.—CLEVIS-HOOK FOR DOUBLE-TREES. Warren W. Bently, Lee township, Mich.

Claim.—The vibrating clevis-bar *b*, having a triple bend, consisting of the hook A and guard-prong *j*, arranged and combined with the double-tree A for the detachable connection of the whiffle-tree B, substantially in the manner and for the purpose set forth.

112,889. — ATTACHMENT FOR HARNESS.—William A. Blundell, St. Louis, Mo., assignor to himself, William P. Nelson and Mathew C. Tully.

Claim.—The straps E E' E' and inflexible tugs A, having slots *a* and hooks B at each end, relatively arranged to form a harness-attachment, as described, and operating in the manner specified.

112,890. — ADVERTISING-LAMP. — Emil Boesch, San Francisco, Cal.

Claim. — 1. The above-described advertising lamp, made in an oval or oblong form, and provided with the glass panes D D', parabolic reflectors F F, and side panes G, substantially as and for the purpose above specified.

2. The metallic binding I, in combination with the screw J, provided with a flanged head, *k*, for securing panes of glass in sash or frames, substantially as and for the purpose above described.

112,891.—WHIP-STOCK. — John J. Bohler, Westfield, Mass.

Claim.—The leather whip herein described, constructed of the core A and beveled strips C, glued together in the manner specified, as a new article of manufacture.

112,892.—MOWING-MACHINE.—Aaron Bolander, Akron, Ohio.

Claim.—1. The spring D, when constructed with the slotted brace or arm E, and having a flange, A, substantially as and for the purpose set forth.

2. The eccentric bolt E, in combination with the section H of the grass-divider and guard-shoe A, in the manner substantially as described, and for the purpose set forth.

112,893.—PORTABLE RAILWAY.—Theodore Bootzmann, Tompkinsville, N. Y.

Claim. — The inclined projecting noses *f* and notches *g*, constructed as described, in combination with each other and the sections of a portable railroad.

112,894.—CORN-PLANTER.-Richard A. Boulware, Doniphan, Kansas.

Claim.—1. The wheel H, in combination with the marker K, when constructed to operate substantially as and for the purpose specified.

2. The wheel H, in combination with the marker K and roller P, when constructed and arranged substantially as and for the purpose specified.

112,895.—DEVICE FOR OPENING OYSTERS.-Michael C. Boyer, Norristown, Pa.

Claim.—An oyster-opener, consisting of pinchers or nippers and blade, combined in one instrument, substantially as described.

112,896.-APPARATUS FOR TEMPERING SAND. John C. Broadmeadow, Bridgeport, Conn.

Claim.—1. The combination of the open tilting box A of the elevator with the rotating sand-cylinder B, substantially as specified.

2. The rotating sand-cylinder B, constructed with a revolving cylindrical screen, C, at or near its one end, and with a sheath, D, arranged to close said screen, essentially as shown and described.

3. The combination of the ventilating-screen F and opening *d* with the cylinder B, substantially as specified.

4. The combination and arrangement of the elevator box A, the revolving sand-cylinder B, the rotating screen C, covered by a sheath D, and the mud-box table or stand G, essentially as herein set forth.

112,897.—RAILWAY-CAR TRUCK.—Chauncey S. Buck, St. Louis, Mo., assignor to himself and James Lovett, same place.

Claim.—A swing-motion car-truck, having transverse springs Q R applied to the intermediate cross-ties D D', and connected at their ends by shackles *o q p r*, and longitudinal springs or bars O P to the bolster N, as herein represented and described, for the purposes set forth.

112,898.—ROOFING-BRACKET. — Jonathan W. Cadwell, Springfield, Mass.

Claim.—An adjustable roofing-bracket, formed of the pieces A A, with the pins *c c c*, &c., pieces B and F, plate G, having the holes *f f* and *g*, and hook R, and cross-piece W, the parts being combined and arranged substantially in the manner and for the purpose shown and described.

112,899.—VALVE-GEAR FOR STEAM-ENGINES. — Adam S. Cameron, New York, N. Y.

Claim.—1. The arrangement of the auxiliary valve-chest F and the auxiliary cylinders D D' in one and the same piece of casting, as set forth.

2. The tubular bearing *d*, provided with a collar, *f*, and screw-thread *e*, in combination with the rock-shaft *c* and the auxiliary valve E, situated in the opposite side of the chest B from that where the rock-shaft *c* connects with the piston.

112,900.—STILL.—James A. Campbell, Dayton, Va., assignor to himself, Abraham K. Layman, and Lewis W. Myers.

Claim.—The detachable or removable cap cylinder C, tube B, and spring D, combined and arranged within the still A, substantially as described.

112,901.—THREAD-GUIDE FOR WINDING-MACHINES. — Dwight Madison Church, Holyoke, Mass.

Claim.—A thread-guide or thread-carrier, composed of a detachable wire and a clamp, for the purposes herein set forth.

112,902.—SHOEMAKER'S HAMMER.—Arthur Clarke, Boston, Mass.

Claim.—1. The head *g*, constructed upon the convex side of the pane C, substantially as described.

2. The semicircular ridge *i* of the head *g*, rising acutely from the convex side of the pane C, substantially as described.

3. The shoemakers' hammer constructed with the serrated-faced head *a*, the smooth-faced head *g*, and the curved pane C, substantially as and for the purpose described.

112,903.—DOOR-BELL. — John P. Connell, Kensington, Conn.

Claim.—In a gong and door-bell, the combination and arrangement shown of the primary arm *k*, having the triangular tumbler *n* in the loose end thereof, with the hammer-arm *c*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

112,904.—GATE.—Peter S. Crawford, Union, Ill.

Claim.—The arms D attached to the posts M, in combination with the brace C, levers A, cords E, gate N', incline G, center piece I, rollers J H, and braces K, as set forth.

112,905.—CARRIAGE-GEARING. — Cornelius Custer, Norristown, Pa.

Claim.—1. The shaft C, shaft-box D, washer B, cover J, and brace M, all constructed and arranged substantially as shown, and for the purpose set forth.

2. The braces O V, pivoted to the hind axle and to a support and the support of the carriage-step, substantially as shown and for the purpose set forth.

112,906.—HARNESS-ROSETTE. — Walter D. Davis, Charles W. Blakeslee, and Joseph C. Peck, Watertown, Conn.

Claim.—A harness-ornament, composed of the following elements, to wit: A base-plate, center-support, length of coiled wire, and finishing-cap, combined substantially as described.

112,907.—CALL-BELL. — Henry A. Dierkes and John Fretts, New York, N. Y.; John Fretts assigns his right to Henry A. Dierkes.

Claim.—The combination of the tube *a*, rod *b*, sliding within it, and the spring-dog *d* pivoted thereto, for actuating the arm *c* of the hammer, substantially as described, for the purpose specified.

112,908.—CIRCULAR-SAW BENCH.—Benn F. Dunklee, Concord, N. H.

Claim.—The combination of the arm C, nut E, screw G, pinion H, worm I, and hand-frame K, when all the parts are constructed, arranged, and operating in the manner and for the purpose shown and described.

112,909.—ADJUSTABLE MILL-FEED. — William T. Duvall, Georgetown, D. C.

Claim.—1. The combination and arrangement of

the vertically-adjustable tube G with its toothed segmental lever I and the revolving cup *e*, for regulating the feed, constructed for operation substantially as described.

2. The combination of the adjustable collar *c*, having wrist-pins *n* and set-screws, with the elbow-lever I, its sector, and the worm-wheel J, for adjusting the tube G, substantially as set forth.

3. The mill-head or pulley L, adjustably arranged to operate the feeder G from above, or by means of a cord, *m*, from below, as shown and described.

4. The frame E, constructed as shown and described, and rigidly attached to the bridge-piece D, for supporting the adjustable feed devices, in combination with the case C, substantially as set forth.

5. The combination of the tubular frame E, adjustable feed-tube G, it sadjustable collar *c*, segmental elbow-lever I, and worm-wheel J, all arranged for operation substantially as shown and described.

112,910.—Locked Cock. — Henry Essex, Meadville, Pa.

Claim.—The plug B, provided with two holes, D D, crossing each other at right angles, and used in combination with the holes E in the socket A, the key C, and padlock F, substantially as and for the purposes herein set forth.

112,911.—Sand-Screen.—George W. Fair, Dayton, Ohio.

Claim.—1. The frame *a b c*, in combination with the wires *d*, sliding head-block *h*, and screws *n*, substantially as specified.

2. The combination of the wires *d*, head-block *h*, notched plate *i*, and back-plate *f*, constructed as described.

112,912.—Bed-Bottom.—Matthew Faloon, Bloomington, Ill.

Claim.—1. The spring C, formed of two or more leaves, *a a*, which are connected together at their lower ends, and disconnected at their upper portions, as and for the purposes herein set forth.

2. The combination of the frame A, slats B B, and end springs C C, constructed and arranged substantially as and for the purposes herein set forth.

3. In combination with the frame A, slats B B, and end springs C C, the cross-bars D E and center springs C' C', constructed and arranged substantially as and for the purposes herein set forth.

112,913. — Plow. — Lawrence F. Frazee, Jersey City, N. J.

Claim.—The diggers J, the colters H, and the plows B, arranged in relation to each other, substantially as described.

112,914.—Tuyere for Blast-Furnaces.—John Fry, Salisbury, Conn.

Claim.—The rectangular orifice A B through the rectangular water-chamber box, substantially as herein described, combined with the series of blocks or plates D and D', or 2 and 3, or 4 and 5, or 6, or 7, or substantially the same, for graduating or directing the blast, as and for the purpose set forth.

112,915.—Center-Point Trimming.—Ansel Hecht, New York, N. Y.

Claim.—A trimming, presenting a succession of central points, formed by gathering in the edges in the manner described, at regular intervals, and folded and stitched, in the manner substantially as shown, without cutting the edges of the material.

112,916.—Culinary Vessel.—Levi Hermance, Lansingburg, N. Y., assignor of one-half his right to Peletiah J. Marsh, same place.

Claim.—1. The casting of the utensil A and flue-strip or plate B in separate pieces, and combining or joining them together, substantially in the manner as herein described and set forth.

2. Forming the steam-flue or flues H on the outside of a cast-iron culinary utensil by the employment of the flue-piece B, or its equivalent, when attached to the utensil A, substantially as herein set forth.

3. The projecting flange D, in combination with the kettle A and plate B, when constructed and combined substantially in manner and for the purpose as described and set forth.

112,917.—Pencil-Case.—William S. Hicks, New York, N. Y.

Claim.—1. An extension pencil-case, having its outer shell A arranged to turn loosely on its body B, and independently of the other parts of the pencil or case, substantially as described.

2. The arrangement of the tubes *d* and *e* and the tubes *a* and *b*, the latter having reverse spiral slots, all sliding telescopically within one another, as set forth.

112,918, antedated March 10, 1871.—Ore-Separator. — William Hooper, Ticonderoga, N. Y.

Claim.—1. A driving mechanism, constructed with cams or trip-wheels, or eccentrics mounted on the driving-shaft, and acting on shoes in cages supported by springs, and connected to the flexible diaphragm F, said cages being so arranged that they can be adjusted, in relation to their cams, or trip-wheels, or eccentrics, substantially in the manner described.

2. A feed mechanism, composed of hoppers, which can be raised and lowered, and which are connected to gauges controlling the depth of the ore-bed, substantially in the manner herein set forth.

112,919, antedated March 10, 1871.—Ore-Separator. — William Hooper, Ticonderoga, N. Y.

Claim.—1. The endless apron F, having an intermittent motion imparted to it, substantially as and for the purpose described.

2. The endless apron F, with its surface in the sluices indented, corrugated, roughened, or riffled, substantially as described.

3. The arrangement of strips of blanket or other woolen fabric, or its equivalent, on the endless apron F in the sluices, substantially as described.

4. The arrangement of longitudinal strips on the endless apron, substantially as described.

5. The shoe K, divided in two parts, connected by hinge-joints, in combination with the adjusting-screws and with the endless apron, substantially as set forth.

6. The agitating-hammers *q*, in combination with the endless apron, substantially as described.

7. The cross-ribs *d*, extending over the inner surface of the apron F, substantially as set forth.

8. The tank L, oscillating or with plunging block, in combination with the endless apron, substantially as described.

9. The roof-shaped bottom M, in combination with the endless apron, substantially as set forth.

10. The perforated water-pipe *w*, extending across the bottom M, in combination with the endless apron, substantially as described.

112,920.—Medical Compound or Salve.—Martha Huddleston, Jackson, Tenn.

Claim.—The within-described salve, composed substantially of the ingredients herein set forth.

112,921.—Fan and Fly-Driver.—Frank M. Hunt, Clinton, Ga.

Claim.—The combination of the treadle L with its slotted arm I, the bevel-wheel H with its pin *c*, the fan-staff C with its bevel-pinion G, socket *a*, rods E E, and fans D D, arranged and operating substantially as and for the purpose herein specified.

112,922.—Cattle-Tie.—Seth T. Hutchins, North Anson, Me.

Claim.—The cattle-tie C, provided with ring *a* and spring hook *c*, in combination with the stanchion A, substantially as and for the purpose specified.

112,924.—Rolling-Mill. — Asa Johnson, Brooklyn, N. Y., assignor to himself and William H. Johnson, New York city.

Claim.—1. A pair of rolls, of which the surface of one is smooth and that of the other studded over with hemispherical protuberances, substantially as described.

2. The construction of rolls, for rolling metal, of an inner solid or tubular cylinder, and an outer shell composed of a series of removable segmental plates or staves studded on their convex surfaces with protuberances, and attached to the outer surface of said cylinder, substantially as described.

3. The construction of rolls, for rolling metal, of an inner solid or tubular cylinder, and an outer shell composed of a series of removable segmental plates or staves studded on their convex surfaces with the projecting heads of rivets, screws, or bolts, of which the shanks pass into or through said plates, substantially as described.

4. The construction of rolls, for rolling metal, of an interior tube of sheet metal corrugated longitudinally, an exterior shell of plain metal, and an intermediate cylinder of cast metal, the inner sheet-metal tube being retained in place by the shrinking of the cast metal upon it, and the outer shell being attached to the cast intermediate portion by keys or otherwise, substantially as described.

5. In combination with the journal-bearings of the hollow rolls, constructed as described, the connecting-tube *v*, substantially as and for the purpose herein set forth.

6. The combination of the hollow removable journal E, rubber head *f*, metal head *e*, bisected sleeve *h*, and tube *k*, with a hollow metal roller, all substantially as and for the purposes herein set forth.

7. The combination of the tube *k* with collars *i i*, and the grooved bisected sleeve *h* with the removable journal E and a hollow roller, all constructed and arranged substantially as and for the purposes herein set forth.

8. The combination of the tube *k*, grooved head *m*, slotted standard G, journal E, a hollow metal roller, and the journal-bearing C, all substantially as and for the purposes herein set forth.

9. The combination of the screw H, screw-sleeve I, with flange *p*, washer *r*, key *t*, and wheel J, all constructed and arranged substantially as and for the purposes herein set forth.

112,925.—Hollow-Tile Wall.—George H. Johnson, New York, N. Y.

Claim.—A wall, composed of the runners B, with air-channels *a* and lugs *a*, in combination with the binders C, having air-channels *c* and lugs *c*, said runners and binders being arranged in relation to each other substantially as described, for the purpose specified.

112,926.—Hollow-Tile Floor.—George H. Johnson and Balthasar Kreischer, New York, N. Y.

Claim.—1. A hollow arched tile, provided with recesses *e* in its convex upper surface for the reception of floor-supporting strips *d*, substantially as shown and described.

2. The removable clay filling-strips D, in combination with the hollow arched tiles A and double-flanged girders B, as herein set forth, for the purpose specified.

112,927. — Reservoir for Grain and other Materials.—George H. Johnson and Balthasar Kreischer, New York, N. Y.

Claim.—1. A reservoir for grain and other material of a similar nature, having its floor constructed of rectangular hollow porous tiles *a*, supported by beams *b*, in the manner substantially as herein shown and described.

2. A reservoir for grain and other material of a similar nature, having its sides constructed of U-shaped porous tiles, in the manner set forth.

112,928.—Fire-Escape.—Charles P. Kenyon, Selma, N. C., assignor to himself and J. W. Sharp, same place.

Claim.—The fire-escape, consisting of the post A, which is provided with the spiral channel *a* and flanges *b b*, and with or without the rods B, substantially as herein shown and described.

112,929.—Composition-Tile for Fire-Proofing Buildings.—Balthasar Kreischer, New York, N. Y.

Claim.—A compound for tiles, made of the ingredients herein specified, and mixed together in about the proportions above set forth.

112,930.—Hollow-Tile.—Balthasar Kreischer, New York, N. Y.

Claim.—A hollow arched-tile, made in three sections, *a b c*, the end sections having recesses *d*, and the middle section *b* forming a wedge-shaped key for the end sections, substantially as herein shown and described.

112,931.—Stove-Pipe Shelf and Clothes-Drier.—George W. Langdon, Greene, N. Y., assignor to himself and Lewis Seneare, same place.

Claim.—1. A stove-pipe, or section thereof, provided with collars *a a'*, when used in combination with a support for clothing, said support arranged to operate in connection with the collar, substantially as set forth.

2. The damper *g*, arranged in combination with the clothes-support, substantially as and for the purpose described.

112,932.—Bell-Hanging.—Auguste Laroÿe, Sas Slykens, near Ostend, Belgium.

Claim.—1. In a bell having a clapper or hammer divided into two nearly equal lengths, one fixed rigid and the other pendent from it, swinging such pendent part from a point in line with the axis or center of gyration of the bell when such axis or center is between the crown and the lower part of the bell.

2. The long flat stationary bearings for the trunnions to roll upon, as described.

3. The arrangement, described and shown in fig. 4, or its equivalent, for limiting the volley of bells, for the purpose of preserving the harmony desired.

112,933.—Leggotyping.—William Augustus Leggo, Montreal, Canada.

Claim.—1. The operation, in Leggotyping, of polishing the photograph, substantially in the manner and for the purpose described.

2. The use, in Leggotyping, of hyposulphite of soda, or its equivalent, substantially in the manner and for the purpose described.

3. The use, in Leggotyping, of protosulphate of iron, or its equivalent, substantially in the manner and for the purpose described.

4. The reapplication, or any number of applications other than the first, of a sensitive gelatinous compound and their corresponding exposures to the action of light, &c., with or without the aid of stopping-out plates, substantially in the manner and for the purpose described.

5. The construction and operation of "Leggo's stopping-out plates," substantially in the manner and for the purpose described.

6. The use, in Leggotyping, of stopping-out plates of any kind.

112,934. — Hinge. — Martin R. Lemman, Hamilton, Ohio.

Claim.—1. A hinge having an anti-friction ball E, between the parts C and D, when the latter are constructed with annular horizontal concentric grooves *c* and *d*, of equal depth throughout, and

pintle d', working loosely in the aperture of the lower part C, substantially as set forth.

2. In combination with the elements enumerated in the first claim, the overhanging lip on the part D, substantially as and for the purposes set forth.

112,935.—WOOD-SCREW.—Andrew B. Lipsey, West Hoboken, N. J.

Claim.—A wood-screw, one end of which is provided with a thread, *d*, and the other end with a head, B, having a slot, *f*, for turning it, and an under lip or flange, *e*, substantially as and for the purposes set forth.

112,936.—BASE-BURNING STOVE.—Lyman Litchfield, Gouverneur, N. Y., assignor to himself and Horace K. Osborne, Arlington, Mass.

Claim.—In combination with the conical rotary grate *g*, the central post or spindle *i*, friction-rolls *y*, and driving-pinion *v*, for supporting and rotating the grate, when constructed and arranged substantially as shown and described.

112,937.—TRAVELING-TRUNK. — John C. Locke, Rochester, N. Y.

Claim.—1. The spring-staples D D, in combination with the catches G G, all constructed substantially as described, for the purpose specified.

2. The pivoted or hinged stays H H, provided with the slots *s s'*, when arranged to lie flat between the ends of the body and cover when the trunk is closed, as herein shown and described, for the purpose specified.

112,938.—CHAIN FOR HANGING SASH.—Michael Magrath, New York, N. Y.

Claim.—1. A chain, having its links composed of flat strips or pieces of different widths, arranged substantially as described, whereby the chain has a rounded outline or surface, to adapt it to run in a circular groove, substantially as described.

2. The links, composed of flat strips or pieces, and having the hole *e* through their center, substantially as and for the purpose set forth.

112,939.—BOAT-LOWERING APPARATUS. — George W. Mallory, Mystic Bridge, Conn.

Claim.—1. The combination, with the slotted bearer G and hinged chock F F', of the boat-davit herein described, hinged at its lower end, substantially as specified.

2. The sectional chock herein described, having its outer half hinged, when constructed and arranged substantially as specified.

112,940.—HARVESTER-RAKE.—John P. Manny, Rockford, Ill.

Claim.—1. The platform, constructed as described, in the form of the segment of the frustum of a cone, with its concave side uppermost, and having a horizontal ledge on its rear edge, for the purpose set forth.

2. The combination of the inclined reel-shaft with the inclined rake-shaft passing through the reel-hub or shaft at an angle acute to its axis of rotation, these parts being constructed to operate in combination, substantially as hereinbefore set forth.

3. The combination of the inclined reel-hub and its eccentric gear with the rake-shaft and its eccentric gear meshing into that of the reel-hub, these parts being constructed to operate in combination, substantially as hereinbefore set forth, to produce a differential movement of the reel and rake.

4. The combination of the flanged reel-hub, the reel-arms, the corrugated lugs *m* and sockets *m'*, these parts being constructed as set forth, to permit the radial adjustment of the reel-arms.

5. The combination of the reel-arm, the slotted beater, the flanged and corrugated plate *n*, the corrugated cap *n'*, and the clamp-screw, all constructed for joint operation, as set forth.

112,941. — HARVESTER-RAKE. — John P. Manny, Rockford, Ill.

Claim.—The combination of the fixed stud, inclined backward relatively to the finger-beam, and having its outer end bent eccentrically to the reel axis, the reel-hub rotating on said stud carrying reel-beaters rigidly attached thereto, and revolving in a uniform path, the rake-arm hinged to said hub, and the links swiveled both to the eccentric part of the stud and to the rake-arm, all these members being constructed and operating in combination, substantially as hereinbefore set forth.

112,942.—HARVESTER. — John P. Manny, Rockford, Ill.

Claim.—1. The combination, with the finger-beam, of the caster-wheel and its arms *g g'*, and screwed spindle, for supporting and adjusting the heel end of the finger-beam, these parts being constructed, as set forth, for joint operation.

2. The combination, with the divider, of the doubly-adjustable arm, constructed as described, and adapted to receive caster-wheels of different sizes and still to keep the guards horizontal, as set forth.

3. The combination, as described, of the driving-wheel, hinged gear-frame, finger-beam, lifting-lever, the caster-wheels G H, and their adjustable arms, all constructed, as set forth, for joint operation.

112,943.—SAW WITH DETACHABLE TEETH.—Thomas P. Marshall, Trenton, N. J.

Claim.—The spring-catch, secured to but detachable from a recessed saw-blade, and having an elastic stem, *f*, inclined head, and a shoulder, *h*, in combination with a tooth, B, adapted to the recess in the saw-blade, and having a recess, *j*, and shoulder, *i*, as specified.

112,944.—APPARATUS FOR MANUFACTURING WIRE.—Benjamin A. Mason, New York, N. Y., assignor to Thomas L. Carpenter, same place.

Claim.—In combination with a drum or reel within the furnace, and the rolls, the drum or reel outside of the furnace between the latter and the rolls, substantially as described, and for the purpose set forth.

112,945.—WOOD-PAVEMENT. — Gordon A. May, Chicago, Ill.

Claim.—A wood-pavement, consisting of the rabbeted blocks *a a* and stripe of board *c c*, arranged as herein described, with the pieces of wood *e e* or wedges *f f* inserted between the blocks, as and for the purposes set forth.

112,946.—BRAIDING-MACHINE.—John McCahey and Stephen B. Salisbury, Providence, R. I., assignors to the New England Butt Company, same place.

Claim.—1. A run or guiding-groove for the spool-carriers, formed of two circles or ovals overlapping each other so as to form a circular space between them, substantially as herein shown and described, and for the purpose specified.

2. The arrangement of the wheels *b c d* and the horns *c' c'' c'''*, whereby the studs or lower ends of the spool-carriers are carried in between the horns *c' c'''* and the centers of the wheels *b* and *d*, on which those horns are placed, substantially as and for the purpose specified.

3. The combination of the run S and driving-wheels *b c d*, substantially as herein described, whereby the carrier-studs are made to pass between the horns *c'* and *c''* and the centers of the wheels on which those horns are placed.

112,947.—BUCKLE.—Duncan McMillan and Abram Rowan, Webster City, Iowa.

Claim.—The within-described buckle, consisting of body A, diaphragm *d*, loop *a*, tongue C *b*, and spring *g*, all arranged and operating substantially as set forth.

112,948, antedated March 10, 1871.—STEAMING ATTACHMENT FOR KEROSENE STOVES. Robert B. Mitchell, Chicago, Ill.

Claim.—1. The steaming attachment above described, consisting of the pipes A B C D, frame-work H, flexible tubes E E, with their nozzles F F, stop-cocks G, &c., and ball-valve J, all constructed, arranged, and operating substantially as described, and for the purpose specified.

2. The combination of the tubes A B C D with the frame-work H and the ball-valve J, substantially as and for the purpose specified.

112,949.—MOLDING-PLANE.—Ellis H. Morris, Canton, Ohio.

Claim.—1. A plane-stock, having an adjustable face, capable of being varied in form to suit bits having differently-shaped cutting-edges, substantially as specified.

2. The combination, with a plane-stock provided with a slotted ledge, G, of the slotted gauge Z, cross-extension arms H H', and clamps K K, substantially as specified.

3. The combination, with a plane-stock having an adjustable face, of a bit provided with a forming indentation, substantially as specified.

112,950.—KEEP AND BRACE FOR FIFTH-WHEELS.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—As an article of manufacture, the herein-described keep and brace for fifth-wheel of carriages, formed of one and the same piece, substantially as herein described.

112,951. — PENCIL-SHARPENER.—Elias P. Needham, New York, N. Y.

Claim.—The combination of two elastically-connected inclined plates or leaves, A B, and the interposed sheets or leaves of sand-paper or other similar cutting or abrading material, substantially as herein described.

112,952. — ANKLE-BRACE.—Jacob S. Niswander, Oakland, Cal.

Claim.—The ankle-brace, constructed as described, viz., with the stirrup A, curved plate D, perforated or slotted at their edges, and united by the cup-shaped joint *a*.

112,953.—PIE-CASE.—Henry H. Olds, New Haven, Conn.

Claim.—The herein-described pie-case, consisting of the drawers *a*, provided with the depression or seat *d* for the pie, and combined with the net-work C, in the manner and for the purpose described.

112,954.—CAR-BRAKE AND STARTER.—Joseph Paradis, Brooklyn, N. Y., assignor to himself and Sarah Parker, same place.

Claim.—The barrel *h'*, disk *n'*, pawl and ratchet on one axle, and a barrel, *f*, on the other axle, in combination with the springs and rope or chain passing around said barrels and leading to a hand-shaft and barrel for compressing the spring in stopping the car, and applying its power in starting the car, substantially as set forth.

112,955.—LIFTER FOR FRUIT-JARS.—Stephen R. Pinckney, New York, N. Y.

Claim.—The box A, provided with bails B B and a slotted handle, E, combined and arranged substantially as and for the purpose described.

112,956. — GATE FOR TURBINE WATER-WHEELS.—Samuel A. Prescott, Sutton, Mass.

Claim.—The combination, with the curb A, and cap B provided with flanges *a c*, of the gate-ring E F *e*, stationary guide-plates D, and tongued lugs I *w*, substantially as and for the purposes set forth.

112,957. — APPARATUS FOR ESTABLISHING ELECTRICAL COMMUNICATION IN RAILROAD-TRAINS.—Pierre Désiré Prud'homme, Paris, France, assignor to Charles De Frondat and Alfred Michant, Boston, Mass.

Claim.—The combination of the ring and its hook, and the knob, with the positive and negative wires of a battery, as and for the purpose specified.

112,958. — PIPE-COUPLING. — Joseph B. Ramp, Cuyahoga Falls, Ohio.

Claim.—In a pipe-coupling, the combination of the flanges and sectional screw-threads on the pipes, with the shoulders, recesses, and screw-thread in the coupling, boss, or sleeve, substantially as and for the purpose described.

112,959.—PRESSED-FRUIT LIFTER.—Ennis A. Raymond, Waterloo, Iowa.

Claim.—As a new article of manufacture, the within-described pressed-fruit lifter, made of an iron rod bent so as to form the point *a*, scrolls *d d* and *e e*, stem *b*, and handle *f*, or a separate handle attached to the stem, all substantially in the manner herein set forth.

112,960.—BROOM.—Charles L. Reid, Louisville, Ky.

Claim.—The broom-clamps herein described, consisting of the clamping-plates C C', having the concave projections *b b*, secured by keys *a a' a''* passing through the slots in the clamp C' and holes in the clamp C, substantially as shown and described.

112,961.—PORTABLE FURNACE.—Jesse Reynolds, Philadelphia, Pa.

Claim.—The portable furnace *a b c*, having air-tight doors *d e f*, the body of the furnace being made of plate or wrought-iron riveted together like the plates of a steam-boiler, i nclosed in a sheet of galvanized iron or similar material, and constructed substantially as herein recited.

112,962.—REVERSIBLE BOOT-HEEL.—Frederick Richardson and Francis Hacker, Providence, R. I., assignors to Reversible Boot-Heel Company, same place.

Claim.—The double or single reversible rubber heel-cap C, provided with a central flange, B, and adapted for use with a socket-plate, A, as and for the purposes specified.

112,963.—FRUIT-DRIER AND FOOD-WARMER.—Seelye Richmond, Annapolis, Md., assignor of one-half his right to Joseph E. Dickson, same place.

Claim.—1. The oven or chamber E, constructed as described and shown, and combined, as described and shown, with the stove-pipe D or any hot-air flue or cylinder passing from the stove A, all substantially as and for the purposes set forth.

2. The combination of the hot-air chamber E with the stove-pipe D or any hot-air flue or cylinder passing from the stove A, and the flue C, substantially as described, and for the purposes set forth.

3. The oven or chamber B, when constructed as described and shown, and used in combination, as described and shown, with the stove A, the stove-pipe D, or any hot-air flue or cylinder passing from the stove A, the flue C, and the oven or chamber E, all substantially as and for the purposes set forth.

112,964, antedated March 13, 1871.—TILE STOVE.—Edward Y. Robbins, Cincinnati, Ohio.

Claim.—1. A stove, consisting of two or more

detachable sections, J K L, each of said sections including either the fire-chamber or the oven or some other part of the apparatus, and being surrounded by a wall of tile or tiles, which are retained in position by angle-iron rings O P, or their equivalents, said angle-irons being secured to the front plate of their detachable sections, for the purpose described.

2. Constructing the wall of the detachable sections of a stove of one or more tile or tiles L, whose upper and lower edges are confined within angle-iron rings O P, that are united by rods R, which pass through them, and also through recesses r or apertures in said tile or tiles, as herein explained.

3. Providing the tiles which compose the wall of the detachable sections with a series of air-chambers I, for the purpose herein explained.

4. Arranging the outer wall K or L around the flues or smoke chambers E F G in such a manner that spaces B or C, that wholly inclose said flues or chambers, are formed between said wall and flues, for the purpose described.

5. The arrangement, substantially as herein described, of the fire-chamber A, lower oven B, upper oven C, flues E, F, and G, rear pipe H, and side pipes N N', for the purpose set forth.

6. Locating the pipes H N N' within the ovens B C of the stove, when said pipes and ovens are employed in connection with the flues E F G, arranged as herein stated.

7. Providing the oven of a stove with a fume-flue b', that is partially closed by shutting the door of said oven, and which flue is opened by the opening of said door, as herein shown and described.

8. The tea-kettle door V v v', as herein described and set forth.

9. In combination with the grate a and tea-kettle door V v v', the skeleton-door W, for the object stated.

112,965. — PORTABLE FURNACE.—William D. Robertson, Knoxville, Tenn.

Claim.—The combined stove and boiler, constructed with a furnace, F, drum D, boiler or heater C, flue E, partitions d d', and deflecting plate A, all arranged to operate substantially as and for the purposes herein set forth.

112,966. — HAY AND COTTON-PRESS.—Charles A. Robinson, Florence, Ind.

Claim.—1. In the cotton or hay-press herein described, the brace H on sweep G, in combination with shaft E and levers C D, all arranged as set forth.

2. The within-described cotton or hay-press, consisting of frame A, box N, levers C D, windlass E, sweep G, brace H, lever-rest I, and follower M, all constructed and arranged as described.

112,967.—MACHINE FOR HUSKING CORN.—Jacob Russell, Brooklyn, N. Y.

Claim.—1. The combination and relative arrangement of the guide-strip D and husking-rollers B C, as shown, to form the sides and bottom of the husking-trough, as described.

2. The combination of the stripping-rollers P and Q, when the latter is provided with the transverse V-shaped notches W on its surface, substantially as described, and for the purpose set forth.

3. The combination of the adjustable slide V with the apron Y and the hood X, made as described, and all arranged and operating for the purposes hereinbefore set forth.

4. The improved corn-husking machine herein described, consisting of the said several parts and mechanisms specified and shown, constructed, combined, and arranged to operate in the manner and for the purpose set forth.

112,968.—END-GATE FOR WAGONS.—John Frederick Sener, Lancaster, Pa.

Claim.—The construction of the end-gate, attached permanently to the bottom and sides of the wagon or cart by the plates B and D, with hooks or fastenings C C at the top, and an incline chute below, formed by two or more adjustable gates J and G, that are hinged as as to fold up together and form an open or closed end-gate, when arranged, combined, and operated as herein described, and for the purposes set forth.

112,969. — HYDRAULIC-NOZZLE. — Henry Shaw, Nevada City, Cal.

Claim.—1. The combination of the C-shaped pipe D with the chest A and section B, arranged as described, to form a double-jointed connection between them, substantially as specified.

2. The combination of devices for connecting the two ends of the pipe D to the pipe B, consisting of the loose trunnions e e, rings f f, and wedges g, arranged to operate as described.

3. The glass lining P, fitted in the nozzle H, by making it conical on the outside, and fitting its base against the end of the pipe G, to which the nozzle H is fastened.

4. The arrangement of the conical guides n upon the interior surface of the section F, substantially as and for the purpose specified.

112,970.—SAW-SET AND FILER.—Thomas L. Shaw, Omaha, Neb.

Claim.—1. The annular file i, in combination with the wing l, as specified.

2. The reciprocating saw-set n, in combination with the adjustable wrist-pin q and disc r, as described.

3. The vibrating-block v, in combination with the arm s and eccentric b', as set forth.

4. The vibrating-block v, in combination with the plate y and adjustable-block d', as explained.

5. The improved saw-filing and setting-machine, formed by the combination of rotary file i, saw-set n, vibrating-block v, and the parts connected therewith, for operating upon and feeding a saw, as set forth.

112,971.—TURNING-LATHE. — Samuel D. Sheldon, Fitchburg, Mass.

Claim.—The combination, with the spindle C and movable cone-pulley D, of the flanged friction-plate I J, operating-lever E, and stopping-brake K, substantially as and for the purposes set forth.

112,972.—SHAFT-COUPLING.—James Sherry, Watertown, N. Y.

Claim.—The arrangement of the shafts b provided with pins i, the coupling a provided with the longitudinal grooves c and the transverse grooves d, and the set-screws e bearing upon the exterior of the shafts b, all constructed and operating as specified.

112,973.—MANUFACTURE OF EYELET-STOCKS. Stephen N. Smith, Providence, R. I.

Claim.—1. The herein-described process of forming continuous stripe of eyelet-blanks, that is to say, successively projecting from said strip cups of depth equal to and of diameter greater than that of the finished eyelet, and then contracting the diameter of said cup by forcing it, by a punch of suitable size and shape, into a die, the latter being so shaped as to impart to the blank the proper eyelet form.

2. The series of dies and punches, constructed and operating as described, whereby eyelets are made in the manner and by the process above described.

112,974.—HOLDER FOR DRINKING-GLASSES. John Vaughan Snider, Philadelphia, Pa.

Claim.—1. As a new manufacture, a tumbler-holder having at the base a receptacle extending beyond the sides of the tumbler, as set forth.

2. The within-described holder and drip-catcher, consisting of a vessel, A, arms B, and band or holder C, with its handle c and lugs b adapted to slots or openings in the said arms, all substantially as described.

112,975, antedated March 10, 1871.—GAS-MACHINE. — Theodore G. Springer, St. Louis, Mo.

Claim.—1. A mixing-tube, with rod or thread running through the contracted vent, substantially as and for the purposes herein set forth.

2. The combination of the diaphragm A, rod B, valve E, seat K, vent C, and pipe P, all constructed and arranged to operate substantially as and for the purposes herein set forth.

3. In combination with the vaporizing-chamber F, the heating-chamber G, worm N, diaphragm X, and lever Y, or their respective equivalents, constructed and arranged to operate substantially as and for the purposes herein set forth.

112,976.—WHISK-BROOM.—Greenleaf Stackpole, Elizabeth, N. J.

Claim.—The paper or pasteboard core B, when covered with the hurl C, substantially as set forth.

112,977.—CHEESE-HOOP.—William Sternberg, Bridgeport, N. Y.

Claim.—The grooved hoop A a, in connection with the expansible ring B, substantially as and for the purpose herein specified.

112,978.—HINGE FOR SEWING-MACHINES.—Roswell H. St. John, Bellefontaine, Ohio.

Claim.—A hinge for sewing-machines, having a central socket, a, enlarged, and provided with flanged elastic bushings D d D d, and metallic facings E F for the same, constructed, applied, and operating substantially as and for the objects herein set forth.

112,979, antedated March 14, 1871.—SAW-GUMMER.—Nathaniel F. Stone, deceased, (Amanda Stone and Benjamin Holbrook, administrators,) Chicago, Ill.

Claim.—1. The revolving shaft A, in combination with the rotary cutter, substantially as described.

2. The stop N, in combination with the shaft A, frame F, and pin P, when constructed and operating substantially as set forth.

3. The combination and arrangement of the shafts A and I with the wheel A' and the worm B, substantially as described.

4. The pivoted frame C, when so constructed and attached that the worm can be disengaged or adjusted, substantially as specified.

5. The combination and arrangement of the shaft A, provided with the adjustable bearings M for shaft I, cutter H, wheel A', worm B, gauge-screw K, and stop N with the frames F and C, substantially as and for the purposes described.

112,980.—NEEDLE FOR SEWING-MACHINES. Edwin Strain, Newton, Mass.

Claim.—A needle, having a diagonal straight slit or opening, d, communicating with the eye c, and inclined to the axis of the needle, the corners p and r of the slit being beveled off and extending to or beyond the top and bottom of the eye, substantially in the manner and for the purposes set forth.

112,981.—HYDROCARBON-GAS APPARATUS. Myron H. Strong and William I. Reid, Brooklyn, N. Y.

Claim.—1. A double-acting valve-stem, combined with a nozzle and tube, supplying gasoline or other hydrocarbon-vapors, and automatic mechanism for moving such valve-stem, substantially as set forth, so that the said hydrocarbon-vapors are supplied in the proportion required for consumption, or stopped off at the extreme movement in either direction.

2. A nozzle for a jet of hydrocarbon-vapor to issue and commingle with atmosphere, in combination with a conical plug or valve acting within said nozzle, and means for moving said valve and regulating the escape of such gaseous hydrocarbon in proportion to the amount consumed, substantially as set forth.

3. Two valves, actuated by a moving diaphragm, to close the escape for the gaseous hydrocarbons into the gas-holder at the extreme movements in each direction of said diaphragms, substantially as set forth.

4. The rock-shaft d for the lever c, provided with a shoulder, f, and spring n, as and for the purposes set forth.

112,982.—FIRE-ESCAPE.—Thomas L. Summeril, Juda, Wis.

Claim.—The combination and arrangement of the car A, frame B, pulleys C C, ratchets D D, windlass E, cords G G and H, bale I, windlass J, and cords K K, substantially as described.

112,983.—SOAP-DISH.—John Merritt Thatcher, Bergen, N. J.

Claim.—1. A soap-dish formed either with or without projections on the bottom, and having lateral openings b, as set forth.

2. An open cover, B, constructed substantially as described, so as to serve as a cover, or cover and receptacle, to the soap-dish A, as specified.

112,984.—BOOK-SUPPORT.—S. Millett Thompson, Providence, R. I.

Claim.—The improved hand book-rest, herein described, consisting of the base, standard, hinged cross-bar, brace-wires d e f, and holders g, in combination with the holding-finger p, spring-fingers h, and thumb-piece k, all constructed and arranged as and for the purposes specified.

112,985.—SASH-HOLDER.—Alexander Thomson, Champaign, Ill.

Claim.—The combination of the double-beveled key A, the case C holding the key, with its flange, and containing a roller B, all arranged as set forth.

112,986. — FIRE-PLACE GRATE.—James W. Thorniley, New Brighton, Pa.

Claim.—The end C, provided with the flange D, brace g, and projections h and i, in combination with the grate B, for the purpose of holding the grate off from the jambs and back walls of the fire-place, as herein described.

112,987. — ALARM-LOCK. — James Harry Thorp, New York, N. Y.

Claim.—1. The sliding bar D, provided with projection E, prong a, and spring b, all constructed as shown and described, and arranged within the keeper of a lock, substantially as and for the purposes herein set forth.

2. The combination of the keeper C, bar D, with projection E, and the bolt B of a lock, all constructed and arranged to operate in connection with a burglar-alarm, substantially as and for the purposes herein set forth.

112,988.—ELASTIC ROLL.—William H. Towers, Boston, Mass.

Claim.—1. The improved roll herein described, composed of a shaft, A, water-proof fabric or fibrous material, B, and rubber shell or covering D, substantially as set forth.

2. The combination of shaft A, body B, of rubber-coated fabric, and washers C C, all substantially as described.

112,989. — THILL-COUPLING. — Charles Twombly, Boston, Mass.

Claim.—1. The recessed head C, provided with washer-head b and plate a, with the set-screw G and nut f, substantially as and for the purposes herein set forth.

2. The combination of the recessed head C with loop h, thill-iron D, follower a, piece b, screw G, and nut f, all constructed and arranged substantially as and for the purposes herein set forth.

112,990. — WALKING-CULTIVATOR. — John Vanluvanee and Hugh Smith, Moline, Ill.

Claim.—The combination of the grooved hub D, made adjustable on the axle A, with the circular T-head F, secured to the hub by means of the segmental clamps e, substantially as set forth.

112,991.—Apparatus for Converting Reciprocating into Rotary Motion.—Franz Wagner, New York, N. Y.

Claim.—The dogs *d d'*, overlapping the rim of a wheel, E, on opposite sides thereof, and inserted loosely in the ends of levers D D', in combination with springs *f f'*, rods C C', and reciprocating slide A, substantially as and for the purpose shown and described.

112,992.—Meter. — Franz Wagner, New York, N. Y.

Claim.—1. In a fluid-meter, the combination of a piston-valve, F, which reciprocates in the core of a hollow piston, E, being moved by the direct action of the fluid, with a piston which reciprocates in a cylinder, A, by the direct action of the fluid, said piston-valve, piston, and cylinder being provided with suitable ports, substantially such as herein described, for the purposes set forth.

2. The piston E, provided with an internal valve-chamber and with chambers *g h k l m n*, communicating with said valve-chamber through ports *i j q u s t w w*, substantially as herein shown and described.

3. The piston-valve F, divided in two chambers, e^2 d^2, the chamber e^2 being provided with ports e^3 f^2 f^3, and the chamber d^2 with ports g^1 h^2 h^3, substantially in the manner set forth.

112,993.—Cooking-Stove. — George W. Walker, Boston, Mass.

Claim.—1. In combination with a cooking-stove or range, a sliding shelf, substantially as described.

2. A stove having a flue-pipe recess, *n*, substantially as shown and described.

3. The combination, with a stove, of an auxiliary flue-pipe, *o*, brought within the plane of the vertical stove-plate or the adjacent sides of the plate, substantially as shown and described.

4. The combination of the flue-connecting box and the vertical flue-pipe relatively arranged, substantially as shown and described.

5. The combination, with the recessed stove, of the box *s*, for the connection of the stove-flue and the flue-pipe and regulation of the draught, substantially as shown and described.

6. The supporting stop *q*, substantially as shown and described.

112,994.—Cultivator.—Francis N. Welden, Rockford, Ill.

Claim.—1. The iron *a*, bent as described, in combination with the beams E, when attached to the tongue at or near the center, as described.

2. The spring-bolt A, constructed specifically as described, that is, with its covering-plate extending over and about the lever, for the double purpose of preventing the lever from moving laterally, and for protecting the internal bolt mechanism, as described.

3. The combination of the standard F, rack-bar I, lever H, and brace-rod *i*, the parts being arranged as described, that is, the rack-bar being secured above to the standard, and held below from vertical and lateral movement by the brace-rod, without other support, the lever also being hinged to the standard and secured to the rack-bar, as described.

112,995.—Fuel and Kindling-Wood. — Woodward E. Wertenbaker, Washington, D. C.

Claim.—The composition, consisting of coal-tar and acid tar, when combined in the proportions and employed in the manner and for the purpose substantially as described.

112,996. — Zinc-Board for Stoves.—William Westlake, Chicago, Ill.

Claim.—As a new article of manufacture, the herein-described zinc-board or platform for stoves, consisting of the sheet A, provided with the flange *a*, and having blocks secured at suitable points underneath for supporting the legs of the stove, substantially as described.

112,997. — Breech-loading Fire-Arm.—Eli Whitney, New Haven, Conn.

Claim.—1. In combination with the breech-block B and hammer D the cam or cams *d*, provided with thumb-piece, operating upon the same center with the hammer, but independent of the same, to release and lock the breech-block, substantially as described.

2. The cam or cams *d*, provided with thumb-piece, combined and operating upon the same center with the hammer D, and arranged as described, whereby the hammer may be set at half-cock by means of the said cam, substantially as set forth.

3. In combination with the breech-block B, the hammer D, and cam or cams *d*, the arrangement of a latch, substantially as described, to catch and hold the said cams and be tripped by the movement of the breech-block, substantially as specified.

4. The combination of the hammer D with the cam or cams *d* and the latch or catch *n*, arranged and operating as described, to couple and hold the said cams and hammer together on the cock-notch, as and for the purpose specified.

112,998. — Railway-Rail and Chair.—William Edward Winby, Edgbaston, England.

Claim.—1. The improvements in rails for railways and tramways, hereinbefore described, and illustrated in the accompanying drawing; that is to say, rolling a longitudinal lip or rib on one side of each head of the rail, for the purpose of supporting the said rail in its chairs and preserving from wear the working-surface of the inverted head of the said rail, substantially as described and illustrated.

2. The improvements in chairs for railways and tramways, hereinbefore described, and illustrated in the accompanying drawing; that is to say, making the jaws of the said chairs with two bearings for seating the lips or ribs of the rail, hereinbefore described, and also making the upper jaw to receive the fastening-key, by which the rail is fixed in the chair, substantially as described and illustrated.

112,999. — Ship's Compass. — George W. Wood, Brooklyn, N. Y., assignor to Marion A. Wood, same place.

Claim.—1. The arrangement of the needles J J K, by which the magnetism of the ship is neutralized, in the manner and for the purpose set forth.

2. The construction of the stand with movable and stationary disks A B, the stationary disk having marks of a compass-card, but lettered in reverse order, substantially as and for the purpose described.

3. The opposite poles of the needles being brought close to each other, so that their magnetism may be maintained indefinitely.

4. The pointer L of the compass-card K, in connection with the lubber mark of the compass-bowl, substantially as and for the purpose described.

5. The compass-card K, constructed substantially as described, in connection with the needles J J, and operating as set forth.

113,000, antedated February 14, 1871.—Tying Brooms and Brushes.—James H. Anderson, Terre Haute, Ind., assignor to Thomas Marston, Jr., Walter L. Peck, and Clarence L. Peck, Chicago, Ill.

Claim.—1. The improvement in tying brooms, brushes, or whisks, herein described, with two or more wire or metallic braces, with projections secured down by pressure or percussion to such an angle to the plane of the broom-handle as to thoroughly fasten the cross-wires binding the corn or other material to the handle.

2. The arranging the said wires or other metallic braces with projections, so secured down by pressure or percussion, as described, upon the corn, or other material, on the handle in a winding or cork-screw form, substantially as set forth.

3. The broom, brush, or whisk, herein described, with two or more wire or metallic braces, with projections secured down by pressure or percussion to such an angle to the plane of the handle as to fasten the cross-wires binding the corn or other material, whether said braces are applied vertically or in a winding or cork-screw form, as an article of manufacture.

REISSUES.

4,305. — Sewing-Machine. — Chauncy O. Crosby, New Haven, assignor to N. A. Baldwin, Milford, Conn. — Patent No. 21,745, dated October 12, 1858.

Claim.—1. A work-supporting or holding surface, adapted to bear on one side of the material being sewed, in combination with a reciprocating surface adapted to bear on the other side of such material, and which acts to bend such material, substantially as described, prior to the puncture of the needle, so that the needle-point may pass into and out of the material on the same side or face.

2. In combination with supporting and bending surfaces, operating substantially as described, to present the material to the action of the needle, as set forth, a feeding surface adapted to move the said material along at determined intervals, substantially as described.

3. In combination with a slotted supporting surface, the slot being transverse to the movement of the material, a reciprocating surface, adapted to press the material into such slot, and provided with a notch for the passage of the needle through the material folded or bent over it.

4. The combination of the cloth-holder with the needle-bar and thimble-bar, when constructed and made to operate substantially as herein described.

5. The combination of the needle-bar and thimble-bar with a common needle, when made to operate substantially as herein described.

6. The combination of the needle-bar with the hooks and endless tapes, when arranged and made to operate substantially as herein described.

4,306.—Copying-Press.—E. W. Frost, New York, N. Y., assignee of Francis Hovey.—Patent No. 42,141, dated March 29, 1864.

Claim.—1. Connecting the screw to the platen of the copying-press by locking it with softer metal than iron, applied in a melted state in a cavity around the screw, substantially as and for the purposes herein set forth.

2. In connection with the above, a chamber, *c*, in the connected platen and foot-piece of a copying-press, and introducing a more fusible metal to fill such chamber and to harden in the groove *a* of the screw C, all the several parts being combined and arranged substantially as and for the purpose herein set forth.

4,307.—Seed-Drill.—Frederick H. Mahny, Rockford, Ill., assignee of Moses C. Younglove. — Patent No. 20,603, dated June 15, 1858.

Claim.—1. The combination of the rotating cylinder-shaft, the series of sectional simultaneously-adjustable cups mounted on said shaft, and the rotating endwise-moving sleeve in which the shaft revolves and by which the cups are adjusted, substantially as hereinbefore set forth.

2. The combination of the revolving cylinder-shaft, the sectional simultaneously-adjustable cups, the rotating endwise-moving sliding sleeve, the adjusting-screw, retaining-wheel, and catch, all these parts being constructed to operate in combination, substantially as hereinbefore set forth.

DESIGNS.

4,721.—Carpet-Pattern.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

4,722.—Ornamental Chain-Link.—Virgil Draper, Attleborough, Mass., assignor to Oscar M. Draper, same place.

Claim.—The new design for an ornamental chain-link, substantially as herein described.

4,723.—Chain-Link.—Virgil Draper, Attleborough, Mass., assignor to Oscar M. Draper, same place.

Claim.—The new design for an ornamental chain-link, substantially as herein described.

4,724.—Show-Case.—William Henry Grove, Philadelphia, Pa.

Claim.—The design for a show-case, having a waved front, substantially as described, and as represented in and by the accompanying drawings.

4,725.—Side-Frame of School-Desks.—Ausborn Franklin Old, Philadelphia, Pa., assignor to J. A. Bancroft & Co., same place.

Claim.—1. The design for the ornaments *e*, *e'*, and *f*, arranged substantially as shown and described.

2. The design for the lattice-work *g* between the ribs *c* and *d* of the frame, substantially as described and illustrated.

3. The design for the whole side frame, including the ornaments *e*, *e'*, and *f*, and the lattice-work *g*.

4,726.—Type.—William H. Page, Norwich, Conn., assignor to William H. Page & Co., same place.

Claim.—The design for letters, as shown.

4,727.—Type.—William H. Page, Norwich, Conn., assignor to William H. Page, & Co., same place.

Claim.—The design for letters, as shown.

4,728.—Type-Border.—William H. Page, Norwich, Conn., assignor to William H. Page & Co., same place.

Claim.—The design for border, as shown.

4,729.—Whisk Broom.—Greenleaf Stackpole, Elizabeth, N. J.

Claim.—The whisk-broom handle, as above shown and described.

4,730.—Sword.—Edwin S. Warren, Springfield, Mass.

Claim.—A design for sword, substantially as shown.

4,731.—Handle for Spoons or Forks.—George Wilkinson, Providence, R. I., assignor to Gorham Manufacturing Company, same place.

Claim.—The design for spoons and forks, substantially as herein set forth.

TRADE-MARKS.

197. — Plumbago-Grease. — American Graphite Company, New York, N. Y.

198.—Pump.—Charles G. Blatchley, Philadelphia, Pa.

199.—Woolen Goods.—William P. Gibbs, Reuben G. Ross, Isaac N. Field, and William B. Field, St. Charles City, Mo.

200.—Weighing-Scales.—Edward F. Jones, Binghamton, N. Y.

201.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

202.—SHIRTS.—Morison, Son & Hutchinson, New York, N. Y.

203.—TOBACCO.—Edmund J. Oppelt, Baltimore, Md.

204.—BURNING-FLUID.—Robert G. Richards, New York, N. Y.

205.—SLATES, &c.—The Silicate Slate Company, N. Y.

206.—WINE.—M. Werk & Sons, Cincinnati, Ohio.

EXTENSIONS.

SAMUEL REYNOLDS, of Ellisburg, N. Y.—Letters Patent No. 16,881, dated March 24, 1857.

"Improved Water-Wheel."

Claim.—The radial floats above the horizontal plane, in combination with the buckets or floats below said plane, constructed substantially as described, that is, narrowest where they join the radial floats, gradually increasing in width outwardly, and in depth downward with an inclination toward the center to their termination, making the outlet to discharge the water deeper toward the center than toward the periphery.

THEOPHILUS E. SICKELS, of Omaha, Neb. Letters Patent No. 16,884, dated March 24, 1857.

"Improvement in Steam-Brakes for Railroad Cars."

Claim.—The so combining the use of steam, or its equivalent, with the brakes of railroad cars as that the steam shall hold the brakes from the wheels, and its partial use or disuse admit a weight or spring to apply said brakes, in a manner substantially as herein described.

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PATENTS.

113,001.—FLOOD-GATE.—August H. Adams Piqua, Ohio.

Claim.—A flood-gate, provided with two or more sets of floats, constructed and operating substantially as shown and described.

113,002.—APPARATUS FOR OPERATING RAILWAY-SWITCHES.—James Alcorn, Charlestown, Mass., assignor to George R. Kelso, same place.

Claim.—1. As a means of operating the switch-rail of a turnout in railway-tracks, the lever D, formed and pivoted to the car or segmental plate C in manner as described, and so as to be capable of being moved vertically and vibrated laterally, as and for the purpose set forth.

2. In combination with the same, the retracting mechanism or rod K and spring I, and the check or guard H, as and for the purposes set forth.

113,003.—PLANE-STOCK.—Leonard Bailey, New Britain, Conn.

Claim.—In a flexible-faced plane-stock, substantially as described, the rocking-shaft *c c*, pivoted in the stock A, and receiving the arms *a a'*, of the face-plate B, all substantially as and for the purpose described.

113,004.—PATCH FOR RAILROAD-RAILS.—John T. Barnett, Decatur, Ill.

Claim.—The split or forked patch B, made and used in the manner as hereinbefore set forth.

113,005.—ROTARY STEAM-ENGINE.—William Barry, Carthage, N. Y.

Claim.—The combination of the bevel-faced grooved hub, the bevel-faced case, stop E, and the sliding pistons H, all substantially as specified.

113,006.—WOOD SCREW.—Jason A. Bidwell, East Boston, Mass.

Claim.—1 The combination of the spiral concave score *c'*, forming the point of the screw, with the flat bottom thread *c*, forming the body of the screw, substantially as described.

2. The combination of the spiral concave score *c*, at the shank of the screw, with the flat bottom thread *c*, substantially as described.

3. The combination of the spiral concave score *c c'* with the intermediate flat bottom score *c*, substantially as described.

113,007.—COMBINED BORDERING AND DRAIN-TILE.—Charles Biehl, Albany, N. Y.

Claim.—The combined bordering and drain-tile herein shown, consisting of the tube *a*, base-plate *b*, and comb *d*, constructed and arranged substantially as set forth.

113,008.—AWL FOR HEEL-MACHINES.—Horace H. Bigelow, Worcester, Mass.

Claim.—1. The combination of the peculiarly-constructed awls B, with their supporting-plate A, substantially as shown and described.

2. The peculiarly-constructed awl B, the point of which is made in form as fully shown in the drawing.

113,009.—MACHINE FOR TURNING RANDS FOR SHOES.—Horace H. Bigelow, Worcester, Mass.

Claim.—1. The combination, with the forming-cams or jaws P P', of the pressing-cam N, substantially as and for the purposes set forth.

2. The combination, with the shafts E and H, of the center rod O, forming-cams or jaws P P', pressing-cam N, and spring Q, substantially as and for the purpose set forth.

3. The combination, with the shafts E and H, center rod O, and cams N P P', of the bearing piece G G', spring L, and adjusting-screw M, substantially as and for the purposes set forth.

4. The combination, with the shaft E and rod O of the clutch-ring T, starting-lever W, and spring Q, substantially as and for the purposes set forth.

5. The combination, with the cams or jaws P P', of the bar R, provided with guide-pins *c*, substantially as and for the purposes set forth.

6. The combination, with the cams or jaws P P', of the holding-stud or point *a*, substantially as and for the purposes set forth.

113,010.—NEEDLE FOR SEWING-MACHINES.—Joseph B. Blanchard, Boston, Mass.

Claim.—A sewing-machine needle, having the eye slotted, substantially as described and shown.

113,011.—CULINARY-BOILER.—Peter Boesen and Michael Bedessem, Kenosha, Wis.

Claim.—1. The rod E, headed at one end and hooked at the other, combined, as described, with the bottom-perforated vessel D and perforated plate B, for the purpose of enabling them to be lifted out and removed together, in the manner specified.

2. In combination with vessel A, bottom-perforated vessel D, and perforated plate B, the tightly-fastened and perforated cover F, for the purpose of enabling the water to be poured from the three chambers, in the manner described.

113,012.—LOUNGE-BED.—John Brada, New York, N. Y.

Claim.—1. A lounge-bed, having three series of springs, one series, D^1, serving as the springs for the seat when used as a lounge, and the other two series, D^2 C, serving when the structure is used as a bed, as herein described.

2. The swiveling support M, turning on the pivot *m*, and arranged to serve, relatively to the folding head-rest E^1 E^2 and to the main parts A^1 A^2 of the lounge-bed, as and for the purposes herein specified.

113,013.—DUMPING-CAR.—Daniel J. Brimmer, North Petersburg, assignor to Martin E. Brimmer, Rensselaer county, N. Y.

Claim.—1. The arrangement and combination of two or more dumping-boxes B with the platform A and tilting-bars *f*.

2. In combination with a dumping-box, the triangular tilting-bar *f* and the pivoted hooked lever *e*, arranged and operating as shown and described.

113,014.—MANUFACTURE OF WHITE-LEAD.—Ludwig Brumlen, Hoboken, N. J.

Claim.—1. The revolving tubular perforated shaft A, perforated cross-pipes C, cross-arm D, and fingers E, combined, as described, with an air-pipe, B, for the purpose of distributing the carbonic acid in close contact with as many particles of the basic solution of lead as possible.

2. The process of applying to the basic solution of lead continuous fine streams of carbonic acid under the pressure of a current of air, as described.

113,015.—INDEX.—O. Flagg Bullard, Media, Pa.

Claim.—Providing a key or supplemental index, consisting of the ordinary index margin, each one with all the letters of the alphabet preceding the right-letter, in the manner and for the purpose set forth.

113,016.—REGULATING CLASP FOR ELASTIC TUBES.—William Bunce, Oberlin, Ohio.

Claim.—A hollow clasp, with a central fulcrum in combination with an elastic band, constructed and applied substantially as and for the purposes described and set forth.

113,017.—LIQUID-METER.—Anna Büttner, administratrix of the estate of Friedrich Büttner, New York, N. Y.

Claim.—A case, *p*, applied as described, to the valve R, for the purpose of preventing the latter from being weighted by the liquid.

113,018.—CORN-PLANTER.—James B. Conaty and Milton Catt, Indianapolis, Ind.

Claim.—1. A tooth or pin, revolving independently about the hub or axis of a wheel supporting the beam of a corn-planter, in combination with a lever operating the dropping device in the hopper thereof, when the revolution of said radial arm is controlled or arrested, substantially in the manner and for the purpose herein set forth.

2. The tooth or pin W, upon a slide working in a slot in the radial arm S, in combination with said arm, all substantially as and for the purpose herein set forth.

3. The combination of the adjustable slotted lever P with the end of the axis *c* of the lever O operating the seed-slide, and with the adjustable tooth or pin W, revolving about the hub of the supporting-wheel D, all substantially in the manner and for the purpose herein set forth.

113,019.—CULTIVATOR.—Lee W. Conner and Richard G. Conner, Troy, Iowa.

Claim.—1. The axle A, constructed as described, and combined with the beam D and eye-bolt *d*, substantially as described, and for the purpose specified.

2. The arrangement of axle A and tongue B, double-tree C' and rods *e e*, with beams D D, shanks E and F, forks G G, and braces H and P, substantially as and for the purpose specified.

113,020.—GATE.—James B. Cottom, Dayton, Ohio.

Claim.—The double-crank pivot-rod H, in combination with the gate and its supporting and operating mechanism, constructed, arranged, and operated in the manner and for the purposes described.

113,021.—CONDENSER FOR STEAM-ENGINES.—William Craig, Newark, N. J., and Henry L. Brevoort, Brooklyn, N. Y.

Claim.—The combination, with the body or main chamber A, of the upper chamber A', the perforated tube E, the steam-inlet *e*, the float G with its tube F, and the jacket C, through which the water is conducted to the upper chamber A', substantially as specified.

113,022.—GRAIN-DRILL.—Jesse W. Craven and Albert Clark, Centre Valley, Ind.

Claim.—1. The arrangement of the series of holes *a b d* in the hopper bottom, and the corresponding holes in the slide.

2. The arrangement, with the dropping-slide and the driving-wheel, of the disks P, the rods M O, and the lever N, the said disks having two or more holes adapted to receive the wrist-pin at different distances from the axis, to vary the feed, all substantially as specified.

3. The arrangement of the drills L with the tubes *g* and the pins *i*, for holding the said drills above the ground, all substantially as specified.

113,023.—APPARATUS FOR PURIFYING COAL-OIL.—Benjamin Crawford, Allegheny, Pa.

Claim.—1. An apparatus for evaporating benzine and other light volatile fluids, which produce explosive gases at low temperature, from illuminating oils, constructed substantially as described.

2. The combination with the oil-receiver of the apparatus of an agitator for facilitating the escape of the most volatile fluids from the fluid under treatment, substantially as described.

3. The tubular handle C of the agitator, adapted to receive a thermometer, D, substantially as described.

4. The treatment of explosive burning fluids to a hot-water bath, by means substantially as described.

113,024.—WASHING-MACHINE.—Elias Crick, Phillipsburg, N. J.

Claim.—The combination and arrangement, with the box or tub A B, of the cleats C and D, roller E F, bars H, cross-bar I, shaft J, bars L, and cross-bar M, as herein shown and described.

113,025.—STEERING APPARATUS.—Alonzo G. Crossman, Huntington, N. Y.

Claim.—1. The combination of the parts C and D of the rudder, the strap-joints E and F, and the pintles or axes *a b c d*, substantially as hereinbefore set forth.

2. The combination of the rudder-post B, the cross-heads H and J, the connecting-rods I I, and the axis K, substantially as hereinbefore set forth.

113,026.—PAPER-CLIP.—Jacob M. Crull, Harrisburg, Pa., assignor of one-half his right to George S. Crull, same place.

Claim.—The returned spring-loop N W, in combination with shank A N', provided with claw K, substantially as and for the purposes herein set forth.

113,027.—NEEDLE-HOLDER AND TENSION DEVICE FOR SEWING-MACHINES.—Edwin L. Crumb, South West, Pa.

Claim.—In combination with the needle-carrying

arm B, the needle-holding pin A, provided with the spiral groove *b*, for the purpose of producing tension on the thread, as specified.

113,028.—STOP-MOTION FOR WARPING-MACHINES.—Edwin H. Cummings, Lewiston, Me., and Grimshaw Heyes and Thomas Entwistle, Accrington, England.

Claim.—1. The oscillating box C, constructed and arranged substantially as described.

2. The arm g^1, provided with its tapering face, in combination with the arm A^1, as described, for the purpose set forth.

3. The combination of the box C and bar G, as described.

4. The combination of the toothed wheel L, friction-collar *l*, and its adjusting-nut, with the pawl I and the arm A^1, or its equivalent, for operating the latter, as described.

5. The combination of the slotted beam, oscillating box, bar G and its connections, with the arm A^1 and its connections, as described.

6. The described method of stopping the motion of a warping-machine by means of a wire held by an oscillating box coming in contact with a beam or bar which operates the shipping-arm.

113,029.—NAIL-PLATE ROLLING.—Orville C. Dewey, Joseph Dudley, and Friedrich Lindemann, Wheeling, W. Va.

Claim.—1. The nail-plate rolls A B, combined with a movable roll, J, for receiving, as described, the plate at its lowest point of depression, then rising with it and clamping it against the bottom of roll B, as and for the purpose specified.

2. The mechanism for operating the roll J, consisting of the cam-lever D F, lever G, shaft H, and arms I, when arranged with respect to the rolls as and for the purpose specified.

3. The guides K L, combined with roll J, provided with mechanism to cause it to rise and clamp the blank to the roll B, as and for the purpose specified.

113,030.—BRIDGE.—Ferdinand Dieckmann, Cincinnati, Ohio.

Claim.—The described arrangement and combination of arches A B, diagonal braces C, abutments F F, cable G, truss-timbers H, either with or without the posts O, as and for the purpose set forth.

113,031.—DEVICE FOR PIERCING AND LINING EARS FOR THE RECEPTION OF EAR-RINGS.—William Charles Edge, Newark, N. J.

Claim.—As an article of manufacture, an eye let sharpened at one end to pierce the lobe of the ear, and formed of soft metal, to allow its ends to be upset on each side of the ear, for the purpose of thus perforating and lining the cut surface by the same operation.

113,032.—PURCHASE FOR CAPSTANS.—Joseph Edgecomb, Gardiner, Me.

Claim.—In a purchase for capstans, the combination of the spring-slide *e* and the arm *i*, attached to one of the pawls, as set forth.

113,033.—PRINTING-TELEGRAPH APPARATUS.—Thomas A. Edison, Newark, N. J.

Claim.—1. A polarized bar or switch and connections, acting as a relay to electro-magnets placed in a local circuit, in combination with an electro-magnet in the main line, acting upon such polarized bar or switch to complete the local-circuit through one of the two electro-magnets, according to the polarity of the current sent, substantially as set forth.

2. A local-circuit, two electro-magnets, a type-wheel and impression mechanism, in combination with the polarized bar or switch and electro-magnets, substantially as and for the purposes set forth.

3. A series of polarized relays, worked in one main circuit, and controlling local-circuits that operate either type-wheel magnets or printing-magnets, substantially as set forth.

4. A polarized relay, having its tongue or switch centered between the poles of an electro-magnet and between the circuit-closers when in a normal condition, substantially as set forth.

5. A type-wheel, having letters, figures, and fractional signs arranged in groups for numerators and for denominators on opposite sides of a fractional sign, substantially as set forth, to print letters, figures, and fractions, as specified.

6. A type-wheel, with figures arranged on each side of a hyphen or fractional sign, as and for the purposes set forth.

7. The type-wheel motor, composed of a vibrating arm and pawls 12 and 13, combined with a wedge-acting tooth, in the manner and for the purposes set forth.

113,034.—PRINTING-TELEGRAPH APPARATUS.—Thomas A. Edison, Newark, N. J., assignor to The Gold and Stock Telegraph Company, New York city.

Claim.—1. A shield, with an opening adjacent to the pressure-pad and moving with the same, in combination with two contiguous type or character-wheels and mechanism for actuating the same in a printing-telegraph instrument, substantially as set forth.

2. A movable pressure-pad, mounted upon the printing-lever, and two contiguous type-wheels on one shaft, in combination with two electro-magnets and armature, and a circuit-changer, substantially as set forth, whereby the type-wheels are set by one electro-magnet, and the pressure-pad is either changed in position or the printing effected by reversing the polarity of the electrical current, substantially as set forth.

3. The movable pad, mounted upon a transverse slide in the impression-lever, in combination with the shifting-dog *s*, and fingers 5 and 6 upon the type-wheel shaft, substantially as set forth.

4. The notched disk *u* and inclined holder *t*, in combination with the shifting-pad *o*, substantially as and for the purposes set forth.

5. The unison-stop lever *v*, in combination with the shifting-pad and two contiguous type-wheels, substantially as set forth.

113,035.—FLOWER-STAND.—Garrett Erkson, Brooklyn, N. Y.

Claim.—The base or stand A, pilar D, disks E, arms G, and cup-plates I, constructed and arranged substantially as and for the purposes herein shown and described.

113,036.—ELECTRO-MAGNETIC BURGLAR-ALARM.—Wilson E. Facer, Philadelphia, Pa.

Claim.—1. The armature-lever C, frame D, electro-magnets E E, armature F, depending arm or lever H, adjusting and raising-spring and screw K, adjusting-screws L L', and the indicator-plate N, as shown.

2. The indicator A and burglar-alarm B, when constructed, arranged, and operated as shown and described.

3. The bell-lever T, spring *f*, and the hammer Z, as shown and described.

113,037.—WATER-GRATE BAR.—William H. Farris, Cairo, Ill.

Claim.—1. The hollow upright back bars F, in combination with the hollow grate-bars A, substantially as herein shown and described, and for the purpose set forth.

2. The stiffener G, constructed as herein shown and described, in combination with the tubular grate-bars A, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the elbow I, pipe H, back bar F, rod J, tubular grate-bar A, stiffener G, head B, pipe C, and elbow D, with each other, and whether the pipe C be connected with the head B or back bar F, substantially as herein shown and described, and for the purpose set forth.

113,038.—HAND-TURNING AND BORING-MACHINE.—John Franklin Finger, Wilmington, N. C.

Claim.—The mandrel A, disks C C', clamp G, arm E, feed-screw K, star-wheel M, pins *o o*, and clamp N, combined and arranged substantially as and for the purposes described.

113,039.—PITMAN-ROD CONNECTION.—Edward G. Fish, Colfax, Iowa.

Claim.—1. The parts B, B', and A, socketed and slotted as described, to receive the enlargement *c* on the pitman-rod C, and secured together, in combination with screw-bolts, substantially as described.

2. The oil-cup *p*, formed into the base of the socket of the fixed elevation B, substantially as described.

113,040.—COATING IRON AND STEEL WITH MOLTEN IRON.—Rufus B. Fowler and Daniel F. Brandon, Chicago, Ill.

Claim.—The process of coating the surfaces of plates or other articles of wrought-iron or steel with molten iron by the use or application of pressure, substantially as described.

113,041.—MECHANICAL TELEGRAPH-INSTRUMENT.—James Gamble, San Francisco, Cal.

Claim.—A telegraph-key sounder, secured upon the hollow or convex base A, and consisting of the two vibrating levers C and B, either hinged together or connected by a link or plate, *l*, and arranged as described, so that between a pressure applied to the knob D and the spring *f* one end of the lever B shall vibrate between two metallic points, *i* and *m*, and by its contact produce the clicking sound, substantially as above described.

113,042.—SCROLL-SAW.—William Gardner, Glen Gardner Station, (Clarksville Post Office,) N. J.

Claim.—The flexible connections P and P', arranged to operate the saw through medium of the walking-beam W, as shown and described.

113,043, antedated March 23, 1871.—STAVE-SAWING MACHINE.—Robert W. George, Boston, Mass.

Claim.—1. The combination of the arc B^2, the carriage B, and the guide B^3, substantially as described, and for the purpose set forth.

2. The combination of the latch E with the arc B^2, operating substantially as described, and for the purpose set forth.

3. The combination of the carriage B, rack B^1, pinion D, ratchet-wheel D^1, and pawl P with the incline *d d'* and hanger D^2, operating automatically, substantially as described, and for the purpose set forth.

113,044.—METHOD OF BANDING COMPRESSED WOOD.—Charles B. Gilman, Brooklyn, N. Y.

Claim.—1. A die composed of two or more sections *f f f*, and provided with recesses *i i* for the reception of the bands, substantially as and for the purpose set forth.

2. The combination of the sectional die O with the compressing-die D, substantially in the manner and for the purposes set forth.

3. The annular seat or recess in the die D, and plates or follower G, for holding the sections *f f f* in connection when used, substantially as set forth.

113,045.—MANUFACTURE OF SALT FROM BRINES.—Samuel D. Gilson, Syracuse, N. Y.

Claim.—1. A movable or revolving hollow cylinder or a series of hollow cylinders hung in suitable bearings on a brine-tank, when said cylinder or cylinders are plated, coated, or covered with a metal or other material different from that of which the cylinder or cylinders are composed, substantially as described.

2. In an evaporating or saturating salt-engine, a movable or revolving hollow cylinder or cylinders, in combination with a vat or tank which is supplied with salt water or brine, substantially as described.

3. The head or heads of a hollow cylinder provided with a non-conductor, substantially as described.

4. Collecting and discharge-cups or pipes, arranged within a hollow cylinder or cylinders, for a purpose substantially as described.

5. A valve or cock arranged upon the eduction and induction-pipes of a salt-evaporating or saturating-engine, substantially as described.

6. A hollow steam or hot-air cylinder revolving in a brine-tank provided with pipes or cups within its interior, in combination with the exhaust return-pipe *b''*, for a purpose substantially as described.

7. A partition arranged in a brine-tank between an evaporating and saturating hollow cylinder, substantially as set forth.

8. A hollow adjustable knife, capable of being located and so constructed and arranged as to produce coarse or fine salt, substantially as described.

9. The method of drying salt by passing the same over a hollow steam-chest or a knife, substantially as described.

10. A hollow knife moving horizontally, and so arranged as to be adjusted toward the periphery of the cylinder or cylinders, for the purpose of removing impurities collected thereon, substantially as described.

11. A hollow cylinder or cylinders revolving or moving within a brine-tank, when said cylinder or cylinders take up the different impurities produced by the chemical action of the salt water or brine upon the surfaces of said cylinder or cylinders of the same, and precipitating a portion into the bottom of the tank, substantially as described.

12. Evaporating and saturating-cylinders, communicating with each other through the medium of an induction and eduction-pipe, substantially as described.

113,046.—CONSTRUCTION OF PIER-GLASS FRAMES AND CORNICES.—Daniel A. Hall and David Garrison, Philadelphia, Pa.

Claim.—1. A pier-frame, composed of a cornice, stiles or their substitutes, and bases, and made to embrace a pier-glass and windows, substantially as described.

2. In combination with the pier-frame embracing or surrounding a pier-glass and windows, as above set forth, a corner table or tables, I, attached to or connected therewith, substantially as described.

113,047.—CONFECTIONERY OR COCOANUT-CANDY.—Horatio N. Harbach and Theodore J. Harbach, Philadelphia, Pa.

Claim.—1. The within-described article of confectionery, prepared of the ingredients, in about the proportion, and in the manner substantially as set forth.

2. The article of cocoanut-candy prepared of the ingredients as set forth, and coated or covered for the purpose stated.

113,048, antedated March 24, 1871.—TURNING-LATHE.—Pierre J. Hardy, New York, N. Y.

Claim.—The hollow mandrel, with lateral openings between the straps *b*, and means for holding

and clamping the curved piece to be turned, substantially as and for the purposes set forth.

113,049, antedated March 16, 1871.–Coach-Painter's Easel.—D. R. Harris, South New Berlin, N. Y.

Claim.—The standard, composed of the three parts A, A′, and A″, when arranged and combined with each other and the gauge-plates D, substantially as described and set forth.

113,050.—Wheel for Vehicles.—James Harris, San Francisco, Cal.

Claim.—The tire B, rabbeted as described, or provided with equivalent projections for holding the circular plates C, in combination with the flanged hub A and nuts *b b*, the whole forming a wheel, as described.

113,051.—Mouse-Trap.—Hubert C. Hart, Unionville, Conn.

Claim.—As an improvement upon the trap covered by patent No. 110,337, the constructing of the bait-hook described herein, having the projection d^3, for the purpose set forth.

113,052, antedated March 11, 1871.—Tubular Steam-Generator. — James M. Hicks, New York, N. Y.

Claim.—The combination, substantially as set forth, of a tube-sheet and a tube of a steam-generator or heater, with a deflector arranged in such manner before the tube as to prevent the currents of heat from concentrating toward the center of the tube directly, and to compel them to strike toward the tube-sheet before entering the tube.

113,053.—Revolving Fire-Arm.—Samuel S. Hopkins, Norwich, Conn., assignor to "The Hopkins & Allen Manufacturing Company," same place.

Claim.—1. The combination of the swinging link *c* and longitudinally-adjustable base-pin with the pivoted link *b*, tube *d*, and cylinder D, all arranged to operate substantially as herein shown and described.

2. The spring-catch *g*, arranged at the side of the frame for locking into the sliding base-pin of the fire-arm, substantially as herein shown and described.

113,054.—Ventilator for Hats.—Henry A. House, Bridgeport, Conn.

Claim.—The combination, with a head-covering and its sweat-band, of two spring-coils, *a b*, and an intermediate chamber, *c*, said coils being sewed to the hat and sweat-band, as shown and described.

113,055.—Dental Plate from Pyroxyline.—Isaiah Smith Hyatt, John Wesley Hyatt, Jr., and Jesse A. Perkins, Albany, N. Y., assignors to "Albany Dental-Plate Company," same place.

Claim.—The dental plate or base for artificial teeth, hereinbefore described, as a new article of manufacture.

113,056. — Refrigerator and Water-Cooler.—Anthony Iske, Lancaster, Pa., assignor to Daniel H. Lintner, same place.

Claim.—The arrangement of the combined ice-chamber E with its conic base L and screen K, when inclosed within a double cylinder, D, provided with air-tubes *d*, a vessel, A, side vessels C^1 C^2 C^3, and extended draught or pipe M, substantially in the manner and for the purpose shown and set forth.

113,057.—Sawing-Machine.–Pierson Jacobus, Romulus, N. Y.

Claim.—The circular-saw N and apple-mill D F, combined, as described, with the same rotating-shaft B, as and for the purpose specified.

113,058.—Former for Baskets.—Horace C. Jones, Dowagiac, Mich.

Claim.—The stave-basket former-block A, provided with a shoulder, *b*, arranged as described, for the purpose set forth.

113,059.—Stave-Basket.–Horace C. Jones, Dowagiac, Mich.

Claim.—Constructing a basket of two thicknesses of staves or splints, the outer thickness or covering being composed of splints which extend from side to side of the basket, forming its bottom, and the inner thickness or lining being composed of a series of splints which terminate at or near the lower inside hoop B of the basket, substantially as and for the purpose described.

113,060.—Adjustable Seat for Vehicles.—Richard E. Jones, Goldsborough, N. C.

Claim.—1. The jumping-seat E, standards F F, with springs F' F' attached, bed-piece B′, and rods B B, and sockets *b b*, when the same are so combined and arranged as to operate substantially as described.

2. The jumping-seat E, brace-lever G, and bed-piece B′, when the same are combined and arranged substantially as described.

3. The seat D, when the same is provided with folding arms D' D', and so hinged to the frame C as to operate substantially as described.

113,061.—Police-Baton. — Charles Kast, Williamsport, Pa.

Claim.—1. A police-baton, formed in part or wholly of the circular leather disks *s s*, substantially as specified.

2. The combination of the head A and case B bolted therein, with the disks *s s* and wire *v*, substantially as specified.

113,062.—Skate.—David Kerr and Asa Ebenezer Hovey, San Francisco, Cal.

Claim.—1. The plate or box *g*, provided with the lag *i*, in combination with the journal *f* and crossbar *h*, substantially as and for the purpose set forth.

2. The hollow standard L, cast upon the frame B, and provided with the flange *n*, in combination with the cushion P and foot-block A, substantially as and for the purpose described.

3. The adjustable screw *r*, in combination with the cushion P, block A, standard L, and frame B, substantially as and for the purpose set forth.

113,063.—Meat-Biscuit.—Alexander Kirkwood, Toronto, Canada.

Claim.—The composition of matter, as and for the purpose above set forth.

113,064. — Washing-Machine. — Edwin Knock, Vermont, Ill.

Claim.—An improved washing-machine, formed by the combination of the semi-cylindrical box A, semi-cylindrical movable receiver C c^1 c^2, semi-cylindrical rubber D *d′*, standard L, connecting-rod K, crank-shaft G g^1 g^2, connecting-rod J, and crank I, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

113,065.—Check-Rein Hook. — Alexander Ladd, St. Lawrence, N. Y.

Claim.—A check-hook of a harness-saddle, when provided with a coiled spring and attached to the top of said saddle, so that the hook will slide back and forth in relation to the saddle, substantially in the manner set forth.

113,066.—Combined Hay-Rake and Tedder.—Charles La Dow, South Galway, N. Y.

Claim.—1. The pivoted bar N, arranged to support the tedder-forks horizontally when not at work, to act as clearers for the rake, and to serve as a fulcrum to said forks when at work, substantially as herein shown and described.

2. The combination of the rake D E F and tedder K L M N with each other, and with the frame D, wheels B, and axle A, substantially as herein shown and described, and for the purposes set forth.

113,067.—Photographic Camera. — William A. Leggo, Montreal, Canada.

Claim.—1. The novel arrangement of the lens *d*, vertical slide *e*, face of camera-box *f*, screw *g*, eye f', collar g^2, plate g^3, horizontal slide *h*, grooves *h′*, or their equivalents, all working together substantially in the manner and for the purpose described.

2. The novel construction and arrangement of the frame *k*, guides k^1, clamps k^2, shutters *l l*, clamps l^2, screws l^3, vertical holdfasts *m*, and slides *n*, or their equivalents, all working together substantially in the manner shown, and for the purpose of excluding from the interior of the camera-box all rays of light but those coming directly from the object to be photographed.

3. The novel combination and arrangement of the frame *k*, guides k^1, clamps k^2, shutters *l l*, clamps l^2, screws l^3, vertical holdfasts *m*, and slides *n*, or their equivalents, all working together for the purpose of producing at two exposures a picture having the two exposures blended together, with no apparent dividing line, substantially in the manner and for the purpose described.

113,068. — Steaming Apparatus. — Otto Lehmann, Columbus City, Iowa.

Claim.—The combination of the base F, generator A, reservoir J, smoke-flue K, water-pipe L, cock N, and steam-pipe U, arranged and operating substantially as and for the purposes described.

113,069.— Steam and Water-Pressure Regulator.—Nathaniel C. Locke, Salem, Mass.

Claim.—1. The combination, with the supply-valve of the receiver and loaded diaphragm controlling the same, of an independent safety or relief-valve, and an elastic connection or device interposed between the diaphragm and supply-valve, for operation of said safety-valve, substantially as specified.

2. The combination of the check-valve C, the supply-valve F, the receiver A, the loaded diaphragm D, the relief-valve G, and the yielding connection H, essentially as herein set forth.

3. The combination with and arrangement within the receiver A of the safety or relief-valve G, operated by the yoke of the yielding connection H, substantially as specified.

4. The diaphragm D, composed in part of rubber and in part of sheet metal, for operation in combination with or as applied to a water-pressure regulator, essentially as described.

5. The combination of the adjusting-nut or box M with the graduated stem I, the spring S, and diaphragm D of the regulator, substantially as specified.

113,070.— Sash-Holder for Railroad-Cars. — Adam Loeffelholz and Anton Prier, Milwaukee, Wis.

Claim.—An arrangement of lifts, levers, springs, and bolts, in combination with a tumbler, *i*, to be operated upon by a key, for the purpose of allowing the sash to be detached or removed from the frame, substantially as herein recited.

113,071.—Machine for Cutting Veneering into Strips.—George W. Manton, Fredonia, N. Y.

Claim.—The combination of the rotary series of disk-knives *g*, the series of stationary bed-bars *f*, the cutter-carriage or frame F, and the arched guides E, arranged with and applied to the supporting-frame A, as and for the purpose as specified.

113,072.–Machine for Threading-Bolts.—Henry Martin, Louisville, Ky.

Claim.—1. In a bolt-threading machine, in which the bolt is held in a vertical position while being threaded, the stop *i*, fixed for the time being in an unchangeable relation to the shaft *c*, which carries the bolt to be threaded, and the shoulder *g*, (which forms a part of the device that is attached to or that may be made to interlock with the gear *c′*, for the purpose of transmitting the motive power of the machine to the said shaft *c*,) in combination with a screw-cutting and feeding-die so constructed that it can readily be opened to release the bolt after the cutting of the thread thereon is completed, the whole being so constructed, arranged, and adjusted that when the threading of the bolt is completed the said stop shall pass clear of said shoulder into the open space beyond, so that the bolt shall cease to revolve, all substantially as and for the purpose described.

2. In a bolt-threading machine, such as is above intended and described, the thimble h, co-operating with the combination set forth in the foregoing claim, by virtue of which the threadings of the screw-bolt may be continued for a longer or shorter distance, and made to terminate automatically at the pleasure of the operator, substantially as described.

3. The jaws E E *n n*, pivots *j j*, screw-cutting dies F F, cylinder G *o o* o^2, and bed D, constructed, arranged, and operating in the manner described.

4. The combination of the adjusting devices *l l*, the adjusting devices *s* s^1, dies F F, jaws E E, cylinder G *o o* o^2, and bed D, constructed and arranged and operating as described.

5. The within-described clutching and unclutching device or its equivalent, whether used in the cutting of only one length of screw-thread or different lengths of screw-threads, combined with the sliding and rotary spindle *e* of the bolt-threading machine placed in a vertical position, and with a screw-cutting and feeding-die made to close and open around the bolt which is being threaded, substantially as described.

113,073.—Piano. — Frederick Mathushek, New York, N. Y.

Claim. — The brass compensating-wires *s s*, strained across the under side of the piano-frame, substantially as specified.

113,074.—Piano-Forte Action.—Frederick Mathushek, New York, N. Y.

Claim.—The bent key-lever E, substantially as specified.

113,075.–Chisel for Mortising-Machines.—Edgar McConnell, Sharon, Pa.

Claim.—1. A pair of mortising-tools, A B, detachably united by male and female dovetails a^1 b^1 upon their respective shanks, as described, and for the purpose specified.

2. The shouldered flanges a^2 b^2, combined with the intermediate channel between the blades and the inclined shoulders D, to enable the chisel to draw its own core, as described.

113,076.—Separator for Thrashing-Machines.—Curtis Miller, Clay township, (Lincoln Post Office,) Pa., assignor to himself and Jeremiah R. Rogers.

Claim.—1. The arrangement of the fans K L, elevator E, shaft W provided at one end with pulleys I G H and eccentric *q* at the other, branch-rod S, elbow-levers N, and the shoes *g h*, as and for the purpose specified and set forth.

2. In combination with the shoes *g h*, the spout O, when constructed as described, and provided with the hinged trap 6, substantially as and for the purpose specified.

3. In combination with the conveyer U and support S the partitions T V, to form, in connection with the rear end of the machine, the chaff and white-cap receptacles, substantially as shown and described.

113,077.—FOLDING-CHAIR.—George Miller and Phillip Hannah, Rochester, N. Y., assignors to themselves and John Gorton, Jr., same place.

Claim.—1. The plate E, constructed with two beveled slots *i i* and projecting ends for the screw-holes *o o*, in combination with the chair legs, to form a double fastening thereof, connected, arranged, and operating substantially as and for the purpose described.

2. The self-adjusting clasp F in combination with hinged-arm D, applied and operating in the manner and for the purpose described.

3. The combination of slotted plate E and pivotal clasp F, with the legs, seat, arm, and back of folding-chairs, substantially as and for the purposes described.

113,078.—MACHINE FOR TURNING AXLES.—Arthur F. Moore, Florence, Ind.

Claim.—The main frame A, adjusting-frame C, cylinder D, transverse-bar E, carrier-bar F, handle and spindle H, nut S, lead-screw T, cutter-head G, and all the minor parts appertaining thereto, when the same are constructed, arranged, and combined in the manner shown, and for the purposes set forth.

113,079.—MAKING FLOUR.—George Motley, Rochester, N. Y., assignor to himself and Jirah B. Mosely, same place.

Claim.—The removal of the chits and seam impurities of the berry by first cracking and then sifting or subjecting to a light blast, as herein described.

113,080.—CATARRHAL DOUCHE.—Richard M. Moylt, New York, N. Y.

Claim.—As an article of manufacture, a spirit-bottle, with an outlet-pipe having an extra upward turn to adapt it for insertion into the nose.

113,081.—GANG-PLOW.—John Murray, Silveyville, Cal.

Claim.—The arrangement of the frame A, bars C, axle E, lever K, balance-beam H, connecting-rod G, and link I, as described, for the purpose set forth.

113,082, antedated March 15, 1871.—BURGLAR-ALARM.—John T. Mygatt and John Downing, Binghamton, N. Y.

Claim.—The combination and arrangement of the gas-pipes F and G, main pipe H, valves I and J, hooks D, and connecting-projection C, substantially as and for the purpose hereinbefore set forth.

113,083.—COMPOSITION-FUEL.—Jotham Newton, Providence, R. I.

Claim.—The improvement in the manufacture of composition-fuel, substantially as described, which consists in first roasting the coal-dust; secondly, mixing such dust so prepared with coal-tar and the proportions of alumina and potassa, substantially as given, or with the equivalents of the two latter; and, thirdly, in subjecting the mass to the action of heat while in a retort sufficient to drive off the more volatile constituents of the coal-tar and bake the composition, as herein set forth.

113,084.—BEE-HIVE.—Philip Nicolle, Lindsay, Canada.

Claim.—1. The cross-shaped metal ears A, arranged on the frames D, for supporting the same and holding them properly apart, substantially as herein shown and described.

2. The board G, interposed between the end of the case A and the adjustable board E, for the purpose and in the manner specified.

113,085.—GRINDING-MILL FOR ORES.—Jacob S. Niswander, Oakland, Cal.

Claim.—1. The rings or bands *c*, in combination with the disk A, with its flange *c*, and a filling or bed composed of rock, substantially as and for the purpose set forth.

2. The muller F, with the openings *m'*, and divided into two or more compartments, *m*, which are partially filled with loose rock, substantially as and for the purpose set forth.

113,086.—COOKING-STOVE.—Daniel Eldon Paris, Troy, N. Y.

Claim.—1. Upright illuminating mica lights or windows formed on or connected with a rearwardly-sloping surface in front of the fire-box of a cooking-stove, for the purpose and substantially in the manner herein shown and described.

2. Movable doors to the front of the fire-box of a cooking-stove, containing upright illuminating lights or windows, when the lower, rear, or general surface of said doors connects with or corresponds with an upwardly and rearwardly-sloping surface to said fire-box, made for the purpose and substantially in the manner herein shown and described.

3. An illuminating light or mica window formed in or through the front wall of the fire-box of a cooking-stove, when the space into which they open is above the fire, a flat top, with boiler-holes immediately above, and the exit-flue or smoke-passage directly and horizontally opposite, substantially as herein shown and described.

4. The reservoir cover B, provided with the journals C, which rest in recesses in the top edge of the reservoir, in combination with the stop or lug D, or any equivalent therefor.

113,087.—REVERSIBLE SETTEE.—Robert H. Paton, New York, N. Y.

Claim.—The standards B, pivoted at *c*, provided with the slot Y, through which the pivot-bolt *i* passes, in combination with the tilting-seat O, frame A, and pivoted back D, all operating as shown and described.

113,088.—HORSE-POWER.—Thomas D. Pennington, Forsyth, Ga., assignor to himself and R. G. Anderson, same place.

Claim.—The combination of the wood and metal frames for the support of the operative mechanism, when constructed and arranged substantially as specified.

113,089.—CHURN.—George S. Perfater, Camp Point, Ill.

Claim.—The jointed guide D, composed of the parts *b c*, and combined with the twisted dasher-rod C, substantially as herein shown and described.

113,090.—ELECTROPLATING LETTERS AND NUMBERS ON METALLIC PLATES FOR SIGNS, &c.—John J. Pratt, New York, N. Y.

Claim.—1. The improved process for forming letters, figures, and the like on metal plates, herein shown and described.

2. The new manufacture herein described, using metal-plates suitable for signs, door-plates, or labels, with letters or figures formed by electroplating, as set forth.

113,091.—SHOE-BRAKE FOR WAGONS.—Abraham Quinn, Brooklyn, N. Y.

Claim.—1. The combination with the shoe, suspended from the axle so as to turn around a center eccentric to the axis of the said axle, of the chain-lever H, guide-rollers, and holding-pawl, substantially as specified.

2. The drag-chain attached to the shoe, extended through the ring O, and connected to the check-rein, and provided with a stop-ring, all substantially in the manner described.

113,092.—RUNNING-GEAR FOR CARRIAGES.—John Rancevan, Carthage, Ohio.

Claim.—The combination of the spring C, continuous head-block and coupling A B B', fifth-wheel D, spring-bolt H, and axle K, substantially as described.

113,093.—BUTTON-HOLE CLAMP AND GUIDE.—Loyal Reding, Norwalk, Ohio, assignor to N. S. C. Perkins and M. P. Smith, same place.

Claim.—1. The curved clamp and guide-plates C, provided with holding-edges, and made self-adjusting to each other and to the material between, as described.

2. The hinged arms A, in combination with the self-adjusting clamp-plates C.

3. The arms A, one of them being serrated at one end, provided with the clamp-guides C, when attached by the hinge H, and operated by the lever L and pins P P' P'', or their equivalents.

113,094, antedated March 16, 1871.—MACHINE FOR PULLING FLAX.—Benjamin M. Reeves, Franklin, Pa.

Claim.—1. In a flax-pulling machine, the combination of the reel K, rollers L L', and endless apron M, substantially as and for the purpose specified.

2. The flax-pulling machine herein described, having the reel K, rollers L L', endless apron M, tapering guide-way N, pivoted frame B, inclined plane F, and cam-lever G, substantially as shown and described.

113,095, antedated March 27, 1871.—CHUCK FOR LATHES.—John Rich, Painesville, Ohio.

Claim.—1. The improved tool, herein described, consisting essentially of the disk A and the raised collar *a*, the clamping-screw C, and two or more split cylinders, *b c*, to be inserted one within the other, or not, as occasion may require.

2. The coiled spring D, in combination with the disk A, collar *a*, cylinders *b* and *c*, and screw C, substantially as and for the purpose as hereinbefore set forth.

113,096.—REVERSIBLE KNOB-LATCH.—Henry M. Ritter, Cincinnati, Ohio.

Claim.—The sliding-plate A, carrying the pin *d*, in combination with the lever B and latch E, when constructed and operating substantially in the manner and for the purposes set forth.

113,097.—REVERSIBLE KNOB-LATCH.—Henry M. Ritter, Cincinnati, Ohio.

Claim.—The catch-lever A, having a tail-piece extending under the holding-screw or other device, and provided with a catch at *e*, and projection *f*, in combination with the yoke B and reversible latch C, for the purpose set forth.

113,098.—PLOW.—Hamilton Roney, Dayton, Ohio.

Claim.—In a sod-plow, the arrangement of the frame A B C and auxiliary frame D E F in relation to each other and to the roller H, cutters *a b*, seat J, beam I, share G, and rods *e*, substantially as described.

113,099.—SOLDERING SPIRAL BANDS.—Elijah H. Russell, Providence, R. I.

Claim.—The employment, in combination with an elastic of the character described, of an interior core or threaded dowel, B, soldered to the elastic, as a means of securing the two ends of the elastic together, substantially as described.

113,100.—SUSPENSION TOILET-MIRROR.—Ransom Truman Sargent, Norwich, Vt.

Claim.—1. The combination of the mirror and the supporting-frame, made and connected together, as set forth.

2. The combination of the mirror, the shelf, and the supporting frame, as constructed, connected, and arranged, substantially as specified.

113,101.—CUT-OFF ATTACHMENT TO SLIDE-VALVES.—Thomas Sault, New Haven, Conn.

Claim.—1. The arm *d* and yoke *e*, combined with the hinged valve C and with the snap *f*, for opening and holding open said valve C, as specified.

2. The rod *i*, connected with the governor of the engine, and combined with the hinged valve C on the slide-valve B, substantially as herein shown and described.

3. The recess *m* in the valve-seat, for the purpose of admitting steam under the hinged valve C preparatory to the opening of the same, as specified.

113,102.—ANTI-FRICTION BALANCED-VALVE.—William Siefert, New York, N. Y., assignor to himself and Matthew T. Kane, same place.

Claim.—The case B, made in two parts, and held together by springs, and tubular rock-valve A, arranged within said case in the manner specified.

113,103.—BABY-TENDER.—Samuel M. Simonds, Lynn, Mass.

Claim.—1. In combination with the base A the annular table B, for purposes stated.

2. In general combination, the bottom or base-board A, table B, and seat D, substantially under the arrangement and for the purposes hereinbefore set forth.

113,104.—LAMP-BURNER.—George L. Smith, Bridgeport, Conn., assignor to the Bridgeport Brass Company.

Claim.—1. The combination of the vertically-slotted wick-tube, the spirally-slotted or grooved adjusting-tube mounted thereon, and the wick-carrier arranged within said wick-tube, and provided with a pin or other projection passing through the vertical slot in the wick-tube, and into the spiral groove or slot in the exterior adjusting-tube, substantially as and for the purpose shown and set forth.

2. In combination with the elements claimed in the preceding clause, the clutches, or the equivalent of the same, on the removable portion of the burner, engaging with corresponding clutches on the adjusting-tube, substantially as shown and described, whereby the rotation of the adjusting-tube is effected by revolving the said removable portion of the burner.

3. An Argand or round-wick burner, made substantially as herein described; that is to say, of the screw-neck or base, perforated air-distributer, inner and outer wick-tubes, wick-carrier, and adjusting-tube of the one part, and the spring chimney-holder, clutch-plate, or its equivalent, and guide-tube of the other part, said parts being constructed and combined for joint operation, as herein shown and set forth.

113,105.—PORTABLE FENCE.—Frank Sproul, Doniphan, Kansas.

Claim.—The arrangement, substantially as herein described, of the sills A B, panels D *d d'*, inclined braces F F', clamps G, keys I, and retaining devices *a* or *b*, for the purpose set forth.

113,106.—CLOTHES-DRIER.—August Stechschult, Glendorf, Ohio.

Claim.—The block N, provided with an adjust-

ing-pin, in combination with the cords L, revolving standard A, pulley K, hinged arms D and F, cords H and I, centers C, E, and J, and stool or pedestal B, all constructed and arranged, as shown and described, to form an improved clothes-drier.

113,107.—ROCK-DRILL.—James M. Stephenson, Pendleton, Ind.

Claim.—The suspended sliding ratchet-plate E and the loosely-pawled collar I J, combined, as described, with the drill, for the purpose of giving a slight turn after each blow upon the rock, as described.

113,108.—AUTOMATIC WATER-SPOUT CUT-OFF.—Edward Stowart, Fort Madison, Iowa.

Claim.—1. An automatic water-conductor, consisting of the pendent chute E, controlled and operated by the weight of the accumulated water in the vessel J, substantially as specified.

2. The combination of the chute E and its counterbalance G with the vessel J and lever H, all arranged within the chamber A, provided with outlets C and D, substantially as and for the purpose set forth.

113,109. — CULTIVATOR. — Michael Stoll, Conestoga township, Pa., assignor to himself and Jacob G. Peters, same place.

Claim.—The construction and arrangement of the three curved adjustable shovel-arms 1 2 3 when on each side of the pole A, so shortened from the center that the two central pairs will be in the desired position for the scraper H, bolted to each pair, in combination with an advance shovel on the outer side of each, all combined and operating in the manner shown and for the purpose specified.

113,110. — BOILER-FURNACE. — Uriah B. Stribling, Madison, Ind.

Claim.—1. The system of draught-pipes E and F and draught-tubes *a a*, when used in connection with the hollow grate-bars J, and all arranged to operate in the manner substantially as shown, and for the purposes set forth.

2. A grate-bar, J, with a hollow, G, perforations *b b*, groove *c*, and corrugated edges *e e*, substantially as shown, and for the purposes set forth.

113,111.—SHEET-METAL FRUIT-CAN.—Columbus F. Sturgis, Buena Vista, Ala.

Claim.—Two rectangular sections A B, interlocked at their edges by flange and groove combined, as described, with corner-notched top and bottom *a' b'*, for the purpose specified.

113,112.—RAILWAY-SWITCH LOCK.—Archibald Thomson, St. Louis, Mo.

Claim.—An improved switch-lock, consisting of the tumbler C', spring *e*, switch-bolt C, having groove *c'* and inclined notch *c²*, face-plates D D', when all said parts are arranged and combined to operate within slots B *b* of the lever A, in the manner and for the purpose described.

113,113.—APPARATUS FOR TRANSMITTING POWER TO MACHINERY. — William H. Thorne, Philadelphia, Pa.

Claim.—1. The frame I, carrying the idler-pulley H, and rotating on the stud K in such a manner that the delivering edge of the idler-pulley H will always be in line with the receiving edge of the driving-pulley B, for the purposes specified.

2. The weighted frame F, carrying the idler-pulley E, used in combination with the swinging-frame I, in the manner described and for the purposes specified.

113,114.—MANUFACTURE OF COMPOSITION-ROLLER BUSHINGS.—Francis B. Torrey, Bath, Me.

Claim.—The manufacture of composition-rollers for bushings of pulley and other blocks, substantially in the manner and by the means herein described.

113,115.—FORCING LIQUIDS. — Jacob Van Norman, Easton, Pa.

Claim.—The combination of the air-tank B B', tubes C and D, and movable liquid-tank E with each other, substantially as herein shown and described, to apply an air-pressure to a cask of beer or other desired object, as set forth.

113,116.—AXLE AND AXLE-BOX FOR VEHICLES.—Ernest Von Jeinsen and James Monroe McDonald, San Francisco, Cal.

Claim.—The axle B, constructed specifically as described, with its oil-chamber 6 and projecting shoulder provided with screw-holes, in combination with the axle provided with the orifice 4 5 and flange, the parts being united by a collar, as and for the purpose set forth.

113,117.—CANDLE-MOLDING MACHINE.—Joseph Wales, New York, N. Y.

Claim.—1. The employment, with the molds and pistons, of detachable caps C, of different sizes for varying the length of the molds, for making candles of different sizes in one machine, all substantially as specified.

2. The combination, with the caps C and pistons A, of the elastic packing-disks F, substantially as specified.

3. The divided plates K L M, of the clamp, having the semicircular notches for clamping the candles connected to the end-pieces Q, Q', and Q², which are hinged together and provided with the jointed rods U and the elastic bands or springs, all substantially as specified.

4. The attachments of the molds B to the plates X by the screw threaded portions *a b*, substantially as specified.

5. The application to the cooling and heating-tank of a candle-molding machine, arranged for making different sizes, as herein described, of the glass water-gauges B', substantially as specified.

113,118.—WASHING-MACHINE.—George S. Walker, Erie, Pa., assignor to himself and Frank F. Adams, same place.

Claim.—The top or binding-piece B, with the metallic plates F F' and screws H H, in combination with the facing or guide-piece P, sliding journal-box *c*, spring *e*, and rubbing-rollers, when arranged and operated as and for the purposes set forth.

113,119. — MAN'S GAITER. — Edmund R. Ware, Worcester, Mass., assignor to William A. S. Smyth and Robert L. Smyth, same place.

Claim.—1. A gaiter or boot, composed of the leather uppers A B, elastic gores E, and double-quilted front and back top pieces C D, arranged substantially as described, and for the purposes set forth.

2. The outside seam re-enforces and protecting pieces G, applied to the back and front top pieces C D, and the elastic gore-pieces E, as and for the purposes set forth.

113,120.—MEANS FOR DETECTING AND SIGNALING FIRES. — William B. Watkins, Jersey City, N. J.

Claim.—1. In a fire-detecting and locating system, the combination of one or more main or fire-locating lines R, embracing break-circuits in buildings, with closed local circuits J and heat-detecters arranged therein for breaking said closed circuits upon an increase of temperature, and suitable mechanism brought into operation thereby for operating the break-circuits of the main line or lines R, so as to strike the number of the building and that of the street, or any desired signal, at different points through the main line or lines connecting therewith, as described.

2. The combination of heat-detecters with a closed local circuit J, with its alarm mechanism and with an open local circuit, or a series of open local circuits, connecting with an indicator or annunciator, W, both circuits operated by the same heat-detecter, for the purpose described.

3. The combination of the compound strips B, index-arm E, thermometer-scale H, adjustable pin I, and circuits J J, when said parts are so arranged that the circuit will remain closed below any pre-determined degree of temperature, but will be broken, and thereby cause an alarm, when the temperature increases, as described.

4. The combination and arrangement of the compound strip B, index-arm E, thermometer-scale H, and adjustable metallic pin *c'*, or its equivalent, for the purpose described.

113,121.—HORSE-RAKE.—Benjamin Webb, Unadilla Forks, N. Y.

Claim.—The shoe or cover *i*, made as described, so as to entirely cover the spring, in combination with the block *h* and revolving rake, as set forth.

113,122.—BUTTER-TUB.—Charles H. White, Emmett township, Mich.

Claim.—1. The method or process of preserving butter, substantially as herein described, consisting essentially in packing the butter in reversible conical tubs having tight heads, whereby the mass of butter is allowed an end motion when the tub is reversed, which causes the brine to surround the butter, as set forth.

2. The conical reversible butter-tub A, having tight heads H and H', and furnished with an opening and plug *p*, for the passage of the brine, when employed and manipulated substantially as and for the purpose herein set forth.

3. In combination with the conical reversible tub A, the bag *b*, made and employed substantially as described, for the purpose specified.

113,123.—SASH-HOLDER.—Barnet M. Whiting, San Francisco, Cal.

Claim.—The vertical shaft *d* with its toothed segment *e*, and thumb-lever or plate *f*, the lug *i* in combination with the partially-toothed locking-wheel *g*, and rack-bars *k* and *k'*, substantially as and for the purpose above described.

113,124.—TINTED GLASS FOR SPECTACLES, &c.—Thomas Atwood Willson, Reading, Pa.

Claim.—The pink tint or colored lens of a uniform color or shade in the different focal numbers of spectacles or eye-glass lenses, so that each and every number has a like tint yet appears colorless to the eye of the wearer, as herein described and set forth.

113,125. — BEAN-HARVESTER. — Jacob A. Wood and Thomas Wood, Chemung, Ill.

Claim.—1. In a bean-harvester, of the construction shown and described, the arrangement of the standard B, share or cutter D, slightly inclined on one side, and the rod *d* attached thereto, and bent and operating, all as set forth.

2. In a bean-harvester, thus provided with cutter D on one side of standard B, and provided further with rod *d*, the rake arranged to swing on the bar F, and operated by handle F', all as set forth.

113,126.—GRAPPLING-HOOK.—Elias Ziegler and Charles Cable, Harmony, Pa.

Claim.—As an improvement in mechanism for operating the grappling-hooks of hoisting apparatus, the pivoted rolls B and hooks E, located between bars A A, combined, as described, with chains C, arranged as and for the purpose specified.

113,127, antedated March 25, 1871.—COLORING AND STAINING MARBLE. — John Zengeler, Chicago, Ill.

Claim.—The method herein described for the delineation of colored designs upon marble, stone, &c., by means of the anhydrous volatile oily paste or liquid above described, or its equivalent, and by means of the processes also above described, or their equivalents.

113,128. — SKIN UNDER-GARMENT.—John H. Andrus, New York, N. Y.

Claim.—Garments, worn in contact with the person, formed of animal skin in all parts except under the arms and between the legs, combined with woven or knit fabrics at said last-mentioned places, as and for the purpose specified.

113,129.—CLOTHES-RACK.—Henry M. Andrus and Jehiel H. Cleveland, North Bay, N. Y.

Claim.—The combination of the main frame A with loop or hook *a*, and the pivoted frames B B, projecting one over the other from the bottom upward, and held in position by the hooks *b b*, all substantially as and for the purposes herein set forth.

113,130. — WASHING-MACHINE.—Alfred M. Bailey, Middlefield, Conn., assignor to The Metropolitan Washing-Machine Company.

Claim.—1. The combination, with the dasher and handle in a clothes washing-machine such as described, in lieu of or in connection with the ordinary springs around the journals of the dash-board, of a weight for counterbalancing said parts, substantially as and for the purposes set forth.

2. The combination, with the dasher and its segmental arm or frame, of the socket connected with the said arm, and the weight provided with a shank fitting said socket, under the arrangements substantially as shown and described.

3. The metallic segmental arm for supporting the dasher and handle, when formed with a socket for the reception of the shank of the weight, as shown and set forth.

4. The combination, with the tapering socket formed in the swinging dasher-frame or arm, of a removable weight, provided with a correspondingly-tapered shank which fits said socket, substantially as and for the purposes shown and set forth.

113,131.—CHECK-HOLDER.—Andrew A. Baker, Camden, N. J.

Claim.—The improved fruit-check holder, consisting of the box A, provided with the perforated lid, the hinged side, the bar *b*, and the fingers *c*, all constructed and arranged as shown and described, for the purpose specified.

113,132.—DOUBLE-ACTING FORCE-PUMP.—Jeremiah Barney, Perry's Mills, N. Y.

Claim.—The combination, in a double-acting force-pump, of the center stops I I, valves *a a*, and tail-pieces *i i*, constructed and arranged substantially as and for the purposes herein set forth.

113,133. — GRAIN-WEIGHING REGISTER.—William Henry Baxter, Brixton Hill, England.

Claim.—1. The grooved cam *f* fixed on the end of the drum, with the shoulders *f'* arranged to operate in combination with a pin or pins, *g*, fixed on the frame of the machine, substantially as set forth, for the purpose specified.

2. In combination with the above, the drum *d*, hopper *e* provided with the cut-off mechanism described, and the registering device, when the same are constructed and operate together substantially as and for the purpose specified.

113,134. — HARVESTER.—Jacob H. Beam, Springfield, Ill.

Claim.—The combination of the traction-wheel G provided with cog-gear H, the pinions I, K, and L, the shaft M provided with the shackle *m*, the drums *r*, rake-bands *s*, rod *p'*, cut-off V, and lever U, all constructed and arranged substantially as described and shown, for the purposes set forth.

113,135. — SEWING-MACHINE CASTER.—Thomas T. Bishop and Henry J. Merret, Evansville, Ind.

Claim.—The slats A, provided with casters *e e* and set-screw *g*, arranged to elevate one end of the platform, and operate substantially as and for the purpose set forth.

113,136. — HARNESS-SADDLE. — Valentin Borst, New York, N. Y.

Claim.—1. The combination of the sheet-metal frame E, constructed as described, so as to form the foundation of a saddle-tree and a channel-way for the back-band, with the wooden mountings A A and the front and rear metallic braces F F, substantially as set forth.

2. The transverse terret-hook braces J, in combination with the sheet-metal frame E and wooden mountings A, substantially as described.

3. The combination of the cantel I of a metallic bed-plate, O, arranged upon the wooden portion of the cantel, substantially as and for the purpose described.

113,137.—NOZZLE FOR OIL-CANS.—Jabez A. Bostwick, New York, N. Y.

Claim.—The combination, substantially as herein described, of the flanged nozzle A, the valve-cap E, and the inclosed valve H working within said cap, and operated by a screw, G, to fit upon the flange of the nozzle and close the opening therein, as specified.

113,138. — COMPOSITION BURIAL-CASE.—Frederic W. Brown, Albany, N. Y.

Claim.—As a new article of manufacture, a burial case, formed of the material and in the manner substantially as set forth.

113,139.—SHOT-CHARGER.—George D. Capewell, George A. Capewell, and Joseph T. Capewell, Woodbury, Conn., assignors to George D. and George A. Capewell.

Claim.—1. The shot-charger B, provided with a stud or projection, *a*, combined with a cylinder, A, and gate or cut-off, when the said cylinder is constructed with a recess and notch, *d*, corresponding with the stud *a*, arranged relatively to the gate and inclined end of the charger, as and for the purpose described.

2. In combination with the cylinder A and charger B of a shot-pouch, the gate C, arranged to operate diagonally across the said cylinder, substantially as and for the purpose set forth.

113,140.—TOP-ROLL FOR SPINNING, &c.—William A. Caswell, Providence, R. I., assignor to himself, Albert F. Allen, and William D. Hilton, same place.

Claim.—A top roller, having a metallic interior, a foundation of textile fabric, an intermediate layer of cork, and an exterior covering of leather, substantially as described.

113,141.—ROTARY-HARROW.—John Francis Chase, Westbrook, Me.

Claim.—As a new manufacture, a rotary harrow-tooth, composed of the prongs *b* and a sharp-edged base, *a*, arranged and formed in one piece of metal, and provided with a central pivot or bearing, all substantially as described.

113,142.—STOVE-LEG.—Thomas Jefferson Close, Philadelphia, Pa.

Claim.—The lugs *b b*, arranged on the bottom plate of a stove and inclined at their inner edges, and the projection *f* of the foot B extending between said lugs, in combination with the screw or wedge for forcing the said projection away from the base-plate and wedging it between the lugs, as specified.

113,143, antedated March 24, 1871.—MARINE PROPELLER. — George B. Cocks, Cincinnati, Ohio.

Claim.—The propeller H A *h'*, substantially of the form described, operating as stated, and for the purpose specified.

113,144.—PUMP.—Nathan T. Coffin, Knightstown, Ind.

Claim.—1. The pump-stock A, open at its upper end, in combination with the waste-valve *g* and surrounding casing B, the latter being arranged to form a chamber above the stock, all substantially as and for the purpose set forth.

2. The bracket J O S, and pin *x*, and button *y*, all constructed and arranged substantially as set forth.

113,145.—GARDEN-BED BORDER.—Joseph Edgar Dickson and Seelye Richmond, Annapolis, Md.

Claim.—1. The molded bordering block or tile herein described, provided with the projections *a*, recesses *b*, and transverse arch or conduit B, constructed and arranged substantially as shown and described.

2. The molded bordering block or tile herein described, provided with the projections *a*, recesses *b*, and recess C, constructed and arranged substantially as and for the purposes set forth.

3. In the blocks or tiles herein described, the recess C and passage D, substantially as and for the purpose set forth.

113,146.—SASH-HOLDER.—Jacob J. Diehl, Harrisburg, Pa.

Claim.—The combination of the spindle, grooved its entire length, and the bolts with lugs in their perforated end or eye, said bolts carrying springs in slots near the eyes, and being operated separately by the revolutions, in different directions, of the shaft, substantially as set forth.

113,147.—CARBURETING-MACHINE. — Antoine Ernest Dupuy and Arthur Barbarin, New Orleans, La.

Claim.—The arrangement, within the channels formed by the spiral or volute scroll metallic curtains of a carbureting float, substantially such as described, of curtains of fibrous material, extending longitudinally through said channels, and dipping at their lower ends into the carbureting liquid, thus subdividing the channels into smaller scroll-passages, and extending the hydrocarbon surface over which the air or gas must pass, substantially in the manner set forth.

113,148.—CULTIVATOR. — David Edwards, Marong, near Sandhurst, Australia.

Claim.—1. The teeth N, or plowshares, figs. 3 and 4, constructed substantially as herein shown and described.

2. The zigzag bars M, teeth N, clasps O, center-bar A, cross-bar D, in combination with the crank-axe E, the whole arranged and operating substantially as described.

113,149.—SHOE AND OVER-GAITER.—Thomas R. Evans, Philadelphia, Pa.

Claim.—The combination with the shoe, constructed substantially as described, of the side pieces C C' and loose flap D, the whole being arranged as specified.

113,150. — CHIMNEY. — Alvan B. Ewing, Lewisburg, Tenn.

Claim.—1. The combination in a cast or wrought-metal fire-box, of the front and rear plates B D, jambs or side plates *c*, case-plate A, and cap-plate I, united together by rods *g h*, substantially as described.

2. The sheet-metal casing F, in combination with the fire-box, and so arranged in relation thereto as to form an air-space, in the manner and for the purpose described.

3. The plates A B C D E, provided with grooved flanges *b b d* in such a manner as that the several plates mutually support one another, as herein set forth and shown.

4. The cast or wrought-metal fire-box, constructed as herein described, in combination with the tube G and casing F, in the manner and for the purpose specified.

113,151.—MEDICAL COMPOUND FOR CURE OF SCROFULA, LIVER COMPLAINT, &c.—Philip Fay, Sr., Lacon, Ill.

Claim.—The medical compound, prepared of the ingredients, and in the proportions, and manner, and to be used substantially as described.

113,152.—SPUR.—Henry Fellows, Bloomington, Ind.

Claim.—The spring-shield C, having a ring-head as described, in combination with the rowel B, substantially as specified.

113,153.—VALVE FOR OIL-TANKS.—Daniel Fisher and William Cumming, Oil City, Pa.

Claim.—1. The tubular valve F, constructed substantially as herein described, permitting the passage of steam or hot water within it when closed upon its seat, for the purpose specified.

2. The combined hollow valve and valve-stem F, constructed with plane parallel sides, as herein set forth, for the purpose stated.

3. The valve-seat D, constructed with guide-fingers or wings *e*, as and for the purpose set forth.

4. The sleeve G, collars H I, combined nut and step E, and hand-wheel *g*, in combination with a valve, F, of substantially the form herein described, as means for operating the said valve, the same being constructed and arranged to operate as set forth.

113,154. — LIGHTNING-ROD. — David A. Foot and George S. Knapp, Winona, Minn.

Claim.—A lightning-rod, consisting of a continuous copper star-pipe or tube, with a continuous steel-wire filling the body of its interior, and annealed wires the spaces in its points, substantially as herein described.

113,155.—SPARK-ARRESTER FOR LOCOMOTIVES.—Benjamin P. Freeman and Pat. Payton, Macon, Ga.

Claim.—In combination with the arrester *e* and flue *d*, the pipe *c*, constructed as described, so as to form around the upper end of said flue the opening *f*, substantially as and for the purposes herein set forth.

113,156.—COFFEE-POT.—Daniel S. French, Montgomery, Ala.

Claim.—1. The combination of the rings B and C, hinged together so as to close or fold one within the other, and held by the catch *b*, for securing the bag E, substantially as herein set forth.

2. In combination with the rings B C, the bars G G, segments H H, and foot I, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the rings B C, bag E, and the perforated metallic piece J, substantially as and for the purposes herein set forth.

113,157. — FEATHER-RENOVATOR. — Jonathan Garrett and Jonas E. Rauch, Selin's Grove, Pa.

Claim.—The construction and arrangement of the outer cylinder A with perforated bottom, the lid D, trough C with inlet *a* and outlet *b*, the inner cylinder E, and fans G G, all substantially as shown and described, and for the purposes herein set forth.

113,158.—TREATING THE TIMBER OF OLD FIELD-PINES.—James H. Gatling, Murfreesborough, N. C.

Claim.—1. The process herein described of preparing the old field-pine tree, as specified.

2. The timber, provided with an external layer of resinous wood, when obtained from the old field-pine tree by the process specified.

113,159. — COTTON-PICKER. — Williamson Goodwin and Sinclair D. G. Niles, Helena, Ark.

Claim.—1. The combination of the toothed belts G G, brush-cylinders I I, and the fluted cylinders J J, all constructed and arranged substantially as and for the purposes herein set forth.

2. The frame A, with passage C, in combination with the toothed belts G G, guides H H, brush-cylinders I I, fluted cylinders J J, aprons K K, boxes L L, and hinged cover M, all constructed and arranged substantially as and for the purposes herein set forth.

113,160.—CAR-COUPLING.—Stephen Gregory, Jonesville, Mich.

Claim.—1. The bifurcated coupling A, having the part *a* provided with the vertical bar *b*, while the branch *a'* has the flaring jaws *j j*, pins E F, and spring, the coupling being pivoted to the draw-bar D, so that either branch *a* or *a'* can be brought into line with the center of the track, all operating substantially as described.

2. The arrangement and combination of the transverse coupling-pin E, spring *i*, and uncoupling-pin F with the draw-head *a'*, substantially as set forth, for coupling the link and draw-head automatically together, when arranged relatively, as provided in the preceding clauses.

113,161.—HORSE-COLLAR.—Lyman Guinnip, Danville, Ill.

Claim.—An improved horse-collar, consisting essentially of the side sections A A and bearing-block B, arranged to operate substantially as set forth.

113,162.—WATER-METER.—Thomas C. Hargrave, Boston, Mass.

Claim.—1. The receiving-pan B, constructed and operated as described, in combination with the measuring-chamber C, substantially as and for the purpose set forth.

2. The oscillating chamber B', having a bottom constructed of two inclines, connected with a curve, and controlled by a ball, in combination with the measuring-chamber C, substantially as and for the purpose described.

3. The inlet-pipe L, constructed with a closed bottom and side openings, in combination with a receiving-pan, substantially as and for the purpose described.

4. The slotted sample-tubes *m'* and *n'*, with their sliding cases *s s*, substantially as and for the purpose set forth.

5. The two-way delivery-cock K, constructed as described, in combination with the rod *f*, cross-head *m*, arranged and operating substantially as and for the purpose set forth.

6. The two-way cock K, constructed as described, in combination with the rod *f*, lever *s'*, and slides *s s*, substantially as and for the purpose described.

7. The spring stops *o' o'* and *p p*, constructed so as to be doubly adjustable, and operating as described.

113,163, antedated March 21, 1871.—PROPELLER FOR VESSELS.—Calvin A. S. Harris, St. Louis, Mo.

Claim.—The vertical-guided shafts F F, reciprocated in the manner set forth, and carrying arms L and pivoted blades M, as herein shown and described.

113,164, antedated March 20, 1871.—MACHINE FOR FORMING CARRIAGE-SPRINGS. William Harty, Bridgeport, Conn.

Claim.—In combination, with the vertical rack L and its pinion N, the inclined racks I, with their respective pinions H arranged in bearings connected to said inclined racks, so that, by means of the said racks I, both a reciprocating and a rotary movement is imparted to the pinions H.

113,165.—HORSE HAY-RAKE.—John F. Henkle, St. Louis, Mo.

Claim.—The improved arrangement, hereinbefore described, of the rollers *c c c*, mounted in brackets applied to the under side of the rake-head A B, with the center bracket forming part of the joint of the same, as and for the purpose specified.

133,166.—TORSION-SPRING FOR CARS.—Benjamin Hershey, Erie, Pa.

Claim.—A V or angular-shaped torsion-spring for railroad cars and other vehicles, substantially as described.

113,167.—MACHINE FOR FORMING PIPE-ELBOWS. — Charles Hoeller, Cincinnati, Ohio, assignor to himself and Henry S. Hoeller, same place.

Claim.—1. The cylinder-head D, compressor F, and clamps G G', combined, constructed, and operating substantially in the manner herein shown and described.

2. The combination of cylinder B D, sliding collar M, and mechanism for feeding the sliding collar by successive steps, substantially as and for the purpose specified.

3. The clamp G, hinged compressor F, and piston E, when constructed and operating substantially in the manner and for the purpose described.

4. The combination and arrangement of the open cylinder B, head D, compressor F, clamps G G', collar M, piston E, and pinions K, with their appurtenances, operating substantially as and for the purpose set forth.

5. The provision, in the head D and clamp G, of a bead and groove, substantially as shown, or equivalent crimping device, as and for the purpose specified.

113,168.—ANIMAL-TRAP.—James William Fishback How, Douglas county, Oregon.

Claim.—1. The combination of the wheel C with its several parts, with the drawer B and screen G, substantially as and for the purposes herein set forth.

2. The combination of the box A, containing the drawer B, and provided with the inclined and horizontal bait-holders I and K, with the wheel C and its several parts, substantially as and for the purposes herein set forth.

3. The combination of the box A, wheel C, inclined and horizontal bait-holders I K, with the dumping-wheel M, and water-receptacle W, substantially as and for the purposes hereinbefore described.

113,169.—LAND-ROLLER.—John T. Hudnet, Reaville, and Holloway W. Mathews, Frenchtown, N. J., assignors to J. W. Priestly & Co.

Claim.—The H-shaped frame A B D, with its rigid rear extension E E C, the frames I, roller H, and pivoted tongue F, all relatively constructed and arranged as herein shown and described to form an improved land-roller.

113,170.—COTTON-PICKER.—John Hughes, New Berne, N. C.

Claim.—The combination of the cylindrical case D having combs *g*, cylinder B having inclined channel *c*, and spout *c'* opening into trough E, all constructed and arranged in relation to the wagon A, as shown, and for the purposes specified.

113,171. — HUB FOR WHEELS.—William Coale Johnson, Philadelphia, Pa.

Claim.—1. The combination of the metallic axle-box A and two detachable hollow sections, D D', each having at its inner end a flange, *e*, on which are projections *h h'*, forming mortises of the character described.

2. The combination of the sections D D' and their projections *h h'*, when the latter are of the form described, so as to prevent the longitudinal withdrawal of the spokes when one series of projections is shorter than the other, to prevent the lateral withdrawal of the spokes when the sections are separated, all as set forth.

3. The combination of the said box A, two detachable hollow sections D D', their flanges *e*, and projections *h h'*, when the said sections have internal braces *k*, as described.

113,172. — CHURN-DASHER. — Columbus Johnston, Clarksville, Mo.

Claim.—The revolving dasher, with the paddles *a a a a*, constructed and operating as described.

113,173.—HORSESHOE-MACHINE.—William R. Justus, Pittsburg, Pa., assignor to Shoenberger & Co., same place.

Claim.—1. The arrangement, above the table upon which the blank is placed, of the shoe-form G, side forms or ways H H, swaging-rollers I L and K K, and boxes I I', with reference to one another, substantially as and for the purpose set forth.

2. The form G, when constructed with side recesses *g'''*, as described, and for the purpose specified.

3. In the described combination with the reciprocating shoe-form G, constructed with a projection, *g''*, inclining upward, the projection *s* of the frame A, as and for the purpose set forth.

113,174. — CORN-PICKING AND HUSKING-MACHINE.—Silas R. Kenyon, Greenville, R. I., assignor to himself and William D. Vernam, Elizabeth, N. J.

Claim.—1. The picker-plate *f*, made adjustable in the arc of a circle, parallel or nearly so to the picker-cylinder *b*, in combination with said cylinder *b* and roller *c*, substantially as and for the purposes set forth.

2. In combination with the husking-rollers *i*, the caps *n* of the journal-boxes *m*, when said caps are made to extend over the upper ends of said rollers, as described and shown, and for the purposes specified.

3. In combination with the husking-rollers *i* and inclined conductor *t*, the cover *s* provided with the curved end *s'*, when arranged in relation to said conductor, as shown, and for the purpose described and set forth.

4. The cover *s*, formed with a curved inclination *s'* at the receiving end, in combination with the adjustable suspending-rods 6 and cross-bar or bars 7, substantially as and for the purposes set forth.

113,175. — HARVESTER-CUTTER.—William G. Kenyon, Wakefield, R. I.

Claim.—The combination and arrangement of the two ledger-blades *a a'*, guard-finger A, and knives *s s*, the ledger-blades extending over the knives to bearings in the guard-finger back of the knife-bar, the whole being constructed substantially as and for the purpose specified.

113,176.—COMPOSITION FOR LUBRICATING JOURNALS.—Rudolph C. Klein, St. Louis, Mo.

Claim.—The hereinbefore-described lubricating compound, substantially as and for the purpose specified.

113,177.—FASTENING FOR NECK-TIES.—A. Kemp, New York, N. Y.

Claim.—The binding-clasp uniting the ends of the loop B, in combination with the retaining-clasp, the loop, and the neck-tie frame A, all arranged, constructed, and operated in the manner and for the purpose set forth.

113,178. — VAPOR-BURNER. — William H. Lawrence, Baltimore, Md.

Claim.—1. The perforated sleeve or jacket-cylinder B, when the same is provided with a disk, C, and an inner shoulder, C', substantially as described.

2. The tube B, having a shoulder, C', and a disk, C, when the same is provided with jets *b b* and *c c*, one being above and the other below the disk, in combination with the tube A, having orifices or jets *a a*, substantially as described.

113,179.—GRINDING-MILL.—Edwin D. Little and Edgar C. Little, Shabbonas Grove, Ill.

Claim.—1. The cylinder M in the grinding-mill herein described, having the graduated diamond-shaped teeth *a' a'' a'''*, constructed as shown and described, for the purpose set forth.

2. The arrangement, in the grinding-mill herein described, of the cylinder M and adjustable concave G, hopper H, cut-off *i*, frame A B, and fly-wheels *f*, when all constructed and operating as shown and described, for the purposes set forth.

113,180. — PEAT-MACHINE.—Zalmon Ludington, Fayette county, Pa.

Claim.—The radial frames I, attached to the shaft and forming a molding-wheel, in combination with the adjustable molds C, outer and inner broken mold-rings E and F, and the spring *d*, as and for the purpose set forth.

113,181, antedated March 18, 1871.—SHADE-HOLDER FOR LAMPS.—James W. Lyon, Brooklyn, N. Y.

Claim.—In combination with a central support the double-hinged or jointed arms, whereby the shade-holder can be adjusted to different sizes and different elevations of shades, as desired.

113,182.—MACHINE FOR SCOURING NEEDLES.—Francis W. Mallett, New Haven, Conn.

Claim.—A device for scouring needles, consisting of a pair of plates, *c d*, one or both of which are inclined so as to make the space between the two plates narrower at the bottom than at the top, in combination with mechanism for imparting a reciprocating movement to both of said plates, substantially as set forth.

113,183.—LAMP-BURNER.—Charles B. Mann, Baltimore, Md., assignor to himself and Stephen S. Mann, same place.

Claim.—1. The filling-tubes *a b*, constructed as explained, each tube having an orifice of discharge within the lamp, and the inner tube being provided with the groove *h*, and the outer tube with orifices for allowing air from the lamp to enter and escape from said groove and from the lamp.

2. The wick-tube *i*, attached to the burner and extending to near the bottom of the lamp, and the filling-tube *a b*, constructed with orifices and groove, as herein shown and described, for the purpose specified.

113,184.—SIEVE.—Robert J. Mann, Dallas City, Ill.

Claim.—1. The metallic sieve-band A, with upturned bottom edge *a*, to receive a removable sieve-bottom, substantially as and for the purpose specified.

2. The combination of the sieve-band A and removable bottom B C, substantially as specified and shown.

113,185.—BRICK-KILN.—James M. McCarthy, Canal Dover, Ohio.

Claim.—1. A series of hollow benches, arranged as shown and described, the spaces between the same forming the furnaces of the kiln, as herein set forth.

2. The benches H H, made of brick, iron, or other suitable material, and provided with flues L L and inlets *g g*, substantially as and for the purposes herein set forth.

113,186.—EARTH-CLOSET.—James Megratten, Wilmington, Del.

Claim.—1. The double-hinged chute K, the first hinge in the rear of the axis of the hopper-operating shaft, when so constructed as to be moved back out of the way, and brought into line by raising and lowering the lid, in combination with the levers I L, substantially as shown and described.

2. The rotary pocket-wheel or feeder O, having curved and cutting-blades, in combination with the double-hinged chute K, substantially as shown and described.

3. The shaft E and eccentric G, in combination with the vertical moving stirrer H, substantially as described.

4. The feeder or cylinder O, constructed as described, in combination with the dog N, spring *u*, and lever D, substantially as specified.

5. The levers D' and F, crank *i*, shaft E, cam G, stirrer H with its arms A and spring *g*, when all are combined as set forth.

6. Lid C, levers D, D', I, L, and F, dog N, chute K, feeder O, shaft E, cam G, and stirrer H, when all are combined to operate substantially as shown and described.

113,187.—BEE-HIVE.—John F. Metherd and Solomon Young, Union City, Ind.

Claim.—The moth-chambers D, with entrances *d d*, glass doors E E, and central chamber C, and opening *b*, to a comb-frame hive, constructed substantially as and for the purposes set forth.

113,188.—VEGETABLE-CUTTER.—Francisque Monnet, New York, N. Y.

Claim.—1. The tubular knives *g*, shown in figs. 5 and 6, in combination with the holder *m*, for vegetable substances, sustained in the slides *o*, and reciprocated, as set forth.

2. The frame of knives *s*, within the box *m*, to separate the vegetable material, in combination with the follower *n* and knife *g*, for the purposes set forth.

113,189.—MACHINE FOR STRIPING AND CUTTING LEATHER.—John E. Coffin, Portland, and Charles E. Morrill and George F. Hall, Westbrook, Me.; Coffin and Hall assign to Charles E. Morrill.

Claim.—1. The vibratable cutter-bar *k* in the carriage *b*, and the roller *n*, in combination with a striping mechanism, as herein set forth.

2. The grooved roller *n*, in combination with the carriage *b*, to operate as herein set forth.

3. The combination of the coloring apparatus with its movable fingers *p*, with the conductors *q* and coloring-vat *r*, with the roller *m* and carriage *b*, as herein set forth.

4. The combination of the cutter-bar *k*, roller *n*, and pressure-bar *t*, as herein set forth.

5. The combination of the carriage *b*, with its cutter-bar, roller, and coloring apparatus, with the elastic bed *a*, as herein set forth.

6. The reciprocating carriage *b*, in combination with the trucks *c d*, tracks *e f*, and racks *h*, as herein set forth.

7. The coloring-vat, with the adjustable conductors *q* on the rod *s*, in combination with the rollers *u* and carriage *b*, as herein set forth.

8. The method of striping and cutting skins herein set forth; that is, by means of the reciprocating carriage *b* with its devices, an elastic bed, *a*, and a tin or other supplemental sheet, as and for the purposes herein set forth.

9. The combination of the carriage *b*, with its devices, with the bed *a*, table, tracks, racks, and trucks, as herein set forth.

113,190.—ROTARY-PLOW.—Joseph R. Morris, Houston, Texas.

Claim.—A shaft, having thereon a series of disks, to the circumference of each of which are attached, at an obtuse angle to the radiuses, spades, operating as set forth.

113,191.—FURNACE FOR PRODUCING HYDROGEN AND TREATING ORES.—Joseph R. Morris, Houston, Texas.

Claim.—A cupola or furnace, combined with a water-chamber, a steam-chamber, and converting vessels, or a converting-chamber containing iron filings or scraps, said furnace being so placed with reference to the other chambers as to heat the water in one and the iron in another, and superheat the steam in the third, and the converting-chamber being so placed with reference to the steam-chamber as to receive steam therefrom, and with reference to the furnace as to discharge hydrogen thereinto.

113,192.—PRODUCING GASES FROM HYDROCARBONS. — Xavier Mousseard, Paris, France.

Claim.—The combination of the tube *b'*, provided with apertures, with pipe *y*, bell *t*, perforated chamber *c*, the burner *s*, and casing *m*, arranged substantially as and for the purpose specified.

113,193.—BUGGY-BRAKE.—Isaac Lamborn Myers, Ferguson township, Pa.

Claim.—1. The combination of the brake-bar D with spring E and rest C, lever *c* and rest *g*, all substantially as shown and described.

2. The dog *h*, lever *c*, and rest *g*, in combination with the spring E, brake-bar D, and rest C, when all constructed, arranged, and operated substantially as shown and described, for the purposes set forth.

113,194. — BREECH-LOADING FIRE-ARM.—Robert Nenninger, Newark, N. J.

Claim. — 1. The perforated revolving breech-block, in combination with a plunger which serves to open the breech-block to carry the cartridge home, and to close the breech-block, substantially in the manner herein shown and described.

2. The lever G, crank *e*, pin *j*, and slot *k*, in combination with the plunger E and breech-block B, substantially as and for the purpose set forth.

3. The recess *l* in the plunger, in combination with the lever G, substantially as specified.

4. The combination of the lever G, plunger E, breech-block D, main-spring H, and firing-pin *p*, substantially in the manner herein described.

113,195.—SKIRT-BOARD.—John F. Nettleton, New Haven, Conn.

Claim.—The combination of the skirt-board A, legs B, hinged to the table, and the brace C D, jointed and hinged to the table and legs, the whole constructed and arranged to fold in the manner substantially as described.

113,196.—MOLDED SADDLE-TREE AND COMPOSITION FOR THE SAME.—Ernst B. Newman, St. Louis, Mo., assignor to Newman Erb, same place.

Claim.—1. As an article of manufacture, a molded plastic composition saddle-tree.

2. The plastic composition, composed of the ingredients specified.

113,197. — HOT-AIR FURNACE.—James R. Nichols, Boston, Mass.

Claim.—1. In the construction of hot-air stoves or furnaces composed of wrought or malleable iron, constituting the heat-radiating surface, the adjustment and application to the body thereof of flanges, in the manner and for the purpose herein described.

2. The heat-radiating device H, in combination with the flanges I I and covering D, in the manner and for the purpose herein described.

113,198. — MEDICINE OR POWDER FOR HORSES, &c.—John Norcross, West Newton, Pa.

Claim.—The medical powders for veterinary purposes, composed of the ingredients herein described, and compounded in the proportions and manner set forth.

113,199. — OILER FOR LOOSE-PULLEYS.—Stephen R. Norris, New York, N. Y.

Claim.—The combination of the driving-tube *b*, discharge-tube *c*, and screw-regulating plug or valve *d*, with the annular oil-cup A, all arranged and operating essentially as shown and described.

113,200.—LUBRICATOR.—Thomas J. Nottingham, Cincinnati, Ohio.

Claim.—1. In combination with the chambers A E, the valves C H, when the latter are located and operated between the chamber E and the discharge exit, as and for the purpose specified.

2. In combination with the chambers A E and valve C, the double-seated valve H, fig. 1, operating in the manner and for the purpose specified.

113,201.—SEWING-MACHINE.—Charles O. Parmenter, Amherst, Mass.

Claim.—1. The combination, with an organized sewing mechanism, having a curved plate adapted to enter and support a hat, of a band-guide, substantially as described, capable of conducting the band to the hat supported by said plate, said band-guide being secured to the front of the arm forming the bearings for the needle-slide and the presser-slide of the sewing-machine, substantially in the manner herein shown.

2. The combination, with an organized sewing-mechanism, of a plate capable of supporting a hat, a band-guide capable of conducting the band to the outside of a hat, and a sweat-guide capable of conducting the sweat to the inside of said hat, all substantially as and for the purpose set forth.

3. The guide C, attached to a lever which is hinged to the front of the arm B, said guide being composed of a curved face-plate, with two guides, one at the top, the other at the bottom, and with two gauges, *d e*, substantially in the manner shown and described.

113,202.—METHOD OF SCENE-SHIFTING FOR THEATRICAL AND ANALOGOUS PURPOSES.—John L. Peake, New York, N. Y.

Claim.—1. The piston and cylinder, in combination with scene-shifting mechanism, and with means for admitting and discharging water to shift the scenes, substantially as herein specified.

2. The reservoir N, in combination with scene-shifting-mechanism, for the purpose of supplying large quantities of water rapidly, as specified.

3. In combination with theatrical scenery and the scene-shifting mechanism G H I, and their connections, the reservoir cylinder N, piston *n*, connected frame n^1, and variable load n^2, arranged as herein specified.

4. The adjustable stops R^1 R^2, and their connections, in combination with the hydraulic scene-shifting means G H I, with the cock P or its equivalent, for automatically stopping the motion, substantially as herein set forth.

113,203.—ROCK-DRILL.—George B. Phillips, Poughkeepsie, N. Y., assignor to himself, Adrian M. Cornell, and James V. Harbottle, same place.

Claim.—1. The combination and arrangement of the wheel I, plate P, standard E, braces J, projection *i*, and stop *b*, substantially as described.

2. The combination of the sliding-bar A, plates *f* and *g*, lifting-bar D, and fixed bar E, provided with the beveled blocks M and N, arranged to operate substantially as described.

3. In combination with the drill-rod Q, the ratchet-wheels *n* and *n'*, provided with pawls *r* and *s*, vibrating-plate H, sliding rod C, provided with oblique slot *v* and stops *m* and *m'*, all substantially as described, for the purposes set forth.

113,204.—CLOTHES-DRIER. — Edward N. Porter, Morrisville, and Israel J. Currier, Wolcott, Vt.

Claim.—1. The combination of the brackets A A with their shoulders *c c*, arms B C, and rods *a b c*, all constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the brackets A A with their shoulders *c c*, arms B C D D' E E', and rods *a b c d f h*, all constructed and arranged substantially as and for the purposes herein set forth.

113,205.—CORN-DRILL.—Benjamin W. Remy and Noah T. Remy, Brookville, Ind.

Claim.—1. The arrangement of the axle A, wheels B B, metallic frame C, forked blocks D D with the pins *a a*, all substantially as shown and described.

2. The beam I, carrying the furrow-plow K and covering-plows L L, and supported by the pivoted stirrup O, adjustable stirrup H, and rods *b b*, substantially as and for the purposes herein set forth.

3. The lever M, placed on the axle A, and provided with the jointed brace N and rod *t*, and connected, by the rods *b b*, with the beam I, for the purpose of raising the plows out of the ground, and also for throwing the drill mechanism out of gear, substantially as herein set forth.

4. The combination and arrangement of the platform P, carrying the entire drill mechanism, and hinged or pivoted at its front end, while the rear end is provided with shaft *d* and pinion *f*, said pinion resting upon the cog-wheel R on the axle A, substantially as and for the purposes herein set forth.

5. The brush *i*, connected to the end of a spring, and suspended in the box S, over the slide, and operated substantially as set forth.

113,206.—CORN-PLOW.—Benjamin W. Remy and Noah T. Remy, Brookville, Ind.

Claim.—The combination of the beam A, shanks B C, plows E, handles G, braces E H, and double-tree I, all constructed and arranged substantially as and for the purposes herein set forth.

113,207.—BEE-HIVE.—William Reynolds and Joseph V. Brooks, Lexington, Ill.

Claim.—A bee-hive, having the notched strips B arranged at the sides, and the notched strip E at the bottom, for supporting the frames C and holding them in their proper positions, substantially as described.

113,208. — CHLORIDIZING SILVER ORE.—Eugene N. Riotte, San Francisco, Cal, assignor of five-fourteenths interest to Charles A. Stetefeldt, same place, and five-fourteenths to John H. Boalt, Sandusky, Ohio.

Claim.—The process of chloridizing silver ore by dropping a mixture of pulverized ore and salt through a vertical or nearly vertical shaft with the products of combustion.

113,209. — WARDROBE OR HAT-HOOK.—Charles Roe Scott, New York, N. Y.

Claim.—The wardrobe, clothes, or hat-hook C, when inserted in the ornamental plate A, having the part between the recesses raised so as to receive the shank or foot, of the removable hook C, all constructed and arranged in the manner and for the purpose described.

113,210.—TREADLE.—Al B. Shaw, Medford, Mass.

Claim.—The treadle, composed of the shaft *a*, fly-wheel A, pawl-case B, and a pivoted pawl, in combination with the spring C, foot-plate D, chain E, and connecting-rod F, all constructed and operated substantially as and for the purpose set forth.

113,211. — PUNCH AND EYELETING-MACHINE.—Elijah Shaw, Milwaukee, Wis.

Claim.—1. An eyeleting-machine, arranged to punch two holes, feed, and set two eyelets with one motion at the same time, substantially as described.

2. Roller K and lever L, arranged so that lever L will go down a certain distance pressed by roller K, and then it will assume a perpendicular position and remain pressed down that distance while the roller K passes on, substantially as described.

3. Punching-frame O, movable head X, spring V, spring T, set-screw W, and set-screw K', in combination with swinging frame A^2, substantially as described.

4. Bent lever B, links C, frame I, rods G', springs H', levers E, rollers F', rods B', springs C', lever Y, feet D', in combination with frames A and A^1, substantially as described.

5. Bent lever B, connecting-links C, frame I, rods G', springs H', roller K', levers L', lever M', shaft P', rod Q', carriage S', all in combination with frames A and A^1, substantially as described.

6. Carriage S', anvils U', with cover V', and springs W', all in combination substantially as described.

7. Inclined way *g'*, in combination with carriage S', for the purpose of keeping the elevation adjusted so that the punches P may keep an even bearing while they and the carriage S' are fed up.

8. Frame A^2 with punching-frame O, to swing open, so that the punches may not be used when not desired.

9. Locking-levers N', springs O', in combination with roller K' and lever L', substantially as described.

10. Frame Z', adjustable guides and springs Q, rollers R, and spring and pins S, in combination with rods D, substantially as described.

11. Inclined way *g'*, arranged in the center between the outsides of frame A, so that a shoe or other closed article may be fed up over and around *g'*, and the holes punched and eyelets set, substantially as described.

12. Annular rim *b*, perforated as described, with chamber *d'*, and pointer *m'*, with slide *y*, and set-screw *w*, substantially as described.

13. Outer pocket for eyelets at the head of chutes *r*, with pointer *m'* and slide *y*, and set-screw *w*, substantially as described.

14. Bushing G, with loose head and set-screws H, in combination with shaft F and setting-rods D, substantially as described.

113,212.—FORK, HOE, &c.—Samuel Sheble, Philadelphia, Pa.

Claim.—The combination of the fork A, the prongs of which are permanently united to a tang, the handle B, beyond the lower end of which projects a ferrule, *d*, and a body of metal filling the lower end of the ferrule, and through which the tang is driven prior to being secured to the handle B, as described.

113,213, antedated March 29, 1871.—MACHINE FOR REPAIRING HOSE, &c.—Alfred Shedlock, New York, N. Y.

Claim.—1. The combination of the row of nee-

dles, presser w^4, and guide k^3, operating so as to knit patches on knitted goods, for the purposes of repairing and strengthening the same, substantially as described.

2. The springs s s, in combination with the presser w^4 and guide k^3, substantially as described.

3. The presser w^4, provided with a series of projections, which lie between and prevent the needles from raising the goods as they pierce it, substantially as described.

4. The guide k^3, in combination with the presser w^4, substantially as described.

113,214.—STAVE-JOINTER.—John Sherman and William Marriott, Cleveland, Ohio.

Claim.—The jointing cylinder herein described, having depressions *c* and knives *d*, constructed, arranged, and operating in the manner and for the purpose specified.

113,215.—FASTENER FOR CARRIAGE-CURTAINS, &c.—Samuel Shute, Jr., Richmond, Va.

Claim.—A curtain-fastening, consisting of the plates I and B, wire springs C and C, and knob E, all constructed, arranged, and combined substantially as and for the purposes set forth.

113,216.—LOCOMOTIVE.—Albert S. Smith, Boston, Mass.

Claim.—1. The combination, with the exhaust-pipe of a locomotive-engine, of a valve, arranged to close such pipe during stoppage or reversal of the engine, an air-inlet valve for relieving the vacuum which arises within the pipe when the first-mentioned valve is closed, substantially as and for the purposes set forth.

2. The herein-described combination of stand-pipe A, and valves D and *d*, the same operating in manner and to effect purposes before stated.

113,217.—SAW-MILL.—W. Dean Smith and Andrew J. Chase, Union, N. Y.

Claim.—1. The combination of shaft F, gear-wheel F, shafts H N', gears M M^2 N, lever I, and pin I^2, substantially as described.

2. The combination of shaft F, H, and N', gear-wheels F M^1 M, pinions N M^3, levers I R, pin I^2, and bar R', substantially as described.

3. In combination with tubular shaft H and lever I, the tripping-rod K, bell-crank J, stop J', disk K', and nut H^1.

4. The combination of vibrating arm O^1, shafts O P', gears P O^1, and nut H^1, substantially as described.

5. The combination of shafts O P', gears P O^1 O^2 O^3 H^2 with nut H^1, tripper L *l*, and shaft H, as set forth.

6. The slotted side piece or stringer D, in combination with the tenoned girts E^1, bed-piece E, and ways E^2, these parts being constructed and arranged substantially as described, whereby the head-block may be adjusted longitudinally upon the carriage, as set forth.

113,218.—WINDMILL.—Bradley W. Stanton, Almena, Mich.

Claim.—The shafts C C, wind-boards D D, rods *a a*, plate *b*, collar *d*, rod *e*, and governor E, the several parts being constructed and arranged substantially as and for the purpose specified.

113,219.—GRAIN-DRIER.—William Stark and Joseph G. Fisher, Toledo, Ohio.

Claim.—1. The screen M, provided with funnel N and pipe L, substantially as described and shown, for the purposes set forth.

2. The arrangement within the bins B C of the pipes D D' E F G, provided with valves I I^1 I^2, and globular enlargements H and H', and perforations *c* and *d*, substantially as described and shown, for the purposes set forth.

3. The combination of the screen M and the pipe E, substantially as described and shown, for the purpose set forth.

4. The combination of the screen M and the pipes E, D D', F, G, K, and L, substantially as described and shown, for the purposes set forth.

5. The arrangement of the bins B and C, the partition *a*, the beam *b*, the pipes D D', E, F, G, and K, and the perforated tile-columns P P', substantially as described and shown, for the purposes set forth.

113,220.—HEATING-STOVE.—William Stark and Joseph G. Fisher, Toledo, Ohio.

Claim.—1. The application of water in drops to the top of the fire-pot, within a hot-air chamber, substantially as described and shown, for the purpose set forth.

2. The combination of the reservoir M, standard N, hot-air chamber H, and fire-pot G, substantially as described, for the purpose set forth.

113,221.—EXCAVATOR.—Barna T. Stowell, Quirley, Ill.

Claim.—The digger K M N *o*, endless chains D D, pivoted and braced scrapers E E, rag-wheels L L, and inclined plane C, constructed and arranged as herein shown and described, to form an improved excavator.

113,222.—FARMER'S BOILER.—Richard W. Thickins and David R. Sperry, Batavia, Ill.

Claim.—1. The caldron A, made with a central flue or passage for the heat B, constructed and arranged substantially as specified and shown, and for the purpose set forth.

2. The caldron A, made with a central flue, B, in combination with the coiled pipe C, substantially as and for the purpose specified.

3. The combination of the caldron A and cover *a*, with annular grooves, with the round packing *f*, substantially as and for the purpose specified.

4. The combination and arrangement of the caldron A, having a V-shaped flange, *e*, with the inclosing-jacket D, having a beveled edge, as described and shown, and for the purpose specified.

5. The construction and arrangement of the basket grate J, in connection with the fire-box G, whereby an air-space is made to surmount the said grate, substantially in the manner specified, and for the purpose of preventing the loss of heat by radiation.

6. The conical basket-grate J, with bars at front and rear, in combination with the fire-box G, having the full-sized door H and the flanges *g*, as and for the purpose specified.

7. The combined safety-valve, low-water indicator, and hot-water faucet O, consisting of the tube P, levers Q R, chamber S, and tube S', when constructed and operating substantially as and for the purpose specified.

113,223.—CULTIVATOR.—Jacob S. Thomas, Mifflintown, Pa.

Claim.—The cross-bar *d*, provided with a series of grooves or notches to receive the spring-shanks *b b* of the shovels *c c*, and with the transverse slot *e* for the clamp-bolt *f h*, all arranged as shown and described, in connection with the beam *a*, whereby the shanks and shovels may be laterally adjusted by moving the cross-bar lengthwise of the beam, as set forth.

113,224.—COMPOSITION FOR PRINTERS' INKING-ROLLERS.—Andrew Van Bibber, Cincinnati, Ohio.

Claim.—Chloride of calcium in the composition of printers' inking-rollers, as described, and for the purposes specified.

113,225.—HARVESTER.—Joseph Van de Water, Whitewater, Wis., assignor to himself, George Esterly, and George W. Esterly, same place.

Claim.—1. The platform B, hinged to the cutter-bar B' by means of the joints *f*, *h*, and *u*, whereby the inner front corner of the platform is made to swing to or from the cutter-bar when its rear end is adjusted, substantially as described, for the purpose of adjusting the relative position of the cranks, as set forth.

2. The combination of the rock-shaft U and V with their pinions attached, the shaft R with its sleeve M, pinions P and N, and yoke X, and the rake-shaft *w* with the tripping-arm *q* attached, substantially as described.

3. In combination with the mechanism last above enumerated, the shaft G with its two cranks, and the pitmen *m* and *m'*, arranged and operating as set forth.

4. The compound rake, consisting of the rake-head H with its teeth, and the bar I with its teeth *t*, the springs *a'*, and straps *f'*, all arranged as shown and described.

113,226.—FLOUR-BOLT.—Thomas M. Walker, Bellefontaine, Ohio.

Claim.—1. The pull-rods *v*, springs *u*, rocking eccentrics *t*, knockers *w*, and tappet *s*, combined and operating substantially as represented and described, for the purpose set forth.

2. In combination with a trip-knocker on the reel, as herein described, the stationary tappet *s*, composed of a crank-shaft adjustable by arm 9, pin or stop *g*, and holes *s s' s²*, substantially as represented and described, for the purpose specified.

113,227.—WASHER AND WRINGER.—Paul Weatherbee, Port Washington, Ohio.

Claim.—The combined washer and wringer herein described, consisting of the frame A A', braces *f* and *f'*, spring *e*, bearing and connecting-rods *b*, rollers C and C', and crank *i*, all constructed, combined, and arranged substantially as and for the purpose specified.

113,228.—COMPOSITION FOR TREATING IRON.—Samuel Weaver, Pottstown, Pa.

Claim.—The herein before-described composition substantially as and for the purpose specified.

113,229.—BLOWER.—William W. Webb, Indianapolis, Ind.

Claim.—1. The wheels O and arms S, attached to the fan-blade shaft G, in combination with the cam-groove formed by the pieces T, arranged as and for the purpose set forth.

2. The ring E, in which the hub C and fan-blade shaft G are arranged, in combination with the case A, substantially as set forth.

113,230.—GLOVE.—William W. Whitaker, Gloversville, N. Y.

Claim.—1. The inner or palm portion of a glove when provided with the slits 3, 5, and 6, substantially as and for the purpose set forth.

2. The quirk D when constructed as shown, and so arranged as to cover the seam upon the inner side of the thumb, and upon the upper side of the fore or index-finger, substantially as and for the purpose set forth.

3. The combination and arrangement of the portions A and B of a glove, and the quirk C and D, substantially as and for the purpose set forth.

113,231.—FOLDING-BED.—Lewis Whitehead, Sr., Brooklyn, N. Y.

Claim.—1. The slotted and recessed braces B B, pivoted to the part A, in combination with the headed projections *c c*, fastened to the part A' of a bed, substantially as and for the purpose set forth.

2. The plates C C, constructed as described, and supplied with the projections c^1 c^1, and apertures c^2 c^2, substantially as and for the purpose set forth.

113,232.—CUT-OFF VALVE-GEAR.—Seth H. Whitmore, Decatur, Ill.

Claim.—1. The combination of the vibrating arms A A, catches 2 2, and the sliding arms 3 3, working on the ends of the levers 5 5, with the adjustable weights, and the eccentrics and hooks for operating the same, substantially as and for the purpose hereinbefore set forth.

2. The two T-shaped arms working with their faces one upon the other, and the adjustable weight which, by its own weight, shall close the valve or valves of a steam-engine by transmitting its power to the valves, by means of the lever and the two T-shaped arms, substantially as described.

113,233.—CORN-PLANTER.—Uriah T. Wilson, De Soto City, Miss.

Claim.—In a corn-planter, the combination of the spring cut-off Z with the adjustable dropper-sleeve L, provided with sets *a b c* of one, two, three, or more pockets, and set-screw Z', substantially as specified.

113,234.—SULKY ATTACHMENT FOR PLOWS.—John Worrell and James H. Rynerson, Clayton, Ind.

Claim.—In a sulky attachment for plows, the combination of the bent lever G and adjustable bar F with the foot-lever L, shaft *f*, forked arm N, and clamp *e d*, substantially as specified, as an improvement upon our patent of July 26, 1870.

113,235.—SULKY ATTACHMENT FOR PLOWS.—John Worrell and James H. Rynerson, Clayton, Ind.

Claim.—1. In a sulky for plows, the axle herein described, having the double bend *k z*, substantially as specified.

2. In a sulky attachment for plows, in combination with the square axle bent in U shape and pivoted, as described, the bent arm *c*, cam-hook *e*, and stop *f*, substantially as specified.

113,236.—LIGHTING ATTACHMENT FOR ALARM-CLOCKS.—Henry X. Wright, Memphis, Tenn.

Claim.—The arrangement of the wheel A, provided with a trip-pin, *a*, trip-shaft B, spring *m*, shaft *c*, friction-disk C, match-holder D, and candle-holder E, when operating together as and for the purpose described.

113,237.—LIQUID-MEASURE.—William M. Wright, Chambersburg, Pa., assignor to himself and Harrison Phoebus, Fortress Monroe, Va.

Claim.—1. The discharge-pipes *d* and *f*, supply-pipe *h*, and nozzle *i*, arranged in connection with the key *k*, provided with passages *l m*, as herein shown and described, whereby liquid may be fed from any suitable reservoir into a single measuring-vessel, or two separate ones, through pipes *d* and *f* simultaneously, and drawn off through said pipes, the supply being meanwhile closed, in the manner herein set forth.

2. The measuring-vessel *a*, provided at the center of its bottom with the discharge-pipe *f*, projecting into the same, and the discharge aperture *b*, as and for the purpose specified.

REISSUES.

4,308.—BREECH-LOADING FIRE-ARM.—Kiel V. Barnekov, Cornwall, assignor to himself and George W. Greene, New York, N. Y.—Patent No. 104,100, dated June 14, 1870.

Claim.—1. The hammer H and pin I, in combination with the breech-block E and slotted plate F, all as herein shown and described.

2. The slots G^1 G^2 G^3 in the projection F, made as shown and described, for the purpose specified.

3. The combination of the hammer H and its pin I with the slotted plate F, when constructed and operating substantially as shown and described.

4. The combination of the pivoted hooked levers M M, springs N N, and grooved side pieces D D, for extracting the empty shell, when constructed and operating as herein shown and described.

4,309.—CULTIVATOR.—Theophilus Bertrand and Peter Sames, Rockford, Ill.—Patent No. 60,916, dated January 1, 1867.

Claim.—1. The combination, substantially as described, of the tongue D with the axle C, arranged in the manner and for the purpose described.

2. The cross-piece E, attached to the tongue D, substantially in the manner and for the purpose described and shown.

3. The standards *e* and *e'*, having pulleys *g* and *g'*, when arranged upon and attached to the axle C, in combination with the chains and rods 7 and 8 and the hinged inclined auxiliary frame H and H', arranged to operate substantially as shown and described.

4. The curved notched bars *d d'*, secured at their upper ends to the standards *e* and *e'* by rods 5 and 6, and to the cross-piece E by rods 3 and 4, in the manner and for the purpose set forth.

5. The combination of two supporting-levers F and F', with their spring-bolts and curved notched bars *d* and *d'*, with the hinged inclined auxiliary frame H and H', when constructed and arranged to operate in the manner shown.

6. The adjustable foot-rest M, notched standards L, and holding-wedge 9, when constructed and arranged to operate together in the manner and for the purpose described.

7. Adjusting the auxiliary frame H and H' with the plow standards, to different widths by means of the arched coupling-bar K and screw staple-clamps *k*, as described and shown.

8. The screw eye-bolts P and socket-plate or block Q, in combination with bed-plate R, constructed and arranged to operate as shown.

9. The standard O, screw-eye bolt P, socket-plate or block Q, and bed plate R, in combination with beams H and H,' substantially as shown and described.

10. The safety-pin *f*, in combination with the standards O, screw eye-bolt P, rings *l*, brace-rod *k*, and auxiliary frame H and H', in the manner and for the purpose described.

11. The combination of the rigid frame, consisting of the tongue D and axle C, the hinged auxiliary frame H and H', carrying the plows, and their means of adjusting the same laterally, consisting of the arched bar *k* and screw-staples *k*, with the foot-supports M M and the lifting and holding devices supported upon the tongue and axle, in the manner and for the purpose shown and described.

4,310.—GRINDSTONE JOURNAL-BOX.—Thomas W. Brown, Boston, Mass., assignor, by mesne assignments, to Harbster Brothers & Co., Reading, Pa.—Patent No. 58,678, dated October 16, 1866.

Claim.—1. The close protecting-box A, in combination with the friction-wheels B B and a cover, C, constructed so as to fit closely upon the said box, and with it completely inclose the friction-wheels and the grindstone-shaft, substantially as and for the purposes set forth.

2. The combination of the said box A, wheels B B, cover C, and projections extending over and protecting from above the journals of said friction-wheels, substantially as and for the purposes set forth.

3. The combination of the said box A, wheels B B, cover C, and projections *c c c c*, extending over and about, and projecting from above and at the ends of the journals of said friction-wheels, substantially as and for the purposes set forth.

4. The combination of the said box A, wheels B B, and cover C, with or without either of the above-described and claimed projections, when said cover is provided with a hinge at one end, substantially as and for the purposes set forth.

5. The combination of the said box A, wheels B B, and cover C, when said cover is provided with an adjustable catch or fastener, by which the said cover may be secured to or released from the box at pleasure, substantially as and for the purposes set forth.

6. The arrangement of the spring-catch E, with the projections *d d* from the cover, and with the sides of the box, as specified.

7. The close protecting-box and cover C, substantially as and for the purposes specified.

4,311.—STEAM ROAD-WAGON.—Charles W. Hermance, Schuylersville, N. Y.—Patent No. 111,644, dated February 7, 1871.

Claim.—1. The horizontal frame E, or its equivalent, attached at one end to the rear axle, and resting upon springs at the other, thereby suspending the boiler, engine, and machinery, and permitting of all necessary vertical motion of the same between the axle and parts which they support, substantially as and for the purposes herein set forth.

2. The springs *a a*, or their equivalents, attached to or supporting the front of the horizontal frame E, which suspends the boiler and machinery, for the purposes set forth.

3. In a steam-wagon, a double train of gears, or their equivalents, in combination with the boiler and engine, with single or double cylinders connecting with fly-wheel and crank-shaft, for the purposes herein set forth.

4. In combination with the double train of gears a movable clutch, *k*, attached to the axle, and operated by a lever, M, and rod *m*, for the purpose of changing the speed, as herein set forth.

5. The horizontal frame E and springs *a a*, or any other device that shall operate as their equivalents, to suspend the boiler, engine, or machinery, and allow of vertical motion to the same between the axle and parts which they support, without ungearing itself or changing the distance between the axle and cylinders, as herein set forth.

4,312.—MACHINE FOR OPENING COTTON.—William C. Jillson and Amos B. Palmer, Willimantic, Conn.—Patent No. 110,368, dated Dec. 20, 1870.

Claim.—1. In a machine for opening cotton, the combination of revolving pivoted whipper-rods or arms, and an inclosing shell or case, for confining the cotton while being acted upon by the whippers, all substantially as described.

2. In a machine for opening cotton, two or more reels or pulleys, provided with hinged or pivoted whipping-rods, in combination with two or more shells or concaves, these parts being constructed and arranged substantially as shown and described, whereby the cotton, after being partially opened by the first set of whippers, shall be fed to the second set of whippers by the action of the first, substantially as set forth.

3. In combination with the whipper-rods and reel-bars, constructed as shown, the elastic sleeves for separating the whipper-rods and allowing them to yield laterally, substantially as set forth.

4,313.—MUFF AND COLLAR-BOX.—James P. Jones, Bloomfield, N. J., assignor to Jason Crane, same place.—Patent No. 96,118, dated October 26, 1869.

Claim.—The combination, in a fur-set box, of a cylindrical compartment with a rectangular compartment, substantially as described.

4,314.—MANUFACTURE OF STEEL.—Solomon W. Kirk, Philadelphia, Pa., assignor of part interest to Henry Thomas, same place.—Patent No. 53,307, dated March 20, 1866.

Claim.—Manufacturing steel from tinned iron or from iron fused with tin, substantially as herein set forth.

4,315.—MACHINE FOR MAKING HORSE-SHOES.—The Howe Horseshoe and Machine Company, New York, N. Y., assignee of Orial A. Howe.—Patent No. 82,409, dated September 22, 1868.

Claim.—1. The construction of the rotary die, the rotary pressure-disk, and rotary cone, severally, jointly with the combination of them, in the manner described.

2. The combination of the rotating pressure-disk G, the rotating die F, and the oscillating frame B, substantially as and for the purpose specified.

3. The arrangement of the rotating pressure-cone F* upon the oblique shaft I, when combined with the pressure-disk G and the rotating die F carried upon the oscillating frame B, substantially as and for the purpose specified.

4. The arrangement of the guide-notch *b'* and the wheel *c* upon the frame B, and in relation with the rotating die F carried thereby, and the presser-disk G, substantially as and for the purpose specified.

5. The arrangement of the spring J with reference to the rotating die F, presser-disk G, and pressure-cone F*, substantially as and for the purpose specified.

4,316.—HOOP-SKIRT.—William H. Towers, Boston, Mass., assignor to The Vertical Hoop-skirt Company, same place.—Patent No. 84,149, dated November 17, 1868.

Claim.—1. A skeleton hoop-skirt, consisting of an upper and a lower group of hoops with an intervening space, and suitably connected to each other, for accomplishing the purposes described.

2. In combination with the above, the suspending and bracing wires for holding down the flounce-group E F when the wearer sits, and counteracting horizontal oscillation thereof when walking, as described.

DESIGNS.

4,732.—STONE-DRAG.—Joseph P. Adams and George Hyde, Whitney's Point, N. Y.

Claim.—The design for front of stone-boat or log-boat, as herein shown and described.

4,733.—TOY STEAM-ENGINE.—Alexander Buckman and John W. Huffington, Brooklyn, N. Y.

Claim.—The design for the boiler and stand of a toy steam-engine, substantially as described and represented in the accompanying drawing.

4,734.—CARPET-PATTERN.—George Holdsworth, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,735.—BED-QUILT.—Louis Kreuzberger, Philadelphia, Pa., assignor to Braner & Co., same place.

Claim.—The design for a bed-quilt, as shown and described.

4,736.—SALT-CELLAR.—John B. Larner, Washington, D. C.

Claim.—The design for a salt-cellar, herein described and represented.

4,737.—CARPET-PATTERN.—William Mallinson, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,738.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,739.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,740.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,741.—CHAIR.—Henry Ocorr, Sheboygan, Wis.

Claim.—1. The design for the base of a chair, substantially as described and shown.

2. The design for the front of a chair-seat, substantially as shown.

3. The design for a chair, herein shown and described.

4,742.—CHAIR.—Henry Ocorr, Sheboygan, Wis.

Claim.—1. The design for a chair, substantially as herein shown and described.

2. The design for the base or lower part of a chair, substantially as shown.

4,743.—TYPE.—Richard Smith, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

4,744.—STATUARY.—Ames Van Wart, New York, N. Y.

Claim.—The within design, substantially as shown.

4,745.—GLASS BOTTLE.—William R. Warner, Philadelphia, Pa., assignor to William R. Warner & Co., same place.

Claim.—The design for a glass vessel or bottle, substantially as described and as represented in and by the accompanying drawing.

TRADE-MARKS.

207.—WHISKY.—John L. Bernecker, St. Louis, Mo.

208.—MEDICINE.—Henry H. Hay, Portland, Me.

209.—WHISKY.—Daniel V. B. Henarie, San Francisco, Cal.

210.—WHISKY.—E. Martin & Co., San Francisco, Cal.

211.—BITTERS.—Adam Orth, Milwaukee, Wis.

212.—SALVE.—O. M. Palmer, New York, N. Y.

213.—MINERAL-WATER.—Saratoga Seltzer-Spring Company, Saratoga Springs, N. Y.

214.—TEA.—Williams, Blanchard & Co., San Francisco, Cal.

EXTENSIONS.

DAVID H. WHITTEMORE, of Worcester, Mass.—Letters Patent No. 16,666, dated February 17, 1857.

"*Improvement in Machine for Paring Apples.*"

Claim.—1. Giving the slide I, (with its slicing-knife attached) a curved or lateral motion, for the purpose of enabling the slicing-knife to leave the core in a shape for the easy removal of the apple, by means substantially as set forth.

2. The arrangement consisting of the traveling-knife carriage I, with its tilting-lever K playing

over the guard G, which keeps the lever engaged with the screw while the apple is being pared, and releases it for the free return of the carriage, as herein set forth.

HERMAN E. DAVIDSON, of Gloucester, Mass., for himself and CHARLES H. DAVIDSON, deceased.—Letters Patent No. 16,956, dated March 31, 1857; reissue No. 1,940, dated April 25, 1865.

"Enema Syringe."

Claim.—A syringe having an elastic bulb or chamber, flexible tubes, and a suitable valvular arrangement when organized so as to operate substantially as described.

ALONZO M. GILES, Boston, Mass.—Letters Patent No. 16,830, dated March 17, 1857.

"Improved Gas-Generator."

Claim.—1. The inner door E, operating in the manner substantially as described, whereby the heat of the retort is rendered much more intense and uniform, as set forth.

2. The pipes D, in combination with the inner door E, arranged and operating in the manner substantially as herein set forth, for the purpose specified.

ISSUE OF APRIL 4.

PATENTS.

113,238.—MACHINE FOR MAKING BOXES.—Elbridge G. Alden, Cambridge, Mass.

Claim.—The block or former B, clamps D, provided with arms C, slot S, and spring b, lever L, and treadle or follower T, provided with gauge i, all arranged and operating substantially as described.

113,239, antedated March 29, 1871.—MANNER OF PACKING AND CONVEYING ICE-CREAMS, WATER-ICES, &c.—Ignazio Allegretti, Philadelphia, Pa.

Claim.—As a new article of manufacture and commerce, ice-creams or water-ices put up in the manner herein specified, and kept for sale ready for use in rations, as it were, substantially as herein specified.

113,240.—MAGNETO-ELECTRIC DIAL-TELEGRAPH. — George L. Anders, Boston, Mass.

Claim.—1. The drum G, composed of rubber or other like material, provided with the pins *f*, arranged spirally, in combination with the spring-plate G^1 and keys H, all arranged and operated substantially as described.

2. The drum G, provided with arm K, having fingers *k k'*, in combination with arm *i*, pawl J, arm *j*, springs L *j'*, and ratchet I, substantially as described.

3. The drum G, in combination with friction-disk *l* and its operating-lever M, substantially as described.

4. The spring-plate G^1, provided with catch-springs *g*, substantially as set forth.

5. The combination, with a magneto-electric dial-telegraph, of a straight key-board, H.

113,241.—STEAM COOKING-RANGE.—John Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.

Claim.—1. A steam cooking-range, consisting of the outer jacket B, ovens A, lids *a* and D, constructed and arranged substantially as shown and described.

2. The steam-generator C, having the straight-elbowed pipes P, constructed and arranged substantially as shown and described.

3. The combination of the jacket B, its ovens and lids, with the generator C and its pipes P, arranged and operated substantially as shown and described.

113,242.—FLUTING-MACHINE.—S. William Babbitt, West Meriden, Conn.

Claim.—A fluting-machine, composed of the hollow removable roll *f* mounted loosely on shaft I, having a vertical movement in the slot *i* of the upright *a'*, the rod *k*, spring *o*, and cam-lever *e e'*, the roll *e*, shaft *e*, and crank *d*, and the frame *a a a'*, provided with the screw-clamp *b*, all constructed, arranged, and operating substantially as herein described

113,243.—WINDMILL.—Peter Bailey, Smyrna, Iowa.

Claim.—1. In a windmill two oppositely-revolving wind-wheels *a a*, mounted upon one shaft and connected with independent gears, which engage with one and the same mechanism, as and for the purpose specified.

2. The combination of the wheel or wheels of a windmill with the rudders *u y*, one placed in line with the shaft of the wheels, and the other at right angles thereto, both rudders being furnished with adjustable wings *t*, as specified.

3. The combination of frame *u*, wings *b'*, connecting-rods *e' g'*, lever *h'*, and rack *l'*, as described.

4. The combination of the wheels *a a'*, rudders *y*, rings *e f h*, and standards *g*, as set forth.

5. The combination of the frames *u y*, brace *s*, and bar *s*, as explained.

113,244.—BRUSH, BROOM, AND MOP-HOLDER.—Charles L. W. Baker, Hartford, Conn., assignor to C. L. W. Baker & Co., same place.

Claim.—A brush-holder, consisting of a claw L and slotted arms *d d*, connected to the handle or to the socket for receiving the handle, and a yoke or clamp, D, the arms of which extend through the slotted arms *d d* and are connected to a ring, C, adjustable on the handle or socket, as specified.

113,245.—DAMPER FOR CHIMNEYS.—Peter Baker, Oakland, Md.

Claim.—The cone A, pendent wire C, and key B, when combined with the chimney, in the manner and for the purpose as set forth.

113,246.—POWER-PRESS.—Charles J. Beasley, Petersburg, Va., assignor to Tappey, Lumsden & Co., same place.

Claim.—1. The loose and shifting driving or band-pulley G, having its hub provided with clutches for adapting it to engage with collars H and I, which are fixed on the shaft, as and for the purpose specified.

2. The stop-rod R, having the stop-nuts U arranged to be acted on by the projection S of nut T, combined with the shifting-lever L, by means of the oscillating shaft, cranks, and link for shifting said lever, all substantially as specified.

113,247, antedated March 23, 1871.—VALVE FOR STEAM-PUMPS. — John V. V. Boorem, Jersey City, N. J.

Claim.—The flexible and elastic induction-valve F, arranged for operation in relation to the inlet-opening *b* and passages connected therewith, in combination with the sliding valve-carrier or hub E, for action on it by a moving diaphragm or piston, substantially as herein set forth.

113,248, antedated March 23, 1871.—VALVE FOR STEAM-PUMPS. — John V. V. Boorem, Jersey City, N. J.

Claim.—A valve, having combined with it a piston or diaphragm, substantially as herein described, and operating by differential pressure on the one side or face of the piston to close the valve, and allowing of the valve to open when pressure is established on both sides of the piston, as specified.

113,249.—APPARATUS FOR CASTING.—John P. Broadmeadow, Bridgeport, Conn.

Claim.—1. The combination of the movable bed or beds C with attached clamps E, lever *e*, and locking-hook *f*, for carrying and securing the molds, substantially as specified.

2. The combination of the ladle, float, and water-trough, essentially as and for the purposes herein set forth.

3. The arrangement of a ladle, supporting-float, and water-trough, with relation to a movable mold-bed or beds having attached clamps, substantially as specified.

4. The combination and arrangement, essentially as herein described, of the reel A, with its pendulous shelves C and attached clamps E, the water-trough H, and the float G, with its ladle-yoke or frame A.

113,250, antedated March 21, 1871.—MANUFACTURE OF SALT.—Joseph R. Buchanan, Louisville, Ky.

Claim.—1. The combination, with a salt-boiler, of a pump to establish a rapid current through it.

2. The combination, with a salt-boiler, of the ascending and descending channels A C D C, to establish a rapid current through it by the force of ebullition.

3. The combination of the channels A C D C in a concentric manner, as shown in figs. 8 and 9, and their prolongation through the boiler.

4. The combination, with a salt-boiler, of the circulator and salt-pockets, fig. 13, being the series of inclined planes *i p i p* and *i p*, to establish currents between the pockets *po po*.

5. The combination, with a close salt-boiler, of the revolving spiral scraper, fig. 3ª, to effect the removal of salt while under pressure.

6. The combination, with a revolving scraper for a close salt-boiler, of the propelling floats *p p p* and the steam-caps *c c c c*, substantially as described, for the purposes mentioned.

7. The combination, with a vertical salt-boiler, of the vertical rotary scraper, fig. 4, and the propelling-paddles *p p p p*, substantially as and for the purposes described.

8. The combination, with a monothermal series of boilers, of double steam-pipe connections, in such a manner as to make their serial action reversible, substantially as described.

9. The combination of two or more monothermal series of boilers into combined parallel series, substantially as described.

10. The combination, with a brine-boiler, of the compound tubular steam-heating and condensing structure, shown in figs. 10, 11, substantially as described.

11. The combination, with a brine-boiler, of the feed-heater or condensing-vessel, as shown in fig. 12, substantially as described.

12. The combination, with a monothermal series of brine-boilers, of the compound vacuum evaporator, fig. 16, or equivalent structures, for vacuum evaporation by the heat of vapor.

13. The tilting boiler, fig. 15, substantially as described, for serial or detached use.

14. The brine-boiler, fig. 14, with the mushroom heater and serial connections, substantially as described.

15. The combination, with a brine-boiler, of a series of concentric cylinders, forming condensing steam-heaters, figs 5 and 5ª, substantially as described.

16. The combination of narrow descending smoke-channels and ascending cold-air channels to effect the condensation of the vapor and recovery of the latent and sensible heat in the products of combustion.

17. The combination of the parallel flattened air-channels *a c*, sliding upon a rack in a smoke-chamber, to extract the caloric of the smoke, substantially as described.

18. The combination, with the flue which conveys the products of combustion, of the two inverting-cylinders *o o*, fig. 4, sheet 1, and their appendages, the channels *h a* 1 2 3, for the recovery of heat and condensation of vapor by an upward current of cold air.

19. The method of transferring heat from a furnace by a concentrated solution of caustic soda or potassa circulated in tubes or equivalent arrangements.

113,251. — CHURN. — William E. Budd, Chatham, N. J.

Claim.—The combination of a rotary dasher, having perforated blades, with a series of spirally-arranged fixed blades in the barrel of the churn, substantially as and for the purpose herein set forth.

113,252.—STEAM AND HYDRAULIC PACKING. William M. Canfield, Philadelphia, Pa.

Claim.—The arrangement of the central cords C or C', braids *b*, b^1, and b^2, in combination with the compound P, composed of the ingredients set forth in my patent of December 27, 1870.

113,253. — HORSE-COLLAR AND HAME.—Otho Cann, Coldwater, Mich.

Claim.—The elastic metallic plate *a*, forming the foundation of a horse-collar, and provided with the projecting lugs *s*, each formed in one piece with the plate, for the attachment of the tugs, and constructed as specified.

113,254.—WASHING-MACHINE.—Cyrus E. Carter, Martinsville, Ohio.

Claim.—The box A, divided by partition B, the vertical revolving fingers E, rigidly attached to heads F F, and thereby connected to shafts G G, the crank-mechanism J K L M N O, and the hinged cover H, all combined and arranged as and for the purpose specified.

113,255.—ROLL FOR ROLLING HORSESHOE-BARS. — Ebenezer Cate, East Woburn, Mass.

Claim.—The roller, consisting of the parts D E F F, each constructed in the form and arranged in the manner herein set forth, when combined with the roller A C C', constructed as described, for the purposes herein specified.

113,256.—PAPER-CUTTING AND FOLDING-MACHINE.—Cyrus Chambers, Jr., Philadelphia, Pa.

Claim.—1. The folding-rollers F F' having cutters *a b* attached, when made to slide endwise by means of screw X, yoke R, and spring *g*, for the purpose of adjusting the position of the cutters relatively to the sheet to be severed, as specified.

2. The folding-blade N, having two strokes imparted to it by the double cam at one revolution of the main shaft, and to a single stroke of the other folding-blades, as and for the purpose specified.

3. The reciprocating plunger, in combination with two sliding plungers, C D, working in the double packing-box B, as described, for the purpose of packing different signatures folded by the same mechanism, either separately or together, as preferred.

113,257.—PAPER-CUTTING AND FOLDING-MACHINE.—Cyrus Chambers, Jr., and William Mendham, Philadelphia, Pa., assignors to Edward Chambers and Cyrus Chambers, Jr., same place.

Claim.—1. The described combination and ar-

rangement of the drop-roller M with the folding-blade J, for carrying positively the once-folded sheet to the folding-rollers G G', as and for the purpose shown and set forth.

2. A drop-roller, whose journal-boxes slide up and down in the knife-arms carrying them, as described, so as to allow an independent movement to the blade when said drop-roller rests upon the folding-roller, as specified.

3. The trough B, provided with plungers E and E', operated by the segment-levers X X' in the manner and for the purpose specified.

113,258.—RUBBER AND BRUSH.—Augustus Charles, Pittsburg, Pa.

Claim.—In combination, the grooved handle A and adjustable rubber or brush C, the elastic strap D', substantially as and for the purpose described.

113,259.—GAITER.—Peter E. Clark, Hartford, Conn.

Claim.—1. A new improved manufacture of boots, shoes, or gaiters, having a strengthening-cord or support, d, stitched to the same around the button-holes, substantially as and for the purpose described.

2. The back or front seam *f*, supported by one or more cords or bands *g*, substantially as and for the purpose described.

113,260.—DEVICE FOR PREPARING BEEF-STEAK FOR BROILING.—William A. Clark, Woodbridge, Conn.

Claim.—In a machine for treating or preparing beef-steaks or other meats for broiling or cooking, the combined use of, or combination of, the series of puncturing or abrading-teeth *b*, the spring-clearer *c*, for preventing the meat from adhering to or following said teeth, and whether arranged to reciprocate or rotate, substantially as herein described and represented.

113,261.—SHOEMAKER'S PINCERS.—Alfred Clarke, Philadelphia, Pa.

Claim.—The combination and arrangement of the circular head C, having a swelled and roughened face, with the jaw B' of the pincers, substantially in the manner and for the purpose above set forth.

113,262.—CUTTER-HEAD FOR PLANING-MACHINES.—Henry Climer and Charles E. McBeth, Hamilton, Ohio.

Claim.—The cutter-head provided with arms *b b'* and bits *c c'*, constructed and arranged in relation to each other in the manner substantially as and for the purpose described.

113,263.—WAREHOUSE-TRUCK.—John S. Cochran, New York, N. Y.

Claim.—In the warehouse four-wheeled truck, the wheels O, arranged to operate substantially as and for the purposes described.

113,264.—BOLT.—William C. Coles, Williamsburg, N. Y.

Claim.—An improved bolt, consisting of the circular slotted cap or case A made with teeth upon its edge, screw B, slotted bolt D, eccentric disk E, knob F, and guard-plate G, said parts being constructed and operating in connection with each other, substantially as herein shown and described, and for the purpose set forth.

113,265.—COTTON-PRESS.—Champ C. Conner, Ripley, Tenn.

Claim.—The arrangement of the shafts *n*, platen *e*, platen-bar *f*, cables *k*, cords *o*, stirrups *s*, and sheaves *g i m q s*, as set forth.

113,266, antedated March 24, 1871.—STOOL OR TABLE.—Albert O. Crane, Boston, Mass.

Claim.—A platform, A, resting upon hinged supports B and C, operating and locking together by means of the bar *h*, slot *d*, the shoulders *g g*, lock-bar *j*, cleats *e* and *i*, and the button *k*, constructed and operating substantially as and for the purposes hereinbefore set forth.

113,267.—CAMERA-STAND.—Aylett R. Crihfield, Lincoln, Ill.

Claim.—The arrangement of the notched uprights C C, fig. 2, and the hinged piece I, fig. 3, and the notched piece E, fig. 2, arranged and operated together for the uses and purposes substantially as described.

113,268.—STAVE-JOINTER.—Harry A. Crossley, Cleveland, Ohio.

Claim.—The wheel A, constructed as herein shown and described, the face being in a straight line from the periphery to a point three-fourths the distance therefrom of the width of the face, and then curved down to the inner circle, as at *x*, the cutters being ground in conformity with the said curve, for the purpose specified.

113,269.—CHEMICALLY-PREPARED LAMP-WICK.—Aaron M. Daniels, Hartford, Conn.

Claim.—1. A wick prepared with camphor, alum, and oil, substantially as herein described.

2. A wick prepared with camphor, alum, oil, and petroleum, substantially as herein described.

113,270, antedated March 21, 1871.—SPRING FOR VEHICLES.—John N. Decker, Covington, Ky., assignor to himself and Thomas J. Smith, same place.

Claim.—The hereinabove-described adjustable auxiliary spring, when the same is constructed substantially in the manner and for the purpose shown and described.

113,271.—FLUTING-MACHINE.—Edward Mortimer Deey, New York, N. Y.

Claim.—The arrangement of the frames E D, roller I', link X, lever W, springs *a a*, and bar Y, substantially as shown and described.

113,272, antedated March 22, 1871.—MANUFACTURE OF BILLIARD-BALLS AND OTHER COMPOSITION ARTICLES.—Lewis Deits, Benjamin P. Wayne, and Albern Stone, Albany, N. Y.

Claim.—The coating or lining B, of tin-foil or other similar substance, between the composition ball A and the collodion coating C of a billiard-ball, in the manner and for the purpose hereinbefore set forth.

113,273.—EXTENSION-LADDER.—Rensselaer F. Delmont, Flemington, Pa.

Claim.—1. The combination of two or more sections of a ladder, the yokes C D, the slotted angle-plates F, and stud-pins M, all substantially as specified.

2. The combination, with the rails A, of the wheels N and yokes O, substantially as specified.

3. The combination with the rails B and yokes D, of the tool-box P, when provided with the pieces Q, all substantially as specified.

113,274.—FELTED FABRIC.—Theodore Demuth, Danbury, Conn.

Claim.—An improvement in the process of manufacturing mixed felted fabrics, by applying an adhesive liquid to each different-colored yarn, and drying the same thereon before the intermixture of wool therewith, for the purpose of preventing the colored fibers from becoming entangled with the wool, and to preserve the individuality of the several colors.

113,275.—SASH-HOLDER.—John F. Dingee, Bedford Station, N. Y.

Claim.—The pivoted roller C, ratchet F, and spring-hook pawl G *n*, combined as described with pivoted plates D, movable plate *i*, and swiveled screw J, for the purpose specified.

113,276.—LITHOGRAPHIC-PRINTING.—Otto Dubois, Fall River, Mass.

Claim.—The improvement in the art or process of printing pictures from the lithographic-stones, substantially as hereinbefore described, for the purposes set forth.

113,277.—CEILING FOR STAGES.—John W. Dunne, New York, N. Y.

Claim.—1. The jointed ceiling for stages, suspended from lines *d d*, of varying lengths, to thereby receive the desired shape, as set forth.

2. The bar E, combined with the jointed ceiling, and with the battens C, for the purpose of suspending the ceiling flat between the other scenery, as specified.

3. The frame B, composed of the flexible profile strips *a* and jointed stretchers *b*, substantially as and for the purpose herein shown and described.

113,278.—EEL-TRAP FOR WATER-PIPES.—Josiah J. Dutcher, New Haven, Conn., assignor to Godfrey W. Dutcher, same place.

Claim.—An eel-trap, applied to the water-pipe so as to project beyond the inner end of the same into the main or reservoir.

113,279.—PURIFYING ANIMAL CHARCOAL.—Hermann Eissfeldt, Sollingen, Duchy of Brunswick, and Camillo Thumb, Magdeburg, Prussia.

Claim.—1. The treatment of animal charcoal in the process of revivification with concentrated ammonia, at the time and in the manner substantially as and for the purpose herein described.

2. The combination and arrangement of the cooking vessels A A', condensing vessels D E, and receiving vessel I, and their several contained worms and connections, the whole operating substantially as and for the purpose herein specified.

113,280.—BOLT-HEADING DIE.—Philip Eley, New York, N. Y., assignor, by mesne assignments, to Charles Wallich, George Hicock, and Alexander Young.

Claim.—The combination of the stationary heading-anvil B, stationary guide C, movable heading-plunger P, and heading-hammer H, with the gripping-dies A, all arranged as and operating substantially in the manner specified, and for the purpose set forth.

113,281.—WATCH-REGULATOR.—Julius Elson, Boston, Mass.

Claim.—The regulator A, provided with the curved lever D, having bent end and screw E, arranged and operating over segmental edge C, substantially as described.

113,282.—GATE.—James B. Erwin, Pittsburg, Pa.

Claim.—A pair of inclines, *e e*, pivoted at or near their respective centers, tilting simultaneously in the same direction, each carrying, by an interposed roller, one of the posts *a* of the gate, in combination with the bar *i*, arranged between and connecting such tilting-levers, and, by means of slots and wrists, operating the same, substantially as described.

113,283.—CIDER AND WINE-MILL.—William B. Farrar, Greensborough, N. C.

Claim.—1. The combination and arrangement of platen *h*, crushing-cylinder *a*, and press-box *b*, in such manner that the latter serves to hold the unbroken fruit during the process of grinding, and also to hold the pomace during the process of compressing, as specified.

2. The combination of the crushing-cylinder *a*, cam *l*, and combs *m* and *n*, as described.

3. The lever *s*, provided with the prongs *t t* and lip *t'*, in combination with disk *r*, as set forth.

113,284.—WATER AND WIND-WHEEL.—Andrew Folsom, Eastport, Me.

Claim.—The buckets B separately pivoted to the drum C, opened against the stops *b*, and arranged in two or more tiers, as and for the purpose specified.

113,285.—WAGON-JACK.—George Benedict Fowler, Brooklyn, N. Y.

Claim.—1. The arrangement in the lifting-jack herein shown and described, of the lever E, swinging-pawl F, rack G, T-shaped bearings *b*, the whole constructed and arranged to operate substantially as set forth.

2. The rod *c'*, lever E, swinging-pawl F, rack G, and the T-shaped bearings *b b*, constructed, arranged, and operating substantially in the manner as herein shown and described.

113,286, antedated March 18, 1871.—HARROW.—William Fox, Beaver Dam, Wis.

Claim.—A harrow made in pairs, with joints C to hold the pairs together, the chains D to hold the hind ends together, with draft-irons F at either end, so as to haul it in either direction.

113,287.—CHAIR.—George Gardner, Glen Gardner, N. J.

Claim.—A chair constructed with braces F F, the front ends thereof being secured to the front legs E E and to the side rails A A, as shown, and their rear ends being secured to the hind legs D D at a point below the side rails, as shown and described.

113,288.—LOOM.—William R. Giffard, William R. Giffard, Jr., and James A. Giffard, Milo, Me.

Claim.—1. The combination, with the spring *b* and the lathe, of the bell-cranks and drop-pawls *l l*, when arranged for setting the spring while the lathe is moving backward, substantially as specified.

2. The combination, with the drop-pawls and the bell-cranks, of the levers *p* and tappets *r*, the latter being on the cam-shaft, and arranged for operating the said levers alternately, substantially as specified.

113,289.—CLOTHES-PIN.—Keyes H. Goss, Cedar Springs, Mich.

Claim.—As an article of manufacture, the clothes-pin herein described, formed of a single wire, having the spring-coil or coils A and the bends D D and C C arranged to operate as specified.

113,290.—RAILROAD-CAR BRAKE.—John C. Gove, Cleveland, Ohio.

Claim.—1. The clamps E E', pivoted below the axle, in combination with the drum D, levers J, and axle, substantially as and for the purpose set forth.

2. The brake, consisting of the drum D, clamps

E E', and levers J, suspended upon the axles by means of boxes G, substantially as and for the purpose set forth.

113,291, antedated April 1, 1871.—PAPER-FEEDER.—John A. Graves, Washington, D. C.

Claim.—1. The feeding-roller B, provided with elastic rubber coverings *b b*, in combination with the balance-board C and feed-board D, arranged substantially in the manner and for the purpose set forth in the preceding description.

2. The shaft E and eccentric G attached thereto, in combination with the lever H and balance-board C, provided with a crank-axis, all arranged in relation to each other in the manner described, and for the purpose specified.

113,292, antedated March 24, 1871.—FISH-TRAP.—Job E. Hammond, New Bedford, Mass.

Claim.—The fish-trap A^2, with springs a^2 a^2 a^2 a^2, snoods b^2 b^2 b^2 b^2, hooks a^3 a^3 a^3 a^3, and bait-basket D^2, all constructed, combined, and operating substantially as and for the purpose set forth and described.

113,293.—DUMPING-CART.—William Hand, Plainfield, N. J.

Claim.—1. Attaching the body of a dumping-cart to the axle, and the shafts or thills to the body of the cart, substantially as shown and described, and for the purposes set forth.

2. The shafts D and body B of the cart pivoted together in advance of the axle at E E, as and for the purpose specified.

3. Drawing upon the body of the cart to bring the body into position, substantially as described.

4. The right-angled hook G, having the projecting portion H, when applied to a dumping-cart, for the purpose specified.

5. The body and shafts pivoted together in front of the axle, the inwardly-inclined stationary tail-board on the body, the axle turning in the wheels, the connecting and supporting-bar, and the catch-lever, all combined for the purpose of forming an improved dumping-cart.

113,294.—GATE.—Uriah W. Hardy, Abingdon, Ill.

Claim.—The stay G, when constructed as described, with an inclined top, and combined with the posts D, levers E E, and bar A, substantially as described, and for the purpose specified.

113,295.—PIN-LOCK.—August Hermann and Warren H. Taylor, Stamford, Conn., assignors to The Yale Lock-Manufacturing Company, same place.

Claim.—1. The combination, with a movable post or plug B, of one or more safety-rings, K K K.

2. The movable post or plug B, when constructed with one or more suitably-formed holes, apertures, projections, or notches J J, substantially in the manner as and for the purposes described.

3. The combination of a movable post or plug, B, having a key-hole formed therein, all the sides of which are entirely closed, save where the necessary apertures for the insertion of pins, sliders, or tumblers occur, and provided with one or more stop-notches, J J, with one or more safety-rings, K K K.

4. The combination of a movable post or plug, B, having thereon stop-notches J J, with tumblers, pins, or sliders E E, any of the dimensions of which are greater than the thickness of the key D.

5. A safety-ring K, one portion of the circumference of which is wholly or in part removed or cut open, or is raised, indented, or expanded, when constructed and used in the manner as and substantially for the purposes hereinbefore described.

113,296.—GRAIN-SCOURER AND SEPARATOR.—Samuel H. Hinsdell, Henry W. Drake, and Cornelius B. Way, Camillus, N. Y.

Claim.—1. The scourer (or scourers) D, composed essentially of the revolving disk *d*, with its plate-beaters *g g* beneath, and the stationary bed *a*, with its bed-plate or plates *p p p*, having oblong perforations oblique to the said beaters in position, constructed and operating substantially as and for the purpose herein specified.

2. The screening-chamber E, constructed with the draught-opening *e* beneath the grain-spout or hopper *b*, its vertical draught-space through which the grain falls from the spout, and its self-acting valves V V' below, all substantially as specified.

3. The separate successive screening-chambers F G, arranged in connection with the successive scourers D D', as set forth.

4. The grain-scourer and separator, composed of successive scourers D D', separate screening-chambers E F G, to receive the grain before and after passing through the several scourers, and a suction-fan or blower, C, which produces the several draughts for the screening-chambers, all arranged, connected, and operating substantially as and for the purposes herein specified.

113,297.—WOOD-PULP-MACHINE.—William M. Howland, Topsham, Me.

Claim.—1. The bevel-wheels arranged on the sleeve and shaft, in combination with the pinions and suitable intermediate devices for raising the weights, as set forth.

2. In combination with the pinion and bevel-wheels, the shaft, with its worm-screw, cog-wheel, and drum *o*, pulley and chain, all as described.

3. The tipping-carriage, carrying the shaft of the pinion and worm, and operating in connection with the other parts, as set forth.

4. The downward-projecting arm of the carriage, in combination with the pin *f*, as shown and described.

5. In combination with the arm of the carriage and the pin *f*, the latch.

6. The spring combined with the carriage, and operating in connection with other parts, as set forth.

113,298.—TUBULAR STEAM-BOILER.—James Howard and Edward Tenney Bousfield, Bedford, England.

Claim.—1. The vertical tube *a*, combined with the series of horizontal tubes *b* and their centrally-arranged circulating tubes *f*, as and for the purpose described.

2. The arrangement of the circulating tubes *f* upon spurs axially within the horizontal tubes *b*, and projecting therefrom at one end, as and for the purpose specified.

3. The construction of the circulating tubes *f* each with projecting end cut obliquely, as and for the purpose specified.

113,299.—AUTOMATIC APPARATUS FOR OPERATING THE VALVE OF THE EXHAUST-PIPE OF LOCOMOTIVES.—Ralph Cross Huse, Jr., Georgetown, Mass.

Claim.—1. The arrangement and combination of the auxiliary cylinder E and its piston F, the lever C' and weighted arm *b*, with the blast-pipe A and its valve B.

2. The combination of the auxiliary cylinder E and its piston F, the lever C', and weighted arm *b* with the blast-pipe A and its valve B, the conduit H and the main steam-supply pipe I of the steam-chest of the driving-cylinder of a locomotive-engine, all being substantially as specified.

3. The combination of the aperture *c* and smaller damper or valve *f* and the cock *h*, to be operated as described, with the valve B, the blast-pipe A, and the auxiliary cylinder E, piston F, weighted arm *b*, lever C', and conduit H connected with the supply-pipe I, all as set forth.

113,300.—BRICK AND TILE-MACHINE.—William Hutchinson, Salford, Great Britain.

Claim.—The loose top plate *g*, in combination with the mold A, top slide C, and follower B, as set forth.

113,301. — WINDOW-BLIND OPERATOR.—George Jennisen and Merrick F. Otis, Westborough, Mass.

Claim.—The combination, in a shutter-worker, of the operating-rod D, with a nut and screw-connection, and coil-spring E, all arranged as and for the purpose shown.

113,302, antedated March 21, 1871.—MILK-COOLER.—Nelson Johnson and Ransom E. Johnson, Jasper, N. Y.

Claim.—1. A milk-cooler, A B C, composed of a connected series of concentric ring-shaped milk-vessels, A A, alternating with water-spaces B C, opening from beneath, and provided with strainer-spout D, air-hole *a*, and tube *e*, all substantially as and for the purposes herein set forth.

2. In combination with the milk-cooler A B C, the shaft G, with crank I and shelf or arms *b b*, the spider or support H, and stepping *d*, all substantially as and for the purposes herein set forth.

113,303. — SASH-HOLDER. — William G. Jones and Samuel M. Rankin, Long Green, Md.

Claim.—The combination of the metallic friction-surface plate and elastic block with the catch D and pin *d*, when these latter are attached to the plate and block, for locking both the upper and lower sash, substantially in the manner shown and described, for the purpose set forth.

113,304. — COMBINED CHAIR AND STEP-LADDER.—Ib Jörgenson and Rasmus Olsen, Racine, Wis.

Claim.—1. The combination and arrangement of the parts A and A^1, connecting-bars B B, steps C^1, C^2, C^3, and C^4, the adjustable back of the chair and the hooks G.

2. The combination and arrangement of the additional step C^5, the bars D D provided with slots in which are inserted the belts E E' secured to the inner sides of the hind legs of a chair, substantially as and for the purpose set forth.

113,305.—FOUNTAIN PAINT-BRUSH.—Daniel J. Kellogg, Toledo, Ohio.

Claim.—The perforated tube D, for holding the brush C, in combination with the reservoir or fountain A B, substantially as herein shown and described, and for the purpose set forth.

113,306.—CULTIVATOR.—Albert H. Kennedy, Oberlin, Ohio.

Claim.—The combination of the rod F with the slides I I and the braces G G, substantially as and for the purpose hereinbefore set forth.

113,307. — ROLLING BED.—Julius Krisch and Charles Thoener, New York, N. Y.

Claim.—The bed A, provided with rollers B B or rigid stretchers at its ends, and straps C C and D D attached to said rollers or stretchers, substantially as and for the purpose herein set forth.

113,308. — POTATO-DIGGER.—Joseph Preston Lafetra, Shrewsbury, N. J.

Claim.—1. A shovel, D, combined with the shaker F, pivoted to an arm, H, and extending upwardly and rearwardly, as described.

2. The rakes T, having springs, S, constructed as described, in combination with a shaker, for the purpose specified.

113,309.—ROTARY STEAM-ENGINE.—Truckson S. La France, Elmira, N. Y.

Claim.—The rotary drums B C, made extensible on their shafts, their contiguous being on the contiguous faces, provided with [illegible] and grooves, as set forth.

113,310.—FEEDER FOR NAIL-MACHINES.—Henry B. Landers, Williamsburg, N. Y.

Claim.—1. The combination of the nipper-levers H and feed-case *c* with the hooks *f* and an eccentric disk, or its equivalent, for actuating the hooks to open and close the nippers, substantially as described.

2. The combination of the nipper-levers H and feed-case *c* with the hooks *e* and the eccentric and irregularly-grooved cam I, as and for the purpose set forth.

3. In combination with the subject-matter of the preceding claim, the eccentric sleeve *c* and support *d*.

4. In combination with the tube E and its toothed segment, the toothed wheel or segment F, the slotted plate and the pins K thereon, the pawl J and mechanism for actuating said pawl, substantially in the manner described.

5. In combination with the slotted plate and pins K, the pawl J, rod L, and mechanism to impart to said rod vertically-reciprocating movement, substantially as described.

113,311. — FIRE-ESCAPE.—George Laynor and Harry Helmling, Baltimore, Md.

Claim.—1. The device *h h'*, constructed and arranged in connection with the parts *d f g*, as herein shown and described, whereby it is adapted to fold with the ladder into the sill-box, as specified.

2. A fire-escape ladder, constructed in sections, the rounds and tie-pieces of which are of such comparative lengths as to fold one section within another, as set forth.

113,312.—COVERING FOR MELTING-POTS.—Albert C. Lewis, New York, N. Y., assignor to himself, H. A. Richardson, and N. A. Boynton, same place.

Claim.—An improved covering for melting-pots or crucibles, formed of abestus, twisted, wound, or braided around and upon said pot, so as to cover its entire outer surface, substantially as herein shown and described, and for the purpose set forth.

113,313.—CLOTHES-PIN.—Andrew B. Lipsey, West Hoboken, N. J.

Claim.—The combination, with body A and the fingers B B, provided with depressions *b b*, of the tongue C and ring E, substantially as shown, and for the purposes set forth.

113,314. — MACHINE FOR TAPPING GAS AND WATER-FITTINGS.—Charles B. Long, Worcester, Mass.

Claim.—1. The combination, with the tapping-spindle J and feed-screw L, of the screw-cap M, lock-nut J', and center-pin *m*, substantially as and for the purposes set forth.

2. The combination, with the tapping mechanism and locking-clutch, of the shipping devices, consisting of the worm T, segment T^1, arm T^2, link 4, slide 5, collars 1 and 2, spring 7, rod Y, levers W W^1 W^2, and spindle *t*, substantially as and for the purposes set forth.

3. The combination, with the arm T^2 and levers 8, 9, 10, of the latch 14, rod 15, lever 16, and adjustable collar 17, substantially as and for the purposes set forth.

4. The combination of the rotary spindle J, pivoted to feed-screw L, arm L', guides *n*, revolving nut N, gear-wheel N', sliding bearing O, and fork Q, constructed and arranged to operate as described.

5. The combination of the swiveled frame 27, slide-plate 21, swing-bar 25, levers 28, clamp-screws 29, and holding-boxes 33, substantially as described.

113,315.—COVER AND DESK FOR SEWING-MACHINES. — Benjamin T. Loomis and James A. Carey, New York, N. Y.

Claim.—The combination, with a sewing-ma-

E E', and levers J, suspended upon the axles by means of boxes G, substantially as and for the purpose set forth.

113,291, antedated April 1, 1871.—Paper-Feeder.—John A. Graves, Washington, D. C.

Claim.—1. The feeding-roller B, provided with elastic rubber coverings *b b*, in combination with the balance-board C and feed-board D, arranged substantially in the manner and for the purpose set forth in the preceding description.

2. The shaft E and eccentric G attached thereto, in combination with the lever H and balance-board C, provided with a crank-axis, all arranged in relation to each other in the manner described, and for the purpose specified.

113,292, antedated March 24, 1871.—Fish-Trap.—Job E. Hammond, New Bedford, Mass.

Claim.—The fish-trap A^1, with springs c^1 c^2 c^3 c^4, snoods b^1 b^2 b^3 b^4, hooks a^1 a^2 a^3 a^4, and bait-basket D^2, all constructed, combined, and operating substantially as and for the purpose set forth and described.

113,293.—Dumping-Cart.—William Hand, Plainfield, N. J.

Claim.—1. Attaching the body of a dumping-cart to the axle, and the shafts or thills to the body of the cart, substantially as shown and described, and for the purposes set forth.

2. The shafts D and body B of the cart pivoted together in advance of the axle at E E, as and for the purpose specified.

3. Drawing upon the body of the cart to bring the body into position, substantially as described.

4. The right-angled hook G, having the projecting portion H, when applied to a dumping-cart, for the purpose specified.

5. The body and shafts pivoted together in front of the axle, the inwardly-inclined stationary tail-board on the body, the axle turning in the wheels, the connecting and supporting-bar, and the catch-lever, all combined for the purpose of forming an improved dumping-cart.

113,294.—Gate.—Uriah W. Hardy, Abingdon, Ill.

Claim.—The stay G, when constructed as described, with an inclined top, and combined with the posts D, levers E E, and bar A, substantially as described, and for the purpose specified.

113,295.—Pin-Lock. — August Hermann and Warren H. Taylor, Stamford, Conn., assignors to The Yale Lock-Manufacturing Company, same place.

Claim.—1. The combination, with a movable post or plug B, of one or more safety-rings, K K K.

2. The movable post or plug B, when constructed with one or more suitably-formed holes, apertures, projections, or notches J J, substantially in the manner as and for the purposes described.

3. The combination of a movable post or plug, B, having a key-hole formed therein, all the sides of which are entirely closed, save where the necessary apertures for the insertion of pins, sliders, or tumblers occur, and provided with one or more stop-notches, J J, with one or more safety-rings, K K K.

4. The combination of a movable post or plug, B, having thereon stop-notches J J, with tumblers, pins, or sliders E E, any of the dimensions of which are greater than the thickness of the key D.

5. A safety-ring K, one portion of the circumference of which is wholly or in part removed or cut open, or is raised, indented, or expanded, when constructed and used in the manner as and substantially for the purposes hereinbefore described.

113,296.—Grain-Scourer and Separator.—Samuel H. Hinsdell, Henry W. Drake, and Cornelius B. Way, Camillus, N. Y.

Claim.—1. The scourer (or scourers) D, composed essentially of the revolving disk *d*, with its plate-beaters *g g* beneath, and the stationary bed *e*, with its bed-plate or plates *p p p*, having oblong perforations oblique to the said beaters in position, constructed and operating substantially as and for the purpose herein specified.

2. The screening-chamber E, constructed with the draught-opening *c* beneath the grain-spout or hopper *b*, its vertical draught-space through which the grain falls from the spout, and its self-acting valves V V' below, all substantially as specified.

3. The separate successive screening-chambers F G, arranged in connection with the successive scourers D D', as set forth.

4. The grain-scourer and separator, composed of successive scourers D D', separate screening-chambers E F G, to receive the grain before and after passing through the several scourers, and a suction-fan or blower, C, which produces the several draughts for the screening-chambers, all arranged, connected, and operating substantially as and for the purposes herein specified.

113,297.—Wood-Pulp-Machine.—William M. Howland, Topsham, Me.

Claim.—1. The bevel-wheels arranged on the sleeve and shaft, in combination with the pinions and suitable intermediate devices for raising the weights, as set forth.

2. In combination with the pinion and bevel-wheels, the shaft, with its worm-screw, cog-wheel, and drum *o*, pulley and chain, all as described.

3. The tipping-carriage, carrying the shaft of the pinion and worm, and operating in connection with the other parts, as set forth.

4. The downward-projecting arm of the carriage, in combination with the pin *f*, as shown and described.

5. In combination with the arm of the carriage and the pin *f*, the latch.

6. The spring combined with the carriage, and operating in connection with other parts, as set forth.

113,298.—Tubular Steam-Boiler.—James Howard and Edward Tenney Bousfield, Bedford, England.

Claim.—1. The vertical tube *a*, combined with the series of horizontal tubes *b* and their centrally-arranged circulating tubes *f*, as and for the purpose described.

2. The arrangement of the circulating tubes *f* upon spurs axially within the horizontal tubes *b*, and projecting therefrom at one end, as and for the purpose specified.

3. The construction of the circulating tubes *f* each with projecting end cut obliquely, as and for the purpose specified.

113,299.—Automatic Apparatus for Operating the Valve of the Exhaust-Pipe of Locomotives. — Ralph Cross Huse, Jr., Georgetown, Mass.

Claim.—1. The arrangement and combination of the auxiliary cylinder E and its piston F, the lever C' and weighted arm *b*, with the blast-pipe A and its valve B.

2. The combination of the auxiliary cylinder E and its piston F, the lever C', and weighted arm *b* with the blast-pipe A and its valve B, the conduit H and the main steam-supply pipe I of the steam-chest of the driving-cylinder of a locomotive-engine, all being substantially as specified.

3. The combination of the aperture *e* and smaller damper or valve *f* and the cock *h*, to be operated as described, with the valve B, the blast-pipe A, and the auxiliary cylinder E, piston F, weighted arm *b*, lever C', and conduit H connected with the supply-pipe I, all as set forth.

113,300.—Brick and Tile-Machine.—William Hutchinson, Salford, Great Britain.

Claim.—The loose top plate *g*, in combination with the mold A, top slide C, and follower B, as set forth.

113,301. — Window-Blind Operator.—George Jennisen and Merrick F. Otis, Westborough, Mass.

Claim.—The combination, in a shutter-worker, of the operating-rod D, with a nut and screw-connection, and coil-spring E, all arranged as and for the purpose shown.

113,302, antedated March 21, 1871.—Milk-Cooler.—Nelson Johnson and Ransom E. Johnson, Jasper, N. Y.

Claim.—1. A milk-cooler, A B C, composed of a connected series of concentric ring-shaped milk-vessels, A A, alternating with water-spaces B C, opening from beneath, and provided with strainer-spout D, air-hole *a*, and tube *e*, all substantially as and for the purposes herein set forth.

2. In combination with the milk-cooler A B C, the shaft G, with crank I and shelf or arms *b b*, the spider or support H, and stepping *d*, all substantially as and for the purposes herein set forth.

113,303. — Sash-Holder. — William G. Jones and Samuel M. Rankin, Long Green, Md.

Claim.—The combination of the metallic friction-surface plate and elastic block with the catch D and pin *d*, when these latter are attached to the plate and block, for locking both the upper and lower sash, substantially in the manner shown and described, for the purpose set forth.

113,304. — Combined Chair and Step-Ladder.—Ib Jörgenson and Rasmus Olson, Racine, Wis.

Claim.—1. The combination and arrangement of the parts A and A^1, connecting-bars B B, steps C^1, C^2, C^3, C^4, and C^5, the adjustable back of the chair and the hooks G.

2. The combination and arrangement of the additional step C^5, the bars D D provided with slots in which are inserted the bolts E E' secured to the inner sides of the hind legs of a chair, substantially as and for the purpose set forth.

113,305.—Fountain Paint-Brush.—Daniel J. Kellogg, Toledo, Ohio.

Claim.—The perforated tube D, for holding the brush C, in combination with the reservoir or fountain A B, substantially as herein shown and described, and for the purpose set forth.

113,306.—Cultivator.—Albert H. Kennedy, Oberlin, Ohio.

Claim.—The combination of the rod F with the slides I I and the braces G G, substantially as and for the purpose hereinbefore set forth.

113,307. — Rolling Bed.—Julius Krisch and Charles Thoener, New York, N. Y.

Claim.—The bed A, provided with rollers B B or rigid stretchers at its ends, and straps C C and D D attached to said rollers or stretchers, substantially as and for the purpose herein set forth.

113,308. — Potato-Digger.—Joseph Preston Lafetra, Shrewsbury, N. J.

Claim.—1. A shovel, D, combined with the shaker F, pivoted to an arm, H, and extending upwardly and rearwardly, as described.

2. The rakes T, having springs, S, constructed as described, in combination with a shaker, for the purpose specified.

113,309.—Rotary Steam-Engine.—Truckson S. La France, Elmira, N. Y.

Claim.—The rotary drums B C, made extensible on their shafts, their seat-line being on the contiguous faces, provided with ribs and grooves, as set forth.

113,310.—Feeder for Nail-Machines.—Henry B. Landers, Williamsburg, N. Y.

Claim.—1. The combination of the nipper-levers H and feed-case *c* with the hooks *f* and an eccentric disk, or its equivalent, for actuating the hooks to open and close the nippers, substantially as described.

2. The combination of the nipper-levers H and feed-case *c* with the hooks *e* and the eccentric and irregularly-grooved cam I, as and for the purpose set forth.

3. In combination with the subject-matter of the preceding claim, the eccentric sleeve *c* and support *d*.

4. In combination with the tube E and its toothed segment, the toothed wheel or segment F, the slotted plate and the pins K thereon, the pawl J and mechanism for actuating said pawl, substantially in the manner described.

5 In combination with the slotted plate and pins K, the pawl J, rod L, and mechanism to impart to said rod vertically-reciprocating movement, substantially as described.

113,311. — Fire-Escape.—George Laynor and Harry Helmling, Baltimore, Md.

Claim.—1. The device *h h'*, constructed and arranged in connection with the parts *d f g*, as herein shown and described, whereby it is adapted to fold with the ladder into the sill-box, as specified.

2. A fire-escape ladder, constructed in sections, the rounds and tie-pieces of which are of such comparative lengths as to fold one section within another, as set forth.

113,312.—Covering for Melting-Pots.—Albert C. Lewis, New York, N. Y., assignor to himself, H. A. Richardson, and N. A. Boynton, same place.

Claim.—An improved covering for melting-pots or crucibles, formed of abestus, twisted, wound, or braided around and upon said pot, so as to cover its entire outer surface, substantially as herein shown and described, and for the purpose set forth.

113,313.—Clothes-Pin.—Andrew B. Lipsey, West Hoboken, N. J.

Claim.—The combination, with body A and the fingers B B, provided with depressions *b b*, of the tongue C and ring E, substantially as shown, and for the purposes set forth.

113,314. — Machine for Tapping Gas and Water-Fittings.—Charles B. Long, Worcester, Mass.

Claim.—1. The combination, with the tapping-spindle J and feed-screw L, of the screw-cap M, lock-nut J', and center-pin *m*, substantially as and for the purposes set forth.

2. The combination, with the tapping mechanism and locking-clutch, of the shipping devices, consisting of the worm T, segment T^1, arm T^2, link 4, slide 5, collars 1 and 2, spring 7, rod Y, levers W W^1 W^2, and spindle *t*, substantially as and for the purposes set forth.

3. The combination, with the arm T^2 and levers 8, 9, 10, of the latch 14, rod 15, lever 16, and adjustable collar 17, substantially as and for the purposes set forth.

4. The combination of the rotary spindle J, pivoted to feed-screw L, arm L', guides *n*, revolving nut N, gear-wheel N', sliding bearing O, and fork Q, constructed and arranged to operate as described.

5. The combination of the swiveled frame 27, slide-plate 21, swing-bar 25, levers 28, clamp-screws 29, and holding-boxes 33, substantially as described.

113,315.—Cover and Desk for Sewing-Machines. — Benjamin T. Loomis and James A. Carey, New York, N. Y.

Claim. — The combination, with a sewing-ma-

chine table or cabinet, of a cover and writing-desk, substantially as described.

113,316.—Combination Lock.—Samuel Loyd, New York, N. Y.

Claim.—1. Slotted movable guards, rollers, or segments thereof, which are connected to the shaft of the handle of locks by friction springs, and by the strength of which springs they are guided to their proper positions by turning the axle upon which they revolve, as described, by E F J, substantially as and for the purpose hereinbefore set forth.

2. A wheel or other segment thereof revolving upon the same axis with the other rollers by means of a friction-spring, furnished with a small slot for receiving the dog, and also provided with projections which limit its movements by coming in contact with the dog, substantially as and for the purpose hereinbefore set forth.

3. The combination of the bent tooth of the roller F with the stationary pin I, and the series of holes in the back plate, as in fig. 4, for making changes without taking the lock apart, as and for the purposes hereinbefore set forth.

112,317.—Apparatus for Carbureting Air and Gas.—Francis H. Lutkewitte, St. Louis, Mo.

Claim.—The sectional carburetor herein described, consisting essentially of the horizontal sections A B C, placed one above another, and subdivided into a series of sub-sections, which are subdivided into small apartments D, by vertical partitions, every alternate one of which is open at both top and bottom, and the others at bottom only, the said horizontal sections being connected at one end by the inlet-pipes *a b c*, and at the other end by the outlet-pipes *a' b' a'*, and each provided with a gauge, E, all constructed as and for the purpose specified.

113,318.—Swivel-Pin for Tethering Animals.—William Lyon, Camp Halleck, Nev.

Claim.—The improved tethering-pin herein described, consisting of the body A provided with the neck A', the yoke C', the swivel-clevis D, and swivel-loop E, all constructed and arranged as shown and described.

113,319.—Paper Box.—Bernard J. Magee and James F. Wall, Watertown, Mass.

Claim.—The cover B, provided with a catch, *a*, at each corner, in combination with the body A, having a notch or projection, *d*, at each corner, constructed to operate substantially as and for the purpose set forth.

113,320.—Cotton-Scraper, Hiller, and Cultivator.—Cyrus Marsh, 2nd, Natchez, Miss.

Claim.—The beam A, with its wheels H G, adjustable arms C C', scrapers E E' and O, the latter acted upon by the wheel L, which receives its motion from the pinion K gearing with the cogs on H, and all combined, constructed, and arranged for joint operation as and for the purpose shown and specified.

113,321.—Harvester-Rake.—Alexander McArthur, Booneville, Mo.

Claim.—1. The rake-head F, compresser G, and lever H, in combination with the groove K, these parts being arranged for joint operation, substantially as described.

2. In combination with the rake-head F and compresser G, the lever H and spring pin *i*, or its equivalent, and groove K, provided with inclines *k k'*, substantially as set forth.

113,322.—Padlock.—George Merkel and Charles H. Meyer, New York, N. Y.

Claim.—The combination, within one lock, of the swinging bolt B, tumbler C, and sliding plate E, the bolt and tumbler having projecting pins that pass through slots in the plate E, as set forth.

113,323.—Awning for Animals.—Simon Moffitt, Minneapolis, Minn.

Claim.—The awning herein described, composed of the standard A, vertically-adjustable block I, and two sets of sectional bows *c c* secured together by bands and screws, all arranged to operate as herein shown and described.

113,324.—Furnace-Grate.—George R. Moore, Philadelphia, Pa.

Claim.—1. A series of grate-bars, *b*, constructed and arranged in relation to each other and their pivots, substantially as shown and described, whereby the said grate-bars can be turned or swung upon their pivots or hinges to admit air, and for the removal of ashes, without danger or liability of dumping the coal.

2. The combination, with the hinged grate-bars *b*, when constructed and arranged as set forth, of the connecting-rods *g* and operating-lever, substantially as shown and described.

113,325.—Machine for Winding Bobbins.—Franklin H. Morrill, Philadelphia, Pa.

Claim.—1. The compound gear-wheels G, G^1, G^2, and G^3, and pulley N, arranged as described, on the shaft E, in combination with the heart-shaped gear H, pinions P P', pulley N^1, and belt J, in the manner and for the purpose herein specified.

2. The combination, with the cams C C' and traversing guide-bars F F', of the fixed studs V V', sliding bolts W W', and casings Y and Y', as and for the purpose herein described.

113,326.—Machine for Corking Bottles.—David Mueller, New York, N. Y., assignor to himself and Franz Wagner, same place.

Claim.—1. The combination of the plunger G, the hand-wheel T, the crank S, pitman U, gears T' and R', and balance X, when operating as and for the purpose substantially as set forth.

2. The construction of the table A, the rods D D, the support C, the platform O, the bars H H, the couplings J, and treadle M, arranged substantially as and for the purpose described.

3. The needle Q, with the guide F, when pivoted and attached substantially as and for the purpose herein shown.

113,327.—Mode of Preparing Paper for Photographic Purposes.—Peter H. Murray, Portsmouth, Ohio.

Claim.—1. The application of chlorine gas for the purpose of rendering photographic paper more stable after it has been sensitized by nitrate of silver preparatory to its being converted into a photograph by the solar rays.

2. The application of hydrogen gas for the purpose of re-rendering the paper, afore-rendered insensitive by the action of chlorine, sensitive to the action of the solar rays.

113,328.—Water-Proof Cellar.—Tobias New, Brooklyn, N. Y.

Claim.—A solid foundation, formed of concrete or wood, a layer of asphaltic cement, several layers of roofing-felt, a layer of concrete or stone of sufficient weight to counterbalance the upward pressure of water, and a layer of brick to form the floor, all arranged successively from the bottom upward, as and for the purpose specified.

113,329.—Fire-Escape.—George H. Nichols, Richmond, Virginia.

Claim.—The bent tube, suitably strengthened, as shown, and provided at its lower end with the hinged handles, the whole being adapted to the rope, and operating as set forth.

113,330.—Comb.—Charles Horace Noyes, Brooklyn, N. Y.

Claim.—1. The combination, in a head-band, comb, or similar article to be worn upon the head, of the piece A, and the auxiliary perforated or notched piece B, adapted to retain and expose an ornamental fabric, substantially as hereinbefore set forth.

2. The combination, in a head-band, comb, or similar article adapted to be worn upon the head, of the parts A and B, and the ornamental fabric C, substantially as hereinbefore set forth.

113,331.—Ornamenting the Surface of Metals by Electro-depositions from Solutions.—Richard O'Neil, New York, N. Y.

Claim.—The within-described process of producing a deposit or plating of metal upon the surface of another metal by painting the latter with a salt or solution of a salt of the metal to be deposited, by means of a pencil which is in metallic connection with a galvanic battery, the other pole of which is in galvanic connection with the metal to be operated upon.

113,332.—Machine for Rolling Hollow Bars for Nuts.—Jonathan Ostrander, Manchester, Va.

Claim.—The combination, with the rolls B, of the correspondingly-grooved table L and the rest-bar M, arranged to be adjusted substantially as herein shown and described.

113,333.—Extension Lounge.—John Shearer Paine, Cambridge, Mass

Claim.—The improved extension lounge, as composed of the frame A with its arm-rest and back, and the seat-frame B, and the auxiliary frame C, all constructed, arranged, and applied together, substantially in manner to operate as described.

113,334.—Gate.—Benoni F. Palmer, Baraboo, Wis.

Claim.—The pivot-bars H H J J, placed at both sides of a gate, and operated by means of the levers E E, or their equivalents, so as to serve the double function of hinges and latches, substantially in the manner specified.

113,335.—Platform-Spring Coupling.—Benjamin T. Parsels and John L. Hedges, Hanover, N. J.

Claim.—The cross-block C, combined with yokes F H and bolts D E I, as and for the purpose specified.

113,336.—Lawn-Mower.—Everett G. Passmore, Philadelphia, Pa.

Claim.—1. The flanged frame-piece A constructed as described, with a shoe, a^1, flanges a^2 a^3 to protect the driving-belt, a guide, *e*, through which the belt runs, bearings for the cutters, rollers, and driving-drums, and a stop, a^5, for the guiding-rail.

2. The combination of the grooved driving-drum, the flanged frame-piece, the pulley fixed therein, the driving-belt, the endwise-moving rotary cutter, and the clutch-connection between the fixed pulley and the cutter, these parts being constructed and operating in combination, as herein set forth.

3. The combination of the frame, the driving-drum, the balancing guiding-rail pivoted behind and below the axis of the driving-drum, the shoes, the roller, and the horizontally-swinging draft-pole, to the front of which the horse is attached, these parts being constructed and operating as described.

113,337.—Stop-Valve.—John L. Peake, New York, N. Y.

Claim.—1. The two wedges A^1 A^1, arranged to serve, as represented, relatively to the two gates D^1 D^1, formed in distinct pieces loosely locked or connected to the operating stem C, and caused to operate relatively to the water-passages and to the surfaces *a*, as herein set forth.

2. The gates D^1 D^1, made with the lower edges thin and sharp, so as to cut into and dislodge any accumulation of solid matter in the cavity at the base and allow it to be retained in the space provided below the connection to the stem C, and be carried away by the current on opening the valve, as set forth.

113,338.—Portable Apparatus for Preserving Wood.—William Tilden Pelton, New York, N. Y.

Claim.—1. The whole combination of machinery and parts constituting the apparatus, as herein substantially described, and for the purposes set forth.

2. The combination of a treating apparatus for seasoning or preserving wood with a truck or trucks or other running-gear so as to be capable of being propelled or drawn on a railroad or other track or roadway.

3. The combination, with a treating apparatus, of an engine, E, placed upon a truck or running-gear, substantially as described, and for the purposes set forth.

4. The combination of receiving and discharge-tanks R^1 R^2 with a treating-chamber T, connected and used as a wood-treating apparatus, and, at the same time, constructed with running-gear and as a separate and complete vehicle, substantially as described, and for the purposes set forth.

5. The combination of the pieces of machinery included in the last two claims.

6. The combination of two or more treating-cars, substantially as described, and for the purposes set forth.

7. The construction of a treating apparatus for seasoning or preserving wood in such a way that it shall be divisible into several complete vehicles adapted to an ordinary railroad-track, so as to be conveyed separately as a train or part of a train of cars, drawn by a locomotive, either together or separately from the wood treated, or to be treated.

8. The combination of a wood-preserving apparatus with wheels, that shall be adapted to, be movable upon, and used in connection therewith and with the ordinary railroad-track, and be transportable at will from point to point upon said track or branches, to reach and treat ties, posts, and other timber, without the difficulty or expense of removing it from distances to a fixed and immovable apparatus, and its employment for such purposes, substantially as described.

113,339.—Apparatus for Stripping the Top Flats of Carding-Machines.—Ernest Constantin Pfaff, Chemnitz, Saxony, assignor to Dobson & Barlow.

Claim.—1. The combination, with the cam-wheels and the radial arms of top-flat stripping apparatus, of the disk *g* with notches and projections in the periphery, and the slides *i i'*, and weighted catch-lever *j*, the same being arranged for varying the order of succession of the rising of the top-flats, substantially as specified.

2. The combination, with the cam and disk *e* and notched disk *g*, of the toothed wheel or rim *g'*, pinions *h* h^1, and curved-edged plate h^2, substantially as specified.

113,340.—Comb.—Leonce Picot, Hudson City, N. J.

Claim.—A comb, having a metallic back, A, non-corrosive teeth, and body C, and the central, lateral, and non-corrosive ribs B B, combined as described, and for the purpose specified.

113,341.—Shovel-Plow.—Samuel W. Pope, Louisville, Ky.

Claim.—The metal plate attached to the end of the standard, and provided with a recess for the reception of the shovel, and with the projection *x'*, as described.

113,342.—ADJUSTABLE SEAT.—Louis Postawka, East Cambridge, Mass.

Claim.—The hinged legs C C, bars B B, screw F, and guide-rods I I, constructed and arranged to operate substantially as and for the purposes described.

113,343.—PRINTING SILKS AND OTHER TEXTILE FABRICS.—Louis Prang, Boston, Mass.

Claim.—The process of imprinting colors upon textile fabrics by applying thereto a paper back coated with dried paste dampened just before the fabric is attached, then imprinting it, and again dampening and detaching the fabric from the paper, all as described.

113,344.—DRILL-STOCK.—William H. Rand, Brooklyn, N. Y.

Claim.—The spring-barrel *d* upon the gudgeon *c*, that projects from the stock *a*, and yoke *h* and socket *i*, connected to such spring-barrel, in combination with the volute spring *e* and the cord or strap *f*, as and for the purposes set forth.

113,345. — FIELD THRASHING-MACHINE.—George Rieke, Kairo township, Minn.

Claim.—1. In combination with the frame D, adjusting devices $d\ d^1\ d^2\ d^3$, and inclined gathering-apron D′, the adjustable roller G G′, arranged to operate in the manner and for the purpose substantially as described.

2. The field thrashing-machine herein described, consisting of the frames A D E, drum F, aprons D′ E′ H, rollers G G′, fan J, incline I, wheels B B *b c c′*, pawl and ratchet *a a*^{1}, eccentric-lever a^2, and adjusting devices $d\ d^1\ d^2\ d^3$, said parts being constructed and arranged for operation, substantially as described and set forth.

113,346.—PRINTING-PRESS.—Judah Touro Robertson, New York, N. Y.

Claim.—1. A table, carrying a series of plates, and traversing between the rollers with an alternate rectilinear motion and a compound motion, for the purpose of presenting the plates in succession to the rollers, substantially as described.

2. The pawl *i*, mounted on a vibrating lever, sliding over an adjustable stationary point, substantially as described.

113,347. — CLOTHES-WRINGING PRESS.—Charles Robinson, Boston, Mass.

Claim.—1. The combination and arrangement of the hinged or tilting pressing-box A, cross-bar or support *b*, and pressing-screw *c*, substantially as and for the purpose herein specified.

2. A clothes-wringing press, having the following elements in one combination, namely: a pressing-box or receptacle, A, having a perforated or open false bottom, *f*, and a close drip-chamber, *h*, below, a removable follower, B, a pressing-screw, C, and a frame, D, in which the other parts are mounted so as to operate together substantially as herein specified.

113,348.—RAILROAD-CAR HEATER.—Augusta M. Rodgers, Brooklyn, N. Y.

Claim.—1. The mode of heating cars by means of a heating medium, consisting of metallic balls or bars heated prior to application to the car, substantially as described.

2. The boxes C, receiving the heated objects D, substantially as and for the purpose described.

3. The combination, with the heating apparatus of a car, of the receiving-boxes C, made non-conductible, for the purpose described.

113,349.—ASH-SIFTER.—George W. Rogers, New York, N. Y.

Claim.—The box A, having springs *g g* on its inner sides, the rock-shaft B, composed of parts *a a b b c c*, and the sieve C, grooved in the middle thereof at *f f*, all combined as described, to form an improved ash-sifter.

113,350.—MACHINE FOR CHANNELING AND BEVELING SOLES FOR BOOTS AND SHOES.—John G. Ross, Philadelphia, Pa.

Claim.—1. The adjustable channeling-knife *e*, cap *v*, screw *w*, feeding-disk *k*, shaft *c*, frame *a*, bearings *b b*, spring-support *l*, and wheel *j*, edge-guide *b*″, when constructed, arranged, and operating together, as described.

2. The adjustable beveling-knife *x*, spring-support *l*, feed-wheels *j* and *k*, cap *p*, screw *v*, bar *q*, pin *u*, spring *t*, screw *y*, when constructed, arranged, and operating together as described.

3. The spring-support *l*, bearings *b b*′, wheels *j* and *k*, shaft *m*, nut *n*, and spring *l*, when constructed and arranged as described.

113,351.—FOOT-SCRAPER.—August Sahlstrom, Chicago, Ill.

Claim.—1. The frame A A′, provided with scraper C, substantially as and for the purpose described.

2. In combination, the frame A A′ with brush B, substantially as and for the purpose described.

113,352.—WASHING AND WRINGING-MACHINE. — Jacob S. Sandt, St. Joseph, Mo.

Claim.—The combination of the frame A with slotted uprights *a a*′, rollers C C′, corrugated roller D, cross-bar H, springs *d d*′, blocks *e e*′, cleats S G with their hooks *s s*′, all arranged for joint operation, and constructed substantially as and for the purpose shown and specified.

113,353.—COAL-DELIVERING SACK.—William S. Shackleton, Cleveland, Ohio.

Claim.—1. The sack or bag A made, as described, with the lip or shield *a*″, substantially as and for the purpose set forth.

2. The bag A and handle B arranged in relation to each other substantially as and for the purpose described.

3. A new article of manufacture—the bag A, made of tarred canvas or sacking, the lip or shield *a*″, and handle B, constructed and arranged substantially as and for the purpose set forth.

113,354.—HOLDBACK FOR VEHICLES.—Norris W. Simons, Williamsfield, Ohio.

Claim.—A self-detachable holdback, consisting of the plate A, hollow post *a* supplied with the recesses or ears *a*′ *a*′, spring B, and ring or holder C constructed on its transverse portion with the shoulder or tenon *c*′, all constructed, arranged, and combined substantially as and for the purpose set forth.

113,355.—FEED-WATER HEATER.—Thomas D. Simpson, Mount Vernon, Ohio.

Claim.—The combination, in a water-heater, of a pipe, D, and cap C, when they are so arranged with reference to each other as to form between them a contracted or narrow passage for the purpose of causing an increased draught through the small tubes of the heater, substantially as set forth.

113,356.—CRACKER-MACHINE.—George R. Skillman, Baltimore, Md., assignor to himself and James Beatty, same place.

Claim.—1. The combination and arrangement of the cutting-frame E, the rock-shaft *i* with its connections, and the eccentrics *g*, on the rear driving-shaft *b* and at both or opposite sides of the machine, substantially as specified.

2. The combination of the sliding boxes F, the cutting-frames E, the guides G, and the eccentrics *g*, with their connections, essentially as shown and described.

3. The arrangement of the springs H and adjusting-clamps I with the cutting-frame E, the sliding boxes F, and guides G, substantially as specified.

4. The combination and arrangement, with the apron D, of the rock-shaft J and eccentric K, with its connections, the pawl-lever *w*, and the ratchet *v*, essentially as shown and described.

113,357.—FIRE-ESCAPE.—George C. Smith and Frank M. Burrows, Baltimore, Md.

Claim.—1. The sectional frame B, provided with a board N, so that when said frame is folded said board will form the top and cover for the inclosing sectional frame, as described.

2. The sectional frames C or D, one or both, provided with a platform, L, extending over and beyond the window-sill to form a safe communication with the escaping devices, and to fold with said sections, as described.

3. The flexible braces K of the hinged section D, in combination with the rigid braces F of the hinged section C, as and for the purpose described.

4. The traveling-bag G, in combination with the projecting frame D, braces F and K, the suspending swiveling-pulley, and the rope T, all arranged as and for the purpose described.

5. The supports E for the knuckles or hinges of the frames C and D, arranged as described.

6. In a fire-escape, the combination of the hinged sections A B C D, the wire-platform L, the supports E, the flexible and rigid braces K and F, and the traveling and fixed means of escape, the several parts being constructed, arranged, and operating as described.

113,358.—WHISK BROOM.—Greenleaf Stackpole, Elizabeth, N. J.

Claim.—The combination, with a whisk broom, of an erasing-brush of bristles or their equivalent, substantially as and for the purpose set forth.

113,359.—MAIL-BAG FASTENER.—Hugh M. Stephenson and John B. Tyer, Wabash, Ind.

Claim.—The combination of the four several parts A, B, C, and D, united with hinges at their ends, the parts A and B surmounted at the top with a double flange bent outward, so as to include an even slot along their whole length; and the parts C and D being surmounted at their top with a single flange, bent inward, so adjusted by the hinges, in the manner described, that, when shut, the single flanges of the parts C and D shall enter and close the slot of the double flanges A and B, substantially as described and for the purposes set forth.

113,360.—MATCH-SAFE. — William Stine, Elmore, Ohio, assignor to himself and Henry R. Lyle, Pilatka, Fla.

Claim.—A match-safe, having one side, *b*, which carries a lip, *c*, hinged so as to be opened by pressure on top and bottom of the safe, as and for the purpose specified.

113,361.—CHURN-DASHER.—Stephen Stout, Tremont, Ill.

Claim.—An improved churn-dasher, formed by the combination of the handle A *a*′ and dasher B *b*′ *b*′ with each other, substantially as herein shown and described, said parts being constructed and operating as and for the purposes set forth.

113,362, antedated March 23, 1871.—HOISTING APPARATUS.—Leverett W. Stuart, Narrowsburg, N. Y.

Claim.—The elevating and traveling-pulley A B C, in combination with the rope *a*′ and the brake D, when the same are arranged for operation by attaching the rope *a*′ to the end of the brake-lever, substantially as and for the purpose specified.

113,363.—HAY-LOADER.—Luman D. Taylor, Granville Centre, Pa.

Claim.—The combination of the vibrating toothed beams G with the platform H, which has the teeth *k*, substantially as herein shown and described.

113,364.—WINDOW-SHADE FIXTURE.—Nathan Thompson, Brooklyn, N. Y.

Claim.—The combination of the box C, grooved blocks *b b*, follower D, and screw S, substantially as and for the purpose herein described.

113,365. — COATING LAMPS. — George W. Thomson, Buffalo, N. Y.

Claim.—The coating of shellac, prepared and applied to copper lamps for an external coating, as herein described.

113,366.—WATER-METER.—Isaac P. Tice, New York, N. Y.

Claim.—1. The arrangement of two cylinders, A A′, and two independent or separate valve-chests, D D′, connected with a common inlet-pipe, G, substantially as and for the purpose set forth.

2. The combination of the inlet and outlet-pipes G H, valve-chambers D D′, and the cylinders A A′, substantially as and for the purpose specified.

3. The combination of the two cylinders A A′, valve-chests or chambers D D′, and the single and double valves E E′, substantially as and for the purpose described.

4. The arrangement of the valves E E′, piston-rods C C′, and the independent valve-chests or chambers D D′, substantially as shown and described.

5. The resisting mechanism applied to a water-meter in the manner substantially as shown and described, so as to compel the pistons to make complete or entire strokes at all times.

6. The arrangement of the cylinders A A′, and the valve-chests or chambers D D′ in such a manner that the piston-rod of one cylinder will pass or work directly into the valve-chamber of the other cylinder, as set forth.

113,367, antedated March 29, 1871.—COTTON-SCRAPER.—Thomas H. Trantham, De Soto county, Miss.

Claim.—The combination and arrangement of the slotted share C, slotted plate E, screw F, and standard G, as and for the purpose hereinbefore set forth.

113,368.—RUBBER PAINT.—Samuel Truscott, Cleveland, Ohio.

Claim.—The manufacture or preparation of a compound called rubber paint, of the ingredients, in the proportions and for the purpose set forth.

113,369. — PORTABLE DUMPING-HOD FOR EARTH-CLOSETS.—Elias W. C. Vanderveer, Elizabeth, N. J.

Claim.—The combination of the hod A, the slides C C, trap T, lever L, and cranked yoke Y, substantially as and for the purpose herein set forth.

113,370.—ELECTRIC GAS-LIGHTING AND EXTINGUISHING APPARATUS. — John Vansant, San Francisco, Cal.

Claim.—1. The pipes *b d* extending from the gas-pipe A below and above a partition or stop within the same into a cylinder or vessel C, within which an adjustable valve, *e*, is arranged for regulating the passage of the gas, as specified.

2. The cylinder C containing the pipe *b e*, and the adjustable valves for opening or closing the same, and the mercury or liquid for receiving the lower end of the closed valve, as set forth.

3. The valve *e*, connected with the arm *h*, and combined with the disk D and pins *i*, so that rotary motion of said disk in the same direction will

serve to alternately open and close the said valve, as specified.

4. The reciprocating electro-magnet F, connected with the claw m, and combined with the fixed magnet G and rotary disk D, to operate substantially as herein shown and described.

5. The coils H H, combined with the magnets F G to operate in conjunction with the same, substantially as herein shown and described.

113,371.—ANIMAL-TRAP.—Cornelius B. Veronee, Athens, Ga.

Claim.—The open-bottomed open-sided box B and the trap-door D, pivoted at *e* and weighted at F, combined as described, and arranged on the open-topped receiving-vessel A, as and for the purpose described.

113,372.—BED-LOUNGE.—Valentine von Dissen, New York, N. Y.

Claim.—1. The combination and arrangement of the parts of the head-board A and *a* with the back C and bed F and G, substantially as shown and described.

2. The combination and arrangement of the parts F and G with slides R and pieces N with the bottom B or D, substantially as shown and described.

3. The combination and arrangement of the back C with horizontally-projecting pieces E, vertically projecting pieces *p*, apertures *t*, and frame B, substantially as shown and described.

4. The combination and arrangement of the bed-lounge F and G with back C and bottoms B and D, substantially as shown and described.

113,373.—POTATO-DIGGER.—John A. Wadhams, Blue Island, Ill.

Claim.—1. The combination of the frames C and D connected by the chain *a*, and the scoop H, all constructed and arranged substantially as described and shown, for the purpose set forth.

2. The combination of the frames C and D connected by the chain *a*, the scoop H, and the lever L provided with a slot, all constructed and arranged substantially as described and shown, for the purposes set forth.

113,374.—COFFER-DAM.—John E. Walsh, New York, N. Y.

Claim.—1. The coffer-dam herein described, having a double wall, B, at its rear end, with opening O, flanges C′, and removable doors A, constructed and arranged in the manner and for the purpose set forth.

2. The flanges C′ of the coffer-dam herein described, in combination with the interposed packing *d*, metal eyes or staples E, clamp-piles F, and clamp *f*, constructed and arranged in the manner and for the purpose described.

113,375.—SAWING-MACHINE.—William W. Waterbury and John M. Waterbury, New Canaan, Conn.

Claim.—The tread-wheel K, combined with spur-wheel H on same shaft, the pinion G and pulley E on a second shaft, and the balance-wheel D and rotary saw on the two ends of a third shaft, driven by belt F, when all are arranged as and for the purpose specified.

113,376.—VOTE-RECORDING MACHINE.—Adan Weston, Keeseville, N. Y.

Claim.—1. The combination of the levers B with the pins A and the voting knobs *a* or *b* in such a manner as to enable the voter when he pulls the knob to thrust forward the pin either in the yea or nay-series, substantially as described.

2. The combination of the pins A with the endless chain F in such manner that the pins, when thrust out by the pulling of the knobs *a* or *b*, become cogs in the chain for the turning of the serrated wheels G or G′, substantially as described.

3. The combination of the endless chain F, the sliding pins, the wheels G or G′, and the endless chains H in such manner as to enable the operator, by rotating the chain F, to cause the chains H to display the footings-up of the votes on both sides of the question, substantially as described.

4. The combination of the chain F, pins A, and inclined blocks *m*, in the manner and for the purpose specified.

5. The pins A, provided with recesses *x*, and confined with the bar W or W′, the lever *w* or *w*′, and the bars *s*, in the manner and for the purpose specified.

6. The combination of the pins A, bar W or W′, block *p*, and block L, provided with columns of type, the sections of which bear the names of the several voters, substantially as described.

7. The combination of the printing-press L, frame N, sliding bars *s*, and shaft O provided with pinions *O*′, in the manner and for the purpose specified.

8. The combination of the sliding bars *s*, spring-plates *j*, and frame K, in the manner and for the purpose specified.

9. The combination of the block L, hinged plate M, and fingers *r r*′, in the manner and for the purpose specified.

10. The combination of the chain F, detent *z*, knob *s*, and wire *s*′, in the manner and for the purpose specified.

113,377.—COMBINED LOCK AND LATCH.—Shepherd H. Wheeler, Dowagiac, Mich.

Claim.—The combination of the U-shaped bolt B, having the shoulder *a*, slot F, stem G, recess H, and notch *d*, with the case A, cam D, and any suitable catch and knob, all substantially as and for the purposes hereinbefore set forth.

113,378.—HINGE.—Shepherd H. Wheeler, Dowagiac, Mich., assignor to himself, Enos L. Chappell, and Guy E. Chappell, same place.

Claim.—The hinge A, in three parts, being a combination of the leaf B, constructed with recess and short pintles, the U-shaped eye-piece slotted, with lug to engage a hook, and the leaf I, with projecting hook H and screw-holes countersunk on both sides, all substantially as described, and for the purposes hereinbefore set forth.

113,379.—FOOT-LIFTER FOR BLACKSMITHS.—Thomas C. Williams, Warrenton, Mo.

Claim.—1. The combination of the saddle B and the bar *d*, and the straps *m*, *n*, and *r*, with buckles *o*, substantially as and for the purposes hereinbefore set forth.

2. The combination of the saddle B and the bar *d*, and the straps *m*, *n*, and *r* and *p*, with the buckles *o*, substantially as and for the purposes hereinbefore set forth.

113,380.—SPINDLE-BEARING.—Charles F. Wilson, Brooklyn, N. Y.

Claim.—1. A coiled bearing, C, combined as described with a cup, B, ribbed at *g*, to retain it in position.

2. A spindle-journal, A, combined with a spiral bearing in a close stationary box, B, having oil-space D at the top and E at the bottom, with vertical channels *h* on the sides, so that as the oil is forced up from F through the coil and scattered centrifugally upon D, it will trickle back through *h*, and thus keep up a continual circulation until consumed.

113,381.—LIFTING-JACK.—Hiram J. Wilson, Mason, Mich.

Claim.—The sliding block B *b b*, supplied with a series of apertures, *b*′ *b*′, in combination with the pin or supporting-plate C, uprights A A, connecting-rod D, and lever E, the block B, when elevated, being on the same vertical plate as the rod D, substantially as and for the purpose set forth.

113,382.—CRIB ATTACHMENT FOR BEDSTEADS.—James Henry Laurence Wilson, Auburn, Kansas.

Claim.—1. The combined crib and seat attachment for bedsteads, consisting of the head-board B, side and bottom A and X hinged to the bar C, or to one another, in combination with the arms D provided with the bends Z, and having on them the followers E and sliding clamp F, all arranged and operated in the manner and for the uses illustrated and indicated.

2. The combination of the arm D, as described, with the follower E and sliding clamp F, as a means of attachment, substantially as illustrated and indicated.

113,383.—COMBINED COTTON-SEED PLANTER AND CULTIVATOR.—James A. Wright, Marietta, Ga.

Claim.—1. The combination of the beam A, handles B, standard C, furrowing-plow D E *e*′, wheel F, adjustable bars G, seed-hopper H, band I, pin or bolt J, toothed stirrers K *k*′, cranks *l*¹ *l*¹, shaft L, crank *l*², connecting-rod M, crank *f*′, and covering-plows N O, with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the plow P Q *q*′ with the beam A, handles B, standard C, plow D E *e*′, plows N O, and adjustable gauge-wheel F G, substantially as herein shown and described, and for the purpose set forth.

113,384.—CHEST-EXPANDER.—Samuel L. Barnett, New York, N. Y.

Claim.—The handles A A, with their cylindrical chambers *e e*, grooves *f f*, and pins B B, substantially as and for the purpose hereinbefore set forth.

113,385, antedated March 27, 1871.—SPRING BED-BOTTOM.—Lyman M. Bates, Cleveland, Ohio.

Claim.—1. A spring bed-bottom, consisting of canvas or other suitable material drawn over a series of springs, and rendered detachable by being hooked or buttoned to the bed or frame, substantially as herein described.

2. The sides and ends of the frame, when provided with grooves in which the canvas is secured by hooks, buttons, or other suitable means, and which grooves may be covered by molding, substantially as described.

113,386.—CHEEK-PIECE FOR SHIPS' MASTS.—Joseph Baymore, Philadelphia, Pa.

Claim.—A cheek-piece for ships' masts, constructed with a metallic plate at the back, between it and the mast-head, as herein described, and for the purpose set forth.

113,387.—ADJUSTABLE CARRIAGE-SEAT.—Sylvester W. Beach, Ypsilanti, Mich.

Claim.—1. The rounded end of the arm B, with central hole and flange *a*, in combination with the circular box D with hollow cone *b*, or *vice versa*, and the bolt *d*, all constructed and arranged substantially as and for the purposes herein set forth.

2. The mode of attaching the handles G to the ends of the seat by means of the metal stop-plates I, substantially for the purposes herein set forth.

113,388.—ATTACHING MARBLE TOPS AND BACKS OF WASH-STANDS.—William J. Bender, Cincinnati, Ohio.

Claim.—The right-angled brace or fastening A and B, provided with the stud C and opening D, for application to the vertical and horizontal slabs of a wash-stand top, substantially as and for the purpose specified.

113,389.—DOOR-MAT.—Norborne Berkeley, Aldie, Va.

Claim.—1. The mat-stand or frame C C D, with attached trigger and locking device, substantially as represented and described, for the purposes specified.

2. The mat-frame *a a*¹ *a*² *a*³, constructed and arranged substantially as specified.

3. The combination and arrangement of the bent lever *d*, wire *d*′, and bolt F, in connection with the stand B C D and rotary mat A, substantially as specified.

113,390.—GANG AND SUBSOIL-PLOW.—Joel L. Bond, Marshalltown, Iowa.

Claim.—1. The arrangement of the beams A A′, cross-bar H, bent brace J, plates G G′, clamps *a a*′ and *b*, bolt and nut *d*, and the plow-bars C C′, all substantially as shown and described, and for the purposes herein set forth.

2. The arrangement with the frame-beams A A′ of the adjustable rods K K′, frame L, bar *e*, loop *f*, seed-drill box N, and gauge-wheel M, all constructed and operating substantially as set forth.

113,391.—SEWING-MACHINE.—Thomas W. Bracher, New York, N. Y.

Claim.—1. The feed-wheel I, constructed and operating substantially as shown and described.

2. In combination with an organized sewing mechanism, the guide for the spring and the feed-wheel for moving it, substantially in the manner herein set forth.

113,392.—CORSET.—Morris P. Bray, Birmingham, Conn.

Claim.—As an article of manufacture, a corset cut and formed substantially as herein described.

113,393.—MODE OF MAKING TELEGRAPH-INSULATORS.—William Brookfield, New York, N. Y.

Claim.—The within-described process for making screw-telegraph insulators, said process consisting of the following successive operations: first, filling the mold with molten glass and depressing the plunger; second, releasing the plunger and raising the spindle of the press; third, removing the plunger and the mold from under the press; fourth, inserting a new plunger and fastening the same to the spindle, and introducing a fresh mold, all as herein set forth.

113,394.—PACKAGE FOR HYDROCARBON AND OTHER LIQUIDS.—Morgan W. Brown, New York, N. Y.

Claim.—A bag for hydrocarbon and other liquids made of paper or cloth, substantially in the manner herein described.

113,395.—PACKAGE FOR OYSTERS, CLAMS, &c.—Morgan W. Brown, New York, N. Y.

Claim.—As a new article of manufacture, a package for oysters or clams made of paper or cloth, rendered tough, pliable, and impervious to air, water, or fat, substantially in the manner set forth.

113,396.—COVERING FOR SAUSAGES AND OTHER MEATS.—Morgan W. Brown, New York.

Claim.—A case or integument for sausages or other meats or extracts of meats, made of paper prepared as herein described.

113,397.—PUMP-VALVE.—Adam S. Cameron, New York, N. Y.

Claim.—1. The arrangement, in the valve-chest, of partitions provided with conical sockets to receive the valve-seats, and giving access to said seats from above and below when the bonnet is removed, substantially as described.

2. The tail or extension of the removable valve-seat, receiving the pivot on which the valve swings,

and throwing the joint outside of the diameter of the seat, and giving an unobstructed passage through the valve, as described.

113,398.—Towel-Bracket and Sponge-Holder.—J. Frank Chandler, Boston, Mass.

Claim.—1. A combined towel-rack and sponge-holder, consisting of the ornamental back-piece A, brush-box B, arms *h h'*, rails *i i'*, and expansible sponge-holder *a b c*, all constructed and arranged as described.

2. The sponge-holder, made to open and shut, as described, the same consisting of the strips *a a' b b'*, pivoted to each other and to the angle-plate *c*, and having the wires *g g'* attached to form the basket, all in the manner and for the purpose specified.

113,399.— Electric Battery for Telegraphing and Other Purposes.—Daniel M. Cook, Mansfield, Ohio.

Claim.—1. The improved battery herein described, composed of a series of cups, B, arranged in a vessel, A, the separate positives and negatives being connected, as and for the purposes herein set forth.

2. The combination of the series of cups B and reservoir D, substantially as set forth.

3. The cups B, with wire coils applied, substantially as described.

4. The cups B, constructed and arranged substantially as set forth in the above specification.

113,400.—Water-Wheel. — Gardner Cox, Pierpont, N. Y.

Claim.—The buckets *a b*, united at *c* to the external cylinder, arranged as shown, when said buckets are attached to the concave periphery of the downwardly-diminishing hub or body F of a wheel, as and for the purpose herein set forth.

113,401.—Smelting Iron and other Ores. Richard Darnel Cox and William Franklin Cox, Philadelphia, Pa.

Claim.—1. The reduction of a mass of ore in a chamber, by causing jets of steam to direct to the ore the products of combustion or gases united with the said steam, all substantially as set forth.

2. A furnace in which the products of combustion, with air, and jet or jets of steam, are united at the tuyere-openings, as set forth.

3. A smelting-furnace in which a reducing-chamber for containing the ore, a fire-place or places, and a steam-nozzle or nozzles are combined and arranged substantially in the manner described.

4. The combination, substantially as described, of the air-pipe G and its internal steam-nozzle H, with a fire-place and with a tuyere-opening, *e*, of a reducing-furnace.

5. The combination of the reducing-chamber A, recessed bed *x*, tuyere-openings *e*, and passages *h*, for the escape of the molten metal.

6. The central reservoir K, arranged below the reducing-chamber A, and communicating with the same through openings *h*, as set forth.

113,402.—Child's Carriage or Perambulator.—Benjamin P. Crandall, Jr., Williamsburg, N. Y.

Claim.—A toy-box combined and arranged with the body or seat of a child's carriage or perambulator, substantially as described, for the purpose set forth.

113,403. — Suspending-Sign, &c.—John H. Crane and Charles W. Crane, Boston, Mass.

Claim. — Suspending flexible street-signs from cords or wires by means of the pendent traversing-journal or hook *h*, lock-bearing *g*, furling-roller *e*, and cords *f f*, said roller operated by a pulley and cords, or crank, when the several parts are constructed and arranged substantially in the manner herein described.

113,404.—Street-Sprinkling Machine.—Samuel E. Cursons, Buffalo, N. Y.

Claim.—1. The combination and arrangement, with the perforated discharge-pipe of a street-sprinkling machine, of the waste-pipe F, provided with a cock, G, substantially as and for the purpose described.

2. The combination, with the hand-lever E and cock G of the waste-pipe, of the spindle H, arm I, and connecting-rod K, substantially as and for the purpose heretofore set forth.

113,405. — Sediment-Collector for Steam-Boilers.—Collins Wood Deane, Philadelphia, Pa.

Claim.—1. A mud-trap, having the within-described slotted filtering-plates so arranged within a steam-boiler as to intercept the entire surface current.

2. The mud-trap B, with its filtering-plates, the whole extending across and connected to the shell of a boiler, as set forth.

3. The surface-mud trap C, with its slotted filtering-plates extending across the boiler, in combination with the perforated discharge-pipe I.

4. The within-described combination and arrangement of the two mud-traps B and C with their filtering-plates.

113,406.—Trace-Buckle.—Myron H. Densmore, Shickshinny, Pa., assignor to himself, Milton J. Snyder, and Aaron Briggs, same place.

Claim.—The plate *a*, provided with the flanges *f* and *g* and the lips *h*, in combination with the frame *a*, having the inclined guides *i*, all constructed as described, for the purpose hereinbefore set forth.

113,407. — Sewing-Machine. — Alfred S. Dinsmore, Boston, Mass.

Claim.—1. The combination of a swinging arm, *p*, or its equivalent, the arm *r*, and a spring serving as a take-up, substantially as shown and described.

2. The combination, with a swinging arm, *p*, or its equivalent, of the arm *r*, a spring serving as a take-up, and means for adjusting the throw of the swinging-arm, substantially as shown and described.

113,408. — Breech-loading Fire-Arm.—William C. Dodge, Washington, D. C.

Claim.—The combination in a breech-loading gun of the swinging breech-block and the locking-brace C, or its equivalent, with the swinging shoulder *c*, substantially as described, whereby the breech-block is prevented from being blown open by an accidental or premature explosion, as set forth.

113,409.—Advertising Device.—James F. Emery, Albany, assignor to himself and James E. Thomson, Buffalo, N. Y.

Claim.—Writing-paper having the guide-lines thereon for writing purposes formed of fine printed matter, substantially as and for the purposes set forth.

113,410. — Horse-Power.—Thomas Addis Emmet Evans, Albany, Ga.

Claim.—The combination of the lever F, driving-wheel A having cams B, supports D having rollers C and C', beam *h h* having angles and rollers E, all constructed and arranged substantially as and for the purposes set forth, upon a suitable base, Y Y'.

113,411.—Earth-Closet.—Benjamin Ferris, Wilmington, Del.

Claim.—1. The shaft I, provided with the cams P, for operating the chute O, substantially as closed.

2. The stirrer-shaft *a*, provided with the curved cutting-blades *b*, in combination with the slotted crank or lever S, centrally-pivoted lever H, levers E G, and lid C, when combined to operate as set forth.

3. The lid C, levers E G H S, stirrer *a b*, the feeder L, shaft I, provided with the cams P, so as to operate the chute O, when all are arranged and combined to operate substantially as specified.

113,412.—Saw-Mill.—George Finnegan, Dublin, Ireland.

Claim.—The band-saw *a*, mounted upon two horizontal rollers, *b*, and arranged in combination with the bed or table *c*, and with the devices for operating or driving the saw and adjusting the same to or away from its work, and with the mechanism for moving the bed or table in either direction, and for varying the speed thereof, all substantially as and for the purpose set forth.

113,413.—Stove-Drum.—Charles Fisher, Niles, Mich., assignor to himself and Henry N. Wilcox, same place.

Claim.—The stove-drum described and shown, provided with the radiating-chambers A and B, the vertical connecting-flues C and D, the smoke-pipe opening F, the damper E, and the exit-pipe G, all constructed and arranged substantially as and for the purposes set forth.

113,414. — Tumbler for Permutation-Locks.—Charles Flesch, Rochester, N. Y.

Claim.—The pin *i* and stops *k k*, combined with the cam E and lever D, which acts upon the double-ratcheted pawl C in the manner and for the purpose specified.

113,415.—Let-off Mechanism for Looms. William Thomas Flinn, Philadelphia, Pa., assignor to himself and Jacob Steinmetz Thorn, same place.

Claim.—The combination of the clamps and the warp-beam resting thereon, the said clamps being constructed substantially as described, so that the pressure of the beam upon the lower ends of the clamps will cause them to grasp the beam.

113,416.—Treatment of Sewage and the Manufacture of Fertilizers.—David Forbes, York Place, Portman Square, and Astley Paston, Price, Lincoln's-Inn-Fields, England.

Claim.—1. The treatment of sewage or the production of manures by the use of the natural phosphates of alumina and of other natural phosphates, such as hereinbefore mentioned, or mixtures of the same, substantially in the manner herein described—that is to say, by first submitting such natural phosphates to the action of sulphuric acid, hydrochloric acid, or mixtures of the same, and employing such resulting products either alone or in conjunction with a base, such as lime, for the purposes set forth.

2. The treatment of those natural phosphates of alumina, such as herein referred to, for the production of compounds capable of being employed as fertilizing agents, in the manner hereinbefore described.

113,417.—Motive-power Apparatus. — John T. Gilbert, Asbury, Ill.

Claim.—1. The method herein described of utilizing the force resulting from the explosion of substances by means or any equivalents thereof substantially such as herein described.

2. The combination of the endless belt or ratchet, having upon its outer surface serrations for the pawls to fall into, and the sprocket-wheels around which it passes.

3. The combination and arrangement of the spring or springs B, the cross-head C, belt or ratchet D, and the sprocket-wheels D', their arrangement with reference to each other being such as to cause the expansion of the springs to give a rotary motion to the sprocket-wheels, substantially as and for the purpose set forth.

113,418.—Skeleton Corset.—Thomas S. Gilbert, Birmingham, Conn.

Claim.—The skeleton corset herein described, consisting of vertical or longitudinal tapes, woven with shirrs or pockets for the reception of the springs, and circumferential tapes horizontal at the waist, and with the successive tapes above and below the waist diverging more and more from horizontal lines toward the front and back, as represented.

113,419. — Corset. — Thomas S. Gilbert, Birmingham, Conn.

Claim.—1. A corset formed with a central zone made in two parts connected by a circumferential waist-seam, and with additional sections above and below the said central zone, to admit of imparting the necessary fullness to the upper and lower parts of the corset.

2. In a corset constructed as specified in the first claim, uniting the transverse sections by circumferential tapes with open edges, so that the intermediate central parts of said tapes will constitute portions of the web of the corset, as explained.

113,420.—Boot and Shoe-Sole.—Charles Goodyear, Jr., New Rochelle, and Jozo Da Silva, Williamsburg, N. Y., assignors to Charles Goodyear, Jr.

Claim.—A boot or shoe sole provided with an edge, lip, or flange, formed substantially in the manner described, and an inner channel or groove, the two following lines parallel with the edge of the sole, substantially as shown and set forth.

113,421.—Plow-Colter.—Charles M. Gordon, La Porte, Ind.

Claim.—The combination of the reel D and cutter A B, as and for the purposes set forth.

113,422.—Corn-Planter.—Lewis Graham, Plymouth, Ill.

Claim. — 1. The combination of the hinged lever *d* and pivoted lever D and cams *b b* on the wheels C C, to operate the feed-slide, substantially as herein set forth.

2. The arrangement of the frame A with wheels C C, having cams *b b* and markers *a a*, wheels J J, levers *d* and D, feed-slide E, hoppers G G, conductors H, shoes I, and the hinged tongue K, all constructed to operate as and for the purposes set forth.

113,423.—Manufacture of Peat-Fuel.—Robert Arthur Griffin, Montreal, Canada.

Claim.—1. The excavator *h*, in its parts of vessel h^2, rollers h^3 and h^4, chains h^5, hangers h^6, buckets h^1, segments *i*, spout i^2, screw i^3, all working together, substantially in the manner and for the purpose described.

2. The curers f^1, in their parts of timbers c^1 and c^2, scantling *d* and *e*, with openings *d'* and e^3, beams e^1, wale pieces g^1, rails g^2, planks *f*, all working together, substantially in the manner and for the purpose described.

3. The curves f^1, with openings or spaces *d'* and e^3 in the scantling *d* and *e*, working together and with other parts of the curers, substantially in the manner and for the purpose described.

113,424.—Furnace for Steam-Boilers.—John C. Gripp, Pittsburg, Pa.

Claim.—The solid bridge-wall A, having its top inclined to the solid arch-wall B, projecting from the bottom of the boiler immediately in rear of the bridge-wall, the cold-air tubes D, supported by the

plates f between the bridge-wall and bed of the furnace, so as to leave the combustion-chamber C above them and immediately beneath the arch-wall B, all constructed and combined as described, for the purpose specified.

113,425.—Railway-Bridge Signal Apparatus.—Thomas S. Hall, New Haven, Conn.

Claim.—1. The draw-bridge key U, having a slotted or reduced part, as set forth, in combination with the flattened shaft of the drum Q, to which the signal is connected, substantially as and for the purpose described.

2. In combination with the rails and the chair E, the sliding key U, standard H, and the hand-crank K and its connections, as herein set forth and shown, for the purpose specified.

113,426.—Composition for Coating Photograph-Pictures. — Henry Happel, New York, N. Y.

Claim.—A compound for improving the effect of photograpic pictures, made substantially as herein described.

113,427.—Rolled Metallic Strips for Washers.—Thomas C. Hargrave, Boston, Mass.

Claim.—Strips of metal rolled into sheets with ribs thereon, as specified, for the purpose of making washers, substantially as set forth.

113,428.—Valve and Valve-Gear.—William Z. Hatcher, Plymouth, Pa., assignor to himself and William L. Lance, same place.

Claim.—1. The combination, with a steam-cylinder and piston, of a valve, F, and devices, substantially as described, whereby the valve is operated partly by a positive movement derived from the piston and partly by the action of steam passing directly from the boiler.

2. The ports q q', p p', and h h^1, arranged in respect to the grooves in the valve F, as described.

3. The ports h h h^1 h^1, arranged in relation to the valve F covering said ports, and communicating with the interior of the valve-chest, substantially as described.

4. The arrangement of the ports h h^1 in respect to the ports q q' and to the valve F, as and for the purpose specified.

113,429.—Coal-Scuttle.—George H. Hazelton and Dwight W. Hazelton, Philadelphia, Pa.

Claim.—The improved coal-hod herein described, consisting of the body C having the bead or shoulder c, the flat bottom B, and the foot A having the flange b, all the parts being arranged and united as set forth.

113,430.—Boot-Crimper.—Henry Henley, Shoals, Ind.

Claim.—The boot-crimp herein described, composed of the clamp A A, and the saddle formed of the jaws B B, spring bars C C, crimping-board G, and leather pieces D D, all constructed and arranged to operate substantially as and for the purposes herein set forth.

113,431.—Bullet-Patch.—Alfred C. Hobbs, Bridgeport, Conn.

Claim.—A patch for bullets composed of paper-pulp applied to the bullet, substantially as described.

113,432.—Machine for Forming Heel-Rands.—Sumner Holmes, North Brookfield, and Joseph F. Sargent, Melrose, Mass.

Claim.—1. For forming heel-rands or runners, a machine, substantially as described, which crimps the thin edge of the leather strip and bends the strip into form.

2. The combination with an edge-feed-wheel of two face-wheels or collars, (between which the strip is received and fed,) a guard for keeping the strip in the curved path, and a stripper for releasing the formed runner, all substantially as shown and described.

3. The guide-piece n, provided with an angling under-side, to deflect and strip the rand after it has been crimped.

4. The combination, with a feeding mechanism composed of a throat or guide and feed-wheels, of bending and crimping-wheels, substantially as described.

113,433.—Grinding-Plate. — Edmund S. Howland, Batavia, Ill.

Claim.—The grinding-rings A of a feed-mill, provided with the furrowed curved projections B, arranged as described, for the purpose specified.

113,434.—Steam-Trap.—John Joseph Jordan, Philadelphia, Pa., assignor to himself and George T. Carter, same place.

Claim.—The adjustable tubular and perforated valve-spindle E, its valve F, and the vessel I arranged for receiving the water of condensation, in combination with a casing constructed substantially as described, and having a seat for said valve.

113,435. — Apparatus for Operating Churns.—Preston L. Jordan, Lexington, Miss.

Claim.—The plates or brackets A B a b and screw C in the described combination with the shafts D E, wheels F G H, and wheel J, constructed in the manner and for the purposes described.

113,436.—Plow.—John Lane, Jr., Chicago, Ill.

Claim.—In combination, the landside-bar B, steel plate E, mold board W, share A, and flange K, all as herein set forth.

113,437.—Cooking-Stove.—Ezekiel C. Little and David H. Nation, St. Louis, Mo.

Claim.—1. The roasting or warming-oven D, with the hot-air flue G between its top and top plate of stove, and the downward flue E between it and the baking-oven C, substantially as herein set forth.

2. The arrangement, in a stove, of the fire-chamber A, ash-box B, baking-oven C, roasting or warming-oven D, flues G E J I, and water-reservoir H, with or without the direct draught-flue K, and with suitable damper or dampers, substantially as herein set forth.

113,438.—Apparatus for Cooling Milk.—John R. McKay, Rockton, Ill.

Claim.—1. The double pan or cooler, constructed of pans I and K, the tube G, and gutters i and k, substantially in the manner and for the purposes set forth.

2. The tank D, placed in relation to the cooler or double pan so that the head of water shall be higher than the point of discharge of water from the water-pan K, for causing a constant pressure or contact of the water in its upward flow against the bottom of the milk-pan I.

3. The milk-vat B, with cover C and strainer c, in combination with the double pan or cooler, when constructed and operating substantially in the manner and for the purposes set forth.

4. The water-vat or tank D, with valve E, in combination with pipe F and the double pan or cooler, when constructed and operating substantially in the manner and for the purposes set forth.

113,439. — Manufacture of Emery-Wheels and Artificial Stone.—Edgar C. Merrill, Charleston, Vt.

Claim.—1. A composition consisting of carbonate of baryta with oxide and chloride of zinc, made as herein described, or any other substantially the same, when used in emery-wheels or artificial stone.

2. Carbonate of baryta as an ingredient or component part of emery-wheels or artificial stone, as herein set forth.

113,440.—Apparatus for Drawing Water from Wells.—Merrick A. Mihills, Lodi, Ohio.

Claim.—The reacting windlass, consisting of the ratchet-wheel J, dog-wheel K, crank L, dog f, arms h h, and pawl m, all constructed and arranged to operate substantially as and for the purposes herein set forth.

113,441.—Wheel for Vehicles.—James R. Mills, Macon City, Mo.

Claim.—The combination of the rear section A, front section B, washer C, spokes D, and spindle E with rubber collars d, all constructed and arranged substantially as and for the purposes herein set forth.

113,442. — Culinary Vessel. — William H. Murch, Portland, Me.

Claim.—The combination of two or more compartments, one above another, each containing the vessel d, and so arranged and constructed that the top of each compartment forms the bottom of the one next above it, and has the upward and downward flanges f h and the uppermost compartment, the cover i having flanges j, all in the manner and for the purposes set forth.

113,443.—Flour-Sifter.—Oliver D. Myers, Doylestown, Pa.

Claim.—1. The sifter J, with pins f g and spring h in combination with the cams or inclines k k on the cog-wheel H, substantially as and for the purposes herein set forth.

2. The combination of the box A, hopper-bottom B, hopper D, toothed-cylinder E, sifter J, and wheel H, provided with cams or inclines k k, all constructed and arranged to operate substantially as and for the purposes herein set forth.

113,444.—Washing-Machine.—John Osmun and John Curl, Rockport, N. J.

Claim.—1. The combination of the lever G, rod H, elbow-lever I, and board J with levers D and board E, when constructed and arranged as herein described, for the purpose of applying a variable pressure and a rubbing surface at the same time, as set forth.

2. In combination with the boards E and J and the elbow-lever I, the spring L and rollers K, or their equivalents, substantially as and for the purpose set forth.

3. The combination of the swinging board E and reciprocating board J, when constructed and arranged to be operated substantially as and for the purpose set forth.

113,445.—Self-acting Mule for Spinning.—Charles Braham Parkinson, Aaron Metcalf, John Metcalf, and William Hesketh Heald, Preston, Great Britain.

Claim.—The combination of the carriage A, connecting-rod O, radius-rail M, radius-arm D provided with the endless screw T, and pulley E, eccentric G, pulley I, and chains C and J, when operated in the manner substantially as described.

113,446.—Machine for Pouncing Hats.—Augustus Pelisse and George W. Stoute, Newark, N. J.

Claim.—The combination, with a block for holding a hat, of an endless belt faced with sand-paper, or composed wholly or in part of some other properly-rough material, substantially as and for the purposes herein specified.

113,447.—Hot-Air Register.—Hugh M. Phinney, Boston, Mass.

Claim.—1. A hot-air register-plate, having the four-side vertical flanges d d e e connected to and forming part of it, without intermediate joints, substantially as shown and described.

2. The cast-metal coupling or connector, having the tube h, flanges f g and web i formed in one piece, substantially as shown and described.

113,448.—Sad-Iron.—Mary Florence Potts, Ottumwa, Iowa.

Claim.—1. The sad-iron base E, made of metal hollowed out in the center, with the end or ends made solid and the cavity filled with non-conducting material, as shown and described.

2. The combination of the plate B, provided with raised beveled end-pieces b b, the latch C, and lip or tongue D, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the semicircular handle A, plate B, latch C, tongue D, cross-bar d, and spring f, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the handle A, plate B, latch C, tongue D, iron E, and non-conducting-filling G, all constructed and arranged substantially as and for the purposes herein set forth.

113,449.—Potato-Digger.—John P. Radley, Albany, N. Y.

Claim.—1. Tines H, constructed with a divided or branched knife at their upper ends, substantially as above described.

2. The revolving wheel K, constructed with tines H cutting at their upper ends, and divided or branched, or neither, in combination with cutter-bar F and cutters h, substantially as and for the purpose herein described.

3. The arrangement and combination of axle E, hanger L, and guides g, with cutter-bar F, as herein shown and described.

4. The arrangement and combination of internal gears R, combined pinion and ratchet-wheel N, bevel-wheel and pinion r and s, shafts D and e, with cutter-bar F and wheel K, as herein shown and specified.

113,450. — Ice-Cream Freezer. — John Franklin Rote, Reading, Pa.

Claim.—1. A blade or blades, K, hinged to a fixed rod or frame within the inner revolving vessel of an ice-cream freezer, and operated substantially in the manner described, by a reciprocating rod, F′, or its equivalent.

2. The combination of the said blade or blades, to which the within-described movements are imparted, with the scraper J.

3. The combination of the freezer, the adjustable rod j connected to the square end of the sleeve k, the reciprocating rod F having a socket and set-screw, i, and the rod F′ operating the blades K, all substantially as specified.

113,451. — Spring for Wheeled Vehicles.—Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. Forming, securing, and operating torsion-springs by firmly and rigidly holding their center portion C to the frame or base on which they are placed, and allowing their outer ends at S to vibrate freely in the bearings D, in combination with the cranks or levers A–I, the outer ends of said levers being hinged or jointed to the frame or body L, substantially as and for the purpose described.

2. The arrangement and combination of the levers A–I with the springs A and frame or body L, in such manner that they may vibrate on lines parallel to each other, and so as to impart to the frame or body L a parallel circular motion—perpendicularly and longitudinally—like the opening and closing of a parallel rule, substantially as shown and described.

3. The parallel arms B and B, in combination with the spring levers A–1, as and for the purpose set forth.

113,452.—TABLE-LEAF SUPPORT.—Daniel Saylor and Laurits Anderson, Chicago, Ill.

Claim.—1. The combination of the lever-arm or brace C with the semicircular bolt-head *c*, which interlocks with the socket-piece D, for the purpose described.

2. The socket-piece D, for receiving the bolt-head *c* of brace C, and having lugs or bearings *d d'*, in combination with the spring G, as described.

113,453.—APPARATUS FOR SPREADING MEDICAL PLASTERS.—Adolph J. Schafhirt, Washington, D. C.

Claim.—A device for spreading medical plasters, composed of two plates, the one movable upon the other, so as to enlarge or contract the form or pattern of the plaster, substantially as shown and described.

113,454.—TREATING PAPER AND VEGETABLE FIBROUS SUBSTANCES.—Augustus T. Schmidt, Pittsburg, Pa.

Claim.—1. The treatment of paper, (sized or unsized,) paper-pulp, and other vegetable fabrics and substances, with a bath of the mother-water of the chlorides of zinc, tin, calcium, magnesium, or aluminum, or either of them, with or without the admixture of carbonates and oxides or other substances, and the subsequent washing with water or alkaline solution, substantially as and for the purposes described.

2. The treatment of paper, paper-pulp, or other vegetable fabrics and substances (which have been previously saturated with or immersed in a concentrated solution of chloride of zinc, or other chlorides hereinbefore specified, or of the mother-liquor of such chlorides or their equivalents) with a solution of glycerine and water, or sugar and water, substantially as and for the purposes described.

3. The combination of a layer or layers of paper, treated in the manner hereinbefore described, with a layer or layers of vegetable cloth similarly treated, for the production of a new manufacture suitable for belting, packing, and other purposes, substantially as described.

4. The combination of paper, paper-pulp, or other vegetable fibrous substances, treated, substantially as hereinbefore described, with emery, powdered glass, sand, or other pulverized or granular metal or mineral, as a new article of manufacture.

113,455.—SAFETY-VALVE.—Matthew Scrannage and Edward Scrannage, Jr., Boston, Mass., assignors to Scrannage, Bate & Co., same place.

Claim.—A spring, *b*, and diaphragm *c*, inclosed within a casing, A, and connected with a spindle, *e*, with its adjusting nut *f* for operating a safety-valve, substantially in the manner described.

113,456.—CORN-SALVE.—Anthony Seabold, Florence, Ohio.

Claim.—The corn-salve, composed of the ingredients compounded in the manner and by the process substantially as herein described.

113,457.—MOP-HEAD.—Samuel Selden and Matthew Griswold, Jr., Erie, Pa.

Claim.—The combination of jaws A A', hinged shanks B B', and thumb-screw D, substantially as set forth.

113,458.—WAGON-BOLSTER STAKE.—Lewis Washington Shaeffer, Elizabethtown, Ky.

Claim.—1. The combination of the inside part B and the outside part D, both attached to bolster F, both of which parts (B and D) can be made of malleable iron, wrought-iron, or cast-steel.

2. That part D, having a slot cut in it through which the bolt G passes, makes it convenient to be moved either way to allow a larger or smaller upright standard to be placed in it.

113,459.—COMPOUND FOR CURE OF FOOT-ROT IN SHEEP.—William T. Sherman, Marengo, Ohio.

Claim.—The compound, composed substantially of the ingredients herein named, for the purpose set forth.

113,460.—FIRE-ALARM.—Horatio N. Shultz, Mechanicstown, Md.

Claim.—A metal casing, as described, when containing one or more fire-crackers and fuse, the whole arranged and operating in the manner and for the purpose set forth.

113,461.—BIRD-CAGE MAT.—Isaac A. Singer, New York, N. Y.

Claim.—1. The combination, in a mat for bird-cages, of cloth or other fibrous material, bird-seed, either mixed with sand or gravel or not, and a farinaceous paste or cement, substantially as hereinafter set forth.

2. The combination, in a mat for bird-cages, of felt or woven cloth, either pasted upon paper or not, sand or gravel, or bird-seed or other food, and farinaceous paste or cement, substantially as hereinbefore set forth.

113,462.—CAR-COUPLING.—George C. Spangler, Allegheny City, Pa., assignor to himself and Simpson H. Daft, same place.

Claim.—1. The sliding shaft D, pinions *m n*, and spring *s*, in combination with the independent racks F G, the former operating the link-guide and the latter the coupling-pin, substantially as and for the purposes set forth.

2. The apparatus herein described, consisting essentially of the shaft D, pinions *m n*, spring *s*, racks F G, link-guide I, spring *t*, and sockets C H, when supported by a single plate, B *e e'*, whereby it can be strapped, bolted, or otherwise fastened to any of the old-fashioned draw-heads, substantially as herein set forth, for the purposes specified.

113,463.—FRICTION-CONDENSER FOR ILLUMINATING-GAS.—William H. St. John, Brooklyn, N. Y., and Samuel O. Rockwell, Jersey City, N. J.

Claim.—1. The application of the hydraulic seal to the whole volume of gas at the entrance of the condenser.

2. The adjustable lattice-work and appliances.

3. The corrugated plates dividing the vertical pipes in compartments; also, the corrugated covers as herein described and substantially set forth in the specification.

113,464.—CUTTER-HEAD.—Alonzo Louis Sweet, Norwich, Conn.

Claim.—1. The revolving feeding-disk or cutter G, in combination with a cutter-head, arranged and operating substantially as and for the purposes shown and described.

2. The combination of the feeding-disk G, supporting-block I, cutters C and D, and washer with the head B, arranged and operating substantially as and for the purposes described.

113,465.—PERMUTATION-LOCK.—William Terwilliger, New York, N. Y., assignor to himself and Frederic H. North, New Britain, Conn.

Claim.—The compound fence and gate oscillating upon the stud *e*, when the parts are constructed and arranged substantially as specified, and the gate is moved by the fence and tumbler-notch, moving together, in the manner set forth.

113,466.—TUBULAR STEAM-BOILER.—Charles A. Thompson, Flushing, N. Y.

Claim.—The boiler, made with ranges of tubes of different diameters, the lower range or ranges being of the largest diameter, in combination with the water shield, for the purposes set forth.

113,467.—FASTENING FOR MEETING-RAILS OR SASHES.—Nathan Thompson, Brooklyn, N. Y.

Claim.—The combination of the tapering-pointed screw C with the button A moving at right angles to the plane in which the sash is moved, and tapering recess *e* in the adjacent plate or surface *f*, substantially as specified.

113,468.—HALTER.—James Thornton, Wellsville, N. Y., assignor to himself and E. G. Latta, same place.

Claim.—1. The halter-rings *a b*, provided with projecting strengthening supports *c c d*, substantially as and for the purpose herein shown and described.

2. A halter provided with rings *a b*, having projections *c c d*, for the purpose set forth, and the buckle, loop, and ring, all constructed and arranged substantially as herein shown and described.

113,469.—ATTACHMENT TO HAMES.—James Thornton and Emmit G. Latta, Wellsville, N. Y.

Claim.—1. A breast-strap ring cast with a sunken bar, *a*, and with projections forming eyes *c c'*, substantially as herein shown and described, for the purposes specified.

2. The improved attachment for hames, composed of the ring with sunken bar *a* and eyes *c c'*, the hame-loop *e*, and staple *f*, all constructed substantially as described, and applied to the hames in the manner specified.

113,470.—BREECH-LOADING FIRE-ARM.—Frank Tiesing and Charles Gerner, New Haven, Conn., assignors to Eli Whitney, same place.

Claim.—1. The relative arrangement of the latch or locking-brace F, breech-block D, and hammer E, when combined for operation, as set forth.

2. The finger *e*, in combination with the hammer, the latch, and the breech-block, substantially as described.

3. The combination and arrangement herein shown of the breech-block and finger, whereby in the act of throwing the breech-block back the finger is operated to release the latch, as set forth.

4. The spring *d*, in combination with the latch F, finger *e*, hammer E, and the breech-block D, substantially as and for the purposes described.

113,471, antedated March 22, 1871.—SHIP'S TRESTLE-TREE.—Henry Townsend, Philadelphia, Pa.

Claim.—A cross-tree for a ship's mast, with projecting brackets for the reception of friction-rollers, and constructed with a plate of metal for strength, as shown and herein described, instead of a straight piece of wood, as heretofore.

113,472.—LAMP-BURNER.—Joseph Trent, Millerton, N. Y.

Claim.—1. The combination, with a lamp-burner, of the spring G *g*, constructed in one piece, and arranged to perform the two-fold purpose of holding the chimney by pressure at two remote points, and also locking the hinged cone securely in position, substantially as herein specified.

2. The combination, with the primary and secondary cones E E, of the chimney I, whose base *n* constitutes a third cone, substantially as and for the purposes herein specified.

113,473.—BASE-BURNING STOVE.—Jasper Van Wormer, Albany, N. Y., assignor to himself and Michael McGarvey, same place.

Claim.—1. In connection with a central magazine, D, and an oven, O, directly above it, a feeder E, inclined from the top of the magazine to the side of the stove so as to expose nearly the whole bottom of the oven, substantially as described.

2. In a base-burning stove, having a central magazine, D, and an inclined feeder, E, the arrangement of the oven O, the chamber H' above it, the passages at the sides of the oven leading from the fire-chamber to the chamber H' above the oven, and the space at the rear of the oven leading to the exit-flue *b*, substantially as and for the purposes set forth.

3. The arrangement of the pot-hole G with relation to the oven, the feeder, and the magazine D, substantially as described.

4. The arrangement of the oven O, door *d*, feeder E, and lid F, in connection with a base-burning stove, substantially as described, and for the purposes specified.

113,474.—HARVESTER-RAKE.—Cyrenus Wheeler, Jr., Auburn, N. Y.

Claim.—1. The rocking rake-heads, in combination with the controlling-cam or track L, made in the manner substantially as described, to impart the several rocking or rolling movements to said rake-heads during their passage over the same, substantially as described.

2. The adjustable track M, provided with the way or opening M^1, in combination with the stationary cam or track L, substantially as described.

3. The adjustable extension-piece M^2, in combination with the track M for adjusting the point of discharge of the gavel, as described.

4. The combination of adjustable track M and independently-adjustable extension or tail-piece M^2 with the stationary track or cam L for regulating the point of delivery of the grain upon the platform or upon the ground (either or both) without changing the point at which the rakes enter the standing grain for gathering the same to the cutters, as described.

5. The inclined way or ways M^1 m^2, in combination with the rocking rake-heads for giving a vertical or nearly vertical lift to the points of the rocking teeth as the latter leave the grain, substantially as described.

6. The slide O for closing the opening M^1 in the track M, in combination with the rocking rakes, operating as described.

7. The slide O, in combination with the lever R and locking-dog T, substantially as described.

8. The removable pins Q, in combination with the slide O, constructed and operating as described, for automatically closing the opening M^1, substantially as described.

9. The dog T, in combination with lever R, for locking the slide O, arranged as described, whereby said dog is automatically tripped by the crank-roller *j* for releasing the slide after the roller has passed by and been operated upon by the slide, as described.

10. The tripping-cord R', in combination with the dog T, for enabling the driver to control the slide O when the latter is thrown out automatically, as described.

11. The combination-track M, hinged rail U, rocking rake-head, vibrating rake-arm, and carrying-wheel or sheave F, substantially as set forth.

113,475.—HARVESTER.—Cyrenus Wheeler, Jr., and Calvin Young, Auburn, N. Y.

Claim.—1. The sector-plate or quadrant E, provided with the removable part E', and arranged in the described relation to the overhanging rake-standard, substantially as set forth.

2. The adjusting hand-lever G, provided with the arms or spurs *g g'*, in combination with the adjustable link *f*, and quadrant or rock, as described.

3. The guide-pulley arm I and link K, in combination with the rake standard, substantially as described.

4. The sprocket-wheel or pulley M, mounted loosely on the end of the axle, and connected therewith for operating the rake by means of the sleeve or hub L and clutch-plate L', substantially as described.

5. The treadle T, provided with the arm t and loop t^2, constructed as described.

113,476.—MOVABLE PARTITION.—Douglas Joseph Williams, Birmingham, England.

Claim.—1. The upright spindle D, forming a swivel in the part or division, and used in conjunction with the cross-head C, which is carried by the rollers A A rolling on the bars B B, substantially as and for the purpose herein described and shown in the drawing.

2. In combination with the said upright spindle D, the pinions H H and the racks K K, substantially as and for the purpose described and shown.

113,477.—BLOCK FOR TOP-PROP JOINTS FOR CARRIAGES.—John J. Wilson, New York, N. Y.

Claim.—The prop-block tube, made of India rubber, in lengths of a uniform or nearly uniform section throughout, and with the elastic cushion upon its upper surface, as and for the purposes set forth.

REISSUES.

4,317.—SLIDE FOR EXTENSION-TABLES.—Merrill E. Carter, Syracuse, and Elisha Mets, Rochester, N. Y.; Elisha Mets assignor, by mesne assignments, to Hayden & Hahn.—Patent No. 44,073, dated September 6, 1864.

Claim.—1. A metallic connecting-slide, D, with flanges, to be inserted in the grooves E E of the wooden bars A B C, when constructed, arranged, and operating in the manner and for the purpose specified.

2. A metallic connecting-slide, D, for the bars of extension-tables, having the flanges on one side cast thicker than upon the other, so as to hold fast in the groove of one bar and slide free in the groove of the other, as herein described.

3. The pin A and notches or holes g, when combined with and used to hold a metallic connecting slide, D, in its proper position in the groove E of the bars of an extension-table, as herein specified.

4,318.—WATER-PITCHER AND OTHER VESSELS.—Kingston Goddard, Richmond, N. Y., assignor to himself and John P. Adams.—Patent No. 97,390, dated November 30, 1869.

Claim.—The improved ice-pitcher or other vessel, composed of a body of wood or other suitable non-conducting material plated or covered with metal, substantially as described, as a new manufacture.

4,319.—PISTON-STEAM VALVE.—Robert C. Gray and William B. Brittingham, La Fayette, Ind., assignors to themselves and John Fordyce.—Patent No. 86,067, dated January 19, 1869.

Claim.—1. A piston-valve which has both a longitudinally-reciprocating and an oscillating motion on its axis, derived from the current of fluid which passes through the valve.

2. In combination with induction and eduction-openings in a cylinder, A, a cylindrical valve, when such valve has both a longitudinally-reciprocating and a vibratory motion, derived from the pressure of the fluid which passes through the valve.

3. The arrangement, within the case through which the fluid flows, of a valve and cam in such relation to one another that the cam shall communicate a vibratory movement to the longitudinally-reciprocating valve.

4. The piston-valve B, constructed with ports or passages in its periphery, which ports act alternately as induction and eduction-passages, the necessary changes of position being effected by a cam actuating the valve and operating by the pressure of the current which passes through the valve.

5. A piston-valve having parallel induction and eduction-ports, when such ports are cut in its periphery, to maintain the constant flow of the operating fluid while it traverses the bore of the cylinder, substantially in the manner set forth.

6. The combination and arrangement of the ports d d of the valve and the passages b, b', and c of the cylinder.

7. The combination of the piston-valve B and stem or lug a with the part D, supported on the cylinder, when the surfaces are so formed that the pressure of the fluid on the piston will cause it to partly rotate.

8. The arrangement of the partitions within the chest C, substantially as set forth.

9. The arrangement of the ports and pipes of induction and eduction in relation to the compartments of the chest C, substantially as set forth.

10. The combination of the cylinder A, pin f, piston B, and groove e, substantially as described.

4,320.—Division A.—MANUFACTURE OF ALIZARINE.—Charles Graebe, Frankfort-on-the-Main, and Charles Leibermann, Berlin, Prussia.—Patent No. 95,465, dated October 5, 1869.

Claim.—The within-described process for the production of alizarine, by first preparing bibromanthrakinon or bichloranthrakinon, and then converting these substances into alizarine, substantially as above set forth.

4,321.—Division B.—DYE OR COLORING MATTER FROM ANTHRACINE.—Charles Graebe, Frankfort-on-the-Main, and Charles Liebermann, Berlin, Prussia.—Patent No. 95,465, dated October 5, 1869.

Claim.—Artificial alizarine produced from anthracine or its derivatives by either of the methods herein described, or by any other method which will produce a like result.

4,322.—CARRIAGE-WHEEL.—Robert W. McClelland, Springfield, Ill.—Patent No. 99,691, dated February 8, 1870.

Claim.—1. The combination of a wooden hub having a raised center with dodged spokes and metal bands, substantially as and for the purpose set forth.

2. The combination of the hub A, provided with the raised center B, the spokes C C, and the bands D D provided with the pins or studs d d, substantially as and for the purpose herein setforth

4,323.—MANUFACTURE OF GERMAN HAND-CHEESE.—Francis C. Mendo and Theodore F. Mendo, Philadelphia, Pa.—Patent No. 95,500, dated October 5, 1869.

Claim.—1. The above-described process of curing the cheese known as German hand-cheese by subjecting the milk and curd to the various successive manipulations and changes of temperature and moisture, as above substantially set forth.

2. The product obtained by subjecting milk to the various successive manipulations herein specified, as a new article of manufacture and commerce.

4,324.—MACHINE FOR TIGHTENING ROPES, &c.—Arthur Paget, Loughborough, England.—Patent No. 105,240, dated July 12, 1870, antedated April 21, 1868.

Claim.—1. A ratchet-pulley having a groove, the sides of which, when in use, shall take a bite on the rope, cord, or chain to be operated therein, in combination with a fixed holding-pawl and lever or levers, carrying a pawl in gear with the ratchet of the grooved pulley, arranged and operating substantially in the manner set forth.

2. A ratchet-pulley having a groove, the sides of which, when in use, shall take a bite on the rope, cord, or chain to be operated therein, in combination with a fixed holding-pawl or its equivalent, arranged with reference to the grooved ratchet-pulley, substantially as described.

3. The arrangement of cleats or apparatus for holding or making fast ropes, cords, strings, or other mechanical equivalents, wherein such cleats are held by one or more bolts or pins or other convenient fulcrum or fulcrums, in such manner as to act with shifting, variable, or differential leverage, and at variable angles upon the rope, substantially as described.

4,325.—HARNESS FOR HORSES.—John Rouse, Palmyra, N. Y.—Patent No. 25,587, dated September 27, 1859.

Claim.—The combination, with the breast-strap of harness, of the U-shaped yoke D, provided with a loop at each end, substantially as herinbefore set forth.

4,326.—ELECTRO-MAGNETIC REGULATOR FOR TEMPERATURE IN ROOMS, &c.—George Miller Sternberg, New York, N. Y.—Patent No. 100,462, dated March 1, 1870.

Claim.—1. The combination, with the armature of an electric apparatus, of the lever M, provided with spur-gears b^1 b^2, cog-wheels C^1 C^2, loose cog-wheels I^1 I^2, and double system of train-work B^1 B^2, operated substantially in the manner described, for the purpose of communicating motion alternately in opposite direction to the valve mechanism, as specified.

2. The within-described means for controlling the temperature of a building or an apartment; that is to say, the thermometer controlling an electro-magnet, the electro-magnet controlling an independent power, and the independent power operating directly to open and close a valve, which valve raises and lowers the temperature of the apartment, as herein set forth.

4,327.—COTTON-PRESS.—Paul Williams, Winona, Miss., assignor to Robert A. Williams and James L. Williams.—Patent No. 73,683, dated January 21, 1868.

Claim.—1. Combining the lever-beam A with the screw H, follower J, and thrust-beam M, to form a cotton-press, substantially as shown and described.

2. The partially-revolving tap I, combined with its recess m and the screw H and lever-beam A of a cotton-press, substantially as shown and described, and for the purpose specified.

DESIGNS.

4,746.—HITCHING-POST CAP.—Roger S. Austin, Wallingford, Conn.

Claim.—The design for cap for hitching-post, as herein described, and shown in the accompanying illustration.

4,747.—GANG-PRESS.—Wellington Denison, Rome, N. Y., assignor to himself and Joseph H. Knight, same place.

Claim.—The design for a gang-press, as shown and described.

4,748.—TELEGRAPHER'S BADGE-PIN.—Orrin C. Dow and Alford C. Harvey, St. Johnsbury, Vt.

Claim.—The design for a badge-pin, substantially as herein shown and illustrated.

4,749.—CHAIN-LINK.—Virgil Draper, Attleborough, Mass., assignor to Oscar M. Draper, same place.

Claim.—The new design for an ornamental chain-link, substantially as herein described.

4,750.—STATUE.—Angelo Fusary, New York, N. Y.

Claim.—The design as shown.

4,751.—ORNAMENT FOR THE BACKS OF LOUNGES.—George Hartzell, Philadelphia, Pa., assignor to John P. Reifsnieder, same place.

Claim.—1. The design for the ornament A united with the edge of the molding on a back of the lounge, substantially as described and illustrated.

2. The design for the ornament B on a back of a lounge, substantially as shown and described.

3. The whole design, consisting of the ornaments A and B, arranged substantially as described, and as illustrated in and by the accompanying drawings.

4,752.—CASTER-BOTTLE.—John Hoare, New York, N. Y.

Claim.—The design for caster-bottles herein shown and described.

4,753.—ORNAMENTATION OF TABLE GLASSWARE.—William C. King, Pittsburg, Pa., assignor to King, Son & Co., same place.

Claim.—The design for the ornamentation of glassware, as described and shown.

4,754.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having a triangularly-shaped mouth, as described and shown.

2. A design for a triangularly-shaped cap for a triangularly-shaped jelly-glass, as described and shown.

4,755.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having a hexagonally-shaped mouth, as described and shown.

2. A design for a hexagonally-shaped cap for a hexagonally-shaped jelly-glass, as described and shown.

4,756.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having a septangularly-shaped mouth, as described and shown.

2. A design for a septangularly-shaped cap for a septangularly-shaped jelly-glass, as described and shown.

4,757.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having an oval-shaped mouth, as described and shown.

2. A design for an oval-shaped cap for an oval-shaped jelly-glass, as described and shown.

4,758.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having a pentagonally-shaped mouth, as described and shown.

2. A design for a pentagonally-shaped cap for a pentagonally-shaped jelly-glass, as described and shown.

4,759.—JELLY-GLASS.—William H. Kirchner, Pittsburg, Pa.

Claim.—1. A design for a jelly-glass having an octagonally-shaped mouth, as described and shown.

2. A design for an octagonally-shaped cap for an octagonally-shaped jelly-glass, as described and shown.

4,760.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,761.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,762.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,763.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,764.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,765.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,766.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,767.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,768.—SODA-FOUNTAIN.—George F. Meacham, Newton, assignor to James W. Tufts, Medford, Mass

Claim.—The design for the casing of a soda-water apparatus, herein shown and described.

4,769. — ORNAMENTATION OF RUBBER-SHOES.—Christopher Meyer, New York, N. Y.

Claim.—The design for the ornamentation of India-rubber shoes, as shown.

4,770. — LAMP-BRACKET. — Frederick R. Seidensticker, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—The design for lamp-bracket, as herein described and shown in the accompany photographic illustrations.

4,771.—CARPET-PATTERN.—John H. Smith, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

4,772.—CARPET-PATTERN.—John H. Smith, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting, in the form similar to the drawings or photographs accompanying this specification.

TRADE-MARK.

215.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

EXTENSIONS.

ELLIOT SAVAGE, of West Meriden, Conn.—Letters Patent No. 16,853, dated March 17, 1857.

"Improved Machine for Cutting and Bending Sheet Metal."

Claim.—Constructing and arranging the frame which carries the clamps, with respect to that which carries the cutters, substantially as described, that is, so that while the clamps are being forced together or made to seize a plate of metal, they shall not spread the cutters apart.

Also, the mode of constructing the compound lever of the bending-rollers and arranging the rollers thereon, the said compound lever being composed of a bent lever and an arm, and the rollers being applied to them respectively in manner as above explained.

Also, combining with the clamps, their crank-shaft, and the bending-rollers, the auxiliary crank-shaft or equivalent means, by which the bending-roller N may be rotated independently of force applied through the clamps, and so that the middle of the metallic plate shall not be subjected to injurious strains by the bending-rollers.

ISAAC HAYDEN, of Lawrence, Mass.—Letters Patent No. 16,833, dated March 17, 1857.

"Improvement in Machinery for Clearing and Separating Cotton, Wool, Fur, and other Fibrous Materials."

Claim.—1. Increasing the area of the trunk above the screen, or making it larger toward its rear end by increasing its height, or width, or both, as may be desirable, so that the blast of air which conveys the materials into or through the trunk will move gradually slower, so as to allow the light and fine or such portions as are intended to be separated time to be precipitated and pass through the screen before the air which holds them in suspension escapes from or passes out of the trunk.

2. And, in combination with a trunk made gradually larger toward its rear end, as above claimed, a screen of woven wire or twine, arranged upon a series of partitions, substantially as described, for the purposes set forth.

GEORGE ESTERLY, of Whitewater, Wis.—Letters Patent No. 16,873, dated March 24, 1857.

"Improvement in Harvesting-Machines."

Claim.—1. Connecting the leading-truck to the main frame by means of a rigid reach or secondary frame, H I K, when said reach or frame is pivoted to the rear end of the main frame and united to the truck by a king-bolt, and arranged in relation to the driving-wheel, main frame, and platform substantially as set forth.

2. The forked lever P, lifting-piece N, and springdogs *g*, combined and operating together for lowering the sickle-beam, as set forth.

JAMES COCHRANE, of New York, N. Y.—Letters Patent No. 16,945, dated March 31, 1857.

"Improved Fluid-Meter."

Claim.—1. In combination with a tilting measuring-vessel, or its equivalent, inclosed within an air-tight vessel, a secondary air-tight vessel connected with the former, substantially in the manner and for the purposes herein described.

2. Combining with a measuring-vessel, located in and combined with an air-chamber, an apparatus, substantially such as is herein described, which shall from time to time introduce portions of the outer air into the interior of the air-chamber, the whole being and operating substantially in the manner and for the purposes hereinbefore specified.

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PATENTS.

113,478.—MANUFACTURE OF PEAT-FUEL.—David Aikman, Montreal, Canada.

Claim.—1. The cells *b*, being counterparts one of the other, and being interchanging the one with the other, forming an advancing and movable curing-vessel, *a*, substantially in the manner and for the purpose described.

2. The cells *b*, having grooved sides and bottoms, and otherwise constructed, substantially in the manner and for the purpose described.

113,479.—TICKET-HOLDER.—Albert F. R. Arndt, Cleveland, Ohio.

Claim.—The box, having compartments E F G, doors C D, rods E', apertures B', and guard-plate C, and, in combination with the slide M, springs O L, and plate K, substantially as and for the purpose set forth.

113,480.—PITCHING BARRELS. — William Anheuser, St. Louis, Mo.

Claim.—The process of pitching barrels with pure superheated steam or air by forcing the same through a heated pipe or coils of pipes before passing it into the barrels, preventing the immediate contact between the melting medium and the fire, substantially as above described, and for the purpose herein mentioned.

113,481. — FIRE-CHAMBER OF PUDDLING, STEAM-BOILER, AND OTHER FURNACES.—William Fordyce Beecher, Pittsburg, Pa.

Claim.—1. The combination of the perforated pipe D with the conduits A B, the latter being constructed with perforated waved surfaces or extensions, *g g*, substantially as described.

2. The conduits A B, constructed as described, and partly imbedded in the furnace-walls, substantially as described.

3. The arrangement, in the throat of a furnace, between the bridge-wall C and crown E, of a perforated pipe, D, and perforated conduits A B, substantially as described.

113,482.—COMBINED PLOW AND SEEDER.—William C. Bibb, Madison, Ga.

Claim.—The beveled wheel D, actuating the seeding and fertilizing devices by cranks I I, in combination with the plow C and seed-spout E, substantially as and for the purpose set forth.

113,483.—LET-OFF MECHANISM FOR LOOMS. Erastus Brigham Bigelow, Boston, Mass.

Claim.—The combination, with a power-loom, of a let-off mechanism, such as is herein described, said let-off mechanism being capable of giving out the required warp when the loom is in operation, and of winding it up when the movement of the loom is reversed, and being governed in its action by a vibrator, substantially as specified.

113,484.—PLOW.—Jerome Blanchard, Iowa Falls, Iowa.

Claim.—The combination of the land-side B, share C, connecting-bars D, bars G G with adjustable connections *d d*, and the wheels *a b* and A A, all constructed and arranged substantially as and for the purposes herein set forth.

113,485. — ELASTIC CEMENT FOR LINING PETROLEUM-BARRELS. — John James King Boote and William Anderson Gibson, Cleveland, Ohio.

Claim.—The herein-described compound, consisting of the ingredients and in about the proportion prepared, as and for the purpose set forth.

113,486.—MANUFACTURE OF RUBBER-BELTING.—Augustus O. Bourn, Providence, and Isaac F. Williams, Bristol, R. I.

Claim.—The method herein described of imparting a smooth and true surface to belts or bands of India rubber or like vulcanized gums, the same consisting in subjecting the surface of a vulcanized belt to the action of a grinding-wheel in the manner substantially as herein described.

113,487.—EDGING-MACHINE. — Henry E. Bradt, Manistee, Mich.

Claim.—The arrangement of a serrated disk or disks, L, in a drum or collars, J, sliding on the feed-shaft C simultaneously with the saws G on the mandrel B, as and for the purposes set forth.

113,488.—MACHINE FOR REDUCING WOOD FOR THE MANUFACTURE OF PAPER PULP. James Bridge, Augusta, Me.

Claim.—1. The disintegrating-drum A, made as described.

2. The rotary hollow disintegrating-drum A, and the peripheral bars or blades D, combined and arranged to operate substantially as and for the purpose as specified.

3. The hollow disintegrating-drum A, the series of peripheral bars D, and one or more shutters F F', combined and arranged as and so as to operate substantially as explained.

4. The rotary hollow disintegrating-drum A, the series of peripheral bars D, one or more shutters F, and the elastic chute G, arranged and combined in manner and so as to operate substantially as and for the purpose as hereinbefore specified.

113,489.—TURBINE WATER-WHEEL.—McKendre A. Brooks, La Porte, Ind.

Claim.—The construction and arrangement of the threaded hollow standard C, geared collar K, rod M, pinion N, spider J, rods R, and ring-gate S with relation to each other and the buckets and chutes of a turbine water-wheel, substantially as described, for the purpose specified.

113,490.—JOURNAL-BOX.—Arthur Gibson Brown, Wareham, Mass.

Claim.—The journal as constructed with the grooves *a a*, and the box and cap as provided with the flanges *b b c c* and the tongues *d d* and rebates *e e*, all arranged as specified.

113,491. — FILTER. — James Brown, San Francisco, Cal., assignor to Ira D. Thompson, same place.

Claim.—A filtering-vessel or sack constructed as above described, and lined with pulped paper, substantially in the manner set forth.

113,492.—HEATING-STOVE.—Esek Bussey, Troy, N. Y.

Claim.—The cover G, provided with the hooklug H, in combination with the pan C, when operating therewith, as and for the purpose described.

113,493.—WASHING-MACHINE. — John E. Carroll, and John Lord, Philadelphia, Pa.

Claim.—The arrangement of the casing C, provided on the interior with the corrugated surfaces and frames S F, as shown and described.

113,494.—JOURNAL-BOX.—William T. Carroll, Medway, Mass., assignor to George Draper & Sons.

Claim.—1. The arrangement and combination of the movable bearings E and their spring F with the journal-box and the rollers D D disposed therein, as described.

2. Each journal-bearing E as made with the lips *f f* and the spring-receiving recess *b*, arranged as described, the whole forming passages for circulation of the oil alongside of and through the bearing.

113,495.—CORN-HUSKER.—Erastus H. Carver, Humberstone, Canada, and George M. Baker, Buffalo, N. Y.

Claim.—In combination with the arm *b* and bearing I, the flipper G and tooth-plate D, when the latter are pivoted together and made adjustable on said arm, as and for the purpose specified.

113,496.—HASP-LOCK.—William N. Chamberlain, Denton, Mich.

Claim.—The construction and arrangement of the lock-case D D′, key-stump *a*, bolt or tumbler-studs *b b*, and tumbler E with the hasp A, and the notched cylinder F′ with the latch-dog F appended thereto, as and for the purpose set forth.

113,497.—CRADLE.—John B. Charlton, Kalamazoo, Mich.

Claim.—The combination of the cradle and crib by the swing-bars B and B′, in the manner and for the purpose set forth and described hereinbefore.

113,498.—SEWING-MACHINE.—Milton Chase, Haverhill, Mass.

Claim.—1. A sewing-machine and its table, arranged and pivoted together in the manner as hereinabove described and shown, and provided with a train of driving-wheels d G E, arranged and connected by pitmen as specified, the same enabling the sewing-machine to be moved and set at any desired angle relative to the table top, for the purpose set forth.

2. In combination with a sewing-machine and its table, pivoted together as set forth, and provided with a train of wheels connected by bands and pitmen as described, a means or mechanism for clamping the machine at any desirable inclination to the table, as and for the purpose set forth.

113,499.—LOCK FOR HAND-CUFFS.—Horace H. Cheney, East Saginaw, Mich.

Claim.—The construction and arrangement of the bolt *g*, spring *h*, stud *f*, and spring *e* in the head *a* of the shackle-segment A, the segment A′ provided with a socket, *b*, at its end, having the ratchet notches *c* and key-holes *d* formed therein, as described, said shackle-segments being hinged together, and arranged to be operated by means of the key B, all substantially as herein described.

113,500.—WEATHER-STRIP.—Franklin A. Coats, Kelloggsville, Ohio.

Claim.—The arrangement of the cap D, strip B, and the arms C C′ hinged to the door between said cap and strip, in combination with the spring *a*, lug E, door, and casing, operating conjointly as and for the purpose substantially set forth.

113,501. — PLATED BUTT-HINGE.—John J. Crooke, Southfield, and Lewis Crooke, New York, N. Y.

Claim.—The art or process hereinbefore described of manufacturing plated hinges by pickling the iron plates, whether first annealed or not; afterward reducing them to a smooth and even surface by rolling; afterward annealing them out of contact with the atmosphere; afterward making them up into hinges; and afterward plating them by the battery process, substantially as hereinbefore set forth.

113,502, antedated March 24, 1871.—PREPARATION OF PAPER PULP AND MANUFACTURE OF PAPER.—Julien Denis, Stamford street, Blackfriars, Great Britain.

Claim.—1. The new machinery, pans, vats, and drying-machine hereinbefore described, for the conversion of textile plants into pulp.

2. The arrangement of the machinery and the particular building for the said machinery.

3. The baths of chlorine combined with carbonated agents containing, among others, carbonate acid, and which are used in a heated state.

4. The treatment of textile plants by means of hydrochloric and sulphuric-acid baths, combined or not with nitrate of soda.

5. Protochloride of tin to neutralize the acids and disinfect the pulp.

6. Generally the method of proceeding in converting textile plants into brown or white pulp for paper, hereinbefore described, especially the *ayres tic littoralis*.

113,503. — COMPRESSION-COCK. — William Dinnen, Detroit, Mich., assignor to The Detroit Novelty Works, same place.

Claim.—The combination of the packing D, constructed as described, with the valve-stems C C′, washer *f*, valve *g*, nut A, and the cap-cylinder A′ and cap B of a compression-cock, when the several parts are constructed, arranged, and operating substantially as and for the purpose set forth.

113,504.—CARRIAGE-SEAT AND TOP.—Lewis Z. Dodds, South Bend, assignor to himself and John B. Moulton, La Porte, Ind.

Claim.—1. The combination of the rail A A, having knob-standards and hooks, the spring catches *g g*, and the seat-fastenings *a a*, *b b*, *c c*, *d*, all constructed and arranged substantially as and for the purposes set forth.

2. The bow-support B B, having spring 2 and pad 3, constructed and arranged in relation to a buggy-top, substantially as and for the purpose set forth.

3. The combined self-fastening shifting-rail and bow-support, consisting of the rail A A, having knob-standards and hooks, the spring catches *g g*, seat-fastenings *a a*, *b b*, *c c*, *d*, all constructed and arranged in relation to the seat and top of buggy, substantially as and for the purposes set forth.

113,505.—PRESERVING AND TRANSPORTING FRESH MEATS.—William Dugan, Chicago, Ill.

Claim.—The process herein described for the temporary preservation of meats for transportation.

113,506.—DRAWER-PULL LABEL-HOLDER.—John A. Evarts and Pietro Cinquini, West Meriden, Conn., assignors to Bradley & Hubbard, same place.

Claim.—As an article of manufacture, the herein-described drawer-pull, consisting of the pull A and frame B, the said pull being provided with suitable grooves to receive the said frame, substantially as herein set forth.

113,507.—HYDRANT.—James Farnan, Cleveland, Ohio.

Claim.—1. The chamber D, in line with the pipe A and chamber B, cylinder F, and outlet *b*, in combination with the valve G and nut L, arranged and operating in the manner and for the purpose substantially as set forth.

2. The stuffing-box P, nut N, chamber B, screw J, collar R, and stem H, as arranged to operate in combination with the valve G and chamber D, in the manner substantially as described, and for the purpose specified.

113,508.—CONSTRUCTION OF STEAM-HAMMER STANDARDS.—Oscar C. Ferris and Frederick B. Miles, Philadelphia, Pa.

Claim.—The standards E E, cast separately, with guides *g g* and bases *f f*, cast half upon each, said separate parts being bolted together, substantially as and for the purposes set forth.

113,509, antedated March 30, 1871.—FIRE-ESCAPE. — William Gardner, Boston, Mass.

Claim.—1. The combination of the stationary ways D′, sliding beams D, and folding beams C, each constructed and operating as described, with the car, sustaining ropes, and winding mechanism, as above described.

2. The arrangement of the ways D′, beams D and C, car, ropes, and winding mechanism with a safe, when the whole constitutes one article of furniture and is constructed as above described.

3. The uprights *d d*, pieces *c c* and their springs, in combination with the car and its sustaining ropes, as described.

4. The combination of the car A and pieces *e e e′* and *e″* with the folding beams C, sliding beams D, ways D′, ropes, and winding mechanism, as and for the purpose above specified.

113,510, antedated March 29, 1871.—RAILROAD-SPIKE. — Charles Gaylord, Washington, D. C.

Claim.—1. The two half-spikes A B, grooved on their inner surfaces, and connected together to form a spike by any convenient fastening, the half-spike B being provided with a half-head, *d*, and perforation *c*, in combination with a wedge, substantially as described.

2. In combination with the semi-cylindrical half-spike B with a rectangular opening, the wedge W with a bent lower end, *c*, and groove *s*, substantially as described.

113,511.—CULTIVATOR.—Julius Gerber and Horace Brown, Rockford, Ill.

Claim.—1. The seat A′, constructed specifically as described, in combination with the curving serrated support A, as set forth.

2. The combination of the auxiliary frame with the main frame when the former is hinged to the latter forward of the neck-yoke, as described.

3. The adjustable foot-rest P, when constructed as described, and combined with the supporting-beam, as set forth.

4. The jointed shovel-beam M N, provided with means of adjusting and securing the relative position of the parts M N without interfering with the free movement of the auxiliary frame relatively to the main frame, as described.

5. The combination of the seat A′, adjustable as described, with the adjustable seat-arms attached to the main frame, as set forth.

6. The bar C provided with pulleys *c c*, rigid pendants C′ with pulleys *c′ c′* and stay-rod *d*, in combination with the rod *e* and chain *f*, as described.

113,512.—MACHINE FOR TAPPING NUTS.—John L. Gill, Jr., Columbus, Ohio.

Claim.—1. The arrangement, in nut-tapping machines, of the nut-holder vertically above the tap, with its stem or spindle within a guiding-socket, or its equivalent, wherein it is free to slide downward by gravity as the tap penetrates the nut held by it, and upward by hand or otherwise, when necessary to remove the tapped nut or to insert in the holder a fresh one.

2. The sleeve-bracket or brackets X, in combination with the vertically-sliding nut-spindle or spindles, G, and nut-holder or holders, D, when so constructed and arranged, substantially as hereinbefore described, as to permit of a vertical and prevent a rotary motion of the nut-holders.

3. The arrangement of the nut-holder D inverted, as shown and described, with the hollow spindle G and oil-reservoir E, or its equivalent, as set forth.

4. An oil-drip pan, constructed with a central vertical sleeve, which surrounds the tap-spindle, in combination with a shallow tray having a wire-gauze or perforated bottom arranged therein, substantially as and for the uses set forth.

5. The chuck or tap-wrench I, recessed on the under side around the tap-spindle so as to prevent the oil and cuttings from reaching the tap-spindle below the chuck, substantially as hereinbefore described.

113,513. — GASOLINE ATTACHMENT FOR COOKING-STOVES. — Frederick Hainsworth, Chicago, Ill.

Claim.—1. One or more perforated disks, G, provided with projection H, flange J, and openings A and K, substantially as and for the purpose described.

2. The bridge-plate E of a cooking-stove, provided with apertures *c c*, substantially as and for the purpose described.

3. In combination with the bridge-plate E, the tubes *d d*, disks G G′, and reservoir A, the whole arranged substantially as and for the purpose described.

113,514. — BRICK-MACHINE.—Enoch Hallett, Hillsdale, Mich.

Claim.—1. In combination with the chains F I, pulleys G, segment H, and the plunger-rod in brick-machines, the chain J and weight K, constructed and arranged substantially as described, for the purposes set forth.

2. In combination with the frame A and table B, in brick-machines, the plate B′, provided with ledge *d*, when constructed, attached, and operating substantially as and for the purposes set forth.

3. In combination with the plate B′, provided with ledge *d* and the table B, in brick-machines, the cam E, when the several parts are constructed and arranged to operate substantially as and for the purposes set forth.

113,515.—FLY-TRAP.—Clinton R. Hardy, Lexington, Ind.

Claim.—The concentrically-corrugated disk C, when used in a fly-trap, in combination with the movable gauze chamber J, all constructed and arranged to operate substantially in the manner and for the purposes set forth.

113,516.—FILTER.—Birdsill Holly, Lockport, N. Y.

Claim.—In a water-filtering vessel, A, the perforated pipes B B B, discharge-pipe C, inlet-pipe D, and cocks *c b*, when said vessel is constructed without any diaphragm, or its equivalent, so placed as to prevent the filtering materials from being

freely and thoroughly cleansed, the whole constructed and arranged substantially as and for the purpose above described.

113,517.—REGULATING AND SAFETY-VALVE. Birdsill Holly, Lockport, N. Y.

Claim.—1. The balanced steam and water-valves A A', working in boxes B B', in combination with piston *p* and its cylinder P, substantially as described.

2. The slot *a'* and pin *a*, connecting the rod *c* of the water-valve A to the lever E, whereby the steam-valve will receive a slight movement from piston *p*, independently of the water-valve, substantially as described.

3. The chain-weight D on lever E, in combination with the balanced valves and the piston *p*, substantially as described.

113,518. — BALE-TIE.—John Holmes and James Corbett Holtzapfell Slack, Manchester, England.

Claim.—The combination (on the ends of a cotton-bale tie) of the projections *a b* with the intermediate projections *c d*, respectively and independently operating as and for the purpose described.

113,519.— FINGER-GUARD.—Levi Holmes, Green Point, N. Y.

Claim.—A finger-guard, consisting of a shield, *a*, of the form described, and a band, *b*, inclined at its lower edge, the whole forming the section of a tapering tube, as set forth.

113,520.—CULTIVATOR.—Almon Hunt, Macomb, Ill.

Claim.—1. A wheel-cultivator composed of frame A A', axles E, bolts G, thimbles H having studs A, beams D, plates I, and bolts J, pole B, and equalizer K L N, the whole constructed and operating substantially as and for the purposes set forth.

2. The thimbles H, constructed as described, and arranged to operate with axles E and beams D, as and for the purpose set forth.

113,521.—KING-BOLT FOR CARRIAGES.—Dwight Hyde and Ephraim H. Andrews, Bridgeport, N. Y.

Claim.—An improved king-bolt, composed of the swiveled clip E *h*, which embraces the axle and the double clamps D *d f*, secured to the head-block and holding the spring, the clip E being provided with the plate and pin *e g*, and all the parts being constructed and arranged substantially as and for the purpose herein described.

113,522.—SEED-DRILLING MACHINE.—Oliver Hyde, Oakland, Cal.

Claim.—1. The hoppers A A, connected together by flexible joints or hinges, in combination with the beam D and wheel C, the whole hinged or linked to the transverse timber G, or equivalent device, substantially as and for the purpose above described.

2. The screw-blade *q* and pins *r r* in combination with the shaft *p*, arm *i*, and the slide *s*, substantially as and for the purpose above described.

113,523.—BALANCE-VALVE FOR STEAM-ENGINES.—Nelson Jenkins, Detroit, Mich.

Claim.—The valve B, when constructed and operating substantially as set forth.

113,524. — PACKING-TUBE FOR VAPOR-LAMPS. — William E. Jervey, New Orleans, La.

Claim.—The packing-tube, constructed as described, with a joint, and with a polygonal enlargement on said joint to permit the tube to be removed or replaced without injury to the tube, as set forth.

112,525.—THILL-COUPLING. — Daniel A. Johnson, Boston, Mass.

Claim.—The yoke A, constructed as described, in combination with packing H, band D, and lugs F F', screw I, and loose plate C, substantially as described.

113,526. — SOAP FOR POLISHING METALS, &c.—Ezra A. Johnson, Philadelphia, Pa., assignor to himself and Alexander Warfield, same place.

Claim.—A cleansing and polishing-soap, composed of soap, cocoa-nut oil or cocoa-nut butter, lye, and prepared silex, with or without sal-soda, substantially for the purposes herein set forth.

113,527.—CHIMNEY-TOP.—Michael S. Kavanagh, Detroit, Mich.

Claim.—The construction and arrangement of the chimney-top B, provided with a hood, D, vane E, spindle *d*, valve-sector F, bridge-pieces *a a*, inclined flanges *b b*, and plates C with relation to each other and the chimney or flue A, substantially as and for the purpose set forth.

113,528.—SPARK-ARRESTER FOR LOCOMOTIVES.—Francis Kearney and Luke F. Tronson, Newark, N. J.

Claim.—The grate D with longitudinal bars, as and for the purposes specified and shown.

113,529.—PLATFORM-SCALE.—Michael Kennedy, New York, N. Y.

Claim.—1. In combination with a lever which vibrates in a horizontal or inclined plane, and whose axis of vibration is a knife-edge, substantially as described, a point or pivot at the lower end of its fulcrum and in line with the knife-edge, and a bearing for the said point or pivot, substantially as and for the purpose described.

2. The knife-edges formed with end shoulders, in combination with the sides or ends of the bearing-blocks beveled to a point, or nearly as may be in line with the knife, substantially as and for the purpose described.

3. In combination with the secondary levers and a transmitting-lever interposed between and receiving action from both simultaneously, a connecting-tube, or the equivalent thereof, for transmitting the action by thrust, substantially as and for the purpose described.

113,530.—LIGHTNING-ROD.—Lewis King, East Cleveland, Ohio.

Claim.—The herein-described joint, when arranged in the manner as described, with a dowel, C, and one or more pins, D, substantially as specified, for the purpose set forth.

113,531.—SAWING-MACHINE.—Phineas F. King and Edwin A. King, St. Louis, Mo.

Claim.—1. The arrangement of the parallel slides D D' with adjustable stop-block I^3, for regulating the stop motion of said slides, in combination with the gauge F, substantially as set forth.

2. The gauge F, small slides e^1, when combined with the broad slide C, table B, arbor and saw attachments E E^1, frame A, and arranged to operate substantially as and for the purpose set forth.

3. The parallel slides D D', having slots I, stop motion-regulating devices I^1 I^2, gauge F, protractor H, when arranged in combination with the broad slide C, table B, saw E^1, arbor E, and frame A, to operate for sawing angular and irregular work, as described.

113,532.—DOLL.—Jacob Laemann, Philadelphia, Pa.

Claim.—The inelastic flexible cores *a a*, in combination with the fingers and thumb of the hand of a doll, substantially as and for the purpose hereinbefore set forth.

113,533.—STEAM-GENERATOR.—Erasmus D. Lacy, Rockford, Ill., assignor to Barnas C. Sears, same place.

Claim.—1. The chamber B, in combination with the furnace A, when constructed and arranged substantially as described.

2. The chambers B and C, when constructed and arranged substantially as described.

3. The generator described, consisting of the furnace A, boiler, with chambers B and C, and supply and steam-pipes, arranged as described.

113,534.—GRINDING-MILL.—Franklin H. La Port, Clarinda, Iowa.

Claim.—The arrangement of the blower D with pipe E, eye C of the millstone A, casing B, and pipe F, when all are constructed and operated as herein shown and described, for the purposes set forth.

113,535, antedated April 1, 1871.—BASE-BURNING STOVE.—Silas Hoffman La Rue, Allentown, Pa., assignor to himself and W. J. Hoxworth, same place.

Claim.—1. A fuel-reservoir, B, which is corrugated or internally ribbed, in combination with the air-inlet passage *g'*, between the extremities of this reservoir, substantially as described.

2. The air-circulating chamber J arranged directly beneath the water-tank G, and its water-jacked cover A, substantially as described.

113,536.—DEPURATOR.—Frederick C. Leland and Samuel W. Poland, Lowell, Mass.

Claim.—1. The combination, with a depurator of an apparatus to supply the patient *in vacuo* medicaments in the form of vapor or fluid, operating in the manner and for the purpose specified.

2. A valve combined with the inducting-tube of the depurator.

113,537.—WINDOW-SCREEN.—Charles F. Linscott, Chicago, Ill.

Claim.—1. The supplemental frames and screens, arranged for adjustment upon opposite sides of the main frame, substantially as shown and described, for the purpose specified.

2. The combination of the folding wire-screen F with the supplemental frame and the main frame A, substantially as described, for the purpose specified.

3. The combination of the roller I with the supplemental frame, the netting-screen H, and the main frame A, substantially as described, for the purpose specified.

4. The adjustable slides D, constructed substantially as described, in combination with the rails C and the main frame A, arranged as shown, for the purpose specified.

113,538.—BUREAU TRAVELING-TRUNK.—Hector Mackinnon, Cleveland, Ohio.

Claim.—1. In combination with the body A and drawers B B of the trunk, the rod E, secured by a separate locking device, as at *e*, substantially as and for the purpose set forth.

2. An improved bureau-trunk, composed of a body A A', with raised portion F, drawers B, and locking device E' *e'*, detachable top D, and the detachable front side A'', all constructed and arranged substantially as herein shown and described.

113,539.—BERTH FOR SLEEPING-CARS.—Benjamin F. Manier, Green Island, N. Y., assignor to himself and Thomas R. Smith, same place.

Claim.—1. The adjustable attachment of the weights to the chains by means of the adjusting screw and nut, substantially as specified.

2. The arrangement, with the weights or the stops K, of the cushions I, substantially as specified.

113,540.—BRICK AND OTHER MOLDS.—Henry Martin, Brooklyn, N. Y.

Claim.—The feet or stops E, in combination with the plunger-frame C and mold-frame A, essentially as and for the purpose specified.

113,541. — HARNESS SADDLE-TREE.—John H. Martin, Columbus, Ohio.

Claim.—The retaining-plate C, its screw *t*, and the capped plate B, constructed and adapted for use with a yoke having T-shaped heads on its extremities, substantially as described.

113,542.—NEEDLE-SETTER AND THREADER. Charles F. Martino, Boston, Mass.

Claim.—1. The plate A, in combination with the pivoted gauge-plate D and plate B, having clamps C C', substantially as described.

2. The needle F, provided with one or two hooks, and attached to spring H, in combination with plate A, substantially as described.

3. The combination in one instrument of the reversible and adjustable needle F with its spring H, the pivoted plate B with its clamps C, and the pivoted gauge-plate D, all arranged and operating substantially as described.

113,543. — WEIGHING ATTACHMENT TO WAGONS.—William H. McCormick, Muncie, Ind., assignor to himself and John T. Williams, same place.

Claim.—The transverse interlocking levers B B', arranged alongside the bolsters so as to be protected thereby from disarrangement, and provided with anti-friction rollers *c* hung between lugs, in combination with the levers D, F, and E, cap *h*, and anti-friction roller *f*, all constructed, arranged, and operated as set forth.

113,544. — SPINDLE FOR WRINGER-ROLLERS.—Thomas E. McDonald, Trenton, N. J.

Claim.—A spindle for rubber wringer-rollers, constructed with dovetailed grooves cut or cast longitudinally in the manner and for the purpose substantially as herein set forth, shown, and described.

113,545.—Suspended.

113,546. — MACHINE FOR TRIMMING THE SOLES OF BOOTS AND SHOES. — Daniel McLaughlin, Baltimore, Md.

Claim.—1. The revolving cutter-heads D and E, arranged with guides or guards F and G, substantially as and for the purpose herein set forth.

2. The revolving cutter-heads D and E and guides or guards F and G, in combination with rest or platform K, substantially as and for the purpose herein described.

113,547.—PACKING PISTON OF STEAM-ENGINES, &c.—John C. Merriam, Olneyville, R. I.

Claim.—1. The mode of preparing piston-packing herein set forth and described; that is to say, by covering the core or roving of the packing while saturated or wet with a solution of argillaceous clay or other mineral.

2. An improved packing, formed by braiding a cover upon a core or roving while said core or roving is saturated or wet with a solution of argillaceous clay, substantially as herein shown and described, and for the purpose set forth.

113,548. — FOLDING TABLE-TOP.—Charles W. Mills, Chicago, Ill.

Claim.—The toggle-joints G and K, the double hinge J, rod H, and chain M, so arranged as to operate the leaves C, D, and E at one and the same time, substantially as herein described, and for the purpose set forth.

113,549.—Fire-Pot for Stoves and Furnaces.—Edward Mingay, Boston, Mass.

Claim.—1. The metallic lining when constructed with hollow perforated spurs or partitions walls D, between the spaces occupied by the fire-bricks, as herein shown and set forth.

2. In combination with a metallic lining, constructed as specified, and provided with recesses G and air-inlets *d*, the fire-bricks fitting in the said lining and recesses G, and provided with air-channels or ducts communicating with said inlet *d*, under the arrangement shown and described.

3. In combination with the metallic lining and fire-bricks, constructed and arranged as specified in the preceding clause, the cap plates *f*, applied to said lining and bricks, and joined together, substantially in the manner shown and set forth.

4. The construction of the cap plates *f*, as provided with a hanging lip for retaining in place the upper ends of the fire-bricks F; of an inclosing ledge for compelling the deposit of ashes upon their upper surfaces; of an air-port to permit oxygen to pass the fire; and lastly, of tenon-and-socket connections at their mitered corners, all substantially in manner and operating as explained.

113,550.—Corn-Planter.—William Morrison, Carlisle, Pa.

Claim.—The India-rubber piece *s s*, in the top of the brush *m m*, pressing downward upon the clearer *w* in the manner and for the purpose herein set forth.

113,551. — Carriage-Step. — Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—1. A carriage-step, in which the pad A, shank B, and section of the loop C are produced in one and the same piece without welding, substantially as described.

2. The shank B of a carriage-step, formed of T-shape; or with a rib upon one side, substantially in the manner and for the purpose set forth.

113,552.—Horse Hay-Rake.—William A. Myers, York, Pa.

Claim.—1. The socket-plates, constructed as described, with open sockets *c* and open guides *c'* to receive the rake-teeth, so that each pair of teeth may be clamped to the axle by a single screw and the teeth can be separated by removing the socket-plate from the axle.

2. The combination of the cranked axle, the rake-teeth mounted on top of said axle, the draft-frame hinged to the under front corner of the axle, the clearing-teeth and driver's seat mounted on the draft-frame, and the pressure-lever pivoted to foot-lever and resting on the draft-frame; all these parts being constructed and operating as described.

3. The pressure-lever, pivoted to the foot-lever, and resting on the draft-frame, as described.

113,553. — Steam-Engine. — Nathan E. Nash, Westerly, R. I.

Claim.—1. The improved engine, having four cylinders radiating at equidistant points around the axis of the crank-shaft, the pistons of each coincident pair connected to a slotted yoke or bar, and said yokes or bars of both pairs connected to the one crank-pin, all substantially as specified.

2. The ports N and the annular exhaust-passage T, arranged in circles around the crank-shaft in the side of the block A, in which the cylinders are formed, and the combination therewith of the adjustable disk O, having the notch R and groove S', all substantially as specified.

113,554.—Weather-Board Gauge.—Matthew Newlove, Burlington, Iowa, assignor to himself and George Giebrick, same place.

Claim.—An improved weather-board gauge, consisting of the handle A, plates B, piece or block C, spring D *d*^{1} *d*^{2}, key E, and spur-plate F *f*^{1} *f*^{2}, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

113,555. — Hoisting Apparatus.—Charles R. Otis and Norton P. Otis, Yonkers, N. Y.

Claim.—1. The employment, in connection with a safety-hoisting apparatus, of the sheave H, arranged to change its axial position automatically in case of accident or derangement to any part of the apparatus with which it is connected, substantially as described.

2. The combination of the movable sheave H and connected weight with the lifting-rope, substantially as and for the purpose herein described.

3. The combination of the movable sheave, its connected weight, and the stop-lever or throttle-valve of the engine, substantially as and for the purpose herein described.

4. The combination of the movable sheave H with the brake-lever L of the safety-drum, substantially as and for the purpose herein specified.

5. The cab or platform, constructed with two sets of stop-pawls, *e e* and *k k*, arranged to operate independently of each other, substantially as specified, for the purpose of obtaining greater safety.

6. The combination of the two independent sets of stop-pawls with each other and with the lifting and safety-drum ropes, substantially as herein set forth.

7. The counter-balance O and its rope N in combination with the safety-drum M and its rope N', substantially as described.

8. The combination of the brake-lever L of the safety-drum with the stop-lever or throttle-valve of the engine, by connections for automatic action, essentially as specified.

113,556. — Cooking-Stove. — Daniel E. Paris, Troy, N. Y.

Claim.—1. The upright open-barred plate W, in combination with the upright mica door or windows O O, or any equivalent therefor, constructed substantially as herein described and set forth.

2. The rocker pieces *x x*, or any equivalent therefor, when made to support a coal-grate or coal-pan, one or both, for the purpose, or substantially in the manner herein shown and described.

3. The coal-pan A and the ash-pan B, the former above the latter, and each independent of the other, in combination with the fire-grate above and the door-openings in front of the same, when made for the purpose or substantially in the manner herein described and set forth.

4. The opening or openings Q' Q', formed between the hearth-plate P and the front fire-plate W, in combination with the pieces Q Q formed on the mica-door O O, or any equivalent for the same, when made for the purpose or substantially in the manner herein described and specified.

5. The movable rack S, or its equivalent, made for the purpose, and attached to the stove, substantially in the manner herein shown and described.

6. The mode of ventilating the oven and fire-box by means of the air-passages *d* and N, when connected and combined with each other, substantially in the manner herein set forth and described.

7. The construction of a stove-door knob or catch, made with the crooked shank 2, in combination with the wood attachment 3, when made for the purpose and substantially in the manner herein shown and described.

8. The revolving cake-griddle R, in combination with the central opening N in the stove top, or its equivalent.

9. The revolving flue-damper K, in combination with the flues *f f* and *g*, and the heating-chamber below the reservoir, made to operate substantially as herein described and shown.

113,557.—Metal Screw and Nut.—Henry G. Pearson, New York, N. Y.

Claim.—1. A bolt or screw having a series of indentations on one or both sides of the thread, substantially as described, in such manner that the indentations will act as a series of detents, for the purpose set forth.

2. A nut having a series of indentations on its thread, substantially as described, and adapted for use in connection with a bolt or screw indented as described.

3. Such a nut, when used in connection with a base convex steel-washer, or its equivalent, as described.

113,558.—Pen-Holder.—Oliver A. Pennoyer, Washington, D. C.

Claim.—The cylinder B having a single slot, *a*, and inwardly-projecting standing stud *c*, in combination with the sliding cylinder C having slot *a'* therein and stud *b* fast thereto, and sliding in slot *a*, in the manner and for the purpose described.

113,559.—Frame for Wire-Mattresses.—George C. Perkins, Hartford, Conn.

Claim.—The metallic corner connecting-pieces *c d* and *c' d'*, having the two angles or bearings *c c'* and *d d'*, for the purpose of sustaining the strain in the web *m*, and transmitting to the side pieces *c c'*, substantially as described.

113,560.—Dovetailing-Machine.—David Pomeroy, San Francisco, Cal., assignor to Elander Heath, same place.

Claim.—1. The turning or canting side H with its end pivots, in combination with the cam J, when constructed and operating substantially as herein described.

2. The cylindrical cam J, with its angularly-placed shaft either graduated or not, substantially as herein described.

3. The rocking-plate K with its lever L, and the arm M and set-screw N, when used as a gauge, substantially as herein described.

4. The ways E and the guides O, adjustable as shown, and the gauge, consisting of the lug T and the adjustable blocks U, the whole constructed and operating substantially as described.

113,561.—Paddle-Wheel.—Elijah Pratt, New York, assignor to himself, David Mundell, and Alfred Mundell, Brooklyn, N. Y.

Claim.—1. The guide cam-plates G G, provided with the outer cam grooves H H and inner cam-grooves J J, and with connecting passages controlled by the switch-blocks K K L, or their equivalents, substantially as and for the purpose herein specified.

2. The guide-rods F F, moving in inner slots of the wheel-arms, in combination with the cam-plates G G and paddles D D, substantially as and for the purpose herein specified.

3. The combination of the sliding-paddles D D, cam guide-rods F F, double-slotted wheel-arms *e e*, and cam-plates G G, constructed and arranged substantially as and for the purpose herein specified.

113,562.—Article for Food from Algæ or Sea-Mosses.—William J. Rand, Jr., Brooklyn, E. D., N. Y.

Claim.—1. *Chondrus crispus*, or Irish moss, and other species of algæ, as specified, washed in a light alkaline water, desiccated and put up in cloth or other bags, or an equivalent, suitable in size for the convenience of the consumer and the trade, as set forth.

2. The new manufacture of algæ, of the several species herein described, ground, powdered, cut up, shredded, or disintegrated, with or without the addition of other substances, so as to be put up and form an article of food, as set forth.

3. The above-described process for treating algæ, substantially as and for the purpose set forth.

113,563.—Clothes-Line Conductor.—David Reed and Amos Shaeffer, Medway, Ohio.

Claim.—1. The pulleys B of the above-described construction, arranged upon posts or other proper support, in combination with a reel having a short line attached, in the manner and for the purpose herein described.

2. The pulley B, having its upper flange provided with semicircular notches *b b*, as described, when arranged upon posts and used in connection with a clothes-line, as described.

3. The coupling D, with opening *d*, head *d*^{1}, head *d*^{2}, with slot *d*^{3}, in combination with the line C, as set forth.

113,564.—Grain-Drill.—Daniel Rentchler, Belleville, Ill.

Claim.—1. The rock-bar I, hinged to the hangers *i*, and provided with hooks *h* and toothed-wheel *k*, in combination with the drag-bars H, flukes F, and sliding toothed bar K, all constructed, arranged, and operating substantially as and for the purpose set forth.

2. The arrangement of the funnels L L', crank-shaft M, clamps *m*, pinion *n*, and sliding rack-bar K, and the rock-bar I, pinion *k*, drag-bars H, and flukes F, all constructed and operating substantially as and for the purpose set forth.

3. The cam *g'*, lever Q, and sliding pinion-clutch *p* on the crank-shaft P, combined with the lift-bar G hinged at *g*, the flukes F and the chains by which they are suspended, whereby the feeding mechanism is thrown out of gear simultaneously with and by the raising of the flukes from the ground, all operating substantially as herein described.

4. The pitmen R having a bearing, *r*, on the shaft P, when the bearing is provided with recesses *r'*, substantially as and for the purpose set forth.

5. The slide O^2, when made with a cavity *g*^{3}, and bearings *o*^{4}, and combined with the flange *o*, substantially as herein shown and described, for the purpose set forth.

113,565.—Machine for Sawing Staves.—Asaria Rewrick, San Francisco, Cal.

Claim.—1. The plate B, slotted as described, and having projections I I, forming supports for the pulleys *k l*, in combination with the adjustable boxes *d* and friction-rollers *e*, substantially as shown, and for the purpose described.

2. The pulleys *k l*, secured above and below and to one side of the center of the revolving saw *f*, and the large pulley H, in combination with the endless belt *m*, arranged to encircle the larger part of the saw, as described, for the purpose specified.

113,566.—Friction-Clutch. — George S. Reynolds, Lebanon, N. H.

Claim.—The clutch-lever D, slotted and grooved, and combined with the spring *d* and with the flange of the wheel C, substantially as herein shown and described, to operate as set forth.

113,567. — Gas-Heater. — Orlando McKnight Reynolds and David Tuttle Kitchell, Oil City, Pa.

Claim.—1. The construction of the base H of the reservoir with sloping plates in such manner as always to retain heated and protecting fluid.

2. The construction of a coiled siphon, *f*, within the chimney of a lamp-heating apparatus in such way as to receive fluid from and return it to the reservoir for the purpose of increased and equalizing heating facilities.

3. The combination of the tank *a* with sloping base H, lamp *b*, water-pipe *c*, chimney *d*, cover *e*, and coiled siphon *f*, all constructed, arranged, and combined as and for the purposes set forth and described.

113,568.—WHIFFLETREE.-Joseph H. Riggs, Chelsea, Mass.

Claim.—In combination with the cross-bar, shafts, and whiffletree of an ordinary wheeled vehicle, the clasps or yokes A A and the hooks *e e*, or their substitutes, the whole operating as hereinbefore explained.

113,569.—MEDICAL COMPOUND.—Joseph A. Robbins, Medford, Mass.

Claim.—1. The remedial agent, gasoic medicated cocoa-butter, substantially as described.

2. The process of making gasoic medicated cocoa-butter, substantially as set forth.

113,570.—OIL-CLOTH PRINTING-MACHINE.-Charles Rommel, Elizabeth, N. J.

Claim.—1. The prismatic printing-roller B, combined with the color-roller F, of same shape, both being turned at equal intervals and in equal degree, as specified.

2. The printing-roller B, suspended from the shaft D to receive vertical motion, and connected with the wheel *i* for receiving intermittent rotary motion, substantially as set forth.

113,571.—DENTIST'S INSTRUMENT-STAND.—John J. Ross, Hernando, Miss.

Claim.—The upright *a*, combined with the rotary top *b*, when the latter is provided on its upper surface with the central flat space *c* and the surrounding sloping spaces *f*, separated from each other by rails, as specified.

113,572.—FISH-NET SUPPORTER.-Benjamin Rider, Jr., South Orrington, Me.

Claim.—A net and net-frame combined, as described, with the triangular frame A, weighted, loosely attached to fixed pivot, and operating as and for the purpose specified.

113,573.—SPRING FOR VEHICLES.—Cyrus W. Saladee, St. Catharines, Canada.

Claim.—The arrangement and combination of the springs A A, when placed on a line with the axles of the vehicles, and operating in combination with the levers or cranks A′ and the bearings D, substantially as and for the purpose shown and described.

113,574.—SPRING FOR VEHICLES.—Cyrus W. Saladee, St. Catharines, Canada.

Claim.—Crossing torsion-springs A at or near their centers, and operating in combination with the cranks or levers A′, substantially as and for the purpose shown and described.

113,575.—RING-SPINNING MACHINE.-Jacob H. Sawyer, Lowell, Mass.

Claim.—1. The combination, with the stationary live spindle S, of a chambered bobbin, having such a conformation of the chamber as to allow the bobbin to receive and constantly retain the stationary upper bearing of the spindle within the body thereof, but without being in contact therewith, substantially in the manner and for the purpose specified.

2. The combination, with a stationary live spindle, of a stationary tube or standard, T, extending above the rail, and containing or supporting the upper bearing of the spindle at a fixed point within the bobbin when the latter is in place on the spindle, substantially as described.

3. The stationary live spindle having its bearing nearest the whorl of a less diameter than the other, in combination with the stationary tubular bearing T and the chambered bobbin D, the latter surrounding but not touching the tubular bearing, all substantially as and for the purpose specified.

4. The arrangement of the bearings of stationary live spindles of ring-spinning frames in the manner substantially as described, whereby the lower bearing is placed in a fixed position nearer to the whorl than the upper bearing without changing the relative position of the whorl to the bolster-rail, when such spindles are used in combination with the stationary tubular bearing T and the chambered bobbin D, as set forth, the bobbin surrounding but not touching the bearing.

113,576.—SOFA-BED.—Charles C. Schmitt, New York, N. Y.

Claim.—1. The sofa-back, composed of the parts C and D, between which part of the mattress can be concealed, substantially as herein shown and described.

2. The sofa-bed, composed of the parts A B C D, all hinged together to operate substantially as herein shown and described.

113,577.—BUTTON.-Gustav Adolph Schultz, Louisville, Ky.

Claim.—As an article of manufacture the button herein described, consisting of the disk E, provided with the shank carrying the rigid arm D and the spring-fastening device B A C, constructed and arranged to operate in connection with the notched lug, as specified.

113,578.—KINDLING MATERIAL.—Theodore Schwartz, New York, N. Y.

Claim.—1. A new article of manufacture which I call coal-matches, the same consisting of sticks, preferably of tinder-wood, one or both ends of which have absorbed an inflammable liquid varnish, or other suitable inflammable material, and been protected from tackiness by the application of sawdust to the varnished surface, all as herein-before fully set forth.

2. The special process or method of applying the inflammable material to the end surfaces of the sticks, as described.

3. Sticks of wood having special inflammability confined to one or both ends by an application of varnish, or other suitable inflammable material, restricted to said end or ends, for the purposes specified.

113,579.—FEED-CUTTER.—Joseph Seaman, Chicago, Ill.

Claim.—The improved construction and arrangement of the feed-cutter described and shown, consisting of the box A, the frame B, the spring face-plate M, the adjustable toothed feed-rollers E E′ having the crown-wheels F F′ driven by the worm-shaft G, the heavy crank-wheel I carrying the knives L, and the comb N, all substantially as and for the purpose set forth.

113,580.—CHURN.—Abraham Shaffer, Vandalia, Mich.

Claim.—1. In combination with the chamber D the spiral air-pipes L M, when constructed and operating as and for the purposes set forth.

2. The arrangement of the standard A, cross-tie C, cream-chamber D, door E, link F, cam-lever G, bar H, staple I, crank J, lip K, pipes L M, hook N, and staple O, in the construction of a rotating and rocking churn, when said parts are combined to operate as and for the purposes herein set forth.

113,581.—FLY-BRUSH.—David Shankland and Emerson B. Hopkinson, Nevada City, Cal.

Claim.—A fly-brush, consisting of the train of gears driven by a spring, in combination with the vibrating-arm *k*, connected with the vertical shaft *l* by means of the connecting-rod *n*, and the vertical shaft P with its radiating-arms *s*, substantially as and for the purpose described.

113,582.—WASH-BOILER.-John H. Siebcke, Ann Arbor, Mich.

Claim.—The construction and arrangement of the vertical chamber A, provided with the cover C and diagonal spouts D, as described, in connection with the flange B, as and for the purpose set forth.

113,583.—REFINING IRON AND STEEL.—Alexander H. Siegfried, South Bend, Ind., assignor to himself and George B. Garman.

Claim.—The within-described process of tempering and refining steel by the use of the before-mentioned compounds of chemicals in the manner as set forth.

113,584.—PROCESS AND APPARATUS FOR THE PRODUCTION OF CAST-STEEL FROM ORES.—Charles William Siemens, Westminster, England.

Claim.—1. Producing cast-steel by first converting ferruginous ore into lumps or loaves of partially or wholly-reduced metal, either with or without admixture of fluxing materials, and by then charging these lumps, in a heated condition, into an open-hearth steel-melting furnace, to be there liquefied by being brought into contact with a bath of cast-iron or other carbonaceous matter, substantially as hereinbefore described.

2. The method of reducing masses of iron ore, whereby the ore is subjected to the action of carbonic-oxide gas, generated from carbonaceous materials contained with the ore, inside a close chamber, heated externally, while the resulting carbonic-acid gas is again converted into carbonic oxide by contact with the heated fuel, substantially as set forth.

3. Preparing loaves of wholly or partially-reduced iron ore by melting the ore or mixture of ores with fluxing materials in contact with carbon, and by charging this fluid mass into molds containing coke, charcoal, or other solid carbonaceous matter, which loaves are thereupon maintained for some hours at a full red heat in a reducing atmosphere, within a heated chamber or hot-store furnace, before they are charged into the steel-melting furnace, substantially as described.

4. Preparing loaves similar to those aforesaid by crushing the ore, by mixing it intimately with fluxing materials and with binding-coal, by forcing or placing the mixture into molds and exposing the same for a considerable number of hours to a full red heat in a closed heated chamber or hot-store furnace, substantially as described.

5. Preparing loaves similar to those aforesaid from ores rich in manganese or other equivalent easily-oxidizable metal, together with an excess of carbon, to be charged into the fluid bath of the steel-melting furnace toward the end of each operation, in order to impart those metals to the bath, substantially as described.

6. Constructing hot-store furnaces, muffles, or kilns for reducing iron-ore, wherein the ore is contained together with carbonaceous materials inside a closed chamber or chambers situated inside a regenerative gas-furnace or other furnace, substantially as described.

7. Constructing hot-store furnaces, muffles, or kilns for calcining or reducing iron-ore, wherein the ore, in the form of lumps, is caused to descend through a vertical or inclined shaft onto the bed of a close chamber heated externally, in which chamber carbonaceous materials are placed, the excess of carbonaceous gases being caused to rise through the vertical shaft, where they are made to enter into combustion with atmospheric air introduced through side apertures, so as to effect the calcination of the descending ore, substantially as hereinbefore described with reference to figs. 14, 15, and 16 of the drawing.

8. Arranging in hot-store reducing-furnaces, as described in the sixth and seventh claims, a separate receptacle or receptacles for the carbonaceous material, so as to bring the ore only in contact with the carbonaceous gases generated from such carbonaceous materials, substantially as described.

9. Constructing the steel-melting furnace with a charging-chamber, through which a portion of the hot gaseous products of combustion can be made to circulate, into which the aforesaid lumps, as well as the pig-metal or other materials to be used, are introduced, to be thence pushed forward in a heated condition into the melting-chamber, substantially as described with reference to figs. 8 to 10 of the accompanying drawing.

10. Constructing the bed of the steel-melting furnace of a mixture of pure silicious sand with glass-powder, substantially as hereinbefore described.

11. Constructing the air and gas-ports of a steel-melting furnace in such manner that the vertical air-ports rise nearly to the roof of the furnace, while the side walls of the flues are extended forward in a convergent manner until they meet, in order that the air may issue into the furnace in diverse directions above the combustible gas, substantially as hereinbefore described with reference to figs. 8 to 10 of the accompanying drawing.

12. Arranging one or more rows of steel-melting furnaces with their tapping-holes facing a longitudinal trench, with lateral trenches leading to each of the furnaces, upon the edges of or over which trenches rails are fixed crossing the main trench, ladle-carriages being arranged to run over the lateral trenches in order that the fluid metal may be discharged into molds carried upon rails in the central trench, facilitating their preparation and removal, as hereinbefore described.

113,585.—HOISTING APPARATUS.—Thomas Silver, New York, N. Y.

Claim.—1. The combination, with the car or platform D and a fixed rack or racks, of the obliquely-disposed revolving shafts F F having the convolute flanged wheels E E firmly secured to them, and connected by a universal joint, H, the whole arranged for operation substantially as specified.

2. The combination of the grooved guide or guides C attached to the car or platform, with the roller-rack or racks B and the obliquely-disposed convolute flanged wheel or wheels E, essentially as herein set forth, whereby the rollers of the rack serve not only as climbing-points or surfaces, but also to ease and guide the car or platform in its travel.

3. The endless driving-rope or chain I, running directly from the driving-pulley J, or its equivalent, to and around one of the convolute flanged wheels E, substantially as herein described.

113,586.—CURRENT WATER-WHEEL.—Heman B. Sinclair, Paw Paw, Mich.

Claim.—The combination of a current water-wheel provided with the hub E, the radial arms *e*, the blades F, the brace-rods D, and the chains *f*, with the deflecting-guide G, all constructed and arranged substantially as described and shown, for the purpose set forth.

113,587.—MANUFACTURE OF STEEL.—Fred. J. Slade, Trenton, N. J.

Claim.—The manufacture of steel by the recarbonization of a bath of metal produced from iron sponge, or from a mixture of ore and carbonaceous matter previously melted and decarbonized, substantially as described.

113,588.—ROOFING COMPOSITION.—Jacob H. Smyser, Pittsburg, Pa.

Claim.—A roofing composition composed of vulcanized caoutchouc mixed or combined with the products of destructive distillation, or slow putrefactive change of organic matters, such as coal-tar, pine-tar, bitumen, or asphaltum, the resulting product being mixed with a salt of an alkaline metal, or salt of an earthy metal, or a mixture or chemical combination of salts of both.

113,589.—ELECTRO-MAGNETIC BURGLAR-ALARM.—James P. Snyder, Brooklyn, N. Y.

Claim.—1. The combination of the arms *c c′ c″*, springs *d*, *d′*, *d″*, and *d‴*, plate B, and spring *e*, for the purpose of changing and distributing circuits, all constructed, arranged, and operating in the manner and for the purpose of making more perfect connections, in the manner and for the purpose specified.

2. The non-conducting double wedge-shaped block *e*, and conducting metallic wedge-shaped blocks *e' e'*, rod F, and vertical springs M M' M'' M''' M'''' M''''', combined and arranged so as to produce the several circuits in a perfect manner, as well as preventing the corroding of metals.

3. The pawl H, eccentric G, combined with the rod I and stop-pin L, thereby relieving the lever P of any existing lateral strain which would occur if the rod was dropped into a notch in the eccentric G.

4. Counteracting the resistance of the coil of wire which surrounds the magnet O by means of the springs M M' and non-conducting block *e*, all arranged substantially for the purpose set forth.

5. The mode of regulating and adjusting the eccentric G and bar or shaft F, by means of the adjustable-rod I, with spiral or other spring, and stop-pin L, all constructed, arranged, and operating in the manner and for the purpose set forth.

113,590. — APPARATUS FOR EVAPORATING CANE-JUICE, &c.—Ebenezer Sperry, Chicago, Ill.

Claim.—1. The arrangement of the two fire-boxes A B, separated by the double wall A', and hinged damper B', with the bottom of the boiler C' forming the top of said fire-boxes, when constructed and operating as herein set forth.

2. The boiler C' provided with tubes *a' b'*, in connection with the two fire-boxes A B, when constructed and operating as and for the purposes herein specified.

3. The combination and arrangement of the tubes *a' b'*, and flues *c*, and flue D', with the two fire-boxes A B and boiler C', when constructed to operate as herein described.

4. The arrangement of the boiler C', evaporating-pan E', gates *d'*, sinks or wells *e*, drip-pipes F, leaders *f*, gates *e'*, fixed gates *f' g'*, and adjustable gates A, when constructed and operating as and for the purpose herein set forth.

5. In evaporators, the valve or gate F', when operating for the purpose specified.

6. The arrangement of the pipes N G' H H, the latter being provided with valves *i'*, for the purposes set forth.

7. The regulator I', when constructed and hung as described, in connection with the operating lever J, connecting-rods *k*, and valves *i'*, when operating for the purposes specified.

8. In evaporating-pans, the perforated distributer I, in connection with the stand-pipe G, for the purposes herein set forth.

9. The receiving-pan K', divided into two chambers *n n'*, provided with valves *o' o''* operated by the float M through the arm *p''*, rocker-arm *r*, rock-shaft L, and connecting-rods *p'*, when constructed and operating for the purposes herein specified.

10. The heater O provided with flues *r' O''*, chambers P, pipes *s*, jackets R T, openings and valves R', openings S, when constructed and arranged as herein set forth.

113,591. — LIQUID AND GAS-METER. — D. Brainerd Spooner, Syracuse, N. Y.

Claim.—An air or vacuum-chamber, F, formed by a cylinder or vessel, *f f*, and by two flexible diaphragms G *g* acting with each other in their movement, and being of unequal working areas, for supplying the power to actuate or throw the valves of liquid or gas-meters.

113,592.—WATER-WHEEL.—John H. Staples, Wells, assignor of one-half his right to John H. Ferguson & Samuel Clark, and one-half to Samuel Clark, same place.

Claim.—The straight back *c* of the buckets, and the inwardly concaved plates *b* of the top plate C, combined, as described, with concave faces *a*, for the purpose specified.

113,593. — SEWING BOOTS AND SHOES.—Michael J. Stein, New York, N. Y.

Claim.—1. The means hereinbefore described for securing the last to the carriage, consisting of the combination of the crutch, its base-block adjustable in ways on the carriage, and the mechanism for operating the crutch and securing its base-block in any desired position on the carriage to suit lasts of different sizes, substantially as described, and these I also claim in combination with the pin which enters a hole in the last and the base of which is adjustable longitudinally on the carriage for different lengths of last, as described.

2. In combination with the guide for directing the edge of the sole and holding the upper in position, the means herein described to enable the operator to adjust its position with the thumb and finger while his hand rests on the movable plate to which the sewing mechanism is attached, as herein described.

3. In combination with the self-adapting plate to which the sewing mechanism is attached, the mechanism, substantially as herein described, for holding the said plate in a fixed position at the time the needle enters the sole, and for liberating it that it may be self-adapting to the undulations of the sole during the feed motion.

4. The self-adapting rests which ride or bear on the sole hung or supported substantially as described, and adjustable to adapt them to lasts of different sizes and curvatures, substantially as specified.

113,594. — SPINNING-WHEEL. — Joseph Strain, Artemesia, Canada.

Claim.—The combination of the wheels B K, standard L, pulleys S, H', and H, pitman J, connecting-rod G, head I, spindle E, treadle M, and cords *a b d*, all constructed and arranged substantially as described and shown, for the purposes set forth.

113,595.—KING-BOLT FOR WAGONS.—Lee T. Swartwout, Locke, N. Y.

Claim.—A king-bolt for wagons, having the oblong head D and the bottom prongs B arranged in the same plane, as and for the purpose specified.

113,596. — BED-BOTTOM.—Joseph Tinney, Westfield, N. Y.

Claim.—The arrangement of the detachable and adjustable spring bed, constructed of bottom-pieces B B', top pieces C C', united in the center by stationary blocks D D', and having the corner spiral springs *b b b b* or their equivalents, and the whole made adjustable by means of the sliding or movable blocks E E', or their equivalents, as hereinbefore fully set forth.

113,597. — WATER-METER.—William Van Anden, Poughkeepsie, N. Y.

Claim.—The water-meter propeller-wheel when constructed from a single blank of sheet metal to form two or more wings, and the ferrule J therefrom, substantially as described, and for the purposes set forth.

113,598.—AXLE-GAUGE.—Richard K. Vestal, Santa Cruz, Cal.

Claim.—1. The bar A, with its arm *b* and guide *c*, in combination with the adjustable vibrating gauge-arms *e* and *f*, substantially as and for the purpose herein described.

2. The adjustable gauge-arm *m* and the guide *g*, in combination with the bar A, substantially as and for the purpose described.

3. In combination with the arms *e* and *f* and the guide *c*, the adjustable gauge *h*, substantially as and for the purpose described.

113,599.—OIL-RESERVOIR FOR AXLE-BOXES.—Ernest Von Jeinsen and James Monroe McDonald, San Francisco, Cal.

Claim.—1. The plate B, provided with an opening, E, and grooves F, substantially as described.

2. The combination of the box A with the plate B, as described, and for the purpose set forth.

113,600. — BALANCE-VALVE. — Alexander Wanich, Philadelphia, Pa.

Claim.—1. An inverted cup, *a*, in combination with an upright cup, *b*, pilot-valve *c*, and openings *d d*, constructed and operated substantially as described.

2. The combination of the two valves D C, fig. 2 constructed and operated substantially as described.

3. The combination of the two valves E F, fig. 3, constructed and operated substantially as described.

113,601.—COMBINED THIMBLE AND LOCKET.—William A. Wansleben, Washington, D. C.

Claim.—As a new article of manufacture, the combined thimble and locket herein described.

113,602.—SMOKE-HOUSE.—Asa Waterman, Providence, R. I.

Claim.—A smoke-house constructed as described, consisting of an upper chamber, A, with its movable beams *a a a*, perforated cone C, ventilator *a*, and gratings *c c*, *c' c' c'*, together with a lower chamber, B, containing a furnace, as F, with its radiator E, a smoke-pipe, as S, and the branching ventilating pipe V with its regulator *d*, as herein set forth, and for the purpose specified.

113,603.—BOTTLE-FASTENING. — Ephraim D. Weatherbee, Worcester, Mass.

Claim.—The combination, with the fire-fastener C, provided with a loop or stop, D, of the adjustable collar E, formed with ear pieces *e* and depressions *a*, substantially as and for the purposes set forth.

113,604.—MACHINE FOR THE MANUFACTURE OF COMPOSITION ROOFING.—Jay J. Wiggin, New York, N. Y.

Claim.—1. The machine herein described for covering fabric with roofing composition, the same consisting of the frame A, rollers B C D, and discharging-trough E, substantially as set forth.

2. The semi-cylindrical valve *e* arranged within the distributing-trough E, substantially as and for the purposes herein shown and described.

3. The trough E, containing the valve *e*, and provided with the hollow sides and ends for the reception of hot water or steam, as specified.

112,605.—FENDER OR CUSHION FOR FURNITURE. — George R. Willmot, Meriden, Conn.

Claim.—The combination of the block A, the covering B, and the wire or spring C, and the marginal ring or border casing D, with or without the elastic packing *b*, substantially as specified.

113,606.—PIVOT FOR SEATS.—John J. Wilson, New York, N. Y.

Claim.—The hollow metallic column *a* with a circular opening at its upper end, in combination with the movable socket *f* and pivot *b*, substantially as and for the purposes set forth.

113,607.—BRACKET SEAT.—John J. Wilson, New York, N. Y.

Claim.—1. The swinging latch A, combined with the swinging bracket *a* and seat, substantially as and for the purposes set forth.

2. The boxes for the pivots *b b* of the swinging bracket and seat, made with the block *e* and strap *f*, the latter being secured by bolts or screws, so as to apply the necessary friction to the pivots of said bracket, as and for the purposes set forth.

3. The lugs *n n* upon the seat *o*, with nearly flat bearing surfaces corresponding to the inclined surfaces *p p* on the bracket *a*, in combination with the spring *t*, as and for the purposes set forth.

4. The seat *o*, made of a wooden block, *o'*, with sheets of wadding introduced between such block and the covering fabric, in combination with the block *v* and attachments to the swinging bracket, as set forth.

113,608.—BUFFER-HEAD AND DRAW-BAR FOR RAILWAY CARS.—John T. Wilson, Pittsburg, Pa., assignor to himself, William D. Berry, and John A. Courtney, same place.

Claim.—1. In couplings for railroad cars, the combination of the curved buffer-heads with the hinged joints between said buffer-heads and the draw-bars, when said buffer-heads are curved in the arc of a circle of which the pivots *a a* are the centers, and when the hinged joints between the buffer-heads and the draw-bars are so arranged as to allow the buffer-heads to move or play laterally upon the draw-bars, as and for the purpose set forth.

2. In combination with the buffer-heads of car-couplings, the lateral arms *c d*, links *f*, rivets *e'*, and draw-bolts *g*, when the arms *c c* of the pairs are so made as that the links shall draw on said arms and against said draw-bolts, as and for the purpose herein described.

113,609.—WINE-PRESS.—Abraham F. Wyker, South Easton, Pa.

Claim.—The detachable perforated slide O P, formed of two sheets placed at right angles to each other, when applied to a press, as and for the purpose specified.

113,610.—ATTACHMENT FOR SEWING-MACHINES.—Enoch S. Yentzer, Ottawa, Ill.

Claim.—1. The spring arm G, furnished with the piercing-marker *t*, and constructed as described so as to be operated by the descending motion of a sewing-machine needle, in combination with the adjustable guide B, cloth-supporting and adjusting spring strip or plate D, smoothing-strip E, or its equivalent N *n o*, and plate A *a*, substantially in the manner and for the purpose described.

2. The tuck-marker, consisting of the strip D bent at *g* and perforated at *f'*, and the pricking-marker *i* on the arm G, all connected together and forming an attachment, substantially as described.

3. The strip N, formed with turned-up lapping lips *o o*, and extended from the guide-bar or from an adjustable guide-shoulder, B, a suitable distance, and carried back to within a short distance of said shoulder so as to form a tongue, all substantially in the manner and for the purpose described.

4. The combination of the hemming and tucking devices in one implement, substantially in the manner described.

113,611.—MACHINE FOR SCRAPING IRON.—Christopher Zug, Pittsburg, Pa.

Claim.—1. In combination with a pair of rolls, a scraping device adjacent thereto, a steam-cylinder and piston, and suitable mechanism connecting the upper one of said rolls with a valve of the steam-cylinder, and a piston-rod connecting the piston of the steam-cylinder with such scraping device, substantially as described.

2. The steam-pipe, communicating at one end with the interior of the steam-cylinder, and terminating at the other end above the path of the plate to be rolled, and between the scrapers and the rolls, substantially as and for the purpose described.

113,612.—ELECTROPLATING WITH NICKEL.—Isaac Adams, Jr., Boston, Mass.

Claim.—A cast nickel anode as a new article of manufacture.

113,613.—Steam-Generator.—John F. Allen, New York, N. Y.

Claim.—1. The combination of horizontal tubes A with the inclined pipes C, substantially as and for the purpose herein before described.

2. The combination of one of the last rows of pipes C, connections *w*, pipes *v v*, and steam-drum B, substantially in the manner and for the purpose described.

3. The combination of the horizontal tubes A, drum B, tubes C, and right-and-left-threaded nipples *m* and *w*, substantially as and for the purpose herein set forth.

113,614.—Pipe-Elbow.—William Austin and William Obdyke, Philadelphia, Pa.

Claim.—An elbow, constructed from a sheet of metal having a series of pieces cut therefrom to impart to the elbow when finished the required bend, substantially as described.

113,615.—Skate.—William Henry Barker, Windsor, Nova Scotia.

Claim.—The ordinary rack-jaws, turned up at J J, combined with a pinion fast to the runner, for the purpose of causing the runner to perform the function usually performed by an auxiliary lever, which is thereby dispensed with.

113,616.—Balanced Slide-Valve.—Albert G. Barrett, Barrett, Kansas.

Claim.—A pair of slide-valves, C, having domes F G, and arranged in a chamber, H, combined as described with a steam-chest, A, cylinder induction-ports B B, exhaust-ports D D, and steam-channels E E, all relatively arranged to act on the principle specified.

113,617.—Root or Tonic Beer.—Benjamin Bates, Baltimore, Md.

Claim.—1. Pulverized or concentrated hops, sassafras, ginger, and Southern prickly-ash in the manufacturing or compounding of all root or tonic beers made wholly or in part of the roots or barks herein set forth.

2. Glycerine, in the manufacture or compounding of root or tonic beer, for the purpose herein set forth.

113,618.—Machine for Cutting Leather.—Horace H. Bigelow, Worcester, Mass.

Claim.—1. The combination of the cutting-die, rotating bed or block G, ratchet-plate I, dog K, and arm M, substantially as and for the purpose set forth.

2. The combination, with the vertical operating bar E and die-spindle, of the platen N, supporting spider O, and ring P, substantially as and for the purpose set forth.

3. The combination, with the eccentric shaft C and driving-pulley B provided with ratchet-teeth *c*, of the crank S, pawl T, guard V, rods *z* and Y, bell-crank lever W, and treadle H, substantially as and for the purposes set forth.

113,619.—Perfuming and Disinfecting Apparatus.—Otto Boldemann, New York, N. Y.

Claim.—The improved mode of evaporating perfuming, disinfecting, or other liquids by means of a metallic platinum burner, suspended in or above a vessel containing the liquid mixed with alcohol or other liquid containing hydrogen, substantially as specified.

113,620.—Automatic Fan.—George C. Bovey, Cincinnati, Ohio.

Claim.—1. The combination of the rotary-fan R S T, shaft O, adjustable-bracket J, gearing F, cord D, and weights E E′, as and for the purposes specified.

2. The combination of the adjustable-bracket J, shafts I O, and rotary-fan R S T, substantially as set forth.

3. The combination of the brake U *u* with the rotary-fan R S T and its shafts I O, substantially as described.

113,621.—Key-hole Guard.—George C. Bovey, Cincinnati, Ohio.

Claim.—The pivoted elastic arm F, provided with a guard-plate, G, and a pin, *f*, and adapted to engage automatically with the bolt C, to be retracted therefrom by a key, I, and to be turned into an inoperative position from the inner side, all as herein described.

113,622.—Cask for Paste.—Henry Brannhold, New York, N. Y.

Claim.—In combination with the cask having the tapering seat *a*, the head B having the tapering projection *b* on its inner surface, and held to the seat *a* by means of the swiveled bar C and cam-hooks or catches, as herein set forth and shown, for the purpose specified.

113,623.—Shawl-Strap.—Gustavus Benson Broad, Waterville, Me.

Claim.—An improved shawl-strap, consisting of the metallic part A a^1 a^2, straps B C, hand piece D, cap-eyes E, and keepers F, said parts being constructed and arranged substantially as herein shown and described, and for the purposes set forth.

113,624.—Apparatus for Compressing and Inserting Rubber Blocks into Carriage-Clips.—Thomas H. Brown and Charles E. Gilman, Chicago, Ill.; said Gilman assigns his right to said Brown.

Claim.—The compression-hook herein described, consisting of the two parts A B, when said two parts are formed and pivoted together, as shown and described, and for the purposes set forth.

113,625.—Combined Plow and Scraper.—John Charles Cameron, Madison Station, Miss.

Claim.—In combination with a plow, the "scraper" or extension C, constructed and applied substantially as and for the purposes herein shown and described.

113,626.—Cotton-Seed Planter.—Francis F. Carroll, Midway, S. C.

Claim.—The combination of the rolling-drum, divided into two compartments, one of which constitutes a seed-holder and the other a distributer, and the seed-feeder F, adjustable on the shaft of the drum within an opening between the said compartments, substantially as and for the purpose herein specified.

113,627.—Gang-Plow.—Luke Chapman, Collinsville, Conn., assignor to himself and The Collins Company.

Claim.—1. In a gang-plow, the combination of the parts *f* and *f′* and the clamp *n* with the wheel *e*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

2. The combination of the frame *a*, cranked axle *e*, jointed lever *f f′*, clamp *n*, and wheels *e* and *f*, as parts of a gang-plow, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

113,628.—Mastic Roofing.—John Clipperley, Galesville, N. Y.

Claim.—The within-described composition for mastic roofing, consisting of a mixture of coal-tar and moist sand, applied substantially in the manner herein set forth.

113,629.—Picket-Cutter.—James W. Clark, Outville, Conn.

Claim.—The combination, with the vertically-reciprocating knife A and the lever I, by which it is operated, of the clamping-lever M and rod L, substantially as specified.

113,630.—Faucet.—John S. Clute, Henry W. Trissler, and Walter D. Trissler, Cleveland, Ohio.

Claim.—1. The faucet-key B, having the tapered shoulders D E with the intervening recess to receive the leather packing F, and longitudinal grooves *a* in said recess, in which the leather packing is compressed, constructed to operate as herein described.

2. The removable tapered and chambered nozzle or filler B′, having the enlarged chamber at its upper end to offset *b*, in the manner and for the purpose described.

113,631.—Machine for Splitting and Skiving Leather.—Alexander Cochran, Athens, Ohio.

Claim.—In combination with the straight-edged knife of a machine for skiving and splitting leather, a gauge and pressure-roller having one or more circumferential depressions on its surface, each having a radial longitudinal section in form the reverse of that required in the leather strip which it is desired to produce therewith, all substantially as and for the purpose herein set forth.

113,632.—Harvester-Rake.—Otis B. Colcord, Greenville, Ill.

Claim.—1. The combination of the extended upper board C and a fork, D, substantially as and for the purpose described.

2. An improved rake and beater, composed, essentially, of the board C, having a curved and extended end, the adjustable lower board C′, a fork, D, connecting-braces, and a beater arm, all constructed, arranged, and operating substantially as herein described.

113,633.—Connection for Railway Car.—Joseph R. Crabill, La Crosse, Ill.

Claim.—The rock-shaft D, rigid arms E, connecting-bars F with their double-jointed connections, rigid arms G, and standards H, constructed and combined with each other, substantially as herein shown and described, to adapt them for attachment to the adjacent ends of two railroad cars, as and for the purpose set forth.

113,634.—Metallic Cartridge.—Silas Crispin, New York, N. Y.

Claim.—1. A solid metallic disk and a centrally inwardly-projecting cap and anvil-chamber or receiver made in one piece, in combination with an internally-flanged tube or cartridge-body, when secured thereto by means of a wad, as described.

2. The metallic disk B and cap-chamber *b*, made in one piece, in combination with the rear end of the cartridge-body A or its re-enforce, when secured thereto by means of solder, substantially as herein set forth.

113,635.—Machine for Cutting Lozenges, &c.—William Edward Damant, West Hoboken, N. J., assignor to himself and William Hossin, Toronto, Canada.

Claim.—1. The hinged feed-table carrying the apron G and platform H, to operate in conjunction with the stationary cutters, substantially as herein shown and described.

2. The reciprocating frame J, combined with the stationary cutters and swinging perforated platform H, substantially as herein shown and described.

3. The elastic blocks *u u*, interposed between the reciprocating frame J and swinging platform H, substantially as herein shown and described.

4. The cutters I I, affixed to a sliding plate, K, and applied below the reciprocating frame J, substantially as herein shown and described.

5. The combination of the roller E with the wheel *f*, arm *g*, pawl *h*, pitman *i*, and crank-pin *j*, all arranged to operate substantially as herein shown and described.

113,636.—Wagon-Brake.—Robert H. Dement, Hudson, Ill.

Claim.—1. The brake-shoes, combined by the yoke E, rod F, eccentric disk *b*, and stem C, so that they will be applied and locked by the turning of the stem, as set forth.

2. The yoke E, connecting with the brake-shoes, and secured to the rod F by means of the nuts *c c*, to be adjustable, as set forth.

113,637.—Stall for Horses.—Daniel M. Denison, Savannah, Ga.

Claim.—The sides A, cross-pieces F, fixed rack G, pivoted rack H, swinging door I, and oblique board K, all combined and arranged for the purpose of forming alternately-reversed stalls, as specified.

113,638.—Attachment to Oil-Well Tubing.—William W. Dewey, Tidioute, Pa.

Claim.—The sack C, open at both ends, and provided with the pipe *b*, substantially as specified, to be used for gathering oil from detached sections of oil-well tubing in the manner set forth.

113,639.—Buck-saw Frame.—Jerome C. Dietrich, Rochester, N. Y.

Claim.—A buck-saw frame, composed of the handle A, continuous straining-rod C D, stretcher B, and brace *b*, constructed, arranged, and operating substantially in the manner set forth.

113,640.—Cotton-Chopper.—Charles Bryant Douglas, Montgomery, Ala.

Claim.—The combination of the frame A, axle F, driving-wheels G G′, the latter with an elongated hub, the bevel cog-wheel H sliding upon said elongated hub, the pinion *n*, shaft *m*, arms *d d*, and hoes *f f*, all constructed and arranged as and for the purpose set forth.

113,641.—Ship-Pump.—David A. Dunham, Palatka, Fla.

Claim.—The improved self-acting pump, consisting of the weighted pendulum E, rigid arms A, pump-rods G, and pumps H, the pendulum being suspended from the block C, which is supported above the platform B by the slotted posts A, through which the arms F work, all substantially as specified.

113,642.—Mold-board for Plows.—Isaac T. Dyer, Macon, Ga.

Claim.—The skeleton mold-board, consisting essentially of the outside bars *c d* and the transverse clearing-bars *e*, in combination with the conical rollers *b*, as specified.

113,643.—Cooking-Stove.—James Easterly, Albany, N. Y., assignor to himself and James Gray, same place.

Claim.—1. Base B, constructed with doors or windows C, in combination with a fuel-reservoir, A, substantially as and for the purposes set forth.

2. The combination and arrangement of base B, reservoir A, and bail D, as and for the purpose herein shown and described.

113,644.—Nail and Tack-Plate Feeder.—David J. Farmer, Wheeling, W. Va.

Claim.—1. The sleeves C′ C′, the standards C C, hinged shoe D, and base-plate E, constructed and combined as shown and described, for supporting the rotary head A in proper working position, and permitting its retraction.

2. The friction-brake G, constructed and operating substantially as set forth, for regulating the movement of the rotary head A.

3. The combination of the feeders b, tubes c, and nipper-rods e, and mechanism to actuate said parts severally, substantially in the manner described.

4. The nipper-rod e, threaded tube c, nut h, and spring slide m working in guides n, in combination with a rotary feeder, b, and gauge H, for feeding the plate, as set forth.

113,645.—NON-FREEZING WATER-PIPE.—Valentine Fogerty, Boston, Mass.

Claim.—In combination with the water supply-pipe a, a lateral water-leg or chamber, b, to be heated by the flame of a lamp or gas-burner, substantially as described.

113,646.—PNEUMATIC SIGNALING APPARATUS.—William Foster, Jr., New York, N. Y.

Claim.—The combination of the bulbs A and B, tube C, disk D, axle or shaft G, and hammer-arm E, all arranged and combined substantially as described.

113,647.—PNEUMATIC SIGNALING APPARATUS.—William Foster, Jr., New York, N. Y.

Claim.—1. The adjustable or movable elastic bulb A and flexible tube B, in combination with a pneumatic telegraph mechanism, and adapted for use therewith, as specified.

2. The adjustable stop t, arranged relatively to the hammer G G′ and bell, or equivalent H, for signaling by delicate and feeble powers, as specified.

113,648.—MANUFACTURE OF BOLSTERS FOR CUTLERY.—James D. Erary, New Britain, Conn.

Claim.—1. The system of forming and swaging dies, substantially as shown and described, for the purpose of making bolsters for table-cutlery.

2. The improved ferrule-bolster for table-cutlery herein described, formed of a single piece of metal, provided with one partially-closed or swaged end, and arranged to spring into suitable recesses cut in the edges of the tang, as and for the purposes set forth.

113,649.—FIRE-ALARM TELEGRAPH APPARATUS.—John N. Gamewell, Hackensack, N. J.

Claim.—1. The circuit-wheel A as a part of a signal-box mechanism for fire-alarm telegraphs, so constructed and arranged that, while it closes the circuit when at rest, when put in motion immediately breaks the circuit and keeps it open during an entire revolution, except for an instant before each signal, when it closes the circuit preparatory to breaking it for the purpose of giving the signal, all arranged and operating substantially as and for the purpose described.

2. The construction and arrangement of the circuit-wires and locking devices herein described, whereby the motion of the winding-lever a′ in winding up the motor of the signal-box operates to lock the break-circuit wheel A in the electric circuit if at the moment when said lever is moved the circuit is closed, and to lock said break-circuit wheel out of the electric circuit if at the moment when said lever is moved the circuit is open, all constructed and arranged as described and shown, for the purpose specified.

113,650.—COMBINED LAMP AND REFLECTOR.—Henry J. Goff, Dubuque, Iowa.

Claim.—1. The combination of an oil-reservoir, A, and one or more burners, with downwardly-reflecting surfaces B, arranged substantially as described.

2. The downwardly-flaring reflector B having a perforated flange, n, in combination with an oil-reservoir, A, and one or more burners, substantially as described.

113,651.—TURNING AND BORING-MILL.—George A. Gray, Jr., Cincinnati, Ohio.

Claim.—1. The tool-bar balancing device herein described, consisting of rope or chain U, weight V, and pulleys R R′ S T, connected and operating substantially as and for the purpose specified.

2. In connection with the outer bearing g h, the grooves m m′, and lips n n′ p′, as described, and for the purpose specified.

113,652.—LIFE-PRESERVING MATTRESS.—James Durell Greene, New York, N. Y.

Claim.—1. A life-preserving mattress made with a rigid buoyant frame, having a stuffing of cork, surfaced in whole or in part with hair, such frame surrounding a removable center piece stuffed with hair, substantially as shown and described.

2. A life-preserving mattress having a rigid buoyant frame and a removable center piece, when the frame is provided with a flexible band extending across the central opening, and serving to support the person.

113,653.—MACHINE FOR FACING T-HEADS.—John Griffith and George W. Wundram, New York, N. Y.

Claim.—1. The combination of the rotary shaft D, chuck E, provided with the cutters c, wedge b, and nut a, operating substantially as described, for the purpose specified.

2. The wedges l, in combination with the slides j, cavities k, eccentrics e, and head-blocks B, substantially as set forth.

113,654.—TOY.—John Hamilton Harbison, Philadelphia, Pa.

Claim.—A toy, consisting of a ball or its equivalent, and a cord which passes through a spiral opening in the ball, so that a rotating motion will be imparted to the latter as it slides on the cord.

113,655.—DUMPING-CAR.—William Henry Harding and George Frederic Morse, Portland, Me.

Claim.—1. The ball c in combination with the car-body, as and for the purposes herein set forth.

2. The supports d, having the rollers at the tops, the joints and springs at the bottoms, as herein set forth, to operate as described.

113,656.—VISE.—William P. Harwood, Cambridge, N. Y., assignor to James F. Hall and John L. Marshall, same place.

Claim.—The semi-cylindrical piece H, fitted in the groove or recess in the face of the jaw F, and held therein by its slotted ears h′ and pins or projections on the jaw, as shown and described.

113,657.—FARM-GATE.—Henry P. Haskin, Roscoe, Ill.

Claim.—1. The connecting-bar D and cranks d d for the purpose of opening and closing the gates in opposite directions, as shown and described.

2. The arrangement of the oscillating levers e e, transverse rods f f, and crank-lever G, provided with the aforementioned chain, rod h, and latch H, as and for the purpose set forth.

113,658.—BOOT AND SHOE HEEL-BURNISHING MACHINE.—Gardner C. Hawkins and Albert G. Mead, Boston, and Vivian Kimball Spear, Lynn, Mass.

Claim.—1. In a machine for burnishing the heels of boots and shoes, the combination of the burnishing-tool and its carrier with mechanism substantially as herein described, for imparting to said tool a reciprocating motion in a curved path entirely around the curved portion of the heel to be burnished, for the purposes set forth.

3. The construction and application of the jack as seen in its staff or standard E, diverging arms F G, tubular head L, spindle M, curved wedge N, or its equivalent, with its staff pivoted at bottom in an adjustable manner, the whole being in manner and for operation as herein described.

3. The curved segmental wedge N for driving forward the spindle M, in combination with the spring R, or its equivalent, for retracting such spindle, essentially as and for the purpose herein described.

4. In combination with the burnishing-tool, operating substantially as herein shown and described, the edge-guard, for preventing the formation of a bur upon the tread of the heel during the burnishing process, substantially as shown and set forth.

5. The herein-described device for preserving intact the tread of a heel while undergoing the burnishing process, the same consisting of the rod T and its head or arm a, applied and operating as set forth.

6. The burnishing-tool carrier, pivoted or hinged to its rotary or oscillating support, substantially in the manner described and shown, in combination with a pressure-spring or equivalent device, so that said carrier may adapt itself to the irregular curve of the heel, as set forth.

7. The burnishing-tool, pivoted to its carrier substantially as shown and described, in combination with a spring, or the equivalent thereof, for holding down the said tool upon the heel with a yielding pressure, substantially in the manner set forth.

8. As a means of imparting a sweeping motion to the burnishing-tool in a segmental or eccentric path about the heel, as herein explained, the combination, with the burnishing-tool and its carrier, of the pinion k and sector l, with its curved rack m and oblique arm p, or its equivalent, and the crank-wheel t, or its substitute, properly mounted, the whole being substantially in manner, and operating as herein explained.

9. In combination with the burnishing-tool h when pivoted and supported as described, the means substantially as herein shown and described of imparting continuous heat to the same, for purposes stated.

10. In combination with the heel-rest or guide-plate f, the spindle M, actuated as explained, and the burnishing-tool h, pivoted at its rear to the carrier, as herein shown, the combination thus acquired operating as before stated.

11. In general combination, and as an organized machine for burnishing the heels of boots and shoes, the jack, adjustably supported and provided with adjuncts, as stated, the burnishing-tool and its carrier with its accessories, as shown, and the pinion k and sectoral rack m, or their mechanical substitutes, for imparting the desired motion to the said burnishing-tool, the whole being constituted, arranged, and operating as explained in the foregoing context.

113,659.—SHIRT.—James Hayden, Philadelphia, Pa.

Claim.—As an article of manufacture, a shirt having the front and back pieces B and A shaped at the sides in the manner substantially as shown and described, and for the purpose set forth.

113,660.—SHOW-CASE.—George A. Hearn, Jr., New York, N. Y.

Claim.—A show-case composed of two or more glass-covered compartments or tiers, constructed substantially as shown and described, and for the purposes set forth.

113,661.—CANAL-LOCK VALVE.—George Heath, Little Falls, N. Y.

Claim.—The valve A, hung upon journals C C, the distance from said journals to the lower edge being greater than to the upper, and the valve provided with the piece E, substantially as and for the purposes herein set forth.

113,662.—CHAIR AND BED COMBINED.—Gabriel D. Heatwole, Bridgewater, Va.

Claim.—In combination with the chair A B C, the back D, arm-rests E, braces H, foot-rest I, slides J with casters d, and slides K, all constructed and arranged substantially as and for the purposes herein set forth.

113,663.—STAPLE-MACHINE.—Benjamin Hershey, Erie, Pa., assignor to himself, E. Geer, Richard Dudley, and Richard F. Gaggin.

Claim.—1. The combination of the tubular feed-box A, tubes C C, water-pipes C′ C′, and gas-pipes a a, substantially as described.

2. The plunger-die G, having its rear face H wedge-shaped and its front face H′ formed as stated, in combination with the sliding plates D D and rollers E E′, substantially as described.

3. The horizontal sliding plate L and spring L², and plunger-die G having a slot, h, on its front face H′, when the same are so combined and arranged as to operate substantially as described.

4. The cutting-plate M and sliding plate N, when the same are arranged in the chamber L, in combination with mechanism, substantially as described, for operating said plates.

5. The improved machine for forming staples, when the same is constructed, arranged, and operated substantially as described.

113,664.—RUBBER SPRING FOR WAGONS.—Aaron Higley, Cleveland, Ohio.

Claim.—The conical cap J and spring I, with an annular space between said cap and spring, in combination with the flanged cap G, spring F, flanged shoe E, and bolt K, with a space between said bolt and spring, constructed and arranged substantially as and for the purpose set forth.

113,665.—ATTACHING PLOW-POINTS.—George W. Hildreth, Lockport, N. Y.

Claim.—The plow-point, when constructed with the shin-piece e boxed into the stock upon the land-side and bolted thereto, lapping over said land-side from e to h, as herein set forth and shown, for the purpose specified.

113,666.—MACHINE FOR SAPPING TIMBER FOR SHINGLES.—George M. Hinkley, Milwaukee, Wis.

Claim.—1. Revolving head B and carriage C, in combination with shaft L, plate N, and hoisting-lever O, substantially as and for the purpose described.

2. A sapping-machine, made with sapping-head b, in combination with revolving head B, carriage C, shaft L, and lever O, substantially as and for the purpose described.

3. Movable frame f, ways g, and lever h, in combination with sapping-head b, substantially as and for the purpose described.

113,667.—FIRE-ESCAPE.—Joseph Hoeflinger, Carrollton, Mo.

Claim.—The projecting bar A, roller B, disk B′, end-bar b, link c, pulley C, cord, rope, or chain attachment D, casing E, when combined and arranged below the sills of buildings, and operated substantially as and for the purpose described.

113,668.—SURFACE-CONDENSER.—Birdsill Holly, Lockport, N. Y.

Claim.—The chamber c, with its partition G and well C, all constructed substantially in the manner and for the purpose above described.

113,669.—RUFFLE-GUIDE AND BAND-FOLDER FOR SEWING-MACHINES.—Elijah Leavitt Howard, Malden, assignor to George Augustus Whiting, Charlestown, Mass.

Claim.—The ruffle-band folder, made substan-

tially as described and represented, viz., of the two band-guides D D, the hem-guide or channel d, and the ruffle-guide or passage e, all arranged and formed substantially as shown and explained.

113,670. — MACHINE FOR SHARPENING HORSESHOE CALKS.—Hamilton Howell, Salem, Ohio.

Claim.—The combination of the slotted fixed jaw, the slotted vibrating cutter-stock, its friction-roller and stop, with the curved vibrating lever pivoted to the handle and passing through the slot in the cutter-stock, all these members being constructed and operating as hereinbefore set forth, so that the cutter works with an increase of power from the beginning to the end of its stroke.

113,671.—COTTON-PLANTER.—John Hughes, New Berne, N. C.

Claim.—1. In combination with the valve-plates H H, the plunger Z, when arranged to operate in a cotton-seed planter, substantially as specified.

2. In a cotton-seed planter, the combination, with the central wheel B and conduit L, of the valve-plates H and plunger Z, substantially as specified.

3. In a cotton-seed planter, the combination with a planting-wheel, B, of the elastic teeth extending radially from its periphery, substantially as specified.

4. In a cotton-seed planter, the combination of the center wheel B and hinged lateral valve-plates H, provided with the edge-teeth *s s*, substantially as specified.

113,672. — MACHINE FOR DRESSING AND PUNCHING SLATES. — Julius Jaeger, Tompkinsville, N. Y.

Claim.—1. The two pairs of shears D D and F F, adjustable at their pivoted ends to the desired angle, and combined with the gauge h i and treadle B, substantially as described, for the purpose specified.

2. The lever C, carrying the punches *p*, in combination with the knives D D and treadle B, substantially as set forth.

3. The dies *r*, being connected to slides *t* by pivots *s*, and operating in conjunction with the punches *p*, substantially as described.

4. The retaining spring *w* on the punching-lever G to hold the slates down upon the stationary cutter-blades during the operation of cutting, substantially as described.

5. The arrangement of countersunk holes in the dies *r*, to act in conjunction with the punches *p*, as described, so as to produce countersunk holes in the slates exposed to the action of said punches.

113,673. — SASH-HOLDER.—Morton Judd, New Haven, Conn.

Claim.—The cap *g* applied to the socket *d*, and inclosing the spring *e* of the bolt *c*, the parts being constructed as and for the purposes set forth.

113,674.— COFFEE-POT.—Richard H. Kuper, Lockport, N. Y.

Claim.—1. In connection with the chambers B C D and tube or tubes E of a coffee-pot, the independent conical deflector *m*, supported by the walls of the vessel, and operating in combination with said parts, substantially as described, and for the purposes specified.

2. In a coffee-pot having a spouting-tube, E, operating as described, the fixed bail i of the cover, in combination with the bail H hinged to the pot A, when the latter is constructed to lock over the former, as herein set forth, and for the purposes specified.

3. The outward curving of said bail H, as shown at *x x*, whereby it is made to operate as a spring when employed in combination with the cover I of a coffee-pot, substantially as described and for the purposes set forth.

4. The slots *s s* in the cover I of a coffee-pot, in combination with the bails H i, substantially as and for the purposes described.

113,675.—MACHINE FOR COVERING CORD.—Reuben Lewis, New York, N. Y.

Claim.—1. The bobbin B, made of two longitudinal halves so that it can be removed from the spindle when empty, without requiring the cutting of the cord, as specified.

2. The tension-string *b*, spring *f*, and frame *e*, when combined as described with the divided bobbin B, arranged on the spindle A, as and for the purpose specified.

113,676. — MILLSTONE EXHAUST. — Jacob Lingenfelter, Bloody Run, Pa.

Claim.—1. At the lower end of a millstone exhaust-pipe, the enlarged chamber D, when constructed and arranged to operate in the manner and for the purpose shown and described.

2. In combination with the expanded chamber D, at the lower end of a millstone exhaust-pipe, the inclined elbow G and waste-pipe F, as specified.

113,677. — SHOT-CARTRIDGE.—Charles W. Lovett, Jr., Boston, Mass.

Claim.—A gun-cartridge, consisting of two or more spirals or coils of wire, or other similar material, arranged substantially as above described.

113,678.—SLATE-FRAME.—Peter Lugenbell and William A. Ford, Greensburg, Ind.

Claim.—The tubular elbow-band C for binding slate-frames at the corners, substantially as specified.

113,679, antedated April 4, 1871.—LUBRICATING WOOL DURING THE PROCESS OF MANUFACTURE. — John James Lundy, Leith, near Edinburgh, Great Britain.

Claim.—The manufacture or production of partially-saponified oils, prepared substantially in the manner hereinbefore described, and their use as an improved lubricant for carding and spinning wool and other animal fibrous material.

113,680.—BIT-BRACE.—John T. Lynam, Jeffersonville, Ind.

Claim.—The bit-holder B, having swiveled shank with toothed wheel *a* thereon, combined with a pair of spring pawls, *b b*, held apart by a plate, *c*, and operated by a cam, *d*, to lock the bit-holder, as set forth.

113,681.—AXLE-SKEIN.—Lorenzo Mayhew, Greenfield, N. Y.

Claim.—1. The method of fastening the small ends of the strips *c* and *c'* to the axle-tree by means of the ring *b* and rivets, as shown and described.

2. The skein, consisting of the strips *c* and *c'* and the ring *b*, cast in one piece, of steel, substantially as and for the purposes set forth, the lower strip being longer than the upper one.

3. The flanged ring *f*, constructed as shown, in combination with an axle-tree and a linch-pin, substantially as and for the purposes set forth.

4. The combination of the strips *c* and *c'*, the lower one being longer than the upper, the ring *b* with hole for a linch-pin, the flanged ring *f* with guard *f'*, and axle A, all constructed and arranged substantially as and for the purposes set forth.

113,682.—WHEEL FOR VEHICLES.—Robert W. McClelland, Springfield, Ill., assignor to himself and John McCreery, same place.

Claim.—The combination of the large and small spokes B C, alternating with each other and flush on the front side, with the two rings D E, each constructed and applied as shown, and the bolts *m m*, imbedded on one side of the metal *e*, and on the other in the beveled shoulder of the spokes, substantially as shown, and for the purposes set forth.

113,683.—EXTENSIBLE SHELF.—Sophia H. Mercer, Washington, D. C.

Claim.—An extensible sliding shelving, constructed essentially as described.

113,684.—HEEL-TRIMMING MACHINE.—John Q. Moulton, Lynn, Mass.

Claim.—1. A revolving knife, in a heel-trimming machine, whose axis is at right angles to the center of revolution of the heel to be trimmed, substantially as described.

2. The plates F F, formed and operated substantially as described, to determine the position of the heel, and to serve as a guide and protect the upper.

3. The plates F F and pattern-bar H, in combination, to hold the boot without the aid of a last.

4. The plates F F and pattern-bar H, in combination with the knife K and gauges O and P.

5. In a heel-cutting machine, a revolving knife made in the form of a screw, substantially as described, for the purposes described.

113,685.—LUBRICATING PIVOTS FOR TURN-TABLES.—John W. Murphy, Philadelphia, Pa.

Claim.—1. A pivot or step for turn-tables, composed of an under and upper piece, with grooves in their bearing or working surfaces running in contrary directions so as to distribute the oil or other lubricating compound in the grooves throughout the bearing surfaces, substantially as described and represented.

2. In combination with the two parts of the pivot or step and their oil-grooves passing each other in oblique lines, the oil-passage or passages *h e f g*, for introducing the oil or other lubricator from the exterior to the interior bearing surfaces, substantially as described.

113,686.—MACHINE FOR CLEANING GRAIN.—Moses T. Nesbitt, Colora, Md.

Claim.—The arrangement of two rock-shafts, *g* and *j*, the screens R and T, the rock-shaft *j* being provided with a crank or wrist, *k*, and spring-connection *l*, to traverse the screens, provided with delivering-spouts U and S, the whole being constructed to operate as described for the purposes set forth.

113,687.—MECHANICAL MOVEMENT.—Archibald Nimmo, Philadelphia, Pa., assignor to himself, Thomas Moran, and Valentine Stausse, same place.

Claim.—The system of graduated cams, or their equivalents, arranged to be operated and to impart the within-described movements, substantially in the manner described.

113,688.—PULLEY-BLOCK.—Joseph W. Norcross, Boston, Mass.

Claim.—1. The strengthening-frame E, when secured together by means of the cast connecting-pins B, having external heads C and inner shoulders D, and constructed substantially in the manner herein shown and described.

2. The key H, formed with an eye, I, when combined and operating with the axis G of a sheave which rotates freely on its axis, substantially as herein shown and described.

113,689.—TACKLE-HOOK.—Joseph W. Norcross, Boston, Mass.

Claim.—1. The combination of the bracing-strap D with the slots E E, made through the ribs of the hook, substantially as described.

2. The combination of the spring locking-bar M with the pin H and the bracing-strap, substantially as described, for the purpose of preventing the disengagement of the strap from the point of the hook.

113,690.—MILK-COOLER.—Albert Northrop, Elyria, Ohio.

Claim.—1. The combination of an interior tube or tubes and an exterior arm or tube, having free communication between them, to produce a circulation of the cooling liquid within and upon the exterior of the can, as described.

2. In combination with the vessel A the vertical supplying-tube C with its tubes D, and the central discharging-tube E, arranged to communicate with each other and to produce a circulation of cold water within said vessel, as described.

3. The combination of the vessel A, the vertical supplying-tube C, and the central discharging-tube E with the discharging-arms F, having their issues arranged as shown for the purpose of discharging the waste water upon and against the sides of the vessel or can, for the purpose described.

4. The combination of the automatic propelling and discharging-arms F with the felt jacket G of the can, for the purpose as described.

113,691.— EXCAVATOR.—Jason C. Osgood, Troy, N. Y.

Claim.—The friction-wheels B F F, arranged to act on the dipper-handle, and receiving motion through the cog-wheels, as set forth.

113,692.—COMBINED BEDSTEAD, BUREAU, AND STAND.—Anna Parker and Lewis A. Parker, Girard, Kan.

Claim.—The combination of the case A with ventilators *e*, bureau B, stand K, brace L, and button *f*, front D, bed H, springs L, hooks *d*, and shelf J, all constructed and used substantially as set forth.

113,693.—SELF-RECORDING BAROMETER.—David Peelor, Johnstown, Pa.

Claim.—1. The combination, with a barometer, of an automatic bent registering lever, operated directly by the rising and falling of the mercury in the tube, substantially as specified.

2. The combination, with a barometer, of a balanced lever, having a positive connection with the float which rests on the mercury, operated automatically by the rising and falling of the mercury in the tube, substantially as specified.

3. The combination, with a lever provided with a registering point and operated directly by the barometer-mercury of the moving record surface and the pressure rod, operated by clock-work, substantially as specified.

4. In a self-registering barometer, the combination with a rotating record cylinder, or its equivalent, of a registering lever, substantially as specified.

5. The combination, with the record cylinder E, the pressure-rod *w*, and the elastic arm *b*, of the beveled rectilinear guide R, substantially as and for the purpose specified.

6. The cross-shaped balanced lever herein described, provided with the vertical arms *b b'*, the lateral arms *d d'*, and the adjustable counterbalancing weights *e' f'*, substantially as and for the purposes specified.

113,694.—STOVE-PIPE DRUM.—William L. Phillips, Normal, Ill.

Claim.—The combination, with the drum B and smoke-pipe C, of the outside drums or jackets D E F and enlargement G, all constructed as described, and arranged above the fire-pot A of the stove, and provided with the cold-air pipe H, substantially as and for the purposes herein set forth.

113,695.—GLOVE.—John H. Putman, Gloversville, N. Y.

Claim.—The glove herein described, as an article of manufacture, when composed of the parts having the form herein described.

113,696.—WHIFFLETREE.—Samuel L. Reynolds and John W. Reynolds, Pittsburg, Pa.

Claim.—In combination with the pivoted and removable evener or whiffletree, the spring B, guide-loops C, and pivoted draft-links E, substantially as described, for the purpose specified.

113,697.—SLIDING-DOOR HANGER.—George Rumsey, Watkins, N. Y.

Claim.—The improved barn-door hanging herein described, consisting of the hanger A having offset *h* and recess *f*, and the jaw C, secured in said recess by rivets *d d*, and the sheave B with bearings *c c*, all arranged as set forth.

113,698. — SAWING-MACHINE.—Samuel S. Sherman and Hiram B. Gunn, Eau Claire, Wis.

Claim.—1. The combination of the press-roller E, frame H, and lever G, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

2. In combination with the roller E, frame H, and lever G, the rubber springs *i*, substantially as and for the purposes herein set forth.

3. The combination of the frame A, mandrel B, saws C C, guide-pins *e e*, guides *f f*, feed-rollers D D, press-rollers E, frames H H, and levers G G, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

113,699. — DIE FOR TAKING IMPRESSIONS FROM CLOTH, &c.—John Joseph Charles Smith, Somerville, assignor to Metallic Art Works, Boston, Mass.

Claim.—1. The method and process, substantially as described, for constructing molds for the casting of rollers or other dies, having *fac-simile* impressions, either positive or negative, of linen, cloth, or other material.

2. A die of cylindrical or other form cast under pressure, by a process substantially as herein described, producing on its surface an accurate positive or negative impression of linen, cloth, or other material, and adapting it to produce accurate imitations of such material.

113,700.—COTTON AND HAY-PRESS.—Reuben Stallings, Louisburg, N. C.

Claim.—The combination and arrangement, in the press herein described, of the suspended screws S S, nuts T T, supporting-frame Q, press-box C G H, cover K M N O O, and platen P, all constructed and arranged substantially as and for the purposes set forth.

113,701.—VARIABLE ECCENTRIC FOR STEAM-ENGINE GOVERNOR.—Samuel Stanton, New York, N. Y.

Claim.—The arrangement of the pinion *g*, screws A A, and nuts *i i* within the eccentric, and operated, through means of a rack, by a ball-governor, having the shaft B D *k*, all constructed and arranged substantially as herein described, and constituting a variable cut-off.

113,702. — MANUFACTURE OF PNEUMATIC GAS FOR ILLUMINATING, &c.—John W. Stow, San Francisco, Cal.

Claim.—The herein-described method of combining atmospheric air and carbureted air by means of the devices described.

113,703. — SAWING-MACHINE.—Jerome B. Sweetland, Pontiac, Mich.

Claim.—1. An adjustable or swinging buck, operated by means of a spring or its equivalent, substantially as and for the purposes herein set forth.

2. In combination with the shaft C and plate D, the lever L, substantially as and for the purposes herein set forth.

3. The combination of the shaft C, pulley K, chain *b*, and spring *d*, constructed and operating substantially as and for the purposes herein set forth.

113,704.—SEWING-MACHINE FOR UMBRELLAS AND PARASOLS.—William John Tate, Philadelphia Pa., assignor to William A. Drown & Co., same place.

Claim.—1. A presser-foot for sewing-machines, arranged to be moved laterally when raised above the work-plate, and having double inclined edges *s* and *s'*, all substantially as specified.

2. The presser-foot having inclined edges *s s'*, and pivoted to a fixed portion of the machine, slotted at the pivoting point, acted on by a suitable spring, and operated by a cam or lever, *j*, substantially in the manner described.

113,705.—CARRIAGE.—Chauncey Thomas, Boston, Mass.

Claim.—1. In combination with a metal body, *a*, and wood bottom *b*, a connecting bottom side or frame, *d*, having a top flange, G, supported upon a flange or flanges, *b*, projecting inwardly from the bottom of the body sides *a*, and a bottom flange, *i*, upon which the bottom strips are supported, substantially as shown and described.

2. In combination with the metal body *a*, the seat-posts placed against the inner surface of the opposite body sides, and riveted or bolted to vertical metal-strap pieces *s*, whose lower ends are fastened to the bottom-sides frame *d*, substantially as shown and described.

3. The method of forming the joints at the corners of the bottom side pieces *d*, substantially as shown and described.

4. Side springs, the rear ends of which have eye-pieces or runners *z* sliding upon rods *y*, fixed in heads or plates *x*, on the rear axle or axle-bed, substantially as shown and described.

113,706.—PRESERVING WOOD.—Nathan H. Thomas, New Orleans, La.

Claim.—The application of resin-oil, hot or cold, for the preservation of wood from decay, and from destruction by worms and insects, substantially as described.

113,707.—LEATHER-ROUNDING MACHINE.—James H. Tizzard, Eaton, assignor to himself and Samuel B. Tizzard, Dayton, Ohio.

Claim.—1. The blacker J, constructed as described, with trough *a*, chamber *b*, and sponge *d*, substantially as and for the purposes herein set forth.

2. In combination with the blacker J, the springs K K, and notched lid L, all substantially as and for the purposes herein set forth.

113,708.—ROLL FOR ROLLING HOOP, BAR, AND ROD-IRON.—James Tranter and Joseph Kinsey, Cincinnati, Ohio.

Claim.—1. Two or more pairs of grooved rolls, secured one behind the other in adjustable housings at right angles to one another, and at an angle of forty-five degrees to the horizon, substantially as described.

2. In combination with the subject-matter of the first claim, the bed-plate B and screw M, as and for the purpose set forth.

3. In combination with a train of rolls, the delivery-guide N' and roller P, for the purpose specified.

113,709. — SHOVEL-HANDLE. — Henry C. Traak, Vienna, Me.

Claim.—The improved shovel-handle herein described, formed with the bulge *b* and recessed faces *c c*, and provided with the cross-bar *d d' d'*, rivets *e f f*, and rod *g*, all as set forth.

113,710. — WAGON-SPINDLE.—James Monroe Walters, Schwenksville, Pa.

Claim.—The combination of the axle-skein A and nuts D and F, all of soft metal, with the sleeve B and washer E, both of chilled cast-iron or hardened metal, substantially as specified.

113,711.—STOVE-UTENSIL HOLDER.—Stewart Watt, Barnesville, Ohio.

Claim.—The within-described cooking-stove utensil-holder, composed substantially of the base A, post C, top D, projections *a a*, and hooks *b*, *d*, and *e*, for the purposes herein set forth.

113,712.—WASH-BOILER.—William A. Wells, St. Paul, Minn., and Lyman P. Converse, Milwaukee, Wis.

Claim.—In combination with a wash-boiler constructed substantially as herein described, the removable clothes-supporting rack, composed of metallic rim B and interlaced cords B', and the siphonic faucet F, as and for the purposes set forth.

113,713.—MEDICAL COMPOUND OR BITTERS.—Samuel R. Whitlow, Limestone township, Ill.

Claim.—The compound medicine called Democratic Bitters, prepared and compounded and to be used substantially as described.

113,714.—REED-ORGAN.—George W. Woodruff, Hartford, Conn., assignor to John Farris, same place.

Claim.—The combination of one set of valves, *c*, *c* sharp, *d*, *d* sharp, &c., with two sets of keys, C, C sharp, D, D sharp, &c., and C', C' sharp, D', D' sharp, &c., on the same key-board, by means of the two sets of levers 1 to 13 and 1' to 13', substantially as described.

113,715.—TRUNK. — John Young, Buffalo, N. Y.

Claim.—The sheet-steel trunk, provided with the steel clamps B B', each bent in a single piece to extend over the corners and around the outside and inside edges of the trunk-top and bottom, and provided with the rounded or notched edges which are riveted through and through, as and for the purpose specified.

113,716.—SURFACE BLOW-OFF PIPE FOR BOILERS. — James Perkins, Baltimore, Md., assignor to himself and Jacob Brandt, Jr., same place.

Claim.—1. The surface blow-pipe B, provided with perforations on all sides, when constructed and operated as herein shown, and for the purpose set forth.

2. The arrangement, within a steam-boiler of a cylindrical, hexagonal, or many-sided surface blow-pipe, in sections, perforated with holes on all sides, in combination with the blow-valve C, when constructed and operated as herein shown and described, and for the purposes set forth.

113,717.—CORN-PLANTER.—George W. Lewis, Winchester, Ky.

Claim.—1. The harrow, as made in the divergent bars *h''' h'''*, that connect the shovels A' to the frame A, for turning all obstructions out of the way of the driving-wheel and coverer.

2. The rod controlling the bolt, to check the deposit of the seed at pleasure.

3. The arrangement of the points on the top of the hopper for squaring the field and pointing out the first hill in each row.

4. The device and arrangement by which the plow or shovel, the harrow continuous therewith, the driving-wheel, the cylinder provided with suitable chambers, the markers, the rods and bolt, the points on the top of the hopper, the cleaner, and the funnel-shaped tube, are all combined and arranged in one comparatively light machine, easily managed by one person, and made subservient to the purposes hereinbefore named, the object of the whole being the rapid planting of corn in straight rows, at right angles and at proper distances apart.

113,718.—COMBINED PLANTER AND SEEDER.—Samuel Hiestand, Hillsborough, Ohio.

Claim.—The machine herein described, consisting of the frame A A', traction-wheel F, band-wheel G, seed-box K, and seeding device H I L M N O, all arranged as herein specified.

REISSUES.

4,328.—PRINTING PHOTOGRAPHS.—Joseph Albert, Munich, Bavaria. — Patent No. 97,336, dated November 30, 1869.

Claim.—1. Preparing photographic plates for printing with fatty inks by subjecting a film of chrome-gelatine, or other suitable material, spread upon glass or other transparent or semi-transparent substance, to the action of light, or otherwise hardening the film to render it insoluble upon the surface in contact therewith, and preserving the outer surface in a sufficiently-adhesive condition to unite with a second or sensitive film to receive the photographic image, substantially as herein set forth.

2. The employment of a fixing or cementing film to unite the sensitive film to the glass for printing in fatty inks, substantially as set forth.

3. The employment of glass plates for the printing of photographic pictures in fatty inks, substantially as herein set forth.

4,329.—Division A.—WATER-WHEEL.—Joel T. Case, Bristol, Conn., assignor to The National Water-Wheel Company.—Patent No. 108,757, dated November 1, 1870.

Claim.—The wheel A with its buckets *a b*, having respectively a downward and central discharge, and arranged alternately, substantially as described.

4,330.—Division B.—WATER-WHEEL.—Joel T. Case, Bristol, Conn., assignor to The National Water-Wheel Company.—Patent No. 108,757, dated November 1, 1870.

Claim.—1. The case G, with the chutes *a b c d* arranged in groups, substantially as and for the purpose described.

2. In combination with the foregoing, the gate H, the whole operating together, as and for the purpose set forth.

3. So combining the chutes *a b c d* of the case surrounding the wheel A with the gate for closing said chutes that a partial movement of the gate is made to fully open a portion of said chutes and at the same time to leave the remaining portion of the chutes closed, substantially as and for the purpose described.

4,331.—Division A.—LANTERN.—William H. Bonnell, Buffalo, N. Y., assignor to himself and Horace Parmelee, same place.—Patent No. 96,772, dated November 16, 1869.

Claim.—1. The arrangement in a lantern of the supporting base-plate A and a central burner, so as to leave an annular opening between the burner and base-plate for the transmission of the light downward, as hereinbefore set forth.

2. The arrangement in a lantern, and with a central lamp and surrounding annular opening, *f*, of the deflecting base-plate A, which reflects the light inward, so as to illumine the space under the lamp, as hereinbefore set forth.

3. The arrangement in a lantern of the base-plate A, ring D, and vertical wires B, as hereinbefore set forth.

4,332.—Division B.—Lanterns.—William H. Bonnell, Buffalo, N. Y., assignor to himself and Horace Parmelee, same place.—Patent No. 96,772, dated November 16, 1869.

Claim.—The wires A B, when secured together by passing one wire through the other and soldering in place, as hereinbefore set forth.

4,333.—Tool-Holder.—William W. Draper, Greenfield, Mass.-Patent No. 22,635, dated January 18, 1859.

Claim.—1. The combination, with the holder, embracing the parts A D, of the loose wedge-shaped jaws F F, and the revolving nut E for operating the jaws, substantially as described, and for the purpose set forth and specified.

2. The combination, with the holder embraced in the parts A D, jaws F F, and revolving nut E, of the centering-block C, and spring B, substantially as described and specified.

4,334.—Stem-Setting Watch.—Jules Jürgensen, Locle, Switzerland.—Patent No. 61,207, dated January 15, 1867.

Claim.—1. A stem-setting watch, so constructed that the setting mechanism is thrown into gear by turning down the pendent ring or bow when the front cap or case is open, substantially as shown and described.

2. The combination of the cap or guard E with the pendent bow C and hand-setting mechanism, whereby the said cap while closed is made to prevent the bow from throwing the hand-setting mechanism in gear, substantially as shown and described.

4,335.—Car-Spring.—Albert Hebbard and John P. Onderdonk, Buffalo, N. Y., assignees of Albert Hebbard.—Patent No. 53,222, dated March 13, 1866.

Claim.—1. A spiral nest-spring, composed of two or more coils, the adjacent coils being in contact, or nearly so, and wound in opposite directions, so as to make the spring self-supporting.

2. A self-supporting spiral nest-spring, composed of two or more concentric coils, without lateral support.

4,336. — Stock-Car. — Lee Swearingen, Grafton, W. Va., assignor to The National Cattle-Car Company, Salem, Ohio.—Patent No. 28,517, dated May 29, 1860.

Claim.—1. The combination, with a stock-car, of partitions operating substantially as set forth, so that when vertical they form stalls for large stock, but when horizontal they divide the car into two compartments, one above the other, for the purposes specified.

2. The combination, with a stock-car, of partitions swinging on horizontal axes parallel to each other, so that when horizontal one partition overlaps and is supported by the other, substantially as set forth.

3. The combination, with a stock-car, of partitions arranged parallel to each other lengthwise of the car and swinging on horizontal axes, substantially as set forth, so that when vertical the car is divided into longitudinal stalls, and when horizontal the inner portions of the partitions overlap each other, while their outer portions are supported by the sides of the car.

4. The combination, with a stock-car, of swinging end partitions arranged longitudinally at each end of the car, with swinging central partitions, arranged across the car, substantially as set forth, to facilitate the loading or unloading of the car and to economise space.

5. The combination, with a stock-car, of a swinging sidewise-moving partition, D^4, constructed and operating substantially as set forth, so that it may be swung out of the way when not in use.

6. The double-leaved swinging partitions, constructed substantially as set forth, so that one leaf may be turned up or down without the other, for the purposes specified.

4,337. — Air-Compressing Apparatus.—John S. Patric, Rochester, N. Y.—Patent No. 47,328, dated April 18, 1865.

Claim.—1. An air-compressing chamber, A′, provided with inlet and outlet-valves H′ G′, outlet water-valves E′, and inlet-pipe P′ and valve a, the area of which pipe is less than the area of a cross-section of the chamber in any direction, the parts being arranged to operate substantially as set forth, whereby the water is agitated upon its entrance into said chamber, for the purpose of preventing a rise of temperature of the air during the process of compression.

2. In combination with an air-compressing chamber, A′, the water outlet and inlet-valves a E′, and air-inlet and discharge-valves H′ G′, constructed and arranged to be automatically operated by the action or reaction of the air and water, substantially as set forth.

4,338. — Faucet.—James Powell, Cincinnati, Ohio.—Patent No. 25,349, dated September 6, 1859.

Claim.—1. The elastic annular valve-disk or seat S and yielding plate P, in combination with the valve-head L, of hard material, substantially as set forth.

2. The sliding collar O, in combination with the elastic valve-disk or seat S and valve-head L, as and for the purposes set forth.

4,339.—Car-Coupling.—Warren B. Snedaker, Phœnix, N. Y.—Patent No. 108,404, dated October 18, 1870.

Claim.—The coupling-pin D provided with flange *d*, the shaft E, crank-arms *e*, weighted arms *f f*, and the link B with loaded end *a*, combined with the slotted draw-head A, provided with stops *g*, all constructed and arranged in the manner shown and described.

4,340. — Cattle - Car. — John W. Street, Marshalltown, Iowa.—Patent No. 96,362, dated November 2, 1869.

Claim.—1. A stall partition, constructed in a single rack or gate attached near the head of the stall so as to swing horizontally, and fastened at the rear end to the side of the car by a detachable fastening, in the manner and for the purpose set forth.

2. The swinging partitions, in combination with the open spaceway at the head of the stalls, as and for the purpose set forth.

3. A railway car for live stock, when divided into stalls by swinging gates or partitions, provided with detachable hinges at both ends, so that either end may be swung around to admit or release the animals, and so that both ends of the gate may be detached, to clear the car for other kinds of freight, substantially as described.

4. A store-room or feed-bin in the top of the car, provided with doors or hatches in the roof for filling the same, and with openings through the floor at one side for dropping the feed into mangers or feed-boxes in the ends of the stalls below, substantially as herein described.

5. The arrangement of the reservoir O in the side of the car, at a suitable height to supply water to the drinking-troughs or basins, without the use of a pipe and stop-cock, substantially as described.

6. The arrangement of the troughs L with reference to the pipe O, whereby the water may be allowed to flow freely through the openings in the side of the pipe into the troughs and stand at the same level in both, substantially as described.

7. The arrangement of the pipe or reservoir O, whereby it is made to convey water from end to end of the car without obstructing the doorway, by passing under the same, substantially as described.

4,341.—Wheelbarrow-Frame.—Beckwith W. Tuthill, Oregon City, Oregon.—Patent No. 110,698, dated January 3, 1871.

Claim.—The wheelbarrow-frame, composed of the side pieces A with the front connection b, all made of one continuous piece of tubing, as specified.

DESIGNS.

4,773.—Bottle. — Thomas B. Atterbury, Birmingham, Pa.

Claim.—1. A bottle or other like vessel, showing an imitation of a fowl or bird, substantially as described.

2. A bottle or other like vessel, showing an imitation of feathers, substantially as described and shown.

3. A bottle-mouth, *c*, inclosed within the bill *d* of a fowl or bird, substantially as described and shown.

4,774.—Ornamentation of Glass-Ware.—Mary B. Campbell, Pittsburg, Pa., assignor to Campbell, Jones & Co., same place.

Claim.—The currant design as shown, for the ornamentation of glass-ware.

4,775.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,776.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,777.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,778.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,779.—Burial-Casket.—Edward L. Cooke and Jabez H. Whitmore, Hartford, Conn.

Claim.—The design for a coffin body, as shown.

4,780.—Handle for Stop-Cocks.—William Samuel Cooper, Philadelphia, Pa., assignor to Cooper, Jones & Co., same place.

Claim.—The design for a stop-cock handle, substantially as described and represented in and by the accompanying drawings.

4,781.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,782.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,783.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,784.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,785.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,786.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,787.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

4,788.—Fork or Spoon-Handle.—John M. Culver, Wallingford, Conn., assignor to Hall, Elton & Co., same place.

Claim.—The design for spoon and fork-handle, as herein described, and shown in the accompanying illustration.

4,789. — Bitter-Tube. — John L. Dawes, Pittsburg, Pa.

Claim.—The design for bitter-tube, substantially as shown.

4,790.—Hinge.—Thomas Drake, Cincinnati, Ohio.

Claim.—The design for the ornamental configuration of hinge, substantially as represented.

4,791.—Flange and Crank.—William W. Eastman, Meadville, Pa.

Claim.—The design for patterns for casting "rig irons" for boring artesian and oil-wells, and for other purposes, as shown and described.

4,992.—Printed Fabric.—Thomas Hardcastle, of the Bradshaw Works, near Bolton, England.

Claim.—The design for printed fabrics, as shown.

4,793.—Puzzle-Block.—Samuel Loyd, New York, N. Y.

Claim.—The shape or design of both the larger and smaller pieces, as shown and described.

4,794.—Steam-Engine-Governor Case.—John Augustus Lynch, Boston, Mass.

Claim.—The said described and represented ornamental design for an engine-governor case.

4,795.—Watch-Plate. — Eugene Marcile, New York, N. Y.

Claim.—As an improvement in designs for watch-plates, the above-described contour of the raised three-quarter plate C and C′, as represented in the accompanying drawing.

4,796.—Box.—Augustus H. Mershon, East Saginaw, Mich.

Claim.—The design of a box having tapering boards, as shown.

4,797. — Clock-Case. — Nicholas Müller, New York, N. Y.

Claim.—The design for a clock-case, as herein shown and described.

4,798.—Carpet-Pattern.—Elemir J. Ney, Dracut, Mass., assignor to Robert Beattie & Sons, Little Falls, N. J.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,799.—Watch-Plate.—Edwin Hathaway Perry, Boston, Mass.

Claim.—The design herein explained, and as particularly shown in the accompanying diagram.

4,800.—Revolving Grate.—John D. Vance, Cincinnati, Ohio, assignor to himself and Forace M. Eddy, same place.

Claim.—The design for a revolving grate, substantially as shown.

4,801.—Printed Material for Aprons.—William H. Walton, Brooklyn, N. Y.

Claim.—1. A piece of muslin or other woven fabric printed in a series of figures or patterns for aprons, said figures being printed in alternately reversed order across the web, substantially as shown and described.

2. A piece of muslin or other woven fabric printed in a series of figures or patterns for aprons, as above described, with an ornamental border around each pattern consisting of a broad stripe in imitation of binding, with or without an additional ornamental border.

4,802. — Printed Material for Gored Skirts.—William H. Walton, Brooklyn, N. Y.

Claim.—The within-represented shape or configuration of a series of patterns for gored skirts, printed upon a piece of muslin or other woven fabric, substantially as herein shown and described.

4,803.—Hand-Stamp.—Frank Waters, Philadelphia, Pa., assignor to Thomas W. Starr, same place.

Claim.—The design for a hand-stamp, consisting of the parts A B C D E F, as set forth and shown in the accompanying drawing.

4,804.—Ornament for Fountains, &c.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate acanthus flutes and scallops, for ornamentation of fountains and vases.

4,805.—Ornament for Fountains, &c.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate thistle, for ornamentation of fountains and vases.

4,806.—Ornament for Fountains, &c.—Jonathan Moore and William Wilkinson, Brooklin, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate leaf and shell, for ornamentation of fountains and vases.

4,807.—Ornament for Fountains, &c.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate vine, for ornamentation of fountains and vases.

4,808.—Ornament for Fountains, &c.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate leaf, shell, and frogs, for ornamentation of fountains and vases.

4,809.—Fountain-Vase.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate stork and flag, for ornamentation of fountains and vases.

TRADE-MARKS.

216.—Thrashing-Machine.—James Brayley, Buffalo, N. Y.

217.—Plow.—Bucher, Gibbs & Co., Canton, Ohio.

218.—Bitters.—Dr. S. B. Hartman & Co., Lancaster, Pa.

219.—Stationers' Hardware. — Thomas S. Hudson, East Cambridge, Mass.

220.—Cotton Goods.—B. B. & R. Knight, Providence, R. I.

221.—Whisky. — Benjamin K. Reynolds, Boyd's Station, Ky.

ISSUE OF APRIL 18.

PATENTS.

113,719.—Whip-Rack.—Robert J. Anderson, New York, N. Y.

Claim.—The improved whip-rack, consisting of the tubes A and shelf B, arranged with relation to each other, as herein shown and described.

113,720.—Smoothing and Ruffle-Iron.—Aaron R. Armstrong and Charles S. Dudley, Nashua, N. H.

Claim.—The combination of the smoothing-iron A with the ruffling-iron B, constructed and arranged substantially as and for the purpose set forth.

113,721.—Paper-File, &c.—Albert Baker, Appleton, Wis.

Claim.—1. The convertible case A B B′, constructed, arranged, and operated substantially as described.

2. The envelopes and cases E E¹, constructed, arranged, and operated, in combination with the case A B B′, substantially as described.

3. The index case F′, constructed and operated substantially in the manner and for the purpose described, in combination with case A B B′.

4. The semi-transparent curtains C C¹, as constructed, arranged, and operated, in combination with case A B B′, substantially in the manner and for the purposes set forth.

5. The designating binding-tag M, with wire stem and hook h′ and gummed surfaces, in combination with index-case F′, substantially as described.

6. The convertible case A B B′, having curtains C C¹ and envelopes E E¹ E² E³ E⁴ and index-case F′, all constructed, arranged, and operated substantially in the manner and for the purposes set forth.

113,722.—Tile-Ditcher.—Isaac T. Baker, Gratiot, Ohio.

Claim.—The curved bed-plate or trough A, with the share B, adjustable beam D, and handles F, combined and arranged substantially as and for the purposes described.

113,723.—Expanding Pulley.—George S. Barton, Worcester, Mass., assignor to Rice, Barton & Fales' Machine and Iron Company, same place.

Claim.—1. The combination, with the hub B, boxes C, and arms D, of the screw-spindles E, bevel-gear K, and geared sleeve J L, substantially as and for the purposes set forth.

2. The combination, with the screw-spindles E, gears K, and geared sleeve J L, of the hand-wheel M and set-screw N, substantially as and for the purposes set forth.

113,724. — Sewing-Machine.—William G. Beckwith, Newark, N. J.

Claim.—The arrangement and combination of the levers A B provided with arms C D, reciprocating eye-pointed needle a, presser-spring J, looper G, rod F, and spring H, for opening the levers and reacting the needle from the cloth, the whole constructed and operating as described and specified.

113,725.—Steam-Pump.—William Baxter, Jr., Newark, N. J.

Claim.—1. In a steam-pump, the combination, with channeled pistons operating in pairs in axially opposite cylinders, of a stationary cam-groove or equivalent guide operating on the piston-rod connecting the pair of pistons, substantially as shown and described, to effect the rotation of both the piston-rod and pistons, thereby reversing the action of the fluid in the cylinders.

2. The combination of the connected channeled pistons and cylinders with a cam-groove or guide located between the cylinders to receive an arm or equivalent device, mounted on or projecting from the piston-rod so as to produce oscillation of the pistons upon their axes while reciprocating in their cylinders, substantially as and for the purpose set forth.

3. The cam-guide or groove, composed of inner and outer cam-pieces, substantially of elliptical shape, the longer axes of the two forming an angle with each other, substantially as and for the purpose described.

4. In combination with the arm mounted on the piston-rod, and the cam-guide or groove which controls the movement of the same, the springs or equivalent devices, as described, operating in connection with said parts, substantially as and for the purpose set forth.

5. The construction of the piston and cylinder, substantially as described and shown in fig. 5 of the accompanying drawing.

113,726.—Ruler Attachment for Drawing-Boards.—Theodore Bergner, Philadelphia, Pa., assignor to James W. Queen & Co., same place.

Claim.—The rulers D E, head C, and guides b b′, when combined with and arranged in relation to a drawing-board, in the manner and for the purpose specified.

113,727. — Washing-Machine. — Charles Hezleton Berry, Natick, Mass.

Claim.—1. The arrangement and combination of the loose tube D with the dasher, its shaft, and tub, as specified.

2. In the washing-machine, the tub, as provided with the lip *d*, or such, and the series of ribs *b*, constructed and arranged in manner as specified.

3. The improved washing-machine as provided with the tube D, the lip *a*, and the ribs *b*, arranged with and applied to its dasher and tub, and constructed substantially in manner and to operate therewith as specified, the dasher having the cleats and perforations and mechanism for putting it in revolution, as explained.

113,728. — Shaft-Coupling. — James H. Blessing, Albany, N. Y., assignor to himself and Townsend & Jackson, same place.

Claim.—A shaft-coupling consisting of a gib, G, a slotted key, C, and a sleeve, B, applied to shaft-sections, and constructed substantially as described.

113,729.—Door-Latch.—Eli S. Bitner, Lock Haven, Pa.

Claim.—A cylindrical revolving door-latch, having a portion of the cylinder removed, so that, when it comes in contact with the strike, it turns in its seat, raising the weight or knob, which, when the door is fully closed, causes the cylinder to turn and fall in the recess of the strike, thereby securing the door.

113,730.—Car-Coupling. — Lycurgus Jedson Bosworth, Monmouth, Ill.

Claim.—A sliding ring, C, combined with a pivoted jaw having downwardly-projecting ear *c* and a cavity between said lip and the center, for the purpose of enabling the twist, occasioned by a run off the track, to unseat the supporting ring, allow the jaw to fall, and uncouple the car.

113,731.—Tenoning-Machine.—Melton S. Bourland, Buena Vista, Texas.

Claim.—1. The improved tenoning-machine, consisting of the saw C, gauges G and H, the gauges I and F, and flange *a*, all arranged and connected with the hinged plates D and E, as shown and described.

2. The gauge I, combined with the gauge F, flange *a*, and saw C, for the purpose of operating substantially as herein shown and described.

113,732.—Cider-Mill.—Jesse Bowen and Aaron T. Foster, Clarksburg, Ohio.

Claim.—1. The cutting and rasping-drum G provided with series of knives L, and ribs or rasping-edges J, and grooves K, all being constructed and arranged substantially as and for the purposes shown and described.

2. The combination of the hopper H, revolving compressor R having arms T, the drum G, front-board U, shaft B, and friction-gears M N O, when said parts are constructed and arranged for operation substantially as shown and described.

113,733.—Plow.—Walter Britton, Truro, assignor to himself and Elmwood Mining and Manufacturing Company, Elmwood, Ill.

Claim.—1. The braces I I, cross-bar H, and nuts *i′ i″*, when arranged to operate with the beam G and extended standard D, substantially as and for the purpose specified.

2. The brace K, lug J, and nuts *k k*, when arranged to operate with the beam G and extended standard D, substantially as described, and for the purpose specified.

113,734.—Shawl-Strap.—Damon W. Brockway, Dover, Me.

Claim.—As a new article of manufacture, and as my invention, the combined shawl-strap and wrapper as composed of the handle *a*, the straps *b b*, the wrapper A, and the flaps C C, all arranged,

combined, and provided with the loops and fastenings, substantially as described.

113,735. — APPARATUS FOR COMPRESSING, STRAINING, AND MOLDING PLASTIC PYROXYLINE.—Josephus Brockway, Albany, N. Y., assignor to himself and Urial K. Mayo, Boston, Mass.

Claim.—1. The combination of the mold G, the gauge-cock F, the cylinder A, the piston B, the screw C, its frame D, and the strainer or strainers *e*, all arranged substantially in manner and for the purpose, and to operate as set forth.

2. The arrangement and combination of two or other suitable number of plates, *b*, as described, with the press-cylinder, or such, and the mold-frame and screw and piston thereof, as set forth.

3. The mold, as made, with the induction-tube *f* fixed to its matrix-plate, as set forth.

4. The press-cylinder, as constructed, with one or more channels, *d*, arranged in its bottom and relatively to the gauge-cock or cocks F, as set forth, in combination with the strainer or disk-sieves *e*, applied to the said bottom, as specified.

5. The combination of the mold G, the mouth-tube *f*, the tapering nose gauge-cock F, and the straining and condensing-press, as set forth, all made, arranged, and applied in manner and for the purpose of condensing, straining, and molding pyroxyline, substantially as explained.

113,736.—MANUFACTURE OF DENTAL-PLATES FROM PYROXYLINE.—Josephus Brockway, Albany, N. Y., assignor to himself and Urial K. Mayo, Boston, Mass.

Claim.—A dental-plate of pyroxyline, made by first forming the sheet by molding it, as described, and next boarding, and finally pressing and shrinking it, all substantially as hereinbefore specified.

113,737.—MACHINE FOR PUNCHING CORSET-SPRINGS. —Peter Brooks, Waterbury, Conn., assignor to Carrington Manufacturing Company, same place.

Claim.—1. Jointly, the lower die-block having the several dies *c c c c c c* and gauge-pin *d* secured thereto, and the upper punch-box having the punches *c' c' c' c' c' c'* and *a'*, the whole operating together as and for the purpose set forth.

2. The arrangement of the dies *c c*, each die being constructed of a separate piece, tapered as described, and both fitted in the dovetailed recess running from front to rear through the die-bed A, whereby either of the said dies may be adjusted forward or backward, as and for the purpose described.

113,738.—MODE OF ATTACHING TOPMASTS AND TOP-GALLANT-MASTS. — Leverett Brown, New York, N. Y.

Claim.—The method of fitting and securing the topmast and top-gallant-masts of vessels in the manner herein described, so that the masts above shall rest upon and be directly supported by the mast immediately below, instead of the trestle-trees of such masts, as and for the purposes set forth.

113,739.—SELF-CENTERING BOX OR BEARING.—Milan C. Bullock, Pottsville, assignor to himself and Samuel E. Griscom, Mahanoy Plain, Pa.

Claim.—1. The box D, constructed in one piece and cut through as shown.

2. The box D, constructed with a single flange, by means of which it is adjusted, as described.

3. The combination, operating as described, of the nut H with the box D, constructed in one piece and cut through as shown.

4. The combination, operating as described, of the box D, constructed with key-seats or notches G G, and the key or dowel-pin E.

5. The arrangement of the counter-bored head, the box constructed with a single flange, and the nut.

113,740.—MACHINE FOR CUTTING SCREWS. James M. Carpenter, Pawtucket, R. I.

Claim.—1. The combination of the die-stock, the dies, two or more, capable of moving radially therein, as described, and the rotating cam-plate and cams, or their equivalent, for moving the dies simultaneously, and the former or pattern for imparting said movement as the dies pass lengthwise over the screw to form the threads, substantially as described.

2. The combination of the die-stock, the radially-moving slides, the pivoted dies or cutters, and mechanism, substantially as described, for adjusting said cutters.

3. The combination of a die-stock, two or more multi-threaded dies arranged radially in said stock, and a leading-screw and movable nut to connect therewith, the threads of said screw and nut corresponding in pitch to the pitch of the die-threads, substantially as described.

4. The adjusting-screw K or its equivalent, in combination with the former and the devices that move the dies or cutters radially, substantially as described.

5. In combination with the die-stock and multi-threaded dies, the scaling-tool, substantially as described.

113,741.—TABLE FOR SEWING AND KNITTING MACHINES. — Edwin Chesterman, Tremont, N. Y.

Claim.—1. A sewing or knitting-machine table having a movable top, operating as described, the ends or standards of which are in two parts, hinged together as shown, and having the shaft of the driving-wheel D attached to or supported by the same portion H of the standard B as the table top, in order that the table top A and the driving-wheel D may move together radially on the pivot C, as shown, for the purpose described.

2. Supporting the back part of a movable table top or desk in a level position by means of an inclined plane or planes, irrespective of whatever inclination the front part may be placed at.

113,742. — COOKING-STOVE. — Franklin Clement, St. Louis, Mo., assignor to Charles H. Buck and Wiley S. Wright, same place.

Claim.—Cast-iron walls for the fire-chamber of a cooking-stove, constructed with chilled surfaces, substantially as described.

113,743.—MODE OF FORMING THE HEADS OF WRENCH-BARS.—Aury G. Coes, Worcester, Mass.

Claim.—Reducing the head B, shown in fig. 1, to the shape shown in figs. 4 and 5, in the manner substantially as described.

113,744.—HANGER FOR REVOLVING SHAFTING.—Alfred B. Couch, Worcester, Mass.

Claim.—1. The rods E cast into the arms H, for the support and adjustment of a journal-box.

2. The combination with the arm H and its supporting-bolts J, of the bolster-plate M, set-screws O, and rods E, for the support and adjustment of a journal-box, substantially as set forth.

3. The combination, with the arm H, of rods E, nuts F, clasps B B', and journal-box A, substantially as and for the purposes set forth.

113,745.—CUT-OFF FOR BLAST-FURNACES.—Henry Davies, Newport, Ky.

Claim.—1. The double-beat valve *b*, arranged within the case *c*, and actuated by the crank *g*, to operate substantially as herein shown and described.

2. The pump-plunger H, provided with the projection V so that it will be elevated by the beam E, but descend only by its own weight, substantially as specified.

3. The pump G, provided with the adjustable valve J, by which the discharge of water is regulated for allowing the descent of the plunger, as set forth.

4. The arm T, arranged on the pump-plunger, and provided with the projection 2 and loose rod R, to operate, by means of the attachments, substantially as herein shown and described.

5. The valve-lever P, balanced at one side by the weighted rod R and at the other by the valve M, and provided with the projection Q, to operate substantially as herein shown and described.

6. The quadruple valve M, provided with double heads, to close on two pairs of seats and regulate the flow of air to both ends of the cylinder A, substantially as herein shown and described.

7. The lever P and projection Q, combined with arm T and projection 2, to operate substantially as herein shown and described.

8. The cylinder A, provided with an aperture, *c*, in its bottom, leading to the air-channel 7, substantially as described, for the purpose of constituting an air-cushion which will retard the operation, as specified.

9. The combination of the air-cylinder A and piston B with the valve M, pump G, and plunger H, all arranged to operate substantially as herein shown and described.

113,746.—SHINGLE-MACHINE.—James Decker, Holmesville, Ga., assignor to himself and F. McRae, same place.

Claim.—1. The combination, with the main frame A of a shingle-sawing machine having the saw arranged as described, of the reciprocating carriage F and a set of feeding apparatus, substantially such as herein described, mounted on each overhanging end of the said carriage, all substantially as specified.

2. The combination of the slotted plates O, shafts I, pawls K, angle-plates L, spring shifting bars C, and the ratchet-bars Q Q', all substantially as specified.

113,747.—CORN-PLANTER.—J. Dyson Delap, Tyrone township, Pa.

Claim.—1. The combination of the rod *s*, bar N, roller P, connecting-rod *t*, and tube L, as and for the purpose specified.

2. The combination of the roller P, connecting-rod *t*, bar N, arm E, spring rod D, seed-slide A, connecting-rods I I, and arms H H, as and for the purpose specified.

3. The combination of the seed-slide A, connecting-rods I, arms H, bar N, arm E, spring rod D, rod *s*, tubes V and L, rod *t*, roller P, shovel *o*, and covering-wings *w*, as and for the purpose specified.

113,748.—SCARF.—George R. Dexter, New York, N. Y.

Claim.—The herein described scarf as a new article of manufacture, consisting of the combination of two or more single or double-fringed twisted strands, A, secured together at their ends, substantially as and for the purpose set forth.

113,749.—DIRT-CHAMBER FOR GAS-PIPES.—Martin N. Dial, Painesville, Ohio.

Claim.—The cylinder A and the interior dirt-cup B, said dirt-cup B being secured in the interior of the cylinder A, substantially as and for the purpose as hereinbefore set forth.

113,750. — HORSE-POWER. — William W. Dingee, Racine, Wis.

Claim.—1. The bridge-tree X'' X, provided with standards *e*, so combined with boxes Y Z that the latter are held in position by one cap-box U, as set forth.

2. The bridge-tree X' X'', arranged to support the box S of shaft G and the inner end of shaft *p* of pinion *e*, to give said pinion a double bearing, as set forth.

3. The combination of master-wheel A, shaft G, wheel H, pinions *l' l e d*, and bridge-trees X'', X', X''', X, and V, so arranged as to reverse the sides of the cogs, as set forth.

113,751.—BOTTLE-STOPPER.—Louis Dovell, Newark, N. J.

Claim.—The tube A, supplied with the corrugated blade B, in combination with the stopper C, when arranged and operating substantially as and for the purposes herein set forth and described.

113,752.—DRAWING-FRAME.—George Draper, Hopedale, Mass.

Claim.—1. In combination with the vibratory trumpet C, the vibratory pawls *d e*, and their gear G of a draught-regulator, the rocker-plate F as made with the elongation *s* of its saddle or flange *c*, arranged to operate substantially as described.

2. The combination of the adjustable stop K with the vibratory trumpet, the vibratory pawls and their gear, and the rocker-plate F as made with the elongation *s'* of its saddle, arranged to operate substantially as described.

113,753.—FENCE. — James T. Drummond, Mount Pleasant, Iowa.

Claim.—The locks or wedges N T', arranged to hold removable panels in place and support the panels of the fence running over undulated ground, as set forth.

113,754. — DRYING BONE-BLACK. — Peter Farley, New York, N. Y.

Claim.—1. The inclined slats B B applied to the heater A, substantially as and for the purpose herein shown and described.

2. The heater A, applied to a furnace, and provided with inclined sides and with shelves, as described, to utilize the waste heat for the drying of bone-black, as specified.

3. The slides *f*, applied to the perforated flanges *e*, and combined with the inclined slats and heater, as described.

113,755.—COMPOSITION FOR PRINTING OR PAINTING ON SURFACES.—Alonzo Farrar, Brookline, Mass.

Claim.—My new or improved composition, substantially as hereinabove specified.

113,756.—SIGNAL FOR RAILROADS.—John Fogarty, Brooklyn, N. Y.

Claim.—1. The lifting-rods E, bent inwardly at their lower ends, combined with the ordinary shades D, as described, for the purpose of preventing fracture of the same by percussive contact with the bottom of the case.

2. The bands F and hooks G, combined, as described, with the ordinary shades D, to prevent the latter from rising out of their seats.

113,757.—FIRE-PLACE GRATE.—William H. Garrett, Cannonsburg, Pa.

Claim.—The combination, with a fire-grate, B, of a sifter and fender, D, suspended under the grate by chains at the front and studs at the rear, and arranged for being supported perpendicularly by setting its hooks on one of the upper bars of grate and fastening it at the top by hook, staple, or otherwise, the whole substantially as in the manner described.

113,758. — ORNAMENTATION OF METAL, GLASS, &c.—Benjamin George George, London, England.

Claim.—The process herein described of transferring printed work on the surface of metal or other suitable material.

113,759.—SCUTTLE-FASTENING. — Thomas J. Gifford, Mass.

Claim.—In combination with the hinged frame, the curved and notched bar B, stationary catch C,

and U-shaped sliding bar D, with springs F F, the bar B passing through the bar D and acting as a guide for the same, all as set forth.

113,760.—REVOLVING MOLD-BOARD FOR PLOWS.—Joseph S. Godfrey, Rochester, assignor to himself and Sears M. Loveridge, Pittsburg, Pa.

Claim.—A revolving, flat, plain-faced, circular disk mold-board, arranged in connection with and with reference to the lower level of the point and shin-piece, substantially as described.

113,761.—CHECK-ROW ATTACHMENT FOR CORN-PLANTERS.—William C. Grimes, Decatur, Ill.

Claim.—1. The driving-pulley G and friction-pulleys D D, *d*, *e*, *f*, H, and *h*, in combination with the smooth cord B, pinion-wheel I, spur-wheel J, eccentric cam *k*, forked lever L, and connecting-rod M, arranged and operating as and for the purpose described.

2. The combination of the pulley G, coupling S, and pointer X, as and for the purpose hereinbefore set forth.

3. The combination, with the bar A, of the plates V V and pulleys D *d* H *h*, when the latter are arranged so that the cord will pass from one pulley to the other when the machine is turned, substantially as specified.

113,762.—WASHING-MACHINE.—Julius W. Groat, Fremont, Ohio.

Claim.—1. The washing-wheel, constructed with radial arched open-bottom ribs or beaters D and inclined perforated webs *g*, substantially as described.

2. The covers or guards E, having perforated sides *e*, and applied over openings *i i* between the radial ribs or beaters D, substantially as and for the purposes described.

113,763, antedated April 3, 1871.—CHEESE-PRESS.—Charles L. Haines, North Newburg, Mo.

Claim.—In combination, the perforated standards D and G, adjustable combined levers R and *k*, the follower K, presser shaft E, and weight L, when constructed and arranged to operate in the manner and for the purposes shown and described.

113,764.—CALORIC-ENGINE.—William T. Hallefus, New York, N. Y.

Claim.—The device herein described for keeping the journals of the cross-head K lubricated notwithstanding the high temperature of the air in the cylinder, consisting of the raised isolated box H having an oil-well or reservoir formed around the said cross-head journals, substantially as herein specified.

113,765.—CARPET-LINING.—John R. Harrington, Brooklyn, N. Y.

Claim.—1. A carpet-lining, composed of a continuous sheet of wadding glazed on both sides and both edges, and inclosed between two continuous sheets of paper.

2. A carpet-lining, composed of a continuous sheet of wadding glazed on both sides and both edges, and inclosed between two continuous sheets of paper, the wadding and paper being secured together by the pasted narrow stripe.

3. The combination of the narrow pasted stripe with two continuous sheets of paper and any suitable filling.

113,766.—PARLOR AIR-PISTOL.—Benjamin Haviland, Hudson, and George P. Gunn, Ilion, N. Y.

Claim.—1. The combination and arrangement of barrel B, arm C, and cross-head D, substantially in the manner and for the purposes herein set forth.

2. The combination and arrangement of piston *k*, spring *m*, and rod *e*, with the elements of claim 1, substantially as and for the purposes set forth.

113,767.—TRACTION-ENGINE.—John W. Hazen, West Hartford, Vt.

Claim.—1. The combination of the levers I J and pawls L, or equivalent, with the heads F, guide-rods G, piston-rods E, and wheels or pulleys D attached to the shaft B to be driven, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the pulley or pulleys P, shaft O, crank F, and connecting-rod M with the head F, guide-rod G, piston-rod E, levers I J, wheels or pulleys D, and shaft B, substantially as herein shown and described, and for the purpose set forth.

113,768.—CAR-SPRING.—Albert Hebbard, Cambridge, Mass., assignor to himself and John P. Onderdonk.

Claim.—The volute spring composed of two or more pieces, A and B, each of which is inserted between the coils of the other.

113,769.—PRINTING-PRESS.—Richard M. Hoe, New York, N. Y.

Claim.—1. Automatically separating and piling set-off sheets by means of tapes, or equivalent devices, constructed, arranged, and operating substantially in the manner and for the purpose specified.

2. The combination, with a printing-machine, of the mechanism for separating and piling the set-off sheets, substantially as described and specified.

3. Arranging the roller 9 in brackets 30, and with a clutch or coupling, 31 32, in combination with the books 29 for supporting the roller, substantially as described, and for the purposes specified.

113,770.—GRAIN-HULLING MACHINE.—Michael Hoffmann, Munich, Bavaria, assignor to Ludwig Kölbl, St. Louis, Mo.

Claim.—1. The rotating cylinder C having downwardly-obliqued grooves *g* arranged one above another, combined, as described, with the stationary cylinder A having internal and correspondingly-oblique ribs *h*, and the sieves *m*, arranged as and for the purpose specified.

2. The stones *i*, arranged separately above one another, and suspended on projecting pins *j* of the shell to form stationary ribs of a hulling-machine, as set forth.

3. The heads *b c*, frames E E, and metal case F, combined with the series of stones *e* ribbed on their inner faces, and arranged as and for the purpose specified.

113,771.—BARREL-ROLLING APPARATUS.—Lewis L. Hyatt, New York, and Adolph G. Hüpfel, Morrisania, N. Y.

Claim.—1. An improved barrel-rolling apparatus, formed by the combination of the frame A, inclined bars B, shafts C and D, bearings E, whether made with one or more notches, wheels F, gear-wheels G H, shaft I, and crank J, or equivalent, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The bearings F constructed as herein shown and described, in combination with the movable or loose shaft of a barrel-rolling apparatus, as and for the purpose set forth.

113,772.—APPLICATION OF BRONZE AND GILDING TO PLATE-GLASS.—Elias Ingraham, Bristol, Conn.

Claim.—The process of decorating glass plate in bronze and gilt, substantially as herein described.

113,773.—INNER SOLE FOR BOOTS AND SHOES.—Charles P. Johnson, Jamaica Plain, Mass.

Claim.—As a new article of manufacture, an inner sole for boots and shoes, consisting of a sheet or sheets of mica of greater or lesser thickness, inclosed between any protecting materials, such as leather, cloth, hair, &c., for the purpose and in a manner as herein fully set forth and described.

113,774.—WASH-BOILER.—Orlando L. Kenyon and Edwin B. Palmer, Rome, N. Y.

Claim.—The two corrugated plates D E, having chamber F between them, the top one being perforated and the shorter bottom one having discharge spaces L L, when combined with vertical tubes H I and horizontal partition-tube J, as and for the purpose specified.

113,775.—SHIFTING TOP FOR BASKET-PHAETONS.—Charles P. Kimball, Portland, Me.

Claim.—The shifting standing top to basket-phaetons, whether for two or more seats, supported by the posts E, which enter the sockets G in the cars C, as herein described.

113,776.—TREADLE.—George Byron Kirkham, New York, N. Y.

Claim.—1. The arrangement of the spool D E, bolt H, spring J, the pawl F, ratchet-wheel B, and bearing surface C, as arranged, and for the purpose specified.

2. The accessories to the pawl F, the pin L, spring N, and bearings M and O, for the purpose set forth.

113,777.—MOP.—Milton W. Kirkwood and Solomon H. Riley, Iowa City, Iowa.

Claim.—1. The grooved plate A, lever B, screw D, apertured plate E F, staples G, and rod I, combined, as described, with the end of handle and back of brush, for the purpose specified.

2. The block L, carrying a clamp, combined, as described, with the screw-threaded portion K of the handle, for the purpose of providing an adjustable dry-wiper.

113,778.—COMBINED CIDER-MILL AND PRESS.—Daniel H. Krauser, Pottsville, Pa., assignor to himself and Joseph C. Bright, same place.

Claim.—The rotary crusher R, having spirally-curved wings S, combined with ribs O, diminishing in height from apex to base, for the purpose specified.

113,779.—MACHINE FOR MAKING WIRE CYLINDERS.—Cyrus H. Latham, Lowell, Mass.

Claim.—1. The combination of the following elements: a supporting-mandrel, B, a holder or former, G, and a series of revolving mandrels, D, constructed, arranged, and operating substantially as described and specified.

2. The combination, with the revolving mandrels D, of the mechanism, or equivalent thereof, for clamping the wires to be twisted, substantially as described and specified.

3. The combination, with the former G, of the flanged cap H, or its equivalent, for covering and holding the curved ends of the wires *x*, substantially as described and specified.

4. The herein-described machine for making twisted-wire cylinders, constructed, arranged, and operating substantially as described and specified.

113,780.—NECK-TIE RETAINER.—Christopher P. Lawton, Webster, Mass., assignor to himself and Eben A. Day, same place.

Claim.—1. The combination, with the bow or neck-tie A, of the notched rubber shield or retainer B and the holding-pin C, substantially as and for the purposes set forth.

2. In the combination with the elements of the first claim, the loop D, or equivalent device, for attachment to the shirt-button.

113,781.—CLOCK-MOVEMENT.—Benjamin B. Lewis, Bristol, Conn., assignor to Solomon C. Spring, same place.

Claim.—1. The stationary socket and wheel B, in combination with the front plate E, substantially as set forth.

2. The combination and arrangement of stationary wheel B, movable and revolving wheels F^1 F^2, wheel C, and wheel D, all arranged and moving substantially as and for the purpose described.

113,782.—PURIFICATION OF OILS AND FATS BY ACIDS.—Robert G. Loftus, Chelsea, Mass.

Claim.—1. The employment of a naphtha or solvent with the oil and acid, substantially as and for the purpose as specified.

2. The employment of naphtha or a solvent in the process of treating oil with acid and alkali, as set forth, and subsequently subjecting the treated oil to the action of steam in a still, or to distillation, all substantially as and for the purpose of separating the solvent from the oil, as explained.

113,783.—PLUMBAGO OIL-CAN.—Donald D. Mackay, Whitestone, and Cyrus Butler, New York, N. Y.

Claim.—The combination, with the oil-can, of the stirrer, having the spirally-fluted or twisted shaft, and means for operating it, substantially as specified.

113,784.—SELF-ACTING JACK FOR SPINNING.—Peter McGovern, Lawrence, Mass., assignor to George L. Davis, John A. Wiley, Joseph M. Stone, George G. Davis, Joseph H. Stone, and James H. Davis.

Claim.—1. The curved bar *m* and the radial arm *k* and its accessories, combined with the carriage and winding mechanism, and arranged in the manner described, so that the said bar and radial arm may be placed below the carriage, substantially as described.

2. The combination of the counter-faller with the vibrating weighted lever l^4, pinion l^5, and rack m', for operating the screw in the radial arm *k*, under the control of the counter-faller, substantially as described.

3. The rocker-shaft *s* and arm X^6, carried by the carriage, and operating as described, in combination with the arm X^4 on the shipper Z, to stop the machine when the carriage runs in, substantially as described.

4. The combination of the shipper Z with the clock-slide by means of a yielding connection, which will permit the shipper to throw the belt onto the loose pulley to stop the machine, substantially as described.

5. The combination of the lever X^2 with the clock-slide X^1, substantially as described.

6. The combination of the latch X^3 with the clock-slide X^1, substantially as described.

7. Latch X^3, provided with the incline X^8, in combination with the shipper-shaft W, substantially as described.

8. The combination of the arm *d* on the carriage, with the arm W^5 on the shipper-shaft, substantially as described.

9. The combination of the clutch-lever U with the incline for operating the same, so that the clutch shall be thrown in by gravity or a spring instead of a positive motion, substantially as described.

10. The rocker-shaft *o* and arms fixed thereon, mounted upon the carriage, and constructed and operating substantially as described.

11. The combination of the stud *n*, or its equivalent, with the rod Y, substantially as described.

12. The combination of the rocker-shaft *o* with the latch-rod p^3, substantially as described.

13. The combination of the rocker-shaft *o* with the stud *n* or its equivalent, substantially as described.

14. The combination of the rocker-shaft *o* and its attachments with the pulley *q'*, on the drum-shaft D, and the faller *e*, by means of the chain *q* or its equivalent, substantially as described.

15. The combination of the rocker-shaft *o*, operated as described, the stud *n*, the latch-rod p^2, and the faller and faller-arm e^1 with the rod S', substantially as described.

16. The combination of the stud *n* with the rod V^2 and the bent lever V^1 and slide V, for working the clutches T^2 and Q^1, substantially as described.

17. The combination of the spring W^2 with the arm W^1 on the shipper-shaft W, and the stops Y^1 Y^1 on the rod Y, substantially as described.

113,785. — PIANO-FORTE ACTION.—Frazee B. McGregor, Pontiac, Mich., assignor to himself and George A. Hoyt, same place.

Claim.—1. The screw *a*, with buttons *b d* arranged through the rear end of the lever G, and operating in combination with the combination bar H, bar I, and key A, substantially as and for the purposes herein set forth.

2. The back-check J and lever K, hinged or pivoted within or upon the lever G, and operated by the motion of the key, substantially as and for the purposes herein set forth.

113,786.—LIQUID RECEPTACLE AND FUNNEL. — William H. Mumler, Boston, Mass.

Claim.—The valve C, with its lever D, rod E, and spiral spring *i*, in combination with the cover G provided with a hook, *l*, arranged and operating substantially in the manner and for the purpose described.

113,787. — WATER-PROOF FLOOR.—Tobias New, New York, N. Y.

Claim.—The blocks E, combined with cement layer D, felt layer C, and base floor A, all successively arranged and applied as specified, to form a water-proof floor.

113,788.—HINGE FOR GATES.—Edwin D. Norton, Cuba, N. Y.

Claim.—1. The eye of the hinge C when provided with the double-incline guiding-flange G upon the upper part, as and for the purpose described.

2. The combination of the post-plate A, projecting pin E, eye of the hinge C, double-incline flange G, and gate-plate F, when constructed and operating together as and for the purpose described.

113,789. — EXTENSION PULLEY.—William Onions and Isaac Bagnall, St. Louis, Mo.

Claim.—A hollow sectional pulley, C D E F I, fast upon its shaft, combined with a hollow cone, G J K, movable on the said shaft for the purpose of graduating the velocity imparted thereto without stopping the machinery.

113,790.—COOKING-STOVE.—Daniel E. Paris, Troy, N. Y.

Claim.—1. A reservoir for cooking-stoves, constructed with the movable piece D, or its equivalent, substantially as and for the purpose herein set forth and explained.

2. The lugs F F, or their equivalent, cast solid with a water-reservoir, at or near its lower bottom edge, when the reservoir is made larger at the top than at the bottom, substantially as and for the purpose herein shown and described.

3. The back flue-piece B, with its adjustable foot-piece C, in combination with the movable front-piece D, made for the purpose and substantially in the manner herein set forth and explained.

113,791.—AMALGAMATING-PAN FOR GOLD AND SILVER-ORES.—Ira S. Parke, Virginia City, Nev.

Claim.—1. An amalgamating and mixing-pan, tub, or receiver, composed of a metal base and a wooden top, as described, and with combined metal and wooden ribs *b b'* arranged therein, substantially as and for the purpose described.

2. In combination with the combined metal and wooden and ribbed pan, tub, or other vessel for containing the material to be mixed or amalgamated, the revolving mixing-wheel or stirrer C with its eccentric ribs I, constructed and operating as and for the purpose described and represented.

113,792.—GRAIN-BINDER.—Provize A. Perry, Perth Amboy, N. J.

Claim.—1. The combination of the nippers E, mounted upon the rod F, with the slot S and spring S', all these parts being constructed and operated substantially as and for the purpose set forth.

2. The combination of the nippers M and P, spiral arm Q, and reciprocating rod N, all these parts being constructed and operated as herein shown and described, and for the purposes set forth.

3. The combination of the nippers M and P, arm Q, rod N, slot T and U, springs S, and pins *t*, all these parts being constructed and operated substantially as herein shown and described, and for the purposes set forth.

4. The combination of the nippers M and P, arm Q, rod N, spring S, pins *t*, and jaws V and V', as shown and described.

5. The combination of the nippers E, rods F and G, levers *d*, *e*, and *e'*, wheel I, and driving-wheel J, substantially as shown and described.

6. The construction and arrangement of the nippers M and P, rods N and O, arms Q and E with the levers *o*, *o'*, and *m*, connecting-rod *p*, crank-wheel I, and driving-wheel J, substantially as herein shown and described, and for the purposes set forth.

113,793.—CEILING AND WALL FOR BUILDINGS.—Charles N. Poole, Sandwich, Ill.

Claim.—1. The sectional frames A B, filled by pressure with cement, molded and fastened to the joists by screws.

2. The frames B, made in sections A, the cement C pressed thereinto, and face-molded on the outer surface, and a series of fastening-screws, combined as described with the joists or timbers of a building, to form a new ceiling or wall finish.

113,794. — COUNTING-REGISTER. —Charles W. Pyle, Wilmington, Del.

Claim.—The series of disks *c*, notched at *g*, and apertured at *h*, combined as described, with a single pawl, I, operating through said apertures and upon said notches, as and for the purpose specified.

113,795.—MACHINE FOR TURNING BARREL-HEADS. — John Jackson Ralyn, Cleveland, Ohio.

Claim. — 1. The self-adjusting center A, with spring *n*, in combination with the disks C' G, arranged and operating in relation to each other, substantially as and for the purpose set forth.

2. The disks C' G, shaft F, and link M, in combination with the connecting-rod O and treadle P, connected to the sliding frame B, as and for the purpose substantially set forth.

3. The disks C' G and sliding frame B, in combination with the saw T and cutters U, with the shaft of said saw and cutters, arranged in connection with the adjustable table or carriage, substantially as and for the purpose set forth.

4. The bed-plate W and carriage V, provided with adjusting-screws, in combination with the saw T, cutters U, and disks C' G, attached to the sliding frame, as and for the purpose substantially set forth.

5. The saw-shaft Q, supported on the adjustable plate R, with the sliding plate or carriage V and bed-plate W, provided with adjusting-screws, in combination with the disks C' G, as and for the purpose substantially set forth.

113,796.—CANT-HOOK.—Alfred B. Reeves, Knightstown, Ind.

Claim.—The cant-hook composed of the lever A, hook B, stirrup D, and strengthening-plates C and E, all formed, constructed, and arranged substantially as set forth.

113,797.—GUANO AND SEED-DRILL.—Leonidas M. Rhodes, Warrenton, Ga.

Claim.—1. The wheel F with the wires H, and the hopper E with the stationary wires I, arranged substantially as and for the purposes described.

2. The removable band N, in combination with the wheel F, substantially as and for the purposes described.

113,798, antedated April 10, 1871.—LATHE. John F. C. Rider, South New Market, N. H., and Emerson P. Brownell, Providence, R. I.

Claim.—The improved spool-heading and boring apparatus herein described, consisting of the reciprocating spindles K, cutter-head H, combined cutter-head and auger I, levers F and B, and spool-clamp D C, with jaws parallel with the spindles, the whole being combined and operating as and for the purposes specified.

113,799.—BRICK-LIFTER.—K. Julius Rugg, Cincinnati, Ohio.

Claim.—The combination of the X-shaped jointed frames B B, provided with plates A A, with the shaft *f* and cams *e*, all constructed and arranged as shown, for the purpose set forth.

113,800.—PLANING-TOOL.—Nathaniel Russell, Plymouth, Mass.

Claim.—The improved planing-tool herein described, consisting of the metallic box A, steel plates C, and set-screw B, constructed and arranged in relation to one another as described.

113,801. — APPARATUS FOR CONVERTING ROTARY INTO RECIPROCATE MOTION BY MEANS OF FRICTION.—Richard Sammer, Vineland, N. J.

Claim.—The movable spring shaft-box and its combination with friction-power, substantially as shown.

113,802.—HORSE-COLLAR.—John W. Schwaner, Egg Harbor City, N. J.

Claim.—The bars F, in combination with the plates or shells A and wooden ribs B, substantially as herein shown and described, and for the purposes set forth.

113,803.—SOLDERING-FURNACE. — Conrad Seimel, Green Point, assignor to himself and J. Hubert Richardson, Brooklyn, N. Y.

Claim.—The coke-furnace A, provided with the grate *d*, damper *j*, air-space K, and slide *l*, all arranged and combined substantially as herein shown and described.

113,804.—DUMPING-CAR.—William A. Sharp, Tama City, Iowa.

Claim. — The longitudinally-divided bottom, formed of parts A, trunnioned cross-pieces B G, secured by staples H resting on rolls *c*, and sliding through notch D, chains C I, bent levers M N, and stop-pieces O, when all are combined as described, to enable the power that unloads to replace the bottom, and to cause the dirt to be left on both sides and in the center.

113,805. — FERRULE. — Dolphin G. Smith, Columbus, Ohio.

Claim.—The ferrule A, combined with a ring, B, applied to the end thereof, as and for the purpose specified.

113,806.—MILKING-STOOL.—George Smith, Rochester, N. Y.

Claim.—The spring-hooked yoke D, in combination with one or more sets of retaining-hooks, *a*, on the stool top A, substantially as described.

113,807.—COOKING-STOVE.—Samuel Smith, Philadelphia, Pa., assignor to himself and Charles Noble & Co., same place.

Claim.—The eye-plates *a' a'* and toes *a'' a''* cast on the vertical side plate A of the stove, and the projections and studs *b' b''' b' b'''*, and wedging-blocks b^4 b^4 cast on the boiler B, all substantially as and for the purposes hereinbefore set forth.

113,808.—HOOK FOR BIRD-CAGES.—John M. Spring, New Britain, Conn., assignor to P. & F. Corbin, same place.

Claim.—The hook *f*, made of one piece of wire bent up double and extending in the form of arms *d e*, that are secured at their ends to the plate *a*, as and for the purposes set forth.

113,809.—CHEESE-HOOP.—William Sternberg, Bridgeport, N. Y.

Claim.—In connection with the hoop A, the rim B having slits *b*, and spring hooks *c c*, substantially as and for the purpose described.

113,810.—STEAM-ENGINE VALVE.—Nathan Page Stevens, Hopkinton, N. H.

Claim.—The valve as made, with the receiving-chamber *h* open at top and bottom, and with the encompassing exhaust-channel *i*, in combination with the main parts *e e* and the lateral exhaust-passage or passages *f*, all arranged in or with respect to the chest in manner and to operate as specified.

113,811.—PETROLEUM-STILL. — John L. Stewart and John P. Logan, Philadelphia, Pa.

Claim.—1. The still A, with its top in the form of an annular corrugation, in combination with a series of pipes so arranged as to draw off the vapor from the still at the highest part of said corrugation.

2. The central dome D arranged upon the still A in the manner shown, as a receptacle for the vapors that pass from the still by the collecting-pipes C.

3. The arrangement of the dome E within the dome D, so as to bring the uncondensed vapors in contact with the cooling surface of the dome D, as herein described.

4. The dome E, made with passages for the free circulation of the air, as in fig. 3, in combination with the dome D, for the purpose herein described.

5. The valve *k*, arranged in combination with the dome D, or its equivalent, and still A, for the purpose of returning the condensed vapor to the still, as herein described.

6. The combination and arrangement of the still A, pipes C, domes D and E, pipes P and K, and valves L, as herein shown and set forth.

113,812.—CHAIR AND CRADLE COMBINED.—Edmund Stoney, Walkerton, Canada.

Claim.—The arrangement and combination of a chair and cradle, comprised of hinged rockers B B and casters C C attached to the rockers B B, buttons A A, spiral spring D D, back G, slides F F, and straps E E, and adjustable bow H, cord I I, and movable cushion L, as described.

113,813, antedated April 1, 1871.—HORSE HAY-RAKE.—Ole O. Storle, North Cape, Wis.

Claim.—The arrangement of iron I, lever K, iron L, stop M, and latch N with screw-bolts O, forming a locking device, substantially as described.

113,814.—Self-acting Mule for Spinning.—James Sutherland, East Hampton, Mass.

Claim.—1. The fall-off mechanism herein described, substantially as set forth.

2. The combination of the quadrant-screw with the winding-on drum and with the falling-off mechanism, as described, for the purpose of producing a regularly-decreasing series of decreases in the speed of the spindles.

3. The combination of the mechanism herein described, which automatically turns the quadrant-screw with a regulating apparatus, substantially such as is herein set forth, that, during those inward runs of the carriage in which the spindles revolve too fast, is automatically operated by the ends in a manner that diminishes the falling-off of the collar a^3 to such an extent as to cause the mechanism, of which said collar forms a part, to decrease the speed of the spindles during the next inward run after such diminution more than it would otherwise have been decreased, and enough to prevent the spindles thereafter from winding the ends too tightly upon the double conical bases of the cops until such time as they again revolve too fast.

4. The combination of the vertical regulator-rod f^6 with the jointed head m, weighted rod m^1, and horizontal arm m^2, in the manner described, and for the purpose of preventing the depressing of the regulator-rod out of season.

5. The arrangement of the horizontal arm k^2, jointed head k^7, spring k^9, or its equivalent, and rod k^8, projecting from the shoe P in the manner described, and for the purpose of automatically rendering the regulator apparatus inoperative after the double conical bases of the cops have been built.

6. The extension-rail, combined with the copping-rail and cop-builder, in the manner herein described, by which the intermittent motion of the latter, imparted to the extension-rail, may cause the same to practically lengthen the copping-rail at every inward run as much as may be necessary in order to prolong the first rise of the upper follower, until all of each end has been wound upon its cop, except just enough to make the spiral coil upon the naked parts of the spindle without allowing the formation of kinks in the thread.

7. A knock-off, separated from the copping-rail, and operated by a mechanism substantially such as herein described, which causes it to advance at every stretch a less distance than the extension-rail advances, but at the same time as far as may be necessary to prolong the second rise of the upper follower at each inward run, until the spiral coils have been wound upon the naked parts of the spindles tightly enough to prevent the formation of kinks in the ends.

8. The combination, with the quadrant and quadrant-chain, of the inclined traveling-shoe P, and the mechanism consisting substantially of the lever d^6, d^7, and striker d^8, all constructed and operating in the manner described and for the purpose specified.

9. The combination of the cop-builder, extension-rail, knock-off, and shoe P, in the manner described, and for the purpose of causing them all to move in unison.

10. The combination of the scroll-drum with the rocking-bar s^4, elbow-lever s^5, connecting-rod s^6, vertical lever s^1, and carriage-arm s, in the manner described, and for the purpose of throwing the scroll-drum out of gear at the completion of the second stretch.

11. The combination, with the mule-carriage, of a latch mechanism, consisting essentially of the block r, lug r^1, latch-bar r^2, latch r^4, and springs r^3 r^5, as and for the purpose specified.

12. The combination of the weight B with the rail R^2, when the same is provided with an inclination at its inner end, in the manner described, and for the purpose of keeping the pressure of the weight off from the upper follower until the latter has been thrown out of lock.

13. The combination of the weight B with a mechanism, substantially such as is herein described, that automatically serves to increase the pressure of said weight upon the upper follower directly as the lengths of the second rises of said follower decrease, in the manner described, and for the purpose of causing the times of said second rises to remain uniform.

113,815.—Drilling-Machine.—George C. Taft, Worcester, Mass.

Claim.—The combination, as herein described, of the shaft I, slide-bar H, bearing-piece G, adjustable fulcrum-pin K, the lever F and its operating-cam, for the purposes set forth.

113,816.—Machine for Making Pottery-Ware. — Samuel R. Thompson, Portsmouth, N. H.

Claim.—1. The carriage H, in combination with swinging lever V, rod X, and cam O, substantially as described.

2. The plunger C and rod D, in combination with cams P Q, substantially as described.

3. The core K and mold B, when provided with molding surfaces K' L of plaster, substantially as described.

4. The arrangement of sliding cams O P Q with relation to rods X D, substantially as described.

113,817.—Pound-Net for Fishing.—Patrick E. Tiernan, Waukegan, Ill.

Claim.—1. The folding net d, combined with the vertically-adjustable pound C to close the opening in the heart when the pound is elevated, as specified.

2. The heart B, provided with the openings a', combined with the leader A, so that there is an opening at each end of the leader, as set forth.

113,818.—Steam-Engine.—Samuel D. Tillman, New York, N. Y.

Claim.—Two back-acting engines, having cylinders in the same line and one common cylinder-head, when such engines are connected to separate cranks set at right angles on the same shaft, and are arranged and combined substantially as described.

113,819.—Corn-Planter. — Granville J. Vaught, Hanly, Ky.

Claim.—An improved corn-planter, consisting of the frame A, handles B, seed-hopper C, dropping-wheel F, guard H, shaft G, drum or long pulley J, belt K, cone-pulley L, shaft M, drive-wheel I, furrowing-plow O P, conductor-spout I, covering-plow Q R, and adjustable scraper S T, said parts being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

113,820.—Disinfecting Compound.—Guillaume Viqué, Aîné, Bordeaux, France.

Claim.—The disinfecting compound, consisting of the ingredients herein specified.

113,821.—Wardrobe and Book-Case.—Ferdenand F. Voight, New Orleans, La.

Claim.—1. The combination of the levers a and b, pivots a a', lug e, and spring f, constructed to operate substantially as and for the purpose specified.

2. The combination of the dowel-pin g, plate j, nut k, and socket-plate h, substantially as described, and for the purpose specified.

3. The wardrobe or book-case constructed of four principal parts, as described, held together by fastenings arranged and operated substantially as and for the purpose specified.

113,822. — Lifter for Spittoons, &c.—James Walker and Henry F. Lilly, Philadelphia, Pa.

Claim.—The bars A, rod C, tube B, central spider D, spring G, and jointed arms E, arranged to operate substantially as and for the purpose herein described.

113,823.—Water-Wheel.—John S. Warren, Fishkill-on-the-Hudson, N. Y.

Claim.—The chutes of a water-wheel moving endwise while reducing the breadth or area of the water aperture and the length of the jet, substantially as and for the purposes herein shown and described.

113,824.—Shaping-Machine.—William H. Warren, Worcester, Mass., assignor to Aurin Wood and Joseph F. Light, same place.

Claim.—1. The combination, with the reciprocating slide C and head-block D, which carries the cutting-tool, of the automatic feeding device, consisting of the parts F F', a, b, H, d, J, K, f, L, and L', arranged in relation to each other, substantially as shown and for the purposes set forth.

2. The combination, with frame A, of the table I Y B^1, vertical slide S, feed-screw V, shaft V^2, pinions V^1, rack X, and pinion W', constructed and arranged for operation substantially as and for the purposes set forth.

3. The improved machine herein described, consisting essentially of the adjustable crank device N, pitman M, slide C, with its cutting-tool and automatic tool-feeding devices, all arranged and operating substantially as described.

113,825.—Comb for Combing-Machines.—Charles Weiler, Landenberg, Pa., assignor to Martin Landenberger & Co., same place.

Claim.—The comb for worsted machinery, consisting of the grooved bed plate A, the plain pins b b, constructed as described, having hooks on their lower ends, and the covering-plate B, all substantially as and for the purposes herein set forth.

113,826. — Self-Releasing Clutch for Water-Wheels.—George W. Wesley, Meadville, Pa.

Claim.—A water-wheel held to its shaft by means of a clutch, one part of which clutch is secured to the hub of the wheel and the other part is secured to the shaft, the teeth or projections of one part of said clutch being made to spring and, by their yielding, release the clutch and cause the wheel to slide upon its shaft in the direction of the length of said shaft whenever the presence of any unyielding obstruction shall jar or suddenly arrest the wheel.

113,827.—Case for Ribbons, Laces, &c.—Samuel Whitaker, Macon, assignor to himself and Aaron Ruth, Decatur, Ill.

Claim.—1. The shaft D, crank K, spool E, flanges F F, washer I, spiral spring G, cap H, nut M, and ratchet-wheel and pawl N, arranged and operating substantially as described, and for the purpose herein set forth.

2. The spool E, point e, opening O, point o', feeder L, and points l l l, substantially as and for the purposes described.

3. The rods P R, measuring-tape Q, and spring tape-measure S, when arranged and used for the purpose hereinbefore set forth.

113,828.—Time-Indicator for Offices.—Edwin A. Wood, Utica, N. Y.

Claim.—Forming a raised sleeve around the center hole of the dial, on which one of the hands is secured and revolves, the other being attached to a spindle running through the center hole.

113,829.—Automatic Relief-Valve.—Albert F. Allen, Providence, R. I.

Claim.—1. The combination of a hydraulic lever and a relief-valve, when the two are so connected and arranged that a current of water flowing under pressure, by acting upon the lever, will hold the relief-valve to its seat, substantially as described.

2. The combination of the relief-valve and signal-bell, the two being so connected and arranged that the opening or closing of the valve will cause the bell to sound, as and for the purposes specified.

3. The combination of the hydraulic lever G and signal-bell, substantially as described, the two being so connected and arranged that the bell will be sounded by the vibration of the lever when moved by the force of a current of water, as and for the purposes specified.

4. In combination with the auxiliary chamber of an automatic relief-valve, the valve B^2, set between it and the suction-chamber of the pump for the purpose of preventing the induction of air by the way of the relief-valve while the pump is being charged, substantially as described.

113,830.—Portable Roller for Moving Heavy Bodies.—John R. Anderson, New York, N. Y.

Claim.—The combination of the bed-piece A, roller B, and adjustable chocks C C, substantially as and for the purpose herein described.

113,831.—Machine for Balling Oakum.—Samuel George Archibald, Edinburgh, North Britain.

Claim.—1. The balling apparatus, consisting of the sliding carriage, the two revolving shafts, the two fluted rollers, and the loose spindle, combined and operating together substantially as set forth.

2. A machine for twisting and balling oakum, consisting of the funnel or the twisting-rollers or aprons, the drawing-rollers, and the balling apparatus, combined and operating together substantially as set forth.

113,832. — Apparatus and Process for Treating Coffee. — John Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.

Claim.—1. The process of sweating, coloring, and maturing the raw coffee-berry in the manner substantially as herein shown and described.

2. The perforated sweating-boxes D, substantially as herein shown and described.

3. In combination with said boxes, the apparatus A, with its doors, lids, and steam and water-pipes, arranged and operating in the manner substantially as shown and described.

113,833. — Lamp-Burner.—Lewis J. Atwood, Waterbury, Conn., assignor to The Plume & Atwood Manufacturing Company, same place.

Claim.—1. The screw r upon the inside of the cone i, in combination with the wheels i, chimney-holder k, wick-tube e, and base n, substantially as set forth, whereby the wick-raising wheels are operated by the turning of the chimney-holder, as specified.

2. The two screws a b, made with or permanently connected to the burner, as and for the purposes set forth.

3. The wick-raising wheels i, screw r, and wick-tube e, arranged in relation to the central air-tube f and lateral inlet g, as set forth, for moving the flat wick in the Argand wick-tube, as specified.

113,834.—Clasp-Fastener for Bags, &c.—Alfred Holme Balch and Wolfred David Emelius Nelson, Montreal, Canada.

Claim.—The combination of the semicircular parts a and b, hinge c, projections d and e, catches f and g, and points or spikes k, all constructed and operating substantially in the manner and for the purpose herein shown and described.

113,835. — Tongue-and-Groove Joint.—Richard Barton, New York, N. Y.

Claim.—The tongue-and-groove joint for joining

flooring, wainscoting, &c., consisting of the inclined or hook-tongue D formed on one edge of the board, and the corresponding groove C formed in the edge of the adjoining board, substantially as shown and described.

113,836. — HOISTING-MACHINE. — James Bates, Baltimore, Md.

Claim.—1. The combination and arrangement of the serpentine grooved pulley J^1, the rope or chain J, and the balancing-weight J^2, for the purpose of traversing the platform by turning the pulley, and without winding the rope on a drum or cylinder.

2. An elevator or hoisting-machine, constructed, arranged, and operating in all its parts, substantially as herein set forth.

113,837. — HAY-ELEVATOR.—Thomas Vandolah Bayly, Jones' Station, Ind.

Claim.—1. The arrangement of the pulleys *a*, *b*, *d*, *e*, *f*, *h*, *k*, and *p*, hoisting-rope *m*, backing-rope *n*, and fork I, all substantially as and for the purposes herein set forth.

2. The door D, facing E, loop G, and bar H, all substantially as and for the purposes herein set forth.

113,838.—WOODEN PAVEMENT.—George A. Beidler, Philadelphia, Pa.

Claim.—A series of round blocks, provided with shoulders or offsets and tenons, and supported by planks, scantlings, or other pieces of lumber, the whole being arranged substantially as herein set forth.

113,839.—ROTARY ENGINE.—Henry Leonard Bennison, Greenwich, England.

Claim.—The H-shaped cam *e*, internal cylinder *i*, cam *p*, and pistons *q q*, combined and operating substantially as herein shown and described.

113,840.—GRAIN-DRIER.—William Blakey, Brooklyn, N. Y.

Claim.—The combination of the central range of vertical heating-pipes E, the perforated or slotted diaphragms B with inclined or inverted V-shaped ridges D, and the branch-pipe X, all arranged to operate in connection with a tube or casing, A, in the manner substantially as and for the purposes herein specified.

113,841.—FRICTION-CLUTCH FOR BELT-PULLEYS.—James H. Blessing, Albany, N. Y., assignor to himself and Townsend & Jackson, same place.

Claim.—The elastic abutments O O, in combination with toggle-levers and expansible frictional pads G, substantially as described.

113,842. — COOKING-STOVE. — Mary Ann Boughton, Bridgeport, Conn.

Claim.—The arrangement of the hinged shelf E in the rear of the stove, as and for the purpose specified.

113,843.—LOW-WATER INDICATOR. — William A. Bradford, Cincinnati, Ohio.

Claim.—1. In combination with the expansion-tube A, multiplying-lever G, rod F, and valve E, the adjustable thimble M for connecting the valve-stem and rod F, substantially as and for the purpose set forth.

2. An expansion-tube for a low-water indicator, centrally divided by diaphragm P, as and for the purpose described.

3. The curved elastic self-sustaining diaphragm P, substantially as described.

4. In the described combination with the apparatus embodied in the first clause of claims the whistle-testing lever N, connected and operating substantially as and for the purpose described.

113,844. — APPARATUS FOR MAKING EXTRACTS FROM VEGETABLE AND ANIMAL SUBSTANCES. — Louis Brauer, Philadelphia, Pa.

Claim.—1. The combination and arrangement of a boiler and an extractor so as to operate substantially as herein set forth.

2. The vessel A, in combination with the removable vessel B, as and for the purposes set forth.

113,845.—BROOM.—Thomas E. C. Brinly, Louisville, Ky., assignor to Tyler, Brown & Co.

Claim.—The combination of the screw-threaded handle A, the cross-head B, and the metallic socket C, all constructed and arranged substantially as and for the purpose set forth.

113,846.—COOKING-STOVE. — Dominicus Brix, Geneseo, Ill.

Claim.—1. The feeder A, provided with the grate D, and suspended in its casing in such a manner as to leave an air-space, *c*, and operating with reference to the damper *d* in the manner substantially as set forth.

2. The feeder A, constructed as set forth, in connection with the throat *a*, fire-chamber M, and plate *d*, in the manner substantially as described.

3. The flue-space F, arranged around the cover, provided with partitions *x x*, dampers K K, and communicating with the fire-chamber M at the top of the stove and the pipe O at the bottom, as herein shown and described.

4. The stove-pipe O, provided with the draught-wheel H and sliding damper, substantially in the manner and for the purpose set forth.

5. The elbow attached to the pipe O, and provided with the partition *i*, draught-wheel I, and door I', operating together in the manner and for the purpose set forth.

6. The combination, in a stove-pipe, of a damper-register and a ventilating fan-wheel, substantially as and for the purpose described.

113,847, antedated April 8, 1871. — MACHINE FOR MAKING BRICKS AND TILES.—Isaac C. Bryant, Washington, D. C.

Claim.—1. The combination and arrangement of the double-flanged screw P, single-flanged screw M on the same shaft, oblique cutters I I, and feed-rollers D D, all constructed and operating as herein described, and for the purposes set forth.

2. The combination of the case K, removable cylinder W, screw P, mold R, and core Q, all constructed and arranged as shown and described.

3. The combination of the mouth-piece Y with the double dovetailed plate Z^1 and Z^2 and molds Z^3, constructed and arranged substantially as shown and described.

4. The combination of the knife *a* and frame *b* with the crank *d*, wheel *g*, and pulley *f*, when arranged and operated as herein shown and described, for the purpose set forth.

5. The combination of the cylinder W, provided with the bayonet-lock X, with the removable screw P, when arranged and operating as herein shown and for the purpose specified.

113,848.—HAY-TEDDER.—Hiram M. Burdick, Ilion, N. Y.

Claim.—1. The gearing device for operating the rocking fork-rods, consisting of an internal gear-rim, E, eccentrically arranged to the reel-shaft to revolve upon pinions P P', and provided with arms G and H, in combination with cranks K upon the rocking fork-rods R', substantially as described.

2. The adjustable standard C, with brace D having slot S, in combination with the gearing and rocking fork-rods, so as to dump the forks at any required distance from the ground, substantially as described.

3. The sectional shell or sleeve *b c c*, connected by spiral coils *c'*, in combination with the fork-rod

F, one or more of the sections being arranged to rock upon the rod, substantially as described.

4. The rocking sections *c*, having forks M attached through eyes *c'*, in combination with a stationary section *b*, spiral springs *c'*, and the tedder-rod F, substantially as described.

113,849.—HAY-TEDDER. — Hiram M. Burdick, Ilion, N. Y.

Claim.—1. The devices for operating the forks of a hay-tedder, consisting of the internal gear-rim D, having arm E and cam-rod F sliding in oscillating blocks G, the gear-rim being eccentrically arranged and operated by means of arm C and pinions *b c c'* upon a driving-shaft B, substantially as described.

2. The devices for producing the sweeping and dragging motions of the forks of a hay-tedder, consisting of the double levers L M with a flexible joint, *d*, in combination with arm E, rod F, and block G, substantially as described.

3. The combination and arrangement of shaft B, arms C, pinions *b c c'*, gear-rim D with arm E and rod F, block G upon rod R, and double levers L M with flexible joint *d*, substantially as described.

4. The adjustable rod R, supported by adjustable standards H H, in combination with cam-rod F and oscillating block G for adjusting the position and motion of the kickers, substantially as described.

113,850.—MACHINERY FOR DRILLING ROCKS. Charles Burleigh, Fitchburg, Mass., assignor to "The Burleigh Rock-Drill Company," same place.

Claim.—The pawl with its ratchet, or their equivalents, applied to the rock-drilling machine in the manner described, when the said pawl or equivalent device is automatically operated to regulate the feed, as set forth.

113,851.—CARRIAGE-WHEEL. — Garrett G. W. Burnham, Baltimore county, Md., assignor to himself and James N. Burnham.

Claim.—1. A wheel in which the fellies may be drawn together by means of a right-and-left-hand screw, for the purpose of setting, removing, or easing an uncut tire, substantially as set forth.

2. The stiffening-plate G, for holding the ends of the felly, and thus stiffening the joint, substantially in the manner set forth.

113,852.—CURTAIN-FIXTURE. — William Campbell, New York, N. Y.

Claim.—The spring coil H, connected to the rod *d*, and span upon the same in opposite directions, as described, in combination with the case A and cord-spool E, arranged and operating together as set forth.

113,853.—WATER-WHEEL AND CHUTE.—Elisha P. H. Capron, Hudson, N. Y.

Claim.—1. The buckets of a turbine-wheel, made separate and movable, when the said wheel is moved without a hub, so as to be readily put in position or removed as may be desired, substantially as and for the purposes set forth.

2. The adjustable strips or bars D D, in combination with the main portion of the gate and throat, as shown and described, and for the purposes set forth.

3. The movable cap C, in combination with the gate E and throat B, substantially as shown and described, and for the purposes set forth.

4. The flanges K, in combination with a turbine-wheel made without a hub, and the buckets J, substantially as herein shown and described, and for the purposes set forth.

113,854. — HOOP-SKIRT. — Albert Carter, New York, N. Y., assignor to Charles C. Carpenter, same place.

Claim.—In a hoop-skirt consisting of an upper and a lower nest of hoops, united by vertical tapes, the braces E F, when constructed of pliable material, and arranged between each section of space between the vertical tapes, substantially as and for the purpose described.

113,855.—CURCULIO-CATCHER.—Frank J. Claxton and Charles D. Stevens, St. Louis, Mo.

Claim.—1. The curculio catcher herein described, constructed with two wings, consisting of the bars E F, bows H I, arms J K, and sheet L, and hinged to the beams A B so as to adapt said wings to be turned up into vertical position for transportation, or lowered into horizontal position for use, all substantially as specified.

2. The ram P *p* R R' S *s s'* T *t t'* U V, substantially as described.

113,856.—THIMBLE-SKEIN AND BOXING.—Moris Collins, Decatur, Ill.

Claim.—1. The brass bearings *f f*, provided with lugs *k k*, and placed in the mold, and the box cast around the same, substantially as herein set forth.

2. The combination of the skein A, as described, with raised bearings *a a*, recesses *b b*, box or boxes B with recess *d* between them, flange *c*, and oil-chambers *h h*, all substantially as set forth.

113,857. — SECTIONAL STEAM-BOILER. — William H. Cornell, Easton, Pa.

Claim.—A sectional steam-boiler, consisting of tubes A connected at one end to independent inclined boxes B, and at the opposite end to independent boxes B', inclined in a direction contrary to that of the said boxes B.

113,858.—SPOOL-EXHIBITER.—John D. Cutter, Brooklyn, N. Y.

Claim.—A spool-exhibiter, consisting of a number of rods or spindles, D D, suspended in two or more rows or series from a disk, plate, or board, and arranged in length and position substantially as herein described, whereby the lower spools on the inner row or rows of rods or spindles are displayed below those on the outer row or rows.

113,859.—PREPARING FLOUR FOR USE IN CONFECTIONERY, &c.—William G. Dean, Brooklyn, N. Y.

Claim.—The process herein specified of coloring flour.

113,860. — LUBRICATOR FOR JOURNALS.—Patrick S. Devlan, Jersey City, N. J.

Claim.—The transverse openings *a* through the body of the bearing, and the connected holes *b*, in combination with the absorbent strips B, which touch the journal and lubricate it at points *x x'*, and plugs D, arranged and operating in relation to the journal C and oil-reservoir substantially as described.

113,861.—CORPSE-PRESERVER.—Henry M. Diggins, Cincinnati, Ohio.

Claim.—1. The arrangement of wooden sheathing F, outer wooden shell G provided with plug H, the ice-receptacle C, and non-conducting chamber O, all arranged as and for the purpose set forth.

2. The arrangement of the apertures D, ice-receptacle C, and receptacle *g* in outer shell G, said receptacle provided with caps H, as and for the purpose described.

113,862. — DISH-RACK.—William H. Duffett, Rochester, N. Y.

Claim.—The dish-rack A A, having the slatted faces *a a'* arranged in a series of graduated shelves, with the bottoms *b b* open, and having the pendent trough or receptacle D, the whole as herein described.

113,863.—MACHINE FOR PIERCING LEATHER.—Asa Eggleston, Fall River, Mass.

Claim.—In a machine for piercing leather the catches F and T, wheels R and L, spring *m*, gauge W, and clamp P, all arranged as described, for the purpose set forth.

113,864. — CONSTRUCTION OF THERMO-ELECTRIC PAIRS.—Moses G. Farmer, Salem, Mass.

Claim.—1. A thermo-electric pair with the two elements lying side by side, but joined together across the end of one of them, substantially as described.

2. Projections upon one of the bars to aid in joining the two bars, substantially as described.

113,865.—SAW-MILL.—William M. Ferry, Grand Haven, Mich.

Claim.—1. The divided ring F, constructed substantially as described and shown, when used as a detent.

2. The combination of the divided ring F and the wheel D, both constructed substantially as described and shown, when employed as a friction-detent.

3. The means employed for securing a friction-detent, consisting of the ring F, the wheel D, and the eccentric G, substantially as described and shown.

4. The arrangement of the eccentric G, the ring F, and wheel D, substantially as described, for the purpose set forth.

5. The divided ring H, constructed substantially as described and shown, for the purpose of communicating motion by friction.

6. The combination of the divided ring H and the wheel D, both constructed substantially as described and shown, for the purpose of rotating said wheel by friction.

7. The means employed for producing friction between the divided ring H and the inner periphery of the wheel D, and for rotating said wheel, consisting of the cam I provided with the lug *l*, all constructed and arranged substantially as described and shown.

8. The combination of the ring H with its devices for rotating the wheel D, and the ring F with its devices for preventing the rotation of said wheel, substantially as described and shown.

9. The means employed for making the rotation of the dial E automatic, consisting of the cam-lever J, provided with the handle *m''* having a friction-roller, *m'''*, the cam I, and the ring H, in connection with a suitable tripping device, all substantially as described.

10. The means employed for making the rotation of the dial E at will, consisting of the hand lever P, the cam-lever J, the cam I, and the ring H, all constructed and arranged substantially as described and shown.

11. The means employed for rotating the dial E and the dial-plate K simultaneously, consisting of the hand-lever P, the cam-lever J, the cam I, and the divided ring H, all constructed and arranged substantially as described and shown.

12. The combination of the dial-plate K provided with the stud *n*, and the divided ring H, each constructed and arranged substantially as described and shown.

13. The combination of the stop L and the cam-lever J, each constructed and arranged substantially as described and shown, for the purpose of preventing backward rotation of the dial-plate K.

14. The combination of the spring stop N and the dial-plate K, each constructed substantially as described and shown, for the purpose of arresting the rotation of the dial and dial-plate at any desired point.

15. The means employed for compensating for various thicknesses of saws, consisting of the set-screws *p'* in connection with the gauge-bar *b*, and *s* in connection with the guide O, constructed, arranged, and operating substantially as described and shown.

16. The means employed for correcting the gauge to meet the varying thicknesses of saws, and the wear of shaft-pinions and racks, consisting of the gauge-plate M, in connection with the gauge-bar *b*, constructed, arranged, and operated substantially as described and shown.

17. The arrangement of the dial E in relation to the pinions of the shaft A in such a manner that the dial shall at all times display the unsawn thickness of the log upon the carriage, substantially as described and explained.

113,866.—SAW-MILL.—William M. Ferry, Grand Haven, Mich.

Claim.—1. The chain D, provided with the driving-links *f*, constructed and arranged substantially as described and shown.

2. In connection with a chain, D, the sprocket-wheel C, provided with lugs *b c*, and constructed substantially as described and shown.

3. In combination with the endless chain D, the sprocket-wheel C, the supporting-wheel E, and the plate G, constructed and arranged substantially as described and shown.

4. The springs *p'' r''*, in connection with saw-mill dogs M and N, substantially as described and shown.

5. The dog-bar L, provided with projections *a*, operating by its own weight in the groove *c* upon the standard H, and carrying the spring dog M, the several parts being constructed and arranged substantially as described and shown.

6. The combination of the lock-bar K and tumbler *l*, the trucks J and the bed A, all constructed and arranged substantially as described and shown for the purpose of withdrawing the standard.

7. The lock-bar K and tumbler *l*, constructed and arranged substantially as described and shown, in combination with the chain D, for the purposes set forth.

8. The combination of the sprocket-wheel C, the supporting-wheel E, the endless chain D, and the driving-shaft B, so that the standard shall be operated while said shaft rotates continually in one direction.

9. The standard H provided with the dog-bar L, the plates I, and the lock-bar K, and the tumbler *l*, all constructed substantially as described and shown.

10. The combination of the standard H with its connected mechanism, with the bed A and its connected mechanism, all constructed and arranged substantially as described and shown.

113,867. — BEARING-STEP AND VERTICAL SHAFT. — Francis A. Gardner, Danbury, Conn.

Claim.—1. The manner of application of spherical rollers between bearing surfaces, which are disposed relatively in the manner described, so that each of said rollers can revolve upon its natural axis inclined to the prime axis, as described, to form an anti-friction bearing for mechanisms having revolution in horizontal planes.

2. The step B, constructed with an annular flange, *b*, in combination with the revolving part A constructed with a conical face, and the rollers C revolving upon an axis inclined to the prime axis, the whole to operate substantially as set forth.

113,868. — DEVICE FOR ADJUSTING MIRRORS.—Oliver L. Gardner and William Gardner, Glen Gardner, N. J.

Claim.—The combination of the frame A', base B, oscillating support C, sliding bar D, and screw E, for supporting and operating mirrors from their base, it being effected by means substantially such as are herein shown and described.

113,869.—LIGHTNING-ROD.—Albert A. Gaylord, East Cleveland, Ohio.

Claim.—Tubular lightning-rods, the sections thereof connected by means of a lap or scarf-joint secured by a dowel, D, and pin or pins *c*, substantially in the manner as and for the purpose set forth.

113,870.—BEE-HIVE.—Daniel Gebhart, Salimonia, assignor to himself and Peter Weimer, Saratoga, Ind.

Claim.—The unequally-divided honey-board H, grooved around its edges, and provided with pins *c c*, said board being placed between the comb-frames G G so as to leave an open space between it and the sides of the hive A A, substantially as and for the purpose set forth.

113,871.—SLIDE FOR DRAWERS.—James S. Gibbons, Philadelphia, Pa.

Claim.—The combination and arrangement of the metallic slides C and C', constructed substantially as described, with the pieces A and B, substantially in the manner and for the purpose above set forth.

113,872. — FENCE-POST.—Andrew J. Gill, Denver, Colorado Territory.

Claim.—1. The improved iron post herein described, formed of piping, and provided with a fixed cap, C, and a solid point, B, as and for the purposes specified.

2. The holding-stud E, arranged to hold the wire, and provided with the cap or hood *b* to protect the points of contact therewith, as described.

3. In combination with a drive-post, A, and loosely connected thereto, the bladed flange lateral support D, substantially as described.

113,873.—TENON-MACHINE.—William Gilmore, Hudson, N. J., assignor to himself and Henry M. Rogers, same place.

Claim.—1. The combination and arrangement of the pawl and pawl-arm J, ratchet-wheel K, pinion L, rack M, regulating-hook Z, and wiper P, for the purpose hereinbefore described.

2. The arrangement of the carriage B, drop E, and gauge D, as and for the purpose hereinbefore described.

113,874.—CARPET-FASTENER.—Antoine Givaudan, Washington, D. C.

Claim.—The carpet-fastener herein described, consisting of the hook provided with prongs, arranged triangularly as specified, of the one part, and the staple of the other part, said parts being applied to the carpet and floor respectively as shown and set forth.

113,875.—WATER-CLOSET VALVE.—William Gordon, Philadelphia, Pa., assignor to himself and Andrew McCambridge, same place.

Claim.—1. The central opening *g* of the stem *f*, in combination with the spring F and valve B, substantially as and for the purpose set forth.

2. The combination and arrangement of the passage *k* with the central opening *g* and water-chamber *h*, as and for the purpose described.

3. The combination of the adjustable valve-screw H with the crown plate E, arranged and operating in relation to the passage *k* and vacuum-chamber *i*, substantially as and for the purpose set forth.

113,876. — LAMP-BURNER. — William H. Gray, St. Louis, Mo.

Claim.—In combination with the wick-tube A, which is extended below the cap A' to reach to near the bottom of the lamp-bowl, the dome C, when constructed with an elongated neck, C', to form an air-passage around and to the top of the wick-tube, substantially as set forth.

113,877.—BURGLAR-PROOF SAFE.—Edward K. Hall, Louisville, Ky.

Claim.—1. A safe, vault, or cell composed of a series of plates, united at their edges by means of mortises, tenons, and keys, substantially as herein described.

2. The plates *e* and *f*, provided with flanges *e* along their front edge, and with mortises or tenons along their remaining edges, for use in the construction of safes, vaults, or cells, substantially as herein set forth.

113,878. — RAILWAY-CAR TRUCK.—Francis S. Harrington, Boston, Mass.

Claim.—1. The transverse frames B B, constructed as shown, and secured to the side frame A, the whole being arranged as and for the purpose set forth.

2. The bent bars A^1, secured to the transverse frames B and side frames A, as and for the purpose set forth.

3. The longitudinal supporting-bar L', hung to the transverse frames B by the clevises N' and springs Q'', as and for the purpose set forth.

4. The spring-beam L, in combination with the longitudinal supporting-beam L', constructed and arranged substantially as and for the purpose set forth.

113,879. — SPRING-ROLLER SHADE.—Stewart Hartshorn, New York, N. Y.

Claim.—The combination with the spring roller and with weight provided in or attached to the suspended portion of the shade, of a friction-wheel, brake, ratchet-wheel, and pawls, arranged and operating substantially as herein described for the purpose set forth.

113,880. — CIGAR-MACHINE. — Issachar A. Heald, Lowell, Mass.

Claim.—1. The rolls *a*, of a conical or taper form, arranged with their larger ends at the center, whereby the rolls and the cigar have those portions of their surfaces which come in contact moving at a uniform velocity, thus preventing the slipping of any portion of either upon the other, substantially as described.

2. The shell or frame D, having the rolls *a* mounted therein, in combination with the driving-shaft *c* and pinions *b*, arranged to operate substantially as described.

3. The conical rolls *a*, provided with the series of holes or cavities in their ends, in combination with the rolls *a* having corresponding teeth formed on their ends, whereby the rolls *a* are driven by a positive motion and the joint between said rolls is kept closed, so as to prevent the tobacco from being caught therein, substantially as described.

4. The combination of the rolls *a* for forming and holding the cigar, with the shears N arranged as described, for cutting off the ends of the cigar, as set forth.

5. The conical bearing or joint formed on the outside of one or both blades, in combination with the adjustable clasp *w*, or its equivalent, for tightening up the blades, as described.

6. The shears N, having their handles or levers slotted and arranged as described, in combination with the rod *r* and the treadle-rod Y, or its equivalent, for operating the same, substantially as herein described.

7. The former or socket *h*, with the point or projecting pin at its center for forming and perforating the end of the cigar, as set forth.

8. The rocking frame E, pivoted as described, and having the former shaft *g* and the vertical arm *l* attached thereto, with the cross-head or spring *n*, in combination with the swinging frame or shell D, arranged to operate as set forth, for automatically operating the former or pointer at suitable intervals.

9. The shell D, carrying the upper rolls *a* hung in the swinging arms *u*, journaled on the eccentric wrists *p*, whereby the shell with its rolls may be adjusted for different sizes of cigars, as set forth.

10. The rolls *a*, having the groove *a'* formed therein, with their projecting ends *m*, substantially as and for the purposes described.

11. The heads C, provided with the radial slots,

in combination with the adjustable shells or frames D for adjusting the rolls, as set forth.

12. The heads C, provided with the curved slot and adjustable wrist-pins p, whereby the machine may be changed to open at front or rear, as set forth.

13. The arm or lever P, provided with the curved slot O, in combination with the swinging frame or shell D to permit the arm to be changed to either side at will.

14. The clamp or frame O, provided with the yielding pins i, constructed and arranged to operate substantially as described.

113,881.—ARCHED STRUCTURE.—Constantine Henderson, London, England, assignor to Edwin R. Hall, Philadelphia, Pa.

Claim.—The within-described structure, consisting of blocks or plates B, and a flat vertical web or tension-bar, D, connecting said blocks, as specified.

113,882.—METAL-CLAD SHINGLE.—Thomas N. Hickcox, Brooklyn, N. Y.

Claim.—A shingle composed of straw or other board, or thin wood, clad with sheet metal in the manner described, as a new article of manufacture.

113,883.—EXCAVATOR.—Marcus M. Hodgman, Weymouth, Mass.

Claim.—1. The shovel D hung, as above described, to stock C, in combination with the guide-arms e having stop-lugs e', holes f, adjustable gauge-pin f' and guide-staples e'', constructed to operate in the manner shown and described.

2. The slide-bolt h, lever h', and plate g, in combination with the hinged arm j having catch j' and stop-plate j'', in the manner and for the purpose described.

3. The truck, composed of wheels S, axle S', lever T, plate t, and hook t', in combination with the mast A having staple u, in the manner and for the purpose described.

113,884. — CARRIAGE-COUPLING. — Jacob Hollinger, Millersburg, Ohio.

Claim.—The pedestal E with the rib e and plate F, in combination with the plate B having a hole, D, with elongated sides, arranged in relation to each other, the axle-tree, and bolster, substantially as and for the purpose set forth.

113,885. — MACHINE FOR REDUCING OR POINTING WIRE.—Albert G. Hotchkiss, Wolcottville, Conn.

Claim.—The combination, with the dies C C', of the rotating and longitudinally-moving shaft E, clutch p p c, engaging and disengaging gear I J e N, and spring S, the whole arranged and operating substantially as and for the purpose herein set forth.

113,886. — BROILER.—William Thompson Howard, Baltimore, Md.

Claim.—In a steak-broiler, the broad knife-edged bars g g, inclined as specified, and arranged with relation to the parallel grooved bars d d as herein shown and described, whereby the heat and flame are allowed free access to the entire surface of the meat, while the juices thereof are conducted into the annular trough a, as set forth.

113,887.—HAND SEED-SOWER. — Thomas Howell, Morgantown, W. Va.

Claim.—1. The box A, constructed with partitions B B, wooden bottom C, with openings a a, as described, combined with the slide D, having holes b d, and pins f, all substantially as and for the purposes set forth.

2. The combination of the box A, bottom C, slide D, rod E with notches e e, and pins f f, the lever G, and dog H, all substantially as and for the purposes herein set forth.

113,888.—WATER-WHEEL.—Chancy F. H. Huff, New York, N. Y.

Claim.—1. The buckets or floats B B, when the same consist of a warped surface, a a', and a vertical head, B', terminating in a curved flange-lip, b', and are so arranged in relation to the rim and base-plate of the wheel A as to receive and discharge the water, substantially as described.

2. The wheel A, when the same is constructed as stated and is secured in an independent tub C, substantially as described.

113,889.—PEANUT-HULLER.—Josee Johnson, New York, N. Y.

Claim.—The combination of the rotary and stationary disks B and E, each provided with pins n, and the latter with corrugated hub g, with the hopper A, constructed and operating substantially as described and for the purposes described.

113,890.—APPARATUS FOR CLEANING COFFEE, &c. — Josee Johnson, New York, N. Y.

Claim.—1. The combination of the vessels or sieves A and B, when used with water, substantially in the manner and for the purposes set forth.

2. The within-described process for cleaning coffee by the use of the apparatus above claimed, and in the manner herein described.

113,891.—PIPE FOR WATER, GAS, &c.—Algernon K. Johnston, Brooklyn, N. Y.

Claim.—A pipe of paper, cloth, or other textile fabric treated with paraffine, substantially as and for the purposes set forth.

113,892.—BEE-HIVE.—Campbell Jones and Albert Jones, Santa Anna, Ill.

Claim.—1. A bee-hive having its body provided at its upper end with the two shoulders f and g, the former for receiving and holding in place the honey-boxes, and the latter the comb-frames, as herein described.

2. The detachable piece f provided with the tubes H, with the raised lightning-board d, arranged in relation thereto, substantially as described.

113,893.—DINNER-PAIL.—Humphrys Joyce and Anthony Ernest, Troy, N. Y.

Claim.—1. The device D or its equivalent, when formed and constructed substantially in the manner and for the purpose as described and set forth.

2. The combination of the kettle A, tray G, cover H, chamber I, trays L and N, and cup T, when constructed and arranged in the manner and for the purpose substantially as described and set forth.

113,894.—STEAM-BATH.—Charles Kaestner, Chicago, Ill.

Claim.—1. The means employed for generating steam, consisting of the box K, the tank L, and the block N, substantially as and for the purpose set forth.

2. The block N, provided with the inclined communicating grooves n and n', in combination with apparatus for furnishing a supply of water, substantially as and for the purpose specified.

113,895.—DOUBLE-TREE.—David W. Kauffman, Sterling, Ill.

Claim.—1. The compound whiffletree herein described, consisting of the front whiffletree A having trace-fasteners at its extremities, the rear whiffletree C having trace-fasteners at its extremities which pass through holes or mortises in the whiffletree A, and the connecting-iron e, all constructed and arranged as and for the purposes set forth.

2. The short rear whiffletree C having the rods b and b', substantially as shown, and for the purpose set forth.

113,896.—WAGON-AXLE.—August Kessberger, Springfield, Ill.

Claim.—1. The axle, composed of the pipe A, the hollow arms B, the wooden plugs or fillings C, and the bolts D and E, substantially as and for the purpose specified.

2. The combination of a wrought-iron pipe-axle with molten-iron skeins or axle-arms, substantially as and for the purpose shown and described.

3. In combination with a wagon-axle, the truss-rod D', constructed and arranged substantially as and for the purpose shown.

4. The socket-clip G provided with the opening g, the block H, and the bolts h, when constructed as shown, and combined with the axle in the manner and for the purpose set forth.

5. The axle-arm B, constructed as described, and combined with an axle, substantially as and for the purpose specified.

6. The axle A, the arms B, the wooden plugs or fillings C, the bolts D and E, the truss-rod D', and the post or support F, all constructed and combined substantially as and for the purpose shown and described.

113,897.—STEAM-PUMP.—Lucius J. Knowles, Worcester, Mass.

Claim.—1. The combination, with the induction-valves G G' and their seats, of the eduction-valves E E' and their seats, openings S, and inside removable plates O, when said parts are constructed and arranged in relation to each other, substantially as shown and described.

2. The combination, with the valve-stems, of the removable pivot-bars N and holding screws or bolts M, substantially as and for the purpose set forth.

113,898.—MACHINE FOR MOLDING CHAIR-BACKS. — John Lemman, Cincinnati, Ohio.

Claim.—The combination of the stationary guiding-finger G, cutter-spindle C D E revolving in stationary bearings, and the swiveling and sliding arm K k carrying the "form" and "work," substantially as and for the purpose set forth.

113,899.—HORSE HAY-RAKE.—William H. Locke, Canton, Pa.

Claim.—1. The triangular lever G pivoted to the handle E, and having a slot in one arm for connecting with the standards for the shafts, and a hook, a, in another arm to lock on the pins i in the rake-head, substantially as herein set forth.

2. The combination of the shafts A A, rake D, handles E E, and levers G G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

113,900. — COTTON AND HAY-PRESS.—Charles K. Marshall, New Orleans, La.

Claim.—1. The sectional or halved nut E E, yoke F, springs F' F', and cam-lever G, combined and arranged to operate substantially as described.

2. The combination of the screw C and follower-head D with the nut E E, springs F F, and cam or eccentric lever G, substantially as described.

3. The screw C, having a cone-shaped head, c, tongs C', and the cord N', when the latter is so connected with a pulley as to furnish a detachable elevating mechanism for the screw and platen, substantially as described.

4. The arrangement of the pulleys K L, provided with pins k k, on the axle H', the pulley M', endless belt N, cord N', the tongs C', and screw C, when the whole are combined and arranged substantially as described.

5. The tramping-platen, consisting of the screw C and follower-head D, when the latter is provided with rollers d d, substantially as described.

113,901, antedated April 10, 1871.—COTTON-PRESS AND TRAMPER.—Charles K. Marshall, New Orleans, La.

Claim.—1. In the press herein described, the combination of the halved or sectional nut E E with the screw-shaft H, shafts F F, coupling-bars F' F', chocks E' E'? and platform D', all constructed and arranged substantially as shown and described.

2. The screw-shaft H, with or without the varying pitch, and operated by the nut E E, constructed as described, in combination with the follower-head H' of a cotton-press, when constructed and arranged substantially as shown, for the purposes set forth.

3. The arrangement of the pulleys L' L' L', cords or chains, screw-shaft H, sectional nut E E, and follower H', when constructed and operated as herein shown and described, for the purpose set forth.

4. In the cotton-press herein described, the doors B' B', constructed with rabbets b b', and provided with interlocking bars C C', arranged substantially as shown, and for the purpose set forth.

5. The combination of the upper cup a, provided with friction-rollers u' u', with lower cup a' provided with springs u u, when constructed and arranged as shown, for the purpose specified.

113,902.—BUCKLE.—John H. Martin, Columbus, Ohio.

Claim.—1. The buckle-frame K, with the inclined side bars A A arranged opposite free spaces which are between the edges of the plate K and the side loops D D, substantially as described.

2. The ears or guides B' B', cast directly on the edges of the tongue-plate B in the manner described and shown.

3. The skeleton-like trace-buckle herein described, as a new article of manufacture, such buckle being of cast metal and having an end and side loops, D D D, cross-bar C, side bars A A, and a sliding tongue-plate, B F, with gears or guides B' B', all as herein set forth.

113,903.—HEMMING AND TUCKING ATTACHMENT FOR SEWING-MACHINES.—William Nelson Martin, Boston, Mass.

Claim.—1. The graduated curved spring slide B, adjustable and held in position by means of the headed pins a a working in the slot b, in combination with the gauge-plate A, when constructed and operated substantially as and for the purpose set forth.

2. The combination, with the gauge-plate A, of the curved and slotted spring plate D E F and the graduated hemmer-plate with its fingers e e, when all are constructed as described, and adjustable on the plate A, as and for the purpose set forth.

3. The hem or tuck-holder D with its arm d', curved spring E, and slotted plate F, in combination with the plate A and the slotted slide C with the curved hook d, constructed, arranged, and operating substantially as and for the purpose described.

4. The curved hook d, for holding and guiding a tuck, when formed on the end of the graduated plate C, in combination with the plate A and graduated spring slide B when they are constructed and arranged substantially as and for the purpose set forth.

5. The hemmer-slide or plate C, when constructed with the flexible fingers at one end as described, and with the tuck-holder and guide d at the opposite end, substantially as and for the purpose set forth.

113,904. — SHADE-CORD RETAINER.—William McConnell, Philadelphia, Pa.

Claim.—The combination of the pin B, its collar c, and handle C having inclined edges d d, with the slotted plate A.

113,905.—COMBINING CARBONACEOUS MATTERS FOR THE MANUFACTURE OF GAS.—George McKenzie, Glasgow, Scotland.

Claim.—The method herein described of compounding bituminous coal and tar, to be used in the manufacture of illuminating-gas, by finely pulverising all the coal and incorporating the tar with the pulverized coal by grinding the two together, substantially as specified.

113,906.—REVOLVING GAS-BURNER.—Frederick McLewee, New York, N. Y.

Claim.—1. The use of a fan-wheel or propeller attached to the revolving tube of a revolving gas-burner, as and for the purposes described.

2. Arranging the flat-light burners B B one above another, as and for the purpose described.

113,907.—SCROLL-SAW.—Louis Miller, Baltimore, Md.

Claim.—In combination, the strap D, secured to the reciprocating end of the pitman H, to operate as set forth and described.

113,908.—FIRE-GRATE.—George R. Moore, Philadelphia, Pa.

Claim.—1. The upper and lower series of grate-bars working in combination, as *b* and *c*, substantially as and for the purpose herein set forth.

2. The little bars *c*, substantially as and for the purpose herein set forth.

113,909.—REVERSIBLE KNOB-LATCH.—Wallace T. Munger, New Britain, Conn., assignor to P. & F. Corbin, same place.

Claim.—The reversible latch with the shank *f* passing between the stops *t* and carrying the swivel-head *g*, in combination with the arm *e* and projection *n* on the plate *m*, the parts being constructed and arranged substantially as specified.

113,910.—DOOR-LOCK.—Wallace T. Munger, New Britain, Conn., assignor to P. & F. Corbin, same place.

Claim.—The tumblers *k* having two or more notches in their segmental ends, in combination with the bolt *c*, stud 12, bolt-projector *d*, and revolving guard *i*, the parts being constructed, arranged, and operating in substantially the manner set forth.

113,911.—APPARATUS FOR VAPOR-BATH.—George F. Munro, Sr., Albany, Mo.

Claim.—1. The house or casing A, supplied with the door B having the wedge-shaped block *c'*, the aperture or opening C *c*, collar-pieces E E, aperture E', slide F', cap F *f*, and opening with slide K, as and for the purpose described.

2. In combination with the above devices of claim, the sheet-metal board J, stand or support I I', and vessels G and H, all constructed and arranged substantially as and for the purpose set forth.

113,912.—TYPE-SETTING AND DISTRIBUTING MACHINE.—Frank M. Neff and John E. Scruggs, Monroe, Iowa.

Claim.—1. The letter-box B, provided with slides E E' and spring-keys C C', substantially as and for the purposes herein set forth.

2. The combination of the spring-key C, post D, with plate *b* and endless belt G, substantially as and for the purposes herein set forth.

3. The arrangement of the spring-bar K, arm L, and lever J, operating in combination with the endless belt G and projection *t* of the box H, substantially as and for the purposes herein set forth.

4. The combination of the spring-key C' with hook A, spring-bar P, lever R, and spring *k*, constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The ratchet-slide N, hook O, and levers *ff* operated by means of the spring-bar K' and arm L', in combination with the endless belt G, substantially as and for the purposes herein set forth.

113,913, antedated April 8, 1871.—SHEAVE OR PULLEY-BLOCK.—Henry Nick, Paris, France.

Claim.—1. A sheave, consisting of a wooden disk, *a*, having a false nave or tube, *c*, in its center, with a removable cushion or bearing, *d*, therein, also having its groove protected by a metal lining and its sides with metal shields, substantially as herein described.

2. A wooden sheave having its groove lined with sheet metal, substantially as herein described, and for the purpose set forth.

3. In combination with a wooden sheave the convex metallic shields *f*, arranged substantially as herein described, and for the purpose set forth.

4. In combination with a wooden sheave, the removable cushion or bearing *d*, when constructed and arranged substantially as and for the purpose set forth.

5. The combination of the false nave *c* and removable cushion *d*, when constructed and arranged substantially as and for the purpose set forth.

113,914.—MACHINE FOR DRESSING MILLSTONES.—John Norman, Glasgow, Scotland, assignor to William H. Howland.

Claim.—1. The construction of a machine, substantially in the manner described, for dressing millstones, so that the part A^1 or its equivalent, to which is attached the track or way B or B' traversed by the cutting apparatus, shall always remain at a uniform height from that part or face of the machine which rests upon the stone.

2. The combination of the flange A^1 or its equivalent, upon which is mounted the way or track traversed by the cutting apparatus with the base A, substantially in the manner described, so that said flange A^1 shall maintain a fixed horizontal relation to said base, substantially as set forth.

3. In a machine for dressing millstones, the combination of the standard N, sector-plate *n*, and tubular arm N^2.

4. In a machine for dressing millstones, the standard N, provided with suitable supports for the shifting lever L and pulleys Q Q.

5. The combination of standard N, shaft n^2, hub P, arm P', pulleys Q Q, lever O, and poise *o*.

6. The combination of standard N, slotted sector-plate *n* n^1, arm N^2, shaft n^2, hub P, arm P', collar n^3, pulleys Q Q, lever O, and poise *o*.

7. In a machine for dressing millstones, the combination of standard N, lever F, shaft *i*, arm L', and link *l'*.

8. The construction of the sleeve D whereby it is made adjustable, substantially as set forth.

113,915.—BRACE FOR CARRIAGE-SPRINGS.—Daniel W. Norris, Paxton, assignor to Michael Neill, Chatsworth, Ill.

Claim.—1. The combination of the brace-rods E E' with the sliding racks I J and the pinion K, substantially as and for the purpose specified.

2. The combination of the brace-rods E E', sliding racks I J having lugs *i i*, and pinion K, with a supporting-plate, G, having a flange, *m*, substantially as and for the purposes herein set forth.

3. The plate G having two parallel guide-grooves on its upper surface, a slot, *e e'*, cut through the metal along each groove, and a flange, *m*, on the under side midway between and parallel with said slots, substantially as and for the purposes described.

4. The combination of the plate G having the grooves *g g*, flange *m*, and slots *e e'* enlarged at one end, as described, with the racks I J, each having a lug, *i*, which projects through the slot and is provided with a square shoulder, *s*, that bears on the opposite side of the plate G, along the edge of the slot, substantially as and for the purposes herein set forth.

5. The slotted reach-braces D D', when articulated with the brace-rods E E', substantially as described, and for the purpose specified.

6. The combination of two brace-bars with a connecting device attached to the under side of the carriage-body, so constructed and operating that, as the brace-bars work back and forth their upper extremities are caused to move in straight parallel lines, substantially as described, and for the purpose specified.

113,916.—GATE FOR DRAW-BRIDGES.—Ferdinand Pairan, Dayton, Ohio, assignor to himself and Henry Myer, same place.

Claim.—1. The combination of the gate C, revolving in a vertical plane, and draw-bridge A, substantially as set forth.

2. The combination of the revolving gate C hung upon a horizontal shaft, D, gear-wheel D^1, and toothed rack D^3 of the draw-bridge A, substantially as set forth.

3. In combination with the elements enumerated in the preceding claim, the rail D^3, slide-bar E', and spring pawl E, arranged to operate substantially as set forth.

4. In combination with the gate C the protecting cover F, substantially as set forth.

5. The combination of the cover F, slide-bar F^1, and revolving cam F^2, arranged to operate substantially as set forth.

113,917.—MACHINE FOR DRESSING WORSTED CORD.—Isaac E. Palmer, Hackensack, N. J.

Claim.—The combination, in a machine for dressing worsted and other like cord, of guide-pulleys and emery or other hard roughened wheels, arranged to rotate or travel in common with the cord as the latter, directed by the pulleys, passes in contiguous lines or rows around the wheels, substantially as specified.

113,918.—PRODUCT FROM MADDER.—Alfred Paraf, New York, N. Y., assignor to Edward Sabino Renwick, trustee, same place.

Claim.—The new article of manufacture denominated oil-izarine, and hereinbefore described.

113,919.—COMPOSITION OF MADDER FOR PRINTING CLOTHS, &c.—Alfred Paraf, New York, N. Y., assignor to Edward Sabino Renwick, trustee, same place.

Claim.—The new article of manufacture denominated rubidide, and hereinbefore described.

113,920.—WASH-BOILER.—Henry W. Pell, Rome, N. Y.

Claim.—1. The inner boiler B C E, perforated throughout, and surrounded by a circulating space, G, the same being composed of sides B, suspended in the body A of the boiler proper, a removable bottom, C, supported by the sides, and a lid, E, attached to the main lid D and removable therewith, constructed and arranged substantially as described, for the purposes set forth.

2. In combination with the compound lid D E the hooded steam-vents *w v*, as and for the purpose specified.

113,921.—EARTH-MATTRESS.—Theodore William Phinney, Newport, R. I.

Claim.—The earth-mattress or bed-protector, made substantially in manner and of materials and for the purpose as hereinbefore described.

113,922.—FORGING-MACHINE.—James Pipes, Ripley, W. Va.

Claim.—1. The combination of the hammer and its sliding shaft F with the spring F', the lever V, and catch-plate W, substantially as described, for the purpose specified.

2. In combination with the treadle X and shaft C, the single hammer-shaft G, coiled spring B', and the catch-lever C', substantially as described, for the purpose specified.

3. In a forging-machine having two or more hammers that strike alternately upon the same point, the arrangement of the hammer-shafts and their operating devices, substantially as described, whereby one shaft may be thrown out of gear to suspend the operation of one hammer, for the purpose specified.

113,923.—FOUNTAIN-BRUSH.—Zephire Poitras, Chicago, Ill., assignor to C. H. Merrill, F. G. Tanner, and A. W. Merrill, same place.

Claim.—A fountain-brush, consisting of the chamber F, hair packing E, head B, pipe K, stop-cock H, handle L, and packing *b*, constructed and arranged to operate with a hose, J, as set forth.

113,924.—SLEIGH-RUNNER ATTACHMENT TO WHEEL VEHICLES.—Zimri I. Pratt, Chicago, Ill.

Claim.—In combination with wheel A, the plates C C', bolts *d e f*, and runner B when said runner is concaved to receive the periphery of the wheel, as described, in connection with the bolts *d* and *e* when arranged within the plates and in contact with the inner surface of the follies and outer side of the spokes, whereby the wheel is prevented from turning, substantially as described.

113,925.—BEDSTEAD-FASTENING.—Rezin M. Price, Leesville, Ohio.

Claim.—The hook C of the bedstead-fastening herein described, when constructed with the shouldered projecting part C^1 *c* and shank C^2 C^3 *c'*, in combination with the recessed side rail and the covering-plate E, substantially as set forth.

113,926.—SAWING-MACHINE.—Paul Pryibil, New York, N. Y.

Claim.—1. In a band sawing-machine, the combination of a table moving on horizontal guide-ways with two drums, E E', carrying the saw, the bearings of one of which is made movable upon the fixed segment H, the table and one drum being connected by suitable means, as herein shown and described.

2. The lever J, connecting by a link, h, with the pillow-block G of the drum E', and by a rod, *i*, with the table B, in combination with a hand-screw, C, acting on the table B, substantially in the manner herein set forth.

113,927.—MACHINE FOR CUTTING CLOTH, &c.—William Raeuchle, Philadelphia, Pa., assignor to himself, George Rex, and Abraham R. Bockius.

Claim.—A machine for cutting cloth and similar material, having the rotary cutter E and the feeding-wheel F constructed and arranged substantially as described, whereby the cutter is caused to revolve at a greater velocity than the cloth is fed along, thus imparting to it a draw-cut, as set forth.

113,928.—BEE-HIVE.—Dwight Ripley Read, Lawrence, Kansas.

Claim.—A bee-hive constructed substantially as described—that is to say, the box A, having cover H I, the clamps K K', base N with partition O, spaces R P, and door S, comb-frames B with screws M M', division-board E, frame G, and honey-boxes C, all arranged relatively one to the other, as and for the purpose set forth.

113,929.—WOOD PAVEMENT.—Philip H. Reinhard and Ernest F. M. Fachtz, Washington, D. C.

Claim.—A pavement composed of pentagonal blocks arranged in relation to each other substan

tially as and for the purpose described and represented.

113,930.—SASH-HOLDER.—George W. Reisinger, Harrisburg, Pa.

Claim.—The combination of the block A with its slotted plate B, and the block C with its plate D, all constructed as described, and arranged on a window-sash, substantially as and for the purposes herein set forth.

113,931.—CAR-DOOR.—John H. Robertson, New York, N. Y.

Claim.—1. The steel bars or plates introduced into the elongated bearings for the roller journals, substantially as and for the purposes set forth.

2. The case made of two parts, screwed together and grasping the bottom of the door to protect the same, and containing the elongated bearings for the rollers, as set forth.

113,932.—CAR-COUPLING.—W. Bolton Rogerson and Harvey Beyea, Paterson, N. J.

Claim.—The round-faced draw-blocks A A, formed with the vertical slot and the chamber *a*, as described, arranged, and operating in connection with the double-headed draw-bolt B, rotating socket D, lever G, spring *e*, arm *g*, and push-bar E with its stop *i*, the whole constructed as herein shown and set forth.

113,933.—WELDING-POWDER FOR IRON, &c. — Gervas Eby Rose, Philadelphia, Pa.

Claim.—The use of bisulphate of soda, with or without charcoal, as a welding-powder or flux.

113,934.—HORSE HOE AND CULTIVATOR.—Guilford D. Rowell, Menomonee Falls, Wis.

Claim.—A horse hoe and cultivator, arranged as follows: horse hoe M with wings N N, hoe-beam C, cultivator teeth K, plow-share L in rear of frame A, serrated nuts O on the tooth-stocks, and joints D in rear of share L, and frame A, substantially as described.

113,935. — SHOEMAKER'S JACK. — August Rust, Egg Harbor City, N. J.

Claim.—1. A shoemaker's jack, in which the last-holder is constructed with a surrounding pocket, J, to receive and hold the leg of a boot, and the stand or frame A A', with a hinged seat, H, and tool-boxes B B, all arranged as described.

2. The support D for the last-holder, locked in position when adjusted by means of the recess *e* in the frame, and the pivoted arm G, as described.

113,936.—CORN-PLANTER.—William J. Sager, Milesburg, Pa.

Claim.—1. The hollow cylinder dropper G, provided with springs *a*, nipples *b*, and rollers or slides *d*, substantially as and for the purposes herein set forth.

2. In combination with shovels J and springs O, the lever I and chains *c c* with rack K and pin *f*, substantially as and for the purposes herein set forth.

3. The movable shaft F with the hollow cylinder droppers G G and cog-wheels E' and P, operated by means of the lever M, substantially as and for the purposes herein set forth.

113,937.—PERCUSSION-MATCH. — William Servant, Providence, R. I., assignor to himself and Josiah A. Whitman, same place.

Claim.—1. My improved percussion-match or pocket-lamp, produced by the combination of the match-wick *e*, the spring-actuated percussion-rod *f*, and the hollow-headed tube A *i* with each other and with the respective compartments within the pocket-casing *a b*, substantially as and for the purpose herein set forth.

2. The sharpened actuating end of the percussion-rod *f*, as an improvement upon a blunt-headed percussion-rod or hammer, for the purpose herein set forth.

113,938.—MEDICAL COMPOUND OR BITTERS. William T. Sherwood, Ripon, Wis.

Claim.—The manufacture or preparation of a compound which I denominate "tonic elixir bitters or elixir gentian compound," of the ingredients in the proportion and for the purpose specified.

113,939.—BELT-SHIFTER.—William H. H. Sisum, Newark, N. J.

Claim.—The bar B, endwise mounted, so as to be moved at will, with its longitudinal and oblique slots *b b' b²* arranged to operate on the two belt-shifting levers C D, through the medium of the pins *c d*, or their equivalents, as and for the purposes herein specified.

113,940.—REVERBERATING REED-CELL FOR ORGANS OR MELODEONS. — Charles W. Small, Worcester, Mass.

Claim.—1. The reed-cell A in a reed-board for organs or melodeons, having its roof arched above its mouth or entrance.

2. The reed-cell A' in a reed-board for organs or melodeons, having its sides concave, substantially as and for the purpose set forth.

3. In combination with a reed-cell either arched or its sides concave, the inclined passages C C, arranged as and for the purpose set forth.

113,941. — HAT-VENTILATOR.—Alden Solmans, New York, N. Y.

Claim.—The arrangement of the elastic wire gauze A with sweat B in either end of a hat, C, in the manner substantially as herein shown and described, for the purpose of producing a self-conforming hat-ventilator, as set forth.

113,942.—GAS-CONDENSER.—Ira N. Stanley, Brooklyn, N. Y.

Claim.—1. The flat tubes D grouped in sections, submerged in water within independent upright casings with the partitions B and C, and suitable nozzles, water-supplying means, and draining means, arranged relatively to each other, substantially as and for the purposes herein specified.

2. The arrangement of tubes D and diaphragm B C, or their equivalents, in the top and bottom of the vessel, so as to pass the gas four or more times through one cylinder, substantially as herein set forth.

113,943. — SAWING-MACHINE. — William Steschult, Glandorf, Ohio.

Claim.—The combination of the bed-beam A with guide *d*, slotted bar E with spring *b*, pendulum G with handles H H', arm I, foot-board J, and lever K, and the bar D, and slotted arm C, all arranged substantially as shown and described, and for the purposes herein set forth.

113,944. — SEAMING-MACHINE.—Orson W. Stow, Plantsville, Conn.

Claim.—1. The combination of the roller D' shaft E, knee-lever G, shaft *c*, standard B', bed A, standard B, and disk C, substantially as and for the purpose described.

2. The combination of the rollers D D', shaft E, lever G, frame H, inclined planes or projections *e e'*, standard B', and bed A, all combined and operating together, substantially as and for the purpose described.

3. The combination of the rollers D D', shaft E, lever G, frame H, inclined projections *e e'*, standard B', bed A, standard B, and disk C, substantially as and for the purpose set forth.

113,945. — HAME FOR HARNESS.—James Thornton and Emmit G. Latta, Wellsville, N. Y., assignors to James Thornton and James Macken, same place.

Claim.—In combination with a hame, A, having a series of holes in its outer edge, a draft-hook, *c*, formed with a threaded shank, and with the flanged plate *d f*, a plate, *g*, provided with a projection, *i*, and a nut, *h*, all constructed and operating substantially as herein described.

113,946.—SEAL FOR HYDRAULIC MAINS OF GAS-WORKS. — Samuel Trumbore, Easton, Pa.

Claim.—1. The valve F, constructed substantially as described, and arranged within the dip-pipe B and hydraulic main of gas apparatus in respect to the tar-level in the said main, substantially as specified.

2. The tube D, surrounding the valve-rod, *b*, extended to a point below the tar-level in the hydraulic main, for the purpose specified.

113,947.—PRINTERS' INK.—Marshall Turly, Council Bluffs, Iowa.

Claim.—1. The above-described process of preparing printers' ink, consisting of the heating and mixing of resin and lamp-black or soot, substantially as herein set forth.

2. As a new article of manufacture, printers' ink formed of resin and soot or lamp-black, in the manner herein set forth.

3. As a new article of manufacture, printers' ink composed of resin, soot, or lamp-black, and alkali, as herein set forth.

4. As a new article of manufacture, printers' ink composed of resin, soot, or lamp-black, and acid, as herein set forth.

113,948.—WASHING-MACHINE.—Foster Utley, Chapel Hill, N. C.

Claim.—In combination with a tub, A, the cross-bar B, screw D, rubber G, and handle or lever H, all constructed and arranged substantially as and for the purposes herein set forth.

113,949. — LAUNDRY-STOVE. — John Van, Cincinnati, Ohio.

Claim.—1. The inclined pipe F, when combined with the drying-chamber, heater M, furnace C, and elevated air-inlet U, to take air and vapor from near the floor of the drying-chamber and discharge it into the furnace, all substantially as explained.

2. The tube or tubes P P', which conduct air from the bottom of the drying-chamber into the lowest tube of the heater, as set forth.

3. In combination with the tubes P P' and stove or furnace C, the heater M, constructed with a zig-zag range of air-heating pipes, N, as and for the purpose specified.

113,950.—ROAD-SCRAPER.—Harvey B. Van Voorhis, Pittsburg, Pa.

Claim.—1. The combination of the center beam A, side beams B B, and cross-bars C C with their scrapers D D, said beam and cross-bars being pivoted together, substantially as and for the purposes herein set forth.

2. The combination of the scraper-frame A B C, cords or chains *a a*, and rod E, all substantially as and for the purposes herein set forth.

113,951.—PROPELLING CANAL-BOATS.—William W. Virdin, Baltimore, Md.

Claim.—1. The boat A, provided with the upward and inward-curving ends B and C, substantially as and for the purpose specified.

2. A boat, A, provided at or within each end with a suitable inclosed groove, D, constructed on a vertical plane, for the reception and passage of a propelling-chain, which works longitudinally around said boat, substantially as and for the purpose shown.

3. The boat A, provided with the upward and inward-curving ends B and C, the longitudinal groove D, and the recesses F, substantially as and for the purpose set forth.

4. In combination with the chain E, provided with the friction rollers *e'*, the ledges *d* secured to and projecting horizontally inward from the sides of the groove D, substantially as and for the purpose shown and described.

5. In combination with an endless chain, E, working within a suitable longitudinal groove constructed within the bottom and ends of a boat, and upon or over a suitable way suspended above the boat, the paddles or buckets E', pivoted at their vertical centers, and weighted upon their lower edges, so as to cause them to maintain at all times a vertical position, substantially as and for the purpose specified.

6. The braces or supports K, constructed as described, and combined with the rails I, in the manner and for the purpose substantially as shown.

113,952. — COOKING-RANGE. — George W. Walker, Boston, Mass.

Claim.—1. The relative arrangement of the fire-pot *b*, one or more ovens, *c* and *d*, and one or more hot-air chambers or flues, *l*, the fire-pot, the oven or ovens, and the air chamber or chambers being all in the same plane or under the same boiler-plate, and the hot-air chamber (or each hot-air chamber) being between the fire-pot and the adjacent oven, both having an inlet at its bottom and an outlet at its rear end, substantially as shown and described.

2. The fire-pot *b*, ovens *c d*, and hot-air chambers or spaces arranged in a semi-cylindrical body, the fire-pot at the front, the ovens extending radially into the body, and the hot-air chambers or spaces surrounding the fire-pot and ovens, substantially as shown and described.

3. In combination with the fire-pot, ovens, and hot-air spaces, relatively arranged as described, the smoke-flues arranged with relation thereto, substantially as shown and described.

4. In combination with the fire-pot, smoke-flues, ovens, and hot-air chambers or passages, arranged as shown and described, the sub-chamber or hot-air space *k* beneath or in the bottom of the range, substantially as shown and described.

5. In combination with the fire-pot, ovens, hot-air spaces, and smoke-flues, the surmounting hot-air chest or box *s*, at the rear of the range, and covering the rear part of the boiler-plate.

6. In combination with the hot-air spaces between the ovens, the central dividing-partition, *m*, substantially as shown and described.

113,953.—TURN-TABLE.—George Walters, Phœnixville, Pa., assignor to Phœnix Iron Company, same place.

Claim.—1. A turn-table consisting of a circular girder, connected substantially in the manner described to a disk or plate, K, which admits of being adjusted vertically independently of the pivot on which the turn-table revolves.

2. The combination of a circular girder, A, the stays H H and annular plate G, stays H' H' and diagonal tension-rods M M, and adjustable disk or plate K.

3. The combination of the plate or disk K, pivot-head I, and adjusting-bolts *m m*.

4. The transverse girder N N, made in two parts, each having its outer end secured to the circular girder A, and its inner end suspended from the adjustable plate or disk K.

113,954.—BARREL-FILLER.—Lewis H. Watson, Pittsburg, Pa.

Claim.—1. In apparatus for filling barrels, the slot P' in the tubes G and P, made to form a communication with the interior of the barrel and the air without for the escape of the air from the barrel, and also to admit the free play of the outside tripping-lever N, as described.

2. A turning handle, L', having a tripping-arm,

s, in combination with a cranked spindle, L, the tripping-lever N, and float O, as described.

3. The turning handle L′ and its arm *s*, in combination with the spring Y, its regulating-screw *a*, and the tripping-lever N, as described.

4. In a barrel-filling apparatus, in which its cut-off valve S is operated by a turning handle, L, having both a crank, R, and handle L′ tripped by the action of a float, the said handle L′ made to have a movement independent of its spindle L and in advance of the action of the valve S, to allow the turning handle and tripping-lever to be tripped without regard to the pressure upon or friction of the turning spindle L, as and for the purpose described.

5. The combination of the arm *s* of a turning handle L′ and the notched tripping-lever N with the shaft L, crank R, rod R′, and valve S, as described.

6. The combination of the turning handle L′, spring Y, regulating-screw *a*, tripping-lever N, float O, spring valve S, crank R, crank-rod R′, spindle L, tube G with its air-communicating slot I″, and the flint-tube P, the several parts being constructed, arranged, and operating as described.

113,955.—STEAM-GENERATOR.—Elijah Weston, Buffalo, N. Y.

Claim.—1. The tubes *f f*, leading directly across the bridge from the furnace A into the smoke-consuming chamber B, substantially as described and for the purpose set forth.

2. The V-shaped pendent water-space D, in combination with the smoke-combustion chamber B, furnace A, and bridge G, provided with the tubes *f f*, substantially as set forth.

113,956.—STEAM-ENGINE VALVE.—Seth H. Whitmore, Decatur, Ill.

Claim.—The above-described oscillating valve, with the exhaust-passage 4 and rock-shaft 3, in combination with the ports of the steam-chest and cylinder, all constructed and arranged substantially as described.

113,957.—NECK-TIE.—Joseph R. Wilber and Otis W. Peirce, Providence, R. I.

Claim.—1. The loop, substantially as described, and for the purpose set forth.

2. The combination of the springs, hook, and pins, substantially as described, and for the purpose set forth.

3. The combination of said springs, hook, and loop, substantially as and for the purpose as hereinbefore set forth.

113,958.—FIRE-ESCAPE LADDER.—Tobias Witmer, Buffalo, N. Y.

Claim.—1. The frame H when pivoted to the same axis with the ladders, and having operating cords or chains *m n* in front and rear, in connection with the detachable truck E and ladders D or casing C, substantially as and for the purpose described.

2. The combination with the ladders D or casing C of the rack C′ and pinion B, applied and operating as and for the purpose set forth.

3. The ratchet or ratchets *y y′*, pawls *s s*, and props P, as arranged with the ladders, substantially as and for the purpose described.

113,959.—MACHINE FOR TURNING CRANK-PINS.—Milton G. Wood, Boston, Mass.

Claim.—The combination of loose handle *q*, belt *p*, either straight or crossed, belt-wheel *o*, frame A, and feed-screw *n*, operating substantially as described.

113,960.—PLOW.—Charles A. Beard and Ezra E. Evans, Zanesville, Ohio.

Claim.—A plow, consisting of the beam A, arms C C and E E, braces *e e e e*, and mold-boards B, D, and F, all constructed and arranged substantially as and for the purpose set forth.

REISSUES.

4,342.—COMBINED VAPOR-BURNER AND LAMP-POST.—Benjamin D. Evans, Columbus, Ohio, assignor to John W. Baker.—Patent No. 90,830, dated June 1, 1869.

Claim.—1. The combination of the reservoir A and the tubular lamp-post C with each other and with the generator E, substantially as and for the purpose herein set forth.

2. The combination of the vapor-pipe R and the perforated tubular lamp-post C with each other, and with the generator E and the burner K M, substantially as and for the purpose herein set forth.

3. The orifices H H′ in the sides of the tubular lamp-post C to supply the chamber within the same a sufficient quantity of air for cooling and vapor-mingling purposes, substantially as herein set forth.

4. The combination of the inner cap K and the outer cap M of the compound burner with each other and with the flame-spreader G, substantially as and for the purpose herein set forth.

5. The arrangement of the reservoir A, the supply-pipe D, the stop-cock 4, the generator E, the interior tube R, the burner K M G, and the perforated tubular lamp-post B C, substantially as and for the purpose herein set forth.

4,343.—CLOTHES-WRINGING HOOK.—James H. Pratt, Lynn, Mass., assignor to himself and Benjamin F. Larrabee, same place.—Patent No. 112,074, dated February 21, 1871.

Claim.—A wringer-hook, composed of a hook proper and a clamping device, substantially as described, for securing it to the side of the tub.

4,344.—HOSE-COUPLING.—James C. Cooke, Bridgeport, Conn., assignor to Albert F. Allen, Providence, R. I.—Patent No. 22,166, dated November 30, 1858.

Claim.—1. The male and female locking devices *a a* and *c c*, attached alternately to the connecting-faces of a hose-coupling, as and for the purposes specified.

2. The corresponding annular projection and recess *m* and *n*, arranged with relation to each other on the holding-band and neck of a hose-coupling, as and for the purposes specified.

4,345.—Division A.—FEED-WATER PIPE.—John Doyle, Baltimore, Md., assignor to himself and Anthony Reybold, Delaware City, Del.—Patent No. 110,753, dated January 3, 1871.

Claim.—A feed-water pipe within a steam-boiler with graduated perforations to equalize the distribution of the feed-water in the boiler, substantially as and for the purpose described.

4,346.—Division B.—FEED-WATER PIPE.—John Doyle, Baltimore, Md., assignor to himself and Anthony Reybold, Delaware City, Del.—Patent No. 110,753, dated January 3, 1871.

Claim.—A puppet-valve or series of puppet-valves within a steam-boiler, on a pipe discharging water thereinto, substantially as and for the purpose hereinbefore described.

4,347.—MOLD.—William Hainsworth, Allegheny City, assignor of one-half interest to Sears M. Loveridge, Pittsburg, Pa.—Patent No. 109,894, dated December 6, 1870.

Claim.—1. Pulverized coke treated with sour beer or fire-clay water or other similar fluid as a material for molds or cores for casting metals, as specified.

2. Molds or cores made of pulverized coke mixed up with a suitable fluid possessing adhesive properties, substantially as specified.

4,348.—SUSPENDER.—James B. Sharp, New York, and William Seymour, administrator of Robert M. Seymour, deceased, Sing Sing, N. Y.—Patent No. 59,465, dated November 6, 1866.

Claim.—1. The improved suspenders, having their straps rigidly secured by metallic fastenings, substantially as described.

2. Suspenders having their ends covered with metallic bindings, substantially as set forth.

DESIGNS.

4,810.—COOKING-STOVE.—John Abendroth, New York, N. Y.

Claim.—The design for a cooking-stove, as shown.

4,811.—CLAW-BAR.—David Christie, Chillicothe, Ohio.

Claim.—The design for a claw-bar, as shown.

4,812.—BOTTLE-STAND.—George Gill, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—1. The design for external form of the vase, as represented.

2. The design, as shown, of the vase A and the handle B.

4,813.—TEA-POT.—George Gill, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The design for the vase or body, that of the cover, that of the spout or nose, and that of the handle, all being essentially as shown in the drawing.

4,814.—MATCH-SAFE.—George R. Hubbard, New York, N. Y., assignor to Bradley & Hubbard, West Meriden, Conn.

Claim.—The design for match-safe as herein described, and illustrated by the accompanying drawing.

4,815.—COOKING-STOVE.—Jacob Louis Kuechler, Reading, Pa., assignor to Orr, Painter & Co., same place.

Claim.—The design for cook-stoves, as shown and described.

4,816.—STOVE.—John H. Keyser, New York, N. Y.

Claim.—The design for the front of a stove, as represented.

4,817.—OVEN.—John H. Keyser, New York, N. Y.

Claim.—The design herein represented for the front of an oven.

4,818.—PARLOR-STOVE.—John Martino and John Currie, Philadelphia, assignors to Orr, Painter & Co., Reading, Pa.

Claim.—The design for parlor-stove, as shown and described.

4,819.—PLATE OF A COOKING-STOVE.—Charles Noble, Philadelphia, Pa., assignor to Charles Noble & Co., same place.

Claim.—1. The design for the side plate A and door B, substantially as shown and described.

2. The design for the front plate D with its doors, substantially as shown and described.

3. The design for the foot, fig. 3, substantially as illustrated and described.

4,820.—TYPE.—William H. Page, Norwich, Conn., assignor to William H. Page & Co., same place.

Claim.—The design for letters, as shown.

4,821.—STOVE.—La Forist Rollins, Bangor, Me.

Claim.—The design for a stove, as herein described and shown.

4,822.—DRAWER-PULL.—Elbridge J. Steele, New Britain, assignor to Turner, Seymour & Judds, Wolcottville, Conn.

Claim.—1. The design of the shape and configuration of the drawer-pull, substantially as shown.

2. The design of the ornaments *f f* and panels in the exterior curved surface of the drawer-pull, as shown.

4,823.—COOKING-STOVE.—Jacob Steffe, Philadelphia, assignor to Orr, Painter & Co., Reading, Pa.

Claim.—The design for cook-stove, as shown and described.

4,824.—SHOW-CASE.—Jacob D. Vredenburgh, Chicago, Ill.

Claim.—The design for a hexagonal or six-sided prismatical show-case, as shown.

4,825.—COOKING-STOVE.—George Wellhouse, Akron, Ohio.

Claim.—The design for a cook-stove, substantially as described and represented in and by the accompanying photographic illustration.

4,826.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—1. The design for the stripe A, as described and illustrated.

2. The design for the entire stocking fabric, substantially as described and illustrated in and by the accompanying drawing.

4,827.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a stocking fabric, as described and illustrated in and by the accompanying drawings.

4,828.—TALMA OR CLOAK GARMENT.—Eberhard Flues, Fort Washington, (Whitemarsh Post Office,) Pa.

Claim.—The design for a talma or cloak garment substantially as described, and as shown in the accompanying drawing.

4,829.—LAMP-BURNER.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place.

Claim.—The design of the ornamental shape and configuration of the air-distributer *a*, bead *b*, and chimney-holder *c*, as set forth and shown.

4,830.—LAMP-BURNER.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place.

Claim.—The design of the shape and configuration of the parts of the lamp-burner combined together as represented.

4,831.—SPOON OR FORK-HANDLE.—Edward C. Moore, Yonkers, N. Y., assignor to Tiffany & Co., New York city.

Claim.—The design for handles of spoons and

forks, substantially as described and illustrated by the accompanying drawing.

4,832.—PATTERN FOR CUTTING DRESS-WAISTS.—Elizabeth P. Smith, Chicago, Ill., assignor to herself and Norman H. Sherburne, same place.

Claim.—1. The design or pattern-scale for forming both the front and back of dress-waists, arranged upon one and the same plate, substantially as described and illustrated by the accompanying drawing.

2. The design of the curved rule, employed in connection with said pattern, for laying out the separate parts of the waist, substantially as described and shown in the accompanying drawing.

4,833.—PUBLIC URINAL AND WATER-CLOSET.—Fredrick J. Smith, Chicago, Ill.

Claim.—The design for a public urinal and water-closet, substantially as shown.

4,834.—STEAM-ENGINE.—Peter L. Weimer, Lebanon, Pa.

Claim.—The design of a steam-engine, as shown.

4,835.—RANGE.—Charles J. Wood, Baltimore, Md.

Claim.—The design and ornamentation of the several constituent portions of a range front, as described and shown by the accompanying photographs.

TRADE-MARKS.

222.—CASSIMERES.—Callaghan & Brother, Philadelphia, Pa.

223.—MEDICINE.—Hostetter & Smith, Pittsburg, Pa.

224.—PAINT.—The Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.

225.—COTTON GOODS.—The Harris Manufacturing Company, Coventry, R. I.

226.—WHISKY.—Vidvard & Sheehan, Utica, N. Y.

EXTENSIONS.

SIDNEY S. HOGLE, of Beren, Ohio.—Letters Patent No. 16,866, dated March 17, 1857; reissue No. 804, dated Aug. 30, 1859.

"Improvement in Harrows."

Claim.—Causing the points of the teeth of a rotating harrow to descend deeper into the ground on one side of their axes of rotation than they do upon the opposite of the same, for the purpose of enabling the dragging force which may be exerted upon said harrow to impart a positive rotary motion thereto, without the aid of gearing-wheels.

WILLIAM D. SLOAN, of New York, N. Y.—Letters Patent No. 16,936, dated March 31, 1857.

"Improved Automatic Lathe for Turning Irregular Forms."

Claim.—The series of rotating and shifting mandrels, for rotating the blocks to be turned and shifting them from one operation to another, substantially as described, in combination with the series of traversing cutters guided by patterns or molds to determine the form to be produced, substantially as described, whereby a series of blocks is simultaneously subjected to the series of operations, and each in succession subjected to all the operations, as set forth.

Also, the mode of operation, substantially as described, of the cutter, (termed the finishing-cutter,) which said mode of operation consists in rolling the cutting-edge along the surface of the block that is being turned, as described, by reason of which a small portion only of the cutting-edge is cutting at any one time, and immediately relieved and followed by another portion of the said cutting-edge, as set forth.

Also, the sliding segment-ring with its slots, substantially as described, in combination with the cutters and their appendages, substantially as described, for carrying the rangling cutters nearer to the axes of the blocks at each successive cutting action, as set forth.

WILLIAM H. HOUSTON, of Peabody Mass.—Letters Patent No. 16,947, dated March 31, 1857.

"Machine for Composing and Distributing Type."

Claim.—1. The within-described machine for composing types, operating in the manner substantially as set forth.

2. The method herein described of selecting the types from the cases by means of the springs s or their equivalents, operating in connection with the keys o, in the manner substantially as herein set forth.

3. The method of transferring the types to the stick by means of the plungers B and T, or their substantial equivalents, as set forth.

4. Raising the rule Y and throwing forward the line of type upon the galley by the means herein described, or by any means substantially the equivalent thereof.

5. The method of feeding forward the types in the cases by means of the slipping bands *f*, rods *j*, and cylinder K, or their equivalents, operating in the manner substantially as herein set forth.

6. The wheel F^2, with its ratchet-wheel M^2, and the connections N^2 O^2 d^2, or their equivalents, whereby this wheel is caused to give motion to the shaft C whenever any one of the keys is depressed, as set forth.

7. The within-described method of connecting the crank u with the pitman W by means of the springs *f* operating as set forth.

8. The distributing machine, constructed, arranged, and operating in the manner substantially as herein described, by means of which a column of type when placed in the machine is distributed automatically in the manner set forth.

9. The method herein described of forwarding the types to the trial case by means of the vibrating case t^3, operating in the manner substantially as set forth.

[Extended by an Act approved March 3, 1871, entitled "An act to amend an act for the relief of JEARUM ATKINS," approved July 15, 1870.]

JEARUM ATKINS, of Mokena, Ill.—Letters Patent, No. 9,479, dated Dec. 21, 1852.

"Improvement in Rakes to Grain-Harvesters."

Claim.—The exclusive use of the herein-described combination of the crane-post *c'*, rock-shaft A', and crank F', to operate the jointed arm c' ℓ and hands D' E', which collect the grain in gavels and deposit it in rear of the harvester, in the manner specified, as the machine moves forward; when applied to machines for harvesting any grain which requires to be collected and deposited, the combination being connected by gearing with the driving-wheel of the harvester, and operating through mechanical devices, substantially as described, as an automaton, to perform the above-specified operation.

HENRY R. REMSEN, of Albany, N. Y.—Letters Patent No. 17,012, dated April 7, 1857.

"Improved Mill for Cleaning Castings."

Claim.—The use, in a horizontal revolving mill for cleaning castings or hollow ware, of open work, lattice, or grated partitions parallel to or in a line with the axis, for the purpose of such compartments as I have described, substantially as above set forth.

ISSUE OF APRIL 25.

PATENTS.

113,961.—CHIMNEY-COWL.—Warren N. Abbott, New York, N. Y., assignor to himself and Isaac H. Wood.

Claim.—1. The inverted hollow cone B, in combination with the tubes C and D, cover E, and cylinder A, all being constructed and arranged substantially as herein shown and described, and for the purposes set forth.

2. The pipe p and ledges *l* and *l'*, in combination with the cone B, tubes C and D, and cylinder A, as herein shown and described, and for the purposes set forth.

113,962.—WAXED-THREAD SEWING-MACHINE.—Hosea P. Aldrich, Boston, Mass.

Claim.—1. The combination of an air-heating and forcing apparatus with a wax-thread sewing-machine, substantially as and for the purpose set forth.

2. The mechanism above described for operating the thread-guide, the same consisting of rocker-arm N, the pitman N', the arm O, shaft P', arm Q, and cam *d e*, the whole being arranged and actuated by the driving-shaft, as set forth.

3. The link e, formed and applied to the shaft P' to adjust the reciprocating movement of the thread-guide.

4. The mechanism, as described, for giving to the awl its horizontal movements, the same consisting of the slider e and its block W, arm n, sleeve m, the compound levers or arms k and h, formed and connected as specified, pitman Z, arm Y, cam-wheel X, and stud *g*, the whole being arranged and actuated by the driving-shaft, substantially as set forth.

5. In an organized sewing-machine, the combination of the mechanism above described for producing the vertical reciprocation of the awl with that for effecting the horizontal movements thereof, as and for the purpose set forth.

113,963.—BREECH-LOADING CANNON.—Hiram J. Allen, Arkadelphia, Ark.

Claim.—The grooved breech-block E and pivoted barrel A, combined as described with the lever F and frame C, as and for the purpose set forth.

113,964.—MACHINE FOR MAKING SKEWERS.—Chauncey Andrews, Paterson, N. J.

Claim.—1. The combination of the block A, standard G, pivoted weighted knife H, and adjustable gauge I with each other, substantially as herein shown and described, and for the purpose set forth.

2. The wheel E and adjustable knives F, constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

113,965.—KNITTING-MACHINE.—John M. Arnour, Syracuse, N. Y.

Claim.—1. The combination of the needle n and stitch-hooks A A, constructed and arranged in relation to each other, and operating together, substantially as herein described, so that they perform by their own motions the entire work of knitting without auxiliary or intermediate devices, as herein specified.

2. The reversible needle n, in combination with two rows or sets of stitch-hooks, A A', when arranged and operating as described, so as to knit either plain circular work or ribbed work, or work changeable from plain to rib work, and vice versa, substantially as herein specified.

3. The combination of the stitch-hooks A A' and carrier-plate b, so arranged together that the stitches are held open laterally by the said hooks and plate, and also afford space between them to allow the needle to enter the stitches thereof, substantially as and for the purpose herein specified.

4. The drum c and the cams and reversing mechanism thereon, for imparting the movements to the stitch-hook carrier, and for reversing the needle, substantially as herein described.

113,966.—DUMB-BELL.—Ellis Ballou, Zanesville, Ohio.

Claim.—The dumb-bell A, made hollow and with a handle, B, extending across its cavity, substantially as herein shown and described, and for the purpose set forth.

113,967.—REVOLVING-CHAIR.—Franklin Barber, Detroit, Mich.

Claim.—In a rocking chair, the combination of the spider A, boxes B, spring C, fulcrum A, and set-screw m, all constructed, arranged, and operating substantially as described and shown.

113,968.—APPARATUS FOR CARBURETING AIR.—Charles C. Beers, Boston, Mass.

Claim.—1. The hollow evaporators F when made triangular in cross-section, and provided at their ends with flanges, and combined with fibrous material wound around the evaporators between the flanges, the form of the evaporators admitting of the inclined faces of one projecting over the inclined faces of the adjacent ones, when arranged in a horizontal series, in which the alternate evaporators are inverted.

2. The combination of the evaporators arranged in horizontal series with the perforated partitions H, in the manner described.

113,969.—STOVE-DRUM.—Goderich Crouter Benton, Port Huron, Mich.

Claim.—The perforations K in the pipe F, the section of pipe L, and the damper M, in combination with the drum, composed of an outer shell, A, and inner shell B, and air-pipe E, and pipes H I, when each part is constructed and arranged to operate substantially as and for the purposes set forth.

113,970.—WATCHMAN'S TIME-CHECKING CLOCK.—Ira G. Blake, Worcester, Mass.

Claim.—The combination of the ring-plate, having a spring stem, with the front D and marking-hand B, as and for the purposes set forth.

113,971.—CULINARY VESSEL.—William H. Bloom, Tiffin, Ohio.

Claim.—The beveled stiffening-ring C applied to a culinary vessel, substantially as described.

113,972.—FLOUR-BOLT AND REEL.—John R. Bradfield, Ada, Mich.

Claim.—1. A bolting-reel divided into longitudinal compartments, in each of which is placed a frame covered with a bolting fabric or screening material, substantially as and for the purpose set forth.

2. The construction and arrangement of the perforated head D, slides E, flange F, and the partitions C in a bolting-reel provided with separate and independent bolts, substantially as described, for the purpose specified.

113,973.—MATERIAL FOR FILTERING.—Leopold Brandeis, Brooklyn, N. Y.

Claim.—The production of a catalytic filtering medium by carbonizing sponge either by direct heat or by immersion in hot metal or other suitable material.

113,974.—TRUNK-FASTENER.—Damon W. Brockway, Dover, assignor to himself and Jonathan F. Parkhurst, Bangor, Me.

Claim.—The within-described trunk-fastening, hinged at *e*, attached as set forth to the lid of the trunk, and secured, when the trunk is shut, by the staple *f* and strap *g* to the trunk-body, as specified.

113,975.—ELEVATOR HAY-FORK.—John T. H. Brown, Greenup, Ill., assignor to himself and J. P. Ewart.

Claim.—The pivoted tines T T T, stock V, and lock-plate W, combined, as described, with the elevator-rope, for the purpose specified.

113,976. — ELECTRIC-TELEGRAPH SOUNDER, RELAY, &c.—Hugh Swinton Legaré Bryan, Cedar Rapids, Iowa.

Claim.—1. The armature of sounders, relays, or registers, arranged upon a stem or rod or other support, having a rectilinear movement between adjustable sounding-points, one at each end, the said rod or stem being suspended by vibrating arms, springs, or in any suitable way to have such movement, all substantially as specified.

2. The arrangement of the magnets, armature, and its support, and the sounding-points, in an open case, substantially as specified.

113,977.—MACHINE FOR MANUFACTURING PICKS AND SIMILAR TOOLS.—Augustus Buerkle, Pittsburg, Pa.

Claim.—1. The arrangement of the punch *d*, stripper *h*, jaws *g g*, and right-and-left-hand adjusting-screw *g'*, substantially as described.

2. The adjustable gauge *f*, in combination with the ram *d'* and mandrel *m*, substantially as set forth.

3. The dies *e e'*, cam-faced in the direction of their motion, and convex-faced in the direction of the axial line of the rolls, such convexity being uniform from the middle of each die to its outer edge, substantially as set forth.

4. The dies *e e' e''*, of the form and arrangement substantially as described.

113,978.—APPARATUS FOR VAPORIZING VOLATILE HYDROCARBONS. — John Butler, New York, N. Y.

Claim.—1. Vaporizing volatile hydrocarbons in a coil of pipe, substantially as herein shown and described, and for the purpose set forth.

2. The combination of a siphon B, and cold-water or condensing-vessel C with the inlet-pipe conducting the hydrocarbon to the vaporizer, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the inlet-pipe A, siphon B, cold-water or condensing-vessel C, hot-water or vaporizing-vessel D, coil E, and stop-cocks G with each other, substantially as herein shown and described, and for the purposes set forth.

113,979.—BABY-TENDER. — Alexander H. Carson, Newport, R. I., and Andrew Brown, Troy, N. Y.

Claim.—An improved baby-tender, consisting of the cloth seat K, open dress J, cords or chains I, large ring or hoop A, cords or chains B, swiveled plate C, adjustable chain D, hook E, coiled spring G, and hook H, whether the cylindrical case F be used or not, said parts being constructed and arranged in connection with each other, substantially as herein shown and described, and for the purpose set forth.

113,980.—LOCOMOTIVE SMOKE-STACK.—Edwin A. Castellaw, Savannah, Ga.

Claim.—A locomotive smoke-stack provided with air-channels *b b c* around the rear half of its crown, and with apertures in the crown-flange *a* to constitute a guard of ascending air for the purpose of keeping the smoke forward, substantially as herein shown and described.

113,981.—BOAT-DETACHING APPARATUS.—David Lopez Cohen, Pensacola, Fla.

Claim.—1. The combination of the rod *g*, tooth A, a catch, *i*, and a suitable locking-lever, *k*, substantially as herein shown and described, for the purpose specified.

2. The combination of the rod *n*, lever *k*, guides *t m*, and catch *i*, as set forth.

113,982.—LAMP-SHADE.—Michael H. Collins, Chelsea, Mass.

Claim.—1. A shade for a lamp or Argand burner as made in two frusto-conical or pyramidal portions, B C, formed, constructed, and combined together in manner as set forth.

2. In a metallic shade composed of a frusto-conical or pyramidal body and a frusto-conical or pyramidal elastic spring portion B, so united as to form the frustum of a cone, making the said circumscribing elastic spring portion of a single piece of metal, or of a series of pieces so united as to form a continuous whole, as shown and described.

113,983.—APPARATUS FOR REEFING SAILS.—Alonzo G. Crossman, Huntington, N. Y., assignor to Franklin M. Crossman, same place.

Claim.—1. The combination, with a sail of a vessel, of the rope *b* attached to the sail, and the halyard B, substantially as described.

2. The arrangement upon a sail of the reefing-rope *b* in a curved line, the center of which is further from the boom or yard than its extremities.

3. The combination of the reefing-rope *b* with the sail of a vessel, substantially as hereinbefore described.

113,984.—CENTER-BOARD FOR VESSELS.—Alonzo G. Crossman, Huntington, N. Y., assignor to Franklin G. Crossman, same place.

Claim.—1. The combination of the center-board D, the standard C or its equivalent, and the pintles *b* and *c* and *d* and *e* connected together, substantially as hereinbefore set forth.

2. The combination of the part D, the part E, the standard C or its equivalent, and the pintles *b*, *c*, *d*, and *e* connected together, substantially as hereinbefore set forth.

3. The combination of the standard C or its equivalent, the parts D and E of the center-board, and the pintles *b* and *c*, substantially as hereinbefore set forth.

113,985.—DUST-PAN.—Francis L. Daniels and John Russell, Boston, Mass.

Claim.—1. The combination of the pan D and trough B, hinged together as described, and the tube G, arranged between the contiguous or adjoining walls of said pan and trough, substantially as and for the purpose set forth.

2. The backwardly-inclined wall E of the pan, hinged to the dust-trough, substantially in the manner described, so that its upper edge shall project over into the trough or in rear of the front wall of the same, for the purposes set forth.

113,986.—FLASK FOR CASTING PIPE.—John Demarest, Mott Haven, N. Y., assignor to himself and Jordan L. Mott, same place.

Claim.—The combination, with the flask and the core-bar, of the screw-supporting projections A C and the temper-screws E F, arranged for springing the core downward along the middle, substantially as specified.

113,987.—WASHING-MACHINE.—John Hilger Doll, Etna, Ill.

Claim.—1. The combination of the rubbing-board B, levers C, rubber-blocks D, rods E, and hand-nuts G with each other and with the tub A and slotted standards F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the washing-rollers H, three, more or less, cross-bars I, slotted bars J, cross-bars K, adjustable pivoting-rod L, and clamping nuts M N with each other and with the rubbing-board B, levers C, rubber-blocks D, adjusting-rod E, nuts G, standards F, and tub A, substantially as herein shown and described, and for the purpose set forth.

113,988.—WATCHMAN'S TIME-DETECTER.—James Dunning, Bangor, Me.

Claim.—The combination and arrangement of the within-described dial with the marker, operating as set forth, the slides *c d*, through which said marker passes, and the hand-lever A, by which it is adjustable to the required day of the week, all combined and operating substantially as set forth and described.

113,989.—CONDENSING STEAM-ENGINE.—Thomas Edwards, Ladywood, Birmingham, England.

Claim.—The general arrangement of the apparatus, substantially as described.

113,990.—HARVESTER.—John H. Elward, Polo, Ill.

Claim.—1. The suspended binder's platform I, in combination with the transverse overhanging bars G G, connected with the main frame in such manner as to permit their being readily folded thereon, substantially as and for the purpose set forth.

2. The movable binder's seat J, provided with the fork *J'* and stirrup *j'*, in combination with the binder's stand or platform, as described.

3. The axle E, adapted to slide on pins *e'*, in combination with the curved flanges or segments *e*, whereby the machine is thrown into and out of gear without the aid of backing-ratchets or clutches, as described.

113,991.—PAPER-FILE.—George W. Emerson, Chicago, Ill., assignor to John R. Barrett, same place.

Claim.—One or more spring supports F K, slightly rounded, as described, attached to a paper-clip, and arranged to hold the binders J in position to pierce paper, as herein described and shown.

113,992.—SAW.—James E. Emerson, Trenton, N. J.

Claim.—1. The clamp or holder C, having neck *c'* and pivot-piece *c*, in the manner and for the purpose described.

2. The clamp or holder C, as above claimed, and wedge *b'*, in combination with tooth B, when the tooth, clamp, and wedge are constructed and arranged to clamp and hold the said tooth B in contact with the saw-plate A', in the manner described.

113,993.—SAW FOR SAWING STONE.—James E. Emerson, Trenton, N. J.

Claim.—1. The reversible and adjustable cutter B, constructed in the manner and used in a circular-saw plate for sawing stone, as herein above described.

2. The reversible and adjustable cutter B', having serrated edge *a'*, when used in a circular-saw plate for sawing stone, as herein above described and shown.

3. The interchangeable and adjustable jaws or holders B'' B'', constructed in the manner and for the purpose herein described.

4. The clamp or throat-piece C, constructed as described, and wedge D, in combination with the cutters B B' and saw-plate A, in the manner herein described.

5. The combination of the adjustable interchangeable diamond-holders B'' B'' with the clamp-piece C, wedge D, and saw-plate A, as herein above described.

6. A circular-saw for sawing stone, having the removable and adjustable cutters B or B' with chisel edges, and made to be reversible and interchangeable with each other, and arranged in the manner as seen in fig. 4.

7. A circular-saw, A, for sawing stone, having the adjustable jaws or holders B'' B'' with diamond or other mineral points *b* for cutters, when constructed and arranged as described and seen in fig. 3.

8. A circular-saw, A, for sawing stone, having the removable, reversible, and adjustable cutters B or B', alternated with the adjustable jaws or holders B'' B'' having diamond or other mineral points *b*, when arranged with relation to each other in the manner described and seen in fig. 2.

113,994.—MELODEON.—Peter Engers, Jefferson Furnace, Pa.

Claim.—1. The bars or valves C C, arranged as shown and described, whereby they may be operated in connection with a key-board, as set forth.

2. The bars or valves C C, pendants D D, plates E, slides *a*, pins *b* and *c*, and keys B, as herein shown and described, to operate as set forth.

113,995.—MEDICAL COMPOUND FOR TREATING RHEUMATISM, &c.—William H. Farrar, Richmond, Va.

Claim.—The above medical compound, substantially as described.

113,996.—BATTERY-GUN.—William Fields, Wilmington, Del.

Claim.—1. The hinged armor D in combination with the springs T, substantially as shown and described.

2. In combination with the breech-piece L, the two eccentrics I J and lever K, when arranged to operate as described.

3. The feeding device, consisting of the grooved plate P, plungers R, and plate or piston S, when combined as set forth.

4. The barrels E, head-piece F, screw G, hinged spring armor-plates D, breech-piece L, eccentrics I J, lever K, and hammer N, when all are combined to form a field-battery gun, substantially as shown and described.

113,997.—PREPARING AND MASHING GRAIN. Charles H. Frings, Centreton, Mo., assignor to himself and Charles Braches, same place.

Claim.—1. The combined application of hydrate of soda or hydrate of potash and muriatic acid to grain, as specified.

2. The herein-described process of separating proteine from grain before mashing, and returning it to the after saccharization mash for the purpose specified.

3. The process herein described of preparing and mashing grain, substantially as specified.

113,998.—HINGE FOR GATE.—George Garrett, Elkhart, Ill.

Claim.—The sections B and B' of the moving portions of a gate-hinge, arranged as described, and connected together around the gate-post by bolts D D, substantially as and for the purpose specified.

113,999.—APPARATUS FOR STAMPING WEARING APPAREL, &c. — Charles Gernert, Philadelphia, Pa.

Claim.—An ironing apparatus for ornamentally

stamping wearing apparel, consisting of the frame or bed-plate A, the revolving disk B, the lock-key C, the adjustable standard E, the flanges F F, the roller G, the guide-frame H, and the handle I, surmounted by the crutch-like shoulder-piece L, or their equivalents, designed, arranged, constructed, and operating in the manner and for the purposes substantially as described.

114,000.—BUGGY.—James R. Gilman, South Bend, Ind., assignor to Studebaker Brothers' Manufacturing Company, same place.

Claim.—1. The combination of the main seat A with the supporting ways *b b* by means of the chairs *c c*, which are of such a shape that they prevent the spreading of the sides of the buggy-body, while they enable said seat to be adjusted to any desired position, substantially as herein set forth.

2. The combination of the cam-shaft *e* and the angular griping-levers *d d* with each other and with the buggy-seat A, and the supporting ledges *a a*, substantially as and for the purpose herein set forth.

3. The combination of the front seat B and its supporting legs *h h* with each other and with the angular levers *k k*, the springs *m m*, and the sliding bars *n n*, in such a manner as to enable the said seat to be shifted to the respective positions herein represented and described.

4. The within-described combination and arrangement of parts by which the main seat A and the forward seat B can be arranged and secured in the respective positions represented by fig. 2 of the drawing.

5. The within-described combination and arrangement of parts by which the main seat A and the forward seat B can be arranged and secured in the positions represented by fig. 3 of the drawing.

6. The within-described combination and arrangement of parts by which the main seat A and the forward seat B can be arranged and secured in the respective positions represented by fig. 4 of the drawing.

114,001. — BURGLAR-ALARM AND HOTEL-ROOM INDICATOR. — Louis C. Goeson, Trenton, N. J., assignor to himself and John O. Raum, same place.

Claim.—The catch-levers B B, of any required number, operated by means of the wires or cords A A, the drop-slides G G bearing figures or letters moving within the case H, and furnished with a flange, F, which is held by the notch E of the lever B, and arranged to operate substantially as and for the purposes herein set forth.

114,002. — ATTACHMENT OF REVOLVING MOLD-BOARDS TO PLOWS.—Joseph S. Godfrey, Rochester, assignor to himself and Sears M. Loveridge, Pittsburg, Pa.

Claim.—1. A circular rotating scraper, combined with a revolving mold-board, substantially as described.

2. A bent spindle, capable of both lateral and rotary adjustment, as a carrier for a revolving mold-board, and in combination therewith, substantially as described.

3. The saddle-piece *g*, in combination with the slotted post *d'* and fastening-eye *e*, as a means of adjusting vertically the spindle *a* and mold-board *m*, substantially as described.

114,003.—CUTTING APPARATUS FOR HARVESTERS.—Phineas Gregg, Brownsville, Mich.

Claim.—The combination of the wheels D and E, carrying the chain F, with the blocks B and B', screws C, and nuts *a*, when the several parts are constructed, arranged, and operated as described and shown, for the purposes set forth.

114,004. — IMPLEMENT FOR SLITTING AND JOINING RAGS FOR CARPETS. — Marion Green, Coldwater, Mich.

Claim.—The hand-instrument for slitting and looping carpet-rags, consisting of the handle A, knife B, and hook C, constructed substantially as described.

114,005.—ZINC FOR GALVANIC BATTERIES.—Edward A. Hill, Chicago, Ill.

Claim.—As an article of manufacture, the battery-zinc of the form described and shown, substantially as specified.

114,006.—GALVANIC BATTERY.—Edward A. Hill, Chicago, Ill.

Claim.—1. The combination of the annular zinc plate B with the metallic hanger C, provided with the hook *c* and set-screw *e* for securing the wire thereto, substantially as specified and shown.

2. The combination of the magazine E and the copper plate or disk D, when the said disk lies horizontally and flat upon the bottom of the battery-cup and the said magazine rests thereon, substantially as and for the purpose specified.

114,007.—HOTEL-ANNUNCIATOR AND FIRE-ALARM.—Edward A. Hill, Chicago, Ill.

Claim.—1. The combination of the pivoted armatures O and tilting blinds or curtains R, when constructed and operating in an annunciator, substantially as and for the purposes specified.

2. The combination of the magnet A and shunt with the special magnets B' C', when so constructed and arranged that the electric current passes alternately through the magnet and shunt automatically, for the purpose of strengthening the currents to the magnets B' C' when the magnet A is shunted.

3. The permanent magnet K', in combination with the shunt circuit and the alarm-bell, when constructed and operating substantially as and for the purposes specified.

4. The combination of the permanent magnet K', the vibrating arms L', E', and A', when constructed and arranged substantially as described, for the purposes of opening and closing the circuit of the shunt.

5. The dial S, provided with transparent figures, in combination with the shifting blind, as and for the purpose described.

6. The combination of an electro-magnetic annunciator and fire-alarm, when said fire-alarm is so constructed and arranged that the action of the heat closes the same circuit by the annunciator, substantially as specified.

114,008.—COMBINED TATTING-SHUTTLE AND CROCHET-NEEDLE.—Constantine Hingher, New Brunswick, N. J.

Claim.—A compound tatting-shuttle and crocheting-needle, the former having a square-socketed bobbin, *c*, and the latter having a square shank, *c*, to fit therein and rotate the said bobbin, as described.

114,009.—HINGE FOR TABLE-LEAVES, &c.—Phillip Hires, Columbus, Ky.

Claim.—1. A hinge for table-leaves provided with a flanged recess and sliding leaf, substantially as and for the purpose specified.

2. In combination with the elements of the above claim, the spring E, arranged to be compressed in the line of motion of the sliding leaf, as shown and described.

114,010.—VARIABLE CUT-OFF FOR ENGINES FOR WATER-WORKS. — Birdsill Holly, Lockport, N. Y.

Claim.—1. The means, substantially as described, for operating the cut-offs of engines by the varying pressure of water in the mains.

2. The lever c^2, when worked by a cylinder, P which communicates with a water-pipe or main in the manner and for the purpose described.

114,011.—BRICK-MACHINE.—David James Hunter, Somerville, Mass.

Claim.—1. The molds, formed as described, the peculiar-shaped cam L, the horizontal plunger, and the vertical gates, when all the said parts are constructed, combined, and arranged together in manner as shown and described.

2. The double-faced cam-table M, formed as described, in combination with the vertical gates and their stems, provided with two sets of guide-rollers, *r r'*, as set forth, the whole being arranged and operating together in manner as shown and described.

3. The arrangement and combination of the peculiar-shaped cam L, the horizontal plunger, the cam-table M, and the vertical gates, substantially as shown and described.

4. The combination and arrangement of the molds, the peculiar-shaped cam L, the horizontal plunger, the cam-table M, and the vertical gates, substantially as shown and described.

5. A steam-induction pipe, in combination with each mold, when so arranged as to introduce a jet of steam directly into the latter after each retraction of its plunger, as and for the purpose set forth.

6. The hereinbefore-described machine for molding and pressing bricks, the same consisting of the hopper A, its orifices *d d'*, and shaft G armed with knives, and segmental wing *c*, molds I I' provided with a horizontal plunger and vertical gates or covers *h h'*, the said gates being operated by a cam-table, M, and the plunger by a cam, L, the whole being arranged within a suitable frame and operating together as set forth.

114,012.—COFFEE-POT.—Peter H. Inman and Charles B. Withington, Janesville, Wis.

Claim.—The combination, with the vessel A and the percolator B, of the cup D, or a diaphragm, valve F, and tube G, all arranged for operation substantially as specified.

114,013.—DRUM FOR HEATING AND VENTILATING. — Royal Jennings, Shelbyville, Ind.

Claim.—An improved heating and ventilating apparatus, formed by the combination of the drum C, plates or partitions E, interior chambers F, smoke-pipe D, hot-air pipe G, suspended drum H, egress pipe or pipes I, and cold-air pipe J K with each other and with a stove and chimney, substantially as herein shown and described, and for the purpose set forth.

114,014.—PENDULUM-LEVEL AND CLINOMETER.—William Johnson, Edisto Island, S. C.

Claim.—An improved altometer, consisting of two crossed bars, A, a pendulum-pointer, I K, and the arc-plate E, combined with the semi-circular plate F having the diameter *a b* and the semi-circumference M correspondingly graduated, the said parts being constructed and relatively arranged and adjusted as and for the purpose described.

114,015.—CAR-COUPLING.—John W. Jones of Philip De Cateaby, Hereford, Md.

Claim.—The combination of the spring-engaging shoulders *b*, on coupling-bar C, with the coupling-pin B, or an equivalent coupling-shoulder or draw-head A, substantially as described.

114,016. — CHURN-DASHER. — William F. Jones, Easton, Kan.

Claim.—An improved churn-dasher, consisting of the shaft D, transverse pin E, stationary outer wings F, and inner movable wings G, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

114,017.—PAINT.—William N. Jordan, Cambridge, assignor to Charles D. Weld, Boston, Mass.

Claim.—The preparation of paint by the use of rubber solution, as described, compounded with japan, coach-varnish, and dry paint, substantially as described.

114,018.—COOKING-STOVE.—John H. Keyser, New York, N. Y.

Claim.—1. The body of the stove, composed of the sections A *b b* G and frames D, constructed, combined, and secured together substantially as described.

2. The fireless oven C, mounted upon but not secured permanently to the body of the stove beneath, and constructed with an opening through its top covered by means of a frame, J, bridge *k*, and pot-hole covers *j j*, substantially as described.

3. The construction of the removable single wall fireless oven C with an opening through its bottom, an opening through its top, and an opening through its side, in combination with a stove constructed substantially as described.

114,019. — MACHINE FOR MAKING STRAP-HINGES.—William J. Lewis, Pittsburg, Pa.

Claim.—1. The combination of rotating spindle *h*, mandrel *a*, stem and block *a'* and *a''*, the anvil *m*, and mechanism for reciprocating said stem, substantially as and for the purposes set forth.

2. The devices of the previous claim, in combination with a stripper, *s*, substantially as described.

3. In combination with the devices set forth in first clause of claim, the shears *s s'*, substantially as and for the purposes set forth.

4. The segmental wheel *n*, slotted, as at *n'*, so as to be capable of a variable length of stroke, in combination with the spindle *h*, arranged substantially as described, for causing the latter to revolve alternately in opposite directions.

114,020.—PRINTING-PRESS.—John Cameron MacDonald, Weddon, and Joseph Calverly, Camberwell, England.

Claim.—1. The expansible mandrel, constructed as set forth of two longitudinal wedge-formed sections, each carrying a journal to support the mandrel.

2. The combination of the longitudinal wedge-formed sections of the mandrel, the wedges working in recesses therein, and the forcing-screws passing through the journals of the mandrel, all these parts being constructed to operate in combination, substantially as hereinbefore set forth.

3. The combination of the mandrel and its supports for the paper-roll, the printing-cylinder, the dampening-rolls, and the water-trough for supplying water for dampening, substantially as before set forth, so that the paper is dampened by the application of water between the paper-roll and the printing-cylinder.

4. The combination of the ink-fount, the series of metal ink-feeding rolls, the gearing which causes these rollers to revolve positively, the endwise-moving metal ink-distributing rollers, the composition inking-rollers, and the type-cylinder, all constructed and operating as set forth.

5. The combination of the gear-wheels revolving in a fixed position, the endwise-moving ink-distributing rollers and their shifting-gear, all these parts being constructed to operate in combination, as set forth.

6. The combination of the two type-cylinders for printing both sides of the sheet of paper, the two impression-cylinders for presenting the opposite sides of the paper in succession to the type-cylinders, and the metal roller for removing the "set-off" received upon the second impression-cylinder from the side of the paper first printed, these members being constructed to operate in combination, as set forth.

7. The combination of the delivering apparatus for the sheets and the table which receives the printed sheets with a hydraulic ram to vary the elevation of the table, these parts being constructed to operate in combination, substantially as hereinbefore set forth.

114,021.—Discharge-Spout for Thrashing, Hulling, and Separating-Machine.—Martin H. Mansfield, Ashland, Ohio.

Claim.—1. The fan J, constructed substantially as described, in combination with the discharge-spout of a separating-machine, and arranged to operate the discharge-spout of a separating-machine, substantially as and for the purpose described.

2. A discharge-spout constructed with a blast-fan and laterally-vibrating screen, substantially as described.

3. The combination and arrangement of the laterally-movable screen S with the discharge-spout F, substantially as described.

4. The combination of the secondary laterally-movable spout G and the primary spout F, arranged to operate substantially as described.

114,022.—Paddle-Wheel.—Ebenezer Mathers, Harrisville, W. Va.

Claim.—1. The rings A, made in sections and fitted together for adjustment, as shown and described, for the purpose of increasing or diminishing the diameter of the circle described within them.

2. The buckets, arranged as specified, for adjustment toward or from the center of the wheel.

114,023.—Grain-Separator.—Joseph Miller, Detroit, Mich.

Claim.—The construction and arrangement of the frame A, hoppers C, blast-tube B, tapers *a b*, valves *c c'*, hoppers D E F and D', E', and F', and the wings *d d'*, as and for the purpose set forth.

114,024.—Furnace for Steam-Boilers.—Thomas F. Morrison, Bryan, Ohio, assignor to Morrison & Fay, same place.

Claim.—1. The pipes C, E, and F, provided with caps G, when constructed and arranged for the purposes described, in combination with any suitable fan or blower, as set forth.

2. In combination with said pipes C, E, and F, provided with caps G, the steam-pipe D, for the purposes set forth.

3. In combination with pipes C, E, and F, provided with caps G, the grate-bars H, when arranged as described.

114,025.—Method of Making Carriage-Steps.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—The herein-described process for forming carriage-step pads C with their shank D from one and the same piece of metal.

114,026.—Die for Forming Felly-Plates.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—The dies A C, constructed as herein described, for forging felly-plates.

114,027. — Adjustable Spirit-Level.—Joab Morse and Franklin B. Abel, Philadelphia, Pa.

Claim.—1. The combination, with the bottle-box and adjusting-screw, of a plate or shield which operates to hold the said screw in position, as described.

2. The combination, with the bottle-box and adjusting-screw, of a plate or shield which operates to hold the said screw in position, and is provided with an aperture through which the said screw may be turned.

3. The combination of the plate F, wheel E, spindle D, and bubble-glass B, operating as shown and described.

114,028. — King-Bolt for Railway-Car Truck.—Samuel W. Murray and Benjamin P. Lamason, Milton, Pa.

Claim.—The saddle D, forming a truss-bridge for the braces D, and having a central opening *i* for the passage of the king-bolt, and constructed with a stirrup, K, for the latter to rest upon, substantially as shown and described, and for the purpose set forth.

114,029.—Wire Fence.—Zebedee Nicholson, Haddonfield, N. J.

Claim.—1. The arrangement of the wires A and B, substantially as and for the purposes shown and described.

2. In combination with the wires A B, arranged as shown, the stiffener D, substantially as and for the purposes shown and described.

114,030. — Washing-Machine.—James M. Noble, Delhi, Iowa.

Claim.—The cylindrical rocking suds-box B, provided with the perforated false bottom D, and with the hopper C having the inwardly-projecting sides *c*, as specified.

114,031. — Paper-Feeding Machine.—Oliver Norelius, Minneapolis, Minn.

Claim.—1. The combination of the carriers C with the yielding inclines G, constructed and operating substantially as described, and for the purpose set forth.

2. The combination of the carriers C, clamps J, gauges H M, and rest-bar I, all arranged and operating substantially as described, for the purpose specified.

3. The combination of the sliding clamps J, slides K, catches *g*, and springs *h* for clamping and moving the sheet to the gauge M, substantially as described.

114,032. — Newspaper-Addressing Machine.—Patrick O'Connor, Youngstown, Ohio.

Claim.—The belt A, constructed of stencil-plates, which are locked together in the particular manner shown and described.

114,033.—Gang-Plow.—Joseph Oler, Eagle Point, Ill.

Claim.—1. In combination with the laterally-adjustable plow-beams, the laterally-adjustable colters, substantially as set forth.

2. The combination of the platform C, the movable tongue E, the double or reversible ratchet-standard F^2, sector-lever F^1, and the tongue-loops *F F*, substantially as set forth.

3. The combination, in a gang-plow, of yoke N, colter-block m^1, forked standard *m*, and colter M.

114,034.—Scaffolding.—James D. Pettit, Rochester, Ind.

Claim.—The slotted legs B E G, movable in the slots D D, and the slotted sliding pieces which form top A, combined as described with adjustable braces C for the purpose of adjusting the height by a greater or lesser obliquity of the legs, and the length by drawing out the top-pieces.

114,035. — Hot-Air Furnace.—John L. Pfau, Jr., Quincy, Ill.

Claim.—1. The radiator G, when provided with the diaphragm J having an opening in the upper part thereof, closed by a valve, K, in connection with a stove or furnace, as and for the purpose set forth.

2. The air-duct *d*, ring *c*, and inclined perforated hollow back L, arranged and operating substantially as described, for the purpose specified.

3. The construction and arrangement of the ash-pit A, fire-pot C, front E, combustion-chamber D, cap D^1, exit-pipe H, duct *d*, hollow ring *c*, and back L, with or without the radiator G, substantially as and for the purposes herein shown and set forth.

114,036.—Curtain-Fixture.—Phineas W. Phillips, Salem, Mass., assignor to James F. Almy, same place.

Claim.—A spring shade-roller having an automatic clutch, arranged and operating in the manner and for the purpose substantially as set forth and shown.

114,037. — Shutter-Fastener.—John D. Phyfe and John D. Perrine, New York, N. Y.

Claim.— As an article of manufacture, the shutter-fastener composed of the longitudinal sectional parts, one carrying the face-plate, as shown, and the two secured by a screw-nut, the two hooks having projections working in recesses in the sides of the sectional case, and hence not requiring rivets, all as and for the purpose set forth.

114,038.—Wood Pavement.—Albert Potts, Philadelphia, Pa.

Claim.—A wooden pavement composed of cylindrical upright blocks of horizontal stripe, the blocks being forked to straddle the stripe, as set forth.

114,039.—Truss-Bridge.—T. Willis Pratt, Boston, Mass.

Claim.—1. The peculiar method herein shown of connecting the strut and tension-braces C D with the upper and lower "chords" A B in the construction of triangular truss-bridges, substantially in the manner and for the purpose described.

2. The combination of the plates E G, formed as described and shown, strut and tension-braces C D, and "chords" A B, the whole constructed and operating as and for the purpose set forth.

114,040. — Cultivator. — Isaac N. Pyle, Pleasant Mills, Ind.

Claim.—The bracket K, having the form and applied to the beams A, as shown, and the fender J and spring L arranged therewith as specified, whereby the shank of said fender has a double bearing and a vertical play in the bracket, for the purpose set forth.

114,041. — Potato-Digger.—Squire Ransom, Kingsville, Ohio.

Claim.—The revolving prongs G, gearing D E connected with the frame, in combination with the adjustable pole H, stay I, catch J, and lever O, substantially as and for the purpose set forth.

114,042. — Apparatus for Making Sulphuric Acid. — St. Julien Ravenel, Charleston, S. C.

Claim.—The apparatus for making sulphuric acid, constructed and operating substantially as herein described and represented.

114,043.—Saw-Mill.—John Richards, Philadelphia, Pa.

Claim.—1. The cylindrical flanged sleeve *m*, in combination with the frame *a* and lower wheel *c* of a band-sawing machine, arranged substantially as hereinbefore specified.

2. The pendulous pivoted piece S, in combination with the adjusting-screw *o* and the upper wheel of a band-sawing machine, when arranged and operating as herein described.

3. The stud *i*, provided with a groove upon its under side for the reception of a fibrous material, and oil-hole *k*, the whole being constructed as herein shown and described.

114,044, antedated April 12, 1871.—Plow Mold-Board.—Loman P. Rider, Pittsburg, Pa., assignor to himself and James Marshall, same place.

Claim.—The mold-board, constructed with the grade of the board in a true inclined plane extending from the point to the extreme end of the wing, and with the greatest height of said plane equal to the width of the plow, as and for the purpose described.

114,045.—Fire-Place.—Patrick M. Roche, Cleveland, Ohio.

Claim.—An arch, A, and a back, B, having openings C E E provided with doors D F F, constructed and operating substantially as described, for the purpose specified.

114,046.—Heating-Stove.—Peter Rohdin and Charles Ostergren, Chicago, Ill.

Claim.—The cylindrical fire-box A, contracted at its upper end and provided with the openings E F, when arranged eccentrically within the drum D open at both ends, substantially as and for the purposes set forth.

114,047.—Seed-Planter.—Charles R. Sargent, Newburyport, Mass.

Claim.—The seed-planter hereinbefore described, the same consisting of the pioneer or auxiliary furrow-opener C, the main furrow-opener B, the seed-wheel K, the frame or conduit A, the hopper L, the adjustable coverers O O, and the pressing-roller G, all constructed, combined, and arranged substantially in manner, and provided with wheels so as to operate, as and for the purpose set forth.

114,048. — Machine for Oiling Wool, &c. — Charles G. Sargent, Westford, Mass.

Claim.—1. The vibrating oil-supplying bucket I, constructed as described, and operating in a machine for oiling wool and other fibrous materials, substantially as and for the purpose herein specified.

2. The adjustable blade R applied to the vibratory bucket I for graduating the amount of oil taken up by the bucket, substantially as herein set forth.

3. The combination of the vibratory bucket I and revolving brush J, when constructed, arranged, and operating together, substantially in the manner and for the purpose herein specified.

4. The combination of the vibratory bucket I with its adjustable blade R, the revolving brush J, and reservoir E, operating together in the manner and for the purpose herein set forth.

114,049. — Water-Elevator.—Parker W. Sawyer, Gray, Me.

Claim.—The combination of the carriage *d*, having single wheels *e*, pulleys *l*, hook-lever *r*, rod *u*, pivoted piece *v*, tackle-block *t*, and line *h*, with the catch *s*, track *c*, pulley *j*, and wheel *k*, and receptacle *q p*, as herein set forth.

114,050. — Churn. — Henri Schultdrees, Brookville, Ind.

Claim.—1. The combination, with the slotted and grooved end pieces of the case and the beater-shaft, of the slides F and H, substantially as specified.

2. The combination, with the slides H and finger-pieces I thereon, of the catch-levers P and pins Q, substantially as specified.

3. The arrangement of the vertically-adjustable beater-shaft D, pinion Z, driving-wheel Z^1, and extension Z^2 of the beater-shaft, all substantially as specified.

4. The end pieces of the cover, having the mortises X arranged for receiving the ends of the slides F when raised, all substantially as specified.

114,051. — Die for Forging Carriage-Clips. — Moses Seward, New Haven, Conn.

Claim.—The dies constructed as herein described for forging carriage-clips.

114,052, antedated April 22, 1871.—Method of Reducing Pressure in Steam-Boilers. — George Sewell, Brooklyn, N. Y.

Claim.—The method of reducing pressure in a

steam-boiler, consisting of the introduction of cold water into the steam-space, substantially as set forth.

114,053.—CARPET-STRETCHER.—Edward P. Shaffer, Rochester, N. Y.

Claim.—1. The rocking tenter-head a, in combination with the link d and hand-lever B, operating substantially as described.

2. In combination with a rocking tenter-head a, a device or devices for retaining the teeth of the former in an inclined position during the first part of the stroke of the tenter, for the purposes set forth.

114,054. — WAGON-BRAKE. — Richard C. Shockley, Fayette, Wis.

Claim.—The brake-beam D, staples E, rods G G, link c, and double-tree F, combined and arranged with the bounds, reach, and rear wheels of a vehicle to operate as herein shown and described.

114,055. — HEATING-STOVE. — Absalom S. Shonts, Quincy, Ill.

Claim.—1. The diaphragm J, sliding damper-case L, damper L', and rod *f*, arranged and operating substantially as and for the purpose set forth.

2. The construction and arrangement of the ash-pit A, fire-pot B, magazine C, rim-plate G, plate I, diaphragm J, damper-case L, damper L', rod *f*, back-flue-chamber *b'*, double base E, flues *d d' e e'*, and smoke-pipe H, substantially as described, for the purpose specified.

114,056. — COTTON-PRESS.—Franklin Simmons, New Orleans, La.

Claim.—1. In the cotton-press herein described the bevel-wheel *t*, nut *t'*, ratchet *y*, when cast in one piece and combined with the screw *m* and pawl *u*, all being constructed and arranged to operate as shown, for the purpose set forth.

2. The arrangement in the press herein described of the frame A, screw *m*, bevel-wheel *t*, pinion *w*, nut *t'*, ratchet *y*, pawl *u*, collar *s*, platform *c*, and the rollers *d*, when all are constructed and operated substantially as shown and specified.

114,057.—WIRE FENCE.—Arnold C. Sisson, Factoryville, Pa.

Claim.—The arrangement of the perforated iron post A, wires B, top rail F, and socket D with the angular iron brace C attached at its upper end *c*, its lower end entering the socket D and serving as a wedge to secure the post, and its angle forming a bearing or support, substantially as set forth.

114,058. — CARRIAGE-WHEEL. — James Y. Sitton, Due West, S. C.

Claim.—The metal socketed ring D, having the flanges E applied to the spoke, felly, and tire, substantially as specified.

114,059.—FALLER FOR SPINNING-MULES.—Joseph Smith, Preston, England, assignor to Thomas Rawsthorne, same place.

Claim.—The under faller or sickle, provided with two or more wires or other surfaces, arranged as herein described.

114,060. — PASSENGER-REGISTER. — Moritz Springwotet, Louisville, Ky.

Claim.—1. The movable notched plate G, combined, as described, with the pins *j j* on the face of the pinions to lock the treadle, as set forth.

2. The lever I, combined, as described, with the locking and lock-recording mechanisms for their simultaneous operation, as set forth.

114,061.—FURNITURE-CASTER. — Augustus G. Stevens, Manchester, N. H.

Claim.—The hook K and the incline and stop forming a bayonet-fastening for the hook when said incline and stop are below the socket-flange or collar F and upon the exterior of the tubular shank, substantially as specified.

114,062.—ANIMAL-TRAP. — John N. Stow and Robert Loop, Camden, Ohio.

Claim.—1. The notched rod H, latch I, spring J, pedal K, rock-shaft L, wire *a*, arm *b*, and bell-crank *c*, in connection with the sliding chamber G, as and for the purpose set forth.

2. In combination with the above-named parts the box A divided by the partition B, the trap-gate C, the standard D, scale-beam E, and wire F, when arranged and operating in the manner and for the purpose set forth.

114,063. — APPARATUS FOR COOLING AND MIXING SOAP.—James D. Sturges, Chicago, Ill.

Claim.—1. The apparatus for cooling, conveying, and mixing soap, consisting of a screw or spirally-flanged shaft inclosed in a hollow-tube, into which the soap may be poured hot, and from which it escapes, being forced out by the screw, as specified and shown.

2. The combination of the tube B, discharge D, and spirally-flanged shaft E F, for the purposes and substantially as described and shown.

114,064.—DRAWING-FRAME.—Gustavus E. Taft, Northbridge, Mass., assignor to "Whitin Machine Works," same place.

Claim.—The mechanism herein described, consisting of the combination of the heart A and rod B, the slotted part F, the adjustable pin G, the cross-bar H pivoted in the center, the arms J and K, the rods L and M, the adjustable sliver-guides N and O, substantially as described.

114,065.—COMBINED HAY-RAKE AND TEDDER.—Frederick A. Thayer, Sheldonville, Mass.

Claim.—1. The hinged frame D, vertically adjustable between the wheels E E, in combination with the hinged apron *d'*, as and for the purpose described.

2. The endless rake F G H, the pivoted swinging frame X, the hinged frame D, and the pivoted apron *d'*, all combined, as described, in a hay-rake and tedder.

3. The arms N and traveling rake-teeth F G combined with the revolving rake-teeth P, when all are arranged to operate in different vertical planes, as described.

4. The curved arms N to receive the hay, the revolving rake P to remove it, the receptacle T to contain it, and the rotary clearer U to throw it off in sections of a windrow, all combined to operate as described.

114,066.—SEED-PLANTER.—Charles J. Turner and Marcellous L. Wilkinson, Olean, N. Y.

Claim.—1. The clutch mechanism as arranged for operating the dropping-cylinder E, the lever *d*, and incline *h*, in combination with the movable barrow-handles I I, by which the clutch is thrown and held out of gear, substantially as shown and described.

2. The movable handles I I as connected together, with their supports K K, as arranged, when combined with a hand-barrow seed-planter, for operating in the manner substantially as and for the purposes herein set forth.

114,067.—SHOE.—Charles E. Tyler, Georgetown, Mass.

Claim.—1. The improved brogan or heavy high-quartered shoe, having its "upper" formed of a single piece of leather, shaped and connected in manner as described, the said upper having the front or toe portion thereof crimped in order to give the desired curve or contour, as set forth.

2. An upper formed of a single piece of heavy leather, suitable for the manufacture of the class of coarse high-quartered shoes known as brogans or plow-shoes, when the front or toe portion of said upper is crimped, as and for the purpose specified.

114,068. — MACHINE FOR PUNCHING AND STAMPING METAL. — Isaac Van Hagen, Chicago, Ill.

Claim.—1. The blank-holder J, made self-adjusting and self-yielding by journals hung in boxes L, which are slotted at *n n* to have a longitudinal movement, as and for the purpose set forth.

2. The blank-holder J, constructed as described, and combined with levers C or their equivalents, placed above the level of bed of press, substantially as and for the purpose set forth.

3. The combination of the blank-holder J with levers C provided with slotted boxes L, with punch N, cam T, rods Q, springs *f*, and yoke R, substantially as described and shown.

114,069. — RECOLORING FABRICS. — John Murray Wallace, New York N. Y., assignor to Bernhard Weber, same place.

Claim.—A process of recoloring faded fabrics by applying thereto an alcoholic aniline coloring solution, and infixing the same by the mordant immediately thereafter, while the fabric is still damp and on the frame, for the purpose of preventing injury to the fabric and the substance covered, by the subsequent use of vats or steam.

114,070. — GRATER. — Henry Clay White, Philadelphia, Pa., assignor to George Booth & Co., same place.

Claim.—The grater herein described, composed of side pieces A A', with longitudinal grooves *a a*, cross-pieces B and C, and grater-plate D, the whole arranged and combined substantially as set forth.

114,071.—FRICTION-BAND AND STOP FOR SEWING-MACHINES.—Francis E. Whiteside, Oxford, Pa.

Claim.—1. An elastic friction-band, G, combined with the periphery of the upper or lower band-wheel or pulley of a sewing-machine, and with the cord or band passing over said wheel, substantially in the manner and for the purpose herein set forth.

2. The forked look-bar K, provided with one or more clamping-screws, *t t*, to embrace and lock the pulley operating the sewing mechanism of a sewing-machine, and combined with said pulley and with the table or bed-plate of the machine, substantially in the manner and for the purpose herein set forth.

114,072.—RUNNING-GEAR FOR CARRIAGES.—Eli Wigle, Bay City, Mich.

Claim.—1. The combination of the separate axle-arms A provided with collars *a* and *b*, the boxes B and C, and the hub K provided with sand-guards E, all constructed and arranged substantially as and for the purpose specified.

2. The combination of the separate axle-arms A, the boxes B and C, and the transverse bar G, all constructed and arranged substantially as described and shown, for the purpose set forth.

114,073. — STAVE-EQUALIZER. — Hiram S. Wiley, Madison, Ind.

Claim.—In combination with the within-described self-feeding and equalising device and gauge B, the inclined ways *g g* for clearing the staves from the feed-belts, when arranged substantially as shown, and for the purposes set forth.

114,074.—SPINNING-MACHINE.—Samuel M. Williams and Henry M. Williams, Coldwater, Mich.

Claim.—1. The spindles O provided with disks or flanges T, the peripheries of which are provided with hooks or projections *l*, in combination with the fliers or guides U, when constructed, arranged, and operating substantially as and for the purpose set forth.

2. The combination of the spindles O provided with the disks T and fliers U, constructed and arranged as described, with the feed-rollers X X', the shafts N N' K K', the pulleys M L, the belt *e*, and the tubes V, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

114,075.—FIRE-PLACE.—Jonathan E. Wood, Webster, Ohio.

Claim.—The clay tiles A B B C, when made in the form and fitted together as represented, forming a fire-place having an inclined top and back and straight sides, as and for the purpose herein described.

114,076. — CORN-HARVESTER. — Alvin N. Woodard, Fentonville, Mich.

Claim.—The combination and arrangement of the V-shaped knives L, rods J, connecting-rods K, shafts G, cranked wheels I, brackets F, pinions H, and spur-wheels C, substantially as and for the purpose set forth.

114,077. — DIVIDING-WHEEL OF WEFT-THREAD KNITTING-MACHINES.—Horace Woodman, Saco, Me.

Claim.—The dividing-wheel of a weft-thread knitting-machine, having the teeth made adjustable to vary the order of their action on the needles, substantially as specified.

114,078.—VALVE AND STEAM-CHEST FOR ENGINES. — Peter N. Woods, Fairfield, Iowa.

Claim.—The aligned conical valves A C, combined, as described, with the four-ported steam-chests B D, when all are constructed and arranged to operate in the manner described.

114,079.—GAIN-CUTTER.—E. H. Woodsum, Harrison, Me., assignor to himself and F. H. Whitman, same place.

Claim.—Combination of cutter-heads, adjustable knives, and platform, substantially as herein set forth, to prepare Woodsum's improved railroad sleeper, and for similar uses.

114,080.—GAVEL-FORK. — Baxter Wright and William C. Park, Cardiff, N. Y.

Claim.—In connection with the double-headed fork A B *b* and handle F, the socket C, with ears *d d* and jaws *e e*, as and for the purpose described.

114,081. — BREECH-LOADING FIRE-ARM.—Frederick J. Abbey and James H. Foster, Chicago, Ill.

Claim.—1. The bolts C C moving laterally to and from and within a lateral perforation or opening *e* of the projection J, substantially as and for the purpose described.

2. The projection J of the barrel with its lateral perforation *e*, in combination with bolts C C, substantially as and for the purpose described.

3. The slide D provided with V-shaped slot for operating the levers B B, substantially as and for the purpose described.

4. In combination, the bolts C C, levers B B, slide D, and lever E, the whole arranged and operating substantially as and for the purpose described.

114,082.—SUPPORT FOR CAMERA-BOXES.—Orin Ackerman, Carthage, N. Y.

Claim.—In combination with the plate E, the legs G, cross-bar *n*, socket *o*, bar *q*, and set-screw *p*, as explained.

114,083. — VACUUM-ENGINE. — Henry W. Adams, Philadelphia, Pa.

Claim.—Utilizing and transmitting motive pow-

or by causing jets of fluid or liquid under pressure to create, in the manner described, a partial vacuum on one side of a piston, or its equivalent, while the opposite side is exposed to the pressure of atmospheric air.

114,084.—PASSENGER-RECORDER.—George H. Aldrich, New York, N. Y.

Claim.—1. The independent alternately-acting spring steps, in combination with a feed-motion carrying a recording-fillet and the independent recording-punches, substantially as herein described.

2. In combination with the above, the reciprocating locking-lever, or its equivalent, arranged so as to lock and securely hold in a fixed position either one of the independent steps by the action of the other step.

114,085.—PLANE-IRON.—Ira Almy and Sereno A. Drake, Covert, N. Y.

Claim.—The herein-described plane-iron, consisting of the cap A and the reversible bit B, substantially as shown and described.

114,086.—PAINT-BRUSH.—John Ames, Jr., Lansingburg, N. Y., assignor to John Ames, same place.

Claim.—The combination of an interior brush, D E F, with the exterior or main brush A B C, substantially as herein shown and described, and for the purpose set forth.

114,087. — PAPER-FEEDING MACHINE.—Ezra R. Andrews, Robert B. Randall, and William H. Clague, Rochester, N. Y.

Claim—1. In combination with the needle-supporting bars *m n*, the elevating cam *p*, arranged to be automatically operated at each end of the movement of the feeder, for the purposes set forth.

2. In combination with the reciprocating feeder A provided with lifting-cam *p*, the fixed spiral incline K, arranged to operate substantially as set forth.

3. In combination with the reciprocating feeder A provided with a lifting-cam, *p*, the tripping-lever *r* arranged to be operated substantially as set forth.

4. The automatic switches *u*, in combination with the reciprocating feeder A, whereby the latter is allowed to drop upon the "bank" with sufficient force to operate the tripping-lever *r*, substantially as set forth.

114,088. — POTATO-DIGGER.—Sherman E. Anthony, Stillwater, N. Y.

Claim.—1. The combination of the tined disk *t u*, shaft A, journal-bearings *i k*, bevel-pinion *n*, bevel-gear E, axle B, and frame A *f*, when all said parts are arranged as shown and described.

2. The disk *t*, provided with the teeth *u*, and combined with the shaft A and frame F in the manner described, and for the purpose of enabling the shaft A to be set at an angle with the side pieces of the frame.

114,089.—COOPER'S CROZE.—Joseph F. Applegate and Caspar Feiock, New Albany, Ind.

Claim.—1. The head-block B, with cross-bar C, in combination with screw D, wooden block *d*, and bit E, all constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the head-block B with cross-bar C, screw D, wooden block *d*, bit E, raising-block *b*, and plate A, all constructed and arranged substantially as and for the purposes herein set forth.

114,090.—FLUX FOR REFINING IRON AND STEEL.—Edward T. Atwood, Minerva, Ohio.

Claim.—A compound flux for refining iron and steel, consisting of silver ore, borax, and manganese mixed together and treated in the manner herein set forth, for the purpose specified.

114,091. — GLOVE.—Ezra Wilmoth Avery and Adaline Augusta Avery, Plymouth, N. H., assignors to A. W. Avery & Co., same place.

Claim.—1. A glove or a mitten having its thumb portion and palm portion formed in one piece with the body, and shaped, folded, and joined, and arranged, and combined, all essentially as described and represented.

2. A glove as composed of the parts made as shown in figs. 5, 6, 9, and 10, folded, and arranged, and joined, thereby having the thumb in one piece with the body, or that portion thereof from which it may be immediately projected.

114,092. — APPARATUS FOR ELEVATING WATER. — Jared A. Ayres, Hartford, Conn.

Claim.—1. The automatic valve or cock C, constructed so that in one position it opens communication between the compressed air and one of the chambers B B′, and allows the air in the other chamber to escape through one of the holes *i i′*, and in the other position of the cock the operation is reversed, substantially as described.

2. The devices *j k* and *m n* for operating the valve C at the end of any number of strokes desired, substantially as described.

3. The chambers B B′ connected with the automatic valve C, substantially as described.

114,093. — WASHING-MACHINE.—Junius S. Bulsly, North Bend, Ky.

Claim.—The combination of the tub *a*, partition *a*, furnace *b*, false bottom *c*, rollers *d*, and reciprocating frame *f*, arranged as specified.

114,094.—HARVESTER-RAKE.—John Barnes, Rockford, Ill.

Claim.—1. The combination of an intermittently-rotating rising-and-falling rake descending into the cut grain lying upon the platform, with intermittently-moving gearing to rotate, raise, and lower the rake at proper intervals, these members being constructed and operating substantially as hereinbefore set forth.

2. The combination of an intermittently-rotating rising-and-falling rake, descending into the cut grain lying upon the platform, intermittently-rotating reel-arms revolving synchronously with the rake, but with varying speed relatively thereto, and connecting gearing to produce these movements, these members being constructed and operating substantially as hereinbefore set forth.

3. The combination of two independent series of intermittently-rotating rising-and-falling reel-arms with an intermittently-revolving rising-and-falling rake, revolving uniformly with one set of reel-arms, but with a varying speed relatively to the other; all these members being constructed and operating substantially as hereinbefore set forth.

4. The combination of a stationary bent rake-post, two gear-rings revolving around said post, but at variable speeds relatively to each other, and each carrying independent reel-arms and links connecting the reel-arms with the bent arm of the rake-post; all these members being constructed and operating substantially as hereinbefore set forth.

5. The combination of the driving-pinion G, the toothed wheels *i i′*, the gear-rings D D′, their studs *h h′*, the rake and its segment-gear on one gear-ring, and the collar and its segment-gear on the other; all these parts being constructed and co-operating as hereinbefore set forth.

6. The combination with the rake-arm of the beater-arm F⁴, pivoted tangentially to the lower ring on an arm overhanging the upper ring, as and for the purpose described.

7. The combination of the beater-arm F⁴ pivoted on the outer edge of the upper ring, with the arm *l* pivoted to the lower ring nearer the center, as and for the purpose set forth.

114,095.—KILN.—Arthur Batchelar, Brockham, Great Britain.

Claim.—The arrangement and combination, in a series of kilns, of the heat-flues E, J, and K with the main flues D, connecting-chambers F, and the dampers G, H, K′, and M, substantially in the manner and for the purposes hereinbefore set forth and described.

114,096.—ADJUSTABLE BEVEL.—Elbert A. Bell, Meriden, Conn.

Claim.—The method herein described of holding the adjustable blade of a bevel at the required angle, consisting of the cam-rod C, in combination with the washer or binder F, operating upon the blade in the manner and for the purpose substantially as herein specified.

114,097.—GRAIN-SEPARATOR.—Daniel Best, Yuba, Cal.

Claim.—1. The grain-separator herein described, consisting principally of the hoppers C and E, elevators D and T, curved screens G and G′, screen H, fans V, spouts R and S, and the riddles I, all constructed and arranged to operate substantially as and for the purpose set forth.

2. The combination and arrangement of the double set of curved screens G and G′, fans V V, and the riddles I, all constructed as described, and operating substantially as and for the purpose specified.

114,098. — POLISHING-MACHINE. — Samuel Bevan, Philadelphia, Pa., assignor to "Henry Disston & Son," same place.

Claim.—The combination, with the revolving polishing-wheel C, of a yielding roller, R, arranged below the wheel at one side of a vertical line drawn through the axis of the latter, so as to form the fulcrum of a board carrying the plate to be polished, as set forth.

114,099, antedated April 13, 1871.—TICKET-CASE FOR RAILROAD STATIONS.—John F. Birchard, Milwaukee, Wis.

Claim.—A coupon-ticket case perpendicular in form, with shelves E E wide at the top and narrow at the bottom, arranged substantially as described.

114,100.—WAGON-BRAKE.—Simeon R. Bolton, Prescott, assignor to himself, Hannibal Felt, of said Prescott, and Pascal P. Child, St. Louis, Mo.

Claim.—1. The combination of the brake-bar N, link or links O, and rest-block P, substantially as and for the purposes set forth.

2. The combination and arrangement of the shoe Q, connecting-links R R′, and bar N, constructed and adapted to operate as herein specified.

3. The lever I, in combination with the plurality of perforations A A in the tongue, and with the connecting-plate J provided with a plurality of perforations, *j j*, substantially as and for the purposes set forth.

114,101.—GATE.—Robert T. Bowne, Fallston, Md.

Claim.—1. In connection with the gate B the movable disk E, bearing the lower pintle *d*, arranged in combination with pulleys G on the end of crank-rods H, and tense cords or wires J, to move through more than one quarter revolution to carry the pintle past the center F, substantially as and for the purpose set forth.

2. In combination with an automatic gate the cams K, substantially as and for the purpose set forth.

3. In combination with an automatic gate the fixed fulcrums L, as and for the purpose set forth.

114,102.—VENTILATOR FOR RAILROAD CARS AND DWELLINGS. — John Bradley, New York, N. Y., assignor to himself and Frank I. Kimball, Ramsey's, N. J.

Claim.—1. The adjustable inner sash C, provided with the duplicate pair of jointed folding arms *d d*, in combination with the sash B, arranged and operating as and for the purposes set forth.

2. In combination with the adjustable inner sash C, provided with the pairs of jointed arms *d d*, the projecting way or track *f f*, substantially as set forth.

3. In combination with the adjustable inner sash C, the hood or guard H when applied to railway cars or steam-boats, substantially as set forth.

4. In combination with the hood H, the flange or gutter *g*, for use on railway cars and vessels, substantially as set forth.

114,103.—BUCKWHEAT-REFINER. — Daniel D. Brewster, West Laurens, N. Y.

Claim.—1. The construction and arrangement, as heretofore described, of the sieve B′, chutes G¹ G, in combination with the fan-box H, fan H¹, screens I I′, and plates C C′, as and for the purpose set forth.

2. The combined arrangement of the shafts F F¹, plates C C′, sieve B′, bevel-gearing F¹ F² H² H³, fan H¹, chutes G G¹, rollers *g¹ f²*, belt *g*, and screens I I′, as and for the purpose specified.

114,104.—LIME-OVEN.—August Califf, Danville, Ill.

Claim.—In the lime-kiln herein described, the combination of the outer wall D, the fire-brick wall A, the backing *c*, of common brick, and the sand-layer E, all arranged in the manner and for the purpose specified.

114,105.—PRINTING-PRESS.—Andrew Campbell, Brooklyn, N. Y.

Claim.—The means herein described, or their equivalent, for automatically applying pressure to the sheet upon the feed-board to hold the same during the interval of time between the lifting of the sheet-guides or the withdrawal of the register-points and the taking hold of the gripers, so as to insure its proper delivery to the latter, substantially as hereinbefore set forth.

114,106.—PRINTING-PRESS.—Andrew Campbell, Brooklyn, N. Y.

Claim.—The arrangement of a rock-shaft and weighted arm or arms above the plane of the feed-table in connection with means for automatically operating the same, substantially as and for the purpose hereinbefore set forth.

114,107.—BURGLAR-PROOF SAFE.—John W. Campbell, Sr., New York, N. Y.

Claim.—1. In combination with a safe, a lock-frame, A, having an open lower end, and which communicates with the interior of the safe by suitable passages formed in the door, substantially as and for the purpose set forth.

2. In combination with a safe, a lock-frame, A, having an open lower end communicating by suitable passages with the interior of the safe and a pan, B, containing water, substantially as and for the purpose set forth.

114,108.—KEY-TAG. — Charles L. Carter, Washington, D. C.

Claim.—A key-tag, constructed of two or more annular or serrated pieces, *a b*, arranged at an angle toward each other, substantially as and for the purpose herein described.

114,109.—APPARATUS FOR THE MANUFACTURE OF BESSEMER STEEL.—Henry Chisholm, Cleveland, Ohio.

Claim.—Forming or making the joint or joints of steel and other like articles of graphite and fire-

clay or ganister, either together or combined with other material or materials.

114,110.—Pen-and-Pencil Case.—James M. Clark, Jersey City, N. J.

Claim.—The pen-case tubes r and s, united at e at one end, and the tube r, closed by the plate x, at the other end, in combination with the ever-pointed pencil-case b and head d, when the latter is provided with the pin 2 in the slot of the tube r, as and for the purposes set forth.

114,111.—Mechanical Movement.—John Corley, near Coalfield, Kan.

Claim.—1. The method of multiplying motion or speed in a machine or machinery by means of sets of links, connected and operating together substantially as described.

2. The device herein described for multiplying motion or speed, consisting of the links a b, bearing A, and wrist g, with the bearing B, wrist c, links d e, and stop, substantially as set forth.

3. The mechanical movement herein described, having the three joints of the links arranged in a line and so operating that when one set of links has come to this line in its movements the central joint of the opposite set, when more than one is used, will be at its furthest point from said line, as set forth.

114,112.—Bed-Spring.—Delos V. Crandall, Chicago, Ill.

Claim.—Coiled bed-springs, secured to slats or rails by means of the metal plate B and one or more screws or rivets, substantially as described, for the purpose specified.

114,113.—Lamp-Chimney.—Thomas A. Davies, New York, N. Y.

Claim.—As a new and improved article of manufacture the lamp-chimney or locomotive headlights, herein described, provided on one side with colored bands, as and for the purpose specified.

114,114.—Silk and Thread-Measuring Apparatus.—Lucius Dimock, Leeds, Mass.

Claim.—The arrangement of the friction driving-wheel B, the friction-pulley C adjustable in relation to said wheel, the spool-spindles e and f, the measuring-wheel G, and registering-disks or wheels H and I, together with their pointer or pointers, and mechanism by which motion is communicated from the measuring-wheel, all as shown and described.

114,115.—Forge-Bonnet.—Walter Dunkerly, Woonsocket, R. I.

Claim.—1. The bonnet C, constructed substantially as described.

2. Jointly, the bonnet C and base rim A, hinged together, substantially as specified.

114,116.—Double-Tree.—Milton Durnell and Wesley Milner, Leesburg, Ohio.

Claim.—The slotted elliptic spring d and metal plate g, in combination with spiral spring e, draft-hook b, and double-tree A, all arranged as described, for the purpose set forth.

114,117.—Spark-Arrester.—William W. Elliott, Elliott's Mills, Miss.

Claim.—The improved spark-arrester, consisting of the hinged box A and apertured flange h, arranged with the tube f, flues c c, and smoke-stack e, as herein shown and described, to operate as set forth.

114,118.—Weather-Strip.—Lucius H. Ellsworth, William E. Wilcox, and Samuel Seabury, Peoria, Ill.

Claim.—The combination and arrangement of elbow D, links d d d d, rod A provided with head k, strip C provided with rubber l, spiral spring f, plate e, and recess i made in the rabbet of jamb but not extending out to the edge thereof, substantially in the manner and for the purpose as herein shown and set forth.

114,119.—Pocket Fire-Escape.—George A. England, Ripon, Wis.

Claim.—The friction-bar B, having a rope passing through it in the manner shown, in combination with a strap or equivalent device attached at the center, as set forth.

114,120.—Broom-Head.—Charles Fiscus, Washington, D. C.

Claim.—The combination of the metal broom-head A with the nails D and broom-straw B, when constructed and arranged as shown and described, for the purpose set forth.

114,121.—Heel-Die.—Benjamin F. Fisk and Mark B. Stone, Haverhill, Mass.

Claim.—1. The heel-cutting punch or die, having its opposite sides connected by a cross-bolt, s, substantially as and for the purpose described.

2. The heel-cutting punch or die, formed of the curved cutter-plate b and the straight cutter-plate f_2, made separate and connected by the pressure of the curved plate upon the edges of the straight plate and suitable pins, substantially as described.

3. In combination with the curved cutter b, the adjustable breast-cutter f, substantially as shown and described.

4. In combination with the punch or die, the lifter and gauge-plate p and the lever m for operating the plate, substantially as described.

5. In combination with the swiveling gauge-plate p, the adjusting-screws q for adjustably regulating the normal position of the plate, substantially as described.

6. The combination of the cross-bolt s and the center-bolt i for fastening the sides of the punch together and the punch to the plate, substantially as shown and described.

114,122.—Axle-Box Cover.—Walter H. Fitz Gerald, Brooklyn, N. Y., assignor to himself and Isaiah A. Huson, Jersey City, N. J.

Claim.—1. The removable cover C, secured on one side by one or more studs T, and on the other by the spring-latch or bolt E engaging beneath the lug b, and formed with a laterally-projecting head, for the purpose of retracting it, all substantially as herein described.

2. The latch or bolt E, constructed with an inclined or wedge-shaped holding surface, and drawn into lock by a spring or springs, substantially as described.

3. In combination with an axle-box cover and its securing devices, constructed substantially as above specified, the casket B, constructed with bolt lugs b^2 b and slotted tapering lugs b b^1, and adapted, as specified, to enable the application of my improved cover to an axle-box of common form.

114,123.—Switch for Changing Gauge of Cars.—Thomas Fogg, St. Mary's, Canada.

Claim.—The combination of the broad and narrow-gauge rails B and C with the adjustable switch-rail D, for permitting the transfer of cars from narrow to broad gauge, and *vice versa*, as specified.

114,124.—Car-Coupling.—Edwin L. Foreman, Rantoul, Ill.

Claim.—1. The hammer-strap C hinged on the upper side of the draw-head, substantially as and for the purposes herein set forth.

2. In combination with the hammer-strap C, the adjustable-bar a and pin b, substantially as and for the purposes herein set forth.

114,125.—Steam-Engine.—David R. Fraser, Chicago, Ill., assignor to himself and P. W. Gates, same place.

Claim.—1. The piston-rod C, extended through both ends of the cylinder B and supported by means of rolling surfaces, in combination with adjusting-screws o o, substantially as described.

2. The cross-head D, supported, together with the end of the piston-rod C, upon a track, s, by means of a wheel, E, and adjustable bearing blocks p p, substantially as described.

3. The arrangement and combination of the front and rear rollers E and E, piston-rod C extended through the cylinder B, cross-head D, and ways W W and s, whereby the piston-rod is supported at both ends upon friction-rollers which are below and directly in line with it, substantially as and for the purpose set forth.

114,126.—Washing-Machine.—Henry A. Gaston, San Francisco, Cal.

Claim.—The box A, buckets B C E R, so placed as to leave intervals between their extremities and the ends of the box, and the stripe l m n K, the latter being located so as to overlap the joint of the cover D, when all these parts are constructed and arranged to operate as described.

114,127.—Cotton and Corn-Stalk Chopper.—James H. Gatling, Murfreesborough, N. C.

Claim.—1. The combination, with the adjustable chopping-cylinders K, of the shaft H, adjustable gauge N, and weight-rail T, substantially as and for the purposes shown and described.

2. The adjustable chopping-cylinders herein described, consisting of the wooden cylinders K, longitudinal radial-knives L, provided with the offsets e and the tires Z, substantially as specified.

114,128.—Connection of Booms to Masts.—Alpheus Gill, Holmes' Hole, Mass.

Claim.—1. The combination of the grooved saddle-band and the jaw-piece, as specified.

2. The combination of the grooved saddle-band a, the jaw-piece b, and the sections d, as described.

114,129.—Self-Oiling Pulley.—James Goodrich and Henry J. Colburn, Fitchburg, Mass.

Claim.—1. The combination of a pulley having an oil-cavity, b, in its interior, with a tubular bush, C, fitting the interior of the pulley so as to close the oil-cavity therein, provided with radial holes i, stopped with wooden plugs or equivalent porous material, for transmitting oil from the oil-cavity to the shaft, substantially as herein specified.

2. The construction of oil-transmitting bush C with its raised and tapering or slightly conical annular projections g g to fit corresponding apertures in the hub of the pulley, substantially as and for the purpose herein specified.

114,130.—Printing-Press.—John Gough, London, England.

Claim.—The heater-box h, inking-table j, and plate k provided with the pins l, in combination with the spring claw m, carrier n, lugs p p', and rollers q q', arranged to operate in connection with driving mechanism, substantially as set forth.

114,131.—Horse-Collar.—William H. Gray, New York, N. Y.

Claim.—The trace-stay D, constructed with a loop, through which the trace may slide freely, in connection with the ring or hook on the end of said trace, for operation, as herein described.

114,132.—Feed-Water Heater.—Charles S. S. Griffing, Salem, Ohio, assignor to himself and Thomas Sharp, same place.

Claim.—1. The plates B B, with the winding water-channels, when such channels have a descending grade from the point at which the water falls upon them to the point at which it leaves them, substantially as and for the purpose set forth.

2. The plates B B, constructed with winding water-channels, which have a descending grade as described, when low transverse dams are formed in such channels, substantially as and for the purpose set forth.

3. The arrangement of the cap or cover A^3 with reference to the cylinder A, it being such that a narrow space is formed for the escape of the steam from the body of the heater to the chamber which conducts it to the exhaust-pipe, substantially as and for the purpose set forth.

4. The combination of the set-screw H, spider G, and disks B, substantially as and for the purpose specified.

114,133.—Fertilizing Compound.—William Barkerville Hamilton, New Orleans, La., assignor to the New Orleans Sanitary and Fertilizing Company.

Claim.—A fertilizing compound composed of the ingredients stated.

114,134.—Veneer-Cutting Machine.—Thomas Harvey, Rochester, N. Y.

Claim.—In a horizontal machine for cutting splints or boards from a log, the open box B, with tongues b b running inside of the ways a a, the fixed bed E, with the knife F, attached by a tongue, f, and having the extended beveled throat e, and the adjustable bed D, the whole combined, arranged, and operating substantially as and for the purpose specified.

114,135, antedated April 18, 1871.—Wheel-Skate.—George W. Hawk, Chicago, Ill.

Claim.—1. The combination and arrangement of the foot-stand C, straps or clasps M L, main support B, vibrating pivoted support S, wheels No N, having suitable tires or bands, also suitable bearings o o o o, joint and pivot-bolt G, friction-lever e, and its spring d, operating substantially as and for the purposes herein shown and specified.

2. The metallic strip E, suitable strap H, knob R, brake-levers F F, heel-support D, and fulcrums i i, cord or chain I, loop or clasp h, pulleys f f, operating substantially as and for the purposes herein described and set forth.

3. The combination of the foot-stand C, stationary support B as arranged for the front wheel No, pivoted vibrating support S as arranged for the rear wheel N, double-acting spring a, and lug b, for the purposes herein shown and specified.

4. The joint and bolt G arranged between the front wheel No and the rear wheel N.

114,136.—Torsion-Spring for Railway Cars.—Benjamin Hershey, Erie, Pa., assignor to himself, E. Geer, Richard Dudley, and R. F. Gaggin, same place.

Claim.—1. The plates A and A^1, having torsional spring rods arranged thereon in such relative position that their lateral arms b b shall operate in connection with each other, substantially as described.

2. The torsion-springs B B, when arranged in sets parallel to each other, and extending the whole length of the bolster-plate, the lateral arms of each set meeting or being in contact, substantially as described.

3. The plates A and A^1, torsional spring rods B B, plate D^1, and flanged recessed bearing-plate D, when the same are combined and arranged so as to operate substantially as described.

114,137.—Drier.—Charles H. Hersey, Boston, Mass., assignor to "Hawes & Hersey," same place.

Claim.—1. A rotary drier-drum, open at its opposite ends and having located centrally within it a steam-heated cylinder for heating the currents

of air passing through the drum and the material falling upon the heater.

2. The rotary drum *a* and heater-cylinder *f*, connected together and held in relative position by the spokes *k*, substantially as shown and described.

3. The adjustable spokes *k*, in combination with the rotary drum and heater-cylinder.

4. The variously-inclined buckets *a*, in combination with the rotary drum and cylinder.

5. The pipe for freeing the heater-cylinder from the water of condensation, substantially as shown and described.

6. The rings *o* and flanges *p*, in combination with the heater-cylinder, and for raising the balls and letting them drop, substantially as described.

114,138. — TELEGRAPH-POLE.—Ira Hersey, New York, N. Y.

Claim.—1. A telegraph-pole having its sections insulated, substantially in the manner and for the purpose herein set forth.

2. The cross-bar, insulated, upon a telegraph-pole, substantially as herein described.

114,139. — MACHINE FOR THE MANUFACTURE OF ROOFING.—Dwight Hitchcock and Willis Gibbs, Syracuse, New York, assignors to Oliver T. Burt, same place.

Claim.—1. The hand-carriage G, made with flat strengthening-pieces *g g* of metal, arranged vertically, as shown, to prevent springing, and projecting below the carriage to act as guide-ribs, and projecting above to act as guards and knives, if desired, in connection with the table B A, pressure-roller D, and hopper E, as and for the purpose described.

2. In connection with the table B, roller D, and hopper E, the carriage G, made with a detachable bottom or tray, F, as and for the purpose herein described.

3. The hopper E, constructed with a shelf, *h*, at its discharge, for heating purposes, in connection with a suitable carriage and table for running off the asphaltic compound and pressing it into sheets, substantially as described.

4. The hopper E, with adjustable flooding-guards *m m* and valve-lever I, with friction-stop *i*, in connection with the machine A B D G, as and for the purpose specified.

114,140.—MANUFACTURE OF LAMP-SHADES. John H. Hobbs, Charles W. Brockomier, and William Leighton, Jr., Wheeling, W. Va.

Claim.—The manufacture of ornamental shades or globes for lamps or other lights by pressing the above-described material in molds while it is in a semi-fluid condition, the molds being so constructed as to give to the shades irregular thicknesses, substantially as and for the purpose set forth.

114,141. — STEAM-TRAP. — James Wilson Hodges, Baltimore, Md.

Claim.—1. The combination and arrangement of the guide D, float *d*, main-pipe or trap A A′ B′, duct C, and apertures *a a*^{1}, substantially as and for the purpose specified.

2. The combination and arrangement of the rod or valve E *e*, main-pipe or trap A A′ B′, duct C, and apertures *a a*^{1}, substantially as and for the purposes set forth.

114,142. — COMBINED HEATER AND CONDENSER.—Birdsill Holly, Lockport, N. Y.

Claim.—The combination of the chests S and G, their valves A and F, and steam-pipe *a*, substantially as and for the purpose described.

114,143. — SELF-HEATING POCKET-FLASK. Seymour Hughes, Hudson, N. Y.

Claim.—The portable flask, provided with the concealed lamp C and heating-tube B, substantially as herein shown and described.

114,144. — ATTACHMENT TO GAS-SERVICE PIPE FOR AUTOMATICALLY CUTTING OFF THE GAS IN CASE OF FIRE.—William Humphreys, Waterford, N. Y.

Claim.—1. A valve held separated from its seat by cement or other suitable substance, which remains solid at ordinary temperature, but which will melt when heated above that, thereby releasing the valve and allowing it to fall down to its seat and shut off the supply of gas, substantially as and for the purposes herein set forth.

2. A space within the fitting filled with some substance which, when melted, will release the valve or ball and flow around it in the valve-seat, thus hermetically sealing the valve, substantially as set forth.

114,145.—SHOE-SOLE.—John Morrison Hunter, New York, N. Y.

Claim.—1. The peculiarly-cut shank A B, having slits or scores extending inward from the edge, and terminating with a cross-slit or widening, as shown.

2. The thickened lines A′, produced by soldering or otherwise firmly attaching strips of additional material, extending along the shank, as and for the purposes specified.

3. The spring or springs D and guides G, arranged relatively to each other and to the shank, as specified.

4. The cross-spring F, arranged in front of the shank and serving therewith, as specified.

5. The sockets E in the front of the heel-shell, receiving and holding the spring or springs D, and serving in combination therewith, as represented.

6. The heel-block K, with holes *a* filled with hair or analogous soft material, as specified.

7. The freely-revolving metallic ring M, made conical upon its inner surface, and with the offset shown on the upper face matching to the plate N^1, as shown, and mounted in a heel and adapted to serve therewith, as and for the purposes specified.

8. The exterior ring N^1 of the main bearing portion of the heel, arranged to serve, as represented, within the revolving ring M, to prevent the spreading of the inner materials against the same, as specified.

9. The points *a*, cut from the metal A within the line of the edge, and serving relatively to the metal A and to the welt H, as specified.

10. The covering-layers I J, or either of them, as a flexible and strengthened metallic shank, as specified.

11. The combination of the metal shank, made strong and elastic, as shown, with a heel-body of wood or analogous material, carrying a heel-disk, M N, or equivalent facing, as herein specified.

114,146.—STEAM-GENERATOR.—William H. Ivens, Trenton, N. J.

Claim.—1. The combination of the outer tube J secured at its upper end in the lower flue-sheet P, and the inner tube H secured in the upper flue-sheet D, and united at their lower ends, forming a water-leg, substantially as described, with an intermediate feeder, *d*, so that the caloric surrounding the outer tube J and passing through the inner one H will cause an ascending current near each fire surface and a descending one through said feeder, essentially as specified.

2. The dividing-collar *c*, arranged to extend upward into the feeder-space *d* to divide the descending current, substantially as shown and described.

3. The arrangement of the conical steam-drum K, enlarging toward its upper part within the flue-chamber B, substantially as and for the purpose set forth.

4. The combination of the double polygonal divisions, figs. 4 and 6, with the annular water-legs, substantially as shown and described, for the purpose set forth.

5. The annular feed-cylinders, provided with spiral wings *f*, or continuous spiral ribs *g h* on their respective external and internal surfaces, whereby the upward currents are caused to rotate within the water-legs around their axes, as and for the purpose specified.

114,147.—CARRIAGE-AXLE. — Eldridge W. Ives, Hamden, Conn.

Claim.—1. The strip of hard rolled brass B, or other suitable hard metal, inserted longitudinally into the under side of the axle A so as to prevent the wearing and heating of the axle, substantially as described.

2. The strip of hard rolled brass B, or other suitable hard metal, wider at its inner than its outer end, and inserted in a groove on the under side of the axle, substantially as shown and described.

114,148.—CARRIAGE-AXLE BOX.—Eldridge W. Ives, Hamden, Conn.

Claim.—1. The carriage axle-box A, formed of hard rolled sheet metal, substantially as shown and described.

2. As a new article of manufacture, an axle-box constructed of hard rolled sheet-brass, or other suitable material, substantially as specified.

114,149. — VEHICLE. — Robert Jack, Des Moines, Iowa.

Claim.—The socket-jointed king-bolt *a*, the adjustable segmental slotted circle *d d* with its bent arm *f f*, the short stay-reach *g g*, the hinged and jointed braces *h h*, all made, combined, and operated with the gearing and body or box of a buggy or carriage, in the manner described, and for the purpose specified.

114,150.—HORSE HAY-RAKE.—Oliver Smith Jarvis, Xenia, Ill.

Claim.—The hay-rake herein described, provided with rollers D, shields E, sectional rake-heads A, hinge *a*, rod *b*′, and braces F F, all substantially as and for the purpose specified.

114,151.—PUDDLING AND OTHER FURNACES. John Allcock Jones, Richard Howson, and John Gjers, Middlesborough-on-Tees, England, assignors to Theodore Fox, Jeremiah Head, and Charles M. Newcomen, same place.

Claim.—The combination, with a puddling-furnace, of appliances substantially as described, whereby air and steam may be combined, the mixture heated, without decomposing either gas, by the waste heat of the furnace, and then introduced into the furnace to support combustion, as set forth.

114,152.—CUPBOARD-LATCH. — Albert D. Judd, New Haven, Conn.

Claim.—The arrangement of the latch C within the case B, constructed so as to form the spring chamber F, and provided with the flat-guide E extending through the opening *a* in the case, and so as to retain the spring in the chamber, substantially as herein described.

114,153. — MILKING-STOOL. — Judson N. Knapp, Syracuse, N. Y.

Claim.—1. The pail-rest C, when formed of a single piece of wire bent into the form shown, with the central leg *c*, and having its ends loosely inserted in sockets in the front legs so as to swing freely, as and for the purpose set forth, and as shown.

2. The spring arms B B, detachable legs *a a a*, and swinging rest C *c*, in connection with the seat A, all constructed as described, and for the purpose set forth.

114,154.—WATER-WHEEL.—John L. Kurtz, York, Pa.

Claim.—The combination of the casing A, head B, conductors C C, platform D, plate E, wheel G H, and spindle I, all constructed and arranged substantially as herein set forth.

114,155. — SHUTTLE FOR LOOMS. — Julius Kuttner, New York, N. Y.

Claim.—1. The arms *a* and retriever *c*, in combination with the friction-spring *l*, spindle *f*, and bobbin or spool *d*, substantially as and for the purposes specified.

2. A friction mechanism applied to the spindle of the bobbin or spool of a shuttle, in combination with a spring intervening between the spindle and the bobbin or spool, and mechanism, substantially as set forth, for relieving the spindle of friction during the passage of the shuttle beneath the upper shed of warp-threads, substantially as set forth.

114,156. — APPARATUS FOR EXHAUSTING GAS, &c. — Robert Laidlaw and John Thomson, Glasgow, Great Britain.

Claim.—The exhausting of gas and pumping or forcing of fluids by means of two parallel bosses, having radial blades and concavities, revolving and gearing together in a casing, as shown in the drawing, and with their shafts connected and made to work together by two pairs of spur-wheels inclosed in casings and placed inside of the bearings supporting the shafts, all substantially as hereinbefore set forth.

114,157.—LUBRICATING RAILWAY JOURNAL. Carrie R. Laman, Painted Post, N. Y.

Claim.—The oiling-roller B, composed of a perforated cylinder packed with sponge or other absorbent material, substantially as set forth.

114,158.—TUYERE FOR CUPOLA-FURNACES. Franklin Lawrence, Philadelphia, Pa.

Claim.—A cast-iron tuyere having an enlarged hole below and contracted hole or holes above, and having an exterior shape, substantially as shown and described.

114,159.—BAND-CUTTING ATTACHMENT FOR THRASHING-MACHINES.—John Lee, Jr., and John Lee, Sr., Duquoin, Ill.

Claim.—In a band-cutter, when attached to a thrashing-machine, the combination of the frame A, spring platform B with side guards *b*, saw E, bearings C, guards G and F, and levers and catch D and *f*, substantially as described and operating as set forth.

114,160.—COOKING-STOVE.—William D. C. Lloyd, Louisville, Ky.

Claim.—The air-chamber D with its holes G G G and L L L L, and corrugated plate E with ribs F F F to hold up the wood, in combination with the cover H, pipe I, air-holes J J J in recess K, and vent-holes P P in the oven, when arranged, constructed, and operating substantially as and for the purpose herein set forth.

114,161. — ENVELOPE.— Philo Lockwood, Auburn, Ind.

Claim.—The herein-described double envelope, constructed substantially in the manner and for the purpose set forth.

114,162, antedated April 19, 1871.—BALANCE-VALVE—Kellogg H. Loomis, New York, N. Y., assignor to James M. Boyd, same place.

Claim.—1. The loose springs *k k*, placed between the ears *e e* on the piston, for the purpose of pressing outward the packing-rings *f f* by means of the cams *h h*, which are operated from the center of the piston and held in position by the jam-nut H, substantially as herein set forth.

2. The combination of the conical valve B, stem D, piston E, bonnet G, and cap J, constructed and arranged substantially as and for the purposes herein set forth.

114,163.—BLAST BY STEAM-JETS FOR FURNACES, &c.—Philip W. Mackenzie, Blauveltville, N. Y.

Claim.—The gas or vapor-generating apparatus

A, in combination with the condenser E, when so connected or combined as to produce a current or jet from the generator A, which jet or current is formed by the combined action of steam, gas, or other vapor with atmospheric air, as herein shown and described.

114,164.—MOLD FOR SEWER-PIPES.—Thomas Madeley, Rochester, N. Y.

Claim.—1. In combination with a pipe-mold made in two or more sections, the hinged and folding leaves E E′ at the top and the removable pins D D′ at the bottom, as and for the purpose specified.

2. The arrangement with the sectional mold of the folding levers E E′, removable pins D D′, and core G with screw H, as herein described.

114,165. — HARVESTER-RAKE. — John P. Manny, Rockford, Ill.

Claim.—The combination of the finger-beam, the concave sector-shaped platform, the rake-post, the hub revolving on a shaft inclined backward and upward relatively to the finger-beam, and the rake and reel-arms, all rigidly secured upon the hub revolving in a uniform path and with uniform speed, all these members being constructed, arranged, and operating in combination as hereinbefore described.

114,166. — HARVESTER-RAKE. — John P. Manny, Rockford, Ill.

Claim.—1. The combination of the inclined driving-shaft with the reel-shaft, intersecting it at an acute angle thereto, and radially adjustable around the joint which connects it with the driving-shaft, these members being constructed to operate in combination, substantially as hereinbefore set forth.

2. The combination of a reel-shaft, supported at both ends and adjustable radially around its driving-shaft, with reel-beaters supported at their divider ends only, and radially adjustable around their point of connection with the reel-arms, these parts being constructed to operate in combination, substantially as set forth.

3. The combination of the rotating rake, with the reel supported at one end by and driven from the rake-shaft, these members being constructed to operate in combination, substantially as set forth.

114,167.—SHUTTLE FOR LOOMS.—Ezra W. Marble, Sutton, Mass.

Claim.—1. The spindle-head B′ having the flange D, in combination with the bobbin-holder F, all constructed and arranged substantially as and for the purposes herein set forth.

2. In combination with the spring H and spindle-head B′ D, of the bobbin-holder F *f b* and spring *a*, arranged substantially as and for the purposes herein set forth.

114,168.—HORSE-POWER.—Daniel G. Marden, Memphis, Tenn.

Claim.—1. The cup-boxes N, constructed with shoulders *n* and with screw-shanks *n′*, for the reception of nuts S, as described and shown, for the purposes set forth.

2. The improved spur-wheel horse-power herein described, having both ends of each secondary vertical shaft stepped in cup-boxes N and thus rendered reversible, as set forth.

3. The coupling-box X of the vertical sweep-shaft U, constructed with a removable side, *x′*, as and for the purpose set forth.

114,169. — MACHINERY FOR DRESSING WHEEL-FELLIES. — Dudley Jefferson Marston, Amesbury, Mass.

Claim.—1. The combination of the cutter-wheels C D, the curved guide E′, and the presser feed-wheels E F, all arranged, and the cutter and feed-wheels being provided with mechanism for supporting and operating them, substantially as explained.

2. The combination of the recessed cutter-wheel K, the guide-roller *m′*, the feed-wheel O, the adjustable carriage L, the vibratory adjustable plate M, and segment N, all being arranged and to operate, and provided with operative mechanism, substantially as explained and represented.

114,170.—MACHINE FOR FORMING PLOW-HANDLES.—Elbridge G. Matthews, Oakham, Mass.

Claim.—1. The combination, with the sliding frame F and work-supporting carriage B, of the irregular way G, substantially as and for the purposes set forth.

2. The combination, with the carriage B, of the gauge L and groove *f*, substantially as and for the purposes set forth.

3. The combination, with the grooved cutter-heads C E arranged in relation to each other, as shown and described, of the work-supporting spindle K, substantially as and for the purposes set forth.

114,171. — WOOD-BENDING MACHINE.—Elbridge G. Matthews, Oakham, Mass.

Claim.—1. The combination, with the grooved bending-lever B, segment B′, and pinion D, of the head-frame H, provided with guiding and pressing-rolls J, former C, and chain I, substantially as and for the purposes set forth.

2. The combination, with the compressing-chain I, of the draft device, consisting of the bolt L, shoe K, nuts *d d′*, spring M, links N, and set-screw *f*, substantially as and for the purposes set forth.

3. The combination, with the frame O, of the guiding-rolls P P′, and supporting-bar R, substantially as and for the purposes set forth.

114,172.—COMPOSITION FOR PAVEMENTS.—Frederick E. Matthews, Chicago, Ill.

Claim.—The composition herein described, consisting of Trinidad asphaltum, residuum of petroleum, broken or crushed stone, or gravel, or both stone and gravel, and bichromate of potash, combined and prepared substantially as and for the purposes specified.

114,173. — DUMPING-WAGON.—Samuel D. McCaleb and William McCaleb, Louisville, Ky.

Claim.—In a four-wheeled dumping-wagon, the cranked rear axle C, but only when its cranked portion is turned forward to stand about midway between a horisontal and vertical position, in the manner and for the purpose shown and described.

114,174.—APPARATUS FOR MAKING ROOFING FABRICS.—David W. McConnell and William W. Pierce, Buffalo, N. Y.

Claim.—The arrangement of the bed M, rollers D E, belt L, regulator O, spreader G with slide A, and steam-box *b*, and the sand-box F, all substantially as and for the purposes herein set forth.

114,175. — EXTRACTING METALS FROM ORES.—William P. McConnell, Washington, D. C.

Claim.—1. A combination of potash, or its equivalent, unslaked lime, and common salt, in about equal proportions, as a flux for the purposes described and operating as set forth.

2. The process described of separating metals of different specific gravity by pouring them into a conical mold with a flux of sulphur, substantially as described.

114,176. — WATER-ELEVATOR.—Archibald A. McPheeters and Robert P. McPheeters, Arbor Hill, Va.

Claim.—1. The combination of the carrier E, chain-wheel B, and rollers C, as specified.

2. The combination of the carrier E, cross-bar D, and spring-bolts F, as described.

114,177. — GATE. — Job Lewis Meredith, Bloomingsburg, Ind.

Claim.—1. The arrangement of the lever G′, bar G, cap F, hinge *a*, post D, gate A, and post B C, substantially as and for the purpose specified.

2. The pin *c″*, in combination with the post D, awl E, and gate A, as and for the purpose set forth.

114,178.—FENCE.—Levi Moore, Baraboo, Wis.

Claim.—A fence composed of the top rails A A, stakes B B, and braces C C, with or without the barbs *b b*, all constructed and arranged substantially as herein set forth.

114,179. — WRENCH. — Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—The cylindrical bar A, provided with a flat or web portion, B, and fixed jaw C, in combination with the movable jaw D, divided sleeve E, and clamping device, constructed and arranged to operate substantially as specified.

114,180. — SCROLL-SAWING MACHINE.—Jerome S. Moseley, Syracuse, N. Y.

Claim.—1. The arrangement of the springs E E, as herein shown and described, in connection with the shaft F′, from opposite sides by means of cams *e e* and flexible bands, all operating as and for the purposes set forth.

2. The combination of the movable wheel F *g* and fixed collar G with the shaft F′ and tension-strap *f*, for adjusting the length of said strap to the several sizes of saws, substantially as specified.

3. The shafts K K′, adjustable arms *k k*, rod L, and adjustable arms *l*, and saw-driving devices I *i*, all constructed and arranged as shown in fig. 5, and for the purpose specified.

4. The double pedal J *j*, spring connections M a, shafts K K′, arms R *n k*, connections N *p* L *r*, brake h, and sleeve or catch *o*, all arranged and operating as and for the purpose specified.

5. The sliding block *t*, interposed between the saw and the cam S, in connection with the opposite flat bearing surface T, cam S, lever *s*, rack *u*, and cross-head D, substantially as and for the purpose specified.

6. The forked spring W, saw-clamping jaws *w w*, and releasing-lever *v*, in connection with the plate U and tension-strap *f*, substantially as and for the purpose specified.

7. The combination of the catch Y Z and adjustable stop-rod X with the guide-plate C and standard B, substantially as and for the purpose specified.

114,181.—STOVE-PIPE CLEANER. — Daniel Murphy, Richmond, Va.

Claim.—1. The combination of the extension-rod, composed of the shaft C, joint D, and threaded sleeve E, with the concavo-convex disk B, provided with the standard A and curved lips L, as shown at fig. 3.

2. The above, in combination with a stove-pipe provided with a wire passed across its chimney end, and having a transverse section of said end removed, as shown and described.

3. A stove-pipe provided with the cleaner herein described, when a transverse section of the chimney end of the pipe is cut out, and the extremity of said pipe provided with a wire passed across its opening, as shown, and for the purposes described.

114,182.—CORN-HARVESTER. — Richard L. Nelson, Orange Court House, Va.

Claim.—1. The combination of the conical roller or conical wheels for guiding the machine between the rows of stalks, the reels driven directly therefrom, and the cutters when arranged and operating as and for the purpose described and represented.

2. In combination with the cutters made adjustable in the blocks *c*, the hinged connection between said blocks and frame A, so that the driver in his seat, by means of the connections therewith, may raise said cutters to pass any obstruction, and lower them again, as described and represented.

114,183.—MACHINE FOR BORING AND MORTISING.—Richard L. Nelson, Orange Court House, Va.

Claim.—In combination with the main frame, having the movable adjustable clamping or holding-rest D and the recess and ways for receiving and guiding either of the removable and interchangeable sliding frame B and F, with their appliances for boring and mortising, when combined, arranged, and operating in the manner and for the purpose herein described and represented.

114,184.—TRACE-BUCKLE.—George Oldham, Jr., Cuba, N. Y.

Claim.—1. The buckle-frame A A, provided with the inclined slide-ways a^2 a^2, the tongue-stays a^3 a^3, and recesses a^1 a^1, communicating with the slots *a a*, all arranged in connection with a suitable tongue-plate, substantially as described and set forth.

2. The wedge-shaped slide or tongue-plate B, provided with ears or luge *c c* and flanges *d d*, and operating in connection with the frame A having slots a^1 a^1 and inclined side-ways a^3 a^3, substantially as herein set forth and described.

114,185.—EARTH-AUGER.—Thomas Orchard, Sacramento, Cal.

Claim.—The valve H, in combination with the rods *z z* and ring *y*, all arranged in the cylinder A, substantially as and for the purpose set forth.

114,186. — PHOTOGRAPHER'S STEEPING-TANK.—John Walter Osborne, Brooklyn, N. Y.

Claim.—1. The combination of the rack for holding the plates with the tank for holding the cleaning or steeping liquids, substantially as described and for the purposes set forth.

2. The combination of the rack with the roller or windlass and brake, when used for steeping photographic plates, as described.

114,187.—PILE FOR NUT-BLANKS, TUBES, &c.—Jonathan Ostrander, Manchester, Va.

Claim.—A pile made up of halves, the dividing plane between which runs diagonally of the pile, substantially as specified.

114,188.—PILE FOR NUT-BLANKS, TUBES, &c.—Jonathan Ostrander, Manchester, Va.

Claim.—A pile made up of the top and bottom pieces *a b*, grooved and ribbed as shown, side pieces *c*, and rails *d*, as specified.

114,189.—FENCE-POST.—Joel A. Otis, Watertown, N. Y.

Claim.—The combination and arrangement, relatively with each other, of the supplementary oblique braces F F′, the main oblique braces D D′, the uprights B B, the lower brace A, and upper brace E, substantially as shown and described.

114,190.—WOOD PAVEMENT.—Halbert E. Paine, Milwaukee, Wis.

Claim.—1. A wooden pavement consisting of blocks and of connecting and separating pieces crossing each other substantially as and for the purpose described.

2. A wooden pavement, in which the blocks are provided, at their contiguous edges, with openings to receive connecting-pieces, and are separated, at their sides, by separating-pieces lying below and in contact with the connecting-pieces; and the spaces between the sides of the blocks are filled with gravel and tar, concrete, or other equivalent substance.

114,191.—ELECTROPLATING THE INTERIOR OF PIPES AND TUBES WITH SILVER, NICKEL, &c.–Dubois D. Parmelee, New York, N. Y.

Claim.—1. In the process of electroplating the interior of tubes by means of a movable anode, substantially as herein described, the employment of an anode placed within and extending the length or nearly the length of the pipe, and provided at intervals with non-conducting washers which insulate it therefrom, substantially as and for the purposes set forth.

2. A jointed anode composed of sections, each surrounded at or near its top and bottom by a non-conducting washer or ring, and connected with the sections adjoining by means of insulated links or wires, substantially as and for the purposes herein shown and described.

3. The general arrangement of apparatus for electroplating the interior of pipes and tubes, substantially as herein shown and described.

114,192, antedated April 22, 1871.—REFINING SUGARS.—August F. W. Partz, Oakland, Cal.

Claim.—1. The process substantially as herein described of molding, draining, and drying boiled sugar in large masses.

2. The apparatus herein described for executing the above-claimed process, consisting principally of a mold, A *a*, surrounded by a case B *a*, and provided with a chamber, *a i e*, underneath its bottom, which chamber communicates, by means of a pipe, with a compression-pump, and by means of another pipe, *p*, with a receiving-vessel, E, which connects with an exhaust-pump, all so combined and arranged as to operate substantially as set forth.

3. The incasing-vessel B *a*, in connection with the mold A *a*, substantially as and for the purpose herein specified.

4. In combination with the mold A *a*, the receiving-vessel E, when provided with a valve, *v*, for limiting adjustably the degree of exhaustion, arranged to operate substantially as herein described.

5. In combination with the mold A *a*, the rod *t*, provided at its upper end with an eye or hook and at its lower end with the nut or flange *x*, or some equivalent device, substantially as and for the purpose herein set forth.

6. In combination with the mold A *a*, the bottom piece *e*, provided with apertures through which the plugs *e* may be inserted in and withdrawn from their respective holes in the bottom of the said mold, and which apertures, after the removal of the said plugs, can be tightly closed by plugs like *z*, or some equivalent means, substantially as and for the purpose herein specified.

7. The cylinder C, in combination with the cover *h* and the mold A *a*, substantially as and for the purpose herein described.

8. The vessel *q* and the pipes *s* and *r*, or their equivalents, in combination with the vessel B *a*, substantially as and for the purpose herein set forth.

114,193. — DRILL-CYLINDER. — Charles S. Pattison, North Adams, assignor to Burleigh Rock-Drill Company, Fitchburg, Mass.

Claim.—In a cylinder, in which works the piston of a drill-carrying piston-rod, the re-enforcing connections, substantially as shown and described.

114,194. — LUBRICATOR. — William Eaton Phillips, Silver City, Idaho Ter.

Claim.—1. The oil-cup *c*, having the tapering adjustable tube *d*, or equivalent, when constructed and operating substantially as herein described.

2. In combination with the regulating-cup *c*, the open globe or standard *e*, substantially for the purpose described.

3. The curved feed-pipe *n*, together with the arm *f* and the hollow pin *m*, or an equivalent device, when constructed to operate substantially as and for the purpose above herein described.

114,195.—TRUNK-FASTENING.—Louis Ransom, Lansingburg, N. Y.

Claim.—1. The double-hinged plates *a b c* and the tongue *d*, forming a toggle-joint, in combination with the cam-button *g* provided with a keyed screw or other suitable locking device.

2. The slotted plate *c*, double-hinged to the part *a* by the intervening plate *b*, the tongue *d*, and slotted plate *f* carrying the cam-button *g*, all arranged and operating substantially as described.

3. The combination of the cam-button *g* and hinged latch *k*, provided with a key-hole, *m*, and a suitable spring, with the tongue *n* and slotted plate *f*, to form a locking device for the single or double toggle-joints herein described.

114,196.—RAILWAY-SWITCH.—Peter V. M. Raymond, Charles City, Iowa.

Claim.—The combination, with the double-shifting tongues A of the pairs B and C, of frogs conversely arranged, and connected by the intermediate short track D having two or more parallel rails on a side, substantially as specified.

114,197.—SEWING-MACHINE.—George Rehfuss, Philadelphia, Pa., assignor to American Button-Hole, Overseaming, and Sewing-Machine Company, same place.

Claim.—1. A segmental shuttle-race, composed of the fixed plate A and segmental plate D, constructed substantially as described, and rendered movable on the said plate A, as set forth.

2. The shuttle-driver G and segmental plate D, constructed and arranged with relation to each other substantially as described, and for the purpose specified.

3. The movable segmental plate D, constructed as described, for supporting and guiding the shuttle, in combination with the spring *n*.

114,198.—ADVERTISING DEVICE.—William Henry Reiff, Philadelphia, Pa.

Claim.—A revolving cylinder, or its equivalent, in combination with a show-case, with the door of which it is so connected as to be operated on the opening or closing of the same.

114,199. — FOLDING-CHAIR. — Frederic W. Richardson, New York, N. Y., assignor to Christian A. Walcheid, Union, N. J.

Claim.—A folding chair composed of the sections A B C connected together by strap-hinges *a a* made as shown, said sections being provided with hinged supports E, braces *d d*, holders *t*, the arms F composed of the parts *g h*, with notches *e*, and the pawls *b*, all constructed, arranged, and operating substantially as described.

114,200.—BUTTON-FASTENER. — Archibald M. Richmond, New York, N. Y.

Claim.—A button-fastener made of wire, and so shaped that it can be entered into the eye of the button with the folded end 1 foremost and be withdrawn either end foremost, as described and represented.

114,201.—TRACE-BUCKLE.—William G. Riley, Sullivan, Ind.

Claim.—The within-described trace-loop, consisting of the frame A, loops B D D, and cross-bars C E, constructed and arranged as described, and used in connection with the screw I and washer *a*, substantially as and for the purposes herein set forth.

114,202.—ADMISSION OF FEED-WATER TO STEAM-BOILERS.—Thomas Roberts, Baltimore, Md., assignor to himself and Edward F. Folger, same place.

Claim.—1. The feed-water pipe or pipes F', passing through the water-space of the steam-generator into the smoke-box or flue and returning into the water-space, substantially as and for the purpose set forth.

2. The combination of the generator A, the check-valve F, pipe F', and check-valve F², substantially as and for the purpose set forth.

114,203.—TONGUE FOR HARVESTER.—Martin Rohrer, Polo, Ill.

Claim.—1. The parts *b c* of the tongue, in combination with the plates *d f o*, pin *e*, and head *r*, as specified.

2. The parts *b c* of the tongue, in combination with the plate *d*, pin *e*, latch-bar *g*, and lifting arrangement *h i m*, as described.

114,204. — WIRE THREAD FOR SEWING LEATHER.—Charles Rowland, Washington, D. C., and Nathan F. English, Hartland, Vt.

Claim. — As a new article of manufacture, a thread composed of the central core of wire, with the various coatings of wax and fibrous material arranged as described, and to be used as and for the purposes herein set forth.

114,205. — POLE-ADJUSTER FOR HORSE-CARS.—Albert Gallatin Safford, Boston, Mass.

Claim.—The arrangement and combination of the adjuster D, as described, with the forked brace *b* and eye-piece *a* of the pole A, and with or for use with the supporter B, in manner and for the purpose as explained.

114,206.—GAS-REGULATOR.–Henry Schutte, Kansas City, Mo.

Claim.—The combination of the gasometer A A', cross-bar D², links D' D'', lever D, valve C, and chest C', all constructed and arranged in relation to each other, as shown and described.

114,207.—RAILWAY-SWITCH CHAIR.–George H. Scougale, Carson City, Nev.

Claim.—The switch-chair, constructed as described and shown, and consisting of the sides A A and center piece B, in combination with the blocks D, E, and F, formed to correspond with the ends of the double rails, and the whole arranged and operating substantially as and for the purpose set forth.

114,208. — COOKING-STOVE.—John Segondy and Michel Ravolo, St. Louis, Mo.

Claim.—1. In a cooking-stove provided with rear and bottom oven-flues a combustion-chamber, extended outward beyond the front of said stove, substantially as and for the purpose shown.

2. The arrangement of the fuel-chamber Q within the oven and with relation to the boiler-holes, substantially as shown, and for the purpose specified.

3. The relative arrangement of the oven M, the fuel-chamber Q, and the flues L', N, T, and U, substantially as shown, and for the purpose specified.

114,209.–SLAT FOR WINDOW-SHADES.–John Shorey and William D. Butler, Lowell, Mass.

Claim.—The slat A, with slot *h* and holes *s s s* filled with lead or other composition, the whole arranged and combined as and for the purpose described.

114,210. — PORCELAIN-KNOB MACHINE.—Thomas J. Sloan, Bronxville, N. Y.

Claim.—1. The adjustable throat B of the hopper, in combination with the charge-carrier C and bed D, over which the receiving-chamber of the carrier travels, substantially as specified.

2. The combination, with the die-case F, of the upper and lower dies G I and plunger H, operating together to lift the molded article out of the die-case and to retain a yielding pressure on said article while being so lifted, essentially as herein set forth.

3. The combination in the one machine, with the charge-carrier C and molding devices F G H I, of the rotary dressing device T V W for trimming the edge of the molded article as it comes from the dies, substantially as specified.

4. The combination, with the molding-dies G I and rotary dressing device T V W, of an automatic device, S, for transferring the molded article to the dressing device, essentially as described.

5. The combination, with the molding-dies G I, rotary dressing device T V W, and automatic transferring device S, of an automatic discharging device, S', for removing the dressed article, substantially as specified.

114,211. — WATER-WHEEL. — Ephraim L. Small, Urbana, Ohio.

Claim.—1. The chutes *b*, having their longer sides tangential to the wheel and the parallel parts of their shorter sides at a distance from the longer sides equal to the width of the front flanges *d*, and their narrowest parts or points of compression next to the wheel, as specified.

2. The bucket, composed of the vertical flanges *d e* standing at angles to each other, the former standing in lines radial to the wheel, and the bottom flange *f* inclined downward and outward, both longitudinally and transversely, as described.

3. The gate *h*, provided with the tapering opening *i*, and placed between the blocks *a*, as explained.

114,212. — SWIVEL CLEVIS FOR PLOWS.—Josiah B. Small and Franklin F. Holbrook, Boston, and Elbridge G. Matthews, Oakham, Mass.

Claim.—1. The combination, with the arm G and face-plate B, of the hook L, substantially as and for the purposes set forth.

2. The combination, with the beam A, face-place B, and disk F, of a spring-catch device, for the purposes stated.

3. The combination, with each face-plate B, disk F, and arm G, of the swivel-loop K and catch-bolt O, substantially as and for the purposes set forth.

114,213.—STORE-TRUCK.–Andrew V. Smith, San Francisco, Cal.

Claim.—1. The self-acting brake for a store-truck while loading, consisting of the pawls L and ratchet G, substantially as herein described.

2. Breaking a truck or other vehicle by means of the rocking-beam C and the stationary brake-blocks F F, or equivalent device, substantially as described.

3. The curved handle N and straight bar P, when employed as a hand-hold on a store-truck, substantially as and for the purpose specified.

114,214.—BUCKLE. — Earle A. Smith and Dwight L. Smith, Waterbury, Conn.

Claim.—The combination of the frame A and lever B, constructed as herein described, and arranged relatively to each other to operate in the manner specified.

114,215.—COMBINED GRIST-MILL AND COTTON-SEED HULLER.—James W. Smith, Columbus, Ga.

Claim.—The combination of the agitator *a b c*, separator E, and fan F, when arranged to be used in connection with the mill herein described, substantially as set forth.

114,216.—LOW-WATER ALARM.—John Stanton, Philadelphia, Pa.

Claim.—The tube P', arranged to project into a boiler below the water-line of the same, and containing a plug of fusible metal projecting in front of the boiler, and arranged to support a weighted

lever connected to a whistle or other alarm, all as set forth.

114,217.—TRUNK-LOCK.—Joseph Stanton, Buffalo, N. Y., assignor to John Kihlberg and Lewis P. Kirchmyer, same place, assignors to said Kihlberg and Michael Mesmer, same place.

Claim.—The construction and arrangement of the plate E with wedge-shaped lugs and hasps F H, and correspondingly wedge-shaped recesses G and hasp-aperture D in the lock proper, as and for the purposes set forth.

114,218.—RUBBER-VENEER.—Benjamin D. Stevens, Prairie du Chien, Wis., assignor to himself, Nathan A. Wright, and John Conant, same place.

Claim.—A veneer made by the application of plastic rubber or gutta-percha, colored in any desired manner, to one surface of cloth, and the subsequent vulcanization of the gum, as specified.

114,219.—FIRE-KINDLING.—John W. Still, San Francisco, assignor to Franklin Pancoast, Alameda, Cal.

Claim.—1. Cocoa fiber or red-wood bark, prepared as above described, for the purpose specified.

2. As a new article of manufacture, a fire-kindler composed of cocoa fiber or red-wood bark, prepared as above described.

114,220.—PLOW-COLTER.—Warren H. Stone, Lebanon, Mich.

Claim.—The combination of the wheel A, sheave B, pronged sheave-wheel C, clasp and axle D and F, with endless chain E, or their equivalents, all for the purposes and substantially as herein described.

114,221, antedated April 19, 1871.—PLOW.—Archibald L. W. Stroud, Munford, Ala.

Claim.—The side beams D D, with their feet E E, plows H or I, and braces G G, when attached to the center beam A by means of three bolts, *a a*, at equal distances apart, so that the side beams may be placed one in advance of the other or side by side, as may be desired, and the distance of said side beams from the center beam is regulated by the slotted washers *b b*, all as herein set forth.

114,222.—BOILER.—Daniel Sullivan, Bangor, Me.

Claim.—The hinged face and back plates of a boiler as herein described, in combination with the grooved flange *c* and rod A, as herein set forth.

114,223.—HAIR-DRESSING.—Franklin R. Taylor, Waverly, N. Y.

Claim.—The compound herein described, compounded in the manner and proportions and for the purpose herein set forth.

114,224.—ASH-SIFTER.—George W. Taylor, Baltimore, Md.

Claim.—The improved ash-sifter herein described, consisting of the part *a*, having the cover *b*, flange *h*, and deflected perforated bottom *c* with an inclined or bevel edge, and the ash-pan *d*, said parts *a* and *d* being provided respectively with the handles *f* and *g*, all as and for the purpose specified.

114,225.—SPRING BED-BOTTOM.—Austin E. Thayer, Philadelphia, Pa.

Claim.—The combination and arrangement of the rail C P, the plate P with its arm *p*, and rubber loop I R, bracket B, and slat S, as and for the purpose specified.

114,226.—SEED-DRILL.—John H. Thomas, Springfield, Ohio.

Claim.—In a seed-drill, with hoes so arranged that they may be disposed either in a row or in a zigzag line, the arrangement of the lift-bar with reference to the hoes, substantially as set forth.

114,227.—FEED-ROLLER FOR GRAIN-DRILLS.—John H. Thomas, Springfield, Ohio.

Claim.—A feed-roll or wheel for grain-drills made in two parts, one of which is arranged to remain stationary while the other part rotates, substantially as described.

114,228.—ENVELOPE.—J. Patton Thompson, Philadelphia, Pa.

Claim.—The cutters C, C^1, and C^2, provided with slips S, S^1, and S^2, arranged in conjunction with the envelopes A, D, and E, so as to operate as and for the purpose specified.

114,229.—PORTABLE DRILLING-MACHINE.—William H. Thorne, Philadelphia, Pa., assignor to Thorne & De Haven, same place.

Claim.—The frame A, having the ball-shaped journal B, in combination with the socket-clamp C *e*, the drill-spindle, and the supporting bracket or table, substantially as and for the purposes specified.

114,230.—BREECH-LOADING FIRE-ARM.—Frank Tiesing and Charles Gerner, New Haven, Conn., assignors to Eli Whitney, same place.

Claim.—1. The plate D connected to the extractor-stem C by the arm *i*, and having the arm *e* with spring *n* acting thereon, and the shoulder *e*, in combination with the spring pawl A and inclined *o*, on the frame, all constructed and operating substantially as described.

2. The joint of the frame E, having its opposing shoulders *r* beveled, substantially as described, to prevent pinching the hand when opening the breech.

114,231.—CLOTHES-WRINGER.—William H. Towers, Boston, Mass.

Claim.—The combination of the springs *f f*, cross-bar G, spring *g*, and cross-piece D, substantially as set forth.

114,232.—SEEDER AND CULTIVATOR.—James T. Trowbridge, Akron, Ohio.

Claim.—1. The metallic end piece A, when cast with a flange, *a*, and lugs *c c* on the top to receive the axle D, and with a socket for the end of the front cross-bar B, all constructed and arranged substantially as and for the purpose set forth.

2. The socket *k*, on the arm *g*, for securing the tooth *h*, as described.

114,233.—BLASTING-FUSE.—Richard Uren, Santa Cruz, Cal.

Claim.—The combination of the inner yarns B and covering-tapes A with suitable filling in the manufacture of safety-fuses, substantially as described.

114,234.—PREPARING AN EXTRACT OF MEAT.—Mann S. Valentine, Richmond, Va.

Claim.—1. The method described for obtaining the juices of meat or other matter in a condition ready for assimilation and nutrition by expressing the said juices after the material has been subjected to a moderate heat so as to avoid coagulating the albumen.

2. The new article of food above described, consisting of the juice of meat expressed after the application of moderate heat, such as will not coagulate the albumen.

114,235.—GUIDE FOR CIRCULAR-SAWS.—David W. Washburn, Brewer, Me.

Claim.—The within-described adjustable guide for saws, as specified, for the purposes set forth.

114,236.—BALE-TIE.—Francis Watkins, London Works, Birmingham, England.

Claim.—In combination with the hoop A B, provided at its free end with the loop *a*, the hook-plate C, having the curved projection *d*, slot *c*, and inclined opening *e*, all constructed as described, and for the purpose specified.

114,237.—PLOW.—Adam Weaber, Lebanon, assignor to himself and L. L. Heiks, Clear Springs, Pa.

Claim.—The projection F on the mold-board B, and the corresponding opening E in the plate D, as and for the purposes specified and set forth.

114,238.—WATER-CLOSET.—Darius Wellington, Boston, Mass.

Claim.—1. In combination with the container *a*, the rim d^1, having the flanges *d e* which embrace the edge of the container, the rim being fastened to the container, substantially as described.

2. The combination of the pan with the carrier, to which it is attached by means of the arms *l l*, fingers *n*, and screw-pin *o*, substantially as described.

3. The weighted slide *u*, arranged to operate the pan and valve, substantially as described.

4. In combination with the vertically-reciprocating slide, the horizontal arm *w'*, adjustable in position upon the slide, substantially as and for the purpose described.

5. The cup a^2, arranged to receive the knob *z* and spindle *y*, when provided with the wings or buttons b^2 for fastening it to the seat of a water-closet.

6. The valve h^2, when operated by the weighted lever c^2 acting upon the spindle l^2, substantially as described.

7. In combination with the valve h^2 and valve-case c^2, the trap p^2 q^2 and waste-pipe r^2, substantially as described.

8. The screw-bearing *k*, constructed with the groove f^2 and aperture u^2, substantially as described.

114,239.—MAIL-BAG FASTENING, &c.—Martin V. B. White, Fort Edwards, N. Y.

Claim.—1. The rib or vertebra B, composed of overlapping sections C provided with the tongues *c* and corresponding notches *c''*, substantially as and for the purpose specified.

2. In combination with the vertebra B, constructed as described, the slotted tube E, substantially as and for the purpose shown.

114,240.—BALANCE-WHEEL.—Frederick W. Wild, Baltimore, Md.

Claim.—1. The construction of the pin C, with its adjustable device E, with reference to the hub A of the balance-wheel, substantially as herein set forth.

2. The construction of the adjustable cone B with its adjusting-screw E, when combined with the pin C, as herein described.

3. The construction of the pin C, with its adjustable cone B, adjusting screw E, all arranged with reference to and for operation with the balance-wheels of sewing-machines, substantially as herein described.

114,241.—HORSE-STALL.—John Wilkinson, Baltimore, Md.

Claim.—1. The combination of the hay-tube *a*, apertures *b*, cover *d*, and lattice-work *n*, constructed in the manner and for the purpose substantially as set forth.

2. The slot *g*, undercut as shown, in combination with the flanged conduit *i* and the slot-cover *f*, substantially in the manner and for the purposes set forth.

3. The platform *m* and slobber-board *k*, when combined for the purposes set forth.

114,242.—PREPARATION AND APPLICATION OF PROXYLINE FOR DENTAL-PLATES.—Richard H. Winsborough, St. Louis, Mo.

Claim.—1. Proxyline for dental purposes bleached by the application of chlorine or other suitable bleaching agent in order to render it more highly translucent or semi-transparent, as and for the purpose set forth.

2. Artificial gums or dental plates formed by the introduction of plastic camphorated proxyline into plaster or porous molds, and, while said material remains in the molds, expelling the camphor or other solvent by artificial heat or natural evaporation, or extracting it by chemical means, as specified.

114,243.—MIRROR-REFLECTOR.—Henry S. Wood and James W. Morrison, Chicago, Ill., assignors of one-third their right to Jacob P. Pfanner, same place.

Claim.—1. The combination of the reflector A, universal joint B B', jointed arms C C^1 C^2, friction-joint E, and bracket G, constructed and operating substantially as specified.

2. The friction-joint E, consisting of the central corrugated limb *b* and the two outer corrugated limbs *i i'*, substantially as and for the purpose specified.

114,244.—COMBINED HARROW.—Cornelius Wyckoff, Jr., Fairview, Ill.

Claim.—The combination and construction of the bars A A, with their adjustment-holes *h h h h a a g g* and their handles F F, with the cross-bar B, with its adjustment-holes *h h h h h h h h*, *d d*, *f f*, and *e e*, and its block E, the cross-bar C, all adjustable to convert the harrow into either a corn-harrow or cultivator, or into a harrow for harrowing small grain, &c., as described.

114,245.—CONDENSER FOR STILLS.—John Yates and Edgar Denell, Brooklyn, N. Y.

Claim.—A condenser for distilled vapor, composed of a series of corrugated leaves, in the manner and for the purpose herein described.

114,246.—COMPOSITION BLACKBOARD.—Robert W. Young, Rising Sun, Ind.

Claim.—The composition blackboard, of the ingredients in the proportions and for the purposes substantially as set forth.

114,247.—HOT-AIR REGISTER.—William Young, Easton, Pa.

Claim.—A hot-air register composed of a cast-iron frame, a detachable rim with hinged face and register-valves, all substantially as and for the purposes herein set forth.

REISSUES.

4,349.—FLUTING-MACHINE.—Henrietta H. Cole, New York, N. Y.—Patent No. 55,469, dated June 12, 1866.

Claim.—1. A fluting-machine having the journal-boxes of one of its rollers stationary and those of the other movable, with elastic mechanism interposed between the boxes, and with an adjustable and removable pressure on the outer side of the movable box, substantially as herein described.

2. In a fluting-machine, the combination of the fluted rollers with elastic mechanism, when constructed and arranged to operate, as herein described, for the purpose of separating the rollers on the removal of the pressure, as set forth.

3. In combination with the fluted rollers, operated substantially as herein described, the weighted lever K for applying the pressure, whether the weights thereon be adjustable or stationary.

4. The arrangement of the fluting-rollers B, as herein described, in order that they may be detach-

ed and others provided with larger or smaller corrugations substituted, as set forth.

4,350. — PISTON-PACKING. — Orrin Collier, Sacramento, Cal.—Patent No. 98,232, dated December 28, 1869.

Claim.—1. The ring C, grooved on its periphery, combined with an expansible centering-ring, I, working in said groove, for the purpose specified.

2. The combination of the centering-ring I, packing-rings H H, disks A B, and groove ring C, substantially as and for the purposes described.

4,351. — FALL-LEAF EXTENSION-TABLE. — Jacob Dourson, Columbus, Ohio.—Patent No. 87,829, dated March 16, 1869.

Claim.—1. The drop-leaf table, provided with an extension leg and rails which can be drawn out to support the opened leaves, as set forth.

2. The slide E, in combination with the parts *e f*, substantially as and for the purpose described.

3. The grooved bars F F, pivoted to the rails D, and combined with the dowel-pins *h* on the fixed table top, as set forth.

4,352.—DISINFECTANT OR CARBOLIC-ACID SOAP.—Charles J. Eames and Charles A. Seely, New York, N. Y.; Charles J. Eames assignor to Isabella Eames.—Patent No. 65,186, dated May 28, 1867.

Claim.—1. A disinfectant soap, made by incorporating carbolic acid, or its equivalent, with soap, substantially as above specified.

2. The combination of the carbolic acid, or other equivalent disinfectant acid, with the oils and fats to be used in the manufacture of soap.

3. The combination of carbolic acid, or its equivalent, with the alkaline solutions to be used in the manufacture of soap.

4,353.—STANCHION. — Walter C. Gifford, Jamestown, N. Y.—Patent No. 105,445, dated July 19, 1870.

Claim.—1. A swinging stanchion-bar, H, having notch *x* on one side and incline *y* on the other, acting in combination with the pins O P to form an automatic lock, as described.

2. The arrangement of notched lever K *m*, pivoted at L, in combination with a pin, J, for the purpose of unlocking, raising, and opening, in the manner described.

3. The arrangement of the hinged scraper G upon the swinging stanchion, as and for the purpose described.

4,354. — LOCK-NUT. — James H. Gridley, Washington, D. C., assignor to H. L. Purdie.—Patent No. 62,483, dated February 26, 1867.

Claim.—1. In combination with a threaded nut working on a screw or bolt, a hinged plate whose edge or edges fall close to and parallel with one or more of the sides of said nut, as and for the purpose specified.

2. In the same plate for locking-nuts, a straight edge falling parallel to one side of the nut, and an angular recess shaped to correspond with the corners of the nut, for the purpose specified.

3. A hinged nut-lock, combined with the washer of the nut, as and for the purpose specified.

4. The combination of the washer C and hinged flap C′ with the talons *b* on the back of the washer, substantially as described.

4,355. — LIGHTNING-ROD. — Lewis King, East Cleveland, Ohio, assignor of two-thirds interest to Newell E. Smith.—Patent No. 49,633, dated August 29, 1865.

Claim.—1. The connection of branch pipes or tubular lightning-rods by means of the pin *g*, head *e*, collar *f*, and dowel *d*, substantially as and for the purpose set forth.

2. The dowel or tenon *d*, in combination with straight or main sections of tubular lightning rods, substantially as and for the purpose set forth.

4,356.—PUMP-VALVE.—William H. Pollard, Seneca Falls, N. Y., assignor to The Goulds' Manufacturing Company.—Patent No. 73,038, dated January 7, 1868.

Claim.—1. The elevated convex valve-seat *a*, constructed or formed with the rounded or similarly-shaped top described, when combined with a valve acting above and striking upon said seat, as herein specified.

2. The combination of the concave disk *g* of the valve with the elevated convex seat *a* arranged as described, and operating in the manner and for the purpose specified.

4,357.—MACHINE FOR BENDING WOOD.—Condit Prudden, Philadelphia, Pa.—Patent No. 54,012, dated April 17, 1866.

Claim.—A mold, M, formed and recessed, substantially as described.

4,358.—SADDLE OR SWEAT-CLOTH.—Robert Spencer, Newark, N. J.—Patent No. 41,944, dated March 15, 1864.

Claim.—1. As a new article of manufacture, a graduated saddle-cloth in which the varying thicknesses of the different parts is produced in the process of manufacture either by felting or weaving, substantially as described, as distinguished from a saddle-cloth in which the varying thicknesses is produced by sewing or stitching on pads or thickening, as was formerly done.

2. As a new article of manufacture, a graduated saddle-cloth in which the two similar sides are practically united in the process of manufacture by felting or weaving, substantially as described, as distinguished from one in which the two similar sides were separately made, and then united with each other by stitching or sewing.

DESIGNS.

4,836.—INKSTAND.—Fred. D. Alling, Rochester, N. Y.

Claim.—The design for inkstand herein shown and described.

4,837.—LARD-PAIL.—John J. Bockeé, New York, N. Y.

Claim.—The design for a metal can as described, and as represented in the drawing.

4,838.—SIDE OF A RAILWAY CAR.—Madison Buell and William Wood Lesley, New Castle, Del.

Claim.—The design for the side of a railroad car, as described and shown.

4,839.—ENVELOPE BLANK.—George Cade, Long Branch, N. J.

Claim.—The design for an envelope, substantially as herein described and represented in the accompanying drawing.

4,840.—MOSQUITO-NETTING.—Thomas Carmichael, Newark, N. J.

Claim. — The design for mosquito-netting, as herein shown and described.

4,841.—SHOW-CASE AND DRAWERS.—George Penrice Farmer, Brooklyn, N. Y., assignor to E. C. Pratt, Brother & Co., New York city.

Claim.—The design for combined show-case and drawers, substantially as described, and as illustrated in and by the accompanying drawing.

4,842.—SHOW-CASE FOR NEEDLE PACKAGES. George Penrice Farmer, Brooklyn, N. Y., assignor to E. C. Pratt, Brother & Co., New York city.

Claim.—The design for a partitioned case, substantially as described and as illustrated in and by the accompanying drawing.

4,843. — COTTAGE FRONT.—Chauncy Graham, Elizabeth, N. J.

Claim.—The design for a cottage front, as herein shown and described.

4,844.—FRONT OF A COUNTRY HOUSE.—Chauncy Graham, Elizabeth, N. J.

Claim.—1. The arcs G on the sides of the main attic windows D, as shown.

2. The gable-shaped cornice F over the attic windows D, as shown.

3. The combination of the arcs G and gable-shaped cornice F, as shown.

4,845.—END OF SCHOOL-DESKS AND SEATS. George H. Grant, Richmond, Ind.

Claim. — The design for school-furniture, as shown and described.

4,846.—CLOCK-FRONT. — Jonathan Moore, Jr., Brooklyn, N. Y.

Claim.—The design for a clock-front, as herein set forth and described.

4,847.—SCHOOL-DESK AND SEAT.—Cyrus F. Palmer, Utica, N. Y.

Claim.—The application of this design, "made of cast-iron," to school-seats and desks.

4,848.—SAW-FILING VISE.—William A. Perkins, Salem, Mass.

Claim.—The design and configuration of the vise for filing saws, as represented.

4,849.—TOY STEAM-ENGINE. — Edward P. Ryder, New York, N. Y.

Claim.—The design for a toy steam-engine, as shown.

4,850.—SASH-WEIGHT.—William H. Short, Brooklyn, N. Y.

Claim.—The design for a sash-weight, as shown and described.

4,851. — GAS-FITTING. — Francis Ernest Thomas, New York, N. Y., assignor to Fellows, Hoffman & Co., same place.

Claim.—1. The ornamental shields *a* applied to the barrels *b* and handles *f* of gas-fittings, as set forth.

2. The grooved pipes *d* and elbows *e*, combined with the ornamental barrels *d* of gas-fittings, as set forth.

4,852.—FAUCET-HOLDER.—Carl Tielenius, New York, N. Y.

Claim.—The design for a faucet-holder herein described.

TRADE-MARKS.

227.—STOVE-POLISH.—Robert E. Cherrington, South Boston, Mass.

228.—PRINTERS' INK.—Charles Eneu Johnson, Philadelphia, Pa.

229.—PIGMENT.—James H. Nason, Boston, Mass.

230.—CIGARS.—John C. Smith & Son, Baltimore, Md.

EXTENSIONS.

E. D. BUCKMAN, of Philadephia, Pa., and Samuel A. Sisson, of Queensburg, Vt., executors of S. S. ALLEN, deceased.—Letters Patent No. 16,957, dated April 7, 1857.

"Improvement in Harvesters."

Claim.—The combination of the upper platform Q and sliding pole V with the main frame C and inclined draft-rod or chain, when the same are constructed and arranged for joint operation, substantially in the manner and for the purpose herein set forth.

DANIEL S. NIPPES, Upper Merion township, Pa., administrator of ALBERT S. NIPPES, deceased.—Letters Patent No. 17,110, dated April 21, 1857.

"Improvement in Grinding Saws."

Claim.—1. Placing the roller R within a frame, S, which is pivoted to a bar, T, which has its journals *f′* fitted in oblong slots or bearings *j′*, substantially as shown, so that said roller may be elevated or raised up free from the saw, and also be adjusted more or less angularly with the face of the grindstone H, for the purpose set forth.

2. Operating or moving the stone H and roller R toward and from the saw, by connecting the bearings *d* of the shaft of the stone and the journals *f′* of the bar T to the disk D and ratchet C, by means of the arms *h′* and the rods E, substantially as described.

WILLIAM L. WILLIAMS, of New York, N. Y. Letters Patent No. 17,061, dated April 14, 1857; reissue No. 2,132, dated December 19, 1865.

"Improvement in Machines for Splitting Wood."

Claim.—1. The combination of the feeding chains, arranged as set forth, with the stationary conveying floor, for effecting the feeding up of the sticks in a fire-wood splitting machine, substantially as described herein.

2. In a machine for splitting fire-wood, the combination of a yielding lateral support to the wood with diagonal knives, substantially as set forth, whereby the wood confined between the said knives is allowed to move laterally as the knives enter the same, for the purpose set forth.

3. Communicating to said yielding lateral supports a positive motion governed by the movement of the knives, substantially as and for the purposes specified.

4. In a wood-splitting machine, two separate knives at an angle or diagonally to each other, and each extending across the feeding floor so as to split up the wood, in the manner specified.

CORNELIUS MARTRATT, of Waterford, N. Y. Letters Patent No. 17,108, dated April 21, 1857.

"Improvement in Method of Securing the Doors of Hay-Presses, &c.

Claim.—The form of the crank or loop E, the elliptic or eccentric form of the ends of the battens C C, and the combination of the one with the other, for the purpose of securing a door or hatch, and for the purpose of preventing a sudden and dangerous start of the door in opening, by means of the gradual movement of the battens outward as the loop is turned off from them, substantially as described in the within specification.

HORACE VANSANDS, of Middletown, Conn. Letters Patent No. 17,243, dated May 5, 1857; reissue No. 3,392, dated April 20, 1869.

"Improved Blind-Fastening."

Claim.—1. The two-part case, having a screw-surface, in combination with the hook A, as a new and useful improvement in the manufacture of blind or shutter-fastenings, substantially as described.

2. The recess or slots C D, formed in a two-part shell of a blind or shutter-fastener case, substantially as and for the purpose described.

3. In a blind or shutter-fastener a two-part cylindrical case, in combination with an actuating spring and hook, A, substantially as and for the purpose described.

4. In a blind or shutter-fastener, a cylindrical case, in combination with a hook-fastening which oscillates upon an axis-pin with an actuating spring.

DISCLAIMER.

WILLIAM L. WILLIAMS, of New York, N. Y. Letters Patent No. 17,061, dated April 14, 1857; reissue No. 2,132, dated December 19, 1865.

"Improvement in Machines for Splitting Wood."

(Filed April 14, 1871.)

Disclaims fourth Claim, which is in the following words, to wit:

In a wood-splitting machine, two separate knives, at an angle or diagonally to each other, and each extending across the feeding-floor so as to split up the wood in the manner specified.

ISSUE OF MAY 2.

PATENTS.

114,248, antedated April 27,1871.—WEIGHING-SCALE.—Darwin D. Allen, Adams, Mass.

Claim.—The balance-beam B, graduated as described, forked to connect with the platform C, and sliding in the bed A, provided with the price-scale F, all arranged as shown and described, to operate in the manner specified.

114,249. — MILLSTONE-BALANCE.—John A. Althouse, New Harmony, Ind.

Claim.—The horizontal slotted bar B, vertical slotted plates C C, bolts E E, and weight D, provided with bolts F, all arranged as and for the purpose specified.

114,250.—WASHING-MACHINE.—Albert Assmann, Rahway, N. J.

Claim.—The two cylindrical brushes B C, having a differential velocity and the one resting upon the other, combined with a superincumbent loose and yielding roller, *b*, for the purpose specified.

114,251. — GRAIN-SEPARATOR.—Sidney K. Ayres, Dellton, Wis., assignor to himself and Peter Flickner, same place.

Claim.—1. The combination of the shoe H, the spring strap J, the plates K, the strap I, and the hook I', when the several parts are constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

2. The combination of the screen-frame Q with the shoe H, when the same is adjustably suspended to said shoe by means of the stirrup *e* and screw *d*, as and for the purpose set forth.

3. The arrangement of the shoe H of the sieves N^1, O^1, and P^1, and screens S', grain-boards N, O, P, and S, tail-boards N^2 O^2 P^2, and the deflector U, substantially as and for the purposes specified.

4. The bell-crank M provided with the groove *a*, in combination with the pitman L provided with the stud *b*, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

114,252. — STALK-CUTTER. — Josiah Babcock, John F. Stilson, and James C. Leidy, Galesburg, Ill.

Claim.—1. The adjustable bearing cylinders G G, and ball-journals L, constructed and arranged to operate in combination with the cylinder of the cutters I and frame A, substantially as and for the purpose set forth.

2. The frame M, pendants N, bearing cylinders G, shaft J, lever S, catch T, and frame A, combined and arranged to operate substantially as described, and for the purpose set forth.

114,253.—SASH-HOLDER.—William Bachelier, West Newbury, assignor to himself and George P. Kimball, Boston, Mass.

Claim.—The spring C, provided with frictional bearing surface D, protruding through an opening in plate A, in combination with plate A, pin F, and set-screw E, all arranged and operating substantially as described.

114,254.—CORDING ATTACHMENT FOR SEWING-MACHINES. — Nelson Barnum, La Porte, Ind., and Russel S. Barnum, Chicago, Ill.

Claim.—1. The spring *d*, provided with plate *d'*, when so arranged as to form a longitudinal groove to receive the cord, in combination with arm B, whereby the cord is retained in position, substantially as and for the purpose described.

2. In combination with arm B, the spring *d*, plate *d'*, and presser-foot A, the whole arranged to operate substantially as and for the purpose described.

114,255. — AUTOMATIC BOILER-FEEDER.—Robert Berryman, Hartford, Conn., and Rufus Nutting Pratt, Philadelphia, Pa.

Claim.—1. The combination of the condenser G and the cock I with the weighted lever C and globe D, (combined with the boiler by pipes *b c*, as described,) and with the tank or vessel E, its water-induction and eduction-conduits *i H k*, and the pipe *d* and its cock F, all being applied together and with the boiler, substantially in manner and to operate as described.

2. In combination therewith, means of heating the tank E by the exhaust steam, such means as represented and described, consisting of the two chambers *h h* and the stack of pipes *i*.

3. The combination and arrangement of the chambers *h h* and the stack of pipes *i* with the vessel E.

4. The combination of the check-valves *u l*, arranged in the pipes *i* and *k* with the condenser G, the tank E, the vessel D, and lever C, all arranged and combined together in manner substantially as described, and with or for use with a boiler, as set forth.

114,256. — FIRE-EXTINGUISHER.—Christopher Blake, Boston, Mass.

Claim.—1. The receptacles A B, for holding apart in solution the gas-producing ingredients, in combination with the pipes C D and branch pipes *a b*, provided with stop-cocks, the whole constructed, arranged, and operating substantially in the manner and for the purpose set forth.

2. In combination with the above, the feed-pipes *e h*, with their stop-cocks 5 5, operating substantially in the manner and for the purpose set forth.

114,257. — STEAM-TRAP.—James H. Blessing, Albany, N. Y., assignor to himself and Frederick Townsend, same place.

Claim.—1. The non-conducting diaphragm S, or its equivalent, working in a case, A, in combination with inlet and outlet-valves applied to said case on opposite sides of said diaphragm, and operating, substantially as described, and for the purpose set forth.

2. The combination, with the case A or its equivalent, of the hot-water valve-box C, containing inlet-valve V and outlet-valve V', and communicating by way of passage *a*, with the hot-water apartment T, substantially as described.

3. In combination with the diaphragm-case A, the receiving and discharging-valve box B, the diaphragm-rod D, and suitable valve-lifting devices, operating automatically on the valves in said box, substantially as described.

4. The non-conducting diaphragm S, made flexible, substantially as described.

114,258.—THILL-COUPLING.—George I. Bradley, Boston, Mass., assignor to himself and Everett W. Bigelow, same place.

Claim.—A "clip," B, provided with a split socket, D, and set-screw *k*, in combination with a thill-iron, E, provided with a ball, *d*, substantially as and for the purpose set forth.

114,259. — BREECH-LOADING FIRE-ARM.—Heinrich Büchner, New York, N. Y.

Claim.—1. The slide I, combined with the vertically-reciprocating cartridge-block C and with the horizontally-reciprocating needle-head or plug F, to operate the same simultaneously, as specified.

2. The crank-shaft J, connected with the slide I, and combined with the slotted guide-plate *l* to operate the same, substantially as herein shown and described.

3. The notches O P on the needle-plug, combined with sliding hook *n* and trigger L, to operate, as described, in successively withdrawing, holding, and discharging the needle-plug F.

114,260. — BASE-BURNING STOVE.—Esek Bussey and Charles A. Hamlin, Troy, N. Y., assignors to Bussey, McLeod & Co., same place.

Claim.—1. The coking-chamber B, placed above and disconnected from the fire-pot A, and connected with the lower end of the fuel-reservoir by means of the open grate C, substantially as and for the purposes herein set forth.

2. The fuel-reservoir H, provided with perforations J, which are covered on the outside by the tubes I, for the purpose of conducting the gases from said reservoir through the grate C and into the coking-chamber B, substantially as herein set forth.

3. The arrangement of the coking-chamber B, grate C, reservoir H with its perforations J and tubes I, chamber Q, and draught-door D, all substantially as shown and described.

4. The combination of the hinged or pivoted cover M with opening O, cap P, connecting-strip N, and cover L, all substantially as and for the purposes herein set forth.

114,261. — INFANT'S SHOE. — Willard M. Carpenter, Rowley, Mass.

Claim.—The method of attaching elastic cord B by means of balls C, as applied to infant's shoes, substantially as described.

114,262.—INKSTAND.—Seth C. Catlin, Cleveland, Ohio.

Claim.—1. The combination of the adjustable air-vessel M, annular chamber E, air-chamber F, reservoir I, and cup J, arranged and operating substantially as specified.

2. The combination of the sponge-cup D, annular liquid-chamber E, and air-vessel M, constructed and arranged substantially as shown and described.

114,263. — CHEESE-HOOP FLANGE.—Azor Chandler, Rome, N. Y.

Claim.—The metallic flange B, formed substantially as described, to co-operate with a cheese-hoop and follower for the purpose of rounding and finishing the angles of cheese in the press, as specified.

114,264.—CITRATES OF IRON AND MANGANESE FOR MEDICAL PURPOSES.—Albion R. Clapp, Boston, Mass., assignor to James R. Nichols & Co., same place.

Claim.—The substance formed by the combination of the citrates of the oxides of iron and manganese, essentially as herein set forth.

114,265. — NEEDLE-SHARPENING ATTACHMENT FOR SEWING-MACHINES.—Celia P. Clark, Lock Haven, Pa.

Claim.—The within-described grinding or polishing-wheel C, binding-plate D, revolving shaft B, and interposed rod F, all arranged and combined substantially in the manner and for the purpose herein set forth.

114,266.—HOE.—Isaac Cook and John T. Bever, Haynesville, Mo.

Claim.—The hoe-blade B, when provided with a square or angular eye, and corrugation *b b*, in combination with a handle, A, having a corresponding depression in the ferrule *a* for the corrugation *b b* of the blade, and a square or angular tang, *c*, made permanent in handle A by screw or bolt *f*, with screw and nut for securing the parts together, as specified.

114,267.—METER.—Thomas Cook, Old Kent Road, and John Watson, Victoria Chambers, Westminster, assignors to Fluid-Meter Company, London, England.

Claim.—The improved apparatus herein described, consisting of the horizontal wheel A, provided with cavities or cells on its under side, the reversely-inclined ports *e* and *g*, plate *h*, and casing D, substantially as shown and described.

114,268. — PRINTING-PRESS. — Calvert B. Cottrell, Westerly, R. I.

Claim.—1. The combination, with the cylinders employed in connection with the reciprocating bed G of a printing-press, for arresting it by compressing the air in said cylinders, of the auxiliary air-chambers for increasing the elasticity of the cushion, substantially as specified.

2. The employment of the cylinders and pistons used for arresting the bed by an air-spring, of the valves I for admitting air behind the pistons, substantially as specified.

3. The arrangement of the cylinders and pistons whereby they are supported independently of the bed and not separated from each other in the back stroke, and whereby they are operated by the contact of a projection from the bed with the connections of the pistons, substantially as specified.

114,269.—WHIFFLETREE-COUPLING.—Hyde Crocker, Jr., Montrose, Pa.

Claim.—The centrally-apertured and rabbeted plate B, and the flanged plate D E F, combined as described, with the eyener A and whiffletree G, for the purpose specified.

114,270.—RECEIVER AND STENCH-TRAP FOR STREET-SEWERS.—Thomas Dark, Buffalo, N. Y.

Claim.—The construction and arrangement of the iron receiver A with slanting ends *a a'*, and outside frost-flanges *g g'*, and trap B, all formed in one piece, and having the hinged valve-trap C resting on packed seats or grooves *e e'*, and held in place by rods *c c'*, as hereinbefore set forth.

114,271, antedated April 26, 1871.—COTTON-PRESS.—Henry J. Davis, Wetumpka, Ala.

Claim.—The series of vibratory eccentrics S ap-

plied to the side *r*, in combination with the operative mechanism shown and described, to loosen the pressed bale preparatory to its discharge from the machine.

114,272. — GAS-REGULATOR. — Otis Dean, Richmond, Va.

Claim.—The pendent pivoted valve E, combined with a valve-seat located in partition B of a vessel, A, arranged between the gas-supply pipe and burners, as and for the purpose specified.

114,273.—PRINTERS' CASE.—Alexander T. De Puy, New York, N. Y.

Claim.—The combination, with the filling of a type-case, of any number of metal clamps, when constructed and operating substantially as and for the purposes set forth.

114,274. — SELF-ACTING MULE FOR SPINNING.—John Dodd, Oldham, England.

Claim.—The combination of a winding-on drum with decreasing diameters with apparatus substantially such as herein described, connected to the radial arm, for removing lengths of chain from the said drum.

114,275. — DRY-GAS PURIFIER. — Edward Duffee, Haverhill, Mass., assignor to American Gas-Screen Manufacturing Company, same place.

Claim.—In a dry-gas purifier constructed as above described, the arrangement of an intercepting partition, E, below the lower series of lime-screens, in manner and for the purpose set forth.

114,276.—TUCK-MARKER FOR SEWING-MACHINES.–George L. Du Laney, New York, N. Y.

Claim.—The combination, with a laterally-adjustable perforator attached to and moving with the needle-arm, of a laterally adjustable plate, E, having a perforation therein to permit the point of the perforator to enter it and puncture the cloth without reaching down to and coming in contact with the bed-plate of the sewing-machine.

114,277. — MANUFACTURE OF IRON AND STEEL.—Zobette S. Durfee, New York, N. Y.

Claim.—1. The manufacture of iron and steel, and of various metallic alloys, by the combined apparatus and processes substantially as herein described.

2. The annular trough and feeding-hopper combined together, and operated either with an ingot-mold or a furnace, substantially as described herein.

114,278.—EVAPORATOR.—Stephen P. Dyer, Ankney Town, Ohio.

Claim.—The evaporating apparatus, consisting of the heater and pans, the one being grooved in the bottom and provided with the dividing plates, the valves, and filter, and the other arranged to receive the liquid from the first, and for being readily removed for emptying, all substantially as specified.

114,279.—STOVE-PIPE SHELF. — James P. Elliott, Bridgeport, Conn.

Claim.—The combination, with pipe A, of band C, shank F, shoulders 1 1, shelf G, hooks G G, plate D with opening J and recesses 2 2, lever E reinforced to provide for cam H, constructed and operated substantially as set forth.

114,280.—TUBULAR GRATE-BAR.—William H. Farris, Cairo, Ill.

Claim.—1. The fire-back A, chambered at *s* and *f*, and provided with a hollow bar, B, and internal tube G, substantially as described.

2. The cap D, applied to the end of the hollow bar B, in combination with the internal tube G, terminating near said cap and communicating with the inlet-passage *s*, substantially as described.

3. A series of chambered fire-backs, A, communicating above and below with one another, in combination with grate-bars B, internal tubes G, and caps D, so constructed and arranged that the inlet and discharge of water shall be through each fire-back and grate-bar, substantially as described.

114,281.—NIPPLE-SHIELD.—Samuel C. Foster, New York, N. Y., assignor to The Monitor Shield Company.

Claim.—The combination of the circular disk, with elevated rim upon its under side, near the nipple opening, the concave under surface, and the nipple turret, with the smallest diameter of its conical orifice at the point of union of the disk and turret, all arranged to form a nipple-shield, as described.

114,282.—INVALID-CHAIR.—George T. Fowler, East Somerville, Mass.

Claim.—1. The sliding foot-rest frame mounted in ways or grooves, and combined with suitable springs for permitting the extension or sliding movement of said frame, substantially as and for the purposes set forth.

2. The combination, with the body of an invalid-chair, of a removable wheel-frame D N carrying the side and rear wheels, and secured to the chair substantially in the manner and for the purposes shown and described.

114,283.—HYDRANT.—Joseph P. Gallagher, St. Louis, Mo.

Claim.—1. The hollow nut a^2 and its bushing *a*, the spring c^3, tappet c^2, and rod C′ when arranged and operated substantially as set forth.

2. In combination with the parts mentioned in the first clause, the lever F *g* and fulcrum-plate G, all constructed, arranged, and operating substantially as described.

3. The hemispherical valve-chamber B, constructed with an annular water-way, B^2, the tubular portion B^3, and provided with the adjustable valve-seat, substantially as described.

114,284.—PUMP.—Joseph P. Gallagher, St. Louis, Mo.

Claim.—1. The air-pump B, constructed as described, in combination with the elastic air-receiver D, constructed as described, for the purpose set forth.

2. The slide X, consisting of the upper cross-head E, rods *e*, lower cross-heads E^1 E^2, secured to piston C, said slide, as described, having end rollers e^1 e^2, and arranged substantially as and for the purpose set forth.

3. The shaft F, cam-device G, as described, arranged to operate between anti-friction rollers f^2 g^2, cross-head E, in combination with the slide X and piston C, to operate substantially as set forth.

4. The gearing devices J J′ *k m*, ratchet and pawl *j j′*, shafts I K M, bevel-gears L L′, when arranged substantially as and for the purpose set forth.

5. The air-pump B, piston-slide X, as described, counterpoise H′, shaft F, right-and-left cam device G, when arranged in combination with the air-receiver D and clock-work gearing, to operate as and for the purpose described.

114,285.—PRINTING-PRESS. — Merritt Gally, Rochester, N. Y.

Claim.—1. In connection with the platen of a printing-press, the combined tympan and pilingfly J, or equivalent, substantially as and for the purpose specified.

2. The crank *g* and chase-clamp *c*, combined, substantially as and for the purpose specified.

114,286.—BOOK-BINDING MACHINE.—John Glass, Green Point, assignor to George H. Sanborn, Brooklyn, N. Y.

Claim.—1. The combination of the needles, shanks having spiral grooves cut upon them, movable cross-head I, boxes *c* and Q, and connections M and cross-brace L, when the same shall be constructed and operate substantially as described, for the purpose set forth.

2. In combination with the needles of a book-stabbing machine, an apron of felt, W, as and for the purposes fully set forth.

114,287. — MANUFACTURE OF RUBBER.—John Greacen, Jr., New York, N. Y.

Claim.—The India-rubber compound herein described, composed of wood pulp and rubber, in the manner and for the purposes hereinbefore described.

114,288.—SPINNING-MULE, &c.—Peter William Greenwood, Landenburg, near Avondale, Pa.

Claim.—The gears D H and D′ I, the pulleys F J J′ N, inclines L M, pulley R T, and band K, combined with the shaft C, for the purpose of lessening the revolutions of the spindles during the delivery of the roping, as set forth.

114,289.—SLATE-FRAME.—Wesley W. Hamilton, Flushing township, N. Y.

Claim.—A slate-frame provided with the slotted openings *c* B, in combination with rings or endless bands A, as and for the purpose described.

114,290.—STOVE-GRATE.—Charles R. Harvey and James H. Foote, New York, N. Y., assignors to Charles R. Harvey.

Claim.—1. In combination with a grate, free to oscillate upon a center, an axle supporting the grate, and a rod attached to and projecting from the axis, substantially as described, the combination being and acting substantially as set forth.

2. In combination with a grate, an axle, and a rod projecting therefrom, a catch or latch, the combination being and operating substantially as herein described.

114,291.—DRAUGHT-PROMOTER.—Benjamin A. Haycock, Richmond, Iowa.

Claim.—The pipe C, constructed as described, with the lip at one side of the longitudinal orifice projecting over and beyond the other lip on the opposite side of said orifice, as represented at D, whereby the matter falling over the edges E will be caused to roll down the sides of the pipe, substantially as described.

114,292.—CRIB OR CRADLE. — William T. Hazard, Randolph, Mass.

Claim.—1. The arrangement of rocking bedstead A B C A B C, constructed as described, and provided with hooks *d d d d* at its corners, in detachable combination with guard G, to be used when detached as a fence or pen, substantially as described.

2. The arrangement of the cross-bars C C of the bed-bottom with the standards B B of the pedestal by means of pivots, when there is further arranged therewith the spring *a*, acting against the cross-bar C and standard B, to restore their normal relations when disturbed, and the further arrangement therewith of lock *f*, substantially as described.

114,293.—DISTILLING HYDROCARBON OIL.—Samuel A. Hill and Charles F. Thumm, Oil City, assignors to themselves and Oliver P. Scaife, Pittsburg, Pa.

Claim.—The method and means hereinbefore described for displacing or expelling air from stills prior to charging them with hot oil, as and for the purpose set forth.

114,294. — SEWING-MACHINE. — James A. House and Henry A. House, Bridgeport, Conn., assignors to "Wheeler & Wilson Manufacturing Company," same place.

Claim.—1. A rotating hook, so formed, substantially as described, as to seize, expand, and cast off loops of needle-thread, as specified, and in its action causing a round turn of thread around the seizing part of the hook.

2. The relative arrangement of a reciprocating eye, pointed needle, and a revolving hook, substantially such as specified, so that the seizing portion of the latter revolves in planes perpendicular to that in which the former reciprocates, the arrangement being substantially such as specified, and both the needle and hook operating substantially as described.

3. The combination of a reciprocating eye-pointed needle with a revolving hook, substantially such as is specified, and a bobbin, when the axes of the two latter are in planes parallel to that in which the needle reciprocates, the relative arrangement being as described.

4. In combination with a revolving hook, a non-revolving bobbin-supporter, provided with a ring or annular elevation, substantially such as described, on which a bobbin or a bobbin-case may rest, as described.

5. A non-revolving bobbin-supporter, provided with a ring or annular elevation having a gap or opening in the periphery thereof, the construction being substantially such as described, when arranged and operating in combination with a revolving hook, substantially as described.

6. A bobbin, in combination with a bobbin-case and a horizontally-revolving hook, all constructed and operating substantially as described.

7. A bobbin, in combination with a bobbin-case, having peripheral eyes or holes, and a central standard, with a guide-eye or hook located at the axis of the bobbin, through which bobbin-thread may be led, as described.

8. A take-up lever, mounted upon a shaft and operated in one direction by a pin or arm upon the shaft, and in the other by the pull or draft of the thread, the combination of lever, pin, and shaft being substantially such as set forth.

9. The take-up lever, provided at its end with the double hook and tongue between the two parts thereof, the construction and combination being as set forth.

10. The combination of two irregular eccentric or over screw-gears, the one mounted upon a shaft lying in a plane at right angles to the plane in which the shaft of the other gear is located, the combination being substantially such as set forth.

11. The combination of two sets of cams, one set upon each side of a cog-wheel, with two legs or pendants attached to a feed-bar, whereby the feeding surface may be properly actuated when located above the cog-wheel, substantially as set forth.

12. In combination with a revolving hook, substantially such as specified, and mounted upon a vertical axis, an adjustable support, substantially such as described, for the lower end of the hook-shaft.

114,295, antedated April 15, 1871.—APPARATUS FOR EVAPORATING LIQUIDS.–John Howarth, Salem, Mass.

Claim.—1. The cover *d*, communicating with space *k* by flexible pipe or tube *g*, and operating substantially as and for the purpose described.

2. The cover *d* having tube *g*, in combination with space *k* and kettle C, substantially as described.

114,296.—ENGINE-GOVERNOR.—Reuben K. Huntoon, Boston, Mass.

Claim.—1. The combination of the main and auxiliary oblique-winged propellers, the ribbed

plied to the side r, in combination with the operative mechanism shown and described, to loosen the pressed bale preparatory to its discharge from the machine.

114,272. — GAS-REGULATOR. — Otis Dean, Richmond, Va.

Claim.—The pendent pivoted valve E, combined with a valve-seat located in partition B of a vessel, A, arranged between the gas-supply pipe and burners, as and for the purpose specified.

114,273.—PRINTERS' CASE.—Alexander T. De Puy, New York, N. Y.

Claim.—The combination, with the filling of a type-case, of any number of metal clamps, when constructed and operating substantially as and for the purposes set forth.

114,274. — SELF-ACTING MULE FOR SPINNING.—John Dodd, Oldham, England.

Claim.—The combination of a winding-on drum with decreasing diameters with apparatus substantially such as herein described, connected to the radial arm, for removing lengths of chain from the said drum.

114,275. — DRY-GAS PURIFIER. — Edward Duffee, Haverhill, Mass., assignor to American Gas-Screen Manufacturing Company, same place.

Claim.—In a dry-gas purifier constructed as above described, the arrangement of an intercepting partition, E, below the lower series of lime-screens, in manner and for the purpose set forth.

114,276.—TUCK-MARKER FOR SEWING-MACHINES.—George L. Du Laney, New York, N. Y.

Claim.—The combination, with a laterally-adjustable perforator attached to and moving with the needle-arm, of a laterally adjustable plate, E, having a perforation therein to permit the point of the perforator to enter it and puncture the cloth without reaching down to and coming in contact with the bed-plate of the sewing-machine.

114,277. — MANUFACTURE OF IRON AND STEEL.—Zohette S. Durfee, New York, N. Y.

Claim.—1. The manufacture of iron and steel, and of various metallic alloys, by the combined apparatus and processes substantially as herein described.

2. The annular trough and feeding-hopper combined together, and operated either with an ingot-mold or a furnace, substantially as described herein.

114,278.—EVAPORATOR.—Stephen P. Dyer, Ankney Town, Ohio.

Claim.—The evaporating apparatus, consisting of the heater and pans, the one being grooved in the bottom and provided with the dividing plates, the valves, and filter, and the other arranged to receive the liquid from the first, and for being readily removed for emptying, all substantially as specified.

114,279.—STOVE-PIPE SHELF. — James P. Elliott, Bridgeport, Conn.

Claim.—The combination, with pipe A, of band C, shank F, shoulders J 1, shelf G, hooks G G, plate D with opening 3 and recesses 2 2, lever E reinforced to provide for cam H, constructed and operated substantially as set forth.

114,280.—TUBULAR GRATE-BAR.—William H. Farris, Cairo, Ill.

Claim.—1. The fire-back A, chambered at *s* and *f*, and provided with a hollow bar, B, and internal tube G, substantially as described.

2. The cap D, applied to the end of the hollow bar B, in combination with the internal tube G, terminating near said cap and communicating with the inlet-passage *s*, substantially as described.

3. A series of chambered fire-backs, A, communicating above and below with one another, in combination with grate-bars B, internal tubes G, and caps D, so constructed and arranged that the inlet and discharge of water shall be through each fire-back and grate-bar, substantially as described.

114,281.—NIPPLE-SHIELD.—Samuel C. Foster, New York, N. Y., assignor to The Monitor Shield Company.

Claim.—The combination of the circular disk, with elevated rim upon its under side, near the nipple opening, the concave under surface, and the nipple turret, with the smallest diameter of its conical orifice at the point of union of the disk and turret, all arranged to form a nipple-shield, as described.

114,282.—INVALID-CHAIR.—George T. Fowler, East Somerville, Mass.

Claim.—1. The sliding foot-rest frame mounted in ways or grooves, and combined with suitable springs for permitting the extension or sliding movement of said frame, substantially as and for the purposes set forth.

2. The combination, with the body of an invalid-chair, of a removable wheel-frame D N carrying the side and rear wheels, and secured to the chair substantially in the manner and for the purposes shown and described.

114,283.—HYDRANT.—Joseph P. Gallagher, St. Louis, Mo.

Claim.—1. The hollow nut a^2 and its bushing *a*, the spring c^2, tappet c^3, and rod C′ when arranged and operated substantially as set forth.

2. In combination with the parts mentioned in the first clause, the lever F *g* and fulcrum-plate G, all constructed, arranged, and operating substantially as described.

3. The hemispherical valve-chamber B, constructed with an annular water-way, B^2, the tubular portion B^3, and provided with the adjustable valve-seat, substantially as described.

114,284.—PUMP.—Joseph P. Gallagher, St. Louis, Mo.

Claim.—1. The air-pump B, constructed as described, in combination with the elastic air-receiver D, constructed as described, for the purpose set forth.

2. The slide X, consisting of the upper cross-head E, rods *e*, lower cross-heads E^1 E^2, secured to piston C, said slide, as described, having end rollers e^1 e^2, and arranged substantially as and for the purpose set forth.

3. The shaft F, cam-device G, as described, arranged to operate between anti-friction rollers g^2 g^3, cross-head E, in combination with the slide X and piston C, to operate substantially as set forth.

4. The gearing devices J J′ *k* *m*, ratchet and pawl *j* *j′*, shafts I K M, bevel-gears L L′, when arranged substantially as and for the purpose set forth.

5. The air-pump B, piston-slide X, as described, counterpoise H′, shaft F, right-and-left cam device G, when arranged in combination with the air-receiver D and clock-work gearing, to operate as and for the purpose described.

114,285.—PRINTING-PRESS. — Merritt Gally, Rochester, N. Y.

Claim.—1. In connection with the platen of a printing-press, the combined tympan and pilingfly J, or equivalent, substantially as and for the purpose specified.

2. The crank *g* and chase-clamp *c*, combined, substantially as and for the purpose specified.

114,286.—BOOK-BINDING MACHINE.—John Glass, Green Point, assignor to George H. Sanborn, Brooklyn, N. Y.

Claim.—1. The combination of the needles, shanks having spiral grooves cut upon them, movable cross-head I, boxes *a* and Q, and connections M and cross-brace L, when the same shall be constructed and operate substantially as described, for the purpose set forth.

2. In combination with the needles of a book-stabbing machine, an apron of felt, W, as and for the purposes fully set forth.

114,287. — MANUFACTURE OF RUBBER.—John Greacen, Jr., New York, N. Y.

Claim.—The India-rubber compound herein described, composed of wood pulp and rubber, in the manner and for the purposes hereinbefore described.

114,288.—SPINNING-MULE, &c.—Peter William Greenwood, Landenburg, near Avondale, Pa.

Claim.—The gears D H and D′ I, the pulleys F J J′ N, inclines L M, pulley R T, and band K, combined with the shaft C, for the purpose of lessening the revolutions of the spindles during the delivery of the roping, as set forth.

114,289.—SLATE-FRAME.—Wesley W. Hamilton, Flushing township, N. Y.

Claim.—A slate-frame provided with the slotted openings c B, in combination with rings or endless bands A, as and for the purpose described.

114,290.—STOVE-GRATE.—Charles R. Harvey and James H. Foote, New York, N. Y., assignors to Charles R. Harvey.

Claim.—1. In combination with a grate, free to oscillate upon a center, an axle supporting the grate, and a rod attached to and projecting from the axis, substantially as described, the combination being and acting substantially as set forth.

2. In combination with a grate, an axle, and a rod projecting therefrom, a catch or latch, the combination being and operating substantially as herein described.

114,291.—DRAUGHT-PROMOTER.—Benjamin A. Haycock, Richmond, Iowa.

Claim.—The pipe C, constructed as described, with the lip at one side of the longitudinal orifice projecting over and beyond the other lip on the opposite side of said orifice, as represented at D, whereby the matter falling over the edges E will be caused to roll down the sides of the pipe, substantially as described.

114,292.—CRIB OR CRADLE. — William T. Hazard, Randolph, Mass.

Claim.—1. The arrangement of rocking bedstead A B C A B C, constructed as described, and provided with hooks *d d d d* at its corners, in detachable combination with guard G, to be used when detached as a fence or pen, substantially as described.

2. The arrangement of the cross-bars C C of the bed-bottom with the standards B B of the pedestal by means of pivots, when there is further arranged therewith the spring *a*, acting against the cross-bar C and standard B, to restore their normal relations when disturbed, and the further arrangement therewith of lock *f*, substantially as described.

114,293.—DISTILLING HYDROCARBON OIL.—Samuel A. Hill and Charles F. Thumm, Oil City, assignors to themselves and Oliver P. Scaife, Pittsburg, Pa.

Claim.—The method and means hereinbefore described for displacing or expelling air from stills prior to charging them with hot oil, as and for the purpose set forth.

114,294. — SEWING-MACHINE. — James A. House and Henry A. House, Bridgeport, Conn., assignors to "Wheeler & Wilson Manufacturing Company," same place.

Claim.—1. A rotating hook, so formed, substantially as described, as to seize, expand, and cast off loops of needle-thread, as specified, and in its action causing a round turn of thread around the seizing part of the hook.

2. The relative arrangement of a reciprocating eye, pointed needle, and a revolving hook, substantially such as specified, so that the seizing portion of the latter revolves in planes perpendicular to that in which the former reciprocates, the arrangement being substantially such as specified, and both the needle and hook operating substantially as described.

3. The combination of a reciprocating eye-pointed needle with a revolving hook, substantially such as is specified, and a bobbin, when the axes of the two latter are in planes parallel to that in which the needle reciprocates, the relative arrangement being as described.

4. In combination with a revolving hook, a non-revolving bobbin-supporter, provided with a ring or annular elevation, substantially such as described, on which a bobbin or a bobbin-case may rest, as described.

5. A non-revolving bobbin-supporter, provided with a ring or annular elevation having a gap or opening in the periphery thereof, the construction being substantially such as described, when arranged and operating in combination with a revolving hook, substantially as described.

6. A bobbin, in combination with a bobbin-case and a horizontally-revolving hook, all constructed and operating substantially as described.

7. A bobbin, in combination with a bobbin-case, having peripheral eyes or holes, and a central standard, with a guide-eye or hook located at the axis of the bobbin, through which bobbin-thread may be led, as described.

8. A take-up lever, mounted upon a shaft and operated in one direction by a pin or arm upon the shaft, and in the other by the pull or draft of the thread, the combination of lever, pin, and shaft being substantially such as set forth.

9. The take-up lever, provided at its end with the double hook and tongue between the two parts thereof, the construction and combination being as set forth.

10. The combination of two irregular eccentric or over screw-gears, the one mounted upon a shaft lying in a plane at right angles to the plane in which the shaft of the other gear is located, the combination being substantially such as set forth.

11. The combination of two sets of cams, one set upon each side of a cog-wheel, with two legs or pendants attached to a feed-bar, whereby the feeding surface may be properly actuated when located above the cog-wheel, substantially as set forth.

12. In combination with a revolving hook, substantially such as specified, and mounted upon a vertical axis, an adjustable support, substantially such as described, for the lower end of the hook-shaft.

114,295, antedated April 15, 1871.—APPARATUS FOR EVAPORATING LIQUIDS.—John Howarth, Salem, Mass.

Claim.—1. The cover *d*, communicating with space *k* by flexible pipe or tube *g*, and operating substantially as and for the purpose described.

2. The cover *d* having tube *g*, in combination with space *k* and kettle C, substantially as described.

114,296.—ENGINE-GOVERNOR.—Reuben K. Huntoon, Boston, Mass.

Claim.—1. The combination of the main and auxiliary oblique-winged propellers, the ribbed

cylinder F and their separate shafts, with the case A to hold a liquid, as described, all being substantially as set forth.

2. The engine-governor, as composed of the instrumentalities as described, arranged, and combined together and with the valve and its case, as set forth, such consisting of the closed case, the main and auxiliary oblique-winged propellers, the ribbed hollow cylinder F, the separate shafts of the propellers, the pinion, the toothed sector, the arm, and counterbalance weight, all as explained.

114,297.—COMBINED PUNCHING AND SHEARING-MACHINE.—William H. Ivens and William E. Brooke, Trenton, N. J.

Claim.—1. The combination and arrangement of the three elliptic gears E E^1 E^2, shafts G^1 G^2, clutches H^1 H^2, eccentrics *b*, links *l*, and heads I^1 I^2, substantially as set forth.

2. The clutch F^2, constructed with a web, *a*, on one part, and cavity *a'* on the other part for operation, in combination with the eccentric elliptic gears E^1 or E^2, to insure the interlocking of the clutch with said gears when in position specified, for the purpose set forth.

3. The combination of the links I^1 I^2, eccentric shafts m^3 m^4, worm-wheels p^2 p^4, and worm q^3 with the head I^1 for adjusting the elevation of the latter, substantially as specified.

4. The frame A B, of the form and construction substantially as set forth.

5. Jointly with the frame A B the head or heads I^1 I^2, lower shearing-jaws *t w*, and links *s*, for the purpose set forth.

6. The wedge *u*, made curvilinear on its upper edge, in combination with the cutter *r* and its plunger *t*, for varying the angle of said cutter, essentially as set forth.

7. The arrangement of the foot-levers e^1 or e^2, rock-shafts f^1 f^2, springs A^1 A^2, clutch yokes c^1 c^2, and levers d^1 d^2 on either side of a double machine, so that the operation of one side is rendered independent of the other, substantially as shown and described.

114,298.—MODE OF LUBRICATING AXLES.—James Ives, Mount Carmel, Conn.

Claim.—1. The ordinary axle-skein or box improved without changing the form of the axle or materially changing the construction of the skein or box, by constructing one of the ears or lugs *a* with an extension, *a'*, and perforating said ear obliquely so as to form the conduit *b*, and terminating said conduit in the form of a flaring or expanded chamber, *d*, which chamber is formed within the inner circumference of the axle-box, all in the manner substantially as described and shown.

2. The combination of the combined plug and piston, partly screw-threaded, with the inclined conduit *b* and the expanded chamber *d*, all in the manner described and shown.

114,299.—MANUFACTURE OF CAST-STEEL.—Pierre Eymard Jay and John Augustin Rafter, Montreal, Canada.

Claim.—The process herein specified of refining cast-iron and making steel by nitrate of soda and oxide of manganese, both in the proportion of from eight to ten per cent., and of oxide of iron in the proportion of six per cent., and three per cent. of iron ore, and to be dipped and put into the melted iron in a puddling-furnace, as set forth and substantially stated.

114,300.—STEAM-ENGINE.—Asa Johnson, Brooklyn, N. Y., assignor to himself and William H. Johnson, same place.

Claim.—The combination of the toothed wheels R R' and the casing S with the adjustable triangular block m^1, placed between the wheels, all constructed, arranged, and operating substantially as set forth.

114,301.—APPARATUS FOR MANUFACTURE OF PAPER-PULP.—Morris L. Keen, Jersey City, N. J., assignor to himself and Samuel A. Walsh, New York city.

Claim.—1. The charging-drum A, arranged as represented relatively to the pulp-boiler C and to suitable connections, and capable of holding more than one complete charge and maintaining it at a high temperature, ready for immediate use in the pulp-boiler C, as specified.

2. In combination with the elevated capacious reservoir or charging-drum A and pulp-boiler C, with their connections and controlling means C^1 C^2, as represented, the heating-coil B and furnace, with the connections B^1 B^2, adapted to maintain an independent circulation between the charging-drum A and the heating-coil, as specified.

114,302.—LAMP-COLLAR.—Henry Kelley and William H. Locke, Boston, Mass.

Claim.—A lamp-collar formed with a drip-cup, and with a groove or receptacle on its under side for the reception of a rubber or other suitable packing, substantially as and for the purpose set forth.

114,303.—MACHINE FOR CRUSHING AND GRINDING ROCK-PHOSPHATES, &c.—Frederick J. Kimball, Philadelphia, Pa.

Claim.—One or more pairs of reversely-grooved or threaded rollers, arranged, substantially as shown and described, for the purpose of crushing, reducing, or grinding rock-phosphate or other material.

114,304.—APPARATUS FOR DRYING PHOSPHATES.—Frederick J. Kimball, Philadelphia, Pa.

Claim.—1. The furnace C and dry-chamber F, arranged substantially as described, for the purpose set forth.

2. In combination with a furnace for heating and drying phosphate, the inclined apron or plate G, arranged substantially as and for the purposes described.

3. Introducing a current or currents of air beneath the feed apron and so as to mingle with the products of combustion, substantially as shown and described.

4. The conveyer J, substantially as and for the purposes described.

114,305.—WASHING-MACHINE.—James Munroe Kimball, Woodstock, Ill.

Claim.—1. The slotted or mortised bars or paddles H and cross-arms G, in combination with the vertical shaft E to which they are attached, and with the tub A in which they work, substantially as herein shown and described, and for the purpose set forth.

2. An improved washing-machine formed by the combination of the tub A B, cover D^1 D^2 D^3, short vertical central shaft E, collar-box F, cross-arms G, slotted or mortised arms or paddles H, gear-wheels I J, vertical shaft K, three-armed plate L, brace M, and adjustable bar or lever N with each other, substantially as herein shown and described, and for the purpose set forth.

114,306.—CHURN.—John J. Kimball, Naperville, Ill.

Claim.—The vertically-adjustable rotary dasher, provided with agitators *c c f f* placed perpendicularly at different distances from the center, each pair having its faces parallel and diagonally inclined, to operate substantially as herein shown and described.

114,307.—WEFT-FORK FOR LOOMS.—Jacob Haskell Knowles, Lawrence, Mass.

Claim.—The stop-motion fork, made of a single piece of wire bent substantially in manner, and

soldered or connected as described, all being as represented in the accompanying drawing.

114,308.—STALK-CUTTER.—Miles K. Lewis and Joseph Munger, Malcom, Iowa.

Claim.—The bent levers L L, in combination with the wheels P P, substantially as described, for the purpose specified.

114,309.—WINDMILL.—Giles Mabie and Thomas C. Little, Dixon, Ill.; said Mabie assigns his right to said Little.

Claim.—1. The arrangement of the elbow-lever M with its standards N and connecting-rods *l l' o o'*, by means of which the adjusting-lever is connected to the slide-head, as described.

2. The irons I, constructed as described, in combination with the connecting-rods J, as set forth.

114,310.—BELT-SHIPPING DEVICE FOR SELF-ACTING MULES.—Hezekiah Macon, Providence, R. I., assignor to Joshua Hunt, same place.

Claim.—The combination, with the long lever B, of the spindle X provided with the adjustable ring and arm Y, the levers W Z, latch-lever L, belt-guide H, and spring S, all arranged and operating as described to instantaneously shift the driving-belt, as and for the purpose specified.

114,311.—MACHINE FOR CUTTING AND BENDING SHEET METAL.—Jones R. Maitland, Little Rock, Ark.

Claim.—1. The sliding carriage B, containing the lid C for holding the sheet to be cut, and bent substantially as herein shown and described.

2. The vertically-adjustable guard *d*, applied as set forth, so as to admit and lock the carriage, as specified.

3. The spring-lock E, combined with the adjustable guard *d*, substantially as and for the purpose herein shown and described.

4. The rollers I L L', hung to pivoted frames, which have projecting ears for guiding them along curved tracks, substantially as herein shown and described.

5. The combination of the carriage B with the cutter F, rollers I L L', and treadles D, H, M, and M', all arranged to operate substatially as herein shown and described.

114,312.—COAL AND WOOD-BOX.—John Mallin, Chicago, Ill.

Claim.—The herein-described coal, wood, shovel and tongs-box combined, when constructed with compartments B, C, D, and E, inclined-plane bottom *b*, opening F, and covers G G', in the manner substantially as described, and for the purposes specified.

114,313.—THRASHING-MACHINE.—Martin H. Mansfield, Ashland, Ohio.

Claim.—The arrangement of the thrashing-frame A, provided with the thrashing-cylinder B, endless belt D, and recess X, in the manner and for the purposes specified.

114,314.—BIT-STOCK.—Charles Manson, Boston, Mass.

Claim.—The arrangement of the ratchet *b c* with the pawls H and H', and the adjusting-rods *h* and *h'*, when constructed as shown and described, and for the purpose set forth.

114,315.—CORPSE-PRESERVER.—Mahlon R. Margerum, Trenton, N. J., assignor to Benjamin L. Disbrow and James G. Van Cleeve, same place.

Claim.—The supporting frame B, the rollers C C, the tongue D, the ratchet E, trip F, lug G, and the plates I I and K K, when arranged, constructed, and combined, substantially as herein shown and described, in and for the purposes set forth.

114,316.—CARBURETER FOR AIR AND GAS.—Louis Marks, San Francisco, Cal.

Claim.—The tank A, in combination with a zigzag series of inclined troughs, B C, provided with the screen *f*, and placed below and outside of the tank, and connected at their lower ends, substantially as and for the purpose described.

114,317.—LUBRICATOR.—Cotton Mather, Steubenville, Ohio.

Claim.—The chamber A, tube D, and weighted centrifugal piston G H, combined and applied as and for the purpose specified.

114,318.—HAME.—Asa McCracken, South Byron, N. Y.

Claim.—In combination with the back-strap, hip-strap, and crupper, constructed substantially as described, the regulator E and strap D, constructed and operated substantially as and for the purpose specified.

114,319.—EXTENSION-TABLE.—Frederick Menzer, Flint, Mich., assignor to himself and William Tracey, same place.

Claim.—The spring-actuated hinged legs *a b* and *d e*, in combination with the frame-work and the leaves *m m* and *p p* of my improved extension-tables, substantially as and for the purpose herein set forth.

114,320.—Canceled.

114,321.—BARREL-MACHINE.—William R. Middleton and Edward Middleton, Cleveland, Ohio.

Claim.—1. The slides G G' provided with cutters, spring Q, and revolving head D, having blades attached to or near the periphery and extending therefrom, in combination with the truncated wedge H and rod I, arranged and operating substantially as and for the purpose set forth.

2. The slide L connected with the crank-shaft, in combination with the cone-shaped head K, rod I, spring R, and wedge H, constructed and operating in the manner substantially as and for the purpose set forth.

3. The wheel E', racks D', vibrating arms A', rods or links W, and clamping-hoops U, all combined and arranged to operate substantially as described, and for the purpose set forth.

4. The wheel J', racks L', and levers M', as arranged, in combination with the shafts B, substantially in the manner as described, and for the purpose specified.

114,322.—SHINGLE-MACHINE.—Uriah D. Mihills, Fond du Lac, Wis.

Claim.—In combination with the saw B and frame A, the adjustable ways E, carriage or slide K, rollers L L and R, guides I I, and shield J, when the same are constructed and arranged to operate as herein shown and described, for the purposes set forth.

114,323.—SHEET-METAL MATCH-SAFE.—Joseph Musgrove, Newark, N. J.

Claim.—A match-safe, constructed substantially as herein shown and described.

114,324.—SAND-CAP FOR HUBS OF VEHICLES.—George H. Nevens, Livermore, Cal., assignor to himself and R. N. Caughell, same place.

Claim.—The conical cap D with the ring E, in combination with the grooved hub A, substantially as and for the purpose set forth.

114,325. — Roofing Composition.—Elinkim P. Newton, Clintonville, Pa.

Claim.—The combination of resin, tar, salt, alum, and sand, when treated in the manner set forth, for the purpose described.

114,326. — Millstone Dressing-Guide.—John North, New York, N. Y.

Claim.—1. The combination of the box-frame sectors 2 and 3, pinion-gear 4, spring R, catch-spring K, circular ratchet N, links 5 5, and beveled rule S, when operated by the hand-wheel *y*, for the purposes specified.

2. The diamond-handle with a round stem, in combination with the adjustable protector B^2, having a round hole, with the adjustable guide, for the purposes described.

114,327.—Implement for Alluring Hat-Bodies.—Jay Northrop and James F. Emmons, Bridgeport, Conn.

Claim.—In an implement for alluring hat-bodies, consisting of the handle A, bow-spring B, shank and screw G, nut D, yoke and screw E, clamp F F, tension-strap G G, and felt-pad H, constructed as specified and shown.

114,328.—Apparatus for Lifting Locomotives, Trucks, and Railroad Cars.—Grafton T. Nutter, Jersey City, N. J.

Claim.—The combination of four or more shafts with cog-wheels and pinions operated upon by a driving-shaft which sets in motion a central wheel, from which motion and power are delivered to four or more lifting-screws perpendicularly set at points more or less remote from the center, for the purpose of lifting locomotives and cars from a railway track and effecting a speedy change or adaptation of trucks or running-gear to the altered gauge of the track in the manner and by the means above specified.

114,329.—Protector for Gas or Vapor-Burners.—Rufus Nutting, Randolph, Vt.

Claim.—The corrugated or uneven surface deflecting protector, in combination with lamp, gas, or vapor-burners, substantially as described, and for the purposes herein set forth.

114,330. — Coffee-Roaster. — Augustin Obst, Cambridgeport, Mass.

Claim.—The combination of frame or plate B, cover C, clamp J, and cylinder A, as and for the purpose set forth.

114,331.—Hand Corn-Sheller.—Charles Melsom O'Hara, Cincinnati, Ohio.

Claim.—The combination of the three toothed or roughened hinged plates, A A′ A″, and the loops B and C, when said loops are pivoted to the plates and all the parts constructed and arranged for operation in the manner described.

114,332. — Manufacture of Split Needles.—Charles H. Palmer, New York, N. Y.

Claim.—The within-described method of forming the crooked split—that is to say, the bending of the blank, sawing a straight kerf, and the subsequent straightening of the blank so as to give the proper bend or crook to the split, all substantially as herein set forth.

114,333, antedated April 22, 1871.—Tackle-Block.—Isaac E. Palmer, Hackensack, N. J.

Claim. — The combination, with the grooved guide or pulley B, of one or more independent cams or eccentrics D, hung free to turn, and arranged on one or both sides of said grooved guide for operation with and relatively to gripping surfaces *e* in or on the head of the block, substantially as specified.

114,334.—Plow.—William F. Parker, Troy, Ala., assignor to himself, John B. Goldthwaite, and William H. Fryer, same place.

Claim.—The arrangement of the bar *e*, forked stock *c* jointed thereto and carrying the share or shovel *f*, and the grooved plate *h* and bolt *g*, with the rigid standard *b* and beam *a*, as herein shown and described, for the purpose specified.

114,335. — Coal-Scuttle. — James Cas Parrish, Petersburg, Va.

Claim.—The ash-pit door *d* and scuttle-handle *e* combined, as set forth.

114,336.—Cooking-Stove and Range.—John S. Peckham, Utica, N. Y.

Claim.—1. The sections B, formed substantially as described, and for the purposes set forth.

2. The connecting-bar C, in combination with the sections B B B, &c., substantially as described, and for the purposes set forth.

3. The sectional fire-plate B B B, &c., constructed substantially as described.

4. The sectional fire-plate B, in combination with a stove, range, or the like, substantially as and for the purposes specified.

5. In combination with a stove or range or the like, the fire-plate B and folding shelf D, substantially as and for the purposes set forth.

6. In combination with a stove or range or the like having a front fire-plate or plates, a folding shelf provided with a draught-door or doors above, in connection with a draught-opening in the stove below, so that when the shelf is closed up the draught may pass through said doors and opening, but when the shelf is let down the draught is cut off automatically by the bottom edge of said shelf, substantially as described.

114,337.—Rubber Play-Pipe for Hose.—Edward L. Perry, New York, N. Y., assignor to Combination Rubber Company, same place.

Claim.—A molded rubber play-pipe or nozzle for hose, as and for the purpose hereinbefore described.

114,338.—Stop-Cock Valve.—George Pierce, Boston, Mass.

Claim.—The arrangement of the valve-disk G, connected, by the link H, to vertically-sliding plate F, and held in a vertical position by the stop *e*, substantially as described.

114,339.—Hydraulic Apparatus.—Phineas Franklin Powers, Genoa, Nev.

Claim.—The slide E, carrying the quadruple rack for setting simultaneously the inlet and outlet-valves of two cylinders, substantially as herein shown and described.

114,340.—Boots and Shoes.—William F. Prusha and Elisha L. Wales, Marlborough, Mass., assignors to themselves and Lewis A. Howe, same place.

Claim.—1. A leather sole, with a projecting portion struck up, having a crease or indentation, *c*, and to which the upper is secured, substantially in the manner and for the purpose described.

2. A leather toe-tip or projection, struck up in one and the same piece with the outer sole, and with a crease or indentation, *c*, substantially as set forth.

3. A leather-heel shell, struck up in one and the same piece with the outer sole, substantially as set forth.

114,341. — Polishing-Machine.—Peter F. Randolph, Jerseyville, Ill.

Claim.—The combination of an elastic belt with a polishing-belt, the former being arranged to run independently within the latter, as described.

114,342. — Chimney-Top.—William Richards, London, England.

Claim.—The conical cap C D E, combined, as described, with the slotted stand A, for the purpose described.

114,343.—Animal and Game-Trap.—James H. Richardson, Westport, Mo.

Claim.—1. The arrangement of the lever O, upper trigger or lever S, cord T, lower trigger or lever R, curved wire C′ and weight-box or sack B′, in connection with the bar P, wheel Q, bars L M K, and trip-board U, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the drop or step-board X *x*′ and bolt-box Y, in connection with the trip-board U u^1 and projecting-plate or arm W for tripping the lever or trigger B to spring the trap, substantially as herein shown and described.

3. The gate Z, passage-way A′, and block P′, constructed and arranged in connection with the trip-board U, substantially as herein shown and described, and for the purpose set forth.

4. The wheels D′ I′ and E′ J′, washers F′ G′, (one or more,) and nut H′, in combination with the shaft E and weight-cord K′, substantially as herein shown and described, and for the purpose set forth.

5. The trip-board U and its attachments u^1 u^2 P′, in combination with the other parts of the trap, substantially as herein shown and described, and for the purpose set forth.

114,344.—Slide-Valve.—Alexander K. Rider, New York, N. Y., assignor to himself, Cornelius H. Delamater, and George H. Reynolds, same place.

Claim.—1. The ports *g*, arranged to serve, as represented, in a main valve, G, when the latter is fitted to move in the steam-chest, or equivalent casing, so as to complete its stroke by the action of steam received through the ports *g* after the commencement of the stroke has been initiated by other means, all substantially as herein specified.

2. The pieces I J, fixed firmly on the valve-stem C, and arranged to operate relatively to cavities in a main valve, G, interposed between them so as to receive the action of steam in the small space between themselves and the main valve, to complete the throw of the main valve with a small quantity of steam, as herein specified.

114,345.— Clothes-Line Protector and Stretcher.—William J. Ripley, Cincinnati, Ohio.

Claim.—1. The combination of the clutch D *d*, lever C, and pawl and ratchet E F with the shaft G, as described, and armed wheel H, of a clothes-line reel, all arranged and operating substantially as and for the purposes described.

2. The shaft G of a clothes-line reel, when protected by an inner covering, I, of metal, and an outer one, J, of India rubber, substantially as and for the purposes described.

114,346, antedated April 28, 1871.—Saw-Guide.—Aaron Rittenhouse, Smithville, Ohio.

Claim.—The saw-guide, constructed as herein shown and described, having the pivot A upon one side of the guide, as and for the purpose specified.

114,347. — Plumber's Water-Boiler.—Alexander R. Bobb, Brooklyn, N. Y.

Claim.—1. The arrangement of the valve-box H and valve J in the inlet-pipe F of a plumber's water-boiler, substantially in the manner and for the purpose described.

2. The arrangement of the holes *m* and *n*, substantially as and for the purpose hereinbefore set forth.

3. In combination with the inlet-pipe F, the valve-box H provided with a valve, J, the chamber E and pipe G, arranged as a plumber's water-boiler, substantially as and for the purpose specified.

114,348.—Pipe-Wrench.—Eugene H. Robbins, Pittsfield, Mass.

Claim.—The combination, with the lever, of the chain and claw for connecting the chain, all arranged substantially as specified.

114,349.—Railroad-Car Heater.—Henry R. Robbins, Baltimore, Md.

Claim.—1. The arrangement of the springs *k k* on the pins projecting from the bell-mouthed sleeve *i* and socket *f*, as and for the purpose specified.

2. The arrangement of parts for supporting the steam coupling or pipes, consisting of the device *l l m m*, the springs *o o* attached to the curved stays *p p* of the draft-coupling, and the chain *n*, all as herein shown and described.

3. The arrangement of the three ball-and-socket joints *e a*, *e a*, and *k f*, with their connecting parts, as shown and described, whereby the coupling is enabled to adapt itself to the sway or lateral movement of the cars to which its parts are respectively connected.

4. The arrangement of the pipe *e*, rings *l*, and bars *m*, as set forth.

114,350. — Paper-Cutting Machine.—Thomas C. Robinson, Boston, Mass., assignor to George H. Sanborn, Brooklyn, N. Y.

Claim.—In combination with the pinion H, clutch L, forked piece M, hooked lever O, slotted lever P, slotted plate Q, spring R, the pin W secured in the connection V, when the same shall be constructed and operate substantially as and for the purposes set forth.

114,351.—Dust-Pan.—Thomas F. Rooney, Chicago, Ill.

Claim.—1. The rest or point C and points F when applied to the back and front ends, respectively, of a dust-pan, for the purpose of holding it in position to secure the dust or dirt, as herein described.

2. In a dust-pan, provided with a rest, C, and points F, arranged as described, the ribs D and E, as and for the purpose set forth.

114,352. — Smoking-Tobacco. — Albert S. Rosenbaum, New York, N. Y.

Claim.—The process of applying juniper-berries to smoking-tobacco so as to give it an aroma and purify the air where it is smoked.

114,353.—Car-Coupling.—Samuel S. Sartwell, Camden, N. Y.

Claim.—1. The links, connected rigidly to the levers L, and the latter provided with the springs M, arranged to hold the said links in the notches G, substantially as specified.

2. The heads E, made separately from the buffers, and either pivoted to them or connected by the shanks V, inserted in the sockets and the spring hooks engaging the walls thereof, all substantially as specified.

3. The combination, with the buffer and the head pivoted thereto, of the sliding hook Q, having the shanks, all substantially as specified.

4. The combination, with the said pivoted head E and the buffer, of the sliding block U and the hook R, all substantially as specified.

114,354.—Leather-Polish.—Henry A. Sawyer and Ramsom G. Sawyer, Milwaukee, Wis.

Claim.—A leather polish composed of alcohol, gum camphor, gum shellac, sweet-oil, castor-oil, tincture of musk, lamp-black, and molasses, in about the proportions named, and manufactured substantially as described.

114,355. — Bird-Cage Mats. — Charles S. Schenck, New York, N. Y.

Claim.—As a new article of manufacture, a water-proof cage-mat, composed of a series of connected sheets, as set forth.

114,356.—Machine for Charging Iron-Furnaces.—Edward G. Scovil, St. John, Canada.

Claim.—The peel or frame B, provided with rollers, braces, &c., and the end plate M, constructed and operating as above described, for the purposes set forth.

114,357, antedated April 26, 1871.—Sled-Knee.—Calvin Shaw, Milledgeville, Pa.

Claim.—The knee A, fig. 2, constructed as described, in combination with the iron bar E E and beams S S, constructed as described, for the purposes set forth.

114,358. — Gas-Machine. — Warren A. Simonds, Boston, Mass.

Claim.—1. The safety-valve M, consisting of tube *m* communicating with reservoir A, annular mercury-cup *n*, and loaded thimble *o*, all arranged in combination with each other and reservoir A, substantially as described.

2. The arrangement as an atmospheric-valve within the shell H H′ of the diaphragm, and having its central opening 3 surrounded by a raised seat and throttled by the gauze-screen, with its central boss 4, and of flexible disk *z*, screw 2, and yoke 1, all substantially as described.

3. The arrangement for connecting or coupling filler 1, and reservoir A, consisting of pipe *h*, spring valve *k*, and mercury-cup *g*, attached to the reservoir, and nozzle *l*, petticoat-flange *f*, and cock *d* on the filler, the whole operating to close the joint and open the channel or conduit at the same instant, all substantially as described.

4. The air-channels, of determined and constant height, as found by the arrangement of the bottoms of pans *a*, partial partitions *p*, wire-gauze floors *w*, beneath which, in the pans *a*, is fixed and held a sponge for the gasoline, to secure long, transverse, and vertical action of the air, and constant presentation of gasoline to the air-column moving through reservoir A, substantially as described.

5. The gasoline reservoir A, provided with its water-jacket F and safety-valve M, when arranged to work with an air-forcing apparatus, and placed above the burners it is to supply, substantially as described.

114,359.—Machine for Cutting Staves.—William Sisson, Fulton, N. Y.

Claim.—The following combination of the vibratory bed B, the upright extension-standards *a a* of the main-frame C, the driving-shaft D with its cranks mounted in the said standards directly over the vibratory bed, the adjustable bearings *b b* of the driving cranks and vibratory bed, and the connecting-rods H H, adjustable in said bearings, all substantially as and for the purpose herein specified.

114,360.—Grocer's Canister. — William H. Smith, Portland, Conn., assignor to The Heath & Smith Manufacturing Company, same place.

Claim.—The nesting-canister herein described, having the inclined flap or cover B hinged, as usual, and having the additional portion A^1 also hinged, and secured and released at pleasure, so as to serve substantially as and for the purposes herein set forth.

114,361.—Oil-Tank.—Henry F. Snyder and George S. Snyder, Williamsport, and Antes Snyder, Freeport, Pa.

Claim.—1. The head M^2 on the operating shaft M, threaded as represented, and arranged to serve relatively to the valve D and tank A, as represented.

2. The guide *t* in the side of the man-hole casting T, serving relatively to the shaft M, valve D, and tank A, as and for the purposes herein set forth.

3. The wide collar M^3, forged and forming a permanent part of the shaft M, standing with its upper edge a little above the heads of the bolts *d*, and the cap D′ of the valve D applied, and removed by slipping over the whole upper portion of M, combined and arranged to operate together so as to protect the bolt-heads *d*′ from injury, as herein set forth.

114,362, antedated April 27, 1871.—Garden-Sprinkler.—John I. Spear, San Francisco, Cal.

Claim.—A sprinkler provided with an annular perforated discharge, substantially as described, for the purpose set forth.

114,363. — Bridge. — Charles B. Sreeves, Atchison, Kan.

Claim.—1. The end pieces A provided with the sockets and holes as described, and combined with the timbers A E and binding-rods B F, all substantially as specified.

2. The connection of the right-and-left threaded rods and braces with the upper and lower chords, by means of the yokes fitted around the respective parts, all substantially as specified.

3. The connection of the sides by the lateral braces O, having the right-and-left threaded ends screwed into the yokes K or flanges thereon, and the rings Q, all substantially as specified.

114,364.—Carriage-Hub.—Henry W. Stow, New Haven, Conn.

Claim.—In combination with the wooden core and spokes set therein, the flanges F F, and boxpiece C, and point G, united to each other and to the wooden portions, substantially as described and represented.

114,365, antedated April 22, 1871.—Scaffold-Bracket for Roofing.—John W. Tallmadge, Plainville, Conn.

Claim.—The herein-described roofing-bracket, consisting of the upright A, socket-head *b*, and adjustable bracket B, all combined and operating together, substantially as and for the purpose described.

114,366. — Children's Bib. — Adaline L. Thomson, Hudson City, N. J.

Claim.—1. The elastic straps or cords D D combined with the sleeves C C of a bib, as and for the purpose specified.

2. A bib, consisting of the body A, sleeves C C, and turned-up bottom B, as specified.

114,367.—Dish-Washer.—Henry B. Todd, Plymouth, Conn.

Claim.—The dish-washer, composed of the vessel A, dish-support and rack B, and cradle C, the latter having the troughs *c*, as set forth.

114,368.—Horse Hay-Rake. — Robert M. Treat, Morris, Conn.

Claim.—1. The long forked hinging straps *h h*, formed as shown by doubling and bending the metal, in combination with the eyes *j j*, axle B C, and the rake-head G, the combination and arrangement being as shown, so that the prongs or arms of the straps clasp the top and bottom of the rake-head so as to prevent splitting, and are confined to it by vertical bolts, all as and for the purpose described.

2. The forked foot-lever *t*, the vibrating stirrup *l* and the adjusting-rod *r*, combined and arranged in a wheel hay-rake, substantially as described.

3. The foot latch *v* applied to the foot-lever *t*, and combined with the stirrup *l* and rod *r*, substantially as and for the purposes described.

114,369.—Wheel for Traction-Engines. Charles W. Tremain, Chicago, Ill.

Claim.—1. The construction of the fellies of traction-wheels with double flanges, the same being divided into recesses or chambers for the reception of segmental shoes, substantialy as herein set forth.

2. The construction and arrangement of the shoes D and radial bolts E within the double-flanged felly of a traction-wheel, with a suitable spring backing interposed between the inner faces of each segmental shoe and the bottom of its respective recess, substantially as and for the purpose set forth.

114,370. — Lunch-Box. — Daniel Troxell, Newark, N. J.

Claim.—The lunch-box composed of the hinged parts A B, lid C, vessels D E, and foot F, substantially as herein shown and described.

114,371, antedated April 27, 1871.—Mold for Making Cushioned Belting.—Samuel W. Tyler, Troy, N. Y.

Claim.—1. A sectional mold adapted for the production of elastic cushioned belting, constructed substantially as described.

2. The segmental inner ring section C, in combination with detachable mold sections A B D, substantially as and for the purposes described.

3. The ring C, secured to the base-section B, in combination with the movable sections A B D, substantially as and for the purposes described.

114,372. — Pallet of Watches.—Arthur Wadsworth, Newark, N. J.

Claim.—The adjustable pallets C C′, made with through-bored holes, as shown, in combination with the jewels *d d*′ adjustable therein, all substantially as and for the purposes set forth.

114,373.—Fabric from Waste Leather.—Enoch Waite, Franklin, Mass., assignor to himself and Francis B. Ray, same place.

Claim.—The product or material as made of glovers' leather, picked and carded, as set forth.

114,374. — Lock for Double-Barreled Fire-Arms.—Daniel B. Wesson, Springfield, Mass.

Claim.—An independent removable plate, D, to which are secured the two locks of a double gun, when said plate is made of a separate piece from the frame of the gun, and is so arranged as to be attached to and detached from the frame, substantially as described.

114,375. — Mercurial Salve. — Walter Wheelock, Boston, Mass.

Claim.—The salve composed as described, and for the purposes substantially as set forth.

114,376. — Tilting-Chair. — Edwin R. White, Milford, Mass.

Claim.—1. In the improved reclining-chair the seat B, as provided with the auxiliary rigid supports or legs *f f* and the elastic "S-springs" C C, arranged and combined with it and the leg-frame A, as set forth.

2. The improved reclining-chair, the springs C C, the auxiliary legs *f f*, rack *d*, and pawl D, arranged and combined with the seat B and leg-frame A, substantially as specified.

3. The improved reclining-chair as made or provided with the springs C C, the auxiliary legs *f f*, the rack *d*, and pawl D, and the pawl-tripper E, all arranged and combined with the seat B and leg-frame A, substantially in manner as set forth.

114,377.—Roll for Rolling Umbrella-Connections. — Edwin Wight, Philadelphia, Pa.

Claim.—The devices upon the rolls B B′, as indicated by the letters D D′ and E E′, for molding and notching a strip of metal for the purpose herein set forth.

114,378. — Combined Square, Bevel, Plumb, and Gauge.—Milton M. Wilson, Elwood, N. J., assignor to himself and James H. Curl, same place.

Claim.—The above-described combination-tool, embracing a rule, marker, try-square, gauge, bevel, spirit-level, and plumb, constructed and operating substantially as and for the purpose specified.

114,379.—Door-Spring.—Loren R. Witherell, Galesburg, Ill., assignor to Davis A. Dudley and Edward D. Dudley, same place.

Claim.—The plates G and H, when constructed, as described, with cylindrical projections *g*″ and *h*″ and studs *h h*, and combined with the spring D and plate E, substantially as described, and for the purpose specified.

114,380. — Washing-Machine. —Jacob A. Wood, Chemung, Ill.

Claim.—1. The tank B, constructed substantially as described and shown, in combination with the box A, when arranged and operated as and for the purposes set forth.

2. The vertically-adjustable journal-boxes H, constructed substantially as described and shown, in combination with the box A and shaft I, when arranged and operated as and for the purposes set forth.

114,381. — Wind-Wheel.—Horace Woodruff, Sandwich, Ill.

Claim.—1. The two concentric shafts C F, the latter sliding loosely on the former, and rendered relatively adjustable by means of two movable shoulders, *g h*, sliding on opposite ends of the shaft F, in combination with the spring G and connecting-rods *f*′, for the purpose of adjusting the sails B to the wind, as herein described.

2. The primary shaft F, resting in and extending through a hollow concentric shaft, C, and being connected at the front end by rods *f*′ with the sails B, and at the rear end having a swivel or loop, I, for the attachment of a rod or rope, to allow the sails to be opened by hand from the rear of the mill.

3. The eccentric D, adjustable upon its bearing J by means of longitudinal slots *d d*′ *d*″, bolts *j j*, and nuts *i i*, to vary the length of stroke of the pitman E, in combination with the friction-rollers *n n* of the pitman-head E′, as herein set forth.

4. The lateral adjustment of the sails B upon their bearings *b b* of supporting-rods *a* by means of longitudinal slots *c c*, bolts b^1 b^1, and nuts b^2 b^2, in the manner described.

114,382.—Propeller for Canal-Boats.—George G. Wyland and Thomas M. Rathmell, Williamsport, Pa.

Claim.—1. The combination, with a propeller-wheel, of the detachable auxiliary blades or extensions of blades, substantially for the purposes herein set forth.

2. The combination, with a canal-boat, of the for-

ward keel D, constructed to be readily attached and detached in the manner and for the purposes herein set forth.

3. The adjustable rear keel D′, with its bar *d*, constructed and arranged substantially as and for the purposes herein set forth.

4. The combination, with a canal-boat, of a removable keel or section of keel forward, and a vertically-adjustable keel or section of keel at the stern, constructed and arranged substantially as and for the purposes herein set forth.

5. The combination, with propellers C C and keel D′, of an adjustable rudder for canal-boats, made so that it can be raised and lowered at will, for the purposes herein set forth.

6. The combination of the keel D′, bar *d*, shaft E, and rudder G, all constructed and arranged substantially as and for the purposes herein set forth.

114,383.—BOLT-CUTTER.—William E. Yeager, Lawrence, Kansas.

Claim.—The broad support for the cutters F at the end of the shaft D, and the recesses in the cutter-head, conforming in shape to the cutting-edges of the laterally-extended cutters, as and for the purpose set forth.

114,384, antedated April 18, 1871.—CUP FOR GRAIN-DRILLS, &c.—John P. Zeller, South Bend, Ind.

Claim. — The within-described cup for grain-drills, made of metal, with the inclined hopper-bottom B, curved flange D, inclosing the wheel E between it and the hopper-bottom, and the hanger-cup C, all as shown and described.

114,385, antedated April 22, 1871.— MACHINE FOR SHEARING METAL.—William J. Adams, Grand Rapids, Mich.

Claim.—1. The combination of the revolving shaft *d* and fly-wheel C with the cam-wheel G, post E, and spring H, constructed and arranged as described, to operate substantially as and for the purposes herein set forth.

2. The hooked lever I, pivoted on the post E, and operating in combination with the spring *f*, the flat-surfaced rotating journal *w*, and the tooth *k* on the shaft *d*, substantially as and for the purposes herein set forth.

3. The foot-lever J, spring *p*, rod *m*, and cam *n*, arranged and operating with the spring H and post E, substantially as and for the purposes herein set forth.

4. The combination of the base A, frame B, shaft *d*, fly-wheel C, post E, cam-wheel G, springs *f* and H, lever I, the flattened journal *w*, and foot-lever J with the spring cam *n*, all constructed and arranged with their several connections, substantially as and for the purposes herein set forth.

114,386. — PADLOCK.—William H. Akins, Ithaca, and Henry E. Abell, Brooklyn, N. Y.

Claim.—1. The key-hole spring *e*, in combination with the plate-key, tumblers *f*, bolt *c*, and shackle *b*, as and for the purposes set forth.

2. The fences 9 and 10, in combination with the bolt *c*, tumblers *f*, and spring *e*, as and for the purposes specified.

114,387.—BINDER FOR SEWING-MACHINES.—William Allebaugh and Joseph M. Cuffell, Norristown, Pa., assignors to Jacob C. Slemmer, same place.

Claim.—The arrangement of the plates A and C, upright T, lever L, sliding guide S G, rod R, and set-screw D, constructed and operating as and for the purpose specified.

114,388.—KITCHEN-KNIFE.—Jacob W. Androvatt and Truman W. Joline, Tottenville, N. Y.

Claim.—The improved domestic knife herein described and shown as a new article of manufacture, to wit: said knife being made with a smooth cutting-edge, *b b b a*, rounded or corner-sharp scraping-edge *a*, and a hooked end, C, bounded on two sides by scraping-edges, *c d*, which form an obtuse angle, *c*, all as shown and described.

114,389.—SELF-LIGHTING LAMP.—William W. Batchelder, Boston, Mass.

Claim.—1. The combination of the sliding collar *g*, feeding fuse-arms *f f*, spring stop *h*, and operating-lever *j*, arranged substantially as described.

2. The fuse-tube *a b*, made in sections, screwed or otherwise connected together for the convenient insertion of the fuse from time to time, as described.

3. In an automatic device for lighting lamps, the combination of the sectional fuse-receptacle *a b*, the severing-arm *h′*, the notched tube *a*, the fuse-support *i*, the flame-cap *m*, the sliding collar *g*, feeding spring arms *f f*, and the hand-lever *j*, the several parts being constructed, arranged, and operating as described.

114,390.—CORN-PLANTER.—Henry Baughman, Sandusky, Ohio.

Claim.—The combination of the false bottom *b*, provided with the curved opening *d*, the hopper *c*, true bottom *e*, and block *g*, as specified.

114,391.—HORSE HAY-FORK.—Charles Bean, Pawtucket, R. I.

Claim.—The improved horse hay-fork herein described, consisting of the main and auxiliary tines C and E, rigidly attached to the handle and shank, respectively, and connected by a hinged joint, the rigid holding-bar D attached to the handle, the spring sliding latch F and tripping-lever G, all constructed and operating substantially as described.

114,392, antedated April 28, 1871.—STABLE FIXTURE.—Samuel S. Bent, Port Chester, N. Y.

Claim.—1. The blocking piece *i*, introduced in the floor, in combination with the swinging stall partition, for holding the moving end thereof when in position, as specified.

2. The slotted plates *s*, attached to the walls near the angle, in combination with the hooks *o o* upon the manger or trough A, for sustaining said manger in the angle, as set forth.

114,393.—SOAP.—John T. Bever and Pauline S. Bever, Lathrop, Mo.

Claim.—An improved soap, made of the ingredients in the proportions and for the purposes herein set forth.

114,394.—VULCANIZED-RUBBER TUBE FOR GRAIN-DRILLS, &c. — James R. Bird, Brooklyn, N. Y., assignor to The New York Rubber Company, New York city.

Claim.—1. A vulcanized India-rubber tube whose body is made of a comparatively stiff and inelastic compound of India rubber, with one or both ends formed of a distinctively elastic compound, the two being united by vulcanization, substantially as shown and described.

2. A vulcanized India-rubber tube for grain-drills and other purposes, having its body composed of canvas or equivalent textile fabric, coated internally and externally with rubber, and its upper end, or that end which is applied and secured to the drill, of an elastic compound of India rubber, the two being put together in the green or plastic state and then united by the process of vulcanizing, as shown and set forth.

114,395.—DITCHING-MACHINE.—Isaac Bona, New Orleans, La.

Claim.—The combination of the wheel A, the frames *g* and *k*, with lock-frames *l l*, side aprons *s*, shield B, with plow-points *e e*, gauge-wheels *i i* and cutters A A, when all these are constructed, arranged, and operated substantially as described, and for the purposes set forth.

114,396.—MACHINE FOR PREPARING BEEF-STEAK.—Asa M. Bond, Concord, N. H.

Claim.—The combination of the roller A, radial cutters *d*, and feed-roller B, as specified.

114,397.—KNITTED FABRIC.—Henry Boot, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—A knitted fabric, produced substantially in the manner described.

114,398.—ROLLER-SKATE.—Peter R. Borein, San Leandro, Cal.

Claim.—1. The combination of the roller-frame, consisting of the lugs I hinged to the bridge-piece K, with the stock-plates, the roller-frame being slotted in front to permit an oscillating movement upon the stud F, as described.

2. The elastic block or spring J, in combination with and working in a slot in the rib C, skate-block A, and truck E, substantially as herein shown and described.

114,399.—SAFETY DEVICE FOR HOISTS.—Peter J. Borger, Cincinnati, Ohio.

Claim.—The combination of the detent mechanism S T W with the belt-shifting apparatus through the connections U N, or their equivalent, so that the relaxation of the rope will result in arresting the rotation of both the pulley-shaft H and drum C, as explained.

114,400.—MACHINE FOR THE TREATMENT OF FIBROUS PLANTS.—Adolph Bouchard, New Orleans, La.

Claim.—The combination of the drums D and *d*, supported with their flanges and scrapers as described, the feeding-rollers E E, the lever P, the rollers K K, the roller I, the table F, the cover M, and perforated tube N, for the purpose of fluxuating the ramie and similar fibrous plants by decortication and partial maceration, substantially as described.

114,401.—BRIDGE.—Thomas Charles Boutet, Paris, France.

Claim.—1. The construction of bridges in the manner herein shown and described.

2. The combination of the metallic truss formed of longitudinal cable and tranverse ties, as described, the upper and lower wooden floorings between which said truss is held, the stiffening-stringers and cross-pieces, and the balustrades or side rails, said parts being united together to form a bridge-span supported upon proper abutments, substantially as shown and described.

114,402.—SHAFT-COUPLING.—Sidney Broadbent, Scranton, Pa.

Claim.—1. The combination, with the longitudinally split shaft and sleeve surrounding the same, of the wedges, accessible from the exterior of the sleeve for expanding the split shafts within it, substantially as specified.

2. The combination of the nuts C C′, the sleeve B, and the longitudinally split shafts A A′, with the wedges for expanding the shafts laterally, essentially as herein set forth.

3. The arrangement of the opening *e* in the sleeve, the recesses *d d′* in the ends of the shafts, and the wedges F F′, relatively with the split ends of the shafts A A′, substantially as described.

4. The combination of the keys E E′ with the sleeve B and split ends of the two shafts, the nuts C C′ and the wedges made accessible from the exterior of the sleeve for expanding the split ends of shaft within it, substantially as specified.

114,403.—PUMP.—Addison P. Brown, New York, N. Y.

Claim.—The reversible plate C, in combination with the valve V and supply-pipe, substantially as and for the purpose herein described.

114,404.—SAFETY ATTACHMENT FOR POCKET-BOOKS.—Jefferson Brown, Jr., New York, N. Y.

Claim.—A pocket-book or money-receptacle, provided with a ring and bracelet, (either or both,) and so arranged that it may be carried in the palm of the hand, substantially as and for the purpose set forth.

114,405.—MANUFACTURE OF WHITE-LEAD.—Thomas H. Burridge, St. Louis, Mo.

Claim.—1. The generator F, drawer H, and furnace or fire-place I, in combination with the chamber A, vapor-chamber E, and drawers C, arranged and operating in relation to each other as and for the purpose substantially as set forth.

2. The pump K, pipe I′, and chamber E, in combination with the chamber A and drawers C, arranged and operating as and for the purpose substantially specified.

114,406. — ELECTRO-MAGNETIC BURGLAR-ALARM.—John G. Butler, Glen's Falls, N. Y.

Claim.—The automatic switch, in combination with the spring arms *i* and *f*, and electro-magnet, arranged and operating in the manner and for the purposes set forth.

114,407.—CORPSE-PRESERVER. — Jeremiah T. Carpenter, Downington, Pa.

Claim.—The within-described corpse-preserver, composed of the grooved shallow bottom A, having inner supports, upon which is placed the movable cooling-board B having head and foot-rests, and extending above the sides of the bottom, around which extends the body E, provided with the covers G H I, the various parts being constructed substantially as set forth.

114,408.—REAPING-MACHINE.—George Homer Clark, Cleveland, Ohio, assignor to himself and Peter B. Reid, Lockport, N. Y.

Claim.—1. The combination, with the driving-wheel B, of the cams *e e*, the swinging bars D D, the rack-bars *f f*, pinion *g*, and levers I I, as described, and for the purpose set forth.

2. The combination, with the levers I I, of the table J, clearers *k*, pinion *m*, shaft *n*, thimble *s*, dropper-arms *p* and *q*, shield *r*, and pilot-frame G, when arranged and operating in relation to each other, substantially as and for the purpose set forth.

114,409.—RAILWAY FROG AND RAIL-COUPLING.—John W. Close, Buffalo, N. Y.

Claim.—1. The arrangement of the bolts *g′ g′* with the notches *g g*, point C, rails B B, and base-plate E, as hereinbefore set forth.

2. The wedge-plate F and bolt *f* arranged with the rails B B, point C, and base-plate E, substantially as and for the purpose hereinbefore set forth.

3. The combination and arrangement, with the rails D D D′ D′ of the wrought-iron base-plate J with overlapping edges *j j*, and fish-plates *k k*, secured by bolts, substantially as hereinbefore set forth.

4. The combination and arrangement, with the rails D D D′ D′, base-plate J, flanges *j j*, and fish-plates *k k*, of the wedge-blocks N N and bolts *n n*, as hereinbefore set forth.

114,410.—BILLIARD-TABLE CUSHION.—Hugh W. Collender, New York, N. Y.

Claim.—The combination of two or more paral-

lel wires or cords with India-rubber cushions for billiard-tables, substantially as and for the purpose specified.

114,411. — Liquid-Meter.—Thomas Cook, New York, N. Y.

Claim.—1. The conical valve G, having the recesses or buckets H in its periphery, and provided with the retarding vanes or wings L, substantially as described.

2. In combination with the above, the stationary vanes M, substantially as specified.

3. In combination with the valve G, constructed as described, the valve-seat and the recesses Q, substantially as set forth.

114,412.—Ventilating-Roller Window-Blind.—Arthur Cooper, Twickenham, England.

Claim.—Making flexible rolling window-blinds either with perforations or with one or more large openings therein near the top, or any other part of the blind, for the purpose of admitting fresh air into the room and thereby ventilating it when the blinds are drawn down, substantially as above described.

114,413. — Horseshoe-Nail Machine.—Harley Dwight Cowles and George Stacy, Montreal, Canada.

Claim.—The apparatus in its novel combination of frame *a*, legs *b*, shaft *d*, eccentric *e*, pitman e^1, gate e^2, guides e^3, punch or punches e^4, shoe e^5, keys e^6, holders *f*, bed *g*, dies g^1, key g^2, all working together substantially in the manner and for the purpose described.

114,414.—Bridge-Gate.—Edward Richard Coyne, Chicago, Ill.

Claim.—The sliding gates C having racks *a*, and the bridge A provided with the racks *r r'* and cam *s*, in combination with the shifting operating gear, arranged to operate substantially as described, whereby the gates are opened and closed by the movement of the bridge, as set forth.

114,415.—Water-Meter.—Joseph W. Cremin, New York, N. Y., assignor of one-half his right to George H. Fairchild, Bridgeport, Conn.

Claim.—1. The wheel C, having its buckets or paddles formed with a flat surface for receiving the impact of the water, and a sharp cutting-edge, c^2, formed by the beveled sides c^1, substantially as described.

2. The wheel C, constructed as described, in combination with the tube A and bulb B, as and for the purpose set forth.

114,416.—Fanning-Mill.—Lewis M. Crosby, Ashtabula, Ohio.

Claim.—The shoe C, supported in the frame of the mill by means of the hook-links G, when connected thereto and to the bell-crank H and arm I, substantially in the manner as described, and for the purpose set forth.

114,417. — Raisin-Seeder.—Willis Curtis, Jr., Wolcottville, Conn., assignor to Elisha Turner, same place.

Claim.—1. The slides *g* and *h* in the frame *a*, carrying respectively the holding-jaw *f* and ejecting-pins *k*, in combination with the grating *e* for sustaining the raisin, as and for the purposes set forth.

2. The arrangement of the crank and pin *i*, slides *g* and *h*, with their cam-shaped slots and the sweep *l* for removing the raisin, in the manner specified, whereby these parts are all actuated in proper time by one crank-pin.

3. The scraper *v*, beneath the grating *e*, and actuated by the projection *w* upon the fly-wheel *m* and the cam *x*, projecting from the slide *g*, as and for the purposes set forth.

114,418.—Toilet-Case.—Francis E. Dapron, Davenport, Iowa.

Claim.—A toilet-case, consisting of the body *a d*, having its upper portion provided with a series of compartments, *t*, and sliding doors *l*, and its lower portion underneath said compartments with a towel-roll, all constructed and arranged as herein described.

114,419.—Water-Meter with Stop-Cock Connections. — José F. de Navarro, New York, N. Y.

Claim.—1. A meter provided with cocks at its influx and efflux, substantially as described.

2. In combination with a meter so provided, the flanged portion *e* or *e'* of the cock, forming part of said cock.

114,420.—Liquid-Meter.—José F. de Navarro, New York, N. Y., and Henry C. Sergeant, Newark, N. J., assignors to José F. de Navarro.

Claim.—1. The arrangement of the separate but geared revolving crank-shafts F F' and the cylinders C C' of the meter with their pistons, substantially as shown and described.

2. The arrangement of a revolving valve that controls the movement of both pistons, the separate revolving crank-shafts and the gears that connect the whole to work in concert relatively with each other and the cylinders of the meter, essentially as specified.

3. The tubular revolving valve J, arranged to communicate at its opposite ends with the inlet and exhaust-chambers of the meter, and constructed with opposite side inlet and outlet-ports *e e'* and *f f'* arranged in relation with each other and to a cross-partition or diaphragm, *d*, substantially as specified.

4. The combination and arrangement of the ports *k k'* and *l l'*, in the valve-seat, the passages or chambers *m m'* and B B' connecting with opposite ends of the cylinders, and the revolving valve J, with its inlets *e e'* and outlets *f f'*, essentially as described.

114,421.—Fire-Escape.—William De Pew, Paris, Canada.

Claim.—1. The Jacob's ladder E, supported upon a fixed pivot at the upper ends of the standards G G, when its independently-working arms *c c'* are provided with the stops *r r'*, adapted to operate in the manner herein set forth and shown, for the purpose specified.

2. The combined ladder and shafts C C *c c*, pivoted to a fire-escape car, and constructed to operate substantially as and for the purposes specified.

3. The combination, on the car-body A, of the fire-escape E, constructed and operating substantially as described, and the shield B *h*, as described, for the purpose set forth.

114,422. — Cupola-Furnace. — James Dougherty, Philadelphia, Pa.

Claim.—1. The combination, with the annular blast-chamber I, of a blast-pipe J, arranged tangentially, or nearly so, in respect to the said chamber.

2. The tangential tuyeres *e e*, distended horizontally at their outer ends and vertically at their inner ends, as set forth.

3. The combination of the said tuyeres *e* with the downwardly-inclined tuyere *f*.

4. The combination of the lower set of tuyeres, arranged substantially as described, with the upper set of tuyeres, arranged as set forth.

5. The cast-iron frames K, built in the wall of the furnace, and arranged for the reception of detachable tuyeres and a clay lining, substantially as set forth.

6. An opening in the blast-chamber closed with a fusible plate, arranged in respect to the front tuyere *h*, as specified.

114,423.—Machine for Mixing Paste for Confectionery, &c.—Robert Duff, New York, N. Y., assignor to Ernest Greenfield and Philip Strauss, same place.

Claim.—1. The quadrangular arms G G, having openings within their outer walls or edges, so as to allow the free passage through them of the substances, and revolving in the horizontal drum B B, substantially as described.

2. The **I**-shaped standards H H, attached to the periphery of the stationary drum B B, substantially as set forth and described.

3. The shaft C C, skeleton arms G G, and standards H H, operating within the hollow stationary drum or cylinder B B, with its hinged movable upper portion *a*, all substantially as set forth and described.

114,424. — Sewing-Machine. — George L. Dulaney, New York, N. Y.

Claim. — 1. In combination, the radially slotted disk G, secured upon the driving-shaft, the arm 6 having a journal-bearing not in line with the said shaft, the pin 5, and the shuttle-driving rod H, actuated directly from said pin, substantially as and for the purpose shown and described.

2. In combination, the radially-slotted disk K, adjustably secured upon the driving-shaft, and having a uniform velocity, the disk 9 having a variable velocity, pin 8, eccentric 10, journal F, and needle-arm C, or the described equivalents, substantially as and for the purpose set forth.

3. The combination of the main driving-shaft and its disks G and K with the described means for imparting the proper variable movements both to the shuttle and needle.

4. The main arm, secured to the bed-plate by means of a pivotal center, about which it may be adjusted and secured for the purpose of adapting the position of the needle to the path of the shuttle, substantially as described.

5. The combination, with the needle-bar and a notched needle, of the eccentric piece or lever 17, operating in the manner shown and described, to hold the needle to place in the bar.

6. The combination, with the needle-arm of an adjustable fulcrum-bolt having an eccentric thereon, and a set-screw for securing the bolt in the desired position and regulating the vertical adjustment of the needle, substantially as shown and described.

7. The take-up lever 22, its rock-shaft, and tooth or projection, combined with the shoulder and slot in the needle-bar, the bar operating to positively lock the lever in position, and to release it in the manner shown and described.

114,425.—Machine for Dressing Mill-stones.—Samuel East, Memphis, Mich.

Claim.—1. The combination of cylinder *f f g*, crank *i*, lever h^1, spring n^1, latch c^3, sliding shaft *e*, taper-friction $g^1 f^1$, and gears *n d' n'*, as specified.

2. The combination of vertical sliding frame *d*, horizontal sliding frame *c*, track-frame A, screws c^1, stationary driving-post b^3, screw *j*, and nut *k*, as described.

3. The combination of screw *j*, disks *l* l^1, gears d^1 n^1, connecting-bar *k*, set-screw *m*, pawls *q* q^1, bar *c*, with handle *p*, as set forth.

4. The combination of screw *j*, disk l^1, gear n^1, dog *s*, tooth *z*, arm *v*, spring-arm *u*, spring *r*, and stops a^1 c^1, as explained.

5. The combination of yoke t^1, lever z', eccentric s^1, link a^2, pin c^2, and web b^2, as specified.

6. The combination of block k^2, bolt f^2, pivot l^2, pin c^3, with center eccentric, spring eccentrics p^2, lever q^2, ratchet l^2, rod *c*, and pick-handle *b*, as described.

7. The combination of braces s^2, bolt r^2, spring f^2, plate n^2, rib c^2, and web w^2, as set forth.

8. The combination of pick-handle *b*, plate *h*, web c^2, disk z^2, and worm-groove y^2, as explained.

9. The winged orifice in pick *a*, in combination with the bolt f^2 and pin g^2, substantially as described.

114,426.—Saw-Mill. — Marshal J. Egery, Bangor, Me., and Thomas N. Egery, same place.

Claim.—1. The combination of the guide-rods *d d*, as herein described, screws *j j j' j'*, crank *k*, shafts *q* and *m*, and gears *i*, *n*, *p*, *o*, and *r*, as and for the purposes set forth.

2. The combination of the above-described guide-rods, operating as set forth, with the saw-frames, suspended as described to the slide-boxes by the trunnions *b b b' b'*, as specified.

114,427.—Piston-Packing.—Philip Estes, Leavenworth, Kan.

Claim.—The follower *l* and its screws, the braces A, base *f*, rings *b c*, pins *k*, and packing-rings *a*, arranged as shown and described, whereby, when the follower-screws are tightened, the pins *k* are caused to force the ring *c* inward, for the purpose specified.

114,428.— Division-Plate for Cooking-Stoves.—Selena C. Ewing, Hill's Ferry, Cal.

Claim.—1. The adjustable partition B, substantially as and for the purpose above described.

2. In combination with the adjustable partition B the hooked rods A, substantially as and for the purpose above described.

114,429, antedated April 26, 1871.—Steam-Engine. — Hippolyte Fontaine, Paris, France.

Claim.—1. A steam-boiler and steam-engine combined with devices, substantially as described, so that without replenishing the boiler the entire water in the latter may be consumed in supplying steam to the engine.

2. The generator, consisting of the cylinder C, flanges screwed onto the same, plate F', and cast-metal flue H, constructed and arranged substantially as described.

3. The combination, with the generator Z and its flue or flues, of the tube T extending into the flues, and receiving the steam-pipe B, as set forth.

4. The cast-metal flue H, with its cross-tubes *t t'*, and branch N, arranged as described.

5. A plate F'', having a projection, F''', extending into a chamber, F, in the bed-plate, and recessed to receive pistons *c'*, as set forth.

6. The projection F''', surrounded by a steam-chamber, F, having passages and ports, as described, and provided with valves arranged to slide on one or more of the exposed sides, as set forth.

7. The combination of the plate F', its chamber F, and detachable plate F'', its projection F''', chamber, passages, valves, and pistons, all substantially as set forth.

8. The upright E', with its openings *a'*, and detachable bearing *a''*, in combination with the upright E and crank-shaft *a*, as described.

9. The recess in the uprights, containing springs *n'* and pads *n''*, as set forth.

10. The wheel V, revolving adjacent to a stationary hub, *s*, and carrying a sliding weight, I, connected to a pad, *c'*, and operating the latter and operated by a spring, *r'*, substantially as set forth.

11. The burners *b*, communicating through a tube, *l*, with a casing, G, containing a valve, *o*, operated by the pressure of steam in the gasometer, substantially as set forth.

12. The said burners *b*, communicating with a regulating apparatus, in combination with a burner, B', continuously supplied with gas, as specified.

13. The tube *l*, communicating with a casing, K, containing a valve operated on the descent of water in the boiler, as specified.

114,430.—Counterpoise Gun-Carriage.—John G. Foster, Boston, Mass.

Claim. — The counterpoise-wheels D, having

weights E attached, in combination with the gun-carriage B, said wheels being connected to each other and to the carriage by means of a shaft, G, passing through slots, or by equivalent means, substantially as described.

114,431, antedated April 25, 1871.—Wash-Boiler.—James H. Garner, Pontiac, Ill.

Claim.—1. The combination of the rim A with openings *a a* and *d d* and the guards *b b*, the slats B B, and inclined bottom C, all constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the base A B C with its openings *a d* and guards *b*, and the oblong conductor D with its openings *c c*, all constructed and arranged substantially as and for the purposes herein set forth.

114,432.—Lantern.—Nathaniel Gear, Newark, Ohio.

Claim.—A hand-lantern, composed of flaring perforated sides, a curved or swelled reflecting back, and a curved or swelled glass front, and furnished with a lamp and handle, as and for the purpose substantially as herein described and represented.

114,433.—Rail-Joint.—William F. Grasseler, Muncy, Pa.

Claim.—The plates A, constructed with a hole, *a'*, in each, and reduced ends A^1 A^2, bent substantially as shown and described.

114,434.—Dry-Earth Closet. — William Henry Grove, Philadelphia, Pa.

Claim.—1. An earth-closet, having beneath the seat a vertical casing perforated at the sides, and surrounded by an earth-chamber in which vanes or agitators may be caused to move, substantially as described.

2. The rotating trap *b* arranged below the said casing, as set forth.

114,435.—Sewing-Machine Stand.—William Henry Grove, Philadelphia, Pa.

Claim.—The combination, with a sewing-machine case or stand, of a tray or trays arranged so as to be turned outward from the end of the stand, as described.

114,436. — Support for the Sashes of Carriage-Doors and Windows.—John C. Ham, New York, N. Y.

Claim.—1. A sliding frame or support for supporting the raised sash of a carriage-door or window, as set forth.

2. The combination of the stops *b'* and long notches or slots *a'* with the sliding supporting-frame B and sash A, substantially as herein shown and described, and for the purpose set forth.

3. The beveled flange *c'* of the door-casing or body C of the carriage and the beveled lower edge of the sash A, in combination with each other and with the said casing C and sash A, substantially as herein shown and described, and for the purpose set forth.

4. The cap or cornice D, in combination with the top of the sash A to cover the apertures in which the sash A and sliding supports B work, substantially as herein shown and described.

114,437.—Return-Flue Boiler-Furnace.—Charles J. Harris, Bloomington, Ill.

Claim.—The arrangement, in a horizontal return-flue boiler, of an exhaust steam-pipe at or near the rear end of said boiler to deliver a jet of exhaust steam for the purpose of cleaning the rear end and flues of same, and assisting in creating a draught for the same, substantially as set forth.

114,438. — Manufacture of Candles.—Charles Havard, New York, N. Y.

Claim.—A candle with one or more longitudinal openings running parallel with the wick through the whole length of the candle, to receive any melted matter not consumed by the flame, thereby preventing said melted matter from overrunning on the outside of the candle.

114,439.—Construction of Bedsteads.—John F. Hollister, Plano, Ill.

Claim.—1. The shell A, provided with the heads B B', in combination with the grooved rails D and cotter E, substantially as described.

2. In combination with the shell A, in which the rails D are secured, the socket F, substantially as and for the purpose set forth.

114,440.—Steam-Heater. — Albert L. Ide, Springfield, Ill.

Claim.—The hereinbefore-described waste-water trap, consisting of the discharge-pipe B, connected with and surrounded by the casing A, and closed at its outer end by means of a valve, K, supported by or within the outer end of said casing, substantially as and for the purpose specified.

114,441. — Harvester-Rake. — Benjamin Illingworth, Le Roy, Minn.

Claim.—1. The combination of the within-described parts forming the operating mechanism of a rake attachment for reapers, namely, the carriage *d*, head *h*, shaft *k*, pin *m*, ratchet-wheel *i*, and spring pawl *p*, all constructed and arranged as described, and operating in connection with the rods *e e*, rake O, flange *n*, and stop *x*, substantially as and for the purpose herein set forth.

2. In combination with the mechanism above described for operating the rake O, the pitmen N N', cranks M M', shaft J, slotted arms K K, pulleys I E, chain *b*, and regulator L, all constructed and arranged with a reaper, substantially as and for the purposes herein set forth.

114,442. — Bobbin-Winder for Sewing-Machines. — Thomas Masterson Jenks, New York, N. Y.

Claim.—The bobbin-winder herein described, consisting, essentially, of the supporting-plate B, the hinged bifurcated plate B' having the bearings *b b*, the vertical shaft A supported in said bearings, and having the friction-disk *a*, the tension device E E' *s s'*, the spring D and the spring F, provided with the stop C, all constructed and operating substantially as and for the purpose specified.

114,443. — Shingle-Machine. — Joseph Jimo, Vergennes, Vt., assignor to himself and E. H. Landon, same place.

Claim.—1. The tilting table N and the shaft *s*, having the wheel O attached, in combination with the rotating table C provided with the fingers *y*, all constructed and arranged to operate as set forth.

2. A shingle-machine, consisting of the rotating table C with its dogs K L, the saw G, the tilting table N, and revolving planer P, all constructed and arranged to operate substantially as herein shown and described.

114,444. — Potato-Baking Pan. — Amos Jones, Lebanon, N. H.

Claim.—The potato-baking pan made as described, viz., with perforations in its bottom, ends, and sides, and circumscribing lips to the bottom perforations, to extend from the lower surface of such bottom, all being arranged as specified.

114,445.—Sash-Holder.—George N. Kendall, Wooster, Ohio.

Claim.—The segmental semicircular bolt E and friction-pad F, when the latter is connected to one end of said bolt, and to be operated by means of knob G, the bolt and pad serving respectively as positive and frictional stop, all arranged and combined substantially as and for the purposes set forth.

114,446.—Awl. — Thomas Kenney, Lynn, Mass.

Claim.—An awl, the entering-end of which is formed with two or more points, connected by a cutting-edge, (or edges,) substantially as shown and described.

114,447.—Electrotype-Mold. — Silas P. Knight, Brooklyn, N. Y.

Claim.—1. The preparation of the surface of the wax or molding composition of which an electrotype-mold is made for the reception of the impression by treatment with a mixture of plumbago or other metallic powder and water, substantially as herein described.

2. The metallicizing of electrotype-molds by treatment with a mixture of plumbago or other metallic powder and water, substantially as herein specified.

114,448.—Wagon-Tongue Support.—John Krehbiel, Williamsville, N. Y.

Claim.—The spring *b*, attached at one end to the head A, and extending over the rear end of the tongue as an attachment to the same, and a projection of the spring resting forward under said tongue, the whole arranged as described, and operating in the manner and for the purpose specified.

114,449.—Manufacture of Fire-Bricks.—Balthasar Kreischer, New York, N. Y.

Claim.—1. A fire-brick produced by drying the clay, grinding it, placing it into molds in a dry state, and subjecting it to a pressure from one to two thousand pounds to the square inch, substantially as described.

2. A dry-pressed brick made as described, and treated with a solution of burned and raw clay, substantially as set forth.

114,450. — Self-Extinguishing Safety-Can for Combustible Materials.—William H. Lawrence, Williamsburg, N. Y.

Claim.—1. The safety-can C placed into the closed water vessel A in such manner that the heat of any fire within C will create steam to extinguish the fire, as set forth.

2. The hinged clasps *d d*, applied to the outer vessel A to hold down the can C and prevent it from floating, as specified.

3. The cover B of the vessel A, made conical on the under side, as specified.

114,451.—Match-Hook.—Joseph D. Leach, Penobscot, Me.

Claim.—A match-hook having a recess for the reception of the mousing, as specified.

114,452.—Mechanism for Adjusting and Securing Car-Wheels to Axles.—George Granville, Lobdell, Wilmington, Del.

Claim.—1. The combination, with the keys E and E' and screw-rod F, of a ratchet-wheel, J, or its equivalent, and spring pawl K, secured to the key E, all substantially as set forth.

2. The combination of the beveled or rounded hub of the screw-key L, screw-rod F, and spring pawl K.

114,453. — Stove-Damper.—Ernest Lohsand, La Porte, Ind.

Claim.—1. The combination of the tube A surrounding slotted tube B closed at the outer end, and register C, substantially as and for the purpose set forth.

2. The tube A constructed with an upturned lip, *a*, substantially as and for the purpose set forth.

114,454. — Securing Dental Fillings.—Charles H. Mack, Portland, Oregon.

Claim.—As the connection between a tooth and its filling, a metallic pin inserted firmly in the body of the tooth, the arrangement being substantially as described.

114,455.—Spindle Step-Box.—Lewis Maish, Minneapolis, Minn.

Claim.—1. The plate B, when provided with the notches and perforations, as and for the purpose set forth.

2. The combination of the plate B, constructed as shown, with the reservoir or chamber *a*, as set forth.

3. The combination herein described of the perforated ring C, plate B, and box or body A, the parts being constructed as specified.

4. The combination of parts herein described, whereby the spindle or shaft is lubricated around and at the bottom thereof, as specified.

114,456.—Fruit and Berry-Box or Basket.—Joshua H. Marvil, Laurel, Del.

Claim.—A fruit, vegetable, or berry-box, constructed as described—that is to say, having strips or slats A A arranged at right angles to each other, and their ends *a a* bent up so as to form flaring sides, the whole being secured together in such a manner as to leave openings or interstices *a b d e*, as and for the purpose specified.

114,457.—Wash-Boiler.—David McCleary, Allegheny City, Pa.

Claim.—The combination and arrangement of the false bottom *h*, receiving-chambers *l*, *m*, and *n*, boiling-chamber J, circulating-tubes B, C, and D, all constructed, arranged, and operating with relation to the body A, as hereinbefore described, and for the purpose set forth.

114,458.—Wheel for Vehicles.—Robert W. McClelland, Springfield, Ill., assignor to himself and John McCreery, same place.

Claim.—The carriage-wheel herein described, consisting essentially of the wooden hub A, the straight row of spokes S S, the bolts *c c*, the raised wood flanges *a a* around the center of the hub, and the metal bands *r r'*, bracing the ends and covering the whole convex surface of said flanges, all being arranged substantially as and for the purposes set forth.

114,459.—Sail-Hank.—William E. Meyer, New York, N. Y.

Claim.—1. A hank with a detachable key, constructed substantially in the manner herein shown and described.

2. The dog C with its cam-shaped back *g*, in combination with the detachable key B and hank A, substantially as set forth.

114,460.—Elevator.—Charles E. Moore, Boston, assignor to himself and Martin L. Wyman, Melrose, Mass.

Claim.—1. An elevator, the car of which is held in elevated position in the hoist-way when the engine is stopped by the pressure of the steam in the engine, by means substantially as described.

2. In combination with the engine-cylinder or cylinders and the reversing-valve or valves, the auxiliary valve controlling the exhaust-steam passage, so that the engine is stopped and the movement of the car thereby arrested, by shutting the exhaust, and without movement or independent of the movement of the reversing mechanism, the car being held in stationary position by the pressure of the steam.

3. In combination with the exhaust-valve, operating to stop the engine, the brake automatically operated by the piston-rod of a steam-cylinder con-

nected with the exhaust-pipe, substantially as described.

4. In combination with the hoisting-engine, a brake held out of contact with the drum of a driving-pulley by the pressure of the steam when the engine is working, and which is thrown against the pulley whenever steam is shut off from the engine, substantially as described.

114,461.—BUCKLE.—John H. Morris, Paxton, Ill.

Claim.—The shouldered tongue A^4 of a buckle, constructed substantially as and for the purpose set forth.

114,462. — WASHER AND WRINGER COMBINED. — Jessie H. Murray, Kirkwood, N. Y.

Claim.—The combination of the elliptic spring I, wooden corrugated roller D, rubber-covered roller F, with roller J, head-piece B, thumb-screw K, elastic cross-plate L, and crank H, all being constructed and operating substantially as hereinbefore set forth for the purpose specified.

114,463.—GRAIN-SEPARATING AND CLEANING ATTACHMENT TO THRASHING-MACHINES.—William A. Myers, York, Pa.

Claim.—The separating and cleaning attachment for thrashers herein described, consisting of the frame A, the separator C, the cleaner, the cross-shaft D, the two pitmen F for driving the shaker, the pulley E on the cross-shaft, and the fan, all these parts being combined, constructed, and arranged as described for joint operation.

114,464.—WASHING-FLUID.—Edward Henry Neill, San Francisco, Cal., assignor to himself and Emlen Painter, same place.

Claim.—The manufacture or preparation of the compound herein described, consisting of two parts of ammonia and one part of spirits of turpentine, as and for the purposes set forth.

114,465.—PUDDLING-FURNACE.—John Neville, Brooklyn, N. Y.

Claim.—1. The heating-chamber, formed by the two plates E and F in the bottom of a puddling-hearth, in combination with the double sets of roasting-hearths, as described.

2. The double sets of roasting-hearths, in combination with a puddling-furnace, when provided with stacks and dampers, as described, and for the purposes set forth.

114,466.—SLEIGH-HEATER.—Alfred Norton, Kokomo, Ind.

Claim.—In combination with the body A and the heating-box B, the heating-chamber D, passing under the bottom and back, provided with the cross-plates *d*, having tortuous heat passages heated by the lamp C, with its series of wick-tubes, and placed under the forward end of the body, all substantially as set forth.

114,467.—NOZZLE-STOPPER FOR OIL-CANS.—Josiah H. Noyes, Abington, Mass.

Claim.—The cap C, provided with the runner-slot *a* and with the packing *b*, and cut away on one side, as seen at *c*, all as shown and described.

114,468.—MACHINE FOR ROLLING LOZENGE AND OTHER PASTES.—Charles A. Oehl, New York, N. Y., assignor to Ernest Greenfield and Philip Strauss, same place.

Claim.—1. The combination of both sets of rollers C C C C with endless belt D, sliding boxes *a a a a*, screws *b b b*, and handles *c c c*.

2. The combination of rollers E E, chain G, screws F F, and movable slide bearings or clamps P P, connected with and operated by cog-wheels H H and chain-wheels K K, all substantially as set forth and described.

114,469. — CHILL FOR PLOW-CASTINGS.—James Oliver, South Bend, Ind.

Claim.—1. A metal chill with grooves in its face for the purpose of ventilation, substantially as shown and described.

2. The cooling-frame A, when used in connection with the mold, substantially as and for the purpose shown and described.

114,470. — ENAMELING BOOT AND SHOE-HEELS.—Charles Henry Orcutt, Leominster, Mass.

Claim.—The herein-described process of enameling the heels of boots, the materials employed and the mode of application being as set forth.

114,471.—LANTERN.—John Orphy, Buffalo, N. Y., assignor to Horace Parmelee and William H. Bonnell, same place.

Claim.—The connection and arrangement of the vertical wires B B and upper ring A of a guard-frame of a lantern, when formed by first reducing the end of the vertical wires by shearing and then bending this reduced end around the wire A and soldering it in place, as hereinbefore set forth.

114,472.—COMBINED PLOW AND MARKER.—Orlando M. Pond, Independence, Iowa.

Claim.—1. The iron *f*, constructed as described, and attached, by means of the staple *e* or other suitable means, for the purpose of holding and adjusting the plow-arm I, substantially as herein set forth.

2. The arrangement of the axle A *b*, wheels C C, tongue D, clevises *a a*, arms E E and E′ E′, handles G G, bars *d d*, plows H H, plow-arms I I, irons *f f*, and clamps *e e*, all constructed and arranged substantially as and for the purposes herein set forth.

114,473.—LUBRICATOR FOR CAR-WHEELS.—James M. Porter, Frostburg, Md.

Claim.—1. The arrangement of one or more bent tubes, I J, or their equivalents, in a lubricating-box, in connection with an outlet, through which the oil is delivered to the bearings of the wheel when said tubes are constructed to operate as described, for the purpose specified.

2. The combination of one or more bent tubes, I J, as described, with the central tube B, substantially as and for the purposes set forth.

3. The triangular box A, in combination with the central tube B and the conducting-tubes I J, when said parts are constructed to operate as described, and for the purposes set forth.

4. The combination of the box A, the straight tube B, the bent tubes I J, the stem E, and the plug-valve D, when constructed to operate as herein set forth.

5. The combined air-vent and filling-tube, consisting essentially of the screw-cap L, tube *m*, and valve *n*, all constructed to operate substantially as and for the purposes described.

114,474, antedated April 25, 1871.—NUT-LOCK.—Peter F. Randolph, Jerseyville, Ill.

Claim.—The combination of the hardened-steel nut B, with its sharp-edged notches *b b*, with the bolt A, as described.

114,475. — LIFE-PRESERVING TRUNK.—Lawrence Rebstock, Hollidaysburg, Pa.

Claim.—1. The combination of the trunk *a*, lids *b*, wings *d*, and flaps *e*, as specified.

2. The combination of the trunk *a*, socket *l*, and jointed rod *o*, as described.

114,476.—TIRE-BENDING MACHINE.—George J. Riblet, Bootheville, W. Va.

Claim.—1. The frame A *a a′* and plate *g*, in combination with the compound lever C and guide-arm F, all constructed and arranged substantially as herein shown and described.

2. The right-angled lever E and adjustable stop H, in combination with the lever C, substantially as and for the purpose specified.

3. The feeding-clamps *m* m^1 m^2 N, constructed to operate in connection with the bar D and rod I, substantially as described.

4. The combination of the extension-piece *j* and adjusting-nut *i* with the bar I and feeding-clamp apparatus as described, and for the purpose specified.

5. The combination of the lever E with the lever *d*, rod I, and clamping apparatus *m* m^1 m^2 N, substantially as and for the purpose set forth.

114,477, antedated April 27, 1871.—HAIR-CLIPPING DEVICE. — Frederick Charles Richardson, New York, N. Y., assignor to himself and William Hellins, Hudson City, N. J.

Claim.—1. The plate N, supported by the springs O O against the cross-bar L, arranged upon the shanks of the screws M M, substantially as and for the purpose described.

2. The toothed wheel E mounted upon the bar F and operated by the lever D, in combination with the wheel H, bar I, connected to the arm J of the cutter G by the link K, when said cutter freely slides between the cross-bar F and the plate A, as herein shown and described.

114,478.—CHURN-DASHER.—Julius M. See, Griffin, Ga.

Claim.—The dasher-wings G G′, curved outward and inward in the form shown, and connected to the spindle D and sleeve B, to operate substantially as set forth.

114,479.—BRIDGE.—Jacob Seebold, Kantz, Pa.

Claim.—1. The floor-beam E, cast, as described, with hollow enlargements or boxes *b b*, in combination with the wrought-iron rod *d* and post *e*, all substantially as and for the purposes herein set forth.

2. The combination of the arch C D, floor-beam E, post G with its eyes *i*, rods *f*, block H, and cap I, all constructed and arranged substantially as and for the purposes herein set forth.

3. In combination with the floor-beam E as constructed, the hollow cap I through which passes the rods *g g* and *f*, substantialy as and for the purposes set forth.

4. The combination of the centrally-placed inverted hollow box K with the four rods *k k k k*, which pass entirely through said block and are secured substantially as set forth.

5. The combination of the bars J J, rods *k k*, and central block K for bracing the arches C D, substantially as herein set forth.

6. The combination of the shoes B, arches C D, floor-beams E E, posts G, blocks H K, caps I, rods *f g k k*, and bars J, all constructed and arranged substantially as shown and described, and for the purposes herein set forth

114,480. — LIQUID-METER.—Henry C. Sergeant, Newark, N. J., assignor to José F. de Navarro, New York city.

Claim.—1. The combination of the intermediate gear H with the gear-wheels G G′, crank-shafts F F′, and pistons E E′ of the meter, substantially as specified.

2. The revolving valve I, with its ports *b b′* and exhaust-cavities *c c′*, in combination with the valve-seat J, having its ports *g g′* and *k k′* arranged in relation with each other and with the ends of the cylinders to which they respectively belong, essentially as shown and described.

3. The combination with the separate crank-shafts F F′, having their cranks at right angles, or thereabout, of a valve for controlling the motions of the pistons, by which said shafts are driven, constructed to make but one revolution for each two revolutions of either shaft, substantially as specified.

4. The combination of the gear-wheels G G′, and H with the revolving valve I and its ports and cavities, the valve-seat J with its ports or passages, the independent crank-shafts F F′, and the pistons E E′, essentially as described.

5. The arrangement of the exhaust passage B, the hollow valve-shaft *e*, the cylinders C C′, and the inlet-chamber or valve-box D, substantially as specified.

114,481. — BOTTOM FOR SHEET-METAL WARE.—Henry W. Shepard, Manusville, N. Y.

Claim.—As a new article of manufacture, the can or pail bottom herein described, consisting of the base A, hoop-rim B, and knee or elbow-shaped rests C C, when the latter are so secured to the hoop as to encircle the angle portion *b* of the bottom in order to act both as a support and a brace to the same, substantially as described.

114,482.—APPARATUS FOR ATOMIZING LIQUIDS. — Asahel M. Shurtleff, Boston, Mass.

Claim.—1. An atomizer-bulb, formed or provided with a base or foot, *b*, substantially as described.

2. Atomizing-tubes *c d*, connected with the bulb by a valve-box or tube, *e*, substantially as shown and described.

3. An atomizing apparatus, the bulb of which is provided at one end with an air-inlet and outlet-tube, and with an inlet and outlet controlling-valve.

4. The air-tube *c*, liquid-tube *d*, and valve-tube *e*, formed as one piece, substantially as shown and described.

5. The valve *h*, in combination with the valve-box *e* and air-tube *c*, arranged with relation to the air-inlet and outlet-orifices, substantially as shown and described.

6. The liquid-vessel *l* and atomizer-tube *d*, arranged in axial line with the bulb.

7. The liquid-vessel *l*, arranged in axial line with the bulb, and between the bulb and the atomizing-orifices.

8. The liquid-vessel, connected with the air-inlet and outlet end of the air-supplying bulb by the atomizing-tube or tubes.

9. The liquid-vessel, connected with the liquid-atomizing tube by a screw-cap or connector, *m*.

10. The air-orifice *o* between the liquid-cup and the liquid-atomizer tube *d*, substantially as shown and described.

11. In an atomizing apparatus, an air-orifice for the liquid-vessel, provided with means for graduating or closing it.

12. In combination with an atomizing apparatus, the flexible tube *q*, substantially as described.

13. The arrangement of the air-eduction orifice *g* between the induction-orifice *f* and the bulb *a*, substantially as shown and described.

114,483.—CULTIVATOR.—Matthew P. Simpson, Rosemond, Ill.

Claim.—1. The coupling-ties B C D, each constructed with vertical and horizontal pivots and with slots *k* and perforations *m*, to form a compound adjustment, and in connection the shouldered standards *q*, supported by the struts *w* and braces *p*, as shown and described, for the purposes set forth.

2. The combination, with a double shovel-frame, A, and a narrow mold-board plow, E, of a detachable wing or shoe-extension, G, substantially as shown and described, for the purpose specified.

114,484.—STOVE-PIPE THIMBLE.—Henry G. Smith, Meriden, Conn., assignor of one-half his right to Elijah D. Castelow, same place.

Claim.—1. A stove-pipe thimble provided with

adjustable jaws, actuated by eccentric flanges, substantially as described.

2. The device described, consisting of the thimble A, with collar *a* and flange *a'*, covering-plate B, with eccentric flanges, jaws C C, with slots *c'* and thumb-screws *d*, the parts being combined and arranged as described.

114,485.—TRUNK.—Joseph Stanton, Buffalo, N. Y., assignor to himself and Adolphus Hagelin, same place.

Claim.—1. A traveling trunk, composed of a sheet-steel covering A B A' B', and iron frames C D C' D', constructed and arranged as hereinbefore set forth.

2. The construction and arrangement, with the diaphragm E of a trunk, of the angle-plate F, formed with a knuckle, *f*, and constituting one portion of the hinge of said diaphragm, as hereinbefore set forth.

114,486, antedated April 22, 1871.—ORE-CONCENTRATOR.—William C. Stiles, Nevada City, Cal.

Claim.—1. The sluice C inside the frame A, suspended by means of the cross-pieces D and swinging rods *b*, substantially as and for the purpose above described.

2. The cam F, wedge-shaped recess *d*, springs *f*, and block G, operating as described, for communicating to the sluice a sudden jar or concussion, for the purpose above specified.

3. The endless belt or belts *i*, carrying teeth *l*, either arranged upon cross-pieces *k* or otherwise, substantially as and for the purpose above described.

4. The teeth or stirrers *l*, with their stirring extremities formed similar to the mold-board of a plow, substantially as and for the purpose described.

5. A swinging sluice C, provided with the riffle L, steep incline *o*, and gradual incline *r*, substantially as and for the purpose above set forth.

6. The drip-box P pierced with holes upon its opposite sides, and arranged to feed water upon the two inclines *o* and *r*, substantially as specified.

114,487.—SNAP-HOOK.—Ole O. Storle, North Cape, assignor to himself and Stamm Brothers, Milwaukee, Wis.

Claim.—A snap-hook with body A, opening and closing hook B, spring D, and supporting piece E, when arranged substantially as described.

114,488.—MOLD FOR SADDLE-TREES.—Jacob Straus, St. Louis, Mo.

Claim.—The hereinbefore-described mold, (or its equivalent,) composed of the sections A and B and the cope D, attached together by means of the dowel-pins C and F and locking-rods *e* and G, and provided with the vents I and K, substantially as and for the purpose shown.

114,489.—COMBINED BLOWER AND ROTARY ENGINE.—Hanson P. Tenant, Germantown, Ind.

Claim.—1. The combination of a rotary engine and rotary blower, when both are arranged to operate within a single case or shell, for the purpose described.

2. The general arrangement and combination of the devices A *a* C *c* E F *f* G H *h h'* I J K L *l l'* M N P T T', and one or more chambers, O O', and port or ports U U', for the objects stated.

3. In combination with the described elements of the preceding clause, the ports U U', pipes V V' W, reversing-lever X, and valves *v v'*, as and for the purpose set forth.

114,490.—FABRIC FOR CUFFS.—Hiram Howard Thayer and William Henry Hart, Jr., Philadelphia, Pa.

Claim.—A fabric from which to manufacture cuffs, consisting of a tubular material flattened and cemented so that the folded edges of the fabric form the side edges of the cuff cut therefrom, substantially as described.

114,491.—AUTOMATIC FAN.—Benjamin D. Thompson, New York, N. Y.

Claim.—The train of wheels specified, operated by the spring B, in connection with the crank-shaft *b'*, the pitman *c'*, the arm *d'*, the shaft *e'*, the adjustable arm *f'* carrying and operating the fan D, together with the lever *h'* connected with and operated by the eccentric F, all constructed, combined, and operating substantially as described, and for the purpose specified.

114,492.—PREPARATION FOR CLARIFYING COFFEE.—Charles L. Tucker, Chicago, Ill.

Claim.—1. As a new article of manufacture, the ground gelatinous preparation for clarifying coffee, substantially as specified.

2. As a new article of manufacture, ground gelatine and salt, substantially as and for the purposes specified.

114,493.—HARVESTER.—Benjamin G. Turner, Fremont, Neb.

Claim.—1. The tiller-guide Z, consisting of a segment, with teeth, and foot-rests *n' n*, and an arm made with a hinge-joint near the post of the tiller, and spring *o*, arranged with the joint, as described, in combination with a catch, *p*, and driver's seat, J, all constructed and attached to the front end of the tongue, as shown and described.

2. The spring device, consisting of slide and spring, plate and casting *u*, and lever *a'*, all arranged to connect with the beveled-gear wheel *k*, as described, for throwing the machine in and out of gear, in combination with the rod C* and operating crank-lever *d'*, and the plate provided with notches for holding the latter, all as shown and set forth.

114,494.—CURTAIN-FIXTURE.—Elisha Turner, Wolcottville, Conn.

Claim.—1. The corrugated plate *f* upon the slide of the curtain-rack, and pressed to the corrugated surface of such rack by the action of the wedge, as and for the purposes set forth.

2. The curtain-rack slide, made of sheet-metal, with corrugations at the edges of the slot, which corrugations are upon the inner and outer surfaces and act to hold the rack-pulley, and also to strengthen and ornament the face of the slide, as set forth.

114,495. — CARRÉ ICE-MACHINE. — Albert Vaase and Franz Littmann, Halle, Prussia.

Claim.—1. The cylinder H surrounding the rectifier G, and forming a space for the reception of the solution of ammonia, said cylinder being perforated near its bottom with a large number of holes to inject the solution in the form of a shower, substantially as shown and described.

2. The trap *m'*, in combination with the discharge-pipe *m* of the regulator of efflux M, substantially as set forth.

3. The oval box K, provided with a continuous flange, K*, in combination with the serpentine pipes of liquefier J, as described.

4. The agitator S in the refrigerator P, as described.

114,496.—HAY-ELEVATOR.—James M. Van Demark and Moses Barlow, Phelps, N. Y.

Claim.—1. In combination with a hay-car, B, the rocking-bar C and pulley D, constructed and arranged substantially as and for the purposes herein set forth.

2. In combination with a trip-pawl or lever, E, and pulley, D, the hoisting-rope G provided with the two rings *b d*, which are connected by the hollow tube *c*, all substantially as and for the purposes herein set forth.

114,497. — DRAUGHT-REGULATOR FOR STOVES.—William W. Waddell, Hillsborough, Ohio.

Claim.—The combination of the stove-door handle *c* with the interior attachment *d*, when the latter is provided with lugs *e d*, for the purposes herein described.

114,498. — MACHINE FOR ROLLING HOE-BLANKS. — Hervey Waters, Boston, Mass.

Claim.—In combination with the alternating roller-dies, the mechanism for both automatically introducing the blank between the dies and turning the same so that the dies may act conversely upon it, substantially as described.

114,499.—KILN.—Gustavus A. Wedekind and Helmuth Dueberg, Baltimore, Md.

Claim.—The arrangement within a progressive kiln of the permanent walls F C, one on each side of the fire-chamber, the walls C being open at the top, while the walls F are provided with apertures near their bottoms, said apertures being capable of being opened or closed by slides, thereby compelling the heated air to pass through the several burning-chambers in a zigzag course, passing up from the fire-place and down through the material to be burned, as herein set forth.

114,500. — GRAIN-SEPARATOR. — Henry L. Whitman, St. Louis, Mo.

Claim.—In combination with the pitman G and shoe B or sieves C, the ball-and-socket joint connection H and I', substantially as and for the purpose specified.

114,501. — LAWN-MOWER. — Aaron White Cook Williams, London, England.

Claim.—1. The handle of a lawn-mowing machine, adjusted by means of an eccentric or cam, *b*, arranged at the lower or inner end of the handle, and operating substantially as herein shown and described.

2. The eccentric or cam *b*, the socket *c* with jaws *c'*, the bars *d* and *e*, and pinching-screw *b'*, arranged in combination with the handle *a*, substantially as set forth, for the purpose specified.

3. The main frame A, projecting as described, in combination with the slotted curved spring *i* and set-screw *j*, these parts being constructed and arranged as herein shown and described.

114,502.—COMPOSITION FOR MANUFACTURE OF SODA-WATER. — Jackson B. Wood, Richmond, Va.

Claim.—1. The herein-described compound called condensed soda-water, prepared by mixing together an alkaline carbonate and a solid acid with sugar, flavoring material and albumen, or its equivalent, as set forth.

2. The albumenized sugar, prepared in the manner described.

3. The flavor, made by combining sugar, albumen, and flavoring material, as specified.

114,503.—STEAM-BOILER. — Frederick A. Woodson, Selma, Ala.

Claim.—1. When applied to a horizontal internal flue-boiler, the pipe *c*, connecting the mud-drum E with the boiler A, and forming a continuous passage for mud and sediment together into the mud-drum, with the straight pipe *c* connecting the mud-drum and water-leg of the boiler, all in combination, substantially as and for the purpose set forth.

2. A horizontal projection or flange of the pipe extending into the mud-drum for the purpose of circulating the clear water above the settlings into the hot end of the boiler, substantially as described.

114,504.—PAPER-FILE.—Solomon W. Young, Providence, R. I.

Claim.—The half-way open tubes A, the elastic cord C, and the channeled stay B, all constructed and applied together, as and for the purpose specified.

114,505.—WRENCH.—Aury G. Coes, Worcester, Mass.

Claim.—The combination, with the movable jaw F G and rosette-screw D E in a screw-wrench, of the counter-bore K around the screw-opening, substantially as and for the purposes set forth.

114,506.—STEAM PUMPING-ENGINE.—Lucius J. Knowles, Worcester, Mass.

Claim.—The combination, with the valve-driving piston F and tappet-arm D, of the valve-rod R and tappets T T, substantially as and for the purposes herein set forth.

114,507.—STEAM-PUMP.—Lucius J. Knowles, Worcester, Mass.

Claim.—1. The combination, with the valve-box in a steam-pump, of air-valves, substantially as and for the purposes set forth.

2. The combination, with the shell J of the valve-box in a steam-pump, of hollow projections K, and air-valves, P, substantially as and for the purposes set forth.

3. The combination, with the valve-box J provided with hollow projections K, of the air-valves P, plugs Q, and adjusting-screws R, substantially as shown and described.

114,508.—APPARATUS FOR TREATING ANIMAL MATTER FOR FERTILIZERS.—Hascal A. Hogel, New York, N. Y., assignor to Effingham H. Nichols, same place.

Claim.—1. The vessel A, provided with a jacket, in combination with a tubular agitator for the circulation of steam or heated air, substantially as and for the purpose specified.

2. The scraper *c* in combination with the tubular agitator, substantially as set forth.

114,509.—MEAT-SAW. — Patrick J. Hogan and Adam Sowden, Cincinnati, Ohio.

Claim.—The herein-described hand-saw, composed of the metallic handle-frame A, as constructed, with screw-threaded socket *a* and shank-eye *a'*, curved hollow back B *b*, and adjustable saw C *c* D, the parts being arranged with reference to one another, as shown and set forth.

REISSUES.

4,359. — COMBINED STOVE-LID AND DAMPER. — William Doyle, Albany, N. Y.—Patent No. 89,861, dated May 11, 1869.

Claim.—1 The concentric damper-flange A and ring E, combined and arranged substantially as and for the purpose herein shown.

2. The concentric damper-flange A and cover D, combined and arranged substantially as herein shown and set forth.

3. The combination of ring E or cover D, constructed as described, with flue-strips C C and B, or their equivalents, as herein shown and described.

4. The combination of ring E or cover D with front descending-flues *f f*, in the manner and for the purpose herein shown and set forth.

4,360.—PRESERVING WOOD RAILROAD-TIES, &c.—Benjamin S. Foreman, Morrison, Ill.—Patent No. 43,191, dated June 21, 1864; reissue No. 1,951, dated May 9, 1865.

Claim.—1. The herein-described composition, consisting of salt, corrosive sublimate, and arsenic, substantially as specified.

2. The mode herein described of preserving wood by the application of the composition described, substantially as specified.

4,361.—Oil-Cup.—John Peter Haines, New York, N. Y.—Patent No. 92,820, dated July 20, 1869.

Claim.—1. As an article of manufacture, a pocket oil-can, formed of a round body, A, nozzle B, and cap C, combined as described.

2. In an oil-can adapted to be carried in the pocket, a body, A, formed of thin elastic metal rounded into an oval form, and having its sides held apart by an inner spring, as specified.

4,362.—Sad and Fluting-Iron.—Frederick Myers, New York, N. Y.—Patent No. 112,482, dated March 7, 1871.

Claim.—1. The improved sad and fluting-iron, consisting of the sad-iron plate A, handled plate B, with intervening fluting surfaces sufficiently convex to admit of a free lateral rocking movement of the upper plate, while bearing upon the fluted surface of the lower plate, and a device for rigidly connecting the two, substantially as and for the purposes specified.

2. The vertical capped stud E and wedge M, in combination with the upper and lower plate of a combined sad and fluting-iron, substantially as and for the purposes specified.

4,363. — Process of Obtaining Bright Colors upon Cloth by Printing.—Alfred Paraf, New York, N. Y., assignor to Edward S. Renwick, trustee.—Patent No. 95,040, dated September 21, 1869.

Claim.—The process hereinbefore described of producing printed color upon a textile material by printing it with the coloring material, applying to the textile material a compound of an alkali and acid that is partially decomposable by aging and steaming, and steaming said textile material, substantially as before described.

4,364. — Concrete Pavement. — John J. Schillinger, New York, N. Y.—Patent No. 105,599, dated July 19, 1870.

Claim.—1. A concrete pavement laid in detached blocks or sections, substantially in the manner shown and described.

2. The arrangement of tar-paper or its equivalent between adjoining blocks of concrete, substantially as and for the purpose set forth.

4,365. — Metal Corner-Piece for Protecting the Corners of Wooden Bodies.—Edwin A. Stratton and Charles M. Stratton, Greenfield, Mass.—Patent No. 100,463, dated March 1, 1870.

Claim.—The metal corner-pieces or strips, consisting of the body *e* and the flanges *i*, constructed for use in the manner shown and described.

4,366.—Apparatus and Process of Distilling Petroleum and other Oils.—Augustus H. Tait and Joseph W. Avis, New York, N. Y., assignors, by mesne assignments, to Charles Pratt, same place. Patent No. 53,359, dated March 20, 1866.

Claim.—1. The process of continuous distillation, the same consisting in causing the oil to flow through a series of retorts arranged over an arch or flue, so that the oil enters at the colder portion of the series and leaves at the hottest portion, as set forth.

2. One or more tar-stills so connected with an oil-still or stills that the heavy residue may be removed without interrupting the distillation, as set forth.

3. A series of stills, arranged horizontally over an arch or flue, and connected together, so that oil entering the still furthest removed from the fire is gradually heated as it flows from one still to another and the vapors driven off, as set forth.

4. A series of stills in which the oil is vaporized as it flows through them, in combination with one or more tar-stills, as set forth.

4,367.—Apparatus for Distilling Petroleum and other Hydrocarbons.—Augustus H. Tait and Joseph W. Avis, New York, N. Y., assignors, by mesne assignments, to Charles Pratt, same place.—Patent No. 63,115, dated March 19, 1867.

Claim.—1. The compound still herein described, arranged in divisions, compartments, or separate stills, so that oil of different gravity may be taken from different parts, as described.

2. The combination of still A, tar-stills E E', and condenser F, arranged so as to operate substantially as set forth.

3. The combination of two or more condensers with a divided or multiple still, substantially as set forth.

4. The arrangement of gates or valves at the top and bottom of separate stills or compartments, so that any two or more may be made to operate as one or several stills, as set forth.

5. The pipe *k*, arranged so as to distribute oil from still *b* to the other stills, as set forth.

6. The still A, having partitions *a* with apertures *c* and *d*, arranged and combined as set forth.

4,368. — Railway Cattle-Car.—The National Cattle-Car Company, Salem, Ohio, assignee of John B. Shafer, deceased.—Patent No. 29,409, dated July 31, 1860.

Claim.—1. The combination, with a stock-car, of swinging partitions constructed to fold against the sides of the car, substantially as hereinbefore set forth, so as to leave the car unobstructed.

2. The combination, with a stock-car, of two series of folding partitions hinged to opposite sides and at opposite ends of the car, substantially as set forth, to distribute evenly the weight on the trucks and to leave a passage-way through the car.

3. The sectional folding partitions, constructed substantially as and for the purpose described.

4. Hinging the swinging partitions on opposite sides of the opposite doorways, as described, so that when folded they shall swing away from the doors to give a wider entrance.

5. The combination, with a stock-car, of a movable middle deck, to convert the car from a "double-decker" into an unobstructed "single-decker," or *vice versa*, substantially as set forth.

6. The combination, in a stock-car, of a vertically movable middle deck with folding partitions, to convert the car from a double-decker to a single-decker with stalls, or *vice versa*, substantially as set forth.

7. The combination, in a stock-car, of a movable deck, with guides to control its movement, substantially as set forth.

8. The combination, in a stock-car, of a movable deck, with guides to control its movement and fixed supports to give it a firm bearing when in position to receive its load, substantially as set forth.

9. The combination, in a stock-car, of a movable deck, with cords and a windlass or their equivalents for raising and lowering the deck, substantially as set forth.

10. The combination, in a stock-car, of sliding double doors, with a hinged intermediate bar swinging across the doorway, as set forth.

4,369.—Package for Lard.—Charles L. Tucker, Chicago, Ill.—Patent No. 66,368, dated July 2, 1867; reissue Nos. 3,037 and 3,038, dated July 14, 1868.

Claim.—1. A box made of veneer or pasteboard sides, shaped into a tubular form and secured by a tight lap-joint, with thick top and bottom, both inserted into such tube, substantially as described.

2. A box constructed as described, in combination with a coating, surfacing, saturating, or lining of a material impervious to and not acted upon by the lard, substantially as described.

3. A box constructed as described, and coated, surfaced, saturated, or lined, as described, in combination with a metal-surfaced or foiled-paper covering, substantially as and for the purposes described.

4. The application or use of metal-surfaced or foil-paper for covering oleaginous packages, constructed of wood or wood and paper, substantially as and for the purposes specified.

5. The use of gum arabic for surfacing or saturating lard packages and making them tight and non-absorbing, substantially as set forth.

6. As an improved article of manufacture, a small measured quantity of lard incased in a sealed wood or wood and paper package, substantially as and for the purposes specified.

DESIGNS.

4,853. — Bracket. — John H. Bellamy, Charlestown, Mass., assignor to Elbridge Wolcott and Jonas C. Young, same place.

Claim.—The design for a bracket herein described and set forth.

4,854.—Front of a Catch-All.—John H. Bellamy, Charlestown, Mass., assignor to Elbridge Wolcott and Jonas C. Young, same place.

Claim.—The design for the front of a catch-all, as shown, described, and set forth.

4,855.—Gate-Hinge. — Charles B. Clark, Buffalo, N. Y.

Claim.—The design for a gate-hinge, as herein shown and described.

4,856.—Bottle.—William A. Demuth, New York, N. Y.

Claim.—The design for a bottle, as shown.

4,857.—Chain-Link.—Virgil Draper, Attleborough, Mass., assignor to Oscar M. Draper, same place.

Claim.—The new design for an ornamental chain-link, substantially as herein described.

4,858.—Handle-Cap for Satchels.—George Havell, Newark, N. J.

Claim.—The design for a handle-cap for satchels and carpet-bags, as shown and described.

4,859.—Palm and Back Piece of Gloves. Frederick E. Hotchkiss, Gloversville, N. Y.

Claim.—1. The design for the palm A of a glove, as shown.

2. The design for a back, B, of a glove, as shown.

4,860.—Knitted Trimming.—Martin Landenberger, Philadelphia, Pa.

Claim.—The design for a knitted trimming, as shown and described.

4,861.—Rubber Shoe.—Christopher Meyer, New York, N. Y.

Claim.—The design for India-rubber shoes, as set forth and shown.

4,862.—Rubber Shoe.—Christopher Meyer, New York, N. Y.

Claim.—The design for India-rubber shoes, as set forth and shown.

4,863.—Muff and Collar-Box.—Raphael Moritz Seldis, New York, N. Y.

Claim.—1. A double box, containing separated chambers for the muff and collar, with their own covers *c d*, as described.

2. The design for the cover of a fur-box, as shown.

4,864.—Woven Cloth. — Royal C. Taft, William B. Weeden, and James W. Taft, Providence, R. I.

Claim.—The design for fancy cassimeres, which consists of the mottled stripes A, alternating with the bar-stripes B, and the intervening corded stripes C, substantially as described.

4,865.—Re-enforcing Thumb-Piece for Gloves.—Isaac B. Whipple, Gloversville, N. Y.

Claim.—The design for a re-enforcing thumb-piece, as shown.

4,866.—Bow Instrument.—Lucius Parmalee Wildman, Danbury, Conn.

Claim.—The design for the sounding-board of a bow instrument, as shown.

TRADE-MARKS.

231. — Tobacco. — Louis Lee Armistead, Lynchburg, Va.

232. — Balm. — Demas Barnes, Brooklyn, N. Y.

233.—Liniment.—Demas Barnes, Brooklyn, N. Y.

234. — Insect-Powder. — Demas Barnes, Brooklyn, N. Y.

235.—Preparation for the Hair.—Demas Barnes, Brooklyn, N. Y.

236.—Billiard-Cushion.—Hugh W. Collender, New York, N. Y.

237. — Jewelry. — William M. Elias & Brother, New York, N. Y.

238.—Medicine.—Thomas S. Hodgson & Co., McKeesport, Pa.

239.—Twine, Warp, Yarn, &c.—Ezra W. Keeler, Yardville, N. J.

240.—Tea.—C. Adolphe Low & Co., San Francisco, Cal.

241.—Whisky.—Mills, Johnson & Co., Cincinnati, Ohio.

242.—Billiard-Table.—Phelan & Collender, New York, N. Y.

243.—Wood Pump.—Rich & Burlingham, New York, N. Y.

244.—Cigar.—Smith, Crosby & Co., New York, N. Y.

245.—Fertilizer.—Smith & Harris, Philadelphia, Pa.

246. — Toys and Fancy Goods.—Strasburger, Fritz & Pfeiffer, New York, N. Y.

247. — Medicinal Preparation.—George B. Thurston, Lynn, Mass.

248.—Fertilizer.—J. Augustus Tucker, Boston, Mass.

EXTENSIONS.

ROXANNA RICE, of South Lancaster, Mass., executrix of BENJAMIN F. RICE, deceased.—Letters Patent No. 17,184, dated April 28, 1857; reissue No. 920, dated March 6, 1860.

"Improvement in Machines for Making Paper Bags."

Claims.—1. The machine as a whole, composed of mechanism for forming, feeding, cutting, and pasting the tube or bag, combined, arranged, and operating substantially as described.

2. The use of a supporting-bar, or its equivalent, around which paper may be formed into a tube, and in connection with which the said paper tube may be severed, each and the whole substantially as described.

3. Giving the paper the variable feeding motion, for the purpose and in the manner substantially as described.

4. Cutting the paper, without waste of material, into such a form as shall have suitable projections for the formation of the bottom lap or seam of the bag, and for the convenient opening of the bag at the mouth, substantially as described.

CHARLES CROOK, of New Hope, Pa.—Letters Patent No. 17,205, dated May 5, 1857; reissue No. 548, dated May 4, 1858; reissue No. 3,393, dated April 20, 1869.

"Improvement in Harvesters."

Claim.—1. Two driving-gears of unequal size or diameters for changing the rapidity of vibration of the cutters

2. A concentric arrangement of two driving-gears of unequal size, for changing the rapidity of vibration of the cutters.

CHARLES CROOK, of New Hope, Pa.—Letters Patent No. 17,205, dated May 5, 1857; reissue No. 548, dated May 4, 1858; reissue No. 3,394, dated April 20, 1869.

"Improvement in Harvesters."

Claim.—1. A lifting segment or cam, with lever and chain or cord attached thereto, for raising and lowering the cutting apparatus.

2. A lifting segment or cam, with lever and chain, in combination with ratcheted teeth and a pawl, or its equivalent, for holding the cutting apparatus at any desired height.

DISCLAIMER.

CHARLES CROOK, of New Hope, Pa.—Letters Patent No. 17,205, dated May 5, 1857; reissue No. 548, dated May 4, 1858; reissue No. 3,394, dated April 20, 1869.

(Filed April 20, 1871.)

"Improvement in Harvesters."

Disclaims first Claim of said specification, viz.: "A lifting segment or cam, with lever and chain or cord attached thereto, for raising and lowering the cutting apparatus."

ISSUE OF MAY 9.

PATENTS.

114,510.—PERMUTATION-LOCK.—James T. Adams, Washington, D. C., assignor to Joel R. Leidy, Philadelphia, Pa.

Claim.—1. The combination of the eccentric *f* on the stem *e*, and eccentric *f'* on the sleeve *g*, of the key-hole plug, with the eccentric rings *e* and winged sleeve *g'*, for operation substantially as set forth.

2. The combination of the eccentric ring *p*, made adjustable within the loop *n* of the bolt *k*, with the hidden eccentric *m* on the spindle *l*, substantially as and for the purpose specified.

114,511.—PIPE-COUPLING.—William D. Alford, Cuyahoga Falls, Ohio.

Claim.—The chambered nut G, provided with the shoulder I, in combination with the sectional ring J and pipe-sections A B, constructed and arranged in relation to each other, as and for the purpose substantially set forth.

114,512.—LATHE.—John P. Allen, Springfield, Ohio, assignor to himself and R. M. Dalby, same place.

Claim.—The combination in one machine of the bed A, head B, hollow mandrel C, chuck D, back center G, tool-rest H with its attachments, auger-rod M, blocks P P, and four-armed wheel R, all constructed and arranged to operate substantially as and for the purposes herein set forth.

114,513. — STREET-LAMP AND LANTERN.—Joseph N. Aronson, New York, N. Y.

Claim.—1. The construction of lamps and lanterns with their sides composed of panes or panels of pressed or cast glass, having on their surfaces a series of bosses, substantially as herein described.

2. The combination of the tongues *c c c' c'* on the exteriors of the upper and lower edges of the glass panes or panels, and the grooved bands B B', substantially as and for the purpose herein described.

114,514.—MECHANICAL MOVEMENT.—John Barnes and William F. Barnes, Rockford, Ill.

Claim.—1. The combination of the vibrating bifurcated treadle, the driving-belts passing in opposite directions around the driving-pulley, the pulley actuated by the belts and carrying the locking-lever with its projecting arms that act upon the hub of the pulley, as described, and the balance-wheel with its concentric groove in the face of the hub, all these parts being constructed for joint operation, substantially as and for the purpose described.

2. The composition of the driving-pulley, rotating alternately in opposite directions, the locking-lever extending across the face of the pulley, and having an arm with projecting edges formed upon two of its angles, and the balance-wheel, with a concentric groove formed in the face of its hub, all these parts being constructed substantially as and for the purpose specified.

3. The combination of the axle, the reversible driving-pulley, the grooved wheel, and the locking-lever extending across the face of the wheel, all these parts being constructed and operating as described, so that the axle forms a stop to limit the play of the lever, as set forth.

114,515.—IRONING-BOARD.—Albert G. Beck, Philadelphia, Pa.

Claim.—The combination of the ironing-board, mortised, as shown at E, with the portable stand, consisting of longitudinal pieces A and uprights B C hinged and braced thereto, and constructed with beveled notches to fit the beveled ends of the longitudinal pieces, as shown and described.

114,516.—PORTABLE BUTTER-TRAY.—Levi Beemer, Libertyville, N. J.

Claim.—The combination of the frame F and removable butter-tray A with trough E, waste-gate B, lever C, and fulcrum D, as and for the purpose set forth.

114,517, antedated April 27, 1871.—MANUFACTURE OF ACETATE OF LIME FROM PYROLIGNEOUS ACID.—John Bell, Dover, N. H.

Claim.—The outside cylinder F and the pipes H, G, and E, essentially as described and for the described purpose, viz., keeping the acid vapor at a temperature of from 212° to 400° by means of the heat from a furnace.

114,518. — STREET-LAMP. — John Benson, Yonkers, N. Y., assignor to George McCord, same place.

Claim.—1. The arrangement of an interposed air or non-conducting space or passage, D, between the roof E of the body A, the chimney C, and the head or reservoir B of the lantern, essentially as described.

2. The combination of the glazed body A, the reflecting-roof E, the chimney C, the air-passage D in communication above and below with the external atmosphere, the weather-bonnets *c d*, and the reservoir B, essentially as shown and described.

114,519. — CLOTHES-DRIER. — Horace S. Black, Buchanan, Mich.

Claim.—1. The T-shaped tubular joint-sleeve C provided with the circumferential slot *b*, substantially as and for the purpose set forth.

2. The construction of a clothes-rack wherein the posts A A', cross-bars B, and joint-sleeve C are arranged with relation to each other, and operate as herein described.

114,520.—PIANO-VIOLIN.—Elisha D. Blakeman, Mount Lebanon, N. Y.

Claim.—1. The musical instrument composed of the box A, string B, bridge *d*, and keys C C, the string to be played by a bow and regulated by the keys, as set forth.

2. The guide-pin *e*, secured to the neck of the box instrument for guiding the bow, as set forth.

114,521.—ALARM-BELL.—Spencer C. Bond, Hainesville, Ill.

Claim.—The plate A, provided with the diagonal rib C, in combination with ratchet-wheel E D, bell B, bell-hammer J K, spring R, wheel I, crank P, and cord R, as and for the purposes set forth.

114,522. — STEAM-RADIATOR. — Elijah M. Bosley, Baltimore, Md.

Claim.—As an article of manufacture, a steam-radiator constructed with induction-openings *c* and eduction-openings *d* at its ends, and a central diaphragm, *e*, having an orifice, *f*, at its middle, as specified.

114,523.—ATTACHMENT FOR SASH-WEIGHTS.—Freeman Brady, Jr., Washington, Pa.

Claim.—The grooved and apertured cord-holder B *b c*, and the slotted plate D provided with the cross-bar or piece *f*, connected as shown and described.

114,524. — FLIER FOR SPINNING. — James Salisbury Brown, Pawtucket, R. I.

Claim.—The roving-flier, having its neck *b* provided with the notch *a*, in the manner and for the purpose as set forth.

114,525. — WATER-WHEEL. — Nathan F. Burnham, York, Pa.

Claim.—1. The combination of the hub of the dome secured to the casing, the register-gate inclosing the casing, and the devices for adjusting the register-gate on the hub of the dome, all these parts being constructed and operating in combination, substantially as set forth, to allow the register-gate to move freely around the casing without actual contact on its vertical face.

2. The casing, constructed substantially as set forth, with recesses in its outer surface between the chutes, to leave room for the escape of obstructions between the casing and register-gate.

3. The combination of the casing, having chutes constructed as described, with the register-gate, having one of the vertical edges of each of its openings concave and the other convex, to conform to the construction of the chutes, as set forth.

114,526, antedated May 2, 1871.—STALK-PULLER.—Henry Buttenberg and John L. Strong, Memphis, Tenn.

Claim.—1. The rotary stalk-grabbing and pulling and cutting instruments O, mounted on the shaft G of a truck gearing with the axle thereof, all combined and arranged substantially as specified.

2. The stalk-grabbing and pulling and cutting instruments O mounted on the shaft G, so as to be adjusted thereon to or from each other, substantially as specified.

3. The combination, with the grabbing and pulling and cutting-wheels N, of the sliding plates P Q, the elbow-levers S, vibrators P, and the hand-lever U, all substantially as specified.

114,527. — CLOTHES-DRIER. — Thomas H. Chubb and William G. Marston, Post Mills, Vt.

Claim.—An improved clothes-drier or towel-rack, consisting of the main frame A B, the larger drying-frame C D, and the smaller drying-frame E F, said parts being constructed and arranged substantially as herein shown and described, and for the purposes set forth.

114,528. — HOT-AIR FURNACE. — Edwin Clark, Lancaster, Pa.

Claim.—1. Utilizing the heated production of combustion in its passage from the furnace at *i*, through a pipe or flue 1, to an outside arrangement of flues and chambers, in which the cold air becomes heated in its passage to the furnace, substantially in the manner specified.

2. A threefold series of flues, No. 2 to 13, as shown, in combination with the chambers I II III and partitions *s' s* in the cold-air conductor E F G, arranged in the manner and for the purpose specified.

3. In combination with the series of flues within the cold-air-conducting chambers, the arrangement of flue 1, at *i*, within the hot-air chamber in front of the furnace H, and the sides K, and open bottom *v*, all arranged and operating substantially as and for the purpose described.

4. The arrangement of a furnace having a hot-air chamber, *o o'*, from whence the heated air is passed directly through the furnace into a second hot-air chamber, by the front, top, and sides K K, over the fire-box, from whence it is conveyed in the usual manner, as shown and described.

114,529.—CAR-BRAKE AND STARTER. — Joseph A. Cody, Cleveland, Ohio.

Claim.—The combination of the sliding slotted draw-bar B, cross-tree B', hinged rods *d d*, brake D, suspending rods *d'* and *d''*, when constructed and arranged to operate together in the manner and for the purpose substantially as described.

114,530.—TRACE-BUCKLE.—Aaron H. Cole, (deceased,) Adrian, Mich.; Lydia B. Cole and Miner T. Cole, administrators.

Claim.—A trace-buckle, having a bow or rim, *a*, one end of which turns as a pivot in the hame or fixed strap, so that the other end swings as a bail over the trace, in combination with a tongue-pressure plate, *w*, wedge-shaped or otherwise, the whole arranged and operating substantially as and for the purpose herein specified.

114,531.—POTATO-DIGGER.—Clark Cooney, Columbus, Neb.

Claim.—In a potato-digger, the combination of the spiral conveyer Z^1 Z^2 with the elevator X Y and inclined way or apron W, substantially as and for the purpose specified.

114,532.—SEWING-MACHINE CHAIR.—Samuel W. Cozzens, Sheboygan, Wis.

Claim.—The back B C D and seat A, constructed as described, in combination with the rod G, legs L, and spring S J, substantially as described and shown.

114,533.—BASE-BURNING STOVE.—Robert Diven, Williamsburg, N. Y.

Claim.—1. The combination, with the cylinder G, of the fire-pot E and inclosing structure F, constructed and arranged to form downward flues d at the front and sides of the stove, and intermediate hot-air passages e, substantially as specified.

2. The base-flue a, extending entirely around the stove, and arranged in relation to the ash-pan as described, in combination and in communication with the flues d, extending down the front, back, and sides of the latter, substantially as shown.

114,534.—GRAIN-DRYING CAR.—Charles S. Dole, Chicago, Ill.

Claim.—1. The vertical compartments B^1 B^2 B^3 B^4, with sides constructed to hold the grain and allow free admission of air, when separated one from the other by hollow partitions or flues in a car for drying grain, substantially as specified.

2. The car for drying grain, herein described, made with a perforated platform, A, and several compartments, B^1 B^2 B^3 B^4, separated by vertical flues or hollow partitions, the sides of which are constructed to allow the air to circulate through the grain contained in the car, substantially as specified.

114,535. — MACHINE FOR MAKING STRAW ROPE.—Charles E. Donnellan, Indianapolis, Ind., assignor to himself and McCord & Wheatley, same place.

Claim.—1. The relative arrangement of the saws I I, gatherers J J, and strips h h on the rack D—that is to say, the edges of saws above and the strips below the points of the gatherers, substantially as and for the purposes herein set forth.

2. The saws I I attached to the heads of the revolving cylinder E E for the purpose of cutting off the ends of the straws, substantially as herein set forth.

3. The gatherers J J, provided with adjustable wires *f f*, and attached to the revolving cylinder A, substantially as and for the purposes herein set forth.

4. The twister K, composed of the shaft k, point n, lip p, and tube r, and revolving within the recess d of the revolving cylinder H, substantially as and for the purposes herein set forth.

5. The within-described cylinder, composed of the heads E E and body H, one of said heads having a solid journal, a, and the other a hollow journal, b, and the body provided with one or more recesses, d, and passages e, all substantially as and for the purposes herein set forth.

6. The reel N, provided with a spiral, s, and arranged as described for pulling the rope out of the machine, as herein set forth.

7. The arrangement of the wheels P, R, and W and the sliding wheel T, moving on an inclined plane, and provided with a rubber band, spring, or weight, substantially for the purposes herein set forth.

8. The within-described machine for making straw rope, when its parts are constructed and arranged substantially as and for the purposes herein set forth.

114,536.—SPINDLE-STEP.—George Draper, Hopedale, Mass.

Claim.—1. The spindle-step as having the spindle-foot bearing a, and the hollow dome D arranged in the oil-reservoir A, and to receive the spindle B and its foot b, as set forth.

2. The spindle-step as provided with the spindle-foot bearing a, and the dome D arranged in the oil-reservoir A, as set forth, and as having the annular cap or cover E applied to the oil-reservoir and extended about the dome and below its top, in manner as explained.

114,537. — COMBINED SPOOL-STAND AND BUTTON-BOX.—John H. Drum, Bethel, Mich.

Claim.—The disk a, provided with pins c and tension-coils e, and combined with wires f and tension-arms d, as described

114,538.—UTERINE AND PROLAPSUS-ANI SUPPORTER.—Alexander M. Dye, Elkhart City, Ill.

Claim.—The arrangement of the buttoned stem of the pessary, and the sliding double conical rubber anus, supported upon the folded strap B, connected, as shown, to the waistband, for the purpose specified.

114,539.—FIFTH-WHEEL FOR CARRIAGES.—Peter S. Eastman, Washington Mills, N. Y.

Claim.—The top or pivot-plate A, ball B, bottom or socket-plate C, and socket D, in combination with each other, and whether the slides E be used or not, to adapt them for attachment to the woodwork of a vehicle, substantially as herein shown and described, and for the purpose set forth.

114,540. — BREECH-LOADING FIRE-ARM.—William H. Elliot, New York, N. Y.

Claim.—1. A cam, d'', and ratchet c'', in combination with a hammer, d, for giving motion to the breech-block through connecting-link c, operating substantially as described.

2. The stops w and x, the hammer (or operating-lever) and the shoulder r'', when combined for operation, substantially as and for the purpose described.

3. In a breech-loading fire-arm, the ratchet c'' when provided with the irregular revolving notches u and w and regular stop notches v, as described.

4. The ratchet c'' with its regular and irregular notches, in combination with the hammer and its stops w and x, as set forth.

5. The combination of the stop q and the connecting-link with the hammer and breech-block, whereby said stop serves to lock the breech-block in position while firing, and as a rest for the hammer while loading, substantially as set forth.

6. The combination of the stops q and p with the shoulders r and r', and the cam d'', for locking the breech-block, substantially as set forth.

7. In combination with a breech-block pivoted at its rear end, the retractor e having upon it the two points o and o', when operating together, substantially as specified.

8. In combination with a breech-block pivoted at its rear end, the retractor e with its two points o and o', and spring l, all operating substantially as set forth.

114,541.—SASH-HOLDER.—William R. Elliott, Troy, Kan.

Claim.—The sash-lock, consisting of the crank-pin a, fixed ring C, and sliding block D, the contiguous faces of C and D being spiral, as set forth.

114,542.— JOURNAL-BOX.—Seth C. Ellis, Jersey City, N. J.

Claim.—The combination of the oppositely-inclined caps B B and their holding-screws C C with the inclined planes *s s* of the base A, substantially as described.

114,543.—FENCE. — Ellsworth Ely, Lockport, N. Y.

Claim.—1. The arrangement, in a fence and with the stakes C, of the panels composed of the uprights A A', boards L, and cross stay-piece K, the panels being connected together by bolts *l*, as described, for the purpose hereinbefore set forth.

2. The stake or lower portion C of a fence-post, provided with an enlargement, c, at its center, as described, and for the purpose hereinbefore set forth.

114,544.—MEDICAL COMPOUND.—John Fay, Lacon, Ill.

Claim.—The above-described medical compound, substantially as and for the purposes specified.

114,545. — RATCHET-DRILL. — William Frankel, Springfield, Ohio.

Claim.—The arrangement of levers B and B', in combination with stock a, intermediate levers C and D, pins *c c'*, springs *e* and *e'*, pawls *b* and *d*, ratchet-wheel A, and stop *f*.

114,546.—GRAIN-SEPARATOR.—Daniel Garver, Ringgold, Md., assignor to himself and Cyrus Garver, same place.

Claim.—1. In combination with the cylinders *a a*, the endless rake and carrier, consisting of the slats *b*, armed with teeth *c*, and constructed with rabbets, as shown and described, which enable said carrier and rake to present a closed surface toward the thrasher, as specified.

2. The combination and arrangement of the vibrating shelves *f g h*, the two latter being constructed with concave surfaces, as described and shown, the end frames I, the shaft *l*, pitmen *m*, and arms *n*, as specified and set forth.

114,547.—FAN-BLAST REGULATOR.—Daniel Garver, Ringgold, Md., assignor to himself and Cyrus Garver, same place.

Claim.—The combination and arrangement, with the fan B, of the fan-heads *a*, sliding valves W, levers *c*, connecting-rods *g*, bar h, arm *i*, and spring *k*, as and for the purpose specified

114,548.—WINDOW-SCREEN.—Benjamin Giroux, Chicago, Ill.

Claim.—In combination with the window-sash, the screen D passing through the slotted top or sill of the casing, and the spring roller E arranged in the box above or below the casing, substantially as described, for the purpose specified.

114,549. — HORSE-POWER.—Homer Glass, Racine, Wis.

Claim.—1. In combination with a ring-wheel, B, and pinion D, the diagonal shaft C having bevel-wheels *c d* on its opposite ends, and the intermediate wheel *e*, to impart a steady motion to the thrashing or other mechanism operated.

2. The truss-rod H and pinion D, arranged as and for the purpose specified.

3. The draft-levers E F, combined with the sockets *g*, claws h, and projections *i*, and with the draft-bar G, substantially as herein shown and described.

4. The truss-rod H, arranged on the frame A to brace the same and adjust the gear-frames, substantially as herein shown and described.

114,550. — DETACHABLE FLUID-RESERVOIR FOR STREET-LAMPS.—Lyman A. Gouch, Yonkers, N. Y.

Claim.—The detachable external reservoir A, surrounding the head of the lamp and resting on the shoulder thereof, and provided with a tube passing through a hole in the lamp for the attachment of the burner, substantially as herein set forth.

114,551.—SURFACE BLOW-OFF FOR STEAM-BOILERS.—James S. Griffith, St. Louis, Mo.

Claim.—The supernumerary pipe D and its orifice *i* and valve E, combined with pipe C C' and valve G, substantially as described.

114,552. — FLAVORING WHISKY.—Samuel Gross, Dover township, Pa.

Claim.—The improved spirits herein described, produced by flavoring whisky by redistilling it with the flavoring fruit in the still, as set forth.

114,553.—HORSE-DETACHING APPARATUS.—John Linton Hamilton, St. Joseph, Mo.

Claim.—1. The sliding bar H, having the perforated ears G I at one end and the pin L at the other, combined with the whiffletree A, having the stud B in one end and the stud C and slotted guard K in the other, all substantially as specified.

2. The combination, with the sliding bar H, of the spring M, stud N, and tripping-cord or strap P, all substantially as specified.

114,554. — BUCK-SAW FRAME. — Leonard Hancock, Alton, Ill., assignor to James Newman, same place.

Claim.—The saw-straining device, consisting of the elliptical brace *a* and tension-rod *f*, welded together or formed in one piece, as set forth, and provided, respectively, with a tenoned and a screw-threaded end, whereby the same is adapted to be connected with the part *c*, as shown and described.

114,555.—HORSE-POWER.—Theophilus Harrison and William C. Buchanan, Belleville, Ill.

Claim.—1. The vertically-adjustable bevel-wheel frame D, made substantially in the manner herein shown and described, and applied to a horse-power in the manner specified.

2. The suspending-bolts F, with their upper lengths made larger than the lower lengths, so that the threads on the upper lengths will require nuts large enough to pass loose over the lower lengths, as set forth.

3. The bed-plate C of the power, provided with projecting nibs *l* and *m*, that extend downwardly and upwardly, and serve as guides for the bolts F, substantially as and for the purposes set forth.

4. The center pinion h, made with one part of the hole round and the other portion square or notched, to be thrown in or out of gear, as described.

5. The upright shaft *i*, keyed tight to the bevel-wheel *c* in the frame D, and loose in the center pinion h above, and squared at the upper end, substantially as and for the purposes set forth.

6. The adjustable bevel-wheel frame D, in combination with the suspension-bolts F, as described.

7. The combination of the bevel-wheel frame D, suspending-bolts F, and bed-plate C, all arranged as specified.

8. The combination of the bevel-wheel frame D, suspending-bolts F, upright-shaft *i*, and bed-plate C, all arranged as specified.

9. The combination of the bevel-wheel frame D, suspending-bolts F, upright shaft *i*, bed-plate C, and center pinion h, all arranged substantially as herein shown and described.

10. The combination of the bed-plate C, suspending-bolts F, and upper circular brace-plate *n*, by which the whole power is firmly bound together, as set forth.

11. A mounted horse-power so constructed and arranged that the levers, rods, and other devices used for moving it can be transported on the axles under the bed-plates, as set forth.

114,556. — MOSQUITO-BAR.—Robert F. S. Heath, Philadelphia, Pa.

Claim.—1. The central block, consisting of the portion B, openings *a a*, and enlargement C, in combination with the ears D, consisting of the perforated shanks *b*, guides *c*, and shoulders *d*, and with the arms E and wire or cord *e*, all arranged and operated together in the manner and for the purpose described.

2. The ears D, constructed of single pieces of metal and bent or stamped to form shanks *b*, which guide the ears and provide means for attachment to the central block, guides *c* for reception and retention of the arms of the frame, and shoulders *d*, to abut against the block and support the extended frame, all as set forth, for the purpose described.

114,557.—PRINTING-PRESS.—John Henry, Millburn, assignor to himself and Alexander Robertson, Summit, N. J.

Claim.—1. In combination with the cylinder and distributing apparatus, the shaft B and clutch B^6.

so arranged that the distributing apparatus may be operated independently by hand or by the power which revolves the cylinder, substantially as set forth.

2. The roller C^2, when constructed with beveled ends, in combination with the frame carrying the rollers C^4, for communicating a reciprocating longitudinal motion to the latter, substantially as set forth.

3. In combination with the pinion I^3 and guide K revolving around it, the friction-rollers K^3 and ways against which they bear, substantially as set forth.

4. In combination with the pinion I^3 and guide K revolving around it, the system of levers K^3, K^4, K^5, K^6, and K^7, arranged substantially as set forth.

5. In combination with the cylinder L and feed-table frame, the guide-rest Q, when attached to a rod or shaft fastened to the feed-table frame so as to be independent of the table, substantially as set forth.

6. In combination with the cylinder, the brush R, arranged to operate substantially as set forth.

7. In combination with the prick-points S^2 the vertically-oscillating arm S^5 and rack S^6, substantially as set forth.

8. The combination of the prick-point, the vertically-oscillating arm S^5, and horizontally-oscillating arm S^4, substantially as set forth.

9. In combination with the prick-point, and arm upon which it is carried, the set-screw S^3 for regulating the position of the prick-point, substantially as set forth.

10. The arrangement of the cam D^6, friction-rollers D^5 and D^7, arms D^2 and D^4, and rollers C^6 and C^7, substantially as set forth.

11. The fountain-roller, when made of glass with a ground surface, substantially as set forth.

114,558. — Grinding-Mill.—Henry Henley, Elysianfield, Texas.

Claim.—The combination, with the spindles of the upper and lower stones and the pulleys thereon, of the driving-belt F, fast driving-pulley G, loose pulley R, and driving-shaft, all arranged substantially as specified.

114,559.—Manufacture of Illuminating-Gas.—Samuel Hevner, San Francisco, Cal.

Claim.—1. The combination of the closed gasometer 5 with the hydrogen-generator and carbureter, as and for the purpose set forth.

2. The combination of the acid-reservoir 1, escape-pipe 4, and the water-reservoir 2, substantially as described, and for the purpose set forth.

3. The combination of the carbureter 4, supply-pipe *f*, gasometer 5, resister-tube *g*, and water-reservoir 2, as and for the purpose set forth.

114,560.—Curtain-Cord Retainer.—Henry Holcroft, Media, Pa.

Claim.—The combination of the fixed pin D and the movable curtain-cord retainer A, or its equivalent, as shown and described.

114,561.—Propulsion of Canal-Boats.—Julius L. Hornig, Chicago, Ill.

Claim.—1. The endless chain K, constructed with outwardly-projecting flanges *b*, substantially as set forth.

2. The combination of said endless chain K with any proper drums or pulleys and the track A, when operating substantially as and for the purpose set forth.

3. The carriage B, constructed as described, in connection with drums C C′, axle F, and endless chain K, when operating as and for the purpose specified.

4. The combination of the shaft G, rotated by any suitable motor upon a canal-boat, pulley D, chain H, and arm M, carriage B, drums C C′, axle F, endless chain K, and guide-wheel L with the rail A, substantially as described, and for the purposes set forth.

114,562.—Fringe-Twister.—Hiland Howard, Leeds, N. Y., assignor to himself, James Fowks, and George Howard, same place.

Claim.—1. The arrangement of the twisting fingers with the cloth-supports for working through the yarn perpendicularto the plane in which the shawl or other article is stretched, substantially as specified.

2. The arrangement of the fingers of each set with the other, as herein shown, whereby each finger acts on each of two sides and the alternate strands are twisted in opposite directions, substantially as specified.

3. The dividing-bars provided with the shallow notches *a* and the deep notches *b*, and the latter arranged obliquely for holding the upper strands vertically above the lower ones, substantially as specified.

4. The combination of the two sets of fingers N M, bars E F, the right-and-left threaded screws, and the guides B, substantially as specified.

5. The combination, with the twisting-fingers, arranged and operating substantially as described, of the dividing-plates or bars S, substantially as specified.

6. The combination, with the dividing-bars, of the spring *t*, cams U U′, and the spring bars X Z, the said cams being connected together and the spring bars attached to the finger-bars F, all substantially as specified.

7. The twisting-fingers, consisting of the slotted metal bars and the divided India-rubber strips P, substantially as specified.

8. The combination, with the twisting-fingers and the rolls B′, of the whip-rolls H and the yarn-supporting rods A′, substantially as specified.

114,563. — Railway-Track Gauge.—William S. Huntington, Byron, Mich., assignor to himself and Ansel N. Kellogg, Chicago, Ill.

Claim.—1. A railway gauge, provided with the forked plate B, as shown, to rest on the rail, and having downward projections *a a*, the forked arms being arranged to facilitate the adjustment of the gauge, as set forth.

2. The lip *d* on the plate *c*, when made to project below the lower surface of the gauge, as set forth.

114,564.—Revolving and Rocking Chair.—Platt C. Ingersoll, Green Point, N. Y.

Claim.—The brace G and attached stop *d*, in combination with the transom D and spring F, substantially as and for the purpose herein described.

114,565, antedated May 1, 1871.—Wheel-Rim.—Daniel A. Johnson, Boston, Mass.

Claim.—The section D, when interposed between and suitably connected with the extremities of two main pieces of a wheel-rim, and located between two spokes, with its ends so near the ends of the spokes that the latter serve as bearings for the section, substantially as described.

114,566. — Car-Coupling.—William Johnston, Decatur, Mich.

Claim.—1. The vertical forked slide B, provided with the pivoted headed pin C and with the steps *d*, to operate substantially as herein shown and described.

2. The draw-head A, provided with vertical grooves at the sides to receive the vertical slides B, substantially as herein shown and described.

114,567. — Elastic Tackle-Block.—John E. Jones, Waretown, N. J.

Claim.—The plate A, when provided with the turned-in plates *d* and *e* at the outer side to form a double support for the connecting-pins, substantially as herein shown and described.

114,568.—Saw-Mills.—Simon Kemper, Berger, Mo.

Claim.—1. The crank-screw C, sliding and removable dogs C^1 C^2, when arranged in head-blocks B^2 B^3 of a feed-carriage, B, as and for the purpose described.

2. The combination of the horizontal saw K, its frame J having slides k^1 k^2 arranged to slide in grooved slides k^3 k^4 of the adjustable frame F, substantially as set forth.

114,569.—Machine for Operating Glass-Molds.—William C. King, Pittsburg, Pa.

Claim.—1. The revolving block *i*, carrying two or more removable molds, *i′*, operating in connection with the plunger *d*, substantially as and for the purpose set forth.

2. The hinged and counterbalanced drop-pan *s*, made substantially as and for the purpose described.

3. In connection with a series of revolving molds, a hooked lever, *l*, wheel *o*, with pins *o″*, or their equivalents, arranged substantially as and for the purposes described.

4. In connection with a series of revolving molds, a bent lever, *m*, pin *n*, grooves *p p′*, and wheels *o*, having ratchet teeth *o′*, or their equivalents, arranged substantially as and for the purposes described.

5. The block *i*, perforated or chambered out in the direction of the axial line of the molds attached thereto, and provided with drop-weights *x*, substantially as described.

114,570.—Spindle-Step.—George William Knight and George Draper, Hopedale, Mass.

Claim.—1. The combination and arrangement of the hollow dome D with the oil-reservoir B, and with the frustum C disposed in the latter, as set forth.

2. In the bolster, as composed of the oil-reservoir B, and the frustum C, and the dome D, arranged therein, the oil-reservoir and the cone or frustum *c*, as constructed, with their upper edges on a level, or with that of the cone or frustum arranged above that of the reservoir, as described.

3. The dome, as arranged within the oil-reservoir of the bolster and around the spindle-bearing, substantially as described.

4. The combination and arrangement of the oil-reservoir B, the cone or frustum C, the dome D, and the cover or cap E, all being substantially as described.

114,571.—Water-Wheel.—Thomas Leffel, Springfield, Ohio, assignor to Barnett, Herrman & Co., Dayton, Ohio.

Claim.—1. A wheel-case composed substantially of the cylinders B B′, flanges C C′ and G G′, chutes D, and bridge E, adapted to be used upon a horizontal shaft, as set forth.

2. In combination with the above, the detachable draught-tubes T T, constructed and arranged in the pen-stock, substantially as set forth.

114,572.—Valve.—Joseph Lewis, Manchester, England.

Claim.—The rotating core A, provided with the annular groove *a*, axial grooves *d*, diametric passages *e*, and an internal longitudinal passage, *f*, in the connection and substantially as and for the purpose specified.

114,573.—Sewing-Machine. — Halsted W. Little, Muncie, Ind., assignor to himself, John L. Little, and William L. Little, same place.

Claim.—The needle-operating arm H, provided with the adjustable and slotted extension H′, as and for the purpose set forth.

114,574, antedated April 14, 1871.—Device for Operating Cut-off Valves.—Kellogg H. Loomis, New York, N. Y.

Claim.—1. A device for operating cut-off valves in steam-engines, having hinged yielding arms, substantially as and for the purposes herein set forth.

2. The rocking head A, provided with the sliding bar C, arms D D, and springs E E, all substantially as and for the purposes herein set forth.

3. The combination of the sliding bar C with its hinged arms D D and springs E E, the projection *a*, diagonally grooved slide E, and wrist-pin H, all constructed and arranged as described within the rocking head A, substantially as and for the purposes herein set forth.

114,575.—Hose-Coupling.—Joseph J. Lovell, New York, N. Y.

Claim.—The combination of the grooved and recessed band B *b′*, band C, pivoted and grooved curved bar D *d′*, arm E, band F, and part G *g′* with each other, substantially as herein shown and described, and for the purpose set forth.

114,576, antedated April 27, 1871.—Reducing Rubber. — William Newton MacCartney, Glasgow, Scotland, assignor to John Cinnamon, Cincinnati, Ohio.

Claim.—The process herein described of reducing vulcanized India rubber by the employment of petroleum and camphor, as set forth.

114,577.—Artificial Stone.—Thomas Madeley, Rochester, N. Y.

Claim.—The compound for artificial stone herein described—that is to say, gravel or sand, Rosendale cement, water-lime, resin, and sulphur or brimstone, in or about the proportions specified.

114,578. — Knife-and-Fork Scourer.—Eliezer Jewett Marsh, Leominster, Mass.

Claim.—1. The improved machine, constructed as described, or provided with the three rollers A B E only, arranged and combined with the two shafts C D and the connecting-gears, and to operate as set forth.

2. In the knife-scouring machine, as described, the rollers as made of the series of felt and rawhide or leather disks *a b*, arranged together and with the shafts C D and metallic heads *c c*, as set forth.

114,579.—Reversible Hinge.—Frank W. Marston, Philadelphia, Pa.

Claim.—1. A reversible hinge, consisting of two leaves, connected only at their sides, and by means substantially as described, so that the leaves cannot be detached from each other in any position.

2. The combination, operating as described, of the bosses G G′ with the pins I I′, whose transverse section is a circular segment not less than a semicircle.

114,580.—Buckle.—John F. Martin, Harrisburg, Oregon.

Claim.—The plates C D, each apertured at one end, transversely corrugated on their inner faces, and respectively shouldered at *d e*, combined with a screw, E, as and for the purpose described.

114,581.—Machine for Adjusting Cotton-Bale Ties.—Milo Martin, Charlotte, N. C., assignor to himself and Jasper Stowe.

Claim.—The rack-bar A, lever B G, lugged slide C F, weighted pawls D E H, slotted arms I J L N, and eccentric levers K K, all combined, as described, to operate in the manner specified.

114,582.—Paper Box.—Henry Matier, Belfast, Ireland.

Claim.—An improved paper box formed in two

parts, A C and B D, hinged to each other at the side edge of their bottoms by a cloth and paper hinge, E, and connected at their ends by the elastic cords F, substantially as herein shown and described.

114,583. — RAILWAY SWITCH. — James M. Maxwell, Webster, W. Va.

Claim.—In combination with two adjacent converging fixed rails, *g i*, and a pivoted rail, *a*, the wedge *k* and plate *l*, as described.

114,584.— PRISON-GRATING.—Edwin May, Indianapolis, Ind.

Claim.—The clamp-guard A, in combination with the bars B and bolt C, all constructed and arranged substantially as and for the purposes set forth.

114,585.—BELL-YOKE ATTACHMENT.—Clinton H. Meneely, Troy, N. Y.

Claim.—The combination of the shank, secured as shown to the crown-plate, the washer, toothed upon its under side and meshing into teeth upon the crown-plate, the center bolt and its nut, all as and for the purpose described.

114,586.—JAPANNED LEATHER. — Franklin S. Merritt, Boston, Mass.

Claim.—1. The embossed japanned leather made in manner as described.

2. In combination with the process of japanning the leather, the subsequent operation of wetting, embossing, drying, and boarding or softening it, all being essentially as and for the object specified.

114,587. — RAILWAY-CAR AND ENGINE-TRUCK.—George Fred. Morse, Portland, Me.

Claim.—The swaying beam A' A, arranged to rock or roll laterally on the springs or suitable rockers or rollers, in connection with the springs F F' and guides G G, as herein set forth.

114,588.—FLOCK-CUTTING MACHINE.—Monroe Morse and Charles H. Morse, Franklin, Mass.

Claim.—1. The cutter-heads B and C, containing the adjustable radial cutter-blades E and G, whose cutting-edges are set parallel to each other, as set forth.

2. The plates *d* and *e*, made tapering, to constitute flaring spaces between the cutters, as specified.

3. The inwardly-projecting feeders E' G' applied to the cutter-heads B C, substantially as and for the purpose herein shown and described.

4. The vertically-adjustable feed-table I, arranged in the center of the rotary cutter-head C to operate in conjunction with the arms G', as set forth.

5. The plates L, made slightly spiral and yielding, and attached to the shaft so as to project downward to force the material toward the cutters, substantially as shown and described.

6. The projecting arms *i i*, secured to the rotary spindle of a flock-mill to separate threads and strings from the material to be cut, as specified.

114,589.—CHOPPING-MACHINE. — Emanuel Newcomer, Columbia, Pa.

Claim.—1. The arrangement of the fixed rack Q, the pawl P, with its fulcrum on the lever L, in combination with the spring bar T and springs S, for the purpose both of turning them out of the way and for adjusting the pressure on the choppers, in the manner shown and specified.

2. The arrangement of the stem M with its gum-elastic pad *m* on the socket-shaft K, in combination with the chopper-stem N, set-screw *n*, and end J, together with the lifters *h* and drum H with the pulley G, strap-tightener R, all constructed and operating substantially in the manner and for the purpose described.

114,590.—STOP FOR CARPENTERS' PLOWS.—Thomas Nichols, Vicksburg, Miss.

Claim.—The combination, with the thumb-nut E and screw D, of the collar F and stop B, substantially as and for the purpose hereinbefore set forth.

114,591.—HORSE HAY-RAKE.—George Notman, Deerfield, Ohio.

Claim.—1. The lever B combined, as described, with the spring *e*, arm *g*, and teeth-lifting bar C, substantially as and for the purpose set forth.

2. The foot-lever D, in combination with the lever B, rod *g*, bar C, and spring *e*, all arranged and operating substantially in the manner and for the purpose herein specified.

114,592.—CARRIAGE-WINDOW.—Charles M. Oblenis, New York, N. Y.

Claim.—1. The combination of the vertically-adjustable guides and supports K, and the cover M or M O, with the sash and the door, substantially as specified.

2. The combination, with the sash and a door or window-frame having permanent guides and supports for the sash, of the cover M or M O, substantially as specified.

114,593.—CONSTRUCTION OF BIRD-CAGES.—George R. Osborn and Benjamin A. Drayton, New York, N. Y.

Claim.—1. The crimping of the distending or spring tension-ring *d*, substantially as and for the purpose specified.

2. The joining of the pieces forming the base by locking or shutting of one into or over the other, substantially as and for the purpose specified.

114,594.—MEAT AND VEGETABLE-CHOPPER. William H. Peirce, Bangor, Me.

Claim.—1. The angular knife *k*, substantially as and for the purposes specified.

2. The combination of knife *k*, bracket B, elbow *f*, spring *n*, and lever *d*, substantially as described and shown.

3. In combination with stationary vessel A, the cutting-knife rotating upon its own axis, and also traversing the circuit of the vessel, substantially as and for the purposes described and shown.

114,595. — HOT-WATER HEATING APPARATUS.—Alexander C. Pentland, Philadelphia, Pa.

Claim.—The improved heating apparatus herein shown and described, formed of the hollow end walls *b* and *c*, provided respectively with the fuel and flame apertures *f* and *m*, and the double series of horizontal tubes *k l*, and grate-bars *a a*, all constructed and arranged as specified.

114,596.—TANNING.—George Pile, Blountville, Tenn., assignor of one-half his right to W. D. Haynes, same place.

Claim.—The mechanical process of working the hides and skins into the lime, the bate, and the tan-ooze, after having extracted all the water and other foreign substances from the pores thereof, substantially as and for the purpose hereinbefore set forth.

114,597, antedated April 27, 1871.—SMOKE-PIPE AND BASE-PLATE FOR SUGAR-EVAPORATORS.—Charles C. Post, Hinesburg, Vt.

Claim.—1. The above-described base-plate A, provided with the rim or flange *B* for receiving and supporting the smoke-pipe, substantially as set forth.

2. The stiffening-piece D, substantially as set forth.

3. The curved edge E, for stiffening the plate, and for receiving and supporting the evaporating pan, substantially as set forth.

4. The damper C, in combination with the plate A, substantially as set forth.

5. The plate A, in combination with the pipe G, substantially as set forth.

114,598.—BUTTON-HOLE CUTTER.—John G. Powell, Philadelphia, Pa.

Claim.—The corrugated blade A, constructed substantially as described, and in combination therewith the sliding gauge B, so constructed and arranged in relation to the corrugations that one or more of the latter shall guide and hold it in relation to its adjustment, as above set forth.

114,599. — TREADLE. — George K. Proctor and Franklin K. Hamilton, Salem, Mass., assignors to George K. Proctor.

Claim.—The double crank, applied in the manner described to the treadle mechanism of a sewing-machine, for the purpose specified.

114,600.—COTTON-SEED PLANTER AND GUANO-DISTRIBUTER. — James Rafter, Winona, Miss.

Claim.—The ribs K and L, in combination with the movable and stationary parts of the drum H, and with the shaft I, substantially as herein shown and described, and for the purpose set forth.

114,601. — ADJUSTABLE CUT-OFF FOR STEAM-ENGINES.—James Rees, Pittsburg, Pa.

Claim.—1. A pair of pawls, *s*, loosely hung to the stem s^1, the ends of such pawls alternately engaging shoulders *s'*, or other equivalent device of the sleeve *d'*, when combined with suitable tripping devices for disengaging the pawls before the end of stroke, substantially as and for the purposes set forth.

2. A pair of trippers, *r r*, adjustably arranged on a reciprocating frame, in combination with the pawls *s s*, and engaging lugs, substantially as and for the purposes set forth.

3. In combination with the trippers *r r*, the screws *y y* geared together, whereby by a single motion the trippers will be simultaneously adjusted by any desired length of movement, substantially as described.

114,602. — OBTAINING GELATINE FROM BONES, HORN-PITH, &c.—Nathaniel B. Rice, East Saginaw, Mich.

Claim.—1. The process of treating bone, horn-pith, or equivalent substances by means of phosphoric acid, with or without other acid or acids, for the purpose of obtaining the gelatine, as set forth.

2. The herein-described method of separating and reclaiming the phosphoric acid from the solution of earthy matter by the addition of sulphurous or sulphuric acid, as set forth.

3. The process of separating the phosphoric acid added to the bone, together with that originally contained in the bone, from the earthy matter at the operation, as set forth.

114,603.—APPARATUS FOR GENERATING HYDROCARBON-VAPORS. — William R. Roberts, Philadelphia, Pa.

Claim.—1. The combination, in a hydrocarbon vapor-generator, of the plunger of the injector with the injection-pump and its automatic mechanism, or its equivalent, so as quickly to lift the plunger to fill the injector and gradually to force the oil into the generator, these members being constructed to operate in combination, substantially as hereinbefore set forth.

2. The combination, in a hydrocarbon vapor-generator, of the injector, its surrounding steam-chamber, the injection-pump, its automatic mechanism, and the steam-pipe leading from the steam-chamber to the injection-pump, all these members being constructed to operate in combination, substantially as hereinbefore set forth, to operate the injector by its own waste-steam.

3. The combination, in a hydrocarbon vapor-generator, of a tank, a supply-pipe leading from the tank to the injector, an injection-pipe leading from the injector to the generator, and the heating-chamber enveloping the injector, all these members being constructed to operate in combination, substantially as hereinbefore set forth, to heat the oil before reaching the generator.

4. The combined generator and receiver, constructed, as hereinbefore described, of two cylindrical sections arranged one above the other, without vertical tubes or an oil-reservoir.

5. The combination, in a hydrocarbon vapor-generator, of the steam-chamber, its steam-pipes, the diaphragm, and the generator, all these members being constructed to operate in combination, substantially as hereinbefore set forth, so as to heat both the generator and injector.

6. The combination of the generator, its diaphragm, and the slotted oil-supply pipe encircling the interior of the generator, these members being constructed to operate in combination, substantially as described, to inject oil upon the heated diaphragm.

7. The combination of the generator, its diaphragm, the oil-supply pipe, and the steam-jet pipe, all these members being constructed to operate in combination, substantially as hereinbefore set forth.

8. The combination of the injection-pump, the injector, and the generator, all these members being constructed to operate in combination, substantially as hereinbefore set forth, automatically to inject oil in regulated quantities into a vaporising-chamber.

9. The combination of the injection-pump, the injector, the oil-supply pipe, the steam-jet, the generator, its heating-chamber, and the series of steam-pipes, all these members being constructed to operate, substantially as hereinbefore set forth, automatically to inject, vaporise, and mingle heated oil with steam in a generator, unobstructed by oil-reservoirs or nests of tubes.

114,604.—TUCK-CREASER FOR SEWING-MACHINES.—Charles E. Robinson, Boston, Mass.

Claim.—1. The base-plate A B and its arm G with the adjustable wheel and edge-carrying devices, the edge and axle of the wheel being inclined to the face of the guide, and all combined and operating as and for the purpose set forth.

2. The tuck-creasing apparatus above described, the same consisting of the base-plate A B, head-block D, cam-lever K, guide C'', arm E, arm M, wheel N, slide D, male die-creaser *d*, and swinging apron E, combined and arranged together substantially as above set forth.

114,605.—CONVEYER OF SMOKE AND CINDERS FOR LOCOMOTIVES.—Augusta M. Rodgers, Brooklyn, N. Y.

Claim.—The combination of the smoke-stack B, chamber F, opening E, hinged cover C, provided with screen G, and conveying-pipes D, perforated at their forward sides, all constructed and arranged as herein shown and described.

114,606.—LOOM TAKE-UP.—Wanton Rouse, Taunton, assignor to George Draper & Son, Hopedale, Mass.

Claim.—The lever L and its pressure-pawl *c*, the stud *e*, and the slotted standard *g*, as arranged and combined with the ratchet B of the take-up motion, substantially as shown and described, such ratchet being provided with the pawls C I and with the lifter K to be operated by the stop motion, the whole being essentially as and for the purpose or purposes as explained.

114,607.—AUTOMATIC LIQUOR-DISCHARGE. Arthur C. Rowe, Chicago, Ill.

Claim.—The arrangement of the discharge D, with its compartments *d d* on the opposite sides of the central axis E, the upright rod *f*, and adjusta-

ble weight F, the whole constructed and operating, in reference to the perforated head *a*, substantially in the manner herein shown and described.

114,608, antedated May 2, 1871.—Door-Latch.—Henry Sanders, Utica, N. Y.

Claim.—The lever T, with outwardly-curved handle A, slot B, and arm C, extending under pivoted latch K, to which latter is attached a spring, P, all arranged and operating as herein set forth.

114,609.—Lamp.—William Scarlett, Aurora, Ill.

Claim.—The wick-stiffener G fixed to and moving with the burner or threaded part C, and adapted to support the wick against twisting and other entanglements, in combination with, and arranged as shown relatively to the internal reservoir B and the main reservoir A, formed and connected as shown, and supported on the hollow shank A^1 with a smooth spread base A^2 mounted on legs A^3, so as to form the improved lamp adapted for burning kerosene by natural draught, as herein shown and described.

114,610.—Combined Rectifier and Filter.—John C. Schnell, Cincinnati, Ohio, assignor to himself and Eberhard Cammerer, same place.

Claim.—1. A combined rectifier and filter, with the annular filtering-chambers, as seen at L N, and with arch-plate J, valve R, and removable perforated bottom O, arranged to operate substantially as and for the purposes herein shown and described.

2. In combination with the filter, the levers V V, and mode of raising and dumping or inverting the filter, substantially as and for the purposes described.

3. The hinged clamp C, substantially as shown and described, and for the purposes set forth.

114,611.—Plow.—Moses R. Shalters, Alliance, Ohio.

Claim.—The arrangement of the plow-beam A, provided with the seat a''' having a corrugated upper surface, the cross-bar a', provided with the enlargement or body a'' having a corrugated lower side, and the screw-bolt a^4, when the cross-bar is placed upon the beam, the two corrugated surfaces being in contact, as specified.

114,612. — Car-Coupling.—John Shepler, Lambertville, N. J., assignor to William H. Slack for one-half.

Claim.—The coupling-bar, as described, with shoulders A A, hooks *a a*, lifting bar B, slot C, bolt *e*, and tapering slot *f f*, when combined, constructed, and operated substantially as and for the purposes herein set forth.

114,613.—Plane.—James K. P. Smith, Jeffersonville, Ind., assignor to himself and L. S. Shuler, same place.

Claim.—1. The combination, with the plane-bit and the wood stock, of the casting A B C, yoke P, clamps N, and clamping-screw Q, all substantially as specified.

2. The combination with the above of the adjusting-screw K, substantially as specified.

114,614.—Heating-Stove.—Samuel Smith, Philadelphia, Pa., assignor to Charles Noble & Co., same place.

Claim.—1. The divided annular molding C C, in combination with the flange a^1 of the body A, and the annular plate b^1 of the base B, substantially as and for the purpose hereinbefore set forth.

2. The divided clamping-ring F F, in combination with the flange a^2 of the body A, and the lower end of the illuminating-chamber E, substantially as and for the purpose hereinbefore set forth.

3. The divided annular molding H, in combination with the upper end of the illuminating-chamber E and the flange g' of the upper cylinder G, substantially as and for the purpose hereinbefore set forth.

4. In combination with the base B of a stove, the sliding doors D D having the respective lips 7 7, the slots 4 4 in the top plate b^3, and the groove 9 in the bottom plate b^2, all constructed and arranged to operate substantially as and for the purpose hereinbefore set forth and described.

114,615.—Surgical Bandage.—John Smitley, White Cottage, Ohio.

Claim.—The collar-bone bandage, consisting of the breast-plate, pad, bow, lever, and straps or belts, all arranged substantially as and for the purposes herein shown and described.

114,616.—Tumbling-Shaft.—Daniel Snell, Clark county, Ohio.

Claim.—1. Spring catch *c*, or its equivalent, slot *c'*, and notch *e*, in combination with knuckle-piece A and rod B, substantially as shown, for the purposes set forth.

2. Bevel *b'* and groove *c'*, in combination with spring catch *c*, notch *e*, rod B, and knuckle-piece A, substantially as shown, for the purpose set forth.

3. Screw-bolt *a*, in combination with knuckle A, substantially as shown, for the purpose set forth.

4. Constructing a tumbling-shaft with permanently-joined knuckle-couplings, presenting an even surface, as shown, in combination with the detachable parts, substantially as described, for the purpose set forth.

114,617. — Rock-Drilling Machine.—Jacob W. Spangler, Jackson township, and William L. Boyd, York, Pa.

Claim.—1. The combination of the shaft *c*, disk *f*, frame *h*, rack *i*, collar *l*, wheel *m*, worm *o*, and drill *a*, as specified.

2. The combination of the frame *h*, rod *r*, spring *q*, and disk *f*, as described.

3. The frame *d*, lug *s*, spring *t*, and set-screw *u*, in combination with the standard A, as set forth.

4. The prop *v*, provided with flanges *w*, as explained.

114,618, antedated May 6, 1871.—Spring Bed-Bottom.—George Speckner, Madison, Wis.

Claim.—In combination with the spiral springs F, constructed in pairs, the connecting-loops H, I, J, K, and N, all arranged as described, for the purpose specified.

114,619. — Self-Acting Mule for Spinning.—Isaac Stead, Philadelphia, Henry Holcroft, Media, and Francis R. Pearson, Germantown, Pa.

Claim.—1. The combination and arrangement of catch *r*, ratchet-wheel W, disk V, pin *v*, and slotted disk I, for working the cam-shaft, as and for the above-described purpose.

2. The combination of the lever *w*, lug b', arm *s* on catch *r*, for the purpose of holding the catch *r* up and disengaging it from the ratchet-wheel W, as shown and described.

3. The combination of bar f', levers *w* b''', and c''', as shown and described, for operating catch *r* by the outward movement of the carriage, for the above-described purpose.

4. The combination of cam *e* on faller-shaft, lever a', lug c', bar f', and lever *w*, for the purpose of operating catch *r* and producing the movement to run the carriage in, as described.

5. The combination of levers d' and *w*, lug c'', and catch *r*, as described, and for the above purpose.

6. The combination of twist-wheel G, lever *y*, rod *z*, lever *w*, and catch *r*, as described, for the above purpose.

7. The ratchet-wheel *b*, collars *c n*, and quadrant *d*, in combination with the screw-threaded faller-shaft, as shown and described, for the above purpose.

114,620.—Shank-Marking Tool.—Samuel Stone, Lynn, Mass., assignor to himself and Frederick S. Hunt, same place.

Claim.—1. The combination and arrangement of the marking-plate S and its frame P P Q with the frame-bearers U U, axle-shaft N, and standard L, whether the same be used with or without the head-block, all substantially as described.

2. In combination with the standard L, the frame-bearers U U, the axle-shaft N, the frame P P Q, and marking-plate S, the ring or arm-sleeve I and its set-screw J or its equivalent, all substantially as shown and described.

3. In shank-marking tools, the combination and arrangement of the marking-plate S and the frame P P Q with the elastic connections or plate-springs T T, all substantially as shown and described.

114,621. — Treadle-Bearing and Oil-Shield.—Nesbitt D. Stoops, Philadelphia, Pa.

Claim.—1. The shield or dripping-trough C, in combination with the treadle A and fulcrum-rod B, arranged and operating substantially in the manner and for the purpose above set forth.

2. The combination and arrangement of the conical plugs D and D' with the shield C, treadle A, and fulcrum-rod B, substantially as described, and for the purpose set forth.

114,622.—Railway Switch.—Hiram Strait, Cincinnati, Ohio.

Claim.—1. The vibrating turn-tables D D for switching the rails and limiting their motion either way.

2. The combination of the turn-tables D D and disks E E, constructed and operating as described.

3. The combination of the turn-tables D D, disks E E, rods F F F F, posts G G G G, and levers H H H H, all substantially as herein specified.

114,623.—Snow-Plow.—Alexander Stutzman, Somerset, Pa.

Claim.—1. The snow-plow, composed of the laterally-movable side wings D D and of the movable wedging-wings C C, substantially as herein shown and described.

2. The sliding post *m*, levers *h h*, loops *i i*, rods *j j*, and levers K K, combined with the wings C D to operate the same, substantially as herein shown and described.

114,624.—Tournure.—Amos W. Thomas, Philadelphia, Pa.

Claim.—The series of standards C C C, in combination with the waistband A and bows B B^1 B^2 B^3 B^4, constructed and arranged to operate substantially as and for the purpose hereinbefore set forth.

114,625. —Combined Corn and Cotton-Planter.—William B. Townes, Grenada, Miss.

Claim.—The arrangement of the seed-box C, dropper *a*, shaft *b*, pins *c*, drum B, and pins *d*, as specified.

114,626. — Adjustable Bevel. — Justus A. Traut, New Britain, Conn., assignor to The Stanley Rule and Level Company, same place.

Claim.—1. As an improved article of manufacture, a carpenter's bevel, the conical-shaped orifice, with a conical shaped bolt-head, *d*, and hub *f*, stock and blade *a h*, substantially as and for the purpose set forth.

2. In combination with the conical-shaped head *d* and stock *a*, the indicating-characters *n*, substantially as and for the purpose set forth.

114,627.—Fire-Extinguisher.—Jacob B. Van Dyne, Covington, Ky., assignor to The Northwestern Fire-Extinguisher Company, Chicago, Ill.

Claim.—1. The combination of the screw *m*, disk *d*, guide-rods *f*, cross-bar *p*, and cutter *r* with the disk *g*, acid-jar *k*, and ring *i*, substantially as described.

2. The combination of a soft-metal cap for the cartridge with a perforative instrument, substantially as and for the purpose specified.

114,628.—Car-Wheel.—Peter H. Watson, Ashtabula, Ohio.

Claim.—A car-wheel fitted with elastic panels under tension, constructed, arranged, and operating substantially as described.

114,629.—Mouse-Trap.—Henry S. Weller, Watertown, Conn.

Claim.—In combination with a block mouse-trap, the spring D, with the arm F G, arranged and operating substantially as shown and described.

114,630.—Clothes-Drier.—Lorin M. Whitman, Sterling, Ill., assignor to himself and Taylor Williams, same place.

Claim.—1. A clothes-rack composed of the sills A A having casters *a a*, the bars B B, and rounds E E, in combination with the swinging wings composed of the bars C G and rounds E' E', with the connecting-bars D D, all constructed and arranged substantially as and for the purposes herein set forth.

2. The frames H H and rod I, in combination with the rounds of a clothes-rack, substantially as and for the purposes herein set forth.

3. The combination of the clothes-rack A B E, wings C G E', and frames H with rod I, all constructed and arranged substantially as and for the purposes herein set forth.

114,631. — Buckle. — Henry S. Wilkin, Brooklyn, N. Y.

Claim.—The T-shaped button upon the suspender-buckle, and the elongated slot *h* in the metallic loop, the parts being made, as specified, with the head of the T-shaped button transversely to the suspender-strap and the slot *h* longitudinally of the same, for the purposes specified.

114,632.—Manufacture of Wall-Papers. William Wilson, Edgewater, N. J., assignor to Howell & Brothers, Philadelphia, Pa.

Claim.—The grounding-roller, for first receiving and then directly applying the tint to the paper, and thereby dispense with the subsequent employment of brushes, as herein set forth.

114,633.—Snow-Plow and Rail-Cleaner. Luther J. Woodruff, Mohawk, N. Y., assignor of one-half his right to Francis S. Wilcox.

Claim. — The combination of the scraper H, spring arm G rigidly attached to the rock-shaft, short lever E, connecting-rod D, lever B, spring J, and the slotted and notched arm I, when arranged in the manner and for the purpose set forth.

114,634.—Adjustable Try-Square.—Leonard Bailey, New Britain, Conn.

Claim.—In combination with a recessed stock, A, with its cover and walls or partitions *a b*, and the blade C fitted therein, the set-screws *e e*, passing loosely through the wall *b* and then through the screw-nuts *i i* and against the edge of the blade C, by which said blade may be adjusted and then firmly held to said stock in its adjusted position, as described and represented.

114,635.—Pipe Attachment in Plumbing. Arad Barrows, Philadelphia, Pa.

Claim.—The hollow projection B on the outside of a bath-tub or other article of plumbers' ware, when provided with the notched lugs *a a* to receive the coupling-bolts G G for connecting pipes thereto, substantially as herein specified.

114,636. — Tea-Tray. — Henry B. Beach, West Meriden, Conn.

Claim.—As a new article of manufacture, a tray composed of a hard-metal plate or bottom with a soft-metal edge or border, substantially as herein described.

114,637.—Propulsion of Vessels.-George A. Beidler, Philadelphia, Pa.

Claim.—1. The elongated tube or cylinder B surrounding the propeller-screw or wheel and extending in rear beyond the same, substantially as and for the purposes herein set forth.

2. A jointed or flexible tube or cylinder extending toward the rear from the stern of a canal or other boat, the front section surrounding the propeller-screw or wheel, substantially as and for the purposes herein set forth.

3. In combination with a tube or cylinder, whole or jointed, extending toward the rear from the stern of a canal or other boat, and surrounding the propeller-screw or wheel, a grate, tubes, or other suitable device inserted in the rear end of said tube or cylinder for checking the water, substantially as herein set forth.

4. The extended tube B, surrounding the propeller-screw or wheel C, provided with one or more inlets, and attached to the rear end of a canal or other boat, substantially as and for the purpose herein set forth.

114,638.—Tree-Tub.—Jesse Booher, Dayton, Ohio.

Claim.—In combination with the wooden sides A formed with dovetailed joint edges cut against the grain of the wood, the metallic dovetail corner fastenings B, substantially as described, and for the purpose specified.

114,639. — Machine for Heading Cartridge-Shells.—Theodore V. Boyden, Bridgeport, Conn.

Claim.—1. The combination of the die-holder or frame B, the die *c*, and the sliding block C, all constructed and arranged to operate substantially as described.

2. In combination with the die *c*, the adjustable hopper H, constructed and arranged to operate substantially as set forth.

114,640.—Straw-Cutter.-Joseph H. Bradley, Hillsborough, Ohio.

Claim.—The combination of the cutter-shaft *b* with the feeding-rollers *a d*, through the medium of the fly-wheel D, the connecting-pitman *f*, the curved and slotted arm *k*, the rock-shaft *i*, the pushing-pawl *n*, the pulling-pawl *m*, and the ratchet-wheels *a'* and *d'*, when arranged and operating with each other, and with the detents *w v*, and the rotating cutter-blade *c*, substantially as and for the purpose herein set forth.

114,641. — Puddling-Furnace. — Simeon Bunn, Belleville, Ill.

Claim.—1. The combination, with the bottom plate A of the furnace, of the air-conducting flanges B C, arranged relatively to the air-holes D and escape-passage E, substantially as specified.

2. The forked hollow chill, having the branches made in two parts jointed together, and arranged relatively to the air-openings M and escape-passage E, substantially as specified.

3. The arrangement, with the escape-passage E and K, and the chimney F, of the tube P and flange Q, substantially as specified.

114,642.—Manufacture of Illuminating-Gas.—Adam S. Cameron, New York, and William E. Everett, Rye, N. Y.

Claim.—1. The combination, with one or more benches of retorts, of a direct-acting pumping-engine, substantially as shown and described.

2. The branch pipes *d e* with an intervening cock, *f*, in combination with the suction-pipe of a pumping-cylinder and with the gas-discharge pipe C, substantially as described.

3. The elastic diaphragm A exposed to the pressure of the gas in the retorts or hydraulic main, and communicating with the throttle-valve, substantially as set forth.

114,643.—Washing-Machine.—Edward R. Chamberlin, Bellefontaine, Ohio.

Claim.—The combination and arrangement of the vibrating frame E, pivoted arms G G, presser-boards H H, central partition I, tub A, and standards C, all substantially as herein represented, and for the purposes set forth.

114,644.—Compensating Watch-Regulator.—Jedediah P. Clark, Philadelphia, Pa.

Claim.—The combination and arrangement of the compound compensating-curb or strip E F with the regulating-arm or index B, and with the pivoted arm G carrying the pins for adjusting the hair-spring, whereby the compensating-curb is caused to expand and contract laterally, as described.

114,645.—Spring for Railway-Cars.-Edward Cliff, Oswego, N. Y.

Claim.—The parallel > -shaped sectional springs A D made of equal length, in combination with the vertical coupling-plates *c c* and the bolts *d d*, substantially as specified.

114,646.—Whisk Broom. — Eli P. Cooley, New York, N. Y.

Claim.—A brush made with a sheet of flexible material around the handle, extending from the broom-corn fibers to near the end of the handle, and secured by a winding of wire, as set forth.

114,647.—Tassel-Head.—George A. Cooper and Consider Southworth, Stoughton, Mass.

Claim.—A tassel-head made of wire, either with or without fibrous covering, substantially in the manner described, without confining ourselves to any particular shape, form, or manner of shaping.

114,648.—Spring Mattress.—Richard P. Cornell, Poughkeepsie, N. Y., assignor to Edwin L. Bushnell and Robert R. Cornell, same place.

Claim.—1. A mattress, composed of a series of springs, A, in combination with the series of intervening rings B, constructed and arranged to operate substantially as described.

2. The rings B, provided with the holes, and having the springs connected thereto by means of the straps *b* inserted therein, substantially as set forth.

114,649.—School-Desk Joint. — Cyprian U. Crandall, Sterling, Ill.

Claim.—1. In a hinge-joint for school-seats, the internal stops *u' F'*, in combination with the external stops C E and *t* D, so arranged that said internal stops shall act a little in advance of the external stops, substantially as specified.

2. The pedestal A, provided with the rubber packing H, journal *e*, inclined projection K, recess *c*, and tapering bore L, in combination with the bolt *d* and the arm B, provided with the recess *m* L and projection T, substantially as specified.

114,650.—Water-Wheel Gate.—Perry W. Davis and Dennis D. Bunnell, Portland, Oregon.

Claim.—The gate, arranged within the frame T, as described, so as to open at the acute angle formed by it and the wall of the flume, in combination with the rack and pinion located as described, and frame T, constructed substantially as and for the purpose specified.

114,651.—Clamp for Holding Packages, &c.—Dundas Dick, New York, N. Y., assignor to Maria A. Mauger, same place.

Claim.—The self-closing jaws A B, provided with the swivel-buttons, substantially as and for the purpose herein shown and described.

114,652.-Producing the Electric Light. Eardley Louis Charles d'Ivernois, Paris, France.

Claim.—1. The division of the electric current or currents to be made use of for this purpose into two or more partial or smaller currents.

2. Causing the current or currents to pass through any suitable number of electrodes in such manner as to give rise to two or more voltaic arcs only crossing or intersecting each other, substantially as described, and for the purposes set down.

114,653. — Breech-loading Fire-Arm.—William C. Dodge, Washington, D. C.

Claim.—1. The combination of a rebounding hammer with the cylinder of a revolving fire-arm, substantially as described, whereby the possibility of a premature explosion is prevented, as set forth.

2. The combination of a rebounding hammer, having its point arranged to ignite the charge by a direct blow, with a chamber for said charge arranged to tip or move in the line of motion of the hammer, substantially as herein described, whereby the liability of a premature explosion, by closing the arm, is prevented, as herein set forth.

3. The swinging stirrup 1, in combination with the breech-piece B and the swinging end or projection *i*, arranged to operate substantially as described.

114,654.—Trace-Fastener.—Asa B. Dowell, Vinton, Iowa.

Claim.—In a trace-hook fastening, the combination of the sliding locking-block B, the fixed crossbar F, and the coil spring *e*, with the inclosing covering flexible tube G, as and for the purpose described.

114,655.—Cigar-Mold.—Napoleon Dubrul, Joliet, Ill.

Claim. — 1. The employment of the stamped sheet-metal matrices C in a cigar-mold, substantially as and for the purposes specified.

2. The combination of the part D and the matrix C of the upper half of the mold when joined to form a sharp edge, as specified and shown.

3. The combination of the bracing-bridges H and strips E with a sheet-metal cigar-mold, substantially as and for the purpose specified.

114,656.—Telegraphic Transmitting Instrument. — Thomas A. Edison, Newark, N. J.

Claim.—A circuit-closer operated by the movement of the perforated paper in a telegraph transmitting instrument to throw a reverse circuit on the line, substantially as set forth.

114,657.—Relay-Magnet for Telegraph Instruments.—Thomas A. Edison, Newark, N. J., assignor to himself and Marshall Lefferts, New York city.

Claim.—1. A permanent magnet, an electro-magnet, and a vibrating tongue, arranged substantially as set forth, so that the tongue will be repelled from its contact with the core of the electro-magnet by the electric pulsation, substantially as specified.

2. An electro-magnet of less than an inch in length, with a permanent magnet and swinging tongue to make and break the circuit in an automatic telegraph, substantially as and for the purposes set forth.

3. The electro-magnet, permanent magnet, and a tongue that swings toward and from the end of the core of the electro-magnet upon an axis at right angles to such core, as and for the purposes set forth.

114,658. — Electro-Magnet for Telegraph Instruments.—Thomas A. Edison, Newark, N. J., assignor to himself and Marshall Lefferts, New York city.

Claim.—1. A finger or stop operated by electro-magnetism, and arranged so as to block or release the armature according to the polarity of the electrical current passing through the magnet, substantially as specified.

2. The double electro-magnet, armatures, and stops, arranged substantially as specified, so that a current of one polarity shall allow one armature to vibrate and block the other, and the reverse, as set forth.

114,659. — Water-Wheel.—Mark Flanigan, Detroit, Mich.

Claim.—1. The combination of the direct-action wheel and the reaction-wheel within the case, said wheels carrying gear-wheels of diameters proportioned to their respective powers, said gear-wheels meshing with and impelling a common pinion or pinions upon a common shaft, all substantially as shown and described.

2. The wheel-case A, constructed and arranged for the reception of independent, direct, and reaction-wheels, substantially as described.

114,660.—Suspended.

114,661. — Grain-Door for Cars.—Laurence F. Frazee, Jersey City, N. J.

Claim.—The door C, fitted with a gate, D, and arranged on pivot-hinges and sliding rods, as described, when combined with the body of a car suitable for the transportation of grain or other similar substance in bulk.

114,662.—Iron Culvert.-Moody G. Freeman, Bloomington, Ill.

Claim.—An iron tunnel, culvert, or sewer, made in sections, and each section composed of any desired number of individual sections A A, constructed as described, with tongues *a*, grooves *b*, loops *d*, projections *e*, and flanges *f*, said individual section and also the main sections being arranged and connected together, substantially in the manner and for the purposes herein set forth.

114,663.—Sleigh-Brake.—George C. Fuller, Marcy, N. Y.

Claim.—A sleigh-brake, operated by the lever D, or its equivalent, and latch F, in combination, substantially as and for the purposes hereinbefore set forth.

114,664.—Nut-Machine.—George H. Fuller, Unionville, assignor to himself, Augustus J. Fuller, same place, and Roswell A. Neale and Amzi P. Plant, Southington, Conn.

Claim.—1. In combination with the punch D^1 and crowner D^2, the hammers *e f* and the movable anvil *a*, when arranged to operate upon the nut in the manner described, after it has been removed from the crowner, substantially as set forth.

2. In combination with the subject-matter of the first clause of claim, the punch *n*, operating to pierce the nut, as set forth.

3. In combination with the subject-matter of the second clause of claim, the finishing-hammer S and the slide R, as and for the purpose set forth.

114,665.—Household Implement.—Thomas Garrick, Providence, R. I.

Claim.—The improved implement, containing

the several tools enumerated in combination, as shown and described, as a new article of manufacture.

114,666.—STEAM-BOILER.—Frederick William Gordon, Ironton, Ohio.

Claim.—1. The combination of funnel-mouthed circulation-inducing diaphragm K *k* and diaphragm L, substantially as described, and for the purpose specified.

2. The combination of circular feed-tube N *a*, diaphragm K *k*, and diaphragm L, substantially as and for the purpose specified.

3. In the described combination with the tubes H, shell A, and diaphragm K, the inner shell B, elastic head C, and tube-sheet D, constructed and located in the described relation to each other, as and for the purpose specified.

4. In the described combination with the elements of the second clause of claim, the bent blow-off pipe P R, as and for the purpose described.

114,667.—LET-OFF MECHANISM FOR LOOMS. Thomas Gorrell, Warren, R. I.

Claim.—1. The picker-staff A, the part A^1 of which is constructed substantially as set forth, in combination with the cylindrical rollers B.

2. The combination of the warp-beam, ratchet, escapement, and lever H with the yielding bar I arranged on the breast-beam, and governed by the tension of the passing cloth, and adapted substantially as described to let off the warp.

114,668. — PUMP.— Thomas B. Goulding, Columbus, Ga.

Claim.—1. The combination and arrangement of the rod E' with the rods E E, rod *k*, and piston *b'*, in the manner and for the purpose herein described.

2. The piston *b'*, having its vertical movement controlled and regulated by means of the cross-bar *e*, rods *i i*, and flanges *i' i'*, in the manner and for the purpose herein described.

3. In combination with the foregoing elements, the movable piston-valve *b''* and fixed valve *b'''*, for the purposes herein set forth.

4. The construction and operation of a pump, in the manner and for the purpose herein described.

114,669.—SURGICAL INSTRUMENT FOR THE TREATMENT OF CLUB-FOOT.—Emory A. Grant, Louisville, Ky.

Claim.—1. The rigid laterally-curved sole A, provided with the heel-band C and the rigid convex resistance-plate D, substantially as and for the purpose specified.

2. The plate E, constructed as described, pivoted to the under side of the plate A, and arranged with relation to the convex resistance-plate, *d*, as shown and described.

3. The leg-braces F, provided with key-hole slots, and with the pads I I extending backward to form braces for the shoe or plate A, as shown and described.

114,670. — RAILROAD-CAR-AXLE LATHE.— George A. Gray, Jr., Cincinnati, Ohio.

Claim.—1. In the described combination with the sliding tool-rest F or F', the plate U, pad V, side rods W, cross-head X, springs *a a'*, and central screw Z, connected and operating substantially as and for the purpose specified.

2. In combination with the hollow shaft J and dog M of the axle, the slotted dog-plate or driver L P N, secured and operated substantially in the manner and for the purpose specified.

114,671. — MANUFACTURE OF YEAST AND THE APPLICATION OF THE SAME IN MASHING AND BREWING.—Duby Green, New York, N. Y.

Claim.—1. The process herein described in the manufacture and manipulation of yeast.

2. The process herein described of preparing and manipulation of the mash.

3. The process of applying carbonate of ammonia to the yeast to strengthen the same, in the manner herein described.

4. The process herein described to prevent too great fermentation of the yeast.

5. The process herein described to determine when the mash is dissolved.

6. The process and means herein employed to promote uniform fermentation of the yeast.

7. The within-described process of removing acid of vinegar from the yeast.

8. The within-described process of determining and ascertaining if the yeast is sour.

9. The construction and arrangement of the mash and yeast-tubs in all and each of their parts, in the manner and for the purpose herein described.

10. The combination, in a yeast-tub, of the main vessel A', jacket B' with the coiled pipes C, water-pipe inlet H, steam-pipe K, and outlet-pipes I and L, in the manner and for the purpose herein described.

11. The combination, in a mash-tub, of the vessel A, jacket B with the coiled pipes C, perforated bottom G, steam-pipe E, and outlet-pipe D, in the manner and for the purpose herein described.

114,672. — ENVELOPE. — Henry K. Gregg, Baltimore, Md.

Claim.—In an envelope made with a cord embedded wholly in the inside of the end or side thereof, providing the cord B with one or more knots on either or both ends thereof, substantially as and for the purpose described.

114,673.—FOLDING STEP FOR CARRIAGES.— George Gregory, New Haven, Conn., assignor to William H. Bradley, same place.

Claim.—1. The arrangement of the transverse sliding step D, combined with a slide, *e*, and its connection G, for operating the said step, substantially as described.

2. The combination of the transverse sliding step D and the folding step C, arranged in the frame A, with a slide, *e*, and connecting-rod F, substantially in the manner described.

114,674.—STOCK-MARKER.—Daniel A. Griffith, St. Charles, Mo.

Claim.—The stock-marker herein described, consisting of a pair of shears provided with the horizontal plate-blade B, of angular or other irregular form, and the vertical ribbon-blade C, fitted around and arranged to cut against the edge of the plate-blade in such a manner as to take a piece out of the ear of an animal at a single cut, substantially as specified.

114,675.—RAILROAD CAR.—John W. Griffiths, East Boston, Mass.

Claim.—1. The ribs A, made from one piece of wood, the ends abutting at *a*, bent in the form and secured in the manner described.

2. The frame of a railroad car, when constructed from the wooden bent ribs A, transverse sills B, rails C, D, and E, caps F, and sills G, the several parts formed, arranged, and secured together in the manner described.

114,676.—METHOD OF ATTACHING SPRINGS TO CARRIAGES.—Uriah S. Hall, Chemung, N. Y., assignor of one-half his right to Jesse Owen, same place.

Claim.—1. The combination and arrangement of the springs *a* attached to the rear axle and the vehicle-bed, and the spring *f* attached to the thills and the vehicle-bed, all constructed and connected substantially as and for the purposes set forth.

2. In combination with the foregoing combination, the center spring *e*, all constructed and arranged substantially as and for the purposes set forth.

114,677.—WINDMILL. — Loren Edwin Hazen, Fond du Lac, Wis.

Claim.—In combination with the wheel C, sails

G, and head d, the lever I, and fan J, substantially as and for the purposes set forth.

114,678.—MILLSTONE-CONDENSER AND VENTILATOR.—Daniel Heffner, Independence, Iowa.

Claim.—1. The conveyer-covering *m n*, in combination with the perpendicular plate *k*, and suitable gutters *p t*, and aperture *r*, all substantially as and for the purposes herein set forth.

2. The inclined covering *w w* over the tube J, in combination with the gutters *t t* and aperture *r*, substantially as and for the purposes herein set forth.

3. The arrangement, under the condenser-box G in the case H, of the plate *s* placed over the gutter *p*, substantially as and for the purposes herein set forth.

4. The combination of the stone B having floats *a*, and the curb C having floats *c a'*, substantially as and for the purposes herein set forth.

5. The combination of the stone B' and the curb C' having floats *a* and *a'*, and ring *f*, substantially as and for the purposes herein set forth.

6. The arrangement of the horizontal tube J provided with gutters *t t*, and the perpendicular tube K with slide *v*, when constructed and operating substantially as set forth.

114,679.—LOUNGE AND CHAIR COMBINED.— Siegmund Herschmann, New York, N. Y.

Claim.—The seat B, provided with a folding leaf, C, in combination with the swinging back and its extension brace, and with the side pieces G and arm-pieces H, all constructed and operating substantially in the manner herein shown and described.

114,680.—CARPET-SWEEPER. — Reuben C. Higgins, Boston, Mass.

Claim.—1. The cap or shield B, in combination with the revolving brush-shaft A of a sweeper, substantially as and for the purpose set forth.

2. The driving-wheels C C, supplied with the isolated teeth *c c*, brush shaft A with a pinion, and adjustable bearing-plates *a' a'* and *c' c'*, all constructed and arranged to operate substantially as and for the purpose set forth.

114,681.—HEAD-BLOCK FOR CARRIAGES.— David Hinman, Southington, Conn.

Claim.—1. The head-block A, when constructed in the manner and for the purposes substantially as specified.

2. The means employed for securing the spring to or upon the head-block, consisting of the band *g* fitting around said springs and over the lugs F, and held in place by the pin *f*, substantially as shown and described.

3. The means employed for connecting together the perch and head-block, consisting of the lug H, the ear I, and bolts L and M, in combination with the forked end of said perch, provided with the eyes *k*, substantially as and for the purpose shown.

114,682.—APPARATUS FOR CHARGING AND DISCHARGING GAS-RETORTS. — James John Holden, Bermondsey, England.

Claim.—1. A system of scoops and rakes, varying in number, for charging and discharging gas-retorts, mounted upon vertical spindles, the spindles passing through hollow or socket ends in said scoops and shovels, and forming an axis whereby they can be turned laterally to any position required, arranged and actuated substantially as set forth.

2. The arrangement and combination of parts constituting the modification of apparatus hereinbefore described, in which one or more scoops on one side of the machine balance one or more rakes on the other side, as and for the purpose substantially as set forth.

3. The herein-described arrangement of parts for transmitting motion to the traveler and the carrier by means of pinions gearing into racks on the rails, trams, or ways, substantially as set forth.

4. The employment of rollers or wheels working on flanged trams or rails, as described, for preventing lateral tipping of the carrier.

5. The compartments U U of the feeder K, provided with floor-valves V, chutes or hoppers T T with the hinged guard-plates X, combined and operating in reference to the scoops S, substantially as herein shown and described.

114,683.—PRESSURE-REGULATOR FOR WATER-WORKS.—Birdsill Holly, Lockport, N. Y.

Claim.—The upright cylinder A, connected with the water-mains by the pipe C, and having a piston, B, loaded with a chain, G, augmenting the weight in the ascent, substantially as and for the purpose above specified and shown.

114,684.—SOFA-BEDSTEAD.—Chancy F. H. Huff, New York, N. Y.

Claim.—The movable arm B' and lever C, when the latter is attached to the sofa-seat in such manner as to allow of the arms being brought together, substantially as described.

114,685.—ROTARY ENGINE.—Robert Hughes, Dangerfield, Texas.

Claim.—1. A double pitman-rod M, as combined with the valve L and piston M^2, and operating as herein described.

2. The valve-cylinders K, when arranged with the valve-box and pitman-rods M, and operating as herein described.

3. The outside pipe N, when connected and combined with the cylinder E and valve-cylinder K, as described, and for the purposes set forth.

114,686. — INSERTABLE SAW-TEETH.—William H. Ivens, Trenton, N. J., assignor to himself and William E. Brooke, same place.

Claim.—1. A saw-tooth of elliptic form for insertion in a corresponding recess in the saw-plate, substantially as described.

2. The tongue or fastening, constructed and operating essentially as shown and described.

114,687. — RAILROAD SWITCH.—James E. Kea, Magnolia, N. C.

Claim.—The slotted arm *b*, arms *c* turning loose on the shaft *a*, rods *d d* having a pin which works in the slot of said arm, links *h h*, and bar *f*, arranged to move and lock the rails *g g*, as shown and described.

114,688.—GRAIN-CLEANER AND SCOURER.— Erastus H. Kellogg, Mukwonago, Wis.

Claim.—1. The combination of the shaft C with disk W, stationary stopper V, revolving cylinders S T, and stationary cylinders R U, feed-collar Q, spouts O and F, and fan Y, all constructed and arranged substantially as shown and described, for the purpose set forth.

2. The arrangement, in the grain-cleaner and scourer herein described, of the shaft C, disk W, stationary stopper V, revolving cylinders S T, stationary cylinders R U, feed-collar Q, spout O, clamp P, lever L, and points Z on spout F, and fan Y, when all these parts are constructed and operated as shown, for the purpose set forth.

114,689.—DEVICE FOR SECURING COLLARS TO LAMPS, &c.—Edward S. Kennedy, Birmingham, (Buchanan Post Office,) Pa.

Claim.—1. The spring catches *b'*, in combination with the collar, cap, or top of a lamp or other article, to adapt it to be secured to the said article, substantially in the manner herein shown and described, and for the purpose set forth.

2. The notches or recesses *d*, formed in the outer

side of the neck of a lamp or other article of glassware to receive the spring catches b' of the collar, cap, or top of said article, substantially as herein shown and described, and for the purpose set forth.

114,690. — Bee-Hive.—William R. King, Shelbyville, Ky.

Claim.—1. The perforated division-boards H H, arranged on either side of the center of the chamber A, and the metallic cut-off I, arranged to operate as and for the purpose set forth.

2. The air-spaces W W, with ventilators Z Z, arranged in one end of the hive, with air-space W' and ventilator Z' of the upper chamber, substantially as herein set forth.

114,691.—Nut-Machine. — Philippe Koch, Manchester, assignor to James Buckingham, London, England.

Claim.—1. The pair of fixed cutters and the double-acting cutter, combined and operating together in such a manner that, without turning the heated iron bar, the blanks are cut off with all their square edges on one side.

2. In a machine for making untapped nuts, the duplex fixed and movable cutters, constructed and arranged as herein described, in combination with the fixed pin and movable cup, and all arranged to operate successively in the formation of the nuts, substantially as set forth.

3. In a machine for making untapped nuts, the duplex fixed and movable cutters, and the fixed pin and movable cup, in combination with the aforesaid two hammers, and all arranged to operate successively in the formation of the nuts, substantially as set forth.

4. In a machine for manufacturing untapped nuts, the duplex and double-acting mechanism, consisting of the aforesaid fixed and moving cutters, the fixed pins and movable cups, and the peculiarly-operating hammers, in combination with the cams, springs, and other devices herein described, or their equivalents, for imparting the required motion to the moving parts of the mechanism, substantially as herein set forth.

114,692.—Chemical Electric Telegraph. Marshall Lefferts, New York, N. Y.

Claim.—1. A derived circuit or shunt in the main circuit, in combination with a chemical decomposing telegraphic apparatus, substantially as set forth.

2. A local battery within the derived circuit, in combination with decomposing chemical telegraphic apparatus, for the purposes substantially as set forth.

3. A series of derived circuits in one main circuit, in combination with chemical decomposing telegraph apparatus, as set forth.

4. An adjustable resistance, placed in the main line, in combination with the derived circuit and chemical decomposing apparatus, substantially as set forth.

114,693. — Grinding Phosphatic Substances. — George T. Lewis, Philadelphia, Pa.

Claim.—The process of grinding phosphatic substances in the presence of water, as above described.

114,694.—Water-Meter.—John P. Lindsay, New York, N. Y.

Claim.—1. A water-meter, containing a circumferential measuring-chamber, D, formed between the case and an oscillating disk, C, into which chamber the water flows alternately on one side or the other of a partition, A^2, to be discharged by the wing C^2 of the oscillating disk at the opposite side of such partition, substantially as set forth.

2. A water-meter, containing the circumferential divided water-chamber D A^2, in which an oscillating wing, C^1, operates, and a valve arranged centrally within the chamber D to induct the water from the center to the circumference and discharge it from the circumference through the center of the meter, substantially in the manner set forth.

3. The valve, composed of the hollow case E and tubular plug F, divided by a partition, F', and containing two sets of induction-ports, *e f* and e' f', and two sets of eduction-ports, *d g* and d' g', to operate substantially as set forth.

4. The combination of the oscillating disk C, valve-case E, and tubular-divided plug F F', arranged relatively to one another, as set forth, so that they will move conjointly during the greater portion of each stroke of the disk, and be released from one another near the end of each stroke, to permit the valve-case to turn on the plug held stationary for the time being to reverse the position of the stroke.

5. In combination with the notches d^1 and e^1 in the arm E' of the valve-case E, and notch f^2 in the plug F, the trigger H and cam-groove H' in the head A^1 of the case, all arranged to operate substantially as set forth.

6. The combination of the oscillating disk C, wing C^2 thereon, and partition A^1 in the water-chamber D, substantially as set forth.

114,695.—Apparatus for Cleaning Tubes, Flues, &c. — Charles Lungley, Greenwich, England.

Claim.—1. The revolving cap, as shown in figs. 3 and 4, in combination with a steam-jet head for cleansing flues, substantially as herein shown and described.

2. The scraping-blades, as shown in figs. 5 and 6, in combination with a steam-jet head for cleansing flues, substantially as herein shown and described.

3. The flexible tube K attached to the rod X, when the same are constructed, arranged, and operate as herein shown and described.

4. The shield, fig. 10, for protecting the operator from the effects of heat while cleansing the tubes, substantially as set forth.

114,696.—Reverberatory Furnace and Heating Rims of Car-Wheels.—Thomas William Lyon, Bennett, Pa.

Claim.—1. The openings *b* and *d* in the upper and lower sides of the flue or chamber A^1, provided with doors b^1 and *f*, and rings *c* and d^1, all constructed and arranged substantially as and for the purposes set forth.

2. In combination with the opening *d* and ring d^1 in the lower side of the chamber or flue A^1, the pipe and perforated ring G' G, substantially as constructed and arranged, and for the purposes set forth.

3. The method herein described of heating the rim or outer portion of a car-wheel and keeping the central or inner portion comparatively cool by means of a furnace having the upper and lower openings *b* and *d*, provided with the rings *c* and d^1, and having a water-pipe and perforated ring, G and G', all constructed and arranged substantially as and for the purposes set forth.

114,697.—Whisk-Broom.—Robert Y. Martin, New York, N. Y., assignor to Eli P. Cooley, same place.

Claim.—A broom or brush made with a wrapping of flexible material, inclosing the head of the broom and extending along the wooden handle, and secured in place by means of a winding of wire, as set forth.

114,698. — Sad-Iron. — Robert McGrath, Philadelphia, Pa.

Claim.—1. The cast frame, composed of slotted bar B and the end bars C C, in combination with handle D and wooden arms *f f*, all arranged substantially as and for the purpose set forth.

2. The combination of the iron A with ear *a*, bar B with ears *b b* and pins *i i*, end bars C C, handle D, arms *f f*, and shield E, all constructed and arranged substantially as and for the purposes herein set forth.

114,699.—Gas-Regulator.—Joseph S. Merriken, Baltimore, Md.

Claim.—The combination of the bowl A, inlet-pipe B, outlet G, passage *h*, receiver C, valves *d i*, stem D, rod *k*, nut *e*, bar *p*, ball *m*, and pin *n*, all constructed and arranged substantially as and for the purposes herein set forth.

114,700.—Lathe-Chuck.—John C. Miller, Danville, Ky.

Claim.—1. The sliding rule C, provided with point *a* and lines *b d*, and sliding in a groove or recess on the face-plate A, substantially as and for the purposes herein set forth.

2. The sliding parallel bars G G, arranged upon one of the angle-plates B, substantially as and for the purposes herein set forth.

3. The flanges E E and parallel bars D D, arranged as herein described upon the face-plate A, in conjunction with the angle-plates B B, correspondingly grooved to insure the true movement of said plates, substantially as described.

4. The combination of the face-plate A, angle-plates B B, sliding rule C, bars D D, flanges E E, and sliding bars G G, all constructed and arranged substantially as and for the purposes herein set forth.

114,701, antedated May 4, 1871.—Lenticular Globe for Lamps.—George W. Morrison, New Albany, Ind.

Claim.—The combination of two multiple lens-segments or shells A B, placed the one within the other, and provided with a water or liquid-space left between them, with a suitable safety-valve, arranged substantially as and for the purposes described.

114,702.—Steam-Generator.—Thomas W. H. Moseley, Hyde Park, Mass.

Claim.—1. The combination of the central main A, radial branches E, vertical circulation-pipes G, couplings F, and the rods I, arranged substantially as and for the purposes set forth.

2. The central water-main A and flue-pipe D within the same, constructed and connected as described.

3. The annular steam-drum H, in combination with the distribution-pipes G and radial branches K, as explained.

4. The suspension devices K L, or their equivalents, in combination with a heater or generator, constructed substantially as herein described, for the purposes set forth.

114,703, antedated April 29, 1871.—Wrench.—Joseph N. Newell, Adrian, Mich.

Claim—1. The sliding jaw D, provided with the lip or tongue *b* and the curved T-shaped groove *d*, substantially as and for the purposes herein set forth.

2. The screw E passing through the pivoted block G, and provided on its front end with the roller *c*, substantially as and for the purposes herein set forth.

3. In combination with the pivoted block G and screw E, the spring H, arranged to operate substantially as and for the purposes herein set forth.

4. The combination of the stem A with handle B and stationary jaw C, the sliding jaw D, screw E, block G, and spring H, all constructed and arranged substantially as and for the purposes herein set forth.

114,704. — Bed-Bottom.—Otis S. Osgood, Burlington, Iowa.

Claim.—The spring C with the triple curves, and the ends fastened to the upper and lower slats and cross-bars B B in parallel lines, as shown and described, for the purposes set forth.

114,705.—Wrought-Iron and Steel Columns.—Charles H. Parker, Boston, Mass.

Claim.—1. An iron or steel column, composed of beams formed each substantially as specified, placed together and united substantially in the manner and by the means shown and described, whereby a column is made not tubular or hollow, but solid throughout, with no interior surfaces liable to oxidation.

2. A wrought-iron or steel column, made substantially as described and shown in figs. 1 and 2—that is to say, composed of two beams, each having a head, web, and flange, and a beam or beams having a head and web but no flange, the flanged beams being arranged at right angles with and on opposite sides of the web or webs of the other beam or beams, and the whole united by bolts passing through the opposite flanges and the web included between them, as set forth.

3. A wrought-iron or steel beam, provided with a head, diamond-shaped, with concave faces in cross-section, substantially as herein shown and described.

4. A wrought-iron or steel beam, composed of a flange, a head, diamond-shaped, with concave faces in cross-section, and an intervening web connecting said flange and head, as shown and set forth.

114,706.—Permutation-Lock.—Oliver E. Pillard, New Britain, Conn., assignor to Frederick H. North, same place.

Claim.—1. The combination of a set of permutation-tumblers, C, dog D, segment and rack *b c*, and slide *d*, all combined and operating together, substantially as described.

2. The combination of a set of permutation-tumblers, C, dog D, segment and rack *b c*, large tooth *h*, and slide *d*, all combined and operating together, substantially as described.

114,707.—Revolving-Disk Harrow.—Joseph F. Pond, Cleveland, Ohio.

Claim.—1. The semicircular bar B, to which thills or pole may be attached, in combination with the disk-bars A A and bar C, or its equivalent, to admit of the described adjustment, substantially as set forth.

2. The disk V, in combination with hub P, box R, and axle U, when placed or running obliquely to the line of motion.

3. In combination with disk V, hub P, box R, axle U, the yielding washer *c*, friction-washer *b*, and packing, substantially as and for the purpose set forth.

114,708.—Handle for Crosscut-Saw.—Robert Reid, Philadelphia, Pa., assignor to Henry Disston & Son, same place.

Claim.—The combination of the blade B having a rounded end, the handle with its socket for the rounded end of the blade, and the bolt D or its equivalent, by which the blade is forced into the socket.

114,709. — Apparatus for Carbureting Air.—George Rex, Philadelphia, Pa.

Claim. — 1. The retaining-power, consisting of the spring D and ratchet-ring E, with the pawls *b c* located within the drum F on the main shaft C of the fan, substantially as described.

2. The carbureter G, having its compartments and its supply and escape-pipes arranged as described, in combination with the blower, having the retaining-power applied as above set forth, the whole constituting a new and improved machine for producing gas from hydrocarbons, as herein described.

114,710. — Band Sawing-Machine.—John Richards, Philadelphia, Pa.

Claim.—A wheel, composed of a metallic hub, spokes, and rim, the latter surrounded by a layer of wood, which is itself covered by an elastic layer of leather, rubber, or similar material, the whole

being constructed as and for the purpose herein shown and described.

114,711. — Composition for Covering Steam-Boilers, &c.—John Riley, Troy, N. Y., assignor to "The United States and Foreign Salamander Felting Company."

Claim.—1. An improved composition for coating the exterior of steam-boilers, pipes, or other heated surfaces, and for filling safes, refrigerators, and similar articles, composed of abestus, lime-putty, charcoal, and pumice-stone, (or their equivalents,) combined and prepared as herein specified.

2. A composition for coating the exterior of steam-boilers, pipes, and other heated surfaces, and for filling safes, refrigerators, and similar articles, composed of abestus and lime-putty combined and prepared as herein specified.

3. The employment of asbestus when crushed to a fiber and mixed with lime-putty as a material for coating the exterior of steam-pipes, boilers, and other heated surfaces, and filling safes, refrigerators, and similar articles, for the purposes herein-before specified.

114,712. — Spring Bed-Bottom. — George W. Robbins, Dubuque, Iowa.

Claim.—1. The attachment of the springs to the bottom slats B by the prongs of the staples C passing through and spanning the cross-bar, and hooking over the bottom of the coil, substantially as specified.

2. The connection of the top slats to the springs and together by the transverse wire E, bent around the slats, and through the top coil, and extending from one slat and spring to another, all substantially as specified.

114,713.—Stove-Leg.—Benjamin F. Roberts, Lacona, Iowa.

Claim.—1. The stove-leg, provided with a wedge-shaped groove and an opening, substantially as herein shown and described.

2. The stove-leg, constructed as described, in combination with the lever B, having a spring, b^1, and tooth b^1, substantially as herein shown and described, and for the purpose set forth.

114,714.—Butter-Pail, &c.—Archie Robertson, East Rupert, Vt.

Claim.—An improved package for butter and similar articles, consisting of the vessel A having the annular top B, provided with the notches o and inclines n, and the cover C provided with the rod e, all constructed and arranged to operate as herein set forth.

114,715.—Washing-Machine.—Job Robinson, Lawrence, Kan.

Claim.—1. The adjustable bearings R, in combination with the rod Q and the rubber O, substantially as and for the purpose shown.

2. The double reservoir, formed of the sides A, the ends B and C, the bottom D, the partition E and strip F, and provided with the covers T supported by means of the rod t, substantially as and for the purpose shown.

114,716.—Lubricator.—Michael G. Ryan, Frostburg, Md., assignor to himself, R. C. Paul, and J. J. Hoblitzell, same place.

Claim.—1. A lubricator, composed of a reservoir for containing oil, secured upon and revolving with a bearing, and provided with a fixed tube which extends radially outward from the bearing surfaces nearly to the outer side of said reservoir, substantially as and for the purpose specified.

2. In combination with the tube D, the means employed for controlling the admission of oil thereto, consisting of the perforated tube E fitting into and made longitudinally adjustable within the same by means of the screw F, substantially as shown and described.

3. The hereinbefore-described lubricator for revolving bearings, consisting of the reservoir C, provided with the stationary tube D, the adjustable perforated tube E, and the supply-opening and plug H, substantially as and for the purpose set forth.

114,717.—Medical Compound for Cure of Rheumatism, &c.—Harvey Sawyer, Wilson, N. C., assignor to C. H. Sawyer.

Claim.—The above medical compound, substantially as described.

114,718. — Fountain.—Lazarus Schoeney, New York, N. Y.

Claim.—1. In a portable fountain, a suitably-arranged frame provided with pulleys, over and under which a cord or chain passes, to which is attached at each end a reservoir which shall serve alternately as a discharging and receiving-reservoir, in the manner and for the purpose described.

2. The hemispherical basin D, having a detachable water-tight base, I, provided with a double-chambered ejecting-tube and suitable valves, in combination with the reservoirs G G′ and their respective flexible connecting-tubes H H′, by means of which a continuous flow of the liquid is established in the manner and for the purpose described.

3. The reservoirs G G′, connected to the base of the hemispherical basin D so that the latter may be raised or lowered in the socket of its stem to raise or lower the jet of the stream when required, as described.

4. The reservoirs G G′, connected to the base of the hemispherical basin so that the flexibility of such connection will allow both of said reservoirs to be carried and secured above the ejecting-tube when it is desired for the purpose of ornamentation, to eject liquids of different colors through the double-chambered ejecting-tube, as described.

5. The frame A, provided with pulleys b b^1 b^2 b^3, with their traversing-cord F, the reservoirs G G′, and connecting-tubes H H′, in combination with the base I of the hemispherical basin D, said base having therein (and communicating with) the double-chambered ejecting-tube J and valves c c', the whole operating in the manner and for the purpose described.

114,719.—Spring Hinge.—Nathaniel Sehner, Hagerstown, Md.

Claim. — The combination, with a hinge, constructed as herein shown, of the spring E, without perforations, and bent at its inner end to allow of its being placed in position and secured after the leaf of the hinge is in position, substantially as herein shown and described, and for the purposes specified.

114,720.— Machine for Tenoning Spokes. Arthur Sherman, Poughkeepsie, N. Y.

Claim. — 1. The vertically-adjustable block F, provided with the projecting serrated rib d, and combined with the sliding wedge E and binding-screw a, substantially as herein shown and described.

2. The vertically-adjustable block G, combined with the sliding wedge H and adjusting-screw I, and plane-bed B, substantially as herein shown and described.

3. The vertical clamp L, provided with the elastic strip k at its lower face, substantially as and for the purpose herein shown and described.

4. The sliding fulcrum-block f, applied to the spoke-clamp L under the lever M, substantially as and for the purpose herein shown and described.

114,721. — Machine for Measuring, Stretching, and Skeining Silk.—Samuel K. Smith, Newark, N. J.

Claim.—1. The swift a, carrying the adjustable arm c, in combination with the swift b, lever e, cam t, and the gear mechanism, substantially as herein shown and described.

2. In combination with the shipping bark k, the gauge-pin j, and the nut h, operating automatically, substantially as and for the purposes set forth.

3. The combination and arrangement of the several parts operating conjointly, substantially as and for the purpose set forth.

114,722.—Extension Table. — Felix Souweine, New York, N. Y.

Claim.—The screw B, plate C, collars d d, bar F, nut J, tube K, slides g, and strips I, all combined as described with an extension table, for the purpose specified.

114,723. — Grain-Registering Device.—William Henry Stinson, Newbern, Iowa.

Claim.—The hinged or pivoted spout A, supplied with the valve or gate C, bail or handle D, semicircular metallic pieces a a, and projection g, in combination with the frame B B b b^1 b^2, mouthpiece B′, grain-register G, guide f, cavities c c, and pivoted sliding bar F, supplied with a semicircular slot, all constructed and arranged to operate substantially as herein described, for the purpose set forth.

114,724.—Balmoral or Laced Boots.—Lyman R. Stockbridge, Haverhill, Mass., assignor to himself and William W. S. Orbeton, same place.

Claim.—My improved balmoral or laced boot, having its upper or parts A and B formed and applied together, substantially in manner as described and represented, the said part A being formed with extensions or tongues b b to extend back of the ankle-point of the boot, and into corresponding openings a a made in the part B, as and for the purpose set forth.

114,725.—Stop-Valve.—Joseph H. Strehli, Cincinnati, Ohio.

Claim.—1. The seats H I and H′ I′, secured in the case by means of molten metal poured around them while they are clamped to the valve, substantially as and for the purpose set forth.

2. In combination with the seats secured as set forth in the preceding claim, the collars a' of the case, and fastening pieces J, substantially as and for the purpose set forth.

114,726.—Cultivator-Plow.—Leonard S. Tewell, Elbinsville, Pa.

Claim.—The curved beams C C and standards D D, with the handles G G attached to the standards and to the side beams, in combination with the straps B B and center beam A, constructed and operated as shown and described.

114,727.—Wood Pavement.—Hiram Howard Thayer, Philadelphia, Pa.

Claim.—1. A wooden pavement in which isolated blocks B, resting on foundation-pieces A, and having tongues extending between said pieces, are separated by transverse strips, also resting on said foundation-pieces, as set forth.

2. The tongued blocks B, adapted to the foundation-pieces, as described, and having shoulders, h h, for bearing on the division-strips C, as specified.

3. In a wooden pavement, the alternate arrangement of isolated blocks of different heights, in combination with a mass of concrete covering the lower blocks, and filling the interstices between all the blocks, substantially as described.

114,728.—Clothes-Line Holder.—Cyrus L. Topliff, Brooklyn, N. Y.

Claim.—The line-holder, composed of the jaws A B, of which one is fixed and the other movable, and of the hook or projection at the end, substantially as herein specified.

114,729. — Sash-Balance. — Casper Van Hoosen, Catskill, N. Y.

Claim.—1. The combination of the perforated metallic strips L L, arranged respectively upon the sash and weight, the wheels K K, and the weight H, when the latter is provided with a friction-roller and guide, all substantially as set forth.

2. The pulley-frames J J, when joined together, as described, in one, and secured to the pulley-stile by one screw, a, substantially as set forth.

3. The combination of the frames J J, pulleys or wheels K K, strips L L, weight H with roller I, knob M, lever N, bolts O O, and spring P, substantially as and for the purposes herein set forth.

114,730. — Elevating-Truck. — Daniel Wagner and William K. Bushnell, Titusville, Pa.

Claim.—The combination of the side beams A A, braced as shown and described, the stationary or movable spurs B B, wheels C C, axles D D, and legs D′ D′, all constructed and arranged substantially as and for the purposes herein set forth.

114,731, antedated April 27, 1871.–Sliding-Door and Sash-Guide. — George L. Waitt, Philadelphia, Pa.

Claim. — As an article of manufacture, the iron grooved traveling shoe, with roller secured in lugs cast on its inner side and passing through slots in its face, to work upon the rail underneath, all as described.

114,732.—Car-Coupling.–William K. Wallace, Crawfordsville, and Edward C. Rutledge, Shannondale, Ind.

Claim.—1. The coupling-pins D D, having beveled shoulders, as shown, blocks E E, and loops C C, constructed and arranged to operate substantially as shown and described.

2. The sliding block B′ and supports C′ C′, having a spring inclosed, in combination with a coupling link, substantially as shown and described.

114,733. — Metallic Roofing.—John C. Wands, Nashville, Tenn.

Claim.—The joint for metal roofing, consisting of the sheets a b, laps c d, and wires e, combined as described.

114,734.—Furnace for Reducing Ores.—Joseph E. Ware, St. Louis, Mo.

Claim.—1. The open-mouthed furnace, or one with lines of given angles up to the vertical, in combination with exhaust or exhaust and pressure-draughts.

2. Feeding fuel, ores, and other materials into a furnace through hoppers and over a jacketed hood, with a central hopper, either separately or mixed, to produce intended arrangement and results, in combination with an open-mouthed furnace, or an open-mouthed furnace combined with exhaust or other draughts.

3. The auxiliary tubes or ducts in the side walls or elsewhere, combined with the above-described furnace and combinations, for the uses specified or other to which applicable.

4. The dependent or wing-furnaces, or anything equivalent, combined with the furnace, parts, and methods already described.

114,735.—Guiding and Gauging Mechanism for Roller-Dies.—Hervey Waters, Boston, Mass.

Claim.—In combination with shaping die-rolls, a movable gauge-bar, arranged with reference to the rolls and to guide the blank, substantially as described, when such movable gauge-bar is provided with a guide or guides for positioning the blank laterally, substantially as described.

114,736. — Churn-Dasher. — Harvey L. Wells, Chillicothe, Mo.

Claim.—A churn-dasher of the configuration described, consisting of the vertical shaft A and con-

tral paddle portion B, carrying the triple fingers *c c c*, beveled as shown, and for the purpose specified.

114,737. — WEIGHING-SCALE.— Harlan P. Wheeler, Rochester, N. Y.

Claim.—1. The sectional and slotted poises 1, 2, 3, 4, constructed to fit each other in a nest form, and to be used either in divisions or jointly upon the principal scale-beam A, according to the standard of the substance to be weighed, substantially as described.

2. The adaptation of the sectional and slotted poises to the seat D of the subordinate scale-beam B, so as to form a constant balance for the scale, accordingly as the several divisions are not in use for weighing, substantially as described.

114,738.—BASE-BURNING STOVE.—Alexander White, Rock Island, Ill.

Claim.—1. A magazine for a base-burning stove formed in two parts, the upper part composed of two sheet-iron shells with a space between them, and the lower part cast whole or in sections, with hollow tubes or passages through the same, and the inner surface grooved, fluted, or corrugated, all substantially as and for the purposes herein set forth.

2. In combination with a magazine, constructed as above, the opening *g*, for the purposes set forth.

3. In combination with the magazine of a reservoir-stove, the bisected cover *k*, with arms n^1 n^2, operated by crank I and segments of cogs, all arranged substantially as and for the purposes herein set forth.

114,739.—TUYERE.—John Wood, Jr., Conshohocken, Pa.

Claim.—A tuyere, consisting of a wrought-iron pipe coiled to form a tube, substantially as described, and combined with an internal thin detachable tube, R, as set forth.

114,740.—TICKET-HOLDER.—E. M. Wright, Castile, N. Y., assignor to himself and Gardner Herrick, Albion, Mich.

Claim.—The case A, provided with the hinged double cover B, between the thicknesses of which the ends of the stamp-strips are held and are drawn out as stamps are required, substantially as herein specified.

114,741.—RAILWAY-CAR SPRINGS. — Silas Yerkes, Jr., Philadelphia, Pa.

Claim.—A centrally-pivoted revolving plate or bearing carrying a coiled or spiral spring, secured at one end thereto, and at the other to any suitable fixed point apart therefrom, in combination with a plate or bearing moving freely in a right line coincident with the axis of said revolving plate, and with levers or links interposed between the two, each in an inclined position in a plane tangential to an arc having said axis as its center, the whole arranged and operating substantially as herein set forth.

114,742. — BREECH-LOADING FIRE-ARM.— Jose Yglesias, New York, N. Y.

Claim.—The swinging breech-block B, having its hub provided with a series of recesses, *a*, in combination with the retractor R having a corresponding set of teeth, *o*, when constructed and arranged to operate as herein described.

REISSUES.

4,370.—DETERGENT COMPOUND.—William Dertrey, Boston, Mass., assignor to Henry B. Richmond, same place.—Patent No. 100,844, dated March 15, 1870.

Claim.—The manufacture or preparation of a compound, which I denominate "improved electric washing-crystal and wool-detergent," of the ingredients, substantially in the proportions, and for the purposes set forth.

4,371. — SHINGLE-MACHINE. — Walter R. Close, Bangor, Me., assignor to himself and Thomas N. Egery, same place.—Patent No. 91,826, dated June 29, 1869.

Claim.—1. The combination, in a shingle-machine, of the gear-wheels *d g*, eccentric guard *i k*, crank K, and pitman J, with a rising-and-falling counterweighted bed or carriage, G, substantially as herein set forth, for the purpose specified.

2. The combination of the pivoted bed G, cord P, and weighted walking-beam I, as and for the purposes set forth.

3. In combination with the above, the shingle-saw D and jointing-saw *b* upon the same shaft, both being driven by the same pulley, as herein described.

4,372.—METHOD OF CONSTRUCTING ARTESIAN WELLS. — Nelson W. Green, Amherst, Mass.—Patent No. 73,425, dated January 14, 1868.

Claim.—The process of constructing wells by driving or forcing an instrument into the ground until it is projected into the water without removing the earth upward as it is in boring, substantially as herein described.

4,373. — SYSTEM OF WATER-SUPPLY FOR CITIES.—Birdsill Holly, Lockport, N. Y. Patent No. 94,746, dated September 14, 1869.

Claim.—1. The above-described combination of contrivances for furnishing a city with water for ordinary purposes without the use of a reservoir, or stand-pipe, or enlarged container of any kind, and which can, by an instantaneous augmentation of pressure in the main, be converted into an efficient apparatus for the extinguishment of fires, substantially as above set forth.

2. The above-described method of supplying a city with water for either domestic uses or for the extinguishment of fires—that is to say, by pumping the water directly into the mains with contrivances by which the pressure on those mains may be readily increased or diminished, or preserved uniform, all at the will of the operator, substantially in the manner above set forth, and by mechanism substantially such as is shown and described.

3. In the above-described apparatus, the use of an auxiliary pump A′, in combination with a connecting-pipe D^3, by which water may be raised to different levels in such a way that the pressure in the mains on the higher level may be kept equal to those on the lower, substantially as described.

4. The use of a main, B^3, with smaller branch pipes, L L, running through the several streets, and terminating in a large main, B^3, in combination with the valves *p p*, substantially as and for the purpose above shown.

4,374. — STEAM-ENGINE. — John Houpt, Springtown, Pa.—Patent No. 90,265, dated May 18, 1869.

Claim.—1. A steam-reservoir, provided with inlet and outlet-pipes h and i, communicating with a cylinder, in which is a weighted piston, H, and surrounded by a casing or jacket, B, through which heated products of combustion are arranged to pass, all substantially as hereinbefore described.

2. A pipe, *r*, arranged in respect to the cylinder F and its piston, as specified.

3. In the described combination of steam-cylinders of high and low pressure, and apparatus for superheating, a supplemental cylinder with piston, in combination with said superheater, whereby a varying amount of steam can be retained at an even pressure, substantially as set forth, to be again used for driving a second engine.

4,375.—PROCESS AND APPARATUS FOR DISTILLING, SEPARATING, AND PURIFYING PETROLEUM. — Edward G. Kelley, New York, N. Y., and Augustus H. Tait, Jersey City, N. J., assignors, by mesne assignments, to Charles Pratt, New York City.—Patent No. 32,568, dated June 18, 1861.

Claim.—1. The process herein described for distilling hydrocarbon-oils, consisting in flowing the oil in a stream through a series of retorts arranged so that the oil enters the retort in the cooler part of the furnace and is subjected to an increasing temperature as it flows, so that vapors of different densities are successively removed, as set forth.

2. The use in a retort or still for distilling hydrocarbons, of steam or superheated steam in connection with fire, so as to assist in heating the oil and removing the vapors as formed.

3. The method herein described for condensing the vapors of petroleum, consisting of injecting into them water or equivalent cold liquid in the form of spray or shower, substantially as described.

4. A series of retorts or stills arranged in a furnace and connected together, so that oil may be distilled continuously by being fed into the retort or still in the colder part of the furnace, and flowing successively through the retorts in the hotter portions of the furnace, and thereby separating the different portions of oil according to the temperature at which they become vapor.

5. The arrangement of pipes and traps, whereby oil and water are automatically separated and removed from the condenser, substantially as set forth.

6. A series of retorts or stills, A, connected together at alternate ends, in combination with a series of draw-off pipes, *h*, so that the vapor generated in each still is immediately drawn off, as set forth.

7. A condenser for oil-vapor, composed of chamber E, in combination with spray-pipe G, or its equivalent, so as to operate substantially as set forth.

8. The process herein described for purifying petroleum, consisting in minging steam with the oily vapors, and condensing them by a jet or spray of water, thereby washing out any offensive odor, as set forth.

9. The combination of one or more stills or retorts, A, steam-pipe D, and one or more condensing-chambers, E E′, substantially as set forth.

10. The arrangement of the pipe e^*, in combination with the range of stills or retorts A, and connecting-pipe, substantially as described.

11. A jet or condenser for treating the vapors which pass off with the non-condensible gases, for the purpose specified.

4,376.—BINDER FOR SEWING-MACHINES.— William Nelson Martin, Boston, Mass.— Patent No. 109,366, dated November 15, 1870.

Claim.—1. The combination of the arms *a a′*, guide *b′*, slide *b*, with the presser-foot provided with the slide *d* and hooked spring *c*.

2. The adjustable curved plate or bar *e′*, in combination with the arms *a a′* and guide *b′*, constructed and arranged substantially as and for the purpose specified.

3. The hooked spring *c* and slide *d*, in combination with and adjustable on the presser-foot, as and for the purpose described.

4,377.—HARVESTER-RAKE.—J. Russell Parsons, Hoosick Falls, assignee, by mesne assignments, of Charles G. Dickinson, Poughkeepsie, N. Y.—Patent No. 22,786, dated February 1, 1859.

Claim.—A gathering, gaveling, and delivering apparatus, substantially as described, connected with and operated by the gears of a harvesting-machine, and which first moves along parallel with the front of the platform to gather the cut grain, and then, compressing it and holding it compressed, carries it in a line oblique to the front of the platform, and delivers the gavel on the ground clear of the harvester.

4,378.—CAR-TRUCK.—Charles D. Tinsdale, Boston, Mass., assignor, through mesne assignments, to Charles Bockus and Samuel Shackell, same place, and Henry Shackell, Montreal, Canada.—Patent No. 44,694, dated October 11, 1864.

Claim.—1. In a car-truck having sliding wheels, a transverse slot or slots in the hub or sleeve, and a corresponding groove or grooves in the axle to permit the wheels to be slid upon the axle and retained in position for either a wide or a narrow gange track, by a suitable chock or bolt driven into either groove in the axle and a corresponding groove or slot in the hub or sleeve.

2. The double catch D, made with the two locking projections *g h*, working in connection with one or two grooves in the axle, substantially as shown and described.

3. A contractile band or encompassing-spring, E, for retaining the locking device in position, substantially as described.

DESIGNS.

4,867.—CARPET-PATTERN.—Joseph Barrett, New York N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,868.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,869.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,870.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,871.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,872.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereun-

to annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,873.–CARPET-PATTERN.–Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,874.—COUNTER WEIGHING-SCALES.—Pietro Cinquini, Meriden, Conn., assignor to Charles Parker, same place.

Claim.—The design for base of weighing-scale, as shown.

4,875.—PACKAGE.–Dundas Dick, New York, N. Y., assignor to Maria A. Mauger, same place.

Claim.—The design for a package, as set forth.

4,876.—Suspended.

4,877.—CHILD'S TOY.—John T. Duff, Pittsburg, assignor to himself, John F. Greer, same place, and David H. Chambers, Birmingham, Pa.

Claim.—The design for child's toy, known as "pin-wheel," shown and described in the accompanying drawing.

4,878.—CARPET-PATTERN.–John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,879. — CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawings.

4,880. — CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawings.

4,881. — CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—1. The design for the members A, substantially as shown and described.

2. The design for the members B, substantially as described and represented.

3. The design for the space C between the members A and B, with its ornaments *f* and *g*.

4. The design for the whole pattern, including the members A and B and the ornamented space C.

4,882. — CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—1. The design for the members A, substantially as shown and described.

2. The design for the members B, substantially as described and represented.

3. The design for the border D with its square and diamond-shaped figures H and F.

4. The design for the whole pattern, including the members A and B and border D with its figures.

4,883. — CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim. — 1. The design for the tablets A, as shown and described.

2. The design for the entire carpet-pattern, as described and illustrated.

4,884.—HAY-RACK.—James A. Herron, Talley Cavey, Pa.

Claim.—The shape and configuration for a hay or grain-rack herein described, and shown in the accompanying drawing.

4,885.–HEATING-STOVE.–Shubael E. Hewes, Albany, N. Y.

Claim.—The design for heating-stoves, substantially as above set forth.

4,886.—SCREEN FOR A STEAM-HEATER.—Calvin L. Hubbard, New Haven, Conn., assignor to the New Haven Steam-Heating Company, same place.

Claim.—The design for screens, as shown.

4,887.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the figures A, substantially as shown and described.

2. The design for the figures B, substantially as described and illustrated.

3. The design for the whole pattern, including the figures A and B.

4,888.–ORNAMENTATION OF PIANO-FRONTS, William Leigh, Bridgeport, Conn.

Claim.—The design executed on glass for a piano-front, as shown.

4,889.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,890.—CARPET-PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,891.—CARPET-PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,892.—CARPET-PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths carpets, or other fabrics, shown and described.

4,893.—CARPET-PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,894.—CARPET-PATTERN.—Charles T. Meyer, Newark, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

4,895.—PLATE OF A COOKING-STOVE.—Alvin M. Mothershead, Indianapolis, Ind.

Claim.—The design for a plate or plates of a cooking-stove, as herein shown and described.

4,896.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,897.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Pine Valley Company, Milford, N. H.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,898.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Pine Valley Company, Milford, N. H.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two-ply ingrain or other carpeting in the form similar to the photographic prints accompanying this specification.

4,899.—FRUIT-BASKET.—Sanford D. Payne, Kasota, Minn.

Claim.—The design for a fruit-basket, as shown.

4,900.—COOKING-STOVE OR RANGE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, assignors to John A. Goewey, Albany, N. Y.

Claim.—1. The initial letter "G," shaped and arranged upon a plate, panel, or leg of a stove or range, so as to appear as herein set forth.

2. The initial letters "J. A. G.," shaped and arranged upon a plate or panel of a range or stove, as herein described.

3. The ornamental corner-piece and border *b c*, shaped and arranged on a plate or panel of a stove or range, as set forth.

4. The ornamental corner-piece and border *d e*, shaped and arranged on a panel or plate of a stove or range, substantially as described and shown.

5. The ornamental molding *f*, arranged between and in relation to the moldings *g* and *h*, on a plate or door of a range or stove, as described.

6. The row of ornamental figures *i*, arranged along and upon the upper portion of a plate or plates of a stove or range, as set forth.

4,901.—THILL-COUPLING.—Henry Newby, Cincinnati, Ohio.

Claim.—The design for a thill-coupling, as herein represented, the same being formed with elliptic curves A B and a bifurcated end, C C'.

4,902. — PLATE OF A COOKING-STOVE.—John R. Rose and Edward L. Calely, Philadelphia, Pa., assignors to Cox, Whiteman & Cox, same place.

Claim.—The ornamental design for the plates of a cooking-stove, as shown, the same consisting of the following elements, viz.: First, the bass-relief cross D, the convex surface d^1, and the rectangular flat plane d^2, substantially as shown. Second, the border d^4, consisting of base-relief points arranged in rows crossing each other like lattice-work, substantially as shown. Third, the design and configuration of a cook-stove with plates A B C, having respectively the edge-moldings *a' b' c'*, as shown.

TRADE-MARKS.

249.—CHEVIOT SHIRTINGS.—Fisk, Clark & Flagg, New York, N. Y.

250.—BOOT AND SHOE LASTS.—Joel McComber, Chicago, Ill.

251.—PLOWS AND CULTIVATORS.—"Moline Plow Company," Moline, Ill.

252.—DYEING AND COLORING COMPOUNDS. William H. Place & Co., Providence, R. I.

253. — SHIRTS, DRAWERS, &c. — Leopold Sternberger and Samuel Sternberger, Philadelphia, Pa.

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PATENTS.

114,743. — PAPER-BAG MACHINE.—Alfred Adams, Chagrin Falls, Ohio.

Claim.—1. The combination of the table A, leaf B, and treadle D, or their equivalents, substantially as and for the purpose set forth.

2. The combination of the table A, leaf B, and box C with its adjustable false bottom or support E, or their equivalents, substantially as and for the purpose set forth.

114,744. — APPARATUS FOR CARBURETING HYDROGEN-GAS. — Jacob Ambuhl, Morristown, N. J.

Claim.—1. The elastic neck or connection C of the top B applied to the tank A, as and for the purpose specified.

2. A three-way cock, I, connected with the pipe leading from the tank, combined, as described, with the pipe holding the platinum-sponge and the conveyer-pipe H, for the purpose specified.

3. The granulated charcoal saturated with oil, arranged in a series of connected pans, combined with charcoal and soda, arranged in a preceding pan connected therewith, for the purpose specified.

114,745.—CAR-REPLACER.—Charles C. Ash, Manor Hill, Pa.

Claim.—In combination with a shoe or frog, A, with its appliances as described, and with the switch *e* pivoted thereto, the pivoted support or rest *f* operating in connection therewith, substantially as and for the purpose described.

114,746.—CARRIAGE-HOLDBACK.—William Rondeau Baker, Wellington Square, Canada.

Claim.—1. The arrangement and combination of the double-flanged slotted roller B and hook A, substantially as and for the purpose described, or any other purpose to which it can be applied.

2. The combination of the hook A and socket *i* L, figs. 4 and 5, as shown, for the purposes set forth and specified.

114,747.—HARVESTER.–John Barnes, Rockford, Ill.

Claim.—1. The combination of the continuously-rotating shaft L, the oscillating rake-handle passing through said shaft at an acute angle thereto, the crank arm on the rake-handle, and the cam, all these members being constructed and operating as described.

2. The combination of the double-cranked arm rocking in the lever-handle, its link h^1, spring h^2, and rack H, all constructed and operating as described.

114,748. — SHUTTER-WORKER.—Henry H. Barr, Harrisburg, Pa., assignor of one-half his right to John Kerper, same place.

Claim.—The combination of the shifting-lever W W^1 W^2, provided with enlarged hub about the

screw A, with the bifurcated trip-lever H D, and the pin B, when these parts are constructed as described, and when the handles of the levers are arranged to facilitate operating them in the manner as and for the purpose herein set forth.

114,749. — HARVESTER-BINDER. — Joseph Barta, La Crosse, Wis.

Claim.—1. The combination of the rake C, pivoted arms D, connecting-rod E, pivoted arm F, friction-wheel or roller G, channeled plate H, movable piece A^1, and adjustable catch-bar I with each other and with the reel B and platform A of a harvester, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the plate or bar K, pivoted adjusting-rod L, arm or lever N, rope or chain O, guide-pulley P, lever Q, and cam R with each other and with the platform A, reel B, reel-rake C, and shaft S of a harvester, substantially as herein shown and described, and for the purpose set forth.

3. The gathering-rake X W, elbow-lever V, connecting-rod U, and crank T, in combination with the adjusting guide-rod L, platform A, reel-rake C, and shaft S, substantially as herein shown and described, and for the purpose set forth.

4. The finger A^1, holding-cord C^1, guide-pulley E^1, rubber strap F^1, guide-pulley G, curved fingers D^1 H^1, connecting-bar J^1, lever K^1, projection L^1, cam M^1, projection or pin N^1, lock-bar O^1, spring P^1, projection or pin Q^1, and cam R', in combination with each other, with the gathering-rake X W, shaft S, and with a knot-tying device, substantially as herein shown and described, and for the purpose set forth.

5. The knot-tying device, consisting of the holding-clamp T', twister U', plate V', movable clamp W', pivoted plate X', spring Y', gear-wheel Z', sliding rack-bar A^2, pivoted bar B^2, cutting-blade C^2, guard-plate D^2, curved hook E^2, slitted beveled plate F^2, cam G^2, cam H^2, arm I^2, and lock-bar J^2, said parts being constructed and operating in connection with the finger A^1, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the pivoted lever L^2, connecting-bar M^2, and lever N^2 with the pin K^1 attached to the plate V' of the knot-tying device, and with the cam R attached to the shaft S, substantially as herein shown and described, and for the purpose set forth.

114,750. — STICKING OR ADHESIVE PLASTER.—Jenyns C. Battersby, New York, N. Y.

Claim.—The elastic contractible adhesive plaster, constructed, used, and applied substantially in the manner and for the purposes described.

114,751. — CARRIAGE TOP.—William Bauder, Circleville, Ohio.

Claim.—1. The upright brace E of a carriage top, provided with the projecting tongues *g* and *i*, substantially as and for the purpose herein shown and described.

2. The back-brace G, having the lip *h*, and combined with the upright brace which has the projecting tongues *g* and *i*, as set forth.

114,752.—PAPER BOX.—Peter Beer, Detroit, Mich.

Claim.—The paper box described, consisting of the pieces A and B and the case C, all constructed, arranged, and combined, substantially as and for the purpose set forth.

114,753.—COAL-SCREEN.—Elbridge G. Belknap, Philadelphia, Pa.

Claim.—1. The construction and arrangement of the upright bars, by which an open screen is formed in both angles N N, as shown and described.

2. In combination with the screen, as described, the brakes B B and K, guides *g g*, hopper H, drawers L and M, and screen-box A, all constructed as shown and described.

114,754.—GEARING FOR OPERATING DRILLS. Ambrose Blatchly, San Francisco, Cal.

Claim.—The combination and arrangement of the pulley X, shaft D, gears E and F, shaft G, coupling and universal joint *a*, socket-shaft L, angular bar M with universal joint *c*, shaft *e*, gear *d*, and cross-shaft N, the whole constructed to operate as described, for the purpose set forth.

114,755. — CAR-COUPLING. — Edward Bolman and George Simpson Watson Clarke, Halifax, Nova Scotia.

Claim.—The body *a*, having the pawl *c*, provided with the recess *e* for holding the link *l* in a horizontal position, as described, and for the purpose set forth.

114,756.—LOOM.—Samuel Boorn, Lowell, Mass.

Claim.—The combination of the spring G, the arm I, the two hooked levers L M, the abutments N O, the fingers *b c*, and stud *d*, or the equivalent of such mechanism, with the spring F, shaft D, and arms E E', all being arranged substantially in manner and to operate as and for the object or purposes as hereinbefore specified.

114,757.—TICKET-BOX.—Nathan C. Burson and John W. Robertson, Onarga, Ill.

Claim.—The ticket-box *a* described, consisting of the drawers *b* and *d*, partitions *i*, pegs *c*, and frame *e*, arranged, operating, and constructed as and for the purposes set forth.

114,758.—RAILWAY-CAR COUPLING.—Peter Campbell, Carrolltown, Pa.

Claim.—The combination of the slotted drawhead B *b* and the lever pivoted thereto, and operating substantially as herein described.

114,759. — COMBINED TOOL. — George J. Capewell, Cheshire, Conn.

Claim.—The combination of the handles *d d*, pivot *b*, bolt *j k*, spring *m*, and thumb-nut *e*, the parts *d d* being constructed to form wrenches for round and square bodies, and provided with a screw-driver, the bolt spring and nut forming the implement into a hand-vise, all substantially as herein described.

114,760, antedated May 12, 1871.—COTTON-BALE TIE.—William J. Carroll, Natchez, Miss.

Claim.—The cotton-bale cleat D, herein described, provided with the steps *a b* and the curved hook E, in combination with the band A and slot B, when constructed and arranged as shown, for the purpose set forth.

114,761.—CEMENT FOR COATING AND SEALING COFFINS, &c.—Isaac Charles, Allegheny City, Pa.

Claim.—A cement composed of the hereinbefore-named ingredients, in about the proportions specified, and prepared and used in the manner and for the purpose set forth.

114,762.—GRATE FOR STOVES, &c.—John Churchman, Burlington, N. J., assignor to himself and Carbon Stove Company, same place.

Claim.—The grate described, provided with openings D and A and the removable part *z*, the latter being adapted to close the opening D, as described.

114,763.—ENAMELING GAS-RETORTS, &c.—Decius W. Clark, Chicago, Ill.

Claim.—The process herein described for enameling retorts and other like articles by fusing upon them a coating of clay, substantially as described.

114,764. — WASHING-MACHINE. — Nathan Govo Clary, Northfield, Minn.

Claim.—1. The dashers F^1 F^2, one longer than the other, and both provided with extensions *h h* pivoted in corresponding grooves *f f*, in which they turn up or down to increase or diminish the length of the dashers, and being held in either position by clasps *m*, which enter slots *n*.

2. The rubbers *a a*, when arranged alternately vertically and diagonally, in combination with the dashers F^1 F^2, when the same are constructed and operated substantially in the manner as herein shown and described.

114,765.—MACHINE FOR MORTISING BLIND-STILES. — Laroe M. Collins, Lebanon, N. H.

Claim.—1. The method herein described of feeding the stile by means of the shaft F I, arm E, shaft L, gear-wheel K J, and sides D provided with ratchet-teeth, as shown and described.

2. The method herein described of holding the stiles by means of the binder U, lever V, spring W, and cam X, as shown and described.

114,766.—LAMP-SHADE.—Michael H. Collins, Chelsea, Mass.

Claim.—1. A shade for a lamp or Argand burner made of sheet metal, with flexible springs, constructed in segments which are so shaped and firmly and rigidly united by seaming or riveting as to form the frustum of a cone or pyramid which is neither collapsible, expansible, or contractible, the springs and base of each segment being made of a single piece of metal, and the springs of such length and elastic force as to render the shade applicable to all ordinary lamp-chimneys, substantially as set forth.

2. A shade for a lamp or Argand burner provided with an alternating series of flexible metallic arms or springs of different lengths, when arranged as described, and operating as set forth.

3. In a shade made of thin sheet metal and formed with one or more perforations to receive tablets or transparencies, forming such openings with a serrated bezel, or with a series of teeth, by which such tablets, &c., may be securely affixed to the shade, in manner as set forth.

114,767.—CULTIVATOR.—John H. Conley, Moingona, Iowa.

Claim.—The two transverse iron arches D D, fastened together at each end in a common pair of sockets C C, and diverging upwardly toward the top, combined, as described, with the axles, as and for the purpose specified.

114,768. — SCROLL-SAWING MACHINE.—George Cooke, Napier, Canada.

Claim.—The combination of the frame A, table B, balance-wheel C, crank-pin D, pitman E, crossheads F I, slides G J, saw H, pulleys K L M, air-pump N, crank-pin *b*, rod *c*, and belt O, constructed and operating substantially as described and shown, for the purposes set forth.

114,769.—FIRE-PROOF ROOFING.—John B. Cornell, New York, N. Y.

Claim.—The slates C, corrugated plates A, and plastering E, combined, as described, to form a fire-proof roof.

114,770.—COMBINED TOOL.—John W. Currier, Newbury, Vt.

Claim.—The combination in one instrument of a hammer, nail-puller, pliers, wrench, screw-driver, nest of wrenches, awl, and eyelet maker, as specified.

114,771.—ELECTRIC TELEGRAPH.—Ludovic Charles Adrien Joseph Guyot D'Arlincourt, Paris, France.

Claim.—1. The mode of producing the synchronism or synchronous action of the two apparatus, the manipulator and the receiver, by causing the latter to work faster than the former, and arresting the same mechanically at every turn, when it is again started electrically by a current from the other at the moment when the two apparatus are at the starting points, by the use of two independent sets of gear, substantially as described and represented at figs. 1, 2, 3, and 4.

2. The employment of the circular vibration of a diapason, or the rectilinear vibration of a cord to regulate the clock-work in general telegraphic apparatus, substantially as described and shown at figs. 7, 8, 9, 10, and 11.

3. The gearing systems set forth and represented, figs. 1, 2, and 5, to change the relative speed of the two apparatus so as to transform the manipulator into receptor, and *vice versa*.

4. The combination or union of an inductive-coil or apparatus with an electro-magnet, so as to constitute a transferring relay, as described and shown, fig. 14.

5. The arrangement, substantially as described and represented at figs. 16, 17, 18, 19, 20, 21, 22, for application of my system to flat horizontal messages instead of on a circular rolled-up paper.

114,772.—FEEDER FOR WAX TAPERS.—Samuel G. Dare, New York, N. Y.

Claim.—1. The feed-wheels, having their teeth constructed and arranged substantially as described, to gear with each other and to gripe the wick between them.

2. The combination, substantially as described, with the wheels G I of the false head E having a funnel-shaped central opening.

114,773, antedated May 1, 1871.—ELASTIC TYPE. — Henry J. Davies, New York, N. Y.

Claim.—An elastic-faced type or printing-block having its elastic face composed of two or more layers, one or more of which is attached to the back not only behind the projecting printing surfaces, but to the surrounding portions and to the interstices between said surfaces, substantially as herein described.

114,774. — REVERBERATORY FURNACE. — Joseph Davis, Pittsburg, Pa., assignor, by mesne assignment, to himself, John Rigby, and A. Filson Dalzell.

Claim.—1. A reverberatory furnace having the top or arch resting upon the jamb-wall, and a series of openings in the jamb-wall communicating with the drop-flue, substantially as and for the purposes described.

2. A series of openings in the back wall of a reverberatory furnace, through which to operate devices for opening and closing apertures in the jamb-wall of the furnace, substantially as described.

114,775.—ACID-BOTTLE FOR FIRE-EXTINGUISHERS.—John C. Davison, Chicago, Ill.

Claim.—As a new article of manufacture, the bottle herein shown and described, having one or more grooves or creases, or other indentation, so that it can be more easily broken under pressure, substantially as and for the purpose specified.

114,776.—PURIFYING WATER FOR USE IN STEAM-BOILERS, &c.—George C. Louis Degenhardt, Williamsburg, N. Y.

Claim.—The application, to the feed-water heater of a steam-generator, of diluted sulphuric acid, in the manner and for the purpose specified.

114,777. — RECLINING CHAIR. — Edward Dietz, Philadelphia, Pa.

Claim.—1. The combination of the side frames A A having fixed arms and an immovable seat, of a hinged back, B, a hinged leg-rest, *c*, and rods *m*

extending beneath the seat and connecting the back and leg-rest, as set forth.

2. The bolts *r*, arranged within the back B, in combination with the curved ratchets arranged on the inner sides of the side frames, and with devices, substantially as described, for operating the bolts.

3. The combination, with the back B, of angle-irons, constructed with sockets for the bolts, and adapted to the back, as specified.

114,778.—SCROLL-SAWING MACHINE.—William H. Dobson, Rochester, N. Y.

Claim.—1. The arrangement in a sawing-machine of the guide F, provided with the arm *g*, cross-head *k*, and slotted segment A, as herein shown and described, and for the purposes set forth.

2. As an improvement in saw-strainers, the elastic or yielding cushion *b*, provided with spreaders *s*, in combination with the straining-cords *c*, for the purposes set forth.

114,779.—MOLDING-PLANE.—John E. Donaldson, Montezuma, Ind.

Claim.—The serpentine plane herein described, when constructed, arranged, and used substantially as set forth.

114,780.—KILN FOR REBURNING BONE-BLACK.—Edward P. Eastwick, Baltimore, Md.

Claim.—1. The arrangement, within the retort of the kiln or within the retort and cooler combined, of distributing plates C, operating to intercept the descending mass at its center and to divert the same toward the sides of the retort, or sides of it and the cooler combined, substantially as specified.

2. The distributing plates C, set to occupy an inclined position relatively to the sides of the retort A, so as to direct the mass from one side to the other thereof, essentially as herein set forth.

3. The combination of the rod or rods D and upper support E with the distributing plates C and retort A, substantially as specified.

114,781.—SPINNING-TOP.—Philip Eley, New York, assignor to Isaac Cole, Brooklyn, N. Y.

Claim.—1. A top self-revolving, by the power of steam, applied in the manner of Hero's engine, substantially in the manner herein set forth.

2. The top A, having the pipe T, with its superheating part *f t*, substantially as and for the purpose described.

3. The lamp B, with its gas-chamber M and movable frame L, or its equivalent, in combination with the top A, arranged so as to operate substantially in the manner and for the purpose specified.

114,782.—DOOR-BOLT.—Ferd. Engelbrecht, Memphis, Tenn.

Claim.—The pivoted spring-lever G *g'* J, notched bolt E, and spring lock-bolt H I, combined, as described, with the lock D d^1 d^2, for the purpose specified.

114,783, antedated May 2, 1871.—SLEIGH-VELOCIPEDE.—William Erd, New Ulm, Minn.

Claim.—In combination with a sleigh having the recesses E E for the reception of the upper portions of the wheels, and the levers F F, the adjustable axle D, and the driving-wheels C C, provided with the broad wedge-shaped spikes *d d*, substantially as shown and described.

114,784.—COMPOUND FOR CURE OF CHILLS AND FEVER.—William P. Fennell, Louisville, Ky., assignor to Margaret Fennell, same place.

Claim.—The manufacture or preparation of a compound which is denominated cure for chills and fevers, of the ingredients, in the proportions, and for the purpose set forth.

114,785.—CHURN.—John E. Finley, Memphis, Tenn.

Claim.—The disk-shaped dasher A, with its flanges B and cross-bars or spokes D, when arranged in connection with the slotted shaft H, constructed and operated substantially as herein shown and described.

114,786. — STEREOTYPE - BLOCK. — James Fish, Chicago, Ill.

Claim.—The vertical ribs E E and F F, running laterally and longitudinally the whole length and width of the stereotype or electrotype-block, in the manner and for the purpose herein set forth.

114,787. — APPARATUS FOR CARBURETING AIR.—R. Berkeley Fitts, Philadelphia, Pa., assignor to himself, George W. Waitt, and William Rogers, same place.

Claim.—1. Vaporizing the hydrocarbon by raising chamber D or D', wholly shutting out the atmosphere, and following this by letting in air from cock *j*, and for the purpose set forth.

2. One or more of the apparatus B, constructed and arranged to operate in connection with apparatus A, in manner and for the purposes specified and set forth.

114,788.—COOKING - STOVE.—Benjamin G. Fitzhugh, Frederick, Md.

Claim.—1. The permanent partition D and the removable partitions E F, when arranged to operate in a cook-stove, substantially as shown and for the purposes described.

2. In combination with the above, the dampers I, when arranged to operate substantially as and for the purpose herein set forth.

3. The sad-iron stand J, provided with slots L and removable lid M, when constructed and arranged independent of the stove, as herein described and shown.

114,789, antedated May 11, 1871.—GRAIN-SEPARATOR.—Peter Flickinger, Hanover, Pa.

Claim.—The combination and arrangement of the grain-shield and straw-retainer R with the reciprocating conductor H, constructed as described, and the shoe W of the winnowing apparatus, substantially as and for the purpose herein set forth.

114,790.—PRINTING - TELEGRAPH APPARATUS.—Theodore M. Foote and Charles A. Randall, Brooklyn, E. D., N. Y.

Claim.—1. The key K', in combination with the compound electro-magnet A A' A'', as set forth.

2. A sounder or receiving-instrument, composed of the combination of the compound electro-magnet A A' A'', elongated core B'', and anvil B, or its equivalent, as herein set forth.

3. A sounder or receiving instrument, composed of the combination of the electro-magnet A A' A'', elongated core B'', anvil B and B', or their equivalents, constructed and operating substantially as described.

4. A call or signal-bell, composed of the combination of the compound electro-magnet A A' A'', core B'', hammer *d*, and bell *c''*, constructed and operated as described.

5. In telegraph apparatus, a pole-changer, D D' D'' S S', or equivalents, combined and operating in connection with one or more compound electro-magnets, A A' A''.

6. An automatic local circuit pole-changer, operated automatically at a distant station by means of an alternate open and closed line circuit.

7. An automatic local circuit pole-changer, operated automatically at a distant station by means of alternate negative and positive currents transmitted over the line circuit.

8. The compound electro-magnet A A' A'', arranged and connected as a switch, substantially as and for the purposes herein shown and described.

9. The combination of the compound electro-magnet A A' A'', and adjustable elbow E, and spring S'', and soft-iron core B'', as and for the purpose herein shown and described.

10. A non-adjustable relay, constructed substantially as described.

11. The combination of the pole-changer *a a'*, or its equivalent key K'', electro-magnets 1 1 and 2 2, and compound electro-magnet A A' A'', and circuit or circuits herein shown, as and for the purpose described.

114,791.—PRINTING - TELEGRAPH APPARATUS.—Theodore M. Foote and Charles A. Randall, Brooklyn, E. D., N. Y.

Claim.—1. The compound magnets H, H^1, and H^2, and their vibrating armature B, substantially as and for the purpose hereinbefore set forth.

2. The two oscillating pawls or dogs *d* d^1, attached to the vibrating armature B, and the screw or pivot *e*, and the spring *j*, and pin *z* in the vibrating armature B.

3. The combination of said parts *d* d^1 B *e j z* of the escapement with the ratchet-wheels *c* c^1, when the vibrating armature B moves parallel with the type-wheel shaft.

4. Our devices the rollers *j j*, the ratchet-wheel *k*, the pawl *l*, the screw *m*, the double-acting pawl F, the springs *n n'*, in combination with the printing-lever, substantially as and for the purpose hereinbefore set forth.

5. In combination with the type-wheel shaft, the rigid or adjustable pins *o o'*, arranged and operating in the manner and for the purpose herein set forth.

6. The magnet *s s'* and its armature *g*, the lever a^4, rock-shaft G, the anchor P, in combination with the pins *o o'*, substantially as and for the purpose hereinbefore set forth.

7. The combination of said parts *s s'*, *g*, a^4, G, P, *o o'*, actuated either by a line or local circuit, substantially as and for the purposes hereinbefore set forth.

8. The electro-magnet L L', in combination with the lever K and the vibrating armature B.

9. The combination of a circuit-changer, an electro-magnet excited by alternate positive and negative currents, and a local circuit so connected with the armature of said magnet that when the main current is broken the local circuit will be completed through the printing-magnet, in the manner and for the purpose substantially as set forth.

10. The pole-changer or circuit-breaker, composed of the two metallic circuit-wheels a^2 a^3 and their connections, substantially as and for the purpose hereinbefore set forth.

11. The pole-changer, in combination with a train of wheels moved by a spring or weight, and the governor, substantially as and for the purpose set forth.

12. The modification of the circuit-breaker, the upright piece f^2, the rubber pin g^4, the stop-pin or screw f^1, in combination with the transmitter, substantially as and for the purpose hereinbefore set forth.

13. The extra key *t*, in combination with the pole-changer or any circuit-breaker, substantially as and for the purpose herein set forth.

14. The governor T, composed of the cylinder U, a pinion-shaft, V, a double arm, a spiral spring, friction-pads, an adjuster, in combination with a train of wheels, substantially as and for the purpose hereinbefore set forth.

15. In a telegraph-printing apparatus operated by a single wire, the combination of the circuit-changer, the compound magnet controlling the type-wheel, the unison mechanism, in combination with the type-wheel.

114,792.—PRINTING - TELEGRAPH APPARATUS.—Theodore M. Foote and Charles A. Randall, Brooklyn, E. D., N. Y.

Claim.—1. The combination, with the type-wheel magnets, of an electro-magnet, M', placed in the line circuit, and the printing-lever operated directly thereby, as shown and described.

2. The combination of the type-wheel magnets and an electro-magnet, M, placed in the line circuit, the printing-lever P, and the spring S, when the retractive force of the said spring causes the impression to be effected on the interruption of the circuit, as set forth.

3. The combination of the type-wheel B, printing-lever P, studs *i* and *j*, arm E, dog D, spring S, and catch *w*, provided with the depressions *a* and *a'*, constructed and operating as set forth.

4. The method of feeding or spacing the paper after each impression by the direct action of an electro-magnet, as set forth.

114,793. — PRINTING-TELEGRAPH. — Theodore M. Foote and Charles A. Randall, Brooklyn, E. D., N. Y.

Claim.—1. The combination of the magnet A A' A'' with the circuit-closer L *m m'* S^3 and pole-changer *a a'* and circuit-closer *b b* S'', as set forth.

2. In a printing or dial-telegraph apparatus, an escapement, constructed substantially in the manner herein shown and described.

3. In a printing or dial-telegraph apparatus, an escapement, constructed substantially in the manner herein shown and described, in combination with a train of wheels, as set forth.

4. In a printing-telegraph of this class, using as a motive power to carry the type-wheel a train of wheels and weight or spring, the unison mechanism *o o'* and anchor W, in combination with the printing-lever P and type-wheel B, as set forth.

5. In combination with the type-wheel shaft, the loose pinion *h''* thereon, the spring S^4, and arm *h*, as and for the purpose as described.

114,794. — THRASHING - MACHINE. — John Foreman, Healdsburg, Cal.

Claim.—The thrashing-cylinder E, concave N, endless belt A, spreader G, long crank K, and rod L, all constructed and arranged to operate in the manner shown and described.

114,795. — STOCK-CAR.—George Washington Fox, Laramie, Wyoming Ter.

Claim.—The series of stalls, sliding doors, doorways wider than the stalls, and movable partitions, all relatively arranged in a stock-car, as and for the purpose described.

114,796.—WAGON-SPRING.—Nathaniel Frey, Erie, Pa.

Claim.—The arrangement of two torsion-springs E and F, crossing each other at *o*, secured to the bolster by means of the plates I and H, and operating in combination with the spring-bar B, substantially as described.

114,797. — CAR-COUPLING. — Emanuel M. George, Three Rivers, Mich.

Claim.—The combination with the draw-bars B, constructed as described, of the link C, pins D, and link-supports E, as and for the purpose set forth.

114,798. — COMPOUND FOR PRESERVING FRUIT-TREES.—Leander C. Gifford, Monticello, Ill.

Claim. — The above-described compound, substantially as and for the purposes set forth.

114,799.—MEAT-CHOPPER.—Jacob L. Good, Elizabethtown, Pa., assignor to himself, and Jacob Dyer, same place.

Claim.—1. The vibrating lever H, with its cam-head H' or eccentric groove, in combination with the prolongation L on the side rollers K, by which it is actuated and rotates the blocks by means of the pawl *h'* and ratchet D, in the manner and for the purpose mentioned.

2. The two-legged upright T, when the inner leg is provided with a scraper, *s*, and applied in the manner and for the purpose specified.

3. The combined arrangement of the shaft V,

with its turning handle P at one end and fly-wheel O at the other, when provided with a wheel or wheels, Q, having side rollers K for depressing the chopper-arms M against the springs *g*, said springs secured to the lever-bar G F, together with the prolongations L on the rollers K, grooved cam-lever H, pawl *h'*, all operating jointly, in the manner and for the purpose specified.

114,800. — JOINER'S CLAMP.—William H. Goodchild, Centreville, N. J.

Claim.—The fastening pin M, recessed as specified, in combination with the locking-stop N, spring *n*, confining means N^1, and adjustable tail-block E, and adapted to serve relatively to the clamp-stick A, head-block D D', and operating-screw B, substantially as herein set forth.

114,801. — JOINER'S CLAMP.—William H. Goodchild, Centreville, N. J.

Claim.—1. The cap casting or iron A^2, holding the screw B and head-block D D^1, as shown, and adapted to operate relatively thereto and to the tail-block E, as specified.

2. The lever G and its operating-spring H, adapted to operate, as shown, relatively to the block A^1, and to head-block D D^1 and its operating means, as herein set forth.

114,802. — STILL FOR HYDROCARBONS.—John Gracie, Pittsburg, Pa., assignor to Lockhart, Frew & Co., same place.

Claim.—Surrounding a still for hydrocarbon with an air-chamber, and combining therewith an air-pump, as herein described.

114,803.—STILL FOR OIL.—John Gracie, Pittsburg, Pa.

Claim.—In counter-distinction to a vertical still for hydrocarbon oil, a horizontal still A, the bottom of which is free from the direct application of distilling or decomposing heat, combined with a flue or flues, B, and condensing apparatus, substantialy as described.

114,804. — AUTOMATIC WATER-VALVE.—Joseph Guild, Buffalo, N. Y.

Claim.—1 The arrangement, in the valve-chamber B and with the flexible head D, of the hinged valve G and toggle-bars H and link I, or equivalent connecting mechanism, substantially as hereinbefore set forth.

2. The arrangement, with the cylindrical valve-chamber B and flexible diaphragm D, of the convex plates F F, constructed substantially as hereinbefore described.

3. The arrangement, with the valve-chamber B, valve G, and toggle-bars H H, of the frame K, constructed substantially as hereinbefore set forth.

114,805.—LAMP-BURNER.—Elias J. Hale, Foxcroft, Me.

Claim.—1. The combination and arrangement of the deflecting tongue B with the wick-tube A, as described.

2. The combination and arrangement of the deflecting tongue B with the wick-tube A and the air-cone or deflector C, as set forth.

3. The wick-tube, having in transverse section the bow-shape, substantially as described, and its top beveled, as and for use with a deflecting tongue, as set forth.

114,806. — STOVE-PIPE DAMPER.—Eli R. Hall and Daniel A. Keyes, Norfolk, Conn.

Claim.—A stove or furnace-damper, constructed in segments and governed by adjustable weights, the whole being self-acting, and arranged substantially as herein set forth.

114,807. — PROJECTILE.—Edward Clinton Hancock, New Orleans, La.

Claim.—The perforated projectile A, provided with the recess D, in combination with the sliding spindle or shaft B and rotating screw-button C, as set forth.

114,808.—WAGON-STANDARD.—Josiah Harding, Ainsworth, Iowa.

Claim.—The combination of the hinged brace *g*, thumb-screw *f*, wedge *e*, and standard *a*, having a flange, *b*, as and for the purpose herein recited.

114,809.—MACHINE FOR SCOURING, POLISHING, AND GLASSING LEATHER.—Dennis Harrington, Boston, Mass.

Claim.—1. The circular ways C, having horizontal portions C^2 suspended from springs I, and depressed by means of the cam-lever H, substantially as described.

2. The mortised blocks K, provided with holders L, having manipulators M, standards O, and springs R bearing against cross-bars P, substantially as described.

3. The blocks K, with their attachments, in combination with the ways C and wheel D, substantially as described.

4. The casters U, having rollers V V' at right angles with each other, pivoted to standard Y, and revolving on adjustable nut Z, substantially as described.

114,810. — COMPOUND FOR THE CURE OF CANCER. — James Harrison, Castalia, N. C.

Claim.—A preparation composed of the ingredients hereinbefore mentioned, employed in the proportions and compounded in the manner substantially as set forth, for the purpose specified.

114,811. — SIGN. — James Harrison, New York, N. Y.

Claim.—1. The lugs *c'*, two, more or less, formed upon the side edges of the inner ends of the cups or glasses C, in combination with perforated and notched background A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the wire D with the cups or glasses C, whether solid or hollow, lugs *c'*, and notches *a'* of the perforated background A, substantially as herein shown and described, and for the purpose set forth.

114,812. — SPRING GUARD FOR LEGS OF FURNITURE.—Daniel F. Hartman, Charles City, Iowa.

Claim.—The two tubes A D, one arranged within the other, upon an ordinary spiral spring, and with a guide, E, in the manner specified, and for the purpose set forth.

114,813.—SPRING HINGE.—David B. Hawkes, Providence, R. I., assignor to George E. Lucas, same place.

Claim.—The combination and arrangement of the spring and the parts of the open butt-hinge, the parts not being riveted together, and being made with the slots to hold the ends of the spring, as described, the whole being constructed and operating substantially as herein set forth.

114,814. — DOVETAILING-MACHINE.—Elander Heath, San Francisco, Cal., assignor to S. W. Shaw, William E. Brown, and Leonard Goss.

Claim.—The adjustable slides B, with their elastic stops G and H, in combination with the cross-piece or guide A, the whole being constructed and operated as herein shown and described.

114,815.—NEEDLE-SETTER, NEEDLE-SHARPENER, NEEDLE-CASE, AND RIPPER.—Eli E. Hendrick, Carbondale, Pa.

Claim.—1. The gauge *k*, the perforation *h*, and sliding point *s*, in combination with the ripping device *e g* on tube B, substantially as explained.

2. The combination of the needle-setter, the case A, and the hone *b*, substantially as described.

3. The combination of the needle-case, the sliding tube B, and the needle-setting device, substantially as described.

114,816.—CARRIAGE-JACK.—David Hiestand, Pughtown, Pa.

Claim.—The combination and arrangement of the frame A, lid L, geared wheel W, bolt or rod D, worm M, shaft S, rack F, and straps *s* and *s'*, so as to operate substantially as and for the purpose specified.

114,817. — VISE.—Frank Higel, Philadelphia, Pa., assignor of one-half his right to James A. Weir, same place.

Claim.—The combination of the jaws E, jointed slide C, pivots D, and the screw-bolt for actuating the movable jaws, substantially as described.

114,818.—BABY'S TRAVELING AND TOILET-CHAIR.—Esther Hoare, Dedham, Mass.

Claim.—1. The bucket C and cover D, constructed and secured to each other and to the seat B, substantially as herein shown and described, and for the purpose set forth.

2. The hinged back and sides F and detachable table G, in combination with the box A, seat B, bucket C, and cover D, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the box A, provided with a hinged end, a^1, and partition a^2, seat B, bucket C, cover D, hinged back and sides or arms E F, detachable table G, and hinged cover H with each other, whether the bag I be used or not, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the box A, provided with a hinged end, a^1, and partition a^2, seat B, bucket C, cover D, hinged back and sides E F, detachable table G, and hinged cover H with a carpet or traveling-bag I, substantially as herein shown and described, and for the purpose set forth.

114,819.—ADJUSTABLE BOLSTER FOR BEDSTEADS.—Jacob Hofmann, Chicago, Ill.

Claim.—1. The adjustable folding bars D and bolt-rods E, arranged and operating as and for the purpose set forth.

2. The construction and arrangement of the frames A and C, studs B, adjustable folding bars D, and rods E and spring F, substantially as herein described.

114,820, antedated May 10, 1871.—COMBINED PUNCH, AWL, AND KNIFE.—H. S. Holmes and D. Williams, South Boston, Mass., assignors to David Williams.

Claim.—In a combined knife and punch, an awl, arranged as described, and provided with a slot, and pivoted and sliding within a groove, H, in one of the jaws J, all arranged, constructed, and operated substantially as and for the purpose described.

114,821.—TRANSIENT-BOLT FOR VEHICLES.—Charl Gustaf Holsten, Orebro, Sweden.

Claim.—The combination of the transient-bolt *d* screwed into the hub *i*, the metallic plates *e* and *l*, hub *i*, and receptacle *k*, and the anti-frictional washer *n*, when all are combined and arranged substantially as herein shown and described.

114,822.—PLOW-COLTER.—Horace S. Hoxie, Raisin Centre, Mich.

Claim.—1. The share *a*, constructed, attached, and operating as and for the purposes specified.

2. The combination of the curved mold-board C with the share *a*, when each is constructed as described and attached to a colter-bar, as and for the purposes set forth.

114,823.—PRESSER-FOOT FOR SEWING-MACHINE.—Thomas Hudson, Troy, N. Y.

Claim.—A sewing-machine presser-foot, having in one side of the foot an oblong transverse needle-slot, *d*, and the edges *b c* on both sides of the slot in substantially one and the same line, when such foot is secured to its supporting stem by the means herein described, or the equivalent thereof, for rendering the foot adjustable laterally on the stem.

114,824.—FILE.—Amasa Hyland, Hingham, Mass.

Claim.—A three-cornered file having a "left-hand cut," substantially as and for the purpose set forth.

114,825. — RACK-PULLEY SHADE-FIXTURE. Willis Johnson, Waterbury, Conn.

Claim.—The arrangement, in combination with the rack *a*, of the tooth *c* on the upper end of the slide B, the bevel *e* on the exterior surface of the upper part of said slide, and the wedge C operating against the exterior of the upper part of the slide, all substantially as herein described.

114,826.—WASHING-MACHINE.—George F. Jordan, Gardiner, Me.

Claim.—1. The cover B, provided with a concave inner surface and side flanges B', when arranged within the boiler and over the cylinder, in the manner and for the purpose specified.

2. The cylinder C, provided with the buckets *b b* and the strips *m m*, arranged in semicircles or arcs of circles, when operating in combination with the boiler, in the manner and for the purpose described.

3. The combination, in a washing-machine, of the boiler A and its cover D, the cylinder C and its bearings, when the several parts are constructed, arranged, and operate substantially as set forth.

114,827. — HARVESTER-RAKE.—Dennis A. Kellogg, Valparaiso, Ind.

Claim.—1. The yoke T, combined with the chain G, pulleys X, and curved arm M, as and for the purpose described.

2. The square shaft F O, combined with the curved arm M, connecting-rod P, and platform E, for discharging a gavel, as specified and shown.

3. The combination of the platform A E, rake H I J, chain C, yoke T, and pulleys, substantially as set forth.

114,828.—UMBRELLA.—Robert P. Knapp, New York, N. Y.

Claim.—The annular flanges F K and India-rubber-ring guards G M, when used in combination with the runner D and stationary holder H of an umbrella, substantially as and for the purpose described and set forth.

114,829.—BOX STEREOSCOPE.—William M. Kohl, Cincinnati, Ohio.

Claim.—1. The application to a stereoscope, in the manner described, of the shifting-cam V (on tilting-bar) and projections *e*, (on carriage,) when combined, for the purpose set forth.

2. The application to a stereoscope, in the manner described, of lifting-bars K, sliding plates M, vibrating arm *q*, and notched spring *r*, when combined, for the purpose set forth.

3. The carriage D, case F, vibrating lift-bars K, slotted plates M, bar S, projection R, and cam V, when combined and applied to a stereoscope in the manner described.

114,830. — TREADLE.—Charles P. Leavitt, New York, N. Y.

Claim.—1. The treadle D, with universal joint, consisting of the revolving tube C upon shaft B and joint *g*, substantially as described.

2. In combination with the above, the pitman P, arranged and operated as described.

114,831.—Apparatus for Evaporating and Concentrating Brine and other Liquids.—Robert Gilmour Leckie, Acton Vale, Canada.

Claim.—1. The combination of the vat *a*, pipe *b*, and other component parts, with or without reservoir *d*, with the evaporating-vessel *g*, pipes *k k*[1] *k*[2], boiler *m*, and air-heating vessel *n*, as and for the purpose described.

2. The arrangement of vat *a* and pipe *b* for precipitating the carbonate of iron and other impurities, as described.

3. The combination of the vat *a*, evaporating-vessel *g*, pan *p*, with or without space *o* and casing *q*, boiler *m*, and air-heating vessel *n*, as described.

4. The arrangement of the pipe *s* and vessel *d* for utilizing the heat of the steam from the evaporating-vessel *g*, as described.

5. The evaporating-vessel *g* and crystallizing-vessel *r*, combined and arranged as described.

114,832.—Marine Locomotive.—Sverre Lee, New York, N. Y., assignor to himself and James D. Reymert, same place.

Claim.—1. The internal bracing D[3] of the floats or caissons D, when the latter are arranged in the series on an endless belt, C, traversed around in the bottom of a structure, A, as specified.

2. The corrugated bottom D[1], in combination with the internal bracing D[3], tending to strengthen the caissons D and enable them to take a better hold on the water to better support the weight of the structure in passing over bare or shallow places, when operated by an endless chain under a vessel or traveling structure, A, as specified.

3. The within-described arrangement of the end drums at such levels that the caissons D shall be immersed, and again lifted gradually, so as to not only avoid the friction of the water, but also involve but a very slight resistance from the inertia thereof, as herein specified.

114,833.—Saw-Mill.—Charles Enos Lewis, Bay City, Mich.

Claim.—A saw having its teeth forming the arc of a circle and arranged on a reciprocating sash, a bar, E, crank-shaft N D L, yoke-rod K, and eccentric I, all combined and arranged as and for the purpose specified.

114,834.—Thrasher and Grain-Separator.—William C. Leyburn, Sparta, Wis.

Claim.—The arrangement, within the frame A of the picker-drum O, the rake K, the carrier N, the cylinder B, the fan D, the shoe E′, and the screen E, all constructed and operating substantially as described and shown, for the purposes set forth.

114,835.—Scroll-Sawing Machine.—Sylvester G. Mason, Rochester, N. Y.

Claim.—1. The lever E and star-wheel or head H, in combination with the fixed socket B and springs *d*, arranged to operate substantially as set forth.

2. In combination with the deflecting cord C, the levers E and spring heads B H, constructed and arranged substantially as and for the purposes set forth.

114,836.—Dairy-Heater for Heating Water.—George W. McCammon, Manheim, and David H. Burrell, Little Falls; said McCammon assigns his right to Rodney S. Whitman, Little Falls, N. Y.

Claim.—1. The arrangement and combination by which a metal vat or tank of water with fine-pipes passing through it is placed immediately above and upon a series of pipes, through which water flows into the vat, by which means the water enters the vat in a partially-heated state.

2. The feed and waste-pipe united in one, placed on an inclination, with the manner of heating, as described in the specification, producing the effect that when the vat is full the flow will be automatically turned outward, thus securing the water in the vat, when full, from being cooled by the inlet of water of a lower temperature.

3. The combination and arrangement of the hot-water vat with a series of smoke-flues through it, the supply-pipes of water placed under the vat and over the fire, the union of the supply and waste-pipes arranged, as described in the specification, to regulate automatically the feed and waste of water, and the hot-air chamber at the base of the chimney heating the smoke after it has passed through the flues in the vat, all combined as described in the specification.

114,837.—Fire-Box for Heating-Stoves.—William L. McDowell, Philadelphia, Pa.

Claim.—For a stove, range, or heater, a cast-iron fire-box, A, having upper part inwardly inclined and its lower end enlarged by a recess, *a′ a″*, cast around in its inner side, and the recess then filled with fire-brick or other suitably-porous refractory material, B, substantially as and for the purposes hereinbefore set forth.

114,838.—Cooking-Stove.—William L. McDowell, Philadelphia, Pa.

Claim.—A removable boiler, B, having a projecting, flat, rectangular chamber, *b′*, made to enter the fire-chamber through the side plate *a*[4] of the fire-chamber thereof, and the supporting oven C, having one side made open and to fit against the said side plate of the fire-chamber, as and for the purposes hereinbefore set forth and described.

114,839.—Apparatus for Aerating Beer-Barrels.—Joseph Metzger, East Cambridge, Mass.

Claim.—1. The combination and arrangement of the bung and the air-forcing and estopping apparatus, as described.

2. The combination of the barrel or cask, the bung, and the air-forcing and estopping apparatus, as described, applied together, as set forth.

114,840.—Washing-Machine.—Laurence R. Mills, Tekonsha, Mich.

Claim.—The arrangement and combination, with each other and with the suds-box A, of the standards B B, cross-bar C, rocking shaft D, lever L, holding device *n p*, connecting-stem F, and corrugated rubber-head E, all constructed, arranged, and operated substantially as and for the purpose specified.

114,841.—Keeper for Bolts.—John M. Mitchell, Cincinnati, Ohio.

Claim.—The bolt-socket or keeper B, sliding freely upon the holder A, which is secured to the door-casing, all arranged as and for the purpose set forth.

114,842.—Sash-Holder.—John H. Morse, Peoria, Ill.

Claim.—The combination of the key E with lug *e* and recessed face-plate, the key E passing through a recessed and shouldered bolt working at right angles to the key, all as shown and described, for the purpose set forth.

114,843.—Curtain-Fixture.—Benjamin Moser, Waltham, Mass.

Claim.—The arm G, having loose wheel H and coiled spring I, in combination with bracket C and curtain-roller B, constructed as and for the purpose described.

114,844, antedated May 15, 1871.—Globe-Valve.—Matthew Murphy, Charlotte, N. C.

Claim.—The collared nut F G, combined, as described, with a cap, B, having the packing-chamber E, arranged as and for the purpose specified.

114,845.—Whip-Socket.—James Nellis, Ypsilanti, Mich.

Claim.—The construction and arrangement of the strap A, socket B, segments C C′, provided with cushions *a a′* and rollers *b b′*, and the torsion-springs D D, substantially as described, for the purpose specified.

114,846.—Spark-Arrester.—Michael O'Connor, Bangor, Mich.

Claim.—1. The fan, composed of the rotating vertical pipe C and wings F, arranged within a smoke-stack, with the pipe B, substantially as and for the purposes set forth.

2. The pipes G, in combination with the pipe C and wings F, when operating as and for the purposes set forth.

3. The arrangement of the brake I, in combination with the vertical pipe C, in a device constructed as above described, substantially as and for the purposes set forth.

4. The combination of the frame A, pipes B C, wings F, short pipes G, spark-arrester H, and brake I, when constructed and arranged to operate as described with a smoke-stack, as set forth.

114,847.—Foot-Brush.—John W. Osborne, Brooklyn, N. Y.

Claim.—The combination of the brush B′, receiver B, and adjustable side for clamping the brush, as described, and for the purposes set forth.

114,848.—Amalgamating the Precious Metals and Preventing the Loss of Mercury.—Josiah S. Phillips, San Francisco, Cal.

Claim.—1. The preparation of mercury in the manner above described, for the purpose of cleansing and increasing its affinity for the precious metals, and also to prevent loss of the mercury during amalgamation, substantially as above specified.

2. The addition to the mercury of chloride of barium, either separately or with other chemicals, during amalgamation, substantially as and for the purposes above described.

114,849.—Hydraulic-Pressure Alarm.—Joseph L. Pillsbury, Columbus, and John S. Shorb, Canton, Ohio.

Claim.—The within-described alarm for indicating certain limits of pressure on liquids or gases, the same consisting of a suitable alarm apparatus and of a hollow spring tube in communication with the liquid or gas, and the said spring tube and alarm apparatus being so connected and combined as that the change of form in the spring tube due to certain limits of pressure on the contained liquid or gas shall act to liberate the alarm apparatus at said limits, as is hereinbefore set forth.

114,850.—Type-Setting Machine.—Thomas J. Plunket, New York, N. Y.

Claim.—1. The use or employment, in a type-setting machine, of one or more electro or permanent magnets for the purpose of collecting and carrying the type or types from the chambers from which they may be fed, substantially as herein set forth.

2. Suspending the operation of the electric current, (when the battery is connected with the machine,) substantially as described, for the purposes set forth.

3. Combining with the type-chamber T the type-deliverer U, provided with an inclined way, 2, a pusher, 4, connected to the key, as shown, and a weight 8[2], when constructed and operating substantially as and for the purpose set forth.

4. The combination, with the delivery-chamber 9, of the slide 10, bent pins 12, spring 13, and foot P of the projecting arm O, when the same shall be constructed and operate substantially as and for the purposes set forth.

114,851. — Girder-Rest for Timbers.—Jonathan Preston, Boston, Mass.

Claim. — In combination with an iron-flanged girder, the rest or bearing B, substantially as and for the purposes herein shown and described.

114,852.—Curtain-Fixture.—L. Corydon Prindle, Chicago, Ill.

Claim.—1. The employment of detachable or open pulleys in a curtain-fixture, which admit of the endless cord being passed over them without being cut, made in the form substantially as shown.

2. The holder D, when so constructed as to be readily attached to or detached from the endless cord E after said cord is in position over the pulleys, substantially as specified and shown

3. The combination of the holder D and pivot *c*, when the holder is made detachable therefrom, in the manner specified and shown.

4. The combination of the endless cord E and detachable adjustable holder D, substantially as and for the purpose specified.

5. The combination of the endless cord G, the roller C, and the endless cord E, for holding the roller at any point, while the cord G turns it, to raise or lower the curtain, as described and shown.

114,853.—Device for Securing Horse-Powers.—Francis W. Randall, Burlington, assignor to George W. White, Grass Lake, Mich.

Claim.—1. The link F and brace H, when constructed substantially as described, in connection with the stays C and stakes G, for the purposes set forth.

2. The stay-rods D, in connection with the sides A and stays C, substantially as described, when the former are held in their engagement with the grooves *a* by means of the hooks E, for the purposes set forth.

3. The device for securing horse-powers to the ground, wherein the stays C, stay-rods D, hooks E, links F, rings *e*, stakes G, and braces H are arranged relative to each other and to the sides A of the frame, substantially as and for the purposes set forth.

114,854.—"Fix" for Puddling and other Furnaces.—Abram Reese, Pittsburg, Pa.

Claim.—1. The utilization of heating-furnace slag, substantially as hereinbefore set forth.

2. A furnace bottom made of heating-furnace slag treated with a suitable alkaline substance while in a molten state, substantially as set forth.

114,855.—Plow.—Thomas H. Reynolds, Rome, Ga.

Claim.—1. The slotted plate E, provided with the shoe *d*, and combined with the plowshare and standard, substantially as and for the purpose herein shown and described.

2. The suspended slide G, arranged on the plate E to constitute the land-side of the plow, substantially as herein shown and described.

114,856.—Finger-Ring.—Henry P. Richmond and Thomas E. Carpenter, Providence, R. I.

Claim.—A jointless finger-ring, constructed in the manner substantially as described.

114,857.—Toggle-Pin for Nail-Machines.—William H. Ridley, Pittsburg, Pa.

Claim.—A toggle-pin, constructed substantially as hereinbefore described, and for the purpose set forth.

114,858.—Housing for Rolls.—John Rigby, Pittsburg, Pa., assignor, by mesne assignments, to himself, Joseph Davis, and A. Filson Dalzell.

Claim.—The housings *f*, slotted and boxed, as at

g g, for the separate and independent adjustment and seating therein of the roller, substantially as described.

114,859. — DOVETAILING-MACHINE.—John B. Ritchey, Pomeroy, Ohio.

Claim.—1. The combination, with the reciprocating table P and the vertically-moving rotary cutter, of the gauge-stops S, bars T, V, and W, and adjusting-screw X, all substantially as specified.

2. The combination of the adjustable stops D′, wedges F′, adjusting-plate H′, and adjusting-screws I′ and *k*′, all substantially as specified.

3. The combination, with the table P and adjustable stops D′, of the spring-bar M, provided with projection L′ and trip-lever O.

4. The combination, with the gauge-bar T, gauges S S′, and the slotted bars V, of the clamp-screws *y y*, substantially as specified.

114,860. — KETTLE-HANDLE. — Horace T. Robbins, Hyde Park, Mass.

Claim.—An adjustable kettle-handle, in combination with a kettle arranged substantially in the manner and for the purpose of emptying a kettle, as specified.

114,861, antedated May 12, 1871.—REGULATING CUT-OFF VALVE-GEAR.—Stillman W. Robinson, Champaign, Ill.

Claim.—The combination of the valves, as described, with their operating-gear, the trip J, arms I H, and points O O, the latter being operated by the governor, all arranged as shown and set forth.

114,862. — SEWING-MACHINE FOR BOOTS AND SHOES.—Nathan M. Rosinsky, New York, N. Y.

Claim.—1. The boot or shoe-holder, consisting of the plates B F, connected together by the bolt G, hinged to one and passing through the other, all substantially as specified.

2. The jointed links M, boot-holder, and the vertically-adjustable post or stand, combined, substantially as specified.

3. The arrangement of the thread-guide stock *f*, grooved cam *l m*, crank *n*, and spring *p*, substantially as specified.

4. The presser N, constructed as described, arranged on the slotted shank *a*′ mounted in plate K, and operated by the slide *g* and spring *b*′, substantially as specified.

5. The feed-plate carrying-bar *q*, made in two parts, having beveled ends connected together by the screw and spring, substantially as specified.

6. The bar *q*, arm *r*, shaft *s*, spring *y*, crank *x*, and the slotted cam *u w*, all combined and arranged substantially as specified.

7. The arrangement of the needle-bar Q, presser and discharger-bar *g*, connecting-rods *h b*, crank W X′, wheel X, and the driving-wheel Y, all substantially as specified.

114,863. — STEAM-MANGLE. — Peter Rundquist, New York, N. Y.

Claim.—The hollow rolls C D, stirrups F F, rods H H, springs I I, and pipes J J′, all combined and arranged on frame A, as and for the purpose specified.

114,864.—NON-CORROSIVE METAL-COATED PLATE-HOLDER.—James F. Ryder, Cleveland, Ohio.

Claim.—A plate-holder, with the frame thereof made in part or in whole of base metal, and coated in whole or in part with gold, silver, nickel, or other non-corrodible metallic covering, for the purpose set forth.

114,865.—STEAM-VALVE AND GOVERNOR.—Robert Sanderson, Cleveland, Ohio.

Claim.—1. The slides E, E′, and F, as constructed and arranged to operate in relation to each other and in combination with the valve-rod C, substantially in the manner as and for the purpose set forth.

2. The combination of the bell-crank H, slide E, and governor-stem or rod J, in the manner as and for the purpose specified.

3. The adjustable collar M, provided with a lip, N, in combination with the valve-stem C and friction-wheel or roller L, substantially in the manner as described, and for the purpose set forth.

4. The thimble or sleeve A′ and nut F′, as arranged in combination with the governor-stem J and governor, in the manner as described, and for the purpose set forth.

5. The springs H, when constructed with an eye or hook, G, at each end, and a friction-roller, K, in combination with the collars L, in the manner as and for the purpose specified.

114,866. — MODE OF APPLYING MOTIVE POWER.—John Schley, Savannah, Ga.

Claim.—1. The arrangement of the right-and-left-hand screws D E, pinions F F, and wheels H H for conveying power and motion, substantially as described.

2. The revolving cog G′, in combination with a perpetual-screw gear, substantially as and for the purposes described.

3. In combination with the screws D E and wheels F F, the system of gearing represented by the bevel-wheels K′ M and O O, and spur-wheel and pinion K P, when the same are arranged to operate substantially as and for the purposes described.

114,867.—FRUIT-PARER.—Robert P. Scott, Cadiz, Ohio.

Claim.—1. The revolving knife J in a fruit-paring machine, constructed substantially as and for the purpose set forth.

2. The fork G, constructed as shown and described, as and for the purpose herein specified.

3. The spring L, in combination with the knife-support K and bracket *k*, constructed and operating in the manner set forth.

4. The arrangement of the frame A, the gearing *b c* I a D E H, bar C, fork G, knife J, when all constructed and operating substantially as and for the purpose herein described.

114,868.—MANUFACTURE OF PAPER BOARD.—Edmund A. Seeley, Scotch Plains, N. J.

Claim.—1. The metal lay-boards, as and for the purpose specified and shown.

2. The metal lay-boards, covered with cloth or other suitable material, as and for the purpose set forth.

3. The guide-board *c*, in combination with the metal lay-boards, as and for the purpose specified.

114,869.—SCHOOL-DESK AND SEAT.—Henry G. Sellman, North Newburg, Mich.

Claim.—The combination of the radius-bar D with the seat-arm C and the ledge *d* of the upper section A′ of the standard, being pivoted thereto, as and for the purposes herein set forth.

114,870.—MECHANICAL MOVEMENT.—Abram Shear, Plymouth, Mich.

Claim.—The combination of the spring J, the pitman F, cross-head H, and weight I, when constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

114,871.—ENVELOPE.—Eldridge J. Smith, Washington, D. C.

Claim.—The sectional envelope A, consisting of one or more pieces, as above described, substantially as and for the purpose hereinbefore set forth.

114,872.—GAS-RETORT.—James H. Smith, Newark, Ohio.

Claim.—The combination, with a gas-retort, of any desired number of plates, C, attached alternately, and by any convenient means, to the top and bottom of the retort, near its rear or outlet end, substantially in the manner and for the purpose described.

114,873.—CHURN.—Ben H. Steele, Barnesville, Ohio.

Claim.—The method of forming butter by the successive application to cream, confined in a close vessel, of dashers J M, constructed to operate on the same at the times and in the manner specified.

114,874.—HORSE-POWER.—Henry B. Stevens, Buffalo, N. Y., assignor to George L. Squier, same place.

Claim.—1. The arrangement of the main frame-timbers A B C, in combination with the cross-trees D, hub 14, and corner-bolts O, substantially as set forth.

2. The metallic hub 14, in combination with the adjustable bushings 9, and set-screws 3 and 4, substantially as set forth.

3. The metallic pedestals 8, bolt O, and caps 7, in combination with the cross-trees D, substantially as described.

4. The metallic step-box 15, when cast in one piece with the bearing of the counter-shaft 16, substantially as described,

5. The eccentric pin 10, in combination with the guide-roller 11 for the purpose of adjusting the roller on the master-wheel, substantially as set forth.

6. The sweep-shaft 17, in combination with the master-wheel 20 and pinion 19, when said master-wheel and pinion are constructed with a rim or track, L and L′, cast upon their peripheries, as and for the purposes described,

7. The sweep-cap 18, constructed with one or more lead-pole sockets, 1 1, substantially as set forth.

114,875. — SHUTTER-WORKER. — Fredrick Strattner, Wilmington, Del.

Claim.—An improved device for opening and closing blinds and shutters, consisting of the bracket or slide D, bent and pivoted or hinged bar E, arm F, notched bar G, keeper H, and locking-pin J, said parts being constructed and arranged substantially as herein shown and described.

114,876. — STEAM-BOILER. — Daniel Sullivan, Bangor, Me.

Claim.—The within-described arrangement, in a steam-boiler, of the straight water-tubes, running the entire length of the boiler and through the intense heat of the fire, the double cylinders forming the water-space, as described, the broad removable front and back plates, and the smoke-stack, riveted to the inner and outer cylinder, all arranged with reference to each other, as herein set forth, for the purposes specified.

114,877.—RAILWAY-AXLE BOX.—John B. Sutherland, Detroit, Mich.

Claim.—In an axle-box, the door B, provided with beveled sides *c* and groove *d*, in combination with the wedge-shaped guide *a*, provided with offset *b* and the stop C, all constructed, arranged, and operating substantially as described and shown.

114,878.—EXCAVATOR.—Thomas Symonds, Portland, Me.

Claim.—The combination of the pivoted arm *b*, chain *d*, arm *e* with pivot and pin *j*, arm *h*, with spring *g* and shoulder *m*, arranged and applied as herein set forth.

114,879.—HAND-STAMP.—Charles G. Taft, Jr., Norton, Mass.

Claim.—The combination of the cylinder A, the piston B, and the double lever E, the whole constructed, arranged, and operating in the manner substantially as described.

114,880.—TREATMENT OF PAPER AND PAPER-PULP.—Thomas Taylor, Grove End Road, England, assignor to Edmund S. Hanna and Waldimer A. Schmidt, Pittsburg, Pa.

Claim.—The employment of a concentrated solution of chloride of zinc, either alone or mixed with other substances, to sized or unsized paper, and afterward washing the paper in water, substantially in manner and for the purposes herein-before described.

114,881.—SEEDING-CULTIVATOR.—Nelson S. Thompson, Richmond, Ind.

Claim.—The arrangement of the trash-cleaner A, adjustable clamps *a b c d*, and guide-frame D, in combination with the convertible wheel C, so that the latter may be used to propel the trash-cleaner *h* or serve for a fender, in the manner and for the purposes specified.

114,882.—MACHINE FOR BRUISING MALT.—James Flower Tibble, Detroit, Mich.

Claim.—1. The combination, with an air-tight case, A, of the rolls I I′, arranged to operate as and for the purposes herein set forth.

2. The slide D and spout or chute C, in combination with the governor P and the necessary connections, as and for the purposes set forth.

3. The combination of the case A, rolls I I′, boxes H, spring K, set-screw L, spout C, slide D, hopper E, connections N O, and governor P, when the parts are constructed and arranged and operate substantially as and for the purpose herein set forth.

114,883.—SMOKE-STACK.—Wenzel Toepfer, Milwaukee, Wis., assignor to Toepfer & Son, same place.

Claim.—A portable smoke-stack, composed of vertical sections, which are made in separate pieces and held together by rings, as set forth.

114,884. — BRICK-MACHINE. — James V. Tompkins, Canandaigua, assignor to himself and John Cavender, Adrian, Mich.

Claim.—In brick-making machines, the arrangement of the rock-shaft N, lever O, cranks P, arms Q, levers R, links S, pressure-bar T, and plungers U, when constructed and combined to operate substantially as and for the purposes herein set forth.

114,885.—COMBINED CARRIAGE-BOW COVER AND SLAT-IRON.—Isaac N. Topliff, Elyria, Ohio.

Claim.—1. The combination of the metallic carriage-bow cover and slat-iron.

2. The locking of the metallic carriage-bow covers.

3. The tapering piece of sheet-steel E, for the purpose shown and described.

114,886.—PAPER-RULING MACHINE.—James Tregurtha, Charlestown, Mass., assignor to George H. Sanborn, Brooklyn, N. Y.

Claim.—1. The combination of the standards T, hollow adjusting-screws X, supports Z, and spindles 2, supporting the pen-beam, constructed and operating substantially as and for the purposes set forth.

2. The combination of clamp 11, provided with set-screw 12, and the strip of metal 10 secured upon the pen-beam, as and for the purposes specified.

3. In combination with the curved arm 16, the block 23, hinged at one end and connected to the standard T, substantially as and for the purposes described.

4. The wheel 33, provided with the permanent stop 38, in combination with levers 36, 39, 40, and 42, springs 37 and 47, and toe 45, when the same

shall be constructed and operate substantially as and for the purposes set forth.

3. The clamp 9, provided with the sliding plate 49 and set-screw 50, when constructed and operating substantially as described, for the purposes set forth.

114,887. — Wrapper-Cutter. — John R. Tunnicliff, Van Hornesville, N. Y.

Claim.—A rotary drum, A, and annular knives C C at the ends thereof, combined, as described, with the rubber cylinder *b* moving over the leaf under elastic pressure to smooth it, as specified.

114,888.—Machine for Stripping and Booking Tobacco.—John R. Tunnicliff, Van Hornesville, N. Y.

Claim.—1. The two unwinding drums G G, and the two aprons H H, combined with two unwinding drums, E E, arranged with a common supporting drum, C, for the purpose of forming an improved "booking" device.

2. The rolls E E, having aprons H H, combined with revolving cutters placed between the said aproned rolls, for the purpose of taking out the stem and smoothing each side of the leaf immediately thereafter.

114,889. — Cotton-Chopper. — Edward Berriam Turnipseed, Columbia, S. C.

Claim.—The combination of the cutter B, constructed as described, with carving front edges, laterally-expanding sides, rearwardly-tapering form, and inclined bottom blade with the beam A, the parts being relatively arranged as described.

114,890. — Millstone-Balance. — George Thomas Clark, Kalamazoo, Mich., administrator of William A. Vance, deceased.

Claim.—The adjustable box C, divided into separate compartments by partitions *e*, and provided with the hook *d*, in combination with the clamping-band B, all constructed, arranged, and operating substantially in the manner described.

114,891. — Roasted Wheat.—George W. Watt, Philadelphia, Pa., assignor to himself and Robert B. Fitts, same place.

Claim.—1. The within-described process of treating wheat to air-currents and dry heat, as and for the purposes specified.

2. As a new commercial article, wheat, when treated as hereinbefore described, furnished to the public either as the whole kernel or more or less comminuted.

114,892.—Apparatus for Rolling Metal.—Charles While, William Lewis, Thomas Strickland, and Samuel Caddick, Spuyten Duyvil, N. Y.

Claim.—The combination of the frame comprehending the hollow journals and heads and bars D, E, and F, mechanism to impart to said frame a revolving movement upon its axis, the three conical rolls arranged on said frame, and mechanism to impart to each of said rolls a movement of rotation on its own axis, substantially as hereinbefore described.

114,893. — Pencil-Holder. — Horace J. Wickham, Manchester, assignor to Jeremy W. Bliss, Hartford, Conn.

Claim.—1. As an improved article of manufacture, a pencil, the stock of which has a chamber for an adjustable lead, an exterior screw-thread, a conical-shaped end, and with a longitudinal slit therein, all formed in one piece composing the stock, combined with a screw-threaded cap, having a conical end formed from sheet metal, and serving to clamp the stock to the lead, constructed, as described, so as to fit the conical end of the stock and give support to its extreme point, all substantially as set forth.

2. In combination with a finishing cap or socket of the pencil, the watch-key *k* affixed thereto on the line of its axis, substantially as and for the purpose set forth.

114,894. — Measuring-Pail. — John B. Wightman, Brooklyn, N. Y.

Claim.—A pail or can, A, having the measuring device *a b* protected by a close cover, B, hinged at the side of the glass, in connection with the spring *c*, arranged as shown, and operating to keep the cover in either an open or closed position, substantially as described.

114,895.—Wood Pavement.—Richard H. Willet, Washington, D. C.

Claim.—The blocks A, formed of a double wedge-shape, with the widest part at the middle, to be embedded in a concrete composed of sand and asphalt or tar, and placed upon a foundation of sand, substantially as and for the purpose described.

114,896. — Millstone-Dress. — James Wilson, Davis' Mills, Va.

Claim.—The arrangement of the tangential deep furrows B C C and outer furrows D D, when constructed substantially as herein shown and for the purpose described.

114,897.—Lumber-Rack.—Robert B. Woodcock, Grand Rapids, Mich.

Claim.—1. The arrangement of the rollers B and B^1, in connection with the levers C and C′, and the corresponding levers, the chains *x* and *x′*, and pulleys P and P′, chain *t*, and the corresponding chains and pulleys on the other side of the rack, and the shaft L, when constructed and arranged so as to press the rollers B B^1 simultaneously against the load, substantially as described.

2. The arrangement of the binding-chain, in connection with the chains *t* and *t′* and shaft L, substantially as described.

3. The combination of the rollers B B^1, pivoted levers *z z′*, pulleys P P′, chain T, and crank-shaft L, all arranged to operate substantially as described.

114,898. — Fanning-Mill.—Peter Young, Austin, Minn.

Claim.—1. The upper inclined step-sieve B, with the steps thereof inclined from their outer edges *r* to their inner joints *s*, and provided with inclined perforations *v*, all constructed substantially in the manner and for the purpose hereinbefore set forth.

2. The combination of the upper inclined step-sieve B, constructed as described, with the sieve C and the metallic case *i* and spout *k* attached, as shown, and the lower sieve D, all constructed and arranged substantially in the manner and for the purposes hereinbefore set forth.

114,899, antedated May 5, 1871. — Windmill.—Samuel M. Abbott, Wilmington, Ill.

Claim.—1. The rudders or vanes B C, placed at right angles with each other, and constructed so as to be capable of turning one-quarter around on their axles, and connected together by any suitable means, substantially as and for the purposes herein set forth.

2. In combination with the vanes B C, the wind-disk D, pivoted lever *b*, connecting-rod *e*, substantially as and for the purposes herein set forth.

3. In combination with the wind-disk D and lever *b*, operating the vanes B C, as described, the elbow *d*, rod *f*, and weight E, substantially as and for the purposes herein set forth.

114,900.—Molding-Machine.—Joseph Albright, Midway, Tenn.

Claim.—1. The combination of the carriage B, sliding block *p*, fixed block *t*, rack *s*, lever *r*, and connecting-rod, as specified.

2. The shaft *z*, pinion *y*, spur-gear *c′*, sliding frame *a′*, button *f′*, and lever *b′*, as described.

3. The serrated bar F, slotted plate *o′*, lever *q′*, notched arm *s′*, and cross-piece G, combined as set forth.

4. The bar F, combined with the plates *t′* v^1, tongue *w′*, block *w′*, and screw *x′*, as explained.

114,901.—Preparation of Tobacco for Chewing.—David Alonzo Alden, Malden, Mass.

Claim.—The improved process herein described of manufacturing tobacco-lozenges or wafers for chewing, the same consisting in mixing finely-divided tobacco with a suitable mucilaginous or adhesive substance and then molding said mixture into lozenges or wafers, as set forth.

114,902. — Steam-Radiator.—Valerius D. Anderson, Kewanee, Ill.

Claim.—A radiator, consisting of a steam-chamber or chambers, and an air-heating space or spaces filled with heat-conducting material, for warming the air as it passes through or among this material, substantially as set forth.

114,903.—Pipe-Coupling.—Valerius D. Anderson, Kewanee, Ill.

Claim.—The coupling, consisting of the pipe A with the flange *l*, and the pipe B with its ears *e*, and the collar C, constructed and arranged to operate therewith, substantially as described.

114,904.—Water and Drain-Pipe.—Thomas J. Barron, Brooklyn, N. Y.

Claim.—1. A water-pipe or other article, the body of which is formed of the materials and by the means described and afterward coated with asphaltum or its equivalent, substantially as specified.

2. The process herein described of manufacturing useful articles of the materials mentioned.

114,905. — Mold. — Thomas J. Barron, Brooklyn, N. Y.

Claim.—1. In combination with the case H, the tubes D and E, arranged substantially as and for the purpose specified.

2. The sectional core C, with its wedge *a*, in combination with the tubes D, E, and H, constructed and arranged to operate as described.

114,906.—Wick-Regulator for Lamps.—Henry Beebe, Jersey City Heights, N. J.

Claim.—The regulating-screw *a*, in combination with a flange, *d*, carrying the wick-tube *e* and spring prongs *h*, and with a spring, *g*, and guide-tubes *f*, all constructed and operating substantially as herein shown and described.

114,907.—Table for Making Wainscoting.—John W. Boughton and Elisha Chas. Hussey, New York, N. Y.

Claim.—1. A table constructed as herein described, with longitudinal and transverse grooves to receive the lifting-bars *d d k k*, and provided with the clamps *b b b b* and clamping side rails B B, combined and arranged substantially as and for the purposes herein set forth.

2. In a table for manufacturing portable wainscoting, the transversely-curved surface of the table A with or without the rebate *e*, combined and operating in connection with the side rails B B′, substantialy as herein shown and described.

114,908. — Corn-Planter. — William C. Bowman, Clarksburg District, Md.

Claim.—1. The jointed lever K′ carrying the plows L L′ arranged, respectively, in front and rear of the hopper, and operating in connection with the dropping mechanism, substantially as herein shown and described.

2. The hopper G and spring seed-slides J, when made adjustable upon the frame with relation to the tripping mechanism, substantially as described, for the purpose specified.

3. In combination with the hopper and seed-slides, the pivoted connecting-bars, and the operating-lever S, substantially as described, for the purpose specified.

114,909.—Top-Prop for Carriages.—Frederick A. Bradley, New Haven, Conn., assignor to O. B. North & Co., same place.

Claim.—In top-props for carriages, the arrangement, between the nut and joint end, of the washer *a* provided with the tongue or tongues *f*, and the bolt constructed with corresponding grooves *d*, as and for the purpose specified.

114,910.—Door-Latch.—Elias K. Breckenridge, West Meriden, Conn.

Claim.—1. The arrangement of the latch D constructed with shoulders *s s*, upon the plate A constructed with lugs *a a*, and combined with the two armed springs, B C, setting between the lugs and shoulders, operating substantially as described.

2. In combination with the subject-matter of the first clause of claim, the handle L, constructed and applied to the said latch-plate, as and for the purpose described.

114,911. — Galvanic Battery. — David Brooks, Philadelphia, Pa.

Claim.—The application to galvanic batteries of paraffine or its equivalent, substantially as and for the purpose set forth.

114,912. — Bee-Hive.—James F. Broomfield, Richmond, Ky.

Claim.—The boxes A A^1, supplied with the ventilating-tubes *b b*, having cut-offs *b′ b′*, when arranged and connected together in sections upon a central standard, substantially as herein shown and described.

114,913. — Whiffletree. — William S. Brown, Thorntown, Ind.

Claim.—In a safety-whiffletree, the arrangement of the sections *a a*, hinge *b*, connecting-band B, projections *d d*, recessed cap *e*, spring *s*, and loop *h*, substantially as and for the purpose specified.

114,914.—Propulsion of Vessels.—Patrick Burke, Boston, assignor to Willard M. Harding, Chelsea, Mass.

Claim.—1. The tapering pipes *c d*, arranged so as to incline downward, in connection with the piston-cylinders *c*, substantially as described, and to produce the effect set forth.

2. In connection with the piston-cylinders *c* and ejection-pipes *c d*, the two-way cocks or cut-offs *i*, coupled and moved simultaneously, substantially as described.

114,915.—Window-Sash.—Albert Gibbons Buzby, Philadelphia, Pa.

Claim.—1. A sash arranged to slide in the frame as usual, and divided vertically, in combination with devices whereby the two sections may be separated so as to wedge the sash in the frame and thereby secure it in any position to which it has been adjusted.

2. The combination, with the vertically-divided sash, of a flattened rod, which may be turned to separate the sections of the sash, as described.

114,916.—Cooler for Liquids.—John W. Campbell, Sr., New York, N. Y.

Claim.—1. The cooler B, constructed with cast-metal frames B^1 B^1 and sheets of metal which are soldered thereto, the parts being constructed and arranged substantially as and for the purpose set forth.

2. The drip-pan D, constructed with apertures in its sides and ends, and with the flange or cup G for forming the water-joint, substantially as and for the purpose set forth.

3. The combination of the cooler B and drip-pan D, substantially as and for the purpose set forth.

4. The combination of the caps D^1 and D^2 and the drip-pan D, substantially as and for the purpose set forth.

5. The combination and arrangement of the plate or slab A^1, the funnel-ended pipe F, and bowl F', substantially as and for the purpose set forth.

114,917, antedated May 12, 1871.—Curtain-Fixture.—Nathan Campbell, Rochester, N. Y.

Claim.—1. The combination of the spring locking-lever *a* and spool B with the cord *c*, for the purposes set forth.

2. The stop *n* upon the bracket C, in combination with the locking lever *a* and elevating-cord *c*, arranged to operate substantially as and for the purposes set forth.

3. The bracket D, provided with the recess *h* and stop *o*, with the enlargement *p*, substantially as set forth.

114,918, antedated May 12, 1871.—Curtain-Fixture.—Nathan Campbell, Rochester, N. Y.

Claim.—The arrangement of the cord-opening *c* in the lower end of the lever, with relation to the center of the curtain-roller and to the pivoting point of said lever, whereby the ratchet is unlocked by a direct downward pull upon the elevating-cord, in the manner set forth.

114,919.—Wheel for Tempering Clay.—Franklin L. Carnell, Philadelphia, Pa., assignor to himself and David R. Carnell.

Claim.—1. The double-flanged triangular sheave D for operating the endless chain *d*, substantially as herein set forth.

2. The combination of the double-flanged triangular sheave D, chain *d*, roller *e*, pins *i m*, and rod H, substantially as and for the purposes herein set forth.

3. The combination of the beam B, rib *f*, sleeve G with collars *h h* and wheel E, pins *m i*, roller *e*, chain *d*, double-flanged triangular sheave D, cog-wheel C, and pinion *b*, all substantially as and for the purposes herein set forth.

114,920.—Machine for Pointing Horse-shoe-Nails.—Alexander H. Caryl, Groton, Mass.

Claim.—The combination of the rotary bur-ring and the nail-supporting rest and groove, the ring overhanging the nail-rest, and the supporting face of the rest projecting up to the angle of the bur-teeth, substantially as shown and described.

114,921.—Saw-Filing Machine.—Charles P. Case, Troy, Pa.

Claim.—1. The L-shaped standard or guide H, having its front end curved and slotted, as described, and provided with set-screws *b b*, adjustable arm *d*, and pin *e*, substantially as and for the purposes herein set forth.

2. The bars K K', constructed and connected to the carriage J, as shown and described, and provided with arms *f* and *f'* for holding the files to be operated by the motion of the pitman C, substantially as herein set forth.

3. The adjustable guide R, provided with slotted segmental brace *k*, in combination with the rack-bar S, clamps *k k*, and pinion *m*, substantially as and for the purposes herein set forth.

4. The arrangement of the slotted standard M, adjustable platform N, carriage P, sliding stop *g*, and screws O O', all as shown and described, and for the purposes set forth.

5. In combination with the pitman of a saw-filing machine, the bars K K', provided with the other oblique slots *z z* and the bolts *x x* moving with and parallel with the pitman, substantially as specified.

6. The file-carrier described, or its equivalent, provided with files L L', and adapted automatically to produce a reciprocal and alternate action of said files on their respective sides of a saw-tooth, and whether used in combination with machinery for moving the same or not.

114,922.—Churn.—Schuyler S. Case, Marion, N. Y.

Claim.—1. The clip K, constructed as described, and provided with a vent-tube, L, to regulate the quantity of air forced into the churn, substantially as and for the purpose set forth.

2. The clips K, with vent-tube L, in combination with the conductor D, dasher O, connecting-bar H, tube C, plunger F, piston E, the whole arranged substantially as herein shown and described.

114,923.—Bed and Seat-Spring.—James P. Chamberlin, North Abington, Mass.

Claim.—Wire springs *a*, formed substantially as herein described and shown in the drawing, in combination with a slat or slats, D, when connected thereto and to a suitable frame for action, substantially as described, for the purpose specified.

114,924. — Telegraph-Insulator. — Stephen Chester, Elizabeth, N. J.

Claim.—1. The application of a metal ring, with three or more interior pointed projections, to attaching wire to telegraph-insulators, substantially in the manner and for the purpose as above set forth.

2. The application of hooks, turned in opposite directions, to the exterior edge of a metal ring surrounding directly a glass, porcelain, or ebonite insulator, for the purpose of holding telegraph-wire, and thus attaching it to said insulator, substantially in the manner and for the purpose as above set forth.

3. The combination of points B B and C and hooks D^1 D^2 D^3 with a movable ring surrounding a telegraph-insulator, substantially for the purpose, and in the manner as above set forth.

114,925. — Breeching-Holder for Harness.—Fredric L. Churchill and Robert C. Beach, Minneapolis, Minn.

Claim.—1. The spring holder, constructed substantially as represented, and employed in connection with the back-strap and hip-strap to secure the latter on the former, as explained.

2. In combination with the hip-strap holder represented, the shell, shown in fig. 1, for securing it to the back-strap, as explained.

114,926.—Method of Attaching Saws to their Arbors. — George W. Colborn, Gardiner, Me.

Claim.—A saw having the recessed flanged collar *b* attached thereto, receiving and partially inclosing the collar *a* formed on the saw-shaft, the saw being secured by means of the nut D screwed onto the threaded end of the shaft, all constructed and arranged as herein described, for the purpose specified.

114,927.—Metallic Sign.—Samuel Charles Collis, Philadelphia, Pa.

Claim.—A sign, consisting of a perforated metal plate permanently united throughout to a non-perforated metal backing-plate, and having the recesses thus formed packed with composition.

114,928. — Base-burning Stove.—Albert C. Corse, Troy, N. Y., assignor to Eddy, Corse & Co., same place.

Claim.—In combination with the magazine A, the forked sections C and D attached to its lower end in the manner and by the means substantially as and for the purpose specified.

114,929.—Loom.—Jeremiah Francis Crowley, Philadelphia, Pa.

Claim.—1. The side lever P, hung to the stationary frame at either of the points *l* or l^2, operating the sliding cam-shaft or Jacquard, or either, as set forth, and arranged to be operated by the stop-motion of the loom, substantially in the manner described.

2. The adjustable block *q* of the said lever, with its inclined edge q^1, in combination with the projection q^2 of the sliding bar S.

3. The said lever P, in combination with the fixed pin l^3, for withdrawing the pawl k^2 from between the teeth of the ratchet-wheel *m*, and thus stopping the motion of the take-up rollers.

4. The said lever P, arranged and operating substantially in the manner described, so as to simultaneously stop the motion of the cams, the Jacquard apparatus, and the take-up rollers.

5. The combination and arrangement, substantially as herein described, of the cams E and E', the feathered sleeve F on the cam-shaft, and the clutch F', operated by the stop motion of the loom, as specified.

114,930. — Bread-Slicer.—John W. Currier, Springfield, Mass., assignor to himself and John W. Labaree, same place.

Claim.—In an improved bread-slicer, the fixed horizontal knife A, and the movable platform D operated and adjusted to its position by means of the incline or wedge-shaped piece N, secured to the piece *c*, and actuated by the screw J, substantially as described.

114,931. — Can Top.—Charles E. Dayton, Meriden, Conn.

Claim.—An improved can top, consisting of the cover *b*, having the cork or other similar elastic material, *d*, and pivoted to the flange *c* having the bent projection *a'* thereon, all constructed and operating substantially as described.

114,932.—Cigar-Mold.—Napoleon Dubrul, Joliet, Ill.

Claim.—1. The novel joint E in a cigar-mold, as and for the purpose specified and shown.

2. The combination of the sections A A^1 A^2, having projections C and recesses *g*, with the bars D, as and for the purpose specified and shown.

3. The cigar-mold described, constructed in sections, said sections being provided with clamping projections C and bars D, the division between the sections being made so as to avoid the matrices in order to obviate an additional crease or creases in the cigar, substantially as specified and shown.

114,933. — Dasher for Wheeled Vehicles.—Willet Fisher, Marathon, N. Y., assignor to himself, Jerry C. Gray, and Jessie L. Judd, same place.

Claim.—A dash-board in which the wooden rail C is so bent or formed as to both form the shape of the board and the corner posts to the front end of the box, as shown and described.

114,934.—Clothes-Drier. — Marvin Flanders, Kendall, N. Y.

Claim.—The combination, in a clothes-rack, of the arms *a b* and clasps *c c* with the legs B B and standard C, constructed and arranged so that each wing can be folded vertically, and spread and expanded in opposite directions, in the manner described.

114,935. — Screw-Tap. — George H. Fox, Boston, Mass.

Claim.—A screw-tap, each bit-holding groove *c* of which is wider at bottom than its bit *b*, the bit or bit-blank being confined in one position in its groove to have its teeth cut concentrically to the axis of the tap-spindle, and being forced toward or confined against the opposite wall of the groove to bring its teeth into eccentric working position.

114,936. — Railroad Switch. — Samuel French, Boston, assignor to Sidney Allen, Newtonville, Mass.

Claim.—The switch as provided with the longitudinal and transverse slopes *a b d* and the guide or extension *c*, all arranged substantially as described and represented.

114,937.—Wagon-Jack. — Abner R. Giles, Adams, N. Y.

Claim.—The construction and arrangement of the bed-plate A, box B, standard C with notches *a a*, piece E with bail *b*, and lever D, with semicircle G, all substantially as and for the purposes herein set forth.

114,938. — Telegraph-Repeater.—Elisha Gray, Chicago, Ill.

Claim.—1. The relay armature-levers G and G', arranged to shunt the magnets, as described, whereby the said levers are closed on the receiving side, substantially as and for the purpose described.

2. The arrangement of the main and local circuits, in combination with the shunting and repeating-points H and I, when said points are arranged on the same relay-armature, substantially as described.

3. In a telegraphic-repeater, the combination of circuits and magnets, arranged substantially as and for the purpose described.

4. The magnets C C D D, so arranged as to jointly or separately operate upon the same side of the same armature, substantially as and for the purpose described.

114,939. — Pipe-Cutter. — Dennis Harrigan, North Somerville, assignor to himself and Joel Gay, Cambridge, Mass.

Claim.—1. The combination of the hollow frame or structure E, as provided with a chisel or cutter, a feed-screw, and angular abutment or recessed jaw, with a screw-wrench, substantially as and for the purpose set forth.

2. In combination with the subject of the foregoing clause, means or mechanism for adjusting the recessed jaw, as and for the purpose set forth.

114,940. — Railway Gate. — Simeon H. Heatwole, Bridgewater, Va.

Claim.—The combination of the levers D D with projections *a a*, arms *b b*, shaft E, weighted arm G, arm *d*, bar H, rod *f*, levers I I', and the gates B B with the track A, all constructed, arranged, and operating substantially as set forth.

144,941. — Tanning Compound. — Allen Hisey, Tama city, Iowa.

Claim.—The tanning compound, composed of the ingredients and compounded in the manner and the proportions substantially as herein set forth.

114,942.—Sash-Holder. — Robert B. Hugunin, New York, N. Y.

Claim.—1. The sliding lever B, in combination with the vertical spring C and horizontal spring D, substantially as set forth.

2. The plate A, having the confining-projections K and L and pin E, with the springs C and D, in combination with the lever B and rollers F and G, substantially as described.

114,943. — Base-burning Stove. — Zebulon Hunt, Hudson, N. Y.

Claim.—1. The diaphragm or curtain-plate B, when employed substantially in the manner and for the purpose herein set forth.

2. The combination and arrangement of plate B, chamber A, and ventilator D, substantially as and for the purpose set forth.

114,944.—Flexible Propeller. — Robert Hunter, Cincinnati, Ohio.

Claim.—The propeller herein described, consisting of a number of plates or leaves of different sizes rigidly attached at their inner ends to a common oscillating shaft, disconnected at their outer ends, and arranged, as herein specified, so as to support each other with a yielding pressure.

114,945.—Process of Coating Billiard-Balls, Knife-Handles, and other Articles.—John W. Hyatt, Jr., Albany, N. Y.

Claim.—1. The adjustable pins or set-screws *d d d d*, in combination with the mold D, substantially as described.

2. The vent E, in combination with the mold D, adjustable pins *d d d d*, cylinder A, and plunger B, substantially as described.

114,946.—Artificial Stone for Buildings.—James J. Johnston, Columbiana, Ohio.

Claim.—1. An artificial stone, the outer end or side of which is provided, during its construction, with a metallic surface, substantially as herein described and for the purpose set forth.

2. A new article of manufacture, viz., an artificial stone, constructed as hereinbefore described.

114,947.—Base-Burning Stove.—William M. Jones, Horicon, Wis.

Claim.—1. The fire-pot B, passage C, passage K, chamber L, openings R, and chamber S, for the supply of gas to the fuel, substantially as described.

2. Magazine D, perforations H, gauze partition I, passage K, chamber L, passage C, chamber S, and openings R, substantially as described.

114,948.—Bird-Cage Bracket.—Albert D. Judd, New Haven, Conn.

Claim.—As an article of manufacture, the herein-described bird-cage bracket, consisting of the plate A and hooked arm B, made detachable one from the other, substantially as herein described.

114,949.—Machine for Leveling Boot-Heel Treads.—Arza B. Keith, Braintree, Mass.

Claim.—In combination with a mechanism organized to grasp a boot or shoe and gauge it in position to receive the heel, or with relation to the line between the heel and sole, a leveling-hammer arranged and operated substantially as described, so that the face of the hammer brings the heel-tread to a definite plane with relation to the sole or rear part of the boot or shoe-upper.

114,950.—Apparatus for Igniting Gas and other Lights.—Wilhelm Klinkerfues, Göttingen, Prussia.

Claim.—1. The igniting apparatus, consisting of a vessel that is partly filled with an exciting liquid, and provided with a pair of galvanic plates, and operating in such manner that when the liquid is brought in contact with the plates a piece of platinum connected with the plates will be excited to produce catalytic action and ignite combustible matter with which it is brought in contact, as set forth.

2. The vessel D, provided with the bell E, galvanic plates *j k*, and pipes *m*, *n*, and *o*, to operate substantially as herein shown and described.

114,951.—Breech-loading Fire-Arm.—James Lee, Milwaukee, Wis., assignor to Philo Remington, Ilion, N. Y.

Claim.—1. The combination of the breech-block, hinged at its rear end, and the lever F, so that said lever, in being operated, shall first draw down the breech-block into a loading position, and then, by continuing its motion while the breech-block remains stationary, move the extractor to draw out the empty case, substantially as described.

2. In combination with a breech-block hinged at its rear end, and a lever extractor, the raising or setting of the lever by the act of introducing the cartridge, so that the expansion of the main spring through the hammer may raise the breech-block far enough to catch and hold the cartridge from dropping out of the gun, substantially as described.

3. In combination with a breech-block hinged at its rear, a lever moving around a variable center of motion near the front of and slightly underneath said breech-block, substantially as described.

4. In combination with a breech-block hinged at its rear end, and with a lever for operating it, a cartridge-extractor moving with said lever and around the variable center of motion of said lever, substantially as and for the purpose set forth.

5. In combination with a breech-block hinged at its rear end, and having a firing-pin passing through it and operated by a lever, as described, a projection or shoulder on said lever for driving back the firing-pin, should it, from any cause, fail to return into the breech-block after being driven out by the hammer, substantially as described.

6. The construction and operation of the lever, substantially as described, so as to produce four movements during its descent, namely: depress the breech into a loading position, eject the cartridge-shell or case, push the hammer back to a half-cock, and force back the firing-pin, as described and represented.

7. The combination of a breech-block hinged at its rear end, and a hammer arranged directly in its rear, the devices by which, when the hammer is brought and caught at the half-cock by the downward movement of said breech-block, it can neither be let down from said half-cock nor brought to the full-cock, as described and represented.

8. The arrangement of the hammer and its thumb-piece and a breech-block hinged at its rear end, substantially as described, so that the hammer can be used for operating said block—as, for instance, in closing it as the hammer is drawn back to the full-cock.

114,952.—Grain-Bag Holder.—William P. Leland, Mendon, Mich.

Claim.—1. The hopper D, provided with flanges *d d* and doors *f f*, constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the bed-frame A, standard B, support C, and hopper D with flanges *d. d* and doors *f f*, all constructed and arranged substantially as and for the purposes herein set forth.

114,953, antedated May 12, 1871.—Boring-Machine.—Robert Little, Freeport, Ill.

Claim.—The combination of the inner fixed tube B with the outer rotating tube A and the air-pumping mechanism herein described, all constructed and arranged to operate substantially as and for the purposes herein set forth.

114,954.—Lamp.—Charles B. Mann and Stephen S. Mann, Baltimore, Md.

Claim.—1. The spring slide *b*, constructed and arranged in connection with the drum *a*, as herein shown and described.

2. The safety-filling attachment for lamps, formed of long wick and filling-tube *c'*, connected with the drum *a* by means of a horizontal flange forming the imperforate bottom thereof, said drum being provided with the lateral opening closed by the slide *b*, substantially as specified.

3. The long wick and filling-tube *c'* and connecting-drum *a*, constructed and arranged, as specified, to form an annular gas-chamber, which is provided with outlets *i* in the bottom, delivering the gas downward, as set forth.

4. The long wick and filling-tube *c'*, connected with the drum *a*, as specified, or so as to leave an annular space between the tube and the screw-neck of the drum.

5. As an article of manufacture, the lamp attachment, consisting of the long wick-tube *c'*, chamber or drum *a*, provided with the spring slide *b*, constructed and arranged to form the annular gas-chamber, provided with outlets *i*, and an annular space for passage of gas or vapor, as described.

114,955.—Spring Bed-Bottom.—Calvin F. Manuel and Daniel M. Leonard, La Crosse, Wis.

Claim.—The coiled-wire springs E, leather straps D, and short round cross-bars F, in combination with the horizontal slats A, short cross-bars B, and levers C, substantially as herein shown and described, and for the purpose set forth.

114,956.—Manufacture of Sheet-Iron and Removing Scale from Iron for Coating with other Metals.—Caleb Marshall, Philadelphia, Pa., assignor to Marshall, Philips & Co., same place.

Claim.—1. The improved process, herein described, for removing scale from the surface of sheet and other iron, the same consisting in treating the iron with a saline bath, and then subjecting it to heat so as to raise the scale, substantially as set forth.

2. The combination of the above process of removing scale from iron, with the after treatment of heating, rolling, and annealing, so as to produce polished sheet-iron, as set forth.

3. The improved article of polished sheet-iron herein described.

114,957, antedated May 6, 1871.—Feeding Mechanism for File-Cutting Machines.—Charles E. Moore, Boston, Mass., assignor to Hiram B. Nickerson, same place.

Claim.—The combination of the swinging piece C, spring Q, concentric shafts D P, and gears E F with the gears L H and eccentrics K K and M N', all arranged substantially in the manner described.

114,958.—Casting Car-Wheels.—James K. Morange and Napoleon B. Morange, Pittsburg, Pa.

Claim.—A car-wheel for railways, with a recess or recesses made in its tread at a point or points which is or are between the flange and outer edge of the wheel, substantially as and for the purpose set forth.

114,959.—Current-Wheel.—Clark Morehouse, Wayland, N. Y., assignor to himself and John W. Doughty, same place.

Claim.—A series of wheels with V-shaped buckets, secured to a shaft so as to be readily adjusted upon said shaft, substantially as and for the purpose described.

114,960.—Earth-Closet.—Henry Moule, Fordington, and James Bannehr, Exeter, England, assignors to Earth-Closet Company, Hartford, Conn.

Claim.—In combination with a commode or closet, in which there is a means provided for deodorizing the excrement, a means for mixing the discharge mass, substantially as set forth.

114,961.—Flour-Sifter.—William B. Nichols, Seymour, assignor to himself and T. B. Carpenter, New Haven, Conn.

Claim.—The arrangement of the hemispherical-shaped sieve *a* within the cylinder A, combined with the revolving circular agitator D, (one or more,) substantially in the manner and for the purpose specified.

114,962, antedated May 6, 1871.—File.—Hiram B. Nickerson, Boston, Mass.

Claim.—As a new article of manufacture, a file whose surface is serrated in two or more series of parallel lines, whose distance apart is increased or diminished in a given ratio, in the manner shown and described.

114,963.—Bank-Check, &c.—Anthony C. Paquet, Philadelphia, Pa.

Claim.—The amount for which a check or other paper of value is drawn produced in the body of the paper by a die of hardened steel, or equivalent, acting against a bed or block, likewise of hardened steel, whereby the fibers of the paper are compressed and the impression rendered translucent, or has the appearance of what is known as "water-line," as herein described.

114,964.—Cultivator and Shovel-Plow.—George W. Parsons and William S. Finney, Harrisburg, Pa.

Claim.—1. The device for securing the front ends of the side beams, consisting of angular ribs *c c*, in combination with grooves *a b* in beams B B', bolt *a*, with a beveled head and triangular washer, W, substantially as described.

2. The clevis C, provided with the angular ribs *c c* and square-shouldered recesses R R, in combination with beams A B B' and standards H, substantially as described.

114,965.—Boiler-Furnace Draught-Regulator.—William Everett Pearson, East Boston, assignor to himself and James C. Wilson, Lynn, Mass.

Claim.—1. The combination of the cylinder G, the piston H, the lever F, the weight I, the case B, the valve *g*, and the blast-pipes C D, all arranged and combined substantially in manner and for the purpose described.

2. The combination of the cylinder G, the piston H, the lever F, the weight I, the case B, the valve *g*, and the two blast-pipes C D with the exhaust-pipe E or passage of a steam-engine, and with a boiler, A, and its furnace or its chimney *a*, all being arranged and combined substantially as and for the purpose described.

3. The combination of the damper *b*, the cylinder G, the piston H, the lever F, the weight I, the case B, the valve *g*, the blast-pipes C D, and the exhaust-pipe, boiler, and furnace of a steam-engine, all being combined and arranged substantially in manner and for operation as and for the purpose as explained.

114,966.—Flour-Bolt.—Dabney N. M. Peregoy, Elizabethtown, Tenn.

Claim.—1. The arrangement of the guard or shell H upon the head of the bolt-reel, herein described, with the breakers *l l* on the strips *g g*, combined and operating in connection with the tube *c*, screw *f*, cylinder C, and chutes F F, with or without the bran-tube E, substantially as set forth.

2. The closed concave cylinder or hopper C, arranged on standards *a*, in combination with an adjustable hinged table, A, when the same is constructed and operates in the manner and for the purpose set forth.

3. The combination of the adjustable hinged table A, concave or cylinder C, bolt D, screw *f*, tube *c*, chute or chutes F, openings *h*, and keys, when operating together in the manner and for the purpose specified.

114,967.—Millstone-Dress.—Dabney N. M. Peregoy, Elizabethtown, Tenn.

Claim.—The millstone-dress herein shown, having the main leading-furrows B B and angle-elbow *c'*, as described, in combination with the parallel grooves C and discharge-furrows *f f*, all constructed and arranged substantially as described.

114,968.—Copying Colored and Defective Drawings, &c.—Isaac Rehn, Washington, D. C., assignor to himself and Norris Peters, same place.

Claim.—The application of a non-actinic transiucent tracing varnish to photographic negatives, substantially as described, and for the purposes set forth.

114,969.—Piston and Piston-Packing.—George H. Reynolds, New York, N. Y., assignor to himself, Cornelius H. Delamater, and Alexander K. Rider, same place.

Claim.—The piston-body A and removable jacket B, adapted to each other as represented, so as to allow of the convenient introduction and removal of the entire periphery of the piston with the packing thereon, as herein specified.

114,970.—Boot-Jack.—Milo A. Richardson, Sherman, N. Y.

Claim.—The boot-jack herein described, consisting of the slotted board A and the projecting pivoted legs D D for attachment to the wall, and so arranged that when raised the center of gravity of the jack will be between the wall and the pivots *d d*, substantially as specified.

114,971.—Lard Package.—John Ring, St. Louis, Mo.

Claim.—1. The described method or process of putting up lard in sheet-metal cans, namely, by coating the surface of the metal, substantially in the manner set forth, to enable the firm attachment of the outer wrapper E and the application of the said wrapper, all substantially as and for the purpose described.

2. The can A, with internal rim or flanges *a a*, in combination with the flanged cover B, secured together with an air-tight joint produced in the manner specified.

3. The combination of the can A, the flanged cover B, the inwardly-projecting flanges *a a*, the insoluble coating D, and the outer wrapping E, as and for the purposes specified.

114,972.—Preserving and Smoking Meats.—Absalom Robertson, Seymour, Ind.

Claim.—1. The within-described meat-house, composed of horizontal sheet-iron sections, the upper ones perforated and provided with suitable doors, and each such horizontal section divided into two or more sub-sections, the whole being arranged and connected together substantially as and for the purposes herein set forth.

2. The inlet-pipe A and ventilation-tube G, with valve *i*, arranged as described in the sectional meat house A B C, substantially as and for the purposes herein set forth.

114,973.—Wagon-Brake.—John J. Rose, Elmwood, Ill.

Claim.—The arrangement of the levers C, provided with ratchet *f*, pawl *g*, and winch A, with its rope *d*, arranged, with pulleys *e* and *e* of clevis B, to connect with brake A, in combination with the frame G of a hay or other wagon, substantially as shown and described.

114,974.—Grain-Separator.—Lewis C. Royer, Royerton, Ind.

Claim.—1. In combination with the cylinder and concave, the grate E, composed of flat pivoted bars, operated by means of the slide A and bars *f f*, substantially as and for the purpose set forth.

2. The combination of cylinder C, concave D, grate E, constructed as described, and straw-director S, all arranged to operate substantially as described.

3. The shaker H, composed of perforated boards *b b'*, inclined slats *d d'* arranged alternately, as shown, and toothed bars I I, substantially as and for the purpose set forth.

4. In combination with the grate E and shaker H, the grain-receiver G, formed of sheet metal, with its edges turned up, and at the rear end provided with grate E, and rake-teeth *e e'*, substantially as and for the purposes set forth.

5. The within-described grain-separator, all the parts constructed and arranged as described.

114,975.—Skinning-Knife.—Morgan Rufe, Doylestown, Pa.

Claim.—The combination of the spear-shaped knife-blade A, one or two plates, B, and one or two pieces of leather, C, all substantially as and for the purposes herein set forth.

114,976.—Sleigh-Brake.—John W. Scott, Broad Top City, Pa.

Claim.—The combination of the shaft D, eye-bolts *a*, arms *b*, bars E, crank *d*, rod G, and lever H, constructed and arranged substantially as and for the purposes herein set forth.

114,977.—Fanning-Mill.—Hurlbert H. Seeley, Hudson, Mich.

Claim.—1. The combination of the lower screen K, frame L, wheat-board M, and adjustable rod *f*, all constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the frame A with drum B and hopper C of the slotted lever G, adjusted as described, the shoe N, screens P P, chess-board R, bar *h*, and blocks O O, all constructed, arranged, and operating substantially as set forth.

114,978.—Metal-Founders' Blacking.—John Carrington Sellars, Birkenhead, England.

Claim.—The manufacture of metal-founders' blacking by adding to and mixing sea-weed, sea-grass, or sea plants with coke, charcoal, coal-dust, or carbonaceous matter, or lime, chalk, or clay, or any two or more of these together, in the manner and in about the proportions herein set forth.

114,979.—Self-Adjusting Car-Wheel Gear.—George Sewell, Brooklyn, N. Y.

Claim.—1. The bar E, having right-and-left screws *o o* and collar *p*, in combination with the wheels A A having the sockets D D, as and for the purpose set forth.

2. The clamps *m m*, with bolt *e*, and recess *w*, in combination with the axle B having the collar *l*, and the bar E having the collar *p*, as and for the purpose set forth.

3. The sockets D D, provided with the packing-boxes *h h* and screw-plugs P P, as and for the purpose set forth.

4. The wheel A, with hub B, and socket D, having screw-threads as described, so as to combine with the axle and bar E E, as set forth.

114,980.—Flour-Bolting Reel.—David Shamp, Perry, N. Y.

Claim.—The arrangement of the double bolting-cloth O and the ribs C, when the latter are inclosed within the former, as shown and described, substantially as and for the purposes described.

114,981.—Faucet or Supply-Cock.—Edwin F. Shoenberger, Philadelphia, Pa.

Claim.—The combination of the casing A, branch B having an annular projection on its inner end, an elastic tube, C, connected to said projection, and devices, substantially as described, for compressing and releasing said tube.

114,982.—Hitching-Post.—Edwin F. Shoenberger, Germantown, Pa., assignor to George K. Shoenberger, Jr., same place.

Claim.—A post having a vertical slot, *g'*, and lateral slot or slots *h*, in combination with an internal weight or block, provided with pin, which projects into the slot in the post, for the purpose specified.

114,983.—Car-Brake.—Calvin A. Smith, Jersey City, N. J.

Claim.—The car-brakes A A', the lever C, the arms *e e'*, and the springs *g g'*, all combined, arranged, and operating substantially as and for the purpose specified.

114,984.—Thrashing-Machine and Grain-Separator.—John Smith, Burlington, Wis.

Claim.—The combination, in the thrashing-machine and grain-separator herein described, of the cylinder A, endless straw-carrier C, endless rake D, the screen G, constructed as described and shown, the sieves I K, fan S, and shaft N, provided with cranks L M, all arranged to operate in the manner and for the purpose set forth.

114,985.—Apparatus for Cooling and Preserving Milk and other Liquids.—Daniel E. Somes and Frank C. Somes, Washington, D. C.

Claim.—1. A railway car or other vehicle constructed with cells in its interior, with surrounding air or packed spaces for the reception of milk-cans and other vessels, substantially as described.

2. Such car in combination with means for cooling and admitting and discharging air, substantially as described.

3. A milk-can, wholly or partially covered with some fibrous or porous substance, with means for keeping it wet, substantially as and for the purpose set forth.

4. A milk-can, with a perforated disk, constructed substantially as and for the purpose set forth.

5. A milk-can, substantially as described, having an electric rod attached thereto, substantially as and for the purpose set forth.

6. An apartment in a building, or ship, or other vessel, constructed as described, with means for keeping it cool, substantially as and for the purpose set forth.

7. A closet or apartment for milk, with the means described and shown in figs. 12 and 13 for cooling and ventilating, and for the exclusion of insects and dust, substantially as set forth.

114,986.—Adjustable Square.—Knud Steen, Rochester, N. Y.

Claim.—1. A combined folding-rule, square, and T-square, consisting of the slotted rule A, bearing-piece *h*, cross-piece B constructed of plates *b b*, and provided with openings *d e*, strip *c*, and thumb-screw *i*, all combined and arranged substantially as described.

2. In combination with the slotted rule A and divided cross-head B and bearing-piece *h*, the adjustable bow-piece *h*, arranged to operate substantially as and for the purpose described.

114,987.—Rule-Joint.—D. H. Stephens, Riverton, Conn.

Claim.—A rule-joint, in which intermediate plate C, reduced as shown and described, is combined with the plates *b* and *b'*, strengthened by disks *c c* coated with anti-friction metal and soldered to the said plates, as specified.

114,988.—Draft-Equalizer.—William Stevenson, Neponset, Ill.

Claim.—The double-chain D, arranged in combination with a draft-bar, when said chain is connected to the bar, substantially in the manner and for the purpose set forth.

114,989, antedated May 12, 1871.—Pump.—Zara T. Sweet, Tiskilwa, Ill.

Claim.—1. The arrangement of the shaft *h*, cam I, wheel H, chain *g*, and lever G, substantially as shown and described, for operating a pump by a passing train of cars, substantially as herein set forth.

2. In combination with the shaft *h*, cam I, wheel H, chain *g*, and lever G, the plunger E, pipe D, and cylinder A with its valves, all constructed to operate substantially as set forth.

114,990.—Washing and Wringing-Machine.—John Taber, South Wolfborough, N. H.

Claim.—The combination of the rollers A B, frame C D E, crank G, stirrups *b b*, springs H H, screw-hooks *d d*, and thumb-nuts *f f*, all constructed and arranged to form a clothes-wringer, and attached to a wash-tub by means of the uprights I I and pin *e*, substantially as herein set forth.

114,991.—Nut-Lock.—Samuel L. Thompson, New Waterford, Ohio.

Claim.—The link E and the forked holder F and *f*, constructed as described, and combined with the nuts E and bolts C, substantially as shown and for the purpose specified.

114,992.—Key-Fastener.—Lyman Tobey, Naples, N. Y.

Claim.—The key-fastener as described, composed of a single spring wire, bent upon itself, and one arm secured to the other by a spring-hook after it has surrounded the knob-shank and passed through the key-bow.

114,993.—Dough-Kneader.—William Tyler, Georgetown, D. C.

Claim.—The combination with the dough-trough A of the kneading-roller and auxiliary draft-rollers D and E, arranged to operate in unison, and to act alternately in such capacities, according to the direction in which they are rotated, substantially as shown and described.

114,994.—Machine for Skiving Soles of Boots and Shoes.—Henry S. Vrooman, Boston, Mass.

Claim.—1. The combination of an upper toothed or serrated feed-wheel, *e*, and a presser-plate, *k*, attached to the arm or part of the frame upon which the shaft of the toothed or serrated feed-wheel is journaled, with a lower smooth-surfaced feed-wheel and a cutter or cutters attached to the arm or part of the frame to which the shaft of the smooth wheel is journaled, but arranged to act upon the upper surface of the sole fed between the wheels.

2. The combination, with an upper and a lower feed-wheel and the presser-bar *k*, of the cutter-block to which the skiving-knife or cutter is attached, made vertically adjustable from the head or frame of the machine, substantially as described.

3. In combination with an upper and a lower feed-wheel, the edge-guide, cutter-block, and cutter, all arranged and combined so that they move vertically as one piece.

4. In combination with the feed-rolls, the cutter or auxiliary cutter-block *u* made adjustable angularly, substantially as described.

114,995.—Wagon-Brake.—Henry Walmer, Lebanon, Pa.

Claim.—1. The combination of the brake-bar C, link *b*, and the sliding bar *c* with the lever E, when arranged substantially as shown and for the purpose specified.

2. The combination of the axle B with the eye-bolt F, sliding bar *c*, semicircular piece G provided with saw-teeth, and the lever E, when all constructed substantially as shown and for the purpose set forth.

114,996.—Hydrant.—James Walsh, Philadelphia, Pa.

Claim.—1. The combination, with the vertical delivery-pipe D, of an inflexible cylinder, J, arranged below and communicating with said pipe and a piston sliding in said cylinder, and operating so as to raise the water into or draw it from the said pipe, as specified.

2. The combination and arrangement, substantially as herein described, of the operating-rod F, cylinder J, and piston K, valve-case H, and the intervening devices, consisting of the lever M, rod *g*, and arm *f*, with its spring *s*.

3. The combination, in a hydrant, of the stationary box B, detachable body A, and a delivery-pipe, D, divided near the point where the body and box are joined, and provided at said point with a slip-joint, as specified.

4. The combination, with the casing h^1, screw-cap h^2, and pipes c c', of a valve, L, having internal threads adapted to threads in the cap and operating as described.

5. The combination of the base H, detachable casing h^1, and intervening chamber c, for the purpose specified.

114,997. — Tobacco-Pipe.—William Francis Warburton, Philadelphia, Pa.

Claim.—1. A sectional pipe, divided on the line a b, as and for the purpose described.

2. The stem or holder made in two parts, the lower of which has a V-shaped channel adapted for the reception of the upper section, as specified.

114,998. — Ice-Creeper.—Mahlon Warne, Philadelphia, Pa.

Claim.—1. A creeper, consisting of a plate, A, having spikes projecting from its lower side, turned-up ends, and one or two clamps, C, with roughened faces, said clamps being arranged adjacent to the turned-up ends and operated by set-screws, as specified.

2. The clamps C, connected to the slotted plate A by screws having spiked heads or ends, as set forth.

114,999.—Machine for Pitching Casks and Barrels.—Albin Warth, Stapleton, N. Y.

Claim.—1. The cradle A, provided with bottom rollers and end rollers to support and retain a barrel or cask, substantially as described.

2. The retaining-ropes or chains F, in combination with the cask-supporting cradle and its rails, substantially as set forth.

3. The retaining hook G, in combination with the cask-supporting cradle and its rails, substantially as described.

115,000.—Lathe for Cutting Grooves in Metal Rollers.—Hervey Waters, Boston, Mass.

Claim.—1. In combination with a roll-lathe and its cutting-tool, and with means for feeding the tool to its work as the cutting progresses, mechanism for automatically moving the tool-rest up and back with its tool by means of two wedges working simultaneously upon the opposite ends of the rest, when such mechanism is constructed and operates substantially as described.

2. The combination, with a roll-lathe and its tool, of a mechanism for automatically swinging the cutting-face of the tool during its cutting action upon the roll, when such mechanism is constructed and operates substantially as described.

115,001.—Safe-Bolt.—Jacob Weimar, New York, N. Y.

Claim.—1. A set of oscillating bolts pivoted to the door of the safe, and actuated by a sliding frame, the arrangement and operation being substantially as shown and described.

2. The oscillating bolts, the actuating frame, and the sliding bolts, in combination, substantially as set forth.

115,002. — Machine for Making Cigars. John Wettstein, Baltimore, Md., assignor to himself and John T. Hennaman, same place.

Claim.—1. In combination with the groove or channel D, for containing the tobacco to be forwarded, an endless band, forming the bottom of the said groove, and a clamp, D', for holding the tobacco near the point where it is to be cut, the knife f so mounted as to move in a plane oblique to the channel D to cut the filling with tapered ends, and provided with a counter-balance to retract said knife automatically, in readiness for a new cut,

2. The combination of the lever U, treadle T, (with its connecting-rod,) and the movable upper roller T', controlled by said lever and treadle, with the fixed rollers, and endless band N, as and for the purposes set forth.

3. The hand-wheel S, constructed with projecting spokes, in combination with the endless band N and rollers P, P, L, and T', the whole being arranged for reversed or alternate movement, as and for the purposes described.

4. The combination of the wheel or drum carrying the movable band, with the recesses or cavities on the surface thereof, whereby the lower rollers are raised or depressed in the manufacture of the cigar, and the frame carrying said rollers.

115,003.—Railway Alarm for Trucks.—Francis E. Whiteside, Oxford, Pa.

Claim.—1. A railway alarm apparatus, consisting of sliding tops suspended from the trucks of the cars, and adapted for connection to the bell-cord or other alarm upon the locomotive, so that when a car gets off the track the stops shall come in contact with the ties of the road and be held stationary, while the car moves forward, to sound the alarm, substantially as herein described.

2. The sliding frame-work C C, with suitable connections, in combination with a railroad car, substantially as described, for the purpose specified.

115,004, antedated May 12, 1871.—Combined Rake and Reel for Harvesters.—John B. Whiting, Ripon, Wis.

Claim.—1. A vertically-revolving serrated or toothed wheel, in combination with the rake and reel-arms, substantially as described, for the purpose specified.

2. The combination of the arms E, serrated or toothed wheel L, and circular guide-tracks, substantially as described, for the purpose specified.

3. The combination, with the rake and reel-arms E, of the revolving guide-disk X, elevating-wheel L, and guide-tracks J, substantially as described, for the purpose specified.

4. The reel-arms E, constructed with the toes f and laterally-projecting pins g, for the purpose specified.

5. The arrangement of the arms E, spring pawl g, the weighted and pivoted cam R, guide p, and support O with relation to each other, for the purpose specified.

6. The arrangement of the shipper S, and its foot-lever and connecting-rod, with the weighted and pivoted cam R, support O, and the toes of the arms E, for the purpose specified.

115,005.—Paper for Bank-Notes, Bonds, &c.—James M. Willcox, Glen Mills, Pa.

Claim.—A combined sensitive and special paper, prepared substantially in the manner herein described, and for the purposes set forth.

115,006.—Shuttle for Looms. — Daniel Wright, Waltham, Mass., assignor to Orlando A. Kneeland, same place.

Claim.—The combination, with the spindle a, of the guide-block e, guides l l, hinge b, and spring i, for the purposes as herein fully set forth and described.

115,007.—Self-Locking Screw-Bolt for Safes.—Charles O. Yale, New York, N. Y.

Claim.—A self-locking screw-bolt for safes, as herein described, constructed, applied, and used, substantially as and for the purpose specified.

115,008.—Hammer. — Gottlieb M. Young, El Paso, Ill.

Claim.—The spring clasp or holder B, as constructed and arranged in the dovetail recess C, as herein described, in combination with the projecting face D of the hammer, substantially in the manner and for the purpose as herein shown and set forth.

115,009. — Machine for Cutting Screw-Threads on Bolts.—Orlando P. Briggs and Lewis W. Briggs, Chicago, Ill.; said Orlando P. Briggs assignor to Lewis W. Briggs.

Claim.—1. The combination of the jointed shafts B B', gear-wheels J and P, mechanism to rotate said wheels in opposite directions, pinion n, bolt-holding shafts M, and revolving series of screw-threading dies, substantially as described.

2. In combination with the gear-wheels, pinions, and bolt-holding shafts set forth in first claim, the spring levers N, arm X, and lug l, substantially as described.

3. The combination, with a revolving series of rotating bolt-holding devices, of the revolving disk C, series of screw-threading dies E E', hooks F, pins h, and lugs g g', substantially as described.

4. In combination with the subject-matter of the third claim, the arms p p for supporting the bolt-blank, substantially as described.

5. In combination with disk C, the annular tube W, tubes V u u', and cask T, the whole arranged as described for lubricating the bolt, substantially as specified.

REISSUES.

4,379.—Horse-Power. — Hiram Aldridge, Elizabethtown, N. Mex., assignor, by mesne assignments, to Cornelius Aultman, of Canton, Ohio.—Patent No. 68,829, dated September 17, 1867.

Claim.—1. In combination with the rear axle of a horse-power mounted upon four wheels, the braces or triangular frame P for holding said axle to the ground, applied in such manner that they can be turned up into a vertical or nearly vertical position for transportation, substantially as described.

2. In combination with the transporting wheels of a portable horse-power, locking devices for locking the wheels to the carriage or truck for the purpose of preventing them from turning upon their axles, substantially as described.

3. Locking devices applied to the front axle of a four-wheeled portable horse-power to prevent said axle from turning when the power is in operation, substantially as specified.

4. The construction and arrangement of the pinion-shaft J, whereby it is adapted to receive a coupling-shaft upon either end, as set forth.

5. The ring E, adapted to support the master-wheel, substantially as set forth.

6. In combination with a portable horse-power, an auxiliary transporting frame, which can be moved out of the way of the sweeps when the power is in operation.

7. In combination with a mounted horse-power, a tie or ties arranged at the side of the machine for the purpose of preventing it from being overturned, substantially as set forth.

8. In a mounted horse-power, a tie or ties arranged at the side of the machine for the purpose of preventing it from being overturned, in combination with a brace or braces which support it (the machine) against the thrust or twisting strain imparted by the horses.

9. The combination of the line-shaft J with the frame of the machine by means of open-bottomed hangers, which permit said shaft to be readily removed without disturbing the other parts of the gearing.

4,380.—Grinding and Amalgamating Ores. Thomas Bates, Central City, Colorado Ter.—Patent No. 102,476, dated May 3, 1870.

Claim.—1. The continuous process of pulverizing, scouring, and amalgamating the tailings of an ordinary battery by means of the grinding-mill E F and amalgamator H, connected by suitable spouts to each other and to the battery, substantially as herein set forth.

2. The combination of the table or spout A, grinding-mill E F, table G, amalgamator H, stirrer I, when constructed, arranged, operated, and adapted for application to use with a battery, all substantially as specified.

4,381. — Fabric for Head-Covering. — Charles F. Bosworth, Milford, Conn.—Patent No. 38,806, dated June 9, 1863.

Claim.—As an article of manufacture, a fabric for head-coverings, made of straw or equivalent braid, united by a series of stitches, substantially such as herein described.

4,382.—Pulley Attachment for Raising Weights.—George W. Gregory, New York, N. Y.—Patent No. 57,125, dated August 14, 1866; antedated February 14, 1866; reissue No. 2,784, dated October 22, 1867; reissue No. 2,939, dated May 19, 1868.

Claim.—1. A pulley-supporter so constructed as to be placed in position substantially in the manner described.

2. The said adjustable pulley-supporter, having sockets or their equivalent, for the purpose specified.

4,383.—Cultivator.—Thomas McQuiston, Morning Sun, Ohio.—Patent No. 25,843, dated October 18, 1859.

Claim.—1. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz., two wheels, E, tongue D, axle B, and two plow-beams, A A, each beam carrying a handle and one or more shovels or plows, and independently connected or hinged by brackets C to the axle, so as to permit of their being raised or lowered independently or moved laterally by the handle, as set forth.

2. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz., two wheels, E, tongue D, axle B, two plow-beams, hinged as aforesaid, and rear connecting-shackles or links F, all operating in combination, substantially as and for the purpose set forth.

3. The plates H, interposed between the shares G and standards a', for the purpose set forth.

4,384.—Process of Seasoning Lumber.—Henry H. Beach, Rome, N. Y.—Patent No. 107,854, dated October 4, 1870.

Claim.—The process which consists in subjecting wood to the action of confined steam under a pressure, and for a time sufficient to produce the effects substantially as herein set forth, and then withdrawing it from the action of the confined steam before such action perceptibly injures the quality of the wood.

4,385.—Lamp-Wick Feeder.—George Cade, Long Branch, N. J.—Patent No. 101,427, dated April 5, 1870.

Claim.—1. The combination, with a wick-tube, of a toothed sliding wick-feeder and operating-lever, G, substantially as specified.

2. The arrangement of the sliding wick-feeder C within the slotted wick-tube, in combination with the operating-lever G, substantially as described.

4,386.—Base-Burning Stove.—William J. Keep, Troy, N. Y.—Patent No. 101,368, dated March 29, 1870.

Claim.—1. A fuel-chamber or fire-pot having grated sides N, a solid ring, M, at its lower end, and a horizontal grate, O, placed within or immediately beneath the latter, when said chamber is capable of being shaken independent of said grate O, substantially as and for the purpose specified.

2. A fuel-chamber or fire-pot having its sides composed of a series of bars so pivoted at their ends as to permit the sides of said chamber to move in a horizontal plane, substantially as and for the purpose set forth.

3. A circular basket-grate having its rear side closed or occupied by a fine, so as thereby to cause a greater consumption of fuel and radiation of heat

from the front side than from its rear side, substantially as set forth.

4. A fuel-chamber, composed of a basket-grate, N, a horizontal grate, O, and a solid ring, M, when the latter is arranged with reference to said grate O, substantially as and for the purpose specified.

5. In combination with the bars N, the ring M, attached to and connecting together their lower ends, substantially as shown and described.

6. The means employed for giving to the bars N a reciprocating lateral movement, consisting of the ring M, connected with the lower ends of said bars, and resting within or upon suitable supports so as to be capable of a semi-rotary motion-horizontally, substantially as specified.

7. In combination with the horizontally-moving ring M, the vertically-revolving grate O, substantially as and for the purpose set forth.

8. In combination with the shaking-grate N, the stationary ring N', substantially as and for the purpose described.

9. In combination with the shaking-grate N, constructed as described, the mica section P and the chamber P', substantially as and for the purpose shown.

10. The air-passage P', in combination with the fuel-chamber, composed of the shaking side grate N, the rings M and N', and the grate O, substantially as and for the purpose specified.

11. In combination with the magazine E, the horizontally-shaking grate N and the stationary grate O, substantially as shown and for the purpose set forth.

12. The descending-flue L, situated at the rear of the fuel-chamber within the casing, and with its upper end above the lower end of the magazine, the side bottom flues G connected with said flue L, and inclosing the sides of the ash-pit, and the ascending-flue I placed parallel with but separate from said flue L, when constructed and combined substantially as and for the purpose specified.

13. The straight upper section A, inclosed at its upper end by the top plate D, the mica sections P and Q separated by the solid strip p, the solid cylinder A', the projecting upper and lower plates B and B', respectively, and the side C, when inclosing and combined with the fire-chamber, exit, and base flues, substantially as and for the purpose specified.

14. A downward flue having its upper end above the mica windows placed opposite or above the fire, so as to cause the heated escaping products of combustion to take the same upward direction whether the direct or downward draught is used, substantially as shown and for the purpose described.

15. The handle T, pivoted within the end r' of the drawer R, and within the cross-bar S, extending transversely across said drawer, substantially as shown and for the purpose described.

16. The employment of a sliding or swinging end to an ash-drawer, substantially as shown and for the purpose specified.

4,387.—BASE-BURNING FIRE-PLACE HEATER.—David Stuart and Lewis Bridge, Philadelphia, Pa., assignors to David Stuart and Richard Peterson.—Patent No. 79,275, dated June 23, 1868; reissue No. 3,608, dated August 17, 1869.

Claim.—1. The base of the stove inclosing the passages E, F, and G, arranged and communicating with pipes or passages P and P', substantially as described.

2. Two or more pipes or passages, P and P', arranged within the outer casing of a fire-place stove for conveying the products of combustion to the chimney and for heating the air admitted to the space within the said outer casing, all substantially as and for the purpose herein set forth.

3. The said pipes or passages P and P', in combination with the compartments k and k' and the valved partition between the same.

4. The double cover, consisting of plates 2 and 3, one for fitting to the top of the stove and the other to the top of the feeder, and so arranged that the products of combustion can pass between them.

5. In a fire-place stove, a valve or damper, 10, arranged, substantially as described, so as to direct the heated air into the passage leading to an upper room or rooms, or to exclude the heated air from the said passage and direct it across the top of the stove into the room containing the latter, substantially as set forth.

DESIGNS.

4,903.—SASH-HOLDER.—Edwin C. Hiester and Gabril O. Hiester, Reading, Pa.

Claim.—The design for a metallic sash-fastener, as shown.

4,904.—RUBBER ERASER.—Samuel D. Hovey, Brooklyn, N. Y.

Claim.—The design for a rubber eraser, as herein shown and described.

4,905.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild, New York city.

Claim.—The design for a carpet, as shown.

4,906.—ORNAMENT FOR FOUNTAIN.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate "ivy superimposed," for ornamentation of fountains and vases.

4,907.—ORNAMENT FOR FOUNTAIN.—Jonathan Moore and William Wilkinson, Brooklyn, N. Y., assignors to Jonathan Moore and A. Horton, same place.

Claim.—The design herein shown, which we may denominate "long-leaf superimposed," for ornamentation of fountains and vases.

4,908.—CARPET-PATTERN.—Edward Perrin, Kidderminster, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,909.—CARPET-PATTERN.—Edward Perrin, Kidderminster, England, assignor to Joseph Wild, New York city.

Claim.—The design for a carpet, as shown.

4,910.—COOKING-STOVE.—John R. Rose and Edward L. Calely, Philadelphia, assignors to Orr, Painter & Co., Reading, Pa.

Claim.—The design for cook-stove, as shown and described.

4,911.—BRACELET.—Daniel H. Smith, Attleborough, Mass.

Claim.—The design or pattern, as shown in cross-section in fig. 4, of the two parts composing each portion A.

4,912.—CLOCK-CASE.—Walter L. Tyler, Bristol, Conn., assignor to the E. N. Welch Manufacturing Company, same place.

Claim.—The design for a clock-case, substantially as shown and described.

4,913.—BEDSTEAD-FASTENING.—Nehemiah C. Whitcomb, Oak Hill, N. Y.

Claim.—The flange a, having the series of cam on its edge, combined with the plate b, projecting therefrom at right angles, and having the tapered dovetail groove upon its face, to form a new design in bedstead-fastenings.

4,914.—CARPET-PATTERN.—George Curtis Wright, New York, N. Y.

Claim.—The design for carpet, as shown.

4,915.—JELLY GLASS.—James S. Atterbury and Thomas B. Atterbury, Pittsburg, Pa.

Claim.—The design for a jelly-glass, as shown.

TRADE-MARKS.

254.—CHURN.—Porter Blanchard's Sons, Concord, N. H.

255.—METALLIC PAINT.—F. G. Bourke & Co., New York, N. Y.

256.—FLOUR, &c.—H. C. Cole & Co., Chester, Ill.

257.—STOMACH-BITTERS.—James Demarest, New York, N. Y.

258.—GENTLEMEN'S FURNISHING GOODS.—Albert W. W. Miller, New York, N. Y.

259.—ALPACA.—William I. Peake, New York, N. Y.

260.—MOHAIR.—William I. Peake, New York, N. Y.

261.—MOHAIR.—William I. Peake, New York, N. Y.

262.—SCISSORS.—Robert J. Roberts, New York, N. Y.

263.—LINIMENT.—John Schember, Bangor, Me.

264.—BOOTS AND SHOES.—Henry Elmer Townsend, Boston, Mass.

265.—BOOTS AND SHOES.—Henry Elmer Townsend, Boston, Mass.

EXTENSIONS.

ARCHIBALD H. ROWAND, of Allegheny City, Pa.—Letters Patent No. 17,299, dated May 12, 1857.

"Improvement in Binding Books."

Claim.—1. The combination of the rollers in the groove or book-carriage, as applied to books to aid in moving them in their racks in a vertical position.

2. The application of the spring as above described and used in compressing the extremities of the arch of the head-band, and thereby causing said head-band to maintain a circular or arch-like form, by means of which the leaves of a folio or book are kept from drooping or sagging when the book is in a vertical position; this spring I use according to convenience or choice, either applied on the outside of the outer back, or next to the head-band, or inclosed between the outer and inner backs.

ANN M. RODEFER, of Springfield, Ohio, administratrix of JOSEPH RODEFER, deceased.—Letters Patent No. 12,693, dated April 10, 1855.

"Improvement in Bedstead-Fastenings."

Claim.—The circular split ring, let into a segmental annular mortise in the rail, from which its upper end projects in the form of a hook, and its lower end in form substantially as described, permitting the passage of the catch pin in the act of insertion, affording an additional lateral bearing, and a means of adjustment, as described.

DISCLAIMERS.

WILLIAM WESTLAKE, JAMES F. DANE, and JOHN P. COVERT, assignees of WILLIAM WESTLAKE, all of Chicago, Ill.—Letters Patent No. 42,520, dated April 26, 1864; reissue No. 3,747, dated November 23, 1869.

"Lantern."

(Filed April 29, 1871.)

Disclaims:

"The lantern-guard a, constructed entire, without hinge or joint, so that, as a whole, it can be readily attached to or removed from the lantern, as set forth."

PLASTIC SLATE ROOFING JOINT STOCK COMPANY, of New York, N. Y., assignee of WILLIAM L. POTTER, of Newark, N. J. Letters Patent No. 46,495, dated February 21, 1865; reissue No. 2,684, dated July 16, 1867.

"Improved Composition for Roofing and for other Purposes."

(Filed May 8, 1871.)

Disclaims:

"Covering the sides of buildings, boat-decks, boat-bottoms." "Any suitable glutinous or viscous material, such as" "oil, paint, &c.," "when used for covering the sides of buildings, boat-decks, boat-bottoms, &c., the mixture should be of the consistency of thick paint, and may be applied with a paint or roofing-brush."

ISSUE OF MAY 23.

PATENTS.

115,010.—FOLDING SETTEE.—William C. Adams and William B. Mayhew, West Tisbury, Mass.

Claim.—The hinged back E F G and flexible straps H, combined with flexible seat A, rails D D', and legs B, constructed and arranged together substantially in the manner described.

115,011.—ANCHOR.—Alfred B. Babbitt, Taunton, Mass.

Claim.—1. An anchor, having a wrought-iron shank and cast-iron flukes, for the purposes specified.

2. The slot e, arcs h and i, and engaging edges j, when combined and arranged substantially as and for the purposes specified.

3. The arc h and stops or fulcrums g, when combined and arranged to operate substantially as and for the purposes specified.

4. The knife-like edges j, when formed to extend beyond the sides of arcs h and i, substantially as and for the purposes specified.

115,012.—DOOR-SECURER.—Benjamin F. Baer, Lancaster, assignor to Samuel S. Weist, Schoeneck, Pa.

Claim.—The combined arrangement of the floor-plate B with its hook end b, wedge-plate A a with its ends D, in combination with the spring-bolt E F S, all constructed and operating jointly, substantially in the manner and for the purpose set forth.

115,013.—ROOT-CUTTER FOR PLOWS.—John W. Baker, Elkton, Md.

Claim.—The sickle-shaped opening I, when combined with the revolving cutters B, when constructed in the manner and for the purposes substantially as set forth.

115,014. — HEATING-STOVE. — Frank Barclay, Aurora, Ill.

Claim.—1. The revolving sleeve *d* provided with one or more slots, *e*, in combination with the pipe D provided with one or more inclined slots or openings, *e*, substantially as and for the purposes specified.

2. The combination of the revolving sleeve *d* provided with one or more slots, with the pipe D provided with one or more inclined slots or openings, *e*, the radiating-chamber C, flame-chamber B, and fire-grate A, substantially as specified.

3. The combination of the corrugated back *a* and lining *b*, constructed as described, with the chamber B, radiating-chamber C, and slotted pipe D, substantially as and for the purposes specified.

115,015. — VAPOR-BURNER. — William E. Bartlett, Newburg, N. Y.

Claim.—1. The cap A, tubes G, cap H, and the burner I, constructed and arranged substantially as specified.

2. The arrangement of the orifices N and O in the burner in the order specified.

3. The combination, with the burner-tubes and cap A, of the attachment B, adapted for connecting said burner to gas-pipes, substantially as specified.

115,016.—WAGON-TONGUE SUPPORT.—William Beers, Milan, Ohio.

Claim.—1. The segment or slotted standard E, as arranged in relation to and in combination with the tongue D, substantially in the manner as and for the purpose set forth.

2. The tongue D, when constructed with the lugs K, head I, and neck J, and arranged in combination with the segment E and journal-seats H, in the manner as and for purpose set forth.

115,017.—SEASONING WAGON-HUBS.—August Benninghofen, Hamilton, Ohio, assignor to Benninghofen, Northrup & Co., same place.

Claim.—The process of seasoning hubs by coating them with a viscous material which will harden and will completely close the pores of said hubs.

115,018.—COOLING APPARATUS FOR BEER, ALE, &c.—Theodore Bergner and Siegmund Zeisse, Philadelphia, Pa.

Claim.—In combination with a compartment or series of compartments, A, communicating with an ice-chamber, C, as described, the openings *g g*, provided in the top of compartment A, and located within the circular joints formed with the barrels, in the manner and for the purpose set forth.

115,019. — ADJUSTABLE RULER. — Edward Bostock, Philadelphia, Pa.

Claim.—The combination of the straight-edge, graduated scale-plate, protractor, and swinging-arm, with its adjusting-screw and nut, the whole forming an adjustable parallel and angular ruler, when the same is made and operated substantially as specified.

115,020.—FLAX-THRASHING AND SEPARATING-MACHINE. — James Boyce, Muncie, Ind.

Claim.—1. The combination of two or more sets of rolls, A B, constructed and operated as described, fluted roll M, concave L, and guide-boards N, all arranged as and for the purpose specified.

2. The combination and arrangement, in a flax-thrashing machine, of the breaking-rolls A B, elevator D, crushing-roll M, guide-boards N, concave L, riddle O, and fan P, substantially as and for the purpose specified.

115,021.—STOVE-GRATE.—Pardon Boyden, Amsterdam, N. Y., assignor of one-half his right to Oscar F. Nelson, same place.

Claim.—1. A centrally-bisected grate, hung below its journaled bearings, as described, so that both sections of the grate can be dumped without removing the bearings, upon which it is lifted, from their positions, substantially as herein set forth.

2. The combination of the semicircular bar-gates A A, knee-shaped bearings B B, levers B′ B′, and circular frame or rim C, all constructed and arranged to operate substantially as and for the purposes herein set forth.

115,022. — PULLEY-BLOCK. — George C. Brown, Brooklyn, N. Y., assignor to Eugene E. Cornell, same place.

Claim.—The arrangement, in a pulley-block, of the spring G, pawl D, and eye F, as and for the purpose specified.

115,023.—SPITTOON. — Samuel G. Cabell, Washington, D. C.

Claim.—1. A spittoon, having a hinged cover, with its body A extending down below its bottom B, and mounted on casters or rubber-tipped feet, substantially as described.

2. The cover provided with the lugs *e*, arranged to shut against the rubber pads *f*, as shown and described.

115,024. — EARTH-CLOSET. — Robert Alex. Cannell, New Orleans, La., assignor to himself and S. P. Parmly, same place.

Claim.—1. The case D and valve E, arranged and operating substantially as specified, and actuated by the falling-and-rising movement of the rear edge of the seat, the latter being actuated by the weight of the person in both directions, or in one direction, thereby, and by weights or springs in the other, substantially as specified.

2. The combination, with the seat pivoted at the front, of the foot-board O and connecting-levers or bars arranged for lifting the said seat by the weight applied to the foot-board, substantially as specified.

115,025.—COMBINED STOVE-PIPE DAMPER AND SHELF.—Edward H. Clinton and William H. Lavinia, Chicago, Ill.

Claim.—1. The ring or band A when provided with the opening *m*, in combination with the damper A when provided with the piece *i*, when the several parts are arranged to operate substantially as and for the purpose specified.

2. The band A having openings *m n*, in combination with the damper A having attached thereto a cut-off, *i*, and a register to close the opening *n*, all constructed and arranged to operate substantially as and for the purposes set forth.

3. The combination of the band A provided with the opening *m*, and the damper A provided with the piece *i*, with the shelf B and bars *c d e*, substantially as and for the purpose specified.

115,026.—COMBINED HARROW, ROLLER, AND SEED-PLANTER.—Robert J. Colvin, Lancaster, Pa.

Claim.—1. In a combined harrow, roller, and two-row seed-planter, the arrangement of the frame A A′ B B¹ B² B³ B⁴, with its device M N, lever L, hooks Z Z to adapt it for the attachment of a harrow, R′ T, with its spring S, connecting-rod K, and chains V, as also for the application of the sectional roller E E′ E, forming a combined harrow and roller, substantially in the manner shown, for the purpose specified.

2. In combination with the frame A A′ B B¹ B² B³ B⁴, with its devices S O *p′* P and *l m n* H, its adaptation for the hopper *h o*, shovels *t*, yoke *p*, and seeding devices *d e f*, in combination with the outer sections E of said roller, operating in the manner and for the purpose set forth.

115,027.—APPARATUS FOR HEATING AND LIGHTING LOCOMOTIVES AND RAILROAD CARS BY GAS. — Joseph H. Connelly, Wheeling, W. Va.

Claim.—1. In the gas-producer herein described, the water-chamber W, substantially as and for the purpose set forth.

2. The flexible pipe-coupling *e* D, made of gum or duck and lined within with asbestus cloth, substantially as and for the purpose set forth.

3. The producer Y Y, gas-pipe D, locomotive fire-chamber B, and locomotive-stack N, substantially as and for the purposes set forth.

4. The producer Y Y, heat-pipe F, and heat-pipe or pipes S, substantially as and for the purposes set forth.

5. Producing-chambers Y Y and gas-pipe E, substantially as and for the purpose set forth.

115,028.—APPARATUS FOR THE MANUFACTURE OF GAS FOR HEATING AND ILLUMINATING.—Joseph H. Connelly and John McLure, Wheeling, W. Va.

Claim.—1. In the producer A, herein described, the air-chamber and ash-pit *f f*, and grate-bars H and I, substantially as and for the purpose set forth.

2. In the gas-condenser P P, the open end 4 and extended seal 5, substantially as and for the purpose set forth.

3. The refractory gas and air-pipes R and S, in connection with the gas and air-tubes or apertures marked "gas" and "air," substantially as and for the purposes set forth.

4. The producer A, gas-pipe K, steam-exhaust pipe *g g*, water-pipe h h, condenser P P, and the gas and air-pipes R and S, substantially as and for the purposes set forth.

5. Condenser P P, gas-pipe L, water-pipe 5, condenser W, and purifier V V, substantially as and for the purpose set forth.

115,029. — CEMENT-PIPE MOLD. — David Copeland, Jr., Rochester, N. Y.

Claim.—1. The mold-case B when provided with the recess *a*, the main core A, and the branch core *b*, all constructed and combined together, substantially as and for the purposes set forth.

2. In combination with the detached branch core *b* and socket *a* in the mold-case, the guiding-stop *c*, operating substantially as set forth.

115,030.—MACHINE FOR MOLDING DRAIN AND SEWER-PIPES. — David Copeland, Jr., Rochester, N. Y.

Claim.—1. In combination with a mold-case, D, and a suitable central core E, an annular rammer, C, arranged to be operated by power, for the purpose set forth.

2. In combination with an automatically-retreating mold-case, D, a vertically-removable core, E, and a reciprocating rammer actuated by power, arranged to be operated substantially in the manner herein set forth.

3. In combination with a reciprocating rammer, C, the mold-case D, when arranged to retreat at and by the reciprocation of said rammer, for the purposes set forth.

4. In combination with the mold-case D and a reciprocating rammer, the vertically-adjustable supporting-frame B and counter-weights *k*, operating substantially as described.

5. The combination of a core provided with a conical extremity within the mold-case, and a regularly-reciprocating annular rammer, whereby the material is distributed and received under the latter, substantially in the manner set forth.

6. In combination with the vertically-adjustable mold-frame B, case D, and counter-weights *k*, the ratchets *m* and pawls *n*, for the purposes set forth.

115,031.—FURNACE FOR ROASTING METALLIC ORES.—Francis W. Crosby, Washington, D. C.

Claim.—1. The wooden or iron rods for the purpose of making flues or openings through a mass of pulverized ore.

2. The perforated floor, by which the flues in the ore are made to communicate with the fire-places.

3. The guides for retaining the rods in position while the charge is being put in.

4. The iron or clay disks for controlling the heat.

5. The combination of these devices, for the purposes herein set forth.

115,032.—MEDICINE FOR COUGHS, COLDS, &c.—Charles P. Crossman, West Warren, Mass.

Claim.—The medicine above specified.

115,033.—CULTIVATOR-PLOW.—David Culver, Kingston, Pa.

Claim.—The double mold-board A A, concaved to turn a flat furrow on each side, and horizontally edge-flanged at the bottom to run under outlying tubers of the potato-plant, as described.

115,034. — WAGON-SIDE BRACE.—Thomas Henry Daniels, Anderson, Ind.

Claim.—The brace D and the bar E, combined and arranged substantially as and for the purposes herein shown and described.

115,035. — LANTERN-GLOBE HOLDER.—Joseph S. Dennis and Willoughby F. Kistler, Chicago, Ill.

Claim.—1. The combination of the globe D, plate or flange *d*, and tubes B with a device for holding the globe in place when said device is attached to the tube B, and engages the globe at two or more points of the circle of its upper edge, substantially as specified and shown.

2. The device for a lantern-globe holder shown, consisting of the arms E E, with hooked ends *e e*, spring-lever F, hinge *b*, and catch *f*, all combined and arranged substantially as specified and shown.

3. The combination of the globe-holder and tube B, when said globe-holder is hinged to the tube, substantially as specified and shown.

115,036.—FEEDING MECHANISM FOR SEWING-MACHINES.—Philip Diehl and Ludwid Oehring, Chicago, Ill.

Claim.—The combination of the feed B with the toggle-levers D E, slide C, and rock-shaft G, all arranged to operate substantially as herein shown and described.

115,037. — COMBINATION-LOCK.—John W. H. Doubler, Darlington, Wis., assignor to himself and W. Logue, same place.

Claim.—1. The spring-bolt A B, tubes C and D, the tubular recessed and fixed blocks L, perforated toothed wheels *d*, and spring D′, combined and operating substantially in the manner described.

2. The combination, with the wheels *d*, of the racks *g*, sliding knobs, and the index-plate, substantially as specified.

115,038, antedated May 10, 1871.—DOOR-STOP. — Michael V. Doyle and Jacob Behel, Rockford, Ill.

Claim.—1. The combination of the pointed bolt D, spring *e*, and projection C, with its double inclines and staple E, all as described.

2. The combination of the socketed staple E, the adjustable plate F, and elastic cushion *m*, all as and for the purpose hereinbefore shown and described.

115,039. — MACHINE FOR MAKING AND BREAKING CONFECTIONERS' PASTE AND OTHER MATERIALS.—Robert Duff, New York, N. Y.

Claim.—1. The adjustable reversible rollers C C, working through the tables B B, in a machine for breaking paste or plastic materials, substantially as described.

2. In a machine for breaking or rolling paste, the double and single-edged adjustable scrapers F F, lined with felt *n*, substantially as described.

3. In a machine for breaking paste or plastic materials, the combination of the adjustable reversible rollers C C and approximated tables B B with the double and single-edged adjustable scrapers F F, lined with felt *n*, substantially as described.

115,040.—HANDLE-FASTENING FOR BROOMS, BRUSHES, &c.—Elijah F. Dunaway, Cincinnati, Ohio.

Claim.—The herein-described handle-connection for brooms, &c., composed of the disk B, constructed with a spike, *b'*, upon one side and a screw-threaded shank, *b*, upon the other, and the disk C, formed with one or more internally screw-threaded sockets, *c'*, substantially as and for the purpose set forth.

115,041. — INKSTAND. — Thomas Duncan, Brookville, Md.

Claim.—The combination of the cover vibrating vertically on a hinge on the inkstand, the counterbalance vibrating on a hinge on the cover of the inkstand, and the pen-socket C, mounted on the hinged top, all these being constructed to operate as hereinbefore set forth, automatically to open and close the inkstand by the mere act of removing or replacing the pen.

115,042. — REVERSIBLE CRIB.—Albert E. Eaton, Portland, Me.

Claim.—The reversible crib, as described—that is, combining the rails *a*, fastenings *b d*, and rockers *c*, all to operate as herein set forth.

115,043.—SPRING FOR BED-BOTTOMS.—Manasseh W. Farber, Mount Pleasant, Iowa.

Claim.—1. The combination, with the frame A, of the springs B, bars D, blocks E G, plates F, bolts H, cross-pieces I, and the spring bars K, substantially as specified.

2. The combination, with the above, of the frame N and adjustable braces Q, substantially as specified.

115,044.—FOLDING OR TUCK-LAYING DEVICE FOR SEWING-MACHINES.—Thomas Manchester Farrand, Skowhegan, Me.

Claim.—The slotted plate A having ledge D, extension A', and thin end E, the plate F having hook M, and the slotted plate P having shoulder Q, all combined, constructed, and arranged, as and for the purpose specified.

115,045. — LAMP-WICK. — John Farrell, Brooklyn, N. Y.

Claim.—The lamp-wick, made with a capillary cord extending from its lower end, as a new article of manufacture.

115,046. — CORN-HARVESTER. — Delos C. Flint, Bardolph, Ill.

Claim.—The combination of the husking-rollers E E', guide-apron S, carrying-belts *e*, *f*, and *g*, delivering-elevators T T', the whole arranged to operate in connection with the sickle, substantially as and for the purpose described.

115,047.—CREVICE-SEARCHER AND CLEANER FOR OIL-WELLS.—William Forker, Rockland, Pa.

Claim.—The shaft A provided with flexible scarbers *l*, spring *k*, collar *m* combined with the casing or sheath, consisting of the parts C D, cap A, and bottom piece B, all constructed, arranged, combined, and operating substantially as hereinbefore described, and for the purpose set forth.

115,048, antedated May 9, 1871.—CORDING ATTACHMENT FOR SEWING-MACHINES.—William Henry Fowler and William Pettingell, Painesville, Ohio, assignors of one-third interest to Louis Freitag.

Claim.—The cord-guide H, with its groove *f* and rounded end *i*, in combination with the gauge G, slotted slide *d*, clips A and *c*, and presser-foot F, substantially as and for the purpose hereinbefore set forth.

115,049.—MOLDER'S SLICKER.—William J. Fryer, Jr., New York, N. Y.

Claim.—The slicker herein described, having parallel ridges *a* on its face, adapted to produce smooth fine ridges on the surface of the mold, as herein set forth.

115,050.—SELF-COUPLING DRAW-HOOK AND BUFFER.—Perry G. Gardiner, New York, N. Y.

Claim.—1. The combination of the draw and buffer-rod with the peculiarly-constructed sliding and vibrating sleeve or buffer-head A, arranged upon the rod and shoulder of the hook, in connection with the buffer-spring, so as to maintain a constant elastic buffer pressure between the cars, constructed, arranged, and operating substantially as described.

2. The combination of the buffer-head or sleeve with the springs *g* and *f*, arranged upon the rod as draw and buffer-springs, constructed and operating substantially as described.

115,051.—MANUFACTURE OF GLUCOSE SIRUP AND SUGAR. — Jean Jacques Grosheinz, Logelbach, France.

Claim.—Manufacturing glucose sirup and sugar by the use of acids in combination with alkaline bases, which, by combining with the acids, will produce soluble salts, as herein set forth, and which soluble salts may, without inconvenience, remain in the substances that have been operated upon.

115,052.—HARVESTER-RAKE.—James Harris, Janesville, Wis.

Claim.—1. The combination of the following elements, i. e., an independent hub revolving about a vertical center, a cam-way, a rake-carrying arm, and a stop device for preventing the backward movement of the rake upon the cam-way, all the parts operating substantially as described.

2. The combination of the hub F, the rake-arm *f*, and the spring *g*, all constructed and operating substantially as described.

3. The combination of the guard-arm *d*' with the lever operating the clutch mechanism, and with the rake-carrying hub, the parts being constructed and operating substantially as described.

4. The combination of the bevel gear mechanism, consisting of the sleeve J, wheel I with its socket, and gear-wheel K, with the reel and vertically-revolving shaft, the shaft and gear mechanism being adapted to support the inner end of the reel, as described.

5. The combination and arrangement of the lever *d*' and its connections, the former having its point of connection with the treadle located in line with the pivots that unite the cutter-bar to the main frame, in order that the foot-treadle which operates the lever may not change its position relatively to the foot of the driver when the bar is adjusted for high and low grain, substantially as described.

115,053.—FRONT-FALL FOR PIANOS.—Azaria Horace Hastings, New York, N. Y.

Claim.—The lid or front-fall C of an upright piano, made box-shaped, with the ledges *b*, *c*, and *d*, of which one constitutes the music-holder, as set forth.

115,054. — INVALID BEDSTEAD. — William Heath, Bath, Me.

Claim.—1. The leg-frame levers or lifters F F, as arranged on and pivoted to the outer sides of the main frame A, and extended underneath and against shoulders *e* of the back-frame E, and connected with such back-frame, all substantially as described.

2. The toothed stop-board G and its spring *m*, combined and arranged with the main frame A and the back-frame E, and its depending toothed bars H, in manner and so as to operate as described.

115,055. — CORN-HARROW. — George Hill, Galva, Ill.

Claim.—The combination of hinges B B', when constructed and attached as described, drag-bars A A A A, rods C C', chains or rods D D', swaybar E, and handles F F', the whole constructed and arranged to operate substantially in the manner and for the purpose described.

115,056.—CONSTRUCTION OF HOLLOW VESSELS.—William F. Holske, New York, N. Y., assignor to himself and A. E. Beach, same place.

Claim.—1. In the construction of hollow vessels, the combination of the girdles B and the clamping-rods C with the bars or staves *a*, substantially as described.

2. The valve D, constructed and operating as described.

115,057.—RIDING-PLOW.—Benaiah C. Hoyt, Fort Atkinson, Wis.

Claim.—1. The single pivoted lever D, slotted disk A, and wheel G, all combined as described, for the purpose specified.

2. The bracket K, hub H, and shaft B, all combined as described, for the purpose specified.

115,058.—MOTOR-MACHINE.—Isaac G. Hubbard, Nokomis, Ill.

Claim.—In combination with the axle *b*, provided with toothed wheel *d*, spring, pawl, and ratchet *e f*, and *g*, cord *p*, weight *q*, and pulley *o*, or the spring described, and the shaft *c*, provided with the pinion-wheel *h*, band-wheel *i*, and fly *l*, arranged as described, and for the purpose set forth.

115,059.—LANTERN-GLOBE HOLDER.—John H. Irwin, Philadelphia, Pa.

Claim.—The lantern-globe holder, consisting of the encircling wire J, rigidly attached to the cap G at one side, and having at the other the part *p*, by which it may be operated, substantially as and for the purpose specified.

115,060.—CASTER FOR SEWING-MACHINES. Harry Jones, Richmond, Ind.

Claim.—The shoe A, provided with the slot for the toe and a set-screw, the latter being so arranged as to operate against the key *c*, or inside of the leg, as described, and for the purpose set forth.

115,061.—CHECK-HOOK AND TERRET FOR HARNESS.—William V. Kay, Chicago, Ill.

Claim.—The harness-terret A and hook A', each cast or made of one and the same piece of metal, and provided with the mortice D, having outer bars C C', substantially as and for the purpose described.

115,062. — HARNESS PAD-TREE.—William V. Kay, Chicago, Ill.

Claim.—1. The yoke A, provided with a stirrup, B, substantially as and for the purpose described.

2. In combination with the yoke A, when provided with stirrup B, the plate D and pad-plate C, arranged substantially as and for the purpose described.

115,063.—SHUTTER-FASTENER.—Peter Keffer, Reading, assignor to himself and John Droxel, Exeter township, Pa.

Claim.—The combined lever-catch and socket C D and bolt E, in combination with the shutter B, spring K, and plates F, G, and H, arranged substantially as described, and for the purpose set forth.

115,064.—MACHINE FOR MAKING HORSE-SHOE-NAILS.—Edward Watson Kelley, Hamilton, Scotland.

Claim.—1. The construction and arrangement of the stationary female dies *q q* and the revolving male dies *e e e d d d*, in the manner and for the purpose set forth.

2. The combination, with the revolving dies *e d*, of the device for operating the dies *e e e*, consisting of the eccentric *h*, with the fingers *k* and *l*, and the stationary operating-arms *m n*, as fully set forth.

115,065. — ARTIFICIAL LIMB. — Samuel B. Kepperling and Thomas B. Kreiter, Neffsville, Pa.

Claim.—1. The case C of an artificial leg, when made by the combination of leather, muslin, and glue, in the manner and for the purpose specified.

2. The arrangement of the slotted wedge W with its springs S², when inserted into the foot F at I, in the manner and for the purpose set forth.

115,066. — MACHINE FOR MAKING COMB-GUIDES FOR BEE-HIVES.—Homer A. King, New York, N. Y.

Claim.—1. The dies or wheels D, constructed as described for making comb-impressions, substantially as and for the purpose set forth.

2. The manufacture of comb-guides by means of dies D, the impression surface of which is kept wet with acid to prevent the adherence of wax, substantially in the manner described.

115,067.—MEAT-SAFE.—August Knoche, St. Louis, Mo.

Claim.—The case A, the meat-chambers *c d*, one above the other, and perforated on two sides, combined with the air-chambers *h i e* and flue B, constructed and arranged substantially as and for the purpose specified.

115,068.—MACHINE FOR SHARPENING CALKS. George W. Lane, Chichester, N. H.

Claim.—The swiveled yoke G carrying the emery-wheel *m*, and the vertically-adjustable post B, combined with the frames F, E, C, and A, and gearing *b* and *d*, as herein shown and described, for the purpose specified.

115,069.—ATTACHING HANDLES TO PLOWS.—John L. Laughlin, Peru, Ill.

Claim.—The means employed for attaching a handle, B, to a plow-standard, consisting of the splice-bar C and bolt *c*, constructed and arranged as shown and set forth.

115,070.—DENTAL FILE-HOLDER AND POLISHER.—Henry Laurence, New Orleans, La.

Claim.—The dental file-holder, as an article of manufacture, constructed as described, viz., with a fixed and a movable jaw, tubular shank, and thumb-screw *c*, the jaws being adapted to hold a file, as shown.

115,071. — HORSE HAY-RAKE.—J. George Lockwood, West Davenport, N. Y.

Claim.—The catch-hook M, catch-pin N, and foot-lever O, in combination with the rake-head

and rake-frame, and with the device I H h' J K, for raising the rake-head, substantially as herein shown and described, and for the purpose set forth.

115,072.—APPARATUS FOR PRESERVING AND COOLING BEER.—Jacob Lorenz, Hamilton, Ohio.

Claim.—The self-acting valve-spigot represented in fig. 4, in combination with the water-and-ice tank D, air-pump E, and pipes e e F, when the parts are constructed and arranged substantially as and for the purpose described.

115,073.—AUXILIARY SPRING FOR TREADLES.—Harvey Lull, Hoboken, N. J.

Claim.—The pivoted tube E and spring D therein, combined with arm F and pitman B, pivoted together at H, all arranged as and for the purpose specified.

115,074.—RAILWAY STOCK-CAR.—William M. Lyon, Salem, Ohio.

Claim.—1. The yoking-rack, secured in position by vertical and horizontal pins *b* and *c*, and capable of being swung up upon said pins *c*, and suspended in a horizontal position, in the manner and for the purpose described.

2. The pivoted top rail A of the rack, in combination with the pivoted hooks *f* and pins *i* of the foot-rail, for suspending the latter, in the manner and for the purpose described.

3. The arrangement in a stock-car of the pivoted suspending-hooks *f*, the holding and bracing-hooks *e*, and the confining bearing grooves *d* for the top rail, disposed in relation to each other so as to adapt the yoking-rack to be used at either side of the car, and to be swung up and suspended out of the way when so arranged at either side, as described.

115,075.—COMPOSITION BOOT AND SHOE-HEEL, SOLE, &c.—Frank Marquard, Newburyport, Mass.

Claim.—1. The compound for boot and shoe-heels and soles, substantially as described.

2. The combination of pulverized cork with pulverized leather in the manufacture of composition soles and heels, substantially as described.

115,076.—WASHING-MACHINE.—William C. Marr and Joseph S. Maughlin, Onawa City, Iowa.

Claim.—1. The hollow drum and the supporting-beam, constructed, arranged, and combined with a tub or boiler, substantially as specified.

2. The hollow drum having the hand rubbing-board or surface M arranged on the inside of one of the disks in such relation to the opening for introducing the clothes that the clothes may be rubbed thereon by hand when the cover of said opening is raised, all substantially as specified.

115,077.—PIANO ACTION.—Lorenzo Matt and Bernard Grueter, Boston, Mass.

Claim.—The combination and arrangement of the slide G and the tongue H with the oblique lever I, its stand-rod O, the two keys A B, and the separate levers C C, combined or arranged with jacks and hammers, as set forth, the oblique lever and the key over its front end being provided with the cams *p q*, or equivalent devices, to operate with the wedge-head of the tongue, all as specified.

115,078.—WHIFFLETREE.—Robert W. McClelland, Springfield, Ill.

Claim.—1. The combination of two ferrules, C C', one constructed with a flat horizontal plate attached to its under side, and the other with a flat horizontal plate attached to its upper side, said plates being adapted to fit together, and being connected by a pivot-bolt, E, in rear of the ferrule, substantially as described, and for the purposes specified.

2. The ferrule C with its plate M, in combination with the ferrule C' with its plate N, said parts being constructed with the flanges *m m'* *n* and hook *v*, and connected by the pivot-bolt E, substantially as and for the purpose set forth.

115,079.—HEATING-STOVE.—John McCoy, Philadelphia, Pa.

Claim.—1. The door E, when constructed either with or without the rectangular projections *a a*, and with rests or stops to hold it, when open, sloping in the direction of the ash-pit or ash-box; and this whether it works on a hinge, as described, or is removable as a lid or cover for the opening A, substantially as described.

2. The opening A and the door or lid E, in combination with the inclosed passage B and the opening in front of the fire-pot D, when constructed and used substantially in the manner and for the purposes above described.

115,080.—COFFEE-POT.—John T. McNamee, Baltimore, Md., assignor of one-half his right to Jacob L. Schoch, same place.

Claim.—1. The condenser G, with conical bottom *e* and pipes *f f* and h h, all substantially as and for the purposes herein set forth.

2. The combination of a coffee-pot, A, with spout B and cap C, the strainer D with sediment-cup E, and the condenser G with conical bottom *e* and tubes *f f* and h h, all substantially as and for the purposes herein set forth.

115,081, antedated May 16, 1871.—THRASHING-MACHINE.—Archibald McNaught, Alliance, Ohio.

Claim.—1. The inclined longitudinal and reciprocally-moving bottom or grain-board D', in combination with a stationary longitudinally-slotted platform, D, and vertically-reciprocating and longitudinally-moving beating-bars, E, in the manner and for the purpose described.

2. The pivoted vibrating arms *d'*, in combination with a fanning-mill shoe of a thrashing-machine and the inclined longitudinally and reciprocally-moving bottom or grain-board D', when said arms are connected to those parts so as to move them in different planes of motion, as described.

3. The combination of the grain-receiving space or slot *d*, arranged as described, with the stationary longitudinally-slotted platform and vertically-reciprocating and longitudinally-moving beating-bars, in the manner and for the purpose described.

4. The combination of a thrashing-cylinder, A', with an endless rotating web or apron, B, a stationary and longitudinally-slotted platform, D, a series of vertically-reciprocating and longitudinally-moving toothed beating-bars, E, an open grain-receiving space or slot, *d*, an inclined longitudinally and reciprocally-moving bottom or grain-board, D', and the vibrating arms *d'*, when all are arranged and operating as herein shown and described.

115,082.—WATER-WHEEL.—Alanson H. Merriman, West Meriden, Conn.

Claim.—1. The combination and arrangement of the wheel C, shaft D, boxes *d d*, and the case A with its compartments as shown, the whole combined and operating together, substantially as described.

2. The combination of the wheel C and annular water-chamber *g*, formed in the metal case A, by the outer and inner walls *f f* of the rings *a' a'*, the whole being combined and arranged in a portable water-wheel and case, substantially as described.

3. The arrangement of the wheel C and the boxes *d d*, the wheel discharging at both ends and mounted on a horizontal shaft, as described, whereby the spent water is continually discharged upon both of the boxes, as and for the purpose set forth.

4. The combination of the wheel C, case *f*, and the series of round chutes h, tangentially arranged therein, as described.

5. The buckets *k*, when constructed with the portion immediately in front of the chutes concave upon one side and convex upon the other, and brought to an edge, as shown and described, in combination with the chutes h, arranged to throw the water upon the convex side of the buckets, substantially as described.

115,083.—MANUFACTURE OF JAPANNED LEATHER.—Franklin S. Merritt, Boston, Mass.

Claim.—1. The boarding of japanned leather while in a wet state, or the employment of water with the leather during the process of boarding, as set forth.

2. The improved manufacture of japanned leather, produced by the processes of wetting and boarding the leather after being japanned, all being substantially as described.

115,084.—EXCAVATOR.—Solomon Miller and Edward Claringdon, Waterloo, N. Y.

Claim.—The arrangement and combination of the rear wheel B, chain-elevator M, spur-gears K and I, chain-band G, driving-wheel C, when connected and operating together as described.

115,085.—SPOON.—Henry C. Milligan, South Orange, N. J., assignor to Florian Grosjean, Woodhaven, N. Y.

Claim.—In combination with a bowl, A, and handle B, both made in one piece, the thick convex rib C, laid across the junction thereof, and riveted thereto by the spurs E, as described.

115,086.—LIFTING-JACK.—Hackley T. Morrison, Lawrenceville, Va.

Claim.—1. The screw *d*, provided with longitudinal grooves *m*, and combined with the spring-pin *l* having a beveled end, as specified.

2. The arrangement of the spring-pin *l* with the pointer *o*, as described.

3. The arrangement of the head and foot-pieces *a a'*, screws *d d'*, blocks *e e'*, ratchets *f f'*, pawls *h h'*, levers *g g'*, and spring-pins *l l'*, as explained.

115,087.—EXTENSION-TABLE SLIDE.—Stephen B. Nash, Buffalo, N. Y., assignor to Austin E. Messenger, same place.

Claim.—1. The double-flanged angle-iron H, provided with the shoulder *h*, as shown at fig. 1, when used in the manner and for the purposes described and shown.

2. The combination of the angle-iron H, provided with the pin O, as shown at fig. 2, with the angle-iron H having the pin O and recess N, as shown at fig. 4, for the uses and purposes set forth.

3. The combination of the angle-irons, as provided and shown at figs. 2 and 4, with the bumper B and pins *e* and *p*, for the uses and purposes substantially as shown and described.

4. The above in combination with the bars or slides A, when that part of the angle-iron H opposite the shoulder *h* works in a T-shaped groove.

115,088, antedated May 9, 1871.—TUB, PAIL, &c.—Peter H. Niles, Boston, Mass.

Claim.—A pail, tub, barrel, &c., provided with one or more elastic staves, B, or staves B and bottom strip C, substantially as described.

115,089.—VAPOR-BURNER.—Alanson F. Noble, Indianapolis, Ind.

Claim.—1. The stock A A' A'', constructed substantially as and for the purpose set forth.

2. The heating-chamber C, formed as shown, and having the collar D fitting onto the upper part A'' of the stock, substantially as and for the purpose set forth.

3. The vapor-burner composed of the stock A A' A'', mixing-chamber B, heating-chamber C, collar D, auxiliary burner E, regulating valve-rod G, burner H, and vaporizing-chamber I, all constructed and arranged substantially as set forth.

115,090.—WATCH-MAKER'S GAUGE.—Theodore Noel, Memphis, Tenn.

Claim.—1. An improved watch-maker's gauging-tool, comprising in one complete instrument the following sets of instrumentalities, or either of them, in connection with the plate A, lever M, and finger Q.

2. The adjustable plate C, scale G, finger L, pointer K, and scale I, for simultaneously gauging the diameter and depth of the glasses, substantially as specified.

3. The eccentric pin W, the scale T, and pointer S, for gauging the width of the mainsprings, substantially as specified.

4. The pin V and the scale T, for gauging the thickness of the springs, substantially as specified.

5. The arm Z, adjustable plate *a*, pointer B, and scale T, for gauging the pinions and other articles, substantially as specified.

6. The plate J, bracket J', and slot F, for gauging wheels and other articles, substantially as specified.

7. The hole B and sliding plate J, arranged for gauging wires, substantially as specified.

115,091.—COCK.—Samuel Norton, Stockport, Great Britain.

Claim.—The combination and arrangement of the filtering-vessel M and the valve-top, when internally divided and fitted with two or more valves, as and for the purposes described.

115,092.—SAWING-MACHINE.—Henry P. Ohm, Baltimore, Md.

Claim.—The combination of the reciprocating saw-frame, rock-shaft *s*, connecting-rod *q*, pawl *v*, and carriage h, carrying the standard *x*, lever *w*, and block *x'*, as specified.

115,093.—KEY-HOLE PROTECTOR.—John Hanson Parker, Waltham, Mass.

Claim.—The covering-plate B and the locking-plate C, as provided with the auxiliary notch *l* and the stud *m*, and with the slots *e g* and the tooth *h*, and combined and arranged substantially in manner and so as to operate as specified.

115,094.—CANE-STUBBLE SHAVER.—Felix F. Patout, Jeanerett, La.

Claim.—The knife 5 and mold-board 6, constructed as described, and secured to the slides 1 and 2 at an angle of forty-five degrees, more or less, when said slides 1 and 2 are provided with soles *m m*, and connected together by curved bars 3 and 4, the former supported by braces *k k*, and provided with devices for attaching the team, all in the manner and for the purpose hereinbefore specified.

115,095.—GUIDE-BOARD FOR SPINNING MACHINES.—Oliver Pearl, Lawrence, Mass.

Claim.—The thread-board B, arranged below the top of and inclined with respect to the roller-beam A, as described, in combination with the lip *b* and its movable thread-guide carrier C, hinged to the board B, as specified, all being substantially as and for the objects or purposes as set forth.

115,096.—KEY-BOARD.—John P. Perry, Yarmouth Port, Mass.

Claim.—1. The form and arrangement of the keys H and J constituting the manual L M N O, substantially as described, and for the purpose set forth.

2. The form and arrangement of the keys I and K constituting the double manual R L S N and M P O Q, substantially as described, and for the purpose set forth.

3. The combination and the arrangement of the manual L M N O and the double manual R L S N, M P O Q, substantially as described, and for the purpose set forth.

115,097.—BARREL-CAR.—William A. Plantz, Iowa Falls, Iowa.

Claim.—The construction of the barrel-car, as and for the purpose herein set forth.

115,098.—Truss.—William Pomeroy, New York, N. Y.

Claim.—The combination of a slotted plate or truss-pad and clasps with inwardly projecting buttons to form a fastening, substantially as described and for the purpose set forth.

115,099.—Clothes-Clamp. — Christian L. Poorman, Bellaire, Ohio.

Claim.—The clothes-fastener A, constructed as described.

115,100, antedated May 17, 1871.—Preparation of Materials for Tanning.—Francis Peyre Porcher, Charleston, S. C.

Claim.—1. The use of the articles above enumerated, when applied to the objects hereinbefore described.

2. The new commodity, manufacture, or article of trade which is produced by grinding, drying, and packing the above-mentioned articles, for the purposes stated.

3. The use of vegetable extracts from the substances above enumerated by processes hereinbefore described or contemplated, and for the purposes therein intended.

4. The use of the fruit excrescences and leaves of cypress or cedar-trees, or that of the leaves, stems, and flowers of the May-weed or wild camomile, in the manner and for the purposes hereinbefore set forth and described.

115,101. — Cigar-Mold. — John Prentice, New York, N. Y., assignor to Louis Prentice, same place.

Claim.—1. The flanges *e e* at the sides of the mold *b*, in combination with the mold *d* and the cutters 2 and 3 for shaping the tip, as and for the purposes specified.

2. The lifting-finger *i*, applied to and combined with the molds *b d*, substantially as and for the purposes set forth.

3. The molds *m n*, of a shape to receive the filling or cigar, and hinged together, in combination with an elastic band, for applying the necessary pressure to the cigar or filling, substantially as set forth.

4. The molds *m n*, made with beveled inner edges at *o*, for the purposes set forth.

5. The mold *m n*, made of metal perforated with numerous small holes to facilitate the drying of the cigar or filling, substantially as set forth.

115,102. — Machine for Bending Wire Fastenings for Bottle-Stoppers.—Henry W. Putnam, Bennington, Vt.

Claim.—The dies *e f g*, pusher *k*, clamping dies *m*, and presser *n*, arranged and acting substantially as set forth, for bending up wire fastenings for bottles, as set forth.

115,103.—Arbor for Saws and Grooving-Tools.—Jacob Rand, Boston, Mass.

Claim.—An arbor with the neck A, the fixed collar B, the movable collar G, the threaded sleeve F, and the screw I, all combined and adapted to be used together, as and for the purpose specified.

115,104. — Car-Coupler. — Thomas Ray, Pelham, Canada.

Claim.—1. The combination of the curved bars A, curved plates C, and keeper F, with the buffer-bar B and draft bars E, for connecting the coupling to the body and truck-frame of the car, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the roller G, stirrup H, and long rod or bolt I, with the slotted forward part of the buffer-bar B, substantially as herein shown and described, and for the purpose set forth.

3. The flange b^1 and groove b^2 formed upon the opposite sides of the forward end or face of the buffer B, substantially as herein shown and described, and for the purpose set forth.

115,105. — Washing-Machine. — Chauncy P. Remington, Smith's Mills, N. Y.

Claim.—The reciprocating plunger C, provided with the perforated bottom and top, and with the valves *j j*, and combined with the tub A, to operate partly by suction and partly by pressure, as set forth.

115,106.—Hay and Cotton Press.—Eugene Rock, Greenvale, N. Y.

Claim.—The arrangement of the T-shaped pawls M, the plates O, the double racks E E, follower D, and levers G G, in a cotton-press, substantially as shown, and for the purpose set forth.

115,107. — Composition for Stupefying Bees.—Alexander Y. Rozenbury, Waterloo, Ind.

Claim.—The above-described composition or opiate for stupefying bees, compounded in about the proportions specified.

115,108. — Invalid Bedstead.—Albert J. Russell, Baltimore, Md.

Claim.—The combination of the standards *a*, windlasses *c*, cross-bar *g*, and sliding frame *h*, as specified.

115,109. — Laundry-Box. — Mary A. H. Saurman, Philadelphia, Pa.

Claim.—A laundry-box, consisting of the box-stool A, having lids C, provided with openings or spaces, as described, in connection with the windlass E and crank F, all constructed and operating in the manner and for the purpose described.

115,110.—Machine for Cutting Splints.—Anton F. Scow, Chicago, Ill.

Claim.—1. The cutter-block G, provided with cutting-knife *d*, marking-tool *e* carrying the cutters *g*, as described, in combination with belt F, the whole arranged substantially as and for the purpose described.

2. The adjustable bed-plate H, in combination with gauges L L′, shafts K K′, and springs *o o*, the whole arranged substantially as and for the purpose described.

115,111.—Furnace.—Timothy P. Scripter, Des Moines, Iowa.

Claim.—The distributing-pipe A A with angling roof-partitions *a a*, combined with the sliding registers, the reservoir B, the conducting-pipe C, all made and operated to conduct an artificial current of air to a furnace-fire, in the manner described.

115,112.—Cider-Mill.—Garret Seger, Humberstone, Canada, assignor to himself and O. F. Kniseley, same place.

Claim.—In the cider-mill herein shown, the arrangement of the scraper K, hood L, and delivery-spout M, as shown and described.

115,113.—Clevis.—John H. Shaw, Inlet, Ill.

Claim.—The combination of the parts C, P, A, and S, all arranged as and for the purpose described.

115,114.—Machine for Stretching the Brims of Hats.—Julius Sheldon, Newark, N. J.

Claim.—The adjustable supporting-block G, in combination with arms D and C, which are roughened upon their holding surfaces, all acting together, as and for the purposes set forth.

115,115.—Sinking Shafts and Excavating Tunnels and Cuttings. — Jacob Shelley, Mahanoy, and Milan C. Bullock, Pottsville, Pa.

Claim.—The above-described method of excavation, by first boring all the drill-holes to the depth required, or as far as they can conveniently be bored, filling them with suitable material, making a space for charging and tamping between the filling and the face of the rock, and shattering the rock in successive lifts by repeated explosions.

115,116.—Burial-Case.—Isaac C. Shuler, Amsterdam, N. Y.

Claim.—1. The corrugated packing-frame, supported in exterior channel D by means of tongues G and socket H, as and for the purpose specified.

2. The combination of the adjusting set-screws with the packing-frame and corrugated coffin-lid, as and for the purpose specified.

115,117.—Sewing-Machine.—William Sidenberg, New York, N. Y.

Claim.—1. The combination, with the frame A and shaft C, of the removable shaft G′ and its cams, and the removable shuttle-race, connecting-rod, driver, and feeding mechanism, when all are constructed substantially as described, and operated from the shaft C, for the purpose set forth.

2. The slotted levers U R, constructed and operated as described, to govern the loose or slack thread, as set forth.

115,118.—Cutting-Press.—Nathan J. Simonds, Woburn Mass.

Claim.—In combination with cutting-die A, the perforated vertically-sliding plate *h* and vertically adjustable pins *e e*, all arranged to operate substantially in manner as and for the purposes specified.

115,119. — Registering Ticket-Punch.—James H. Small, Buffalo, N. Y.

Claim.—The arrangement, with the unit numbering-wheel of a combined register and alarm, of the auxiliary numbering-wheel I, provided with twice, or more times, the number of ratchets of the unit-wheel, and designed to move simultaneously therewith, substantially as and for the purpose hereinbefore set forth.

115,120.—Apparatus for Unloading and Moving Hay.—Alexander Smith, Hoosick Four Corners, N. Y.

Claim.—1. The improved hay-sling, composed of two parts, A or B, and hinged bars C, the latter being provided with holding and tripping apparatus, all substantially as specified.

2. The combination of a sling, such as herein described, with a hoisting-lever and derrick, substantially as specified.

3. The combination, with the hoisting-lever and rope S, of the holding and sliding bar V, and a guide or pulley, T, substantially as specified.

4. The combination, with sliding holding-bar V and pulley or guide T, of the clamp U Y, and the belaying-cleat Z, all substantially as specified.

115,121.—Medicine-Case.—Henry M. Smith, New York, N. Y.

Claim.—As a new article of manufacture, a pocket medicine-case, or other similar contrivance, constructed with one or more springs, in the manner and for the purpose hereinbefore described.

115,122.—Fifth-Wheel for Vehicles.—James P. Smith, Hillsborough, Ohio, assignor to himself and J. S. Black, same place.

Claim.—The two plates J, movable within the flange and on the circular face of plate E, combined with a brace, I, having its forward arm fast to the center of said circular face, for the purpose of preventing the axle from having a movement more extended than is absolutely necessary.

115,123. — Cotton-Seed Planter.—Peter E. Smith, Scotland Neck, N. C.

Claim. — A rotary seed-hopper, formed of two overlapping and closed tubes, I K, one movable around the other to adjust the size of the seed-apertures, and both turning together to drop the seed, in the manner described.

115,124. — Bobbin-Winder for Sewing-Machines.—Robert H. Smith, Baltimore, Md., assignor to himself and James B. Sanner, same place.

Claim.—The combination of the carriage *k*, ears *l l*, chaser *n r*, spring *o*, shaft *b*, rods *m m*, and guide *s t*, spindles *d e*, and gears *h i*, all constructed and arranged substantially as shown and described, for the purpose specified.

115,125.—Stump-Pulling Machine.—William Smith, Tomah, Wis., assignor to himself and H. Greve, same place.

Claim.—1. The two pairs of posts A, bed-pieces B, and beam C, combined, as described, with high inclined posts D, for the purpose of making the latter brace the frame and counterbrace each other.

2. The ratchet wheel G, slotted lever I K, and link-shaped pawl H, combined, as described, with the ratchet, for the purpose of insuring the operation of the latter no matter in what plane it may be thrown by the springing of the lifting-shaft.

3. The combination, with the lifting mechanism of a stump-extractor, of a hook, R, having the dart-shaped point S, for the purpose described.

4. In a stump-extractor, the pivoted tongue K′, combined with the main beam C M M, as and for the purpose described.

115,126.—Cotton and Hay-Press.—William M. Smith, Augusta, Ga.

Claim.—1. In combination with the upright timbers A of a cotton-press, the long brace A^2, when used to form a recess for the reception of the follower-block out of the way of the box of the press, the timbers being united only at the top and bottom, substantially as and for the purpose set forth.

2. The arrangement herein shown of the follower-block G, hinged link *c*, and notched head *d* of rack-bar F, as and for the purpose set forth.

3. The combination of the pawl-box I, provided with rectangular openings *s s′* and recess *k* with the lever K, when provided with beak *t*, and corrugated bearing *u*, as and for the purpose set forth.

4. The combination of the follower-block G with the long links *f*, the levers K, and the corrugated stirrup *g*, as and for the purpose set forth.

5. The arrangement of the racks F, provided with guide-ways and projecting teeth, with the pawl-boxes H and I having rectangular slots *s s′*, when constructed substantially as shown, for the purpose set forth.

115,127.—Oil-Tank.—Henry F. Snyder and George S. Snyder, Williamsport, and Autes Snyder, Freeport, Pa.

Claim.—1. The angular clearing surface Z on the threaded portion U^3 of the cover or cap U, adapted to clear the screw-threads of the top casting T, as specified.

2. The within-described cap U, carrying the soft metal *u*, as shown, and arranged to serve, as shown, relatively to the edge of the top casting T, for the purposes herein set forth.

3. The threaded portion U^3 and edge-guard or lip U^1 on the cap U, arranged to serve in connection with each other so as to provide for efficiently and tightly securing and easily releasing the parts, and guarding the soft metal against injury, as specified.

115,128. — Hammock-Supporter. —James M. K. Southwick, Newport, R. I.

Claim.—The combination of the two tripods and the brace-pole, when constructed and arranged substantially as specified, and for the purpose set forth.

115,129, antedated May 15, 1871.—Brake-Block for Vehicles.—Isaac W. Spore, New Scotland, N. Y.

Claim.—The block A, constructed as shown and described, provided with the slot C, when hung upon the pin *d*, so as to have an up-and-down and pendulum motion, substantially as set forth.

115,130. — Wagon-Brake. — William I. Spore, New Scotland, N. Y.

Claim.—1. The combination and arrangement of the rod *a*, backing-plate G, and lever H, when constructed and operating as described.

2. The levers H H, when provided with longitudinal slots and pins to permit a limited end motion, as described.

115,131.—Machine for Softening Hides, Leather, &c.—Linnæus H. Stanley and Gamaliel B. Draper, Attleborough, Mass., assignors to Peter F. Hughes, trustee, assignor to said Stanley and Draper and Nathaniel Faubrother and George S. Fales.

Claim.—1. The improved apparatus for softening leather, which consists in the combination, with a suitable pin-block, A, of a revolving clamp or series of clamps, E, substantially as described.

2. A revolving clamp or series of clamps, E, arranged to have a motion about their axes imparted to them, in combination with a suitable pin-block, substantially as described, for the purposes specified.

115,132.—Hoe.—John Stilwell, Griffin, Ga.

Claim.—The pendant A of the ferrule B, having the countersunk hole C and the dowel-pin; also, the plate G, bolt H, and nut I, combined with the blade and the ferrule B, the said blade having holes for the dowel-pin and bolt, all substantially as specified.

115,133.—Wagon-Tongue Support.—Lewis E. Stilwell, Franklinville, N. Y.

Claim.—The stiff wooden brace B, provided on its front end with the bearing *d* for the tongue to rest on, and attached at its rear end to the axle by the king-bolt, in combination with the set-screw D and strap or holder C, substantially as and for the purpose set forth.

115,134.—Coffee-Pot.—Orville M. Tinkham, Pomfret, Vt.

Claim.—1. The cup B, with flange F, projection G, and filter E, when combined and operating as described.

2. The reservoir A, with its perforated bottom H, combined with cup B and its filtering bottom, in manner set forth.

115,135.—Damper. — Albert Tracy, Paris Hill, Me.

Claim.—1. The combination of the eccentric C and the shaft A with the block B, substantially as and for the purpose hereinbefore set forth.

2. The combination of the wedge of right lines and the shaft A with the block B and handle, with cog or cogs, substantially as and for the purpose hereinbefore set forth.

3. The combination of either the eccentric C or wedge of right lines and the shaft A with the blocks B and I, or either of them, or with the band K or the band L, substantially as and for the purpose hereinbefore set forth.

4. The combination of the eccentrics C or C′ and the shaft A, with or without blocks or bands, and with handle of eccentric attached or unattached, substantially as and for the purpose hereinbefore set forth.

5. The combination of the eccentric C′ or wedge of right lines with the shaft A, with or without button or cone inverted at further end, and with or without notch, or cog, or groove, substantially as and for the purpose hereinbefore set forth.

115,136. — Printers' Furniture. — John Frederick Uhlhorn, Sacramento, Cal.

Claim.—The extension side-stick, composed of the pieces A and B, which have the tongue *a* and ledges *b b′*, respectively, as set forth.

115,137. — Apparatus for Electrical, Vacuum, and Vapor Treatment.—Maurice Howell Utley, Montreal, Canada.

Claim.—The receiver *a*, provided with the cap *c*, having the cocks *d e*, rest *h*, and electrical wire *c′*, as described.

115,138.—Cultivator.—Leander Walker, Victoria, Texas.

Claim.—The combination of the pivoted side beams E, to which the forward plows H I are attached, chains J, pulleys K, and pivoted handles L, with each other and with the beam D, substantially as herein shown and described, and for the purpose set forth.

115,139. — Washing-Machine. — Horace Warner, Ridgeway, Pa.

Claim.—1. The cup L, arranged as described on the inside of cover J to receive the drip from the cones, in the manner specified.

2. The arrangement of the open bottom G, springs H, and flange I, (on the bottom of the tub,) in combination with conical rolls B working within said flange, as and for the purpose specified.

115,140. — Carriage-Jack. — August H. Wellbrock, Boston, Mass.

Claim.—1. The lever *g*, lifter *e*, lever *f*, and connecting-chain or cord *h*, when combined and arranged to operate together, substantially as described.

2. In combination with the lifter *e* and lever *f*, the interposed swinging arm *e* carrying at its free end a friction-roll *d*, bearing both upon the lever and the lifter, substantially as described.

115,141.—Harvester-Rake. — George H. Weller, New Village, N. J.

Claim.—1. The frame H, provided with rear and front fingers P Q, either or both, for attachment to harvesters and mowers, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the posts B C, horizontal bars D E, braces F G, frames H provided with fingers P Q, either or both, shafts I, connecting-bars J, cranks K L, crank M, connecting rod N, and crank fly-wheel pulley O, with each other, to adapt them for attachment to harvesters and mowers, substantially as herein shown and described, and for the purposes set forth.

115,142.—Railroad Rail.—Edward Williams, Batavia, N. Y.

Claim.—The head B, formed with the depending lips, tongue G, and grooves *a a*, as described, arranged, and operating in connection with the base A, formed with the grooves K and tongues *p p*, with the separate packings D E E interposed within the grooves, as shown, the head B, with its depending lips, being secured to the base A by the horizontal bolt *c* passing through the depending lips, base A, fish-plates H H, and playing within the horizontal slot *b*, the whole constructed substantially as set forth.

115,143.—Miner's Lamp.—William C. Winfield, Hubbard, Ohio.

Claim.—A new article of manufacture, viz., a miner's lamp, provided with a screw-cap, D, constructed, arranged, and operating with relation to the body of the lamp as herein described, and for the purpose set forth.

115,144.—Butter-Worker.—Philander G. Woodard, Waterford, Pa.

Claim.—The arrangement of the adjusting-slots D D, reciprocating-table A, and vibrating roller B moving on the fixed racks 2 2, the whole constructed and operating substantially in the manner and for the purpose set forth.

115,145.—Steam-Engine.—John C. Woodhead, Allegheny City, Pa.

Claim.—1. An auxiliary valve, arranged in the exhaust-chamber, in combination with the main valve, substantially as described.

2. The combination of a single induction-valve supplying steam directly to each end of the cylinder, with an eduction-valve controlling only the exhaust-ports, substantially as described.

3. The combination of the valves B and C, having the ports *a a b b* relatively arranged, as described.

115,146.—Name-Plate for Organ-Stops. Charles Edwin Bacon and William Jones Kent, Buffalo, N. Y; said Kent assigns his right to said Bacon.

Claim.—As a new article of manufacture, the ivory labels of organ-stops made from veneers or strips cut lengthwise or with the grain, and the name of the stop stamped therein by metal dies, as hereinbefore fully explained and set forth.

115,147.—Sash-Fastener.—Gilbert L. Bailey, Portland, Me.

Claim.—The bent lever A C′, furnished with an orifice or opening, C, for holding and securing one end of the sash-weight cord, the part C′ serving also as a positive stop for the sash, all arranged and operating as herein described and for the purpose set forth.

115,148.—Plant for Repairing Railway Rails.—Hugh Baines, Toronto, Canada.

Claim.—The plant, comprehending by this the arrangement of machinery, fixtures, and appurtenances generally, substantially as hereinbefore described, for the ready repair of damaged railway rails, without cutting them up and re-rolling them.

115,149.—Roll for Patching Railway Rails.—Hugh Baines, Toronto, Canada.

Claim.—1. The particular construction of the roll-sections K K′, seen in sheet 1, fig. 15, herein described, in virtue of which the rolls are prevented from end play and the metal welded to the head of the rail, and the whole reduced to proper finished shape in two passes, in the manner set forth.

2. The combination of the mechanism for starting, stopping, and reversing, and the rolls, substantially as described.

115,150. — Clothes-Wringer. — Elbridge G. W. Bartlett, Providence, R. I.

Claim.—1. The shoulders C and C′, on the rear ends of the bars A and A′, arranged at such a distance from and in such relation to the hinge-joint B that they will prevent, by their coming in contact, any undesirable separation of the bars, the rollers, or the gears of a wringing-machine, substantially as described.

2. In combination with wringing rollers mounted in suitable standards, the concavo-convex toothed gears D and E, substantially as described.

115,151. — Sewing-Machine.—Alexander B. Bates, Baltimore, Md.

Claim.—The combination of the shaft *a*, arm *b*, link *c*, levers *d* and *g*, connecting-rod *f*, and notched plate *j*, as specified.

115,152. — Adjustable Carriage-Seat.—Sylvester W. Beach, Ypsilanti, Mich.

Claim.—1. The handles and rests of the front seat of a carriage, when the same are connected, so that by throwing the handles in and out the rests are moved in the proper direction, substantially as herein set forth.

2. The combination of the rest B, handle D, and connecting-rod E, constructed and arranged substantially as and for the purposes herein set forth.

115,153, antedated May 19, 1871.—Smoke-Stack for Locomotives.—Landrow Bell, Washington, D. C.

Claim.—1. The supplementary flue G, provided with the supplementary bonnet I and pipes M M′ leading into the ash-pan, substantially as and for the purpose set forth.

2. The combination of the flue G, pipes M M′, branches T T′, and funnels O O′, substantially as and for the purpose set forth.

3. The fan-wheel *w*, channel Q, and funnel L, in combination with the flue G, arranged substantially as and for the purpose set forth.

4. The double adjustable bonnet, composed of the two parts I J, in combination with the supplementary flue G and pipes M M′, substantially as and for the purpose set forth.

115,154, antedated May 17, 1871.—Electric Lighting Apparatus. — Auguste Prosper Berlioz, Paris, France.

Claim.—1. An electric illuminating apparatus consisting of a case, C, having near one end a lens, L, and containing an adjustable stand, which supports adjustable carbon pencils, and an adjustable reflector, R, all substantially as described.

2. The said case and its contents, in combination with a stand, P, on which the said case is adjustable, as described, and through which extend the wires leading to the battery, as set forth.

3. The adjustable arm carrying the disk *r*, arranged adjacent to the carbon pencils, for the purpose described.

4. The tube K and its glass, in combination with the case C and the carbon points, as and for the purpose specified.

5. The lens, consisting in whole or in part of independent rings of glass secured to radial supports, as set forth.

6. The lamp A, adjustable in the case C by means of the screw V or its equivalent, substantially as set forth.

115,155.—Feeding Mechanism for Sewing-Machines.—Charles Beuttel, Cincinnati, Ohio.

Claim.—1. The combination of the feed-bar *g*, yoke G, adjustable rod D *d*, spring I, adjusting-nuts J J′, and cams H, connected and operating substantially in the manner and for the purpose specified.

2. The combination of the lifting-levers M N and cam L, when the levers are adjustable with relation to each other, the parts being connected and operated substantially in the manner and for the purpose described.

115,156. — Punching-Machine.—Ezra R. Brown, Mauch Chunk, and James Long, Packerton, Pa.

Claim.—The combination, with the discharger G and sliding bolster C, of the rock-shaft *k* with its levers *l m*, the rod *n* with its lever *s*, the arm *o*, guide-rod *q*, and spring *r*, substantially as specified.

115,157.—Cutter for Cutting Washers from Leather.—Ezra R. Brown, Mauch Chunk, and James Long, Packerton, Pa.

Claim.—A punch, consisting of a cutter, B, having a central spring, S, and surrounding cutter A, with annular spring R interposed between said cutters, all constructed, arranged, and combined, substantially as shown and described.

115,158.—Wagon-Seat.—Lewis Henry Bullock, Champaign City, Ill.

Claim.—In a wagon-seat, the flanged clasps H attached to the ends of the cross-heads, substantially as and for the purposes specified.

115,159. — CULTIVATOR. — Theophilus F. Capp, Bloomington, Ill.

Claim.—The arrangement of the cross-pieces D D′, the draft-pole E, the straps C C′, the axles B and the wheels A, when each of said parts is constructed substantially as described and shown, and as and for the purposes set forth.

115,160. — SPINNING-RING. — William T. Carroll, Medway, Mass.

Claim. — 1. The ring-rail A, provided with a flange, *b*, in combination with the reversible double-flanged ring having flattened surfaces *c c* or grooves *c′ c′* on the two opposite sides, and adjusted and held in position by but two set-screws, as specified.

2. The ring D′, having its neck provided with the flattened surfaces *c c* on two opposite sides, so as to render it adjustable in the ring-rail A′ by but two set-screws, Z Z, substantially as set forth.

115,161. — CLOTHES-WRINGER.—Cyrus E. Carter, Martinsville, Ohio.

Claim.—The arrangement of the treadle A, connecting-rods *g g*, levers *f*, and slotted bars *d d* in the same plane with the rollers *c c* and frame *a*, and connected to operate as and for the purpose specified.

115,162, antedated May 12, 1871.—PLANT-GROWER.—Benjamin B. Chadwick, Buffalo, N. Y.

Claim.—As an article of manufacture, the basket A B, when constructed of the materials and in the manner substantially as herein described, and for the purpose set forth.

115,163.—SEWING-MACHINE FOR WORKING BUTTON-HOLES.—William Chicken, Boston, Mass., assignor to Amos L. Wood, trustee, same place.

Claim.—1. In combination with the work-supporting plate *a* and its cam-operated pin *d*, the auxiliary cam-operated pin *i*, for enabling the plate to be fed laterally to form the bar, substantially as described.

2. The guide-plate *p*, in combination with and for guiding the work-plate laterally, substantially as described.

3. In combination with work-plate *a* and guide-plate *p*, devices, substantially as described, for locking plates *a* and *p* together while the sides and eye of the hole are being stitched, and for permitting relative movement thereof during the barring.

4. The combination, with the work-supporting plate *a*, of the sliding or movable cam-pin *d* and the movable cam-pin *i*, each provided with means to be thrown into and out of engagement with the cam-groove, substantially as described.

5. The eye and slit-locater *y*, in combination with the work-plate, substantially as described.

6. The bed-plate, provided with the pin-slot a^2 and the pin-operating cam-slot *t*, substantially as described.

115,164.—SAND AND SEED-EJECTOR.—Martin Christiansen, Winneconne, Wis.

Claim.—1. A sand-ejector, or seed, provided with devices for sifting the sand before it is ejected, and for regulating the quantity to be distributed, substantially as described.

2. The combination and arrangement of box A, handle K, driving-wheel L, connecting-rod H, cross-belt M, pulley G, oscillating valve or agitator C, hopper E, fan D, and slide F, substantially as and for the purpose set forth.

115,165. — FENCE. — Locklin N. Clark, Brighton, Mich.

Claim.—The construction of a fence wherein the posts B B′, having notches or gains *a*, the bricks D D′, and wire ties E are, arranged with relation to each other and the strips A, substantially as herein described, for the purpose specified.

115,166.—METHOD OF MAKING SPADES AND SHOVELS.—Levi Dewes Clift, Philadelphia, Pa.

Claim.—The method herein described of manufacturing a shovel or spade with the blade, socket, and solid shank of one piece of metal.

115,167.—GATE.—David M. Cochran and Lindley A. Hawkins, Richmond, Ind.

Claim.—In combination with the gate A, the upper hinge consisting of the parts D, D^1, and D^2, levers E, F, and connecting-rods E^1 and F^2, the latter being attached directly to the gate, all arranged to operate substantially as set forth.

115,168. — CHIMNEY-COLLAR.—Joseph H. Congdon, Coventry, assignor to himself and Benjamin C. Allen, Warwick, R. I.

Claim.—The flange C, in connection with the outlets B B, and in combination with the plate A and raised caps D D, substantially as described, for the purpose specified.

115,169.—SHOE.—Elisha S. Converse, Boston, Mass.

Claim.—1. A shoe the sides and rear of which are made of one continuous piece of elastic extensible fabric surrounding the whole or the greater portion of the opening in the shoe through which the foot is inserted, the vamp or front being made of an inelastic material, substantially as and for the purposes shown and set forth.

2. A water-proof overshoe, whose quarter, extending around the rear and along the sides of the shoe, and surrounding the whole or the greater portion of the opening through which the foot is inserted, is of an elastic and extensible material, while the vamp or upper is made of a distinctively non-elastic and inextensible material, substantially as shown and set forth.

115,170.—WASHING-MACHINE.—Ferdinand L. Copps, Atlanta, Ill.

Claim.—1. The combination, with the pressure-board E and frame F, of the sliding section G, provided with the adjusting spring rack *f*, substantially as specified.

2. The washing-machine herein described, provided with the tub A, cylinder C, adjustable sectional pressure-board E G, curved frame F, adjustable crank L, with rack and pinion and adjusting notches, lever M, and spring-bar N, substantially as specified.

115,171. — ROTARY ENGINE.—James Cox, Belle Plaine, Iowa.

Claim—1. The arrangement of a series of cylinders, E, radiating from a common hub, C, and provided with the piston-weights F and piston-rods G, as and for the purpose set forth.

2. The combination of the adjustable steam-chest H, for conveying steam to the cylinder, with the face-plate D, provided with its inlets *b*, constructed and arranged substantially as described, for the purposes set forth.

3. The combination of the shaft B, face-plate D, cylinders E, piston-weights F, piston-rods G, steam-chest H, and set-screw J, arranged and operating substantially as and for the purpose herein set forth and shown.

115,172.—STAMP-MILL.—John M. Crawford, Philadelphia, Pa.

Claim.—1. The cylinder H, provided with frictional lifting-cams F and guide-flange I, in combination with sleeve G and stamp-stem M, when constructed and operated substantially in the manner and for the purposes specified.

2. The sleeve G and collars *g*, in combination with stamp-stem M, when constructed and operated substantially in the manner and for the purposes set forth.

3. The combination of wheels E′, cam-shafts E, cylinders H with cams F, and flanges I, stamp-stem M, beveled wheels S and R, shaft *q*, and cog-wheels Q and P, when constructed and operated substantially in the manner and for the purposes described.

4. The wing or flange N on the boss on shoe *m*, in combination with the stamp-stem M, having a square or angular portion, for the purposes and in the manner specified.

115,173.—CENTER-BOARD.—Alonzo G. Crossman, Huntington, N. Y., assignor to Franklin M. Crossman, same place.

Claim.—The combination of the center-board B C, the frame A A, and the stay D, substantially as hereinbefore set forth.

115,174. — BOILER WASHING-MACHINE.—James Curtis, North Parma, N. Y.

Claim.—The combination, with the wash-boiler A, of the cylinder B, constructed with a closed periphery formed into a series of flutes or corrugations, and with closed ends perforated near the outer edge with a series of holes, as herein described, and for the purpose specified.

115,175.—METHOD OF BOXING BLIND-STAPLES. — Biram C. Davis, Binghamton, N. Y., assignor to himself and Robert B. Doubleday, same place.

Claim.—The combination and arrangement of the box A, having uniform grooves B B, with the strips or bars C C loaded with blind-staples, substantially as shown and described, for the purpose specified.

115,176.—FASTENER FOR DOORS AND WINDOWS.—Jacob Z. Davis, San Francisco, Cal.

Claim.—A fastener for doors, windows, and for other purposes, consisting of a metallic plate formed with a hook at one end, in the plane thereof, and provided with two or more holes for receiving the holding-screw or screws, substantially as shown and described.

115,177.—CHURN-DASHER.—Samuel F. Dolloff, Bloomington, Ill.

Claim.—A churn-dasher and cream-breaker, composed of the shaft A and arms B B, said arms being flat and diagonal on their rear sides, and the front sides beveled from *a* to *b*, and from *b* to the outer end flattened diagonally, either plane or concave, substantially as and for the purposes herein set forth.

115,178. — WINDOW-SHADE FIXTURE.—Alfred S. Dickinson, Brooklyn, N. Y.

Claim.—In self-winding shade-fixtures, the shade A, roller J, and its brackets L L, and bars G and B, when suspended and capable of being operated, substantially as and for the purpose herein shown.

115,179.—CHUCK FOR WOOD-LATHES.—Robert H. Dowling, Fenton, Mich., assignor to himself and Charles Winslow, same place.

Claim.—The construction and arrangement of the mandrel A and cruciform heads B and C, provided with set-screws *d* or their equivalents, substantially as and for the purpose set forth.

115,180. — TAILOR'S MEASURE. — Ithamar Du Bois, Brooklyn, N. Y.

Claim.—1. The vibrating block E and the sliding block F, provided respectively with the rods B^1 B^1 and B^2 B^2, in combination with the slotted rule or graduated bar A, the elastic piece N, and upright rule D.

2. The rule K, with its toothed graduated upright rule L, combined with the plumb-line and bob M, and with the blocks E and F, and rods B^1 and B^2, the upright rule D and elastic rule N, all made and operating substantially as set forth and described, or their mechanical equivalents.

115,181.—GUN-CARRIAGE.—James B. Eads, St. Louis, Mo.

Claim.—1. In combination with the gun A and levers B, the connecting-rod L, cross-head K, piston I, cylinder E, cylindrical piston-rod J, cylindrical plunger N, and valve O, or their substantial equivalents, for the purpose described.

2. The combination, with the cylinder E, of the movable head H, arranged and operating substantially as described, to adjust the air-cushion to correspond with the force of recoil.

115,182.—APPARATUS FOR CARBURETING.—George Edmonds, New Orleans, La.

Claim.—1. The basket D, provided with distributing-rings *y*, constructed substantially as and for the purpose specified.

2. In combination, the pump A, bellows B, reservoir C, basket D, and air-chamber M, constructed and connected substantially as and for the purpose specified.

3. The air-chamber M, arranged between the reservoir and the burner, and constructed substantially as and for the purpose specified.

115,183.—FOLDING BOX.—Nicolaus Erpelding and John Erpelding, Chicago, Ill.

Claim.—1. The folding box, consisting of the frame A, having the top, side, and end pieces hinged thereto, with the bottom G secured by a sliding joint to the end pieces, all substantially as described.

2. The inner plate D, arranged to fit within the bottom of the box and hold the side and end pieces in position, substantially as described.

115,184.—THILL-COUPLING.—John H. Fleming, Dundee, Mich.

Claim.—1. A device for securing the shafts or poles to wagons, wherein the jaws A and shaft or pole-iron D are constructed and arranged to operate substantially as set forth.

2. In combination therewith the clamp E, for the purposes set forth.

115,185.—STRIPPER-CARRYING FRAME FOR CARDING-MACHINES. — John F. Foss, Lowell, Mass., assignor to himself and John N. Pierce, same place.

Claim.—1. The stripper-carrying arms E, constructed as described, each with an offset, *g*, a shaft-receiving hub or plate, *f*, and a depending lower portion, I, arranged within the frame-work, whereby the lower cross-bar H can be applied in the manner and for the purpose described.

2. The stripper-carrying arms, constructed as described, in combination with and connected by cross-bars H and G, all constituting a frame-work capable of being traversed or oscillated from one side of the card to the other by a single traversing mechanism, substantially as described.

3. The lower cross-bar H, in combination with and carried by the depending arms I, arranged between the end frames D, for the purpose and in the manner substantially as described.

115,186. — LAND-MEASURING REGISTER.—William Frasius, Chatsworth, Ill.

Claim.—The measure A, provided with pivots B B′ and arch C, or its equivalent, in combination with shaft D, the whole arranged to operate substantially as and for the purpose described.

115,187.—ROCK-DRILLING MACHINE.—Gideon Frisbee, Titusville, assignor to himself and Samuel E. Griscom, Shenandoah, Pa.

Claim.—1. The cams or eccentrics E, operating as described.

115,159. — CULTIVATOR. — Theophilus F. Capp, Bloomington, Ill.

Claim.—The arrangement of the cross-pieces D D', the draft pole E, the straps C C', the axles B and the wheels A, when each of said parts is constructed substantially as described and shown, and as and for the purposes set forth.

115,160. — SPINNING-RING. — William T. Carroll, Medway, Mass.

Claim. — 1. The ring-rail A, provided with a flange, *b*, in combination with the reversible double-flanged ring having flattened surfaces *c c* or grooves *c' c'* on the two opposite sides, and adjusted and held in position by but two set-screws, as specified.

2. The ring D', having its neck provided with the flattened surfaces *c c* on two opposite sides, so as to render it adjustable in the ring-rail A' by but two set-screws, Z Z, substantially as set forth.

115,161. — CLOTHES-WRINGER.—Cyrus E. Carter, Martinsville, Ohio.

Claim.—The arrangement of the treadle A, connecting-rods *g g*, levers *f* and slotted bars *d d* in the same plane with the rollers *c c* and frame *a*, and connected to operate as and for the purpose specified.

115,162, antedated May 12, 1871.—PLANT-GROWER.—Benjamin B. Chadwick, Buffalo, N. Y.

Claim.—As an article of manufacture, the basket A B, when constructed of the materials and in the manner substantially as herein described, and for the purpose set forth.

115,163.—SEWING-MACHINE FOR WORKING BUTTON-HOLES.—William Chicken, Boston, Mass., assignor to Amos L. Wood, trustee, same place.

Claim.—1. In combination with the work-supporting plate *a* and its cam-operated pin *d*, the auxiliary cam-operated pin *i*, for enabling the plate to be fed laterally to form the bar, substantially as described.

2. The guide-plate *p*, in combination with and for guiding the work plate laterally, substantially as described.

3. In combination with work-plate *a* and guide-plate *p*, devices, substantially as described, for locking plates *a* and *p* together while the sides and eye of the hole are being stitched, and for permitting relative movement thereof during the barring.

4. The combination, with the work-supporting plate *a*, of the sliding or movable cam-pin *d* and the movable cam-pin *i*, each provided with means to be thrown into and out of engagement with the cam-groove, substantially as described.

5. The eye and slit-locater *y*, in combination with the work-plate, substantially as described.

6. The bed-plate, provided with the pin-slot s^6 and the pin-operating cam-slot *t*, substantially as described.

115,164.—SAND AND SEED-EJECTOR.—Martin Christiansen, Winneconne, Wis.

Claim.—1. A sand-ejector, or seed, provided with devices for sifting the sand before it is ejected, and for regulating the quantity to be distributed, substantially as described.

2. The combination and arrangement of box A, handle K, driving-wheel L, connecting-rod H, cross-belt M, pulley G, oscillating valve or agitator C, hopper E, fan D, and slide F, substantially as and for the purpose set forth.

115,165. — FENCE. — Locklin N. Clark, Brighton, Mich.

Claim.—The construction of a fence wherein the posts B B', having notches or gains *a*, the bricks D D', and wire ties E are, arranged with relation to each other and the strips A, substantially as herein described, for the purpose specified.

115,166.—METHOD OF MAKING SPADES AND SHOVELS.—Levi Dewes Clift, Philadelphia, Pa.

Claim.—The method herein described of manufacturing a shovel or spade with the blade, socket, and solid shank of one piece of metal.

115,167.—GATE.—David M. Cochran and Lindley A. Hawkins, Richmond, Ind.

Claim.—In combination with the gate A, the upper hinge consisting of the parts D, D^1, and D^2, levers E, F, and connecting-rods E^2 and F^2, the latter being attached directly to the gate, all arranged to operate substantially as set forth.

115,168. — CHIMNEY-COLLAR.—Joseph H. Congdon, Coventry, assignor to himself and Benjamin C. Allen, Warwick, R. I.

Claim.—The flange C, in connection with the outlets B B, and in combination with the plate A and raised caps D D, substantially as described, for the purpose specified.

115,169.—SHOE.—Elisha S. Converse, Boston, Mass.

Claim.—1. A shoe the sides and rear of which are made of one continuous piece of elastic extensible fabric surrounding the whole or the greater portion of the opening in the shoe through which the foot is inserted, the vamp or front being made of an inelastic material, substantially as and for the purposes shown and set forth.

2. A water-proof overshoe, whose quarter, extending around the rear and along the sides of the shoe, and surrounding the whole or the greater portion of the opening through which the foot is inserted, is of an elastic and extensible material, while the vamp or upper is made of a distinctively non-elastic and inextensible material, substantially as shown and set forth.

115,170.—WASHING-MACHINE.—Ferdinand L. Copps, Atlanta, Ill.

Claim.—1. The combination, with the pressure-board E and frame F, of the sliding section G, provided with the adjusting spring rack *f*, substantially as specified.

2. The washing-machine herein described, provided with the tub A, cylinder C, adjustable sectional pressure-board E G, curved frame F, adjustable crank L, with rack and pinion and adjusting notches, lever M, and spring-bar N, substantially as specified.

115,171. — ROTARY ENGINE.—James Cox, Belle Plaine, Iowa.

Claim—1. The arrangement of a series of cylinders, E, radiating from a common hub, C, and provided with the piston-weights F and piston-rods G, as and for the purpose set forth.

2. The combination of the adjustable steam-chest H, for conveying steam to the cylinder, with the face-plate D, provided with its inlets *b*, constructed and arranged substantially as described, for the purposes set forth.

3. The combination of the shaft B, face-plate D, cylinders E, piston-weights F, piston-rods G, steam-chest H, and set-screw J, arranged and operating substantially as and for the purpose herein set forth and shown.

115,172.—STAMP-MILL.—John M. Crawford, Philadelphia, Pa.

Claim.—1. The cylinder H, provided with frictional lifting-cams F and guide-flange I, in combination with sleeve G and stamp-stem M, when constructed and operated substantially in the manner and for the purposes specified.

2. The sleeve G and collars *g*, in combination with stamp-stem M, when constructed and operated substantially in the manner and for the purposes set forth.

3. The combination of wheels E', cam-shafts E, cylinders H with cams F, and flanges I, stamp-stem M, beveled wheels S and R, shaft *q*, and cog-wheels Q and P, when constructed and operated substantially in the manner and for the purposes described.

4. The wing or flange N on the boss on shoe *m*, in combination with the stamp-stem M, having a square or angular portion, for the purposes and in the manner specified.

115,173.—CENTER-BOARD.—Alonzo G. Crossman, Huntington, N. Y., assignor to Franklin M. Crossman, same place.

Claim.—The combination of the center-board B C, the frame A A, and the stay D, substantially as hereinbefore set forth.

115,174. — BOILER WASHING-MACHINE.—James Curtis, North Parma, N. Y.

Claim.—The combination, with the wash-boiler A, of the cylinder B, constructed with a closed periphery formed into a series of flutes or corrugations, and with closed ends perforated near the outer edge with a series of holes, as herein described, and for the purpose specified.

115,175.—METHOD OF BOXING BLIND-STAPLES. — Birum C. Davis, Binghamton, N. Y., assignor to himself and Robert B. Doubleday, same place.

Claim.—The combination and arrangement of the box A, having uniform grooves B B, with the strips or bars C C loaded with blind-staples, substantially as shown and described, for the purpose specified.

115,176.—FASTENER FOR DOORS AND WINDOWS.—Jacob Z. Davis, San Francisco, Cal.

Claim.—A fastener for doors, windows, and for other purposes, consisting of a metallic plate formed with a hook at one end, in the plane thereof, and provided with two or more holes for receiving the holding-screw or screws, substantially as shown and described.

115,177.—CHURN-DASHER.—Samuel F. Dolloff, Bloomington, Ill.

Claim.—A churn-dasher and cream-breaker, composed of the shaft A and arms B B, said arms being flat and diagonal on their rear sides, and the front sides beveled from *a* to *b*, and from *b* to the outer end flattened diagonally, either plane or concave, substantially as and for the purposes herein set forth.

115,178. — WINDOW-SHADE FIXTURE.—Alfred S. Dickinson, Brooklyn, N. Y.

Claim.—In self-winding shade-fixtures, the shade A, roller J, and its brackets L L, and bars G and B, when suspended and capable of being operated, substantially as and for the purpose herein shown.

115,179.—CHUCK FOR WOOD-LATHES.—Robert H. Dowling, Fenton, Mich., assignor to himself and Charles Winslow, same place.

Claim.—The construction and arrangement of the mandrel A and cruciform heads B and C, provided with set-screws *d* or their equivalents, substantially as and for the purpose set forth.

115,180. — TAILOR'S MEASURE. — Ithamar Du Bois, Brooklyn, N. Y.

Claim.—1. The vibrating block E and the sliding block F, provided respectively with the rods B^1 B^1 and B^2 B^2, in combination with the slotted rule or graduated bar A, the elastic piece N, and upright rule D.

2. The rule K, with its toothed graduated upright rule L, combined with the plumb-line and bob M, and with the blocks E and F, and rods B^1 and B^2, the upright rule D and elastic rule N, all made and operating substantially as set forth and described, or their mechanical equivalents.

115,181.—GUN-CARRIAGE.—James B. Eads, St. Louis, Mo.

Claim.—1. In combination with the gun A and levers B, the connecting-rod L, cross-head K, piston I, cylinder E, cylindrical piston-rod J, cylindrical plunger N, and valve O, or their substantial equivalents, for the purpose described.

2. The combination, with the cylinder E, of the movable head H, arranged and operating substantially as described, to adjust the air-cushion to correspond with the force of recoil.

115,182.—APPARATUS FOR CARBURETING.—George Edmonds, New Orleans, La.

Claim.—1. The basket D, provided with distributing-rings *y*, constructed substantially as and for the purpose specified.

2. In combination, the pump A, bellows B, reservoir C, basket D, and air-chamber M, constructed and connected substantially as and for the purpose specified.

3. The air-chamber M, arranged between the reservoir and the burner, and constructed substantially as and for the purpose specified.

115,183.—FOLDING BOX.—Nicolaus Erpelding and John Erpelding, Chicago, Ill.

Claim.—1. The folding box, consisting of the frame A, having the top, side, and end pieces hinged thereto, with the bottom G secured by a sliding joint to the end pieces, all substantially as described.

2. The inner plate D, arranged to fit within the bottom of the box and hold the side and end pieces in position, substantially as described.

115,184.—THILL-COUPLING.—John H. Fleming, Dundee, Mich.

Claim.—1. A device for securing the shafts or poles to wagons, wherein the jaws A and shaft or pole-iron D are constructed and arranged to operate substantially as set forth.

2. In combination therewith the clamp E, for the purposes set forth.

115,185.—STRIPPER-CARRYING FRAME FOR CARDING-MACHINES. — John F. Foss, Lowell, Mass., assignor to himself and John N. Pierce, same place.

Claim.—1. The stripper-carrying arms E, constructed as described, each with an offset, *g*, a shaft-receiving hub or plate, *f*, and a depending lower portion, I, arranged within the frame-work, whereby the lower cross-bar H can be applied in the manner and for the purpose described.

2. The stripper-carrying arms, constructed as described, in combination with and connected by cross-bars H and G, all constituting a frame-work capable of being traversed or oscillated from one side of the card to the other by a single traversing mechanism, substantially as described.

3. The lower cross-bar H, in combination with and carried by the depending arms I, arranged between the end frames D, for the purpose and in the manner substantially as described.

115,186. — LAND-MEASURING REGISTER.—William Frasius, Chatsworth, Ill.

Claim.—The measure A, provided with pivots B B' and arch C, or its equivalent, in combination with shaft D, the whole arranged to operate substantially as and for the purpose described.

115,187.—ROCK-DRILLING MACHINE.—Gideon Frisbee, Titusville, assignor to himself and Samuel E. Griscom, Shenandoah, Pa.

Claim.—1. The cams or eccentrics E, operating as described.

2. Facing the cams or wedges with diamonds or other hard substances, as and for the purpose described.

115,188.—SAMPLE-BOX FOR CIGARS.—John C. W. Frishmuth, Philadelphia, Pa.

Claim.—A sample-box for cigars, containing two compartments furnished with lids, or with a lid and drawer, all substantially as set forth.

115,189. — VAPOR-BURNER. — Thomas S. Gates and Alexander H. Fritchey, Columbus, Ohio.

Claim.—The application and attachment of the small tube or conductor K, of such different lengths and shapes as may be required to the mixing or gas-chamber B, communicating therewith at any suitable distance beyond the oxygen-holes D, for the purpose of conducting a portion of the oxygenized vapor back to the outer surface of the generating-chamber G for heating purposes.

115,190. — PLATFORM-SCALE.—William P. Goolman, Kansas City, Mo.

Claim.—1. In combination with the system of levers C C, C^1 C^1, C^2, and D, the bearing-connected standards D^4, substantially as set forth.

2. The combination of the diagonal beams B and bearing-blocks B^2 adjustable thereon, substantially as and for the purpose set forth.

3. A lever constructed with a square removable knife-edge, when the latter is secured to the former between two cars, c c^1, one of which is detachable, substantially as and for the purpose set forth.

4. The combination, with a lever, of a knife-edge, C^3, plate c^4, and block c^2, arranged substantially as and for the purpose set forth.

5. The combination of the car L, of the weight and case L^1 thereof, when the latter is pivoted upon the former at one end and constructed with a fixed tooth, l^2, at the other, substantially as and for the purpose set forth.

6. In combination with the car L, constructed with a projection, l^2, and the case L^1, the bell-crank lever L^4, substantially as and for the purpose set forth.

7. In combination with the beam I, the lopsided weight N, when arranged on a horizontal axis secured to the beam so as to operate substantially as set forth.

115,191.—SPINNING-MACHINE.—John Goulding, Worcester, Mass.

Claim.—In combination with the bobbin-frame and bobbins, the sleeve, shoe, or brake M, and the described mechanism for operating it to vary the friction upon the spindle, substantially as described.

115,192.—SCHOOL-DESK AND SEAT.—George H. Grant, Richmond, Ind.

Claim.—1. The combination and arrangement of joint-piece H and bracket F, having recess d and rubber block e, with bolt I and nut i, substantially as and for the purpose set forth.

2. The tongue or tenon E, in combination with the standards A and gained seat-back C, substantially as and for the purpose specified.

115,193.—GAS-BURNING FURNACE.—Jacob Green, Philadelphia, Pa.

Claim.—1. The combination of the air-chambers G G, perforated walls a a', and mixing-chamber, the whole being arranged and applied to a furnace, substantially as set forth.

2. The combination of the above with the steam-chamber E and perforated wall b.

3. The combination of the lower chambers H and I with the upper chambers G G, E, and B, and communicating passages.

115,194. — DEVICE FOR TURNING AND CANTING LOGS.—David S. Griffes, Flint, Mich.

Claim.—1. The construction and arrangement of the rock-shaft E, lifting-cams E', rocker-arm F, hooked rod F', disk I provided with wrist-pin or pins e, and the cranked shaft G, with relation to the shaft H and tilting-levers D, substantially as and for the purpose set forth.

2. The arrangement, with relation to the rocker-arm F, of the shaft J, cam f, and foot-lever g, as and for the purpose set forth.

115,195. — SHOW-CASE. — William Henry Grove, Philadelphia, Pa.

Claim.—A show-case, consisting of strips or moldings for retaining the glass, and of detachable strips, plates, or corner-pieces for connecting the moldings together, substantially as described.

115,196.—DIE FOR FORGING AXLES.—John Harrington, Bridgeport, Conn.

Claim.—The dies B S i n and D m u i e jointly with the breaking-down die A, connected therewith, substantially as described.

115,197.—HEMMER FOR SEWING-MACHINES. Milo Harris, Jamestown, N. Y.

Claim.—The double scroll, provided with the slot f, in combination with the plate c, as and for the purpose specified.

115,198. — PNEUMATIC ENGINE.—John F. Haskins, Fitchburg, Mass.

Claim.—1. In an apparatus for delivering liquids under and by the action thereon of compressed air or gases, the valve-operating mechanism combined and arranged substantially as shown and described.

2. In combination with said mechanism, the intermediate lifters v and w, arranged as specified.

3. The combination of the hollow piston-rod b with the cap d and guide e, as and for the purpose specified.

115,199. — HARVESTER-DROPPER. — Israel Hedges, Radnor, Ohio.

Claim.—1. The spring m, lever G, rods k k' r t, angular lever I, cut-off H, and dropper E, all combined and arranged for joint operation, substantially as and for the purpose set forth.

2. In combination with the above, tripping-lever n, substantially as and for the purpose described.

115,200. — CLOTH-STEAMING APPARATUS.—Luke M. Heery, Hinsdale, Mass.

Claim.—1. The cylinder a, provided with the head b, and combined with the pipes d^1, packings e f, block f, and lever g, as specified.

2. A spiral wrapper for enveloping a cloth-bale while steaming the same, as specified.

115,201. — COMBINED THRASHER, GRAIN-SEPARATOR, AND CLEANER.—George W. Heiges, Franklintown, Pa.

Claim.—The combined thrashing-machine, grain-separator, and fanning-mill herein decribed, when these several devices are constructed as set forth, and are made detachable, and arranged to be operated separately or together, as and for the purpose substantially as specified.

115,202.—BLEACHING RUBBER, GUTTA-PERCHA, &c.—John Helm, Jr., New Brunswick, N. J.

Claim.—The treatment of India rubber, gutta-percha, or other allied gums with chlorine in a liquid form or in solution, substantially as and for the purpose herein described.

115,203. — PRESS FOR FINISHING CLOTH, &c.—Conrad Heubach, Chicago, Ill.

Claim.—A press for finishing cloth, consisting of the frame A with a hollow bottom or bed, D, and hollow follower F, and screw G, the whole constructed and arranged to operate substantially as herein described.

115,204.—PROPULSION OF VESSELS.—Reuben W. Heywood, Baltimore, Md., assignor to himself and Warfield T. Browning, same place.

Claim.—1. The apparatus for throwing the clutch o out of gear, consisting essentially of the cord h, knobs d', staple y, cylindrical block z, sheaves x b', cord w, and sliding arm s, arranged as described.

2. The apparatus for throwing the clutch o into gear, consisting essentially of the block z h', rib g', spring-bar c', sheaves x b', cord w, and sliding arms s, arranged as set forth.

3. The apparatus for stopping the carriage, consisting essentially of the lever k', cord l', standard f, wedge m', arranged as explained.

115,205.—FIRE-KINDLER.—Joseph R. Hice, Salem, Ohio.

Claim.—The combination of the rod or handle B and metallic band C inclosing a fire-kindling compound, all substantially as set forth.

115,206.—METALLIC HEEL FOR BOOTS AND SHOES. — Augustus L. Holbrook, Fremont, Neb.

Claim.—The herein-described metallic heel for boots and shoes, consisting of the shell A having a beveled edge, D, web E provided with a slotted hole, H, and key or rivet I having a broad head, K, all constructed and arranged in relation to each other substantially as described, and for the purpose set forth.

115,207.—VULCANIZING APPARATUS.—Burritt M. Hotchkiss, Naugatuck, Conn., and George M. Allerton, New York, N. Y.

Claim.—A cylinder and piston outside the vulcanizing-chamber, and pipes connecting with a supply of fluid or liquid under pressure, substantially as specified, whereby the power exerted to hold the molds together with a yielding force is independent of the vulcanizing operation, as set forth.

115,208.—STEAM-ENGINE. — John Houpt, Springtown, Pa.

Claim.—In combination with the superheater G, the air-heating and supplying-pipe D, operating to aid in increasing the heat and quantity of the steam in the superheater G, substantially as and for the purpose hereinbefore set forth.

115,209. — PROCESS FOR UTILIZING IMMATURE COTTON-BOLLS. — John Hughes, New Berne, N. C.

Claim.—The process herein described of opening the immature cotton-bolls and preparing the cotton-lobes for ginning, substantially as and by the mechanism specified.

115,210.—SCROLL-SAW.—Hugh H. Humphrey and Henry Bickford, Cincinnati, Ohio, assignors to Henry Bickford.

Claim.—1. The combination of the ways B B', saw C, rolling arms D D', links E E', and suitable springs F to confine the arms to the prescribed path on the ways, substantially as and for the purpose set forth.

2. In combination with the frame A, saw C, arms D D', and links E, the springs F, adapted not only to press the arms against the frame but to give the upward stroke to the saw.

115,211.—BUNG-BORER.—William A. Ives, New Haven, Conn.

Claim.—The herein-described bung-borer, consisting of the pod C provided with a suitable handle, having the cutting-edge d formed by chamfering from the outside in, and constructed with a gimlet-point, a, as herein set forth.

115,212.—VELOCIPEDE.—Bernhard Janson, Effingham, Ill.

Claim.—In a velocipede, the arrangement of two driving-wheels turning on independent axles, worked by power applied through separate and independent levers and pendent treadles, as herein described, for the purpose specified.

115,213.—CULTIVATOR AND WEEDING-MACHINE.—Moses Johnson, Three Rivers, Mich., assignor of one-half his right to John G. Ott, same place.

Claim.—The implement herein described, consisting of the cross-head A, beam B, shanks C, nuts c^1 c^2, blades D, and handles E, when the same are constructed and arranged to operate as and for the purpose set forth.

115,214. — MOLDER'S FLASK.—Edward F. Jones, Foxborough, Mass.

Claim.—A metallic pin-and-socket connection for wooden flasks, composed of the pin a b c of the one part, and the socket-piece g e of the other part, applied to the contiguous faces of the top and bottom frames of the flask, substantially as shown and described.

115,215.—ROACH OR BUG-TRAP.—James M. Keep, New York, N. Y.

Claim.—The hereinbefore-described device, consisting of the box A, B, and D, partially inclosed by means of the gauze C, and provided with the entrance-tube E and food-receptacle G, substantially as and for the purpose specified.

115,216. — FIRE-KINDLER. — Abraham B. King, Camden, Ohio.

Claim.—The combination and arrangement of the oil-can A, provided with the guard-handle D and match-safe B, with the wire C passing through the cover C', and provided with the removable bulb c, substantially as and for the purposes herein shown and described.

115,217.—TURBINE WATER-WHEEL.—John J. Knowlton, Saccarappa, Me.

Claim.—In a water-wheel, substantially such as described, the combination of the curved wings or walls d and the gates i, pivoted at about their centers, and curved with relation to the wings d, as herein shown and set forth.

115,218.—BRICK-MACHINE.—John L. Kucker, Philadelphia, Pa.

Claim.—1. The rocking-beam E and plungers G, in combination with the cam-faced wheel H, arranged and operating substantially as and for the purpose described.

2. The rocking-beam E and fulcrum D, in combination with the perforated shaft B and cam-faced wheel H, the parts being constructed, arranged, and operating as described.

3. The flat springs N and pushers O, secured as shown, in combination with the fingers M, operating in the manner and for the purpose described.

4. The arrangement, with a single shaft, B, of the rocking-beam E, cam-faced wheel H, blades K, and fingers M, to operate as set forth, for the purpose described.

5. The brick-mold herein described, when provided with the sharp cutting-edges e e, beveled outwardly at the top, as shown, for the purpose described.

6. The mold provided with sliding spring bottoms, substantially as and for the purpose described.

115,219.—MACHINE FOR TRIMMING BOOT AND SHOE-HEELS AND SOLE-EDGES.—Richard C. Lambert, Quincy, assignor to himself and John R. Folsom, Stoneham, Mass.

Claim.—1. In combination, a boot or shoe-hold-

ing jack, having forward and backward and semi-rotative movements, a pattern-frame or guide-rail, (extending entirely around the boot or shoe near the sole,) and a non-rotative knife or cutter, having a gauge resting upon the guide-rail, while the entire length of the rail runs under it, and thereby controlling the position of the cutter and the curve or contour of the edge of the sole and the heel trimmed by the cutter, substantially as shown and described.

2. The rotary guide-bar *c* and the jack-carriage sliding upon said bar, arranged and combined substantially as shown and described.

3. The oblong gear or gear-plate fixed to the rear of the carriage, and slotted to permit the shaft to extend through the plate and the plate to ride longitudinally, substantially as shown and described.

4. The auxiliary jack or jack-carriage, adjustably fixed to and sliding upon the main carriage, substantially as shown and described.

5. The cutter-stock, hung by pivots to permit the edge to automatically tip and assume a cutting angle in accordance with the varying curve of the edge of the sole, and also hung by pivots to permit it to tip to cut the requisite inclination or bevel to the heel-edge.

6. The cutter-frame, (composed of the slide to which the cutter-stock is pivoted and the pivoted cross-rod,) the head to which said frame is hung, and the link and lever for raising or pressing down the cutter-frame, combined and arranged substantially as shown and described.

7. The cutter-frame head, hung upon a pivot by which it can be moved laterally, substantially as described.

8. The heel-pattern plate and the mechanism by which said plate is clamped to the boot or shoe-heel, substantially as shown and described.

9. The heel-clamp frame or mechanism hung upon a pivot, which permits it to be swung into or from position, substantially as shown and described.

115,220.—ALLOY OR BRONZE.—George Montefiore Levi, Brussels, and Charles Maurice Künzel, Liege, Belgium, assignors to Charles James Adolph Dick, Philadelphia, Pa.

Claim.—An alloy of copper and tin, with or without other metals, when treated with phosphorus, substantially in the manner described, and when the proportion of phosphorus in respect to the alloy is limited, as set forth.

115,221.—SAFE.—Samuel S. B. Lewis and William H. Sterling, Troy, N. Y.

Claim.—1. A centrally-bisected safe-door, provided on its inner and outer edges with tongues and grooves, and interlocking with corresponding grooves and tongues in the door-jambs, substantially as shown and described, so that neither edge can be moved square out from its seat, as herein set forth.

2. A safe-door, provided on its inner and outer edges with tongues and grooves interlocking with corresponding grooves and tongues in the door-jambs, and bisected vertically through the center, said central division having also interlocking tongues and grooves, substantially as and for the purposes herein set forth.

3. A centrally-bisected concavo-convex door, with corresponding door-frame, on a safe having square sides, where the door and frame are provided with interlocking tongues and grooves, substantially as and for the purposes herein set forth.

115,222.—ANIMAL-TRAP.—Christopher Long, Newark, Ohio.

Claim.—In combination with a spring trap, substantially such as described, a turning spindle, *c*, with a rounded notch or shoulder, *c*, and which spindle serves as a trigger and bait rod, as represented.

115,223.—THRASHING-MACHINE AND SEPARATOR.—Martin H. Mansfield, Ashland, Ohio.

Claim.—1. The vibrative shoe J, constructed with an imperforated step or steps, *o o'*, and screen *q* at its front end, and arranged as shown, in combination with the cylinder *a'*, straw-carrier C, grain-receiving table D, vibrating screen G, fan F, and spout S, substantially in the manner and for the purpose described.

2. The open rotary-screw beaters *t*, in combination with a straw-carrier of a separating-machine, substantially as and for the purpose described.

3. The arrangement of the pitmen *g g'* and double throw-cranks *r r* on the outside of the frame of the machine with suspenders *d d' c' c'*, straw-carrier C, and grain-table D, all in the manner and for the purpose described.

4. The arrangement of the adjustable and removable curtains *b* and adjusting device *b'* upon the end of the fan-case, and in relation to the wheels *B'* of the carriage, all in the manner shown and described.

5. The arrangement of shoe J, constructed as described, in relation to the hulling or thrashing cylinder, discharge-spout, and blast-fan, all substantially in the manner specified and shown.

115,224. — CHECK-REIN SWIVEL. — Arnold P. Mason, Frankliuville, N. Y., assignor to William H. Bard.

Claim.—The loop or check-swivel A and buckle B, constructed, arranged, and operating substantially as and for the purposes herein shown and described.

115,225.—COTTON-BALE TIE.—James R. McClintock, New Orleans, La., for himself and as the legal representative of John Cumberland, deceased, assignee of himself and said Cumberland.

Claim.—The buckle A, provided with a single central opening or slot, B, when the same is used for fastening the ends of metallic bands together around cotton-bales, in the manner substantially as herein described.

115,226. — COTTON-GIN.—Francis M. McMeekin, Morrison's Mills, Fla.

Claim.—The angular-toothed shaker E *b*, constructed as described, and operating in combination with the doffer and teeth or grate on the feed-board of a cotton-gin, substantially as and for the purposes herein set forth.

115,227.—MACHINE FOR SHELLING CORN.—James Miller and Napoleon Dubrul, Joliet, Ill.

Claim.—1. In combination with the hopper D and rag-piece N, the springs N' and O, constructed and arranged substantially as described and shown.

2. The combination and arrangement of the spring O, arm P, and rag-piece N, as and for the purpose herein specified.

3. The combination of the carrier-shell K, constructed with the upper beveled portion *l* and the picker wheel F, both constructed and arranged substantially as described and shown.

4. The combination of the door L, the carrier-shell K, and the picker-wheel F, when said parts are constructed and arranged to operate as described and shown.

5. In a corn-sheller, the cast-iron shaft-beds A''', provided with lower boxes B', constructed, arranged, and secured in place substantially as described and shown.

115,228. — COFFEE-ROASTER.—Richard L. Mills, Springfield, Ohio.

Claim.—1. The corrugated lining or inner cylinder *f*, in combination with the outer casing *f'* of cylinder B, substantially as and for the purpose hereinbefore set forth.

2. The three bearing points for the cylinder, consisting of upright *b*, collar *n*, and post D, substantially as described, for the purpose set forth.

3. Bearing-pin *c*, upright *b*, collar *n*, upright *b'*, and cylinder B, in combination, substantially as and for the purpose hereinbefore set forth.

4. The adjustable furnace mechanism, consisting of the hinged end plates A', outer furnace-plates E, grates C, locking-braces *i*, and rods *i''*, substantially as shown and described, for the purpose set forth.

5. Frame G, in combination with the adjustable furnace mechanism and roasting-cylinder described, substantially as and for the purpose hereinbefore set forth.

6. Gas-pipe *m*, in combination with cylinder B, cover A, end plates A', outer furnace-plates E, and frame G, substantially as described, for the purpose hereinbefore set forth.

115,229.—CORPSE-PRESERVER.—George W. Nash, Columbus, Ohio, assignor to himself and George Jamison, same place.

Claim.—In a corpse-preserver, the open removable ice-chamber F, arranged to surround the head and shoulders of the body and communicate with the chamber A, in combination with the upper open ice-box C, arranged to also communicate with the chamber A at the passages *a a*, as described.

115,230. — PERMUTATION-LOCK. — Jacob Obernesser, Cincinnati, Ohio.

Claim.—1. The lever A and cam A', arranged to operate substantially as described, whereby the dog may be raised and held free from the permutation-wheels while the combination is being changed, as set forth.

2. The operating-cam or arm A', located as described, so that the key that is used to loosen the dials on their hubs shall also serve to operate the cam, and through it the lever that raises the dog, substantially as described.

115,231. — PERMUTATION-LOCK. — Jacob Obernesser, Cincinnati, Ohio, assignor to Charles Diebold and Jacob Kienzle, same place.

Claim.—1. The combination of the yoke A, constructed with slot and tongue S and the lever E, provided with a fly or pin, Z, substantially as and for the purpose set forth.

2. The combination of the yoke A, constructed with slot and tongue S, the lever E, provided with pin Z, eccentric wheel B, and disk C having lug D thereon, substantially as and for the purpose set forth.

115,232.—SCHOOL-DESK.—John Peard, New York, N. Y.

Claim.—1. The flanged reading or book-board F G, attached to the under part of the pivoted desk-board B, substantially as herein shown and described, and for the purposes set forth.

2. A desk, B, pivoted brackets C C, having cheeks *c*, and the circular end *a'* of the frame having recess with shoulders *a² a²* thereon, all combined with reading-board F G, and constructed and arranged as and for the purpose specified.

115,233.—SPINDLE-STEP AND COVER FOR SPINNING-MACHINES.—Oliver Pearl, Lawrence, Mass.

Claim.—The spindle-step, provided with the pocketed projection B, the oil-reservoir *a*, annular space *d*, the perforated lateral bearing C, and the oil-receiving cup or space over the latter, and also having the cover or cap D applied as described to the body of the step, all being constructed and arranged substantially as set forth and represented.

115,234.—WASH-BOILER.—Henry W. Pell, Rome, N. Y.

Claim.—1. The combination of the bottom B, the sides C, apertures *e* in upper part of sides, and the deep channel F extending longitudinally of the bottom, and formed with perforations *f* for the passage of water, all as herein described, for the purpose set forth.

2. The combination of the inner boiler B C F and the double perforated lid D E, constructed and operating as described.

115,235.—EXTENSION BUSTLE.—George V. Pierce, Jersey City, N. J.

Claim.—The bustle, composed of the supporting-stays A A provided with extending ribs *c c*, to which stays the springs B are connected at their ends, and with the upper and lower edges of said stays, by straps, tapes, or flexible braces *e*, and adjustable by the lace *b*, hook and eye *a*, and strings *e*, all arranged substantially as herein shown and described.

115,236.—CAR-COUPLING.—Hiram Plumb, Philadelphia, Pa., assignor to William A. Drown, Jr., and Edward Evans, same place.

Claim.—A coupling consisting of two heads, A A', each of which has a recess with a flaring mouth, a horizontal pin, *h*, operated by a lever, E, hung to the head, and a vertical pin, to which is hung a link, D, having a beveled outer end and a hooked projection beneath the same, all as described.

115,237.—HEAD-BLOCK. — Hiram M. Popple, Warren, Pa.

Claim.—1. In combination with the hollow knee B, the slotted dog C, arranged within the walls of the knee, and operated by the lever C' and link *c¹*, as described.

2. The shaft G, provided with the spiral row of studs *g*, in combination with the knee B, as set forth.

3. The combination of shafts G H, gears *g h*, and hand-wheel H', substantially as described.

4. The crank-wheel E¹, provided with shoulders *e e¹*, in combination with pawls E, shaft E², and stop *e²*, when these parts are constructed and arranged for joint operation, as described.

115,238.—DEVICE FOR ATTACHING NAPKINS TO THE PERSON. — Philip H. Raiford, Houston, Texas.

Claim.—The flexible metallic or gutta-percha band B, slitted transversely, and having a napkin attached thereto in any suitable manner, capable of being distended so as to slide over and encompass the neck, whereby the napkin is retained in proper position over the bosom of the user, as herein shown and described.

115,239. — PRIVY. — Frank Riedel, San Francisco, Cal.

Claim.—1. The combination of the seat, rods, straps D, and projection C, as described.

2. In combination with the weight F having an opening, G, and cushioned end, the jointed arm H attached to the door, as described, and for the purpose set forth.

115,240. — GRAIN-DRIER. — Alfred Robert, Paris, France.

Claim.—1. A drying apparatus, consisting mainly of a perforated or gauze casing A, containing a number of heating-tubes, B, and a perforated or gauze ventilating-pipe, D, the whole being constructed, arranged, and operating so that the air shall traverse the body of grain transversely, substantially as described.

2. The combination, substantially as herein set forth, of chambers E and E' with the heating-tubes B.

3. The combination and arrangement, substantially as herein described, of the heating-tubes B, chamber E', pipe *g'*, flue F, and ventilating-tube D.

115,241.—DEVICE FOR ATTACHING BOOMS TO MASTS.—Ezekiel Rogers, Waterford, assignor to himself and H. A. Brown, New London, Conn.

Claim.—1. The semicircular shackle D, provided

with projecting studs *d* for connecting with the jaws of the boom, and the binding-strap E, the two being connected substantially as described, for the purposes specified.

2. The improved gaff jaw herein described, consisting of the jaws *c* and *c'*, and the semicircular shackle D, the two being permanently connected by means of the studs *d*, substantially as described

115,242. — CAR-COUPLING. — John Royal, Moses A. Lontz, and Jeremiah M. Deibert, La Fayette, Ind.

Claim.—The combination of the bumper A, partition B, pins C C', slide D, arm *b*, lever E, spring *d*, and rack G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

115,243, antedated May 11, 1871.—PREPARING AND TREATING IRON ORES IN THE MANUFACTURE OF STEEL.—Edward L. Seymour, New York, N. Y.

Claim.—Preparing or producing the granulated or powder-like material, as described, for the making of iron and steel, by the process or series of operations set forth, namely, taking iron ore in a granulated or pulverized state, subjecting it to a high heat in the manner and to the extent described, and then suddenly and intimately admixing it with pulverized carbon, as set forth, and for the purposes and with the results set forth, and then separating the pure metallic iron powder from the waste remainder of the disintegrated ore, as explained.

115,244.—DUMPING-WAGON.—Jacob Skeen, Mound City, Ill.

Claim.—1. In combination with the side pieces A of a wagon, the yoke-bar C, constructed and arranged substantially as described and shown.

2. The means employed for supporting and giving elasticity of motion to a wagon-body, consisting of the spring-bar F and India-rubber springs H, the spring-bar and springs being constructed, arranged, and operated substantially as described and shown.

3. The fifth-wheel M and N, constructed and arranged substantially as described and shown.

4. The hollow spindles J, provided with flanges *l*, *m*, and *n*, in connection with a wagon-hub, when said spindles are constructed and arranged substantially as described and shown.

5. The boxes K and K', in connection with the spindles J, substantially as described and shown.

6. The dumping-wagon described and shown as a complete whole, constructed, arranged, and operating substantially as set forth.

115,245. — FIFTH-WHEEL. — Jacob Skeen, Mound City, Ill.

Claim.—1. The ring B, provided with arms C and shackle-bars D cast in one piece, constructed and arranged substantially as described and shown.

2. The ring I, provided with yokes K, constructed and arranged substantially as described and shown.

3. In combination with the ring B, the truss-rod H, constructed and arranged substantially as described and shown.

115,246.—FIFTH-WHEEL AND ATTACHMENT. Jacob Skeen, Mound City, Ill.

Claim.—1. In fifth-wheels, the combination of globular bearing surfaces, constructed and arranged substantially as described and shown.

2. In combination with a fifth-wheel, and forming a part of the same, the arms D' and E, constructed and arranged substantially as described and shown.

3. The combination of the fifth-wheel C, constructed as described, and the side springs F, constructed, attached, and arranged substantially as set forth.

4. The combination of the side springs F and the India-rubber spring K, constructed, arranged, and operated substantially as described and shown.

5. The bounds M, cast in one piece, constructed and arranged substantially as described and shown.

6. The combination of the bounds M and the fifth-wheel C, when both are constructed and arranged substantially as described and shown.

7. The combination of the hook O, the bounds M, and the fifth-wheel C, for the purpose of converting a flexible tongue to a stiff tongue, constructed and arranged substantially as described and shown.

115,247.—LUBRICATOR FOR MACHINERY.—George E. Smith, Fitchburg, Mass.

Claim.—1. The tube or passage A leading from or about the top of the oil-cup, and communicating with the space in the neck or shank of the same, arranged and operating substantially as described.

2. The oil-cup, provided with the longitudinal passage A, with its two openings, as described, in combination with the porous substance *f*, when the same are constructed and arranged to operate together, as and for the purpose set forth.

115,248. — PULLEY-BLOCK.—Henry Smith, Providence, R. I., assignor of one-half his right to Fred. R. Gibbs, same place.

Claim.—1. The lubricating-chamber E within the wheel, surrounding the sleeve, and provided with the supply-duct *g* and the discharge-duct *f*, the latter being so located with reference to the interior ends of the lubricating-chamber that oil can only be discharged by the attraction of the fibrous absorbent, substantially as shown and described.

2. The combination of the bearings C and C', the sheave, and the loose axle D, the whole being so arranged that the sheave is free to revolve on the axle and the axle free to turn in its bearings, substantially as shown and described.

3. The combination of the block with the bearings C and C', the sheave, the loose axle, and the removable end plate *e* so arranged that the axle and sheave may be freely removed from the block, substantially as described.

4. The improved pulley-block with its sheave, provided with a lubricating-chamber, and loosely mounted upon an axle or shaft, which in turn is free to revolve in bearings provided therefor in the walls of the block, all substantially as described.

115,249.—LOCK-NUT.—Loyst J. Smith, New York, N. Y., assignor to himself and Henry D. Blake, same place.

Claim.—1. The metallic washer, made as a segment of a cylinder, with the spring tongue upon one side thereof, to hold the nut in the manner specified.

2. The spring tongue *h*, with the outer end turned back to take a bearing so as to support the tongue at both ends, as and for the purposes specified.

115,250.—TOWEL-RACK.—Peter A. Snyder, Jersey City, N. J.

Claim.—The hereinbefore-described towel-rack, consisting of the disk C, secured to or upon a suitable standard, and provided with the openings E, and combined with the bars F G, constructed as and for the purpose shown.

115,251.—FLUTING-MACHINE.—Henry Sommer and Charles Bauer, Newark, N. J.

Claim.—The arrangement of the frame C, cam-lever *b*, upper roller *a* with the hinged supporting-frame D, constructed and operating as herein shown and described.

115,252.—TRAP-BALL.—Charles F. Spencer, Cleveland, Ohio.

Claim.—As a new article of manufacture, a skeleton metallic trap-ball, formed from a series of thin wires or bars, their ends being united together by means of the grooved eyelets or heads B, substantially as and for the purpose set forth.

115,253.—BUNG-CUTTER.—Adolf Wilhelm Cristian Sternberg, Davenport, Iowa.

Claim.—The combination of the sliding socket F with the pin *e'*, adapted to lift the shaft E within the stationary shaft B, as described.

2. The slotted face-plate a^3, pivoted at a^3, combined with and constructed to adjust the cutter D, substantially as described.

115,254.—ROTARY PUMP.—Hanson P. Tenant, East Germantown, Ind., assignor to himself, Jacob Spence, and Henry M. Sowers, same place.

Claim.—A rotary pump consisting of the grooved plates S fitting into the cam-groove K, shell A, cylinder B, abutments C D, radially-slotted disk H, and pistons I I provided with packing, compressible by means of plate R, and adjusting-screws *r r*, all constructed, arranged, and operated in the manner and for the purpose set forth.

115,255.—FAN ATTACHMENT FOR SEWING-MACHINES.—George Thompson, Springfield, Ill.

Claim.—1. In combination with the treadle G and supporting-rod I, the pivoted levers L and O, the fan M, and the connecting-rods N and Q, substantially as and for the purpose specified.

2. In combination with the driving-wheel E and supporting-rod I, the gear-wheel W, the pivoted levers R and O, the pivoted sleeve T provided with the arms *t* and *t'*, the connecting-rods U and V, and the pinion S provided with the crank *s*, substantially as shown, and for the purpose described.

115,256. — EARTH-CLOSET. — Charles A. Wakefield, Pittsfield, Mass.

Claim.—1. The combination, with the hopper A, of the pendent swinging hopper-bottom F, provided with a charging-chamber *e*, having a valve or flap-bottom for operation as shown and described.

2. The fingered sprinkling-chute G, constructed and arranged for operation in relation with the earth-hopper and soil-pit or chamber, delivering the earth between and beyond their ends, essentially as shown and described.

115,257.—HANDLE FOR SHOEMAKER'S TOOL. Charles G. Wegner, Philadelphia, Pa.

Claim.—As an article of manufacture, a handle for shoemakers' tools, constructed of the metal handle A and wooden bushing B, combined and operating together, substantially as and for the purpose described.

115,258. — REVOLVING FIRE-ARM. — Eli Whitney, New Haven, Conn.

Claim.—In combination with the spindle B, constructed with the notches *i* or *s*, one or both, and arranged in the frame as described, the notched slide *a* arranged and operating, as specified, to lock and secure the spindle.

115,259, antedated May 20, 1871.—BLOWING-MACHINE.—James M. Williams, Connersville, Ind.

Claim.—1. The cylinder-head herein described, composed of the perforated flat-plate B and the perforated concavo-convex plate B', arranged substantially as and for the purposes set forth.

2. In combination with the head B B', the valve E, playing upon the piston-rod C, substantially as and for the purposes herein set forth.

3. The combination of the cylinder A, double heads B B', rod C, piston-head D, valves E, chute G with openings *a a* and partition *d*, and the air-chest H with double-pivoted valve *b*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

115,260.—SASH-HOLDER. — Byron Wilmot, Montana, Iowa., assignor to himself and J. K. Gulihur, same place.

Claim.—The sleeve I, constructed as described, and combined with the slide R, rod F, and plate *k*, as and for the purpose set forth.

115,261.—CAR-TRUCK. — Reuben Winslow, Lock Haven, Pa., assignor to himself and Reuben Winslow Petrikan, same place.

Claim.—A car-axle, having the car or truck-frame suspended upon it in such a manner as to enable the axle-boxes to vibrate fore and aft, substantially as specified.

115,262, antedated May 11, 1871.—LAMP.—Frederick Yeiser and Stephen William Hedger, Lancaster, Ky.; said Hedger assignor to said Yeiser.

Claim.—The globe B and chamber D filled with cotton or other porous substance, in combination with the long tube A and wick-tube *c*, when the space between the two is filled with asbestus or other good non-conductor of heat, when each and all are constructed and arranged substantially as described, and for the purposes set forth.

115,263. — WASHING-MACHINE. — Theodore Tebow, Lexington, Ky.

Claim.—1. The box, composed of the body A, side pieces A', the copper bottom a^3, the pieces *c* c^1, and the screw-bolts *w* with their nuts, in combination with the furnace K having the grate M and ash-box L, when each is constructed and all are arranged substantially as and for the purpose described.

2. The rollers *b*, arranged and revolving in their frame B, in combination with the rubber C, fluted and perforated, as described, suspended and operated upon the uprights D D, the shaft E, the sliding rods T having the heads U U, and the adjustable-handle lever H, when each is constructed and all are arranged and operated substantially as and for the purpose described.

3. The treadle Q Q *q*, cord R, pulleys S and S', sliding rods T T, springs V V, when in combination with rubber C, shaft E, and adjustable-handle lever H, when each is constructed and all are arranged and operated substantially as and for the purpose described.

REISSUES.

4,388.—MACHINE FOR HUSKING CORN.—L. Augustus Aspinwall, Albany, N. Y.—Patent No. 101,809, dated April 12, 1870; reissue No. 4,099, dated August 16, 1870; reissue No. 4,174, dated November 8, 1870.

Claim.—1. A pair of husking-rollers with a depression or depressions in the surface of one or both, formed substantially as set forth, and which alternately pull the husk and then let go the same before the depressed portion of the roller impinges on the ear, substantially as set forth.

2. In combination with the rolls R R, constructed substantially as described, the double gears L L, as and for the purposes set forth.

3. The teeth P, introduced in the husking-roller R at the depressed portion of its surface, as and for the purposes set forth.

4. The knives or cutters M, applied to and combined with the husking-rollers R R, constructed as described, and for the purposes set forth.

5. The method of husking corn by means of rollers constructed and operating substantially as described, which pull upon and let go the husks alternately during their revolution, in the manner and for the purpose specified.

4,389.—BOLT FOR SAFES.—George L. Damon, Cambridge, Mass. — Patent No. 102,780, dated May 10, 1870.

Claim.—1. The shaft B, provided with the sleeve H and the wheel D, when arranged to operate the bolts G, as described, for the purpose specified.

2. The combination of the pinion-wheel D, sleeve H, and pivoted slotted lever K, substantially as and for the purpose described.

4,390.—TURNING-LATHE.—Luther R. Faught, Philadelphia, Pa.—Patent No. 60,163, dated December 4, 1866.

Claim.—The combination, with the spindle, of the stock, the split screwed clamping-sleeve embracing the spindle, and the nut embracing the sleeve, these parts being constructed and arranged to operate in combination, substantially as hereinbefore set forth, to keep the spindle in its true axial position, and to compensate for the wear of the spindle and sleeve, as described.

4,391. — Division A.—SCREW-PROPELLER FOR WATER-METERS. — National Meter Company, New York, N. Y., assignee of Henry F. Read.—Patent No. 92,884, dated July 20, 1869.

Claim.—1. A screw-propeller for liquid-meters, made in a metallic mold, essentially as described.

2. A screw-propeller for liquid-meters, having its body, spiral vanes or wings E, and interior screw-threads cast at one and the same operation, essentially as described.

3. A hard rubber screw-propeller for liquid-meters, as described, as a new article of manufacture.

4,392.—Division B.—MOLDING PROPELLERS FOR WATER-METERS. — National Meter Company, New York, N. Y., assignee of Henry F. Read.—Patent No. 92,884, dated July 20, 1869.

Claim.—1. The hollow cylindrical metallic mold for screw-propellers of liquid-meters having spiral openings E′ E′, when formed either by spiral segments G G, or in one piece, substantially as described.

2. The collars J and J′, in combination with the spiral segments G G and the screws *f f*, whereby said parts are securely fastened in position, constructed substantially as and for the purpose described.

3. The openings E′ E′, between the segments in which the wings of the propeller are molded, when constructed substantially as and for the purpose described.

4. The cap H, holding the body of the mold, and securely covering the several spiral segments and openings, constructed substantially as and for the purpose described.

5. The mold for casting spiral propellers, provided with spiral openings E′ E′, having a pitch from one end of the mold to the other, so that the casting may be drawn from the mold by being turned upon this spiral pitch, substantially as described.

6. The caps A and A′, in combination with the plungers K and K′, for holding the mandrel and shaft in position and forcing the material to be molded into every part of the mold, constructed and arranged substantially as described.

7. The steel mandrel I with its male screw-thread, upon which is formed the female screw *p′* in the body of the propeller, in combination with the plungers K K′, and collars J J′, as set forth.

4,393. — KITCHEN-BOILER. — William B. Scaife, Pittsburg, Pa.—Design No. 4,224, dated July 12, 1870.

Claim.—The design for a kitchen-boiler herein described, substantially as shown in the accompanying drawing.

4,394.—MANUFACTURE OF BAYONETS, AND APPARATUS THEREFOR. — Hervey Waters, Boston, Mass.—Patent No. 47,590, dated May 2, 1865.

Claim.—1. The improvement in the manufacture of bayonets, substantially as described.

2. A system of grooves for drawing and shaping, substantially as and for the purpose specified.

4,395.—HARVESTER-RAKE.—John C. Durborow, Ellicott City, Md.—Patent No. 78,654, dated June 9, 1868.

Claim.—The inclined shaft C, provided with the fixed gear-wheel B, in combination with the revolving gear-wheel E and inclined rake and reel-arms constructed and operating in the manner and for the purpose set forth.

4,396.—AUTOMATIC REGULATING-VALVE.—Birdsill Holly, Lockport, N. Y.—Patent No. 94,748, dated September 14, 1869.

Claim.—1. The shell or case A, constructed with a diaphragm, P, and provided with a spring-box B, in combination with the flexible diaphragm J, a valve, G, and a connecting-stem, *g*, substantially as described.

2. The diaphragm J and valve G, connected together by a stem, *g*, and joint *i*, substantially as described.

3. The adjusting-screw *c*, spring C, diaphragm J, partition P, and valve G, constructed and combined, substantially as described.

4,397.—PROCESS AND APPARATUS FOR PURIFYING PARAFFINE AND OTHER SUBSTANCES. — Frederick Lambe, London, England.—Patent No. 102,135, dated April 19, 1870; patented in England, December 4, 1868.

Claim.—1. The mode of treating and purifying paraffine, as above described.

2. The revolving blades or beaters, and perforated periphery A, in combination with the case D, arranged and operating substantially as and for the purpose set forth.

3. In combination with a centrifugal extractor A A, the employment of a close cistern or jacket D, as described, whereby such apparatus is adapted for use in washing and drying crystals of paraffine or other substances or materials which have been treated with hydrocarbon or volatile solvents, substantially as set forth.

4,398.—IRON BRIDGE.—David H. Morrison, Dayton, Ohio.—Patent No. 70,245, dated October 29, 1867.

Claim.—1. The construction of the arch or top chord of a bridge by the use of the iron T-beam, when arranged therein with its double flanges in vertical planes, substantially as described, for the purpose specified.

2. The universal washer B *f*, constructed and applied in the manner and for the purpose specified.

3. The combination and arrangement of the arch beams C, arch joint plates *g*, and universal washer B *f*, when constructed, connected, and operating conjointly in the manner substantially as and for the purpose specified.

DESIGNS.

4,916.—PLATES OF A STOVE.—Jacob Beesley and Josiah J. Ferris, Philadelphia, Pa., assignors to Charles Noble & Co., same place.

Claim.—1. The design for the base-relief figures *i* on the said cap of a stove, as shown.

2. The design for the profile or contour *k l* M N *o* of the illuminating-chamber of a stove, as shown.

3. The design for the base-relief figures *p p′ p″* on the illuminating-chamber, as shown.

4. The design for the contour and ornamentations *r s t* of the legs of a stove, as shown.

5. The design for the contour *u v*, and the ornamental figures and monogram *w*, on the covering hood X of a stove, as shown.

4,917.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa.

Claim.—The design for a carpet, as shown.

4,918.—CARPET-PATTERN.—Jonathan Crabtree, Philadelphia, Pa.

Claim.—The design for a carpet, as shown.

4,919.—MEDAL.—Samuel L. Denney, Christiana, Pa.

Claim.—The design for a medal, as shown.

4,920. — CARPET-PATTERN.—John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,921.—ORNAMENTATION OF THE BOTTOMS OF DRINKING-GLASSES.—George B. Fowle, Cambridge, Mass.

Claim.—The design for the ornamentation of the bottom of a drinking-vessel, substantially as described and shown.

4,922.—CHAIN-PUMP.—Henry L. Fry, Cincinnati, Ohio, assignor to James L. Haven & Co., same place.

Claim.—The design for a chain-pump curb, as shown.

4,923.—GLOVE.—William B. Green, Mayfield, N. Y.

Claim.—The design for a glove-pattern, A, as shown.

4,924.—HOUSING-PLATE.—James L. Haven, Cincinnati, Ohio.

Claim.—The design for a housing-plate, as shown.

4,925.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the tablets A, substantially as shown and described.

2. The design for the tablets A′, as described and represented.

3. The design for the tablets B, as shown and described.

4. The design for the whole pattern, including the tablets A A′, and B, figures *j*, and ornamented space *e*.

4,926.—CARPET-PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the border A of the carpet, substantially as shown and described.

2. The design for the body of the carpet, substantially as described and represented.

3. The design for the whole pattern, including the border A and body B.

4,927.—FLOOR OIL-CLOTH PATTERN.—Victor E. Meyer, Lansingburg, N. Y., assignor to Samuel W. Dunn, Salem, N. J.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

4,928.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,929.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,930.—CUPBOARD-LATCH.—Joseph Ottner, New Britain, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim. — The design for a cupboard-catch, as shown and described.

4,931. — FLOOR OIL-CLOTH PATTERN.—Charles L. Pierpont, Salem, N. J., assignor to Samuel W. Dunn, same place.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

4,932. — FLOOR OIL-CLOTH PATTERN.—Charles L. Pierpont, Salem, N. J., assignor to Samuel W. Dunn, same place.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

4,933.—CAP FOR TRUNK-HANDLES.—Thomas L. Rivers, Newark, N. J.

Claim.—The design for caps for trunk-handles, as shown and described.

4,934.—LAMP-SHADE.—James B. Russell, Wheeling, W. Va.

Claim.—The design for a lamp-shade, having an urn-shaped body, B C, and scalloped crown D, as shown and described.

4,935.—BUNDLE OF KINDLING-WOOD.—Joseph L. Seymour, Washington, D. C.

Claim.—The design for a bundle of kindling-wood, as shown.

4,936.—STREET-LAMP.—Thomas D. Stetson, New York, N. Y., assignor to the Heath & Smith Manufacturing Company, Portland, Conn.

Claim.—The improved design for street-lamps, as shown in the figure.

4,937.—PAPER BAG.—Samuel Winter Valentine, Bristol, Conn.

Claim.—The design for a paper bag, as shown, and folded on the line *a*, substantially as described.

4,938. — DRAWER. — Hiram P. Wetmore, Elizabeth, N. J.

Claim.—The design for drawers, as shown and described.

4,939.—CLOCK-FRONT.—John H. Bellamy, Charlestown, Mass., assignor to Elbridge Walcott and Jonas C. Young.

Claim.—The design for a clock-front, as shown, described, and set forth.

4,940. — REFRIGERATIVE BUCKET. — John Liming, Philadelphia, Pa., assignor to himself and Charles C. Savery, same place.

Claim.—The design for a refrigerative bucket, substantially as described and shown.

4,941.—BROILER.—James T. Page, Rochester, N. Y.

Claim.—The design for a broiler, as herein shown and described.

TRADE-MARKS.

266. — LUBRICATING-OIL. — Frederick M. Backus, Cleveland, Ohio.

267.—PREPARATION FOR THE HAIR.—George C. Barclay, New York, N. Y.

268.—Beer.—Benjamin Bates, Baltimore, Md.

269.—Machinery.—John Cooper, Mount Vernon, Ohio.

270.—Gentlemen's Furnishing Goods.—Fisk, Clark & Flagg, New York, N. Y.

271.—Gentlemen's Furnishing Goods.—Fisk, Clark & Flagg, New York, N. Y.

272.—Leaf-Tobacco.—Simon Hernsheim, New Orleans, La.

273.—Shirts.—Hutchinson & Thomas, Baltimore, Md.

274.—Tobacco.—W. S. Kimball & Co., Rochester, N. Y.

275.—Whisky and Bitters.—A. K. Lewis & Co., Covington, Ky.

276.—Fruit-Jar.—Mason Manufacturing Company, New York, N. Y.

277.—Horse-Nail.—Northwestern Horse-Nail Company, Chicago, Ill.

278.—Cooking-Stove.—Perry & Co., Albany, N. Y.

279.—Smoking and Chewing-Tobacco.—Edwin T. Pilkinton, Richmond, Va.

280.—Medicine.—Griffin Reno, Titusville, Pa.

281.—Paper.—Rock River Paper Company, Beloit, Wis.

282.—Burning-Fluid.—Buckley A. Rose, Urbana, Ohio.

283.—Vinegar and Cider.—Rowe, Graves & Co., Chicago, Ill.

284.—Frying-Pan.—Samuel Smith, New York, N. Y.

285.—Preserved Fish.—The American Club Fish Company, New York, N. Y.

286.—Tea.—The Fusiyama Tea-Importing Company, Pittsburg, Pa.

287.—Stove.—The Scranton Stove and Manufacturing Company, Scranton, Pa.

288.—Boots and Shoes.—Joseph H. Walker, Worcester, Mass.

289.—Leather.—Walker, Oakley & Co., Chicago, Ill.

EXTENSIONS.

William A. Royce, of Newburg, N. Y.—Letters Patent No. 17,394, dated May 26, 1857.

"Improved Machinery for Compressing Gaseous Bodies."

Claim.—The above-described apparatus for compressing or packing gaseous mediums, substantially as described and shown in the drawings.

Evelyn F. French, of New York, N. Y.—Letters Patent No. 17,269, dated May 12, 1857.

"Improvement in Corn-Huskers."

Claim.—The combination of the endless aprons D D E and rollers G G, two or more, covered with India rubber or other elastic material, the above parts being arranged and operating as shown and described, for the purpose specified.

John C. Gould, of Oxford, N. J.—Letters Patent No. 17,273, dated May 12, 1857; reissue No. 2,301, dated July 10, 1866.

"Improvement in Nail-Plate Feeding-Machines."

Claim.—1. The feed or nipper-rod Z, and the feeding device S S', in combination with the rod T and nose-piece U, as and for the purpose specified.

2. Fixing the bar F^2, on which the rack F^3 is formed, upon a shaft, Y, journaled within and supported by a vibrating box or bearing L, substantially as and for the purpose set forth.

3. Supporting the nose-piece and feeding devices upon a hinged or pivoted shaft M, to adapt them to be turned back to render the cutters accessible, as described.

4. Connecting the nose-piece with the driving-shaft, by means of the two rods V V', adapted to be disconnected, as described, to admit of the turning back of the nose-piece.

5. The combination of the rock-shaft G, vibrating box L^1, rock-shaft Y, bar F^3, cogged rim D, and nose-piece U, substantially as and for the purpose specified.

Asa Johnson, of Brooklyn, N. Y.—Letters Patent No. 17,331, dated May 19, 1857.

"Improved Mode of Fastening Sheet-Metal on Roofs, &c."

Claim.—The self-adjusting fastener, as described, for the purpose of attaching metallic coverings to buildings, and accommodating itself to the contraction and expansion of the metal, and for fastening metals in any and all other places where the contraction and expansion demand accommodation, substantially as set forth, or any mechanical device equivalent thereto.

Eugene L. Norton, of Charlestown, Mass. Letters Patent No. 17,445, dated June 2, 1857.

"Improved Process of Manufacturing Leather Shoe-Binding."

Claim.—The improved process herein described of manufacturing shoe-binding by dividing the skin or sheet of leather into strips of equal width, joining them at their ends so as to connect them into one long strip, and coloring the same when so formed, the whole being formed of or reduced to a uniform thickness, and the fleshy or surplus portions of the leather removed by splitting or otherwise.

John S. Hall, of Pittsburg, Pa.—Letters Patent No. 17,430, dated June 2, 1857.

"Improvement in Plows."

Claim.—Vibrating the beam in a circular bearing in the land-side, together with the oblique adjusting and securing slots i i, the whole combined and arranged substantially as described, whereby the draft end of the beam may be vertically adjusted, and the beam so secured to the land-side as that it is impossible for the former to slip.

ISSUE OF MAY 30.

PATENTS.

115,264, antedated May 19, 1871.—Machine for Winding Bobbins.—Judson Adams and Warren A. Tolman, Richmond, Ind.

Claim.—1. The combination, with the driving-shaft H, the arm X, and the faller-guide, of the arm G and frame I, pivoted on the said shaft, and the cams K and P mounted on the said frame, and geared together and with the shaft, in the manner substantially as specified.

2. The combination, with the faller-guide, moving arm G, and its operating mechanism, of the lever Z, cam Y, and its slide bar Z^1, all arranged for operation, substantially as specified.

115,265.—Fire-Place Fender.—Charles C. Algeo, Pittsburg, Pa.

Claim.—The attachment of the casters to the fender A by the screw-threaded shanks extending up through the ears, and the nuts screwed on the shanks above the ears, all substantially as specified.

115,266.—Railroad-Car Starter.—Arthur Amory, New York, N. Y.

Claim.—1. The arrangement, with the axle K and spring A, of the sliding wheel L, lever O, brake-lever S, the idler-wheel M, pinion N, gear-wheels G H, wheel F, drum E, and cord D, as shown and described.

2. The combination, with the shifting-lever U, of the bell-cranked lever V, pivoted foot-piece W, spring Z, and the notched guide X, all substantially as specified.

115,267.—Machine for Making Wrought Nails.—Daniel Armstrong, Chicago, Ill.

Claim.—1. The combination, with shaft D and hammer *m*, of the connected arch and bearings E *d d'* and mechanism to automatically and at regular intervals elevate and depress one of said bearings, and with it one end of said shaft, in the manner substantially and for the purpose specified.

2. The arch E provided with the bearings *d d'*, in combination with the shaft D provided with hammer *m*, connecting-rod F, lever G, and cam H of shaft B, substantially as and for the purpose described.

3. The gripers 1 and 2, arranged to operate alternately to and from the dies, in combination with rock-shafts N N', arms O O', levers R R', connecting-rods *r r'*, arms S S', rock-shafts T T', springs V V', connecting-rod W, arms *u u'* and *s s'*, and cams P P' of shaft B, substantially as and for the purpose described.

115,268.—Platform Weighing-Scale.—Sylvester C. Baker, Altoona, and Joseph Root and Emerson J. Case, York, Pa.

Claim.—1. The combination, with the graduated scale-beam J, locked case A B *s'*, and beam H, or their equivalents, of the shelved bail or support E, independently-adjustable weights G G^1, and independently-adjustable levers J^1 J^2, substantially as and for the purpose described.

2. The standard G^x, with the weight-carrying levers J^2 attached to it, combined with the weighing apparatus herein described.

115,269.—Hand-Stereoscope.—Alexander Beckers, New York, N. Y.

Claim.—1. The lenses made movable in relation to the surrounding hood, and connected with the picture so as to be adjusted simultaneously with the picture, substantially as and for the purposes set forth.

2. The lever *n*, applied between the hood and picture-holder, and connected with the separator and with the head carrying the lens, substantially as set forth, so as to give to the moving parts the proper position relative to the picture as the latter is adjusted, as set forth.

115,270.—Hot-Air Furnace.—James M. Blackman, Decorah, Iowa.

Claim.—The hot-air furnace composed of the fire-chamber A, smoke-chambers B and D, domes C and E, and provided with the air-tubes *g*, and perforated flange *j*, substantially as herein shown and described.

115,271.—Scroll for Operating the Carriages of Spinning-Mules.—William Bond, Windsorville, Conn.

Claim.—A variable scroll-wheel, constructed substantially as herein described, for operating the carriages of spinning machinery, substantially in the manner specified.

115,272.—Washing-Machine.—Nathan Booth, Cheshire, Conn.

Claim.—1. The combination of the fluted roller D and the sponge-roller C, substantially as specified.

2. The combination, with the sponge-roller, of the cords or straps H, substantially as specified.

3. The slots F, between the ribs and the surface of the roller D, in combination with the roller C, substantially as specified.

115,273.—Clamp for Thill-Couplings.—William Boyd, Hartford, N. Y.

Claim.—The combination of the lever A *a'*, crosshead B, stationary claw C, adjustable claw D, slotted bar E, and bolt F, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

115,274.—Machine for Converting Wood or other Fibrous Material into Pulp.—James Bridge, Augusta, Me.

Claim.—1. The combination of the stationary stone A and its rim B and sleeve C with the rotary wheel, provided with the inclined buckets K L, or such, and double-inclined plates M N, or the latter only, all being arranged and combined substantially in manner and to operate as described.

2. The wheel as made of the two rims, the single buckets or inclined plates, and the double inclined plates, all arranged and applied to a shaft, as set forth.

3. The arrangement and combination of the water-induct with the sleeve C, the stone A, and its rim B furnished with an educt, all being as described.

4. The stone as provided with the rim and the sleeve, as set forth.

5. The combination of one or more wooden slides, as described, with the inclined plate, bucket, and wheel combined, and to operate with the stationary stone, as described, for the purpose of reducing to paper-pulp yielding or soft as well as solid substances.

6. The combination of buckets or plates and slides, each assisting the other in disintegrating soft and yielding substances, including cotton rags, straw, and partly-disintegrated wood shavings, &c.

115,275.—Vise.—Harvey V. Brown, Warren, Ill.

Claim.—The anvil A, provided with the dovetailed groove, the stand J, and with the recess H, jointly with the vise C D, screw F, and nut G, substantially as shown and described.

115,276.—Washing-Machine.—John Brown, West Manchester, Ohio.

Claim.—1. The combination of the two pivoted beaters J J, connection-bars L, equal-armed levers M, connecting-rod P, and pivoted lever Q, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the standards F, cross-bars H, cross-bar I, and disks O, with each other

and with the side bars E and tub A, for supporting the operating mechanism of the machine, substantially as herein shown and described.

3. The two beaters J J, pivoted at their upper ends, and arranged to move together toward and from each other, for washing clothes, substantially as herein shown and described, and for the purpose set forth.

115,277.—GLOVE.—Remus D. Burr, Kingsborough, N. Y.

Claim.—1. The palm or front piece A, having the tongue B and recess C, in combination with the thumb-piece E D F, the said parts being cut and united as and for the purpose specified.

2. The thumb-piece D, cut with the tongues E and F.

3. As an article of manufacture, a glove made up of the front piece A having the recess C and tongue B, back-piece H having the offset H', thumb-piece D having the tongues E and F, gore I, and wrist-piece K.

115,278.—MANUFACTURE OF ARTICLES OF ENAMELED METALS. — George A. Burrough, Providence, R. I.

Claim.—Articles of metal coated with an enameling compound, substantially as described, and developing such compound by heat, as herein set forth, and for the purposes specified.

115,279.—CONVERTER FOR THE MANUFACTURE OF BESSEMER STEEL.—Henry Chisholm, Cleveland, Ohio.

Claim. — The two sections, so arranged in relation to each other that the base and lining of section A and the surface F of section B shall be in line or nearly so at the joint *a*, when the sections, constructed substantially as described, are connected together, as and for the purpose set forth.

115,280.—TRACTION-ENGINE.—James Henry Clapham, New York, N. Y.

Claim.—1. The circular frame of the fore-body B B, resting upon the axles K K of the driving-wheels C C, substantially as and for the purpose set forth.

2. The forepart of the after-body A A, substantially as and for the purpose set forth.

3. The inner hub W W on the driving axles K K and its projecting arm X X, in combination with the projection Z Z on the driving-wheels C C, substantialy as and for the purpose set forth.

115,281.—MACHINE FOR BENDING SHEET METAL. — William Cooley and Henry Cooley, Toronto, Canada.

Claim.—The combination of the dies or molds A and B, the rods J, connected to the crank-shaft H, and turned by the crank-handle K, substantially as and for the purpose hereinbefore set forth.

115,282.—HEMMER FOR SEWING-MACHINES. Daniel H. Darby, Mendon, assignor to himself and David C. Cook, Chicago, Ill.

Claim.—The arms C and E, and spring F, bar J, spring K, and guide L, the whole arranged and combined to operate with the presser, substantially as and for the purposes set forth.

115,283.—LIQUID-FLASK.—Henry William Doe, London, England.

Claim.—The exterior tube *e*, perforated near its base with its annular interiorly-threaded screw-cap *g*, through which ascends the interior tube *b*, terminating in a mouth-piece or handle, all substantially as and for the purpose herein set forth.

115,284.—GRAIN-BINDER.—Charles G. Dickinson, Poughkeepsie, N. Y.

Claim.—1. The band-gatherer and twister, consisting of the reciprocating carriage G, pendent frame I, shaft *k*, and retaining-fingers *l l*, all constructed and operating substantially as set forth.

2. The pivoted cradle J and rotating jaws P P, when these parts are constructed and operated substantially as and for the purpose described.

3. The grain-binding attachment, composed of carriage and twister G I, cradle and rotating holder J P, and tucker R, all combined, constructed, and operating as and for the purpose specified.

115,285.—SURGICAL INSTRUMENT FOR THE RELIEF OF THE PILES.—Edward Dithridge, Pittsburg, Pa.

Claim.—The neck *c*, arranged between the base end of the corrugated portion *a* and the base *d*, substantially as described.

115,286. — AUTOMATIC ATTACHMENT FOR KEYED MUSICAL INSTRUMENTS.—Harrison Downes, New York, N. Y.

Claim.—1. The feelers or elbows *d d*, in connection with the wires or cords *g g* and the levers or buttons *b b*, and with the plate *h* having the projections *i i*, arranged and operating substantially as and for the purpose set forth.

2. The feeler *k*, in connection with the connecting-wire or cord I and the projection *m*, arranged and operating substantially as and for the purpose herein specified.

115,287.—MACHINE FOR PRODUCING STEREOTYPE-MATRICES.—Robert E. Draper, Sacramento, Cal.

Claim.—1. The oscillating indicating-segment C, shouldered type-chambers *c* within which shouldered type *e* are set, and springs *s*, in combination with the pressure-lever H, which carries follower *i*, and which changes its fulcrum for every new impression with a type, and with a bed, B, having stationary letters upon its top, substantially in the manner and for the purpose described.

2. The vertical shouldered type-chambers formed in the margin of the oscillating segment C and furnished with shouldered type *e* and springs *s*, which are arranged substantially in the manner shown and described.

3. The grooved stationary segment-guide G for receiving and guiding one end of lever H, in combination with the oscillating guide-post *d*, follower *i*, and a type-carrying segment C, substantially as described.

4. The combination and arrangement of the independent vertical type, oscillating and indicating segment C *p*, vertical plunger *i*, post *d*, hand-lever H, grooved guide G, lettered bed B, form-supporting carriages F P, feed-screws S T, and the devices for actuating said screws, all constructed substantially in the manner and for the purpose described.

115,288. — SEWING-MACHINE-WORK HOLDER.—Henry Eddy, North Bridgewater, Mass.

Claim. — An adjustable sewing-machine-work holder, consisting of the arms *a a*, the rod *b*, and the sockets *f f*, all constructed and arranged and operating substantially in the manner specified and for the purpose herein set forth.

115,289. — REVOLVING URN-STAND.—William John Evans, New York, N. Y.

Claim.—1. The combination of the stands D E F, or either of them, with the foot A, washer C *c*, and bolt G, substantially as herein shown and described.

2. The combination of the foot A, tubular column B, stands D E F, washer C *c*, and bolt G with each other, substantially as herein shown and described.

3. The combination of the stand H with the urn-stand F, foot A, washer C *c*, and bolt G, whether the stands D E and column B be used or not, substantially as herein shown and described.

115,290. — HOLD-FAST FOR LATHE-SPINDLES.—Luther R. Faught, Philadelphia, Pa.

Claim.—The combination, with the spindle, of the externally-screwed socket, the split conical clamping-sleeve, the adjusting-nut working in a groove in the sleeve and over the screwed socket, and the clamping-band or its equivalent, substantially as set forth.

115,291.—DIE-STOCK FOR CUTTING SCREWS. Luther R. Faught, Philadelphia, Pa.

Claim.—1. The combination of the stationary die, the movable dies adjustable radially relatively to the axis of the dies, and the adjusting-wedges moving endwise in the die-stock, all these parts being constructed to operate in combination, substantially as hereinbefore set forth.

2. The combination of the die-stock, the radially-adjustable dies, the adjusting-wedges, and the adjusting-screw, moving longitudinally in the die-stock, as described.

115,292.—HOISTING AND LOWERING APPARATUS.—Ross L. Fitch, Sing Sing, assignor to himself and William A. Van Houten, Haverstraw, N. Y.

Claim.—1. The combination of the platform-bars D, hoisting-cord C, drum F, weighted cord G, and brake L, all arranged in a suitable frame, substantially as specified.

2. The combination, with the platform, of the tilting-frame N, a suspending-bail, Q, and a hook, R, substantially as specified.

3. The said tilting-frame, arranged to be shifted as described, and provided with the arms T and V, said arms T being attached to bail Q, operating substantially as specified.

115,293.—POLISHING ORES TO AID IN AMALGAMATING THE PRECIOUS METALS.—Isaac William Forbes, La Porte, Ind.

Claim.—The improved process by the employment of diamond as a medium, substantially as and for the purpose described.

115,294.—CLEANING PULVERIZED ORES SO AS TO AID AMALGAMATION.—Isaac William Forbes, La Porte, Ind.

Claim.—The process of cleaning pulverized ores by the employment of emery as a medium, substantially as set forth.

115,295, antedated May 26, 1871.—STAMP-BATTERY.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The mortar A, formed with one or more open thimbles, A', in combination with standards D and die B, substantially as and for the purpose described.

2. The bar E and bolts G, in combination with standard D and die B, substantially as and for the purpose described.

3. The combination of the mortar A, constructed as described, elastic substance C, standard D, bolts F G, bar E, packing L, and die B, constructed, arranged, and operating substantially as described.

4. The relative arrangement within the thimble A' of the elastic substance C, die B, and standard D, substantially as and for the purpose described.

115,296.—OSCILLATING VALVE FOR STEAM AND AIR-ENGINES.—Isaac William Forbes, La Porte, Ind.

Claim.—1. Valves A A, valves A^1 A^1, as and for the purpose set forth.

2. Valve-frame D D with its stem or stems D^1 D^1, as and for the purpose set forth.

3. Valves A A and valves A^1 A^1, in combination with the frame D D and valve-stem or stems D^1 D^1, as and for the purpose set forth.

4. Valves A A, in combination with the frame D D D D and valve-stem or stems D^1 D^1.

5. Valves A^1 A^1, in combination with frames D D and valve-stem or stems D^1 D^1.

6. Induction-ports B B, exhaust-ports B' B', in combination with valves A A and A^1 A^1, or with A A, or with A^1 A^1 singly, as and for the purposes set forth.

115,297.—OSCILLATING VALVE FOR STEAM OR AIR-ENGINES.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The valve A, with steam-passage G, substantially as described

2. The valve-stem and frame D D, as and for the purpose described.

3. The valves A A, in combination with valve-frame and stem D D, as set forth.

4. Ports B^1 B^1, in combination with valves A A, steam-passages G G, and valve-frame D D, as described.

5. Stops K' K', stops *f' f'*, substantially as and for the purposes hereinbefore set forth.

115,298. — SLIDE-VALVE FOR STEAM-ENGINES.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The valve or valves B B, valve-frame C C, and steam-passages B^1 B^1 C^1, substantially as and for the purpose described.

2. The valves B B, in combination with H H and H' H', substantially as and for the purpose described.

3. The valves B B, in combination with valve-stems C^2 and bosses, substantially as described.

115,299. — SLIDE-VALVE FOR STEAM-ENGINES.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The valves G G and G' G', in combination, substantially as and for the purpose described.

2. The frame H H and frame H' H', substantially as and for the purpose described.

3. The valves G G G' G', in combination with frame, substantially as and for the purpose described.

115,300. — VALVE-GEAR FOR STEAM-ENGINES.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The valve-stem A, lever B, blocks G G, in combination with inclines C C, as and for the purpose set forth.

2. Valve-stem A^1, spring lever D, balance-ball E, and lever B, in combination with inclines C C, as and for the purpose set forth.

3. Valve-stem A^2, spring shaft or rod F, balance-weight E', lever B, in combination with inclines C C, as and for the purpose set forth.

4. Valve-stem A, levers B^2 B^2, in combination with inclines C C, as and for the purpose set forth.

5. Valve-stem A, levers B^2 B^2, sleeve H, in combination with inclines C C, as and for the purposes set forth.

6. Valve-stem A^1, spring lever D, balance-ball E, levers B^2 B^2, in combination with inclines C, as and for the purpose set forth.

7. Valve-stem A^1 with its parts, levers B^2 B^2, sleeve H, as and for the purpose set forth.

8. Valve-stem A^2, spring shaft or bar F, balance-weight E', lever B^2 B^2, in combination with inclines C C, as and for the purpose set forth.

9. Valve-stem A^2, spring shaft or rod F, balance-weight E', levers B^2 B^2, sleeve H, in combination with inclines C, as and for the purpose set forth.

115,301.—STEAM-ENGINE.—Isaac William Forbes, La Porte, Ind.

Claim.—1. The ports D to D^2 for receiving and conveying steam to their respective cylinders at opposite ends, as described.

2. The pieces H H, in combination with the lower heads O' O', substantially as and for the purpose described.

3. The combination of the bearing M^1, having a chamber, M^2, and a gland, M^3, substantially as described.

4. The plate L' L' and water-passage P P, substantially as set forth.

115,302.—COFFEE-ROASTER.—James Galloway, Webster, Ill.

Claim.—Vessels A and B, constructed for the

purpose of browning and roasting coffee by the use of steam, in the manner substantially as set forth.

115,303.—STEAM-TRAP.—Isaac E. Giddings, Springfield, Mass.

Claim.—The case B, float-valve C, shield S, in combination with the screw *p*, nut *k* with rim *s*, and pin *m* with its spring, the parts being constructed and arranged substantially as shown and described.

115,304.—STANCHION.—Walter C. Gifford, Jamestown, N. Y.

Claim.—In combination with the transverse bar D of a swinging stanchion and the transverse bar P of supporting-frame, the button N, cut away at *n*, as and for the purpose specified.

115,305.—APPARATUS FOR FEEDING BLAST-FURNACES.—Leven S. Goodrich, Waverly, Tenn.

Claim.—The combination, with the top wall D of a blast-furnace, of the top A A′, the valve-tube B B^1 B^2, and the double conical plug C C′, all substantially as specified.

115,306.—PACKING-BOX.—Alexander Gregg, Watertown, Mass.

Claim.—The packing-box as having the metallic fastening-clasps arranged with and applied to the box-body and the cover thereof, in manner as hereinbefore described and as shown in accompanying drawing.

115,307.—WHIFFLETREE-HOOK.—Andrew J. Griggs, Pittsburg, Pa.

Claim.—The trace-hook B, provided with the spring-hook D, constructed as herein described.

115,308.—SOLDERING APPARATUS.—Jacob Gulden, Keyport, N. J., assignor to Uriah H. Dudley, New York city.

Claim.—1. The arrangement of a tool-holder, B, in the side of furnace A, resting upon the fire-grate *a*, and abutting laterally upon the fire, for the purpose of firmly holding the tool, easily transmitting heat thereto, and readily retaining said heat at the proper temperature.

2. The metallic block B, having a recess to receive the tool and hold it firmly on three sides, combined with a transverse strap and fastening-screw to form a holder for soldering-tools, which will admit of their ready attachment and detachment, as described.

3. The case I, pawl *r*, and spring-lever J, combined and constructed as and for the purpose specified.

115,309.—ENDLESS WIRE-ROPE WAY.—Andrew Smith Hallidie, San Francisco, Cal.

Claim.—1. Propelling or carrying the saddle or hanger over the bearing-pulley by means of teeth or projections on the bearing-pulley, substantially as described, and for the purposes set forth.

2. The curved side plates F of the saddle, in combination with the projecting cylinders D for raising the saddle off the rope and carrying it over the bearing-pulley, substantially as and for the purposes set forth.

3. The saddle or hanger A, substantially as described, and for the purposes set forth.

4. The employment of clips B, or their equivalent, in the saddle or hanger of an endless wire-rope way, substantially as herein described, and for the purposes herein set forth.

115,310.—ENDLESS WIRE-ROPE WAY.—Andrew Smith Hallidie, San Francisco, Cal.

Claim.—1. The hanger A, consisting, essentially, of an arm, B, secured to the upper part of the rope C, and proceeding from the rope upward so as to clear the sides of faces of the groove D of the bearing-pulley E, and projecting over the upper and outer edge F of the groove, substantially as herein described, and for the purposes herein set forth.

2. Constructing the hanger A with a horizontal plate, L, a vertical part, M, and a thin band, G substantially as and for the purposes set forth.

3. Securing the parts together by means of the hook O and nut P, substantially as and for the purposes set forth.

4. Hanger A, in combination with the pulley I substantially as described, and for the purposes set forth.

115,311, antedated May 19, 1871.—TEMPORARY SHOE FOR HORSES.—William Hudson Halsey, Philadelphia, Pa., assignor to himself and Theodore F. Taylor, same place.

Claim.—The combination of the plate A and the band B, consisting of a strip of leather fitted to the rear of the hoof, and cut to form tongues *e d* which are buckled together, crossed, and connected to the front and sides of the shoe, as specified.

115,312.—MACHINE FOR CREASING LEATHER.—Benjamin R. Hamilton, South Deerfield, and Samuel Swan, Conway, Mass.

Claim.—1. In combination with the swinging frame W having platform L, the removable arbor B with creasers, bar C, and handle D, the parts being constructed and arranged substantially in the manner and for the purpose shown.

2. In combination with the swinging frame with its creasers, the bed of the machine, consisting of the bed-block A resting upon the springs *x x*, &c. slats *g g*, &c., with their attachments, adjustable supports O O, and guides K K, the parts being combined, constructed, and arranged substantially in the manner and for the purpose shown.

115,313.—TURPENTINE BOX.—William Barkervill Hamilton, New Orleans, La., assignor to William P. Hamilton, East Pascagoula, Miss.

Claim.—1. The box A formed with an apron, D arranged as shown, in order that the apron shall serve as a conduit for the crude turpentine, and as the entire support of the box, substantially as described.

2. The box A, apron D, and bonnet D′, when the same are combined and arranged so as to operate substantially as described.

115,314.—AUTOMATIC TELEGRAPH-REPEATER.—Charles H. Haskins, Chicago, Ill.

Claim.—1. The combination of the electro-magnetic cores with two helices of separate circuits the helices being wound about opposite ends of the core, and directly around the core itself, substantially as and for the purpose set forth.

2. The combination of an extra coil or helix on the relay with a mechanism for repeating by the relay-armature lever, substantially as and for the purposes specified.

115,315.—LAMP-BURNER.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place.

Claim.—The removable portion of the burner, made of two pieces of metal united at their edges and forming the deflector, chimney-rest, air-distributer, and wick-tube guide, in combination with a chimney-holder applied at the base of the cone, substantially as set forth.

115,316, antedated May 23, 1871.—MODE OF ATTACHING CAPS TO HUBS.—Peter Hooter and Rudolph Victor, Grand Rapids, Mich.

Claim.—The improved hub-cap, composed of the metallic rabbeted ring or washer *e e*, provided with the hinged cover D, to be applied to the outer end of a carriage-hub, when constructed substantially as and for the purposes above set forth.

115,317.—WAGON-AXLE.—John Herrmann and Peter Herrmann, Tell City, Ind.

Claim.—1. The combination, with the wrought-iron extension A, of the axle B of the cast-metal wearing surface for the journal, substantially as specified.

2. The cast-metal part C, provided with the recess G in the extension E, and the wood part D of the axle fitted therein, substantially as specified.

115,318.—APPARATUS FOR ILLUSTRATING TRIGONOMETRY.—Edwin A. Hickman, Independence, Mo.

Claim.—As an article of manufacture, an apparatus for illustrating trigonometry, having the diametrical base combined with sliding sine and co-sine C D, sliding tangent and co-tangent E F, pivoted secant G, perpendicular I, and protractor H, all arranged, notated, and operated as specified.

115,319.—ANIMAL-POKE.—James Hopkins, Akron, Ohio.

Claim.—The adjustable guard-plate G, and spear-plate provided with slots E, attached to the end of the stale B, as arranged, and in combination with the spring H, stale B, yoke A, round C, and bolt I, operating conjointly, substantially as and for the purpose set forth.

115,320.—WASH-BOILER.—Marcus L. Horton, Windsor, Vt.

Claim.—The construction and arrangement of the chambers G and D, connected by one or more steam-pipes attached to the perforated bottom B of the receptacle, and passing through the perforated bottom E of the cover, the whole arranged substantially as and for the purposes herein specified.

115,321.—SELF-LOADING AND DUMPING CART.—Jerome B. Hulbert, Hermon, N. Y.

Claim.—1. The trunnions F F, in combination with the cam-levers H H, arranged to operate substantially as and for the purpose described.

2. The slotted upright frame E E, cam-levers H H, bar I, platform B, and spring catch J, in combination with the box or scraper A, and with a cart arranged to operate substantially as and for the purposes described.

115,322.—CASTER FOR STOVE-LEGS, &c.—Harriet A. Humphrey, Milwaukee, Wis.

Claim.—The combination of pin F, roller E, and arms D, with the stem G and nut H, arranged in the open recess in the leg, substantially as and for the purpose set forth.

115,323.—CHURN-DASHER.—William F. Jones, Easton, Kansas.

Claim.—The combination of the shaft A, round or cross-bar B, inner paddles or breakers C, short below shaft D, bars or arms E F G, and outer paddles or breakers H, said parts being constructed and operating in connection with each other, substantially as herein shown and described, and for the purposes set forth.

115,324, antedated May 16, 1871.—CHUCK FOR WATCHMAKERS' LATHES.—William Kerr, Jr., Boston, Mass.

Claim.—The sliding rectangular blocks or jaws C C, arranged in the chuck, each operated longitudinally by a screw at one end and by a spring at the other, substantially as and for the purpose set forth.

115,325.—WASHING-MACHINE.—Benjamin Kinne, Syracuse, N. Y.

Claim.—1. The arrangement and construction of the wheel C, when provided with chambers L, discharging water in either direction by the action of the lifters O, in combination with boiler A, as shown and described.

2. The construction and arrangement of sliding cover P, in combination with wheel C and boiler A, as shown and described.

115,326.—GLASS JAR.—William M. Kirchner, Pittsburg, Pa.

Claim.—A hand finished ring-jar, having external finless screw-threads and gasket-seat on the neck immediately below the mouth, substantially as described.

115,327.—BOILER OR DIGESTER FOR MAKING PAPER-PULP.—William F. Ladd, New York, N. Y.

Claim.—1. A long cylindrical boiler or digester having two sets of trunnions, one set on its longest and one on its shortest axis, and having corresponding boxes, as described.

2. A cylindrical boiler or digester having two sets of trunnions, the trunnions on the short axis being attached to a band in which the boiler can turn when supported on the trunnions of the longitudinal axis.

3. Placing trunnions on the short axis of a cylindrical boiler so that the boiler may be charged and discharged through the same man-hole.

4. A cylindrical boiler having trunnions on its shortest axis, and a discharge-valve at one extremity of its longest axis.

115,328.—HANDSAW.—Orrin H. Langdon, Homer, assignor to Charles W. Kinne, Cortland, N. Y.

Claim.—The combination of the blower above described, composed of the parts B G D C E I I H H, with a handsaw, substantially as and for the purpose set forth.

115,329.—LAMP.—Henry H. Laughlin, Philadelphia, Pa., assignor to Mary A. Laughlin, same place.

Claim.—The device for holding fibrous material in a lamp, when made of a single piece of metal cut and bent in the form and manner herein shown and described.

115,330.—CATCH FOR GATE AND DOOR-LATCHES.—George C. Lawton, Algona, Iowa.

Claim.—The combination of the plate C, latch B, and catch A, when the said catch is concaved inward from its ends toward the center, and beveled upward from the bottom to the top, and provided with the slot or recess *a* to receive the latch, the whole constructed and arranged to operate substantially as and for the purpose described.

115,331.—FLOUR-BOLTING REEL.—Fitch B. Lewis, Tiffin, Ohio.

Claim.—1. The hammer-handle, cranked at *x x x* so as to form the pivotal portions b^1 b^2, and the crank-arm b^1, in combination with the eye-bearing *f* and the attaching-block *e*, and the endwise movable rod G, substantially as described.

2. The combination, with the bolt-bar D, of the rod G, anvil J, provided with raised portion *j* and eye *i*, hammer *a*, having crank-handle b b^1 b^2, and actuated by spring S, when constructed, arranged, and operating as shown and described, for the purpose set forth.

3. The combination of the pivoted cam or beveled segment L, constructed, arranged, and operated as described, and the endwise movable rods with hammers attached to them, whereby the blow of the hammers can be regulated and controlled without stopping the reel by simply adjusting the segment directly, as herein set forth.

4. The bolting reel-hammer actuating-rod, consisting of the portion G, the socketed detachable portion *r*, roller *p*, and set-screw *v*, as herein described, and for the purpose set forth.

115,332.—Music-Stool and Book-Rack Combined.—John R. Lomas, New Haven, Conn., assignor to B. Shoninger, same place.

Claim.—The seat A and screw B, combined with a music-rack having partition C containing nut in which the stool screw is adjusted.

115,333.—Sheave and Rail for Sliding Doors.—Thomas M. Lyons, New York, N. Y.

Claim.—1. The flanged rail or trough A, provided with the rollers B B to constitute a guide and support for a sliding door, as set forth.

2. The sole or shoe D, having the rib *d* and projecting lug or lugs *e* and applied to a sliding door, substantially as and for the purpose herein shown and described.

3. The adjustable stop *g* applied to the flanged rail or trough A to arrest the outward motion of the door, substantially as herein shown and described.

115,334.—Exhaust Apparatus for Gas-Works.—Philip W. Mackenzie, Blauveltville, N. Y.

Claim.—1. The combination of the governing arrangement D, G, and H, constructed and operating substantially as shown and described, with the jet-pipe L and tube A, for the purposes specified.

2. The combination of the by-pass pipe M and by-pass valve C with the steam-jet L and tube A, as arranged, and for the purpose described.

115,335.—Elevator.—John Macomb, Chicago, Ill.

Claim.—1. The driving-disk K, fixed firmly upon a shaft, *e*, and having shoulders *i i*, in combination with the sliding ring *i'* on the fixed pulley *i*, for the purpose of carrying forward two chains, J J, connected with a cross-bar, H, in the manner described.

2. The anti-friction rollers or thimbles h h on the cross-bar H, in combination with the driving-disk I, for the purpose specified.

3. The platform G, hung centrally from the cross-bar H between the chains J J, as shown and described.

4. The platform G, provided with guide-pieces *g g* and socket-pieces *g' g'*, as shown.

5. The chains J J, or equivalent endless ropes, connected by the cross-bar H, in combination with the driving-disk I, for the purpose specified.

6. The chain-supporting cross-head L, with its collar-pieces *l' l'* and pulleys *l l*, for the object described and shown.

7. The device for elevating as a whole, consisting of driving-disk I and sliding ring *i'*, the chains J J, guide-boxes B B, platform G, and regulating cross-head L, all in the manner shown, and for the purposes described.

115,336.—Bag-Tie.—Cameron P. Markham and William H. Markham, Rogersville, N. Y.

Claim.—The looped cord or wire A and slotted bar or handle B in combination with each other, said parts A B being constructed and operating substantially as herein shown and described, and for the purpose set forth.

115,337.—Centering-Machine.—Eugene McNiel, Groton, N. Y.

Claim.—1. The board W, provided with a fixed point, *a*, in combination with the tongs B B, substantially as and for the purpose specified.

2. The board W, having a slot, S, in combination with the block L, spiral spring K, connecting-links C C, and tongs B B, all constructed as shown and described, and for the purpose set forth.

115,338.—Culinary Boiler.—Frederick Meyer, New York, N. Y.

Claim.—The boiler A, provided with a covered spout, C *c'*, stop-cock D, horizontal partitions H, vertical partitions E, pipes F, boxes G, short pipes H, slides I, rods J, and covers K, said parts being constructed and arranged in connection with each other, substantially as herein shown and described.

115,339.—Ventilator.—Benjamin F. Miller, New York, N. Y.

Claim.—The combination of the perforated casing with the inclosed disk, pyramid, or cone, and the flue-pipe *a*, substantially as and for the purposes set forth.

115,340.—Eaves-Trough and Conductor.—Rutger B. Miller, Utica, N. Y.

Claim.—1. The metal tubes or brick tiles, or their equivalents, marked *e e f*, on the roof, warmed by heated air from the attic, admitted through tubes *e e e e*, or their equivalents, for the uses and purposes mentioned.

2. The brick horseshoe-tiles or tin-pipes, or their equivalents, placed in the bottom of the eave-trough, for the uses and purposes mentioned.

3. The valve at the lower extremity of the conductor, marked *a*, or its equivalent, for the uses and purposes mentioned.

115,341.—Lock for Meeting Rails of Sashes.—William Miller, Boston, Mass.

Claim.—1. The pivoted lever A, provided with slot *e*, and held in position by spring F, substantially as described.

2. The plate G, provided with lugs I I, and slot J, and pivoted lever K, said lever having curved handle L, substantially as described.

3. The pivoted lever A, in combination with the pivoted lever K and lugs I I, as and for the purposes set forth.

115,342.—Lubricating Compound.—Adolph Millochau, New York, N. Y., assignor to Joseph W. Richards, same place.

Claim.—1. The combination of caustic soda, tallow, and petroleum, or their respective chemical equivalents, in about the proportions set forth, compounded and treated substantially in the manner described.

2. Combining with the semi-fluid compound thus produced, or its chemical equivalents, animal hair in about the proportions and as and for the purpose specified.

115,343.—Changeable-Gauge Car-Truck.—George F. Morse, Portland, Me.

Claim.—1. The combination of the screws *a a* and nut A with the wheels *a' a'* and the keys and slots in the axle *b'*, as and for the purpose herein set forth.

2. The combination of the wheels and axle with the sleeve *k*, the nut *l*, the ridge *m*, the teeth *n*, and the rack *p*, as and for the purpose herein set forth.

115,344.—Drainer for Tumblers and Dishes.—Peter W. Neefus, New York, N. Y.

Claim.—A drainer provided with a number of vertical ribs of elastic material, with inclined channels between the same to lead away the water, substantially in the manner and for the purpose specified.

115,345.—Door-Mat.—Peter W. Neefus, New York, N. Y.

Claim.—A new article of manufacture of a mat constructed of a single piece of vulcanized India rubber, or other similar elastic material, and provided with ribs of triangular or other similar-shaped section, arranged with separating-grooves leading to and running out at the edges of the mat in such manner as to permit the cleaning of the same without removing it from its position, substantially as shown and described.

115,346.—Breast-Collar for Horses.—James Nellis, Ypsilanti, Mich., assignor to himself and Sylvester W. Beach, same place.

Claim.—A breast-collar, composed of a metallic half-circle and adjustable pads attached thereto, substantially for the purposes herein set forth.

115,347.—Tassel.—James Norman, Brooklyn, N. Y.

Claim.—The block A, made of a solid piece of glass, as specified, combined with cords B and loop C, for the purpose set forth.

115,348.—Tin-Grooving Machine.—Horatio J. Noyes, Ashtabula, Ohio.

Claim.—1. The combination of the arm F, having on its side a ratchet, I, bar A, and pinion J, substantially in the manner as described, and for the purpose set forth.

2. The grooved roller C and roller D, friction-rollers L, pinion J, and head E, all arranged to operate in combination with the arm F and bar A, substantially in the manner as and for the purpose specified.

3. The wedge N, as arranged to operate in combination with the link or slide M for adjusting the rollers L, as and for the purpose set forth.

115,349.—Letter-Board for Object Teaching.—John H. Palm, Mansfield, Ohio.

Claim.—1. The combination of a box, A, mounted on detachable legs B, and having its interior divided into compartments, with the hinged cover C, consisting of the two parts E and D, both provided with a series of holes on one side, and the former with a black-board surface on its opposite side, when constructed substantially as and for the purpose set forth.

2. The hinged cover or letter-board C, provided with a series of holes, *a*, for the attachment of the letters or object devices F, in combination with the stay-braces G and *e*, when constructed and arranged substantially as and for the purpose set forth.

3. The combination of the hinged letter-board C provided with a series of holes, and the object devices F provided with pins on their rear sides, substantially as herein described.

115,350.—Vapor-Burner.—George T. Party, Philadelphia, Pa.

Claim.—The adjustable burner-stem A, the stationary solid valve-stem G, and the valve and valve-seats *n e*, combined to operate substantially as described.

115,351.—Stem-Winding Watch.—Edwin Hathaway Perry, Boston, Mass.

Claim.—1. The combination, with the plate A, of the spindle or stem-holding lever, operated from the rear of the plate, substantially as shown and described, in order to release or engage with said spindle or stem.

2. The combination of the lever *v*, sleeve *v'*, and thimble *h'*, united and operating substantially as herein described, and for the purposes stated.

115,352.—Handle for Garden Implements.—Archibald A. Porter, Griffin, Ga., assignor to John E. Moss and John M. Williams, same place.

Claim.—The combination of the handle A provided at its forward end with a female screw and outer circumferential groove *a*, the tube C provided with the stationary jaw D, having notch *e*, and held by the screws *d d*, with the jaw D', with screw E, hook *f*, and pin *i*, all substantially as and for the purposes set forth.

115,353.—Wash-Boiler.—Charles W. Powell, Yalesville, Conn.

Claim.—1. The frame A D E, constructed with the bottom or apron C forming a channel, F, which is curved around, as shown, and terminates at a point, G, over the cylinder and slightly beyond its axis, when said frame is provided with the holes B, arranged as represented, and has the channel C at one side, with discharge along the whole length of the apron, all as herein set forth.

2. The open cylinder, constructed as described, in combination with the frame A C D E, substantially as specified.

115,354.—Machine for Forming Wire Bottle-Stopper Fastenings.—Henry W. Putnam, Bennington, Vt.

Claim.—1. The fingers *i*, revolved around the pins or hinges 6 or 12, in combination with the form 5 and the apparatus for supplying the wire to be bent, substantially as set forth.

2. The spring jaws *t* and cam *u*, in combination with the fingers *i* and form 5, as and for the purposes set forth.

3. The fingers *i i*, applied substantially as shown, for bending the two eyes of the neck-band of a bottle-fastening simultaneously, as set forth.

4. The form 5, made adjustable to vary the length of the neck-band between the eyes 6, as and for the purposes set forth.

115,355.—Washing-Machine.—Leonard Putnam, Worcester, Mass.

Claim.—1. The combination, with the bottom C C', curved as shown, of the curved, grooved, and fluted hammers D D, spring pitmen I I, pivoted arms E E, and crank-shaft G, substantially as and for the purposes set forth.

2. A washing-machine, consisting of curved bottom and straight-sided tubs A, curved, grooved, and fluted hammers D D D D, pivoted arms E E E E, pitmen I I I I, springs K K K K, and crank-shaft G, the whole being constructed and combined for operation substantially as shown and described.

115,356.—Telegraph-Relay Instrument.—Clarence Rathbone, Albany, N. Y.

Claim.—1. The magnets A B, made separately adjustable in the direction of their respective axis, substantially as and for the purposes herein shown and described.

2. The connecting-bar E of a pair of magnets, made stationary, and perforated to admit the movable cores, as specified.

3. The relay-magnet, having one core with fine wire connected with the main circuit, and the other core with coarse wire connected with the local battery and vibrating armature, as specified.

115,357.—Bagatelle.—Montague Redgrave, Cincinnati, Ohio.

Claim.—1. The cups, courts, pins, and spring piston, combined with a board supported on an incline by a piece, E, at the further end, whereby the principle of gravity is applied to the ball to carry it in a direction opposite to that in which the spring piston tends to carry it.

2. The piston *d*, arranged in shooting-trough *b* and upon the end of slide rod *e*, combined with a spiral spring, *f*, placed on said rod between the piston and ledge *a*, for the purpose specified.

3. The arrangement centrally between the cups and pins of courts B D, through which the ball can only enter from the front and only reach the bells with difficulty; for the purpose of making high counts require care and skill, as described.

4. The arrangement of central courts B D, provided with swinging gates with respect to the cups and pins, as and for the purpose specified.

115,358.—Pinch-Bar.—Abram Reese, Pittsburg, Pa., assignor to himself, Robert W. Lyon, and George H. McNary.

Claim.—The combination of the bar or lever A, pivoted or hinged bar B, and pointed cutters C with each other, said parts A B C being constructed and operating substantially as herein shown and described, and for the purpose set forth.

115,359. — BASE-BURNING STOVE.—Henry R. Remsen, Newtonville, N. Y.

Claim.—1. The combination and arrangement of air-pipe I with reservoir F and heated chamber L of a stove, in the manner and for the purpose herein shown.

2. Plate K, with its semicircular openings l and 2, in combination with reservoir F, as herein shown, and for the purpose set forth.

115,360.—BOAT-DETACHING APPARATUS.—Ira Abiel Richards, Middletown, Conn.

Claim.—A double roller-trip, constructed and arranged substantially as shown and described, and for the purposes herein set forth.

115,361. — ICE-CREAM FREEZER. — Moritz Rosenstein, Boston, Mass.

Claim.—1. A revolving refrigerating apparatus combining an outer vessel, G, an air-space, J, a non-conducting vessel, K, containing the freezing mixture, and a central vessel, M, for holding the cream, substantially as described.

2. In combination with the three vessels, G K M, and the air-space J, the aperture through the double bottom H K, fitted with a screw-cap, U, for the purpose herein described.

3. The combination of the agitator V and the cream-vessel M, as described, and for the purpose specified.

115,362. — WATER-WHEEL. — Reuben R. Royer, Ephratah, Pa.

Claim.—A bucket, B, with a doubly-curved face, and provided with a bevel flange, F', projecting ear E, shoulder r', lug R', when said bucket is attached by a nut and bolt, f, through the ear E, and flange F of the top, and the flange F' of the buckets bolted through the conic sides C of the dished top, with its central hub H for the shaft s, all combined in relation to each other in the manner shown and for the purpose specified.

115,363.—TOBACCO-PIPE.—William G. Ruge, Holstein, Mo.

Claim.—A tobacco-pipe having a detachable and reversible bowl, all substantially as specified.

115,364.—SHUTTER-FASTENING.—Albert P. Seymour, Hecla Works, N. Y.

Claim.—The broad-faced parallel-sided arm a, combined, as described, with the journaled spring f g h and flanged case E, all arranged as described.

115,365.—HYDRAULIC DISK.—Thomas Shaw, Philadelphia, Pa.

Claim.—1. The revolving disk g, provided with an annular piston, e, and ring f, substantially as described.

2. In combination with the above, the grooved bed-plate d and pipe n, substantially as described.

115,366.—WAGON-GEARING.—Jacob Shoudler, Scottsville, N. Y.

Claim.—The extra cross-piece F, provided with mortise d, in combination with the detachable levers D G and pivotal reach A, arranged as described, for the purpose specified.

115,367.—DEVICE FOR REMOVING LIME, DIRT, AND SEDIMENT FROM BOILING LIQUIDS.—Alonzo J. Simmons, Indianapolis, Ind.

Claim.—A vessel, constructed and used upon the plan and principle herein described, for the purpose of extracting impurities from boiling fluids.

115,368. — CARPENTER'S GAUGE. — Daniel Webster Simmons, Lynn, Mass.

Claim.—An improvement in the joiner's gauge as made with the stock A, the adjustable slide C, and rotary conic frustum-cutter B, the said cutter, as arranged, with its lesser base against or at the end of the stock, and with its pivot applied so as not to project beyond the outer face or larger base of the cutter, all being as described and represented.

115,369. — APPARATUS FOR GENERATING, CARBURETING, AND BURNING HYDROGEN-GAS.—Byron Sloper, St. Louis, Mo.

Claim.—1. A carbureted hydrogen-gas lamp, consisting of a generating and carbureting-chamber combined, for the purpose described.

2. In combination with a carbureted hydrogen-gas lamp, the use of the auxiliary jet of pure hydrogen and the platinum-sponge, for the purpose of automatically lighting the carbureted hydrogen as it escapes at the burner.

115,370.—SHOT-GUN.—Dexter Smith, Springfield, Mass.

Claim.—A gun having a variable muzzle made adjustable in size by means of the ring A tapered inside, and secured to the tapered end b of the barrel having the openings a made therein, substantially as described.

115,371. — INVALID BEDSTEAD. — George Smith, Stratford, Canada,

Claim.—The combination of the legs A, made hollow to receive the supports or legs B, which have racks cut upon them, cog-wheels F which gear into the racks on the said legs B, the two shafts D and E upon which are the two pulleys H, around which passes the cord, chain, or belt I, connecting the aforesaid combination in such a manner that upon placing the handle J on any end of the shafts D or E, and turning the said handle in the proper direction, the frame c can be raised or lowered at will, and the head or pillow-rest K, connected to and forming part of the aforesaid combination, as described.

115,372. — CLOTHES-WRINGER. — Hamilton E. Smith, New York, N. Y., assignor to Mary Jane Smith, same place.

Claim.—1. The combination and arrangement, with the flexible roller B, of the driving-rollers C C^1 C^2 geared to operate in concert through the intervention of a loose spur-wheel, G, and fast wheels or pinions D, E, and F on the rollers C C^1 C^2, substantially as specified.

2. The arrangement of the washers f f on the ends of the flexible roller B, and between the same and the side frames A A, essentially as and for the purpose herein set forth.

115,373.—DEVICE FOR IGNITING GAS AND OTHER LIGHTS.—Willard H. Smith, New York, N. Y.

Claim.—1. The coating of friction-fuse or match with gutta-percha or rubber, substantially as and for the purpose herein described.

2. The employment of the sliding fuse-holder and nut H, in combination with the feed-screw E, substantially as and for the purpose herein described.

3. The combination of the tube A, feed-screw E, cross-plate L, the fuse-holder J, with the elastic ring or eye K, substantially as and for the purpose shown.

115,374.—FLY-NET.—William Sohier, Boston, Mass.

Claim.—The above-described house-fly net, of a long and conical shape, with a flattened side, and a wire hoop at the top attached to a handle socket, substantially as described.

115,375.—APPARATUS FOR DRYING PAPER. William H. Soley, Philadelphia, Pa., assignor to Lemuel Smith, New York city.

Claim.—1. The combined arrangement of the horizontal part c'' of the hot-draught flue c' within the case A B, substantially as and for the purpose hereinbefore set forth and described.

2. The arrangement of the heat-generating furnace C and the outlet of its flue c'' in relation to the case A B, so that the hottest end of the horizontal part c'' of said flue shall be near that end of the case A B at which the paper passes out of the same, and the cooler end of the said flue c'' near that end of the said case at which the paper enters, substantially as and for the purpose hereinbefore set forth and described.

3. The arrangement of the vapor-exhausting flue j' in relation to the case A B and the hot-draught flue c'', so that the current of vapor will be from the hottest end of the case toward the cooler end of the same, substantially as and for the purpose hereinbefore set forth and described.

115,376.—HARVESTER.—John Souder and Elias Miller, Litiz, Pa.

Claim.—The combination of the rod D and shoe A, when constructed and arranged substantially as set forth.

115,377.—GLASS-MOLD.—Carl Stadelmann, Pittsburg, Pa.

Claim.— 1. A glass-mold having a cavity or groove around its lower inner face, between it and the bottom core, whether made in the face of the mold, or in the side of the core, or in the bottom plate, or in any two, or all of them, for the purposes described.

2. In a glass-mold, the pins f f, in connection with the shoulder g, or their equivalents, substantially as and for the purposes described.

3. The bottom core e, extending up into the footcavity i, whereby the joint formed by the contact of the outer face of the former and the inner face of the latter shall be vertical instead of horizontal, substantially as and for the purposes set forth.

115,378. — APPARATUS FOR EXTRACTING TAR, &c., FROM PINE WOOD.—James D. Stanley, Baltimore, Md.

Claim.—1. The combination of two retorts, A A, set in masonry, with one furnace, E, common to both, substantially as and for the purposes hereinbefore set forth.

2. The combination of the said two retorts A A with skeleton cars B B upon tracks, substantially as and for the purposes hereinbefore set forth.

3. The combination of the free discharge-pipes e e and vapor-pipes n n, substantially as and for the purposes hereinbefore set forth.

115,379. — MOTIVE POWER FOR SEWING-MACHINES. — David E. Stearns, Berea, assignor to himself, Samuel M. Burt, Columbus, and William D. Fowler, Cleveland, Ohio.

Claim.—1. The combination of the shaft E, spring H, wheel I, ratchet-wheel J, and lever K, when so arranged that in winding up the spring the shaft is turned in the same direction as the wheel turns, as herein set forth.

2. In combination with the above, the pinion L, miter-wheels M M', and gear-wheels O O, for operating the needle-shaft of a sewing-machine, as herein set forth.

3. The brake a b, arranged with the needle-shaft of a sewing-machine, substantially for the purpose herein set forth.

115,380. — DRIVING PADDLE-WHEEL.—Joseph M. Story, Cincinnati, Ohio.

Claim.—The two intermediate friction-wheels E and D, and the sliding frames a and b, when combined to operate substantially in the manner and for the purpose specified.

115,381.—ENVELOPE-MACHINE.—Henry D. Swift and Daniel W. Swift, Worcester, Mass.

Claim.—1. The vibrating blade R, arranged on an envelope-gumming machine, as described, to constitute a divider for the envelopes, and a resistance-plate for the gummer, as set forth.

2. The arm s' carrying the shoulder a^2, arranged, in combination with the bed C and swinging gummer D, for holding the edges of the ungummed blanks, substantially as herein shown and described.

3. The tongs J, made vertically adjustable to lift the blanks off and replace them on the bed C, substantially as herein shown and described.

4. The rollers c^1 c^1 for spreading and the spring b^1 for closing the tongs J, combined, substantially as herein shown and described.

5. The reciprocating slide y, combined with the pivoted tongs J, rollers c^1, and springs b^1, substantially as herein specified.

6. The top d^3 on the wheel e^3, combined with the blade R for moving the same at intervals, substantially as herein shown and described.

7. The blade R, applied to the vertically-adjustable pin b^3, to be made yielding, substantially as herein shown and described.

8. The fingers r and springs s, combined with the revolving gumming-roller G, substantially as and for the purpose herein shown and described.

9. The vibrating gummer D, combined with the reciprocating bed C and gumming-roller G, all arranged to operate together, as specified.

10. The conveying-tweezers L, connected with the guide-arm i^1 and table j' to be held in proper direction, as specified.

11. The frame m', spring catch p', and spring q', combined with the jaws d^1 and l' of the tweezers L, to operate the same, substantially as herein shown and described.

12. The roller O on the vibrating frame P, arranged, in connection with the aprons M and tweezers L, to retain the blanks on the aprons, substantially as herein shown and described.

115,382.—ENVELOPE-MACHINE.—Henry D. Swift and Daniel Wheeler Swift, Worcester, Mass., assignors to themselves and G. Henry Whitcomb & Co., same place.

Claim.—1. The blank-support C, pivoted to the pin b, and combined with the spring catch f, hook g, and pin h, to operate substantially as herein shown and described.

2. The sleeve or weight i, arranged on pin e, as described, for the purpose of holding down the blanks and preventing more than one from being taken up by the gummer, as set forth.

3. The vibrating frame E, combined with the slide G, and connected with the same, as described, so that one blank is conveyed to the folder whenever a folded envelope is being removed therefrom, as specified.

4. The pivots k, o, and e^2 of the frames D E G and arm L, arranged around one axis, substantially as and for the purpose herein shown and described.

5. The vibrating frame G, having the fingers a^2, combined with the spring arms I, for conveying the envelopes to the same from the yoke F, as set forth.

6. The comb J, vibrating horizontally and vertically, and combined with the spring arms I to lift the envelopes from said arms to clear them for the further reception of envelopes, as specified.

7. The vibrating frame L, combined with the pivoted comb J to actuate the same horizontally, as herein shown and described.

8. The upright slide M, combined by the arm f^3 with the pivoted comb J to actuate the same vertically, substantially as herein shown and described.

115,383.—JOINT FOR DESKS OR SEATS.—Lavinia Sylla and William F. Sylla, Elgin, Ill., administrators of Philo Sylla, deceased.

Claim.—The additional stop f, in combination with the stop e and the joint, for settee and school-

desk seat above described, as and for the purpose specified.

115,384.—EMERY POLISHING-STICK.—George C. Taft, Worcester, Mass.

Claim.—A new article of manufacture and commerce, in polishing-sticks rendered adhesive, as herein set forth and described.

115,385.—LANTERN.—Augustus E. Taylor, New Britain, Conn.

Claim.—The combination of the base and neck B and C, hinged spring ring *b*, slot *f* or other suitable catches, and the groove *a* on the end of the globe A, all combined and operating together, substantially as and for the purpose described.

115,386.—LIFE-PRESERVER.—Benjamin W. Taylor, Henderson, Ky.

Claim.—A life-boat, consisting of the box or body A, with the air-chamber or float hinged thereto, the whole being constructed and arranged for use, substantially as herein described.

115,387. — MACHINE FOR BREAKING AND CLEANING HEMP, FLAX, &c.—Theodore Tebow, Lexington, Ky.

Claim.—1. The two breakers W W, in combination with the main shaft E′, the sections F′ F′, clutches P and K, the pulleys G and F, and shaft C^3, when constructed and arranged substantially as and for the purpose described.

2. In combination with the subject-matter of the above claim, the beaters Y Y, when constructed and arranged to operate substantially in the manner and for the purpose specified and set forth.

3. The machine for breaking hemp and flax herein described, consisting of the breakers W provided with cogged head-pieces D^2, beaters Y, shafts E′ and C^2, clutches P K and their operating mechanism, pulleys A^1 A^2 F G, gears B^1 B^2 and C^1 C^2, and pinions D and E, constructed and arranged substantially as described, and for the purpose set forth.

115,388.—MANUFACTURE OF BAGGING FOR COTTON, &c.—Theodore Tebow, Lexington, Ky.

Claim.—1. The combination of the kettle C with its two vertical slots, C′ C′, and perpendicular sides, the furnace and the frame E E with its rollers *b b b b*, constructed substantially as and for the purpose described.

2. The combination of the pressure-rollers I H, the inner frame composed of the uprights G G, the yokes K K, and openings *g g*, the rod *c′* with its pinion and pulleys, and the rods N N N N with their nuts *n n n n*, constructed and operated substantially as and for the purpose described.

3. The described process of preparing the tar for tarring hemp and flax bagging, substantially as above set forth and described.

4. The improved cotton bale covering herein described, namely, coarse-strand bagging impregnated with tar by the process described, substantially as set forth.

115,389. — WATER-WHEEL. — William J. Thompson, Springfield, Mo.

Claim.—1. The arrangement of the gates K with regard to the wheel and the case and the operating connections, substantially as described.

2. The disk-plate N, arranged to operate the gate, as shown and described, for the purpose specified.

115,390.—APPARATUS FOR STIRRING MALT IN THE KILN.—Wenzel Toepfer, Milwaukee, Wis., assignor to Wenzel Toepfer & Son, same place.

Claim.—1. The roller I, provided with the pivoted right-and-left ladles D D′, to be effective in opposite directions, as set forth.

2. The malt-kiln A, combined with the sliding boxes *d d*, which carry the rotating reciprocating roller, as set forth.

3. The T-link *h*, combined with the clutch *g* and with the projecting ears *j* of the chain F, substantially as herein shown and described.

4. The bolt *k*, applied to the sliding box *d* for locking the roller I, as set forth.

115,391.—PRINTING-PRESS.—William H. R. Toye, Philadelphia, Pa.

Claim.—The arrangement of the shafts D and F, spur-wheels C and C′, pinions G and G′, plate-drum J, gear-wheels L L L, bed-cylinders K, K′, and K^2, ink-rollers M M M, and guides N and N′, all combined and operating as and for the purpose herein specified.

115,392. — STEAM-HEATER. — Charles W. Trotter, Rochester, N. Y., assignor to himself and George Frauenberger, same place.

Claim.—1. The interior vertical water-chamber divided near the middle of its length so as to form a lower and an upper section, A and E, and leave an annular intervening space, *b*, for the passage of the heat and smoke from said interior chamber, as herein shown and described.

2. In a water-heating apparatus in which the interior water-chamber is composed of an upper and a lower section, supporting the former upon the latter by means of a series of vertical water tubes, I, arranged in a circular form in the division-space *b*, as herein shown and described.

3. The arrangement of the outer vertical water-tubes F for uniting the lower section A of the interior water-chamber with the upper outer water-chamber D, in connection with the inner series of vertical water-tubes I, arranged in a circular form for uniting the said lower section A with the upper inner section E, as herein shown and described.

4. In combination with a water-heating apparatus in which the interior chamber is composed of a lower and an upper section, A E, the interior vertical water-tubes I, the intervening space *b*, the outer vertical water-tubes F, the outer water-chamber D, the intervening flue *a*, the conducting-pipe G, and its connecting-tubes H and J, the several parts being constructed and arranged as herein shown and described.

115,393. — CUP OF BOBBIN-WINDING MACHINES.—John W. Vaughan, New York, N. Y.

Claim.—The tubular support F, and set-screw, combined with cup A having the segmentally-recessed arm, applied as and for the purpose specified.

115,394.—CAR-COUPLING.—Jerome B. Vedder, Gloversville, N. Y.

Claim.—The car-coupling herein described, consisting of the sliding plates A′ A′, connected at *a*, the fixed casting I, the spring jaws J J, the movable blocks *m* L, the springs H K, and the coupling-bar or link E, all constructed, arranged, and connected substantially as described and shown.

115,395.—APPARATUS FOR BOILING SUGAR, &c.—Isam Vest, New Iberia, La.

Claim.—The adjustable flues C, whereby a series of pans may be connected together and the gaseous products of combustion be returned through the pans and fluid, substantially as shown and described.

115,396. — WAGON-JACK. — John Wagner, Lancaster county, Pa.

Claim.—The resting-block D, through which the adjustable link *d* passes, in combination with legs B C and lever A, arranged and operating as shown and described.

115,397. — SMUT-MACHINE.—Thomas Wallace, Chicago, and George Warren Hyde, Joliet, Ill.

Claim.—1. The combination of sections of emery-stone B and perforated plates C in a smutter-case, substantially as specified.

2. The combination, in a smut-machine, of the sections B and beaters H made of solid emery-stone, held in place without retaining-lips or edges, so that the emery-stone may wear entirely out without disclosing any metal surface, as specified and shown.

3. The solid emery-stone beaters H, made and arranged as specified and shown.

4. The combination of the conical case A, conical beaters H, and shaft I having an adjustable step, J, substantially as and for the purposes specified.

115,398.—VAPOR-BURNER.—Thomas Ward, Columbus, Ohio, and Henry C. Hunt, Chicago, Ill.

Claim.—In combination with a slitted cap, A B, a burner, E, having the apertures G, recess F, and downwardly-concave deflector D, arranged as and for the purpose specified.

115,399.—CARPET-SWEEPER.—Otis H. Weed, Boston, Mass.

Claim.—The bearing-plates G G, with the openings *c i*, and gear *a* with its pin *b*, and cap *c* with its pin *h*, when constructed and combined with the brush-shaft C, substantially as and for the purpose set forth.

115,400.—STEAM-ENGINE.—Peter L. Weimer, Lebanon, Pa., assignor to himself, I. A. Weimer, and L. E. Weimer, same place.

Claim.—1. The cross-head D and guides E E, constructed, arranged, and applied together, as and for the purpose specified.

2. The arrangement of the bed B, cylinder A, cross-head D, guides E E, piston-rod C, (with the wrist J,) substantially as and for the purposes described.

115,401. — PLANING-MACHINE. — Samuel Whitesides, De Pere, Wis.

Claim.—The circular planer-head A, having the annular faces *c* and *d*, the outer face *d* being inclined at an angle of about five degrees, and both being provided with one or more openings for the reception of the cutters, substantially as described.

115,402.—CURTAIN-FIXTURE.—William C. Wilcox, Waltham, Mass.

Claim.—The hook E, as made and provided with the elastic tongue or spring brake *e′*, as described and shown.

115,403.—STOP-MOTION FOR WARPING-MACHINES.—Paul Wilson and James Hunter, Manchester, N. H.

Claim.—1. The combination, with the belt-shipper K, of the grooved roller R, the dropping-hooks or detectors, and the trough F, the latter having one or both sides pivoted, and carrying the crank-ed bar L, said cranked bar being arranged with the shipper, substantially as specified.

2. The friction ratchet-wheel for arresting the momentum of the driving-shaft, constructed and arranged substantially as specified.

115,404.—PRINTERS' FURNITURE.—William H. Windsor, Little Rock, Ark.

Claim.—The chase proper, having the notch C formed in the corner for arranging the heads of the two screws on the outside, substantially as and for the purpose specified.

115,405.—SWEDGE FOR HORSESHOE-CALKS. Edwin D. Withers, Parkton, Md.

Claim.—The above-described swedges, figs. 1 and 4, sheet 1, for the manufacture of horseshoes or horseshoe-calks, substantially in the manner and for the purposes set forth.

115,406, antedated May 17, 1871.—MECHANICAL MOVEMENT.—Jacob Woolf, Burr Oak, Mich.

Claim.—One or more weights, H, levers G, and inclines C, adapted to operate in connection, substantially in the manner set forth.

115,407, antedated May 22, 1871.—REMEDY FOR WORMS.—Ann E. Wright, Hamlin, N. Y.

Claim.—The worm-mixture, composed of the ingredients herein set forth.

115,408.—TABLE-SINK.—John Wylie, Bethel, Conn.

Claim.—The combination of the sink, *a*, with a hinged cover, *c*, drainer *d*, rack *e*, and bracket-shelves *b f*, substantially as set forth.

115,409.—MANUFACTURE OF ICE.—Albert Albertson, Jersey City, N. J.

Claim.—1. The herein-described method of forming blocks of ice by freezing the water in thin layers upon a moving surface, substantially in the manner set forth.

2. The combination of the water-tank C, revolving rollers C′ C′, and core D constructed with hollow walls, all arranged in a freezing-chamber, to operate substantially as set forth.

3. The combination of the revolving hollow core D and scrapers E upon the ends of the water-tank C, substantially as and for the purpose set forth.

4. The combination of the revolving hollow core D and deflector F, arranged to operate substantially as set forth.

5. The combination of the reservoir B and induction-valve B^1, which is automatically operated by a float, B^2, and a lever, B^3, to regulate the height of the water in the reservoir, substantially as set forth.

115,410. — SPRING-ADJUSTER.—Solomon A. Alexander, Sunbury, Pa.

Claim.—A spring-adjuster, consisting of a frame, *a d*, having fluid-chamber *e*, rams *b* and *c*, and screw *f*, the whole constructed substantially as and for the purposes set forth.

115,411.—ATTACHMENT TO THE CUTTING APPARATUS OF HARVESTERS.—Alexander Anderson and Leslie Johnston, London, Canada.

Claim.—In combination with supplementary fingers A, applied to the fingers as herein described, the supplementary shoe B applied to the divider by bolt E and shackle *v*, and constructed substantially as shown and described, for the purpose set forth.

115,412.—FLOUR-BOLT.—Ephraim D. Auchey, Manheim, assignor to himself and Francis J. Martin, Lancaster, Pa.

Claim.—1. The arrangement of a reel-head, H′, with its curved arms or spokes *h*, hollow gudgeons G′, in combination with the ribs I and head H, with its hollow gudgeon G, all substantially made in the manner and for the purpose specified.

2. In combination with the hollow gudgeons G′ G of the reel, the arrangement of the fan-shaft D, wings F, spider or arms *f*, and pulley E, or its equivalent, for imparting motion to a fan when said fan is within the reel of a flour-bolt, substantially in the manner shown, and for the purpose set forth.

115,413.—MACHINE FOR MAKING SPIRAL-WIRE SPRINGS.—Thomas Baggott, Baltimore, Md., assignor to himself and George J. Dufur, same place.

Claim.—1. As an improvement in machines for making spiral-wire springs, the combination of the overhung spirally-grooved former G with mechan-

ism to impart to said former a reciprocating rotation, substantially as described.

2. In combination with former G having a reciprocating rotation, the head D and springs D', arranged to operate substantially as set forth.

3. In combination with the shaft B communicating a continuous rotation to the head D and springs D', the segmental rack H and arms H^1 H^2, for communicating a reciprocating rotation to the former G, substantially as set forth.

115,414. — SAND-PAPERING MACHINE.—Joseph Barker, Chicago, Ill.

Claim.—1. The wheel K, formed with a recess or depression in the central part of its under side to obviate a dead point in said wheel when it is used for finishing flat surfaces, as described.

2. The wheel K, provided with a recess on its under side to obviate a dead point, and with a series of sectional blocks, N, to hold the sand-paper *f* in place when said wheel is used for finishing flat surfaces, substantially as described.

3. The wheel R, provided with openings P and furrows between the sectional blocks N, and under arms *g*, for allowing air to carry out the dust, as specified.

115,415. — PRUNING-SHEARS.—Albert Barling, West Chester, Pa.

Claim.—1. The hook or jaw *d*, provided with serrations *e* and a rebate or recess alongside thereof, its inner edge being square or right-angular, as set forth and shown.

2. The movable jaw *d*, provided with shank *e* bent at a right angle, the fixed jaw *d* provided with serrations and a rebate, the link *i*, shanks *g h*, and handles *f f*, all constructed and arranged as shown and described.

115,416.—WASH-BOARD.—Hartwell H. Bellows, Brooklyn, N. Y.

Claim.—The arrangement, in combination, of the single, lateral, convex surfaces E E, central depression F in the middle, and the plane faces G G at the ends of the wash-board face B, for the purpose specified.

115,417.—REFINING RAW SUGAR.—Richard William Bender, Boston, Mass.

Claim.—The improvement in refining raw sugar, substantially as described.

115,418.—SASH-BALANCE.—George W. Bishop, Saratoga Springs, N. Y.

Claim.—The clamp K, constructed with bars L and M and spring A, together with an operating device, when inserted in the meeting-rail of the sash for holding the cord, substantially as and for the purpose specified.

115,419. — WEIGHING-SCALE. — William Black, Baltimore, Md.

Claim.—The combination of a sliding counterbalance scale, constructed as described, with a holder and guard, E *e''*, made in one piece, and adapted to be hung loosely upon nails or pegs by means of loops *e' e'* on opposite sides of the link *a*, where the scale-beam is suspended, substantially as described, and for the purposes specified.

115,420. — PRESSURE-GAUGE.—Richard C. Blake, Cincinnati, Ohio.

Claim.—1. In the described connection with the diaphragm E, the gaskets F G, metallic ring H, and screw-threaded follower I, the latter being provided with projecting ring or collar *i*, the whole being combined and operating substantially in the manner and for the purpose set forth.

2. In combination with the segment *J j* and pivoted bar M, connected as shown, the lugs *c c'* and set-screws *d d'*, for the purpose specified.

115,421.—SPIKE-EXTRACTOR.—John A. Borgort, Jersey City, N. J.

Claim.—The combination of the lifting-lever C, intermediate link E, hinged die-plate H, and guide-strap K, arranged and operating substantially as hereinbefore set forth.

115,422.—BOOT AND SHOE.—Augustus O. Bourn, Providence, R. I.

Claim.—1. The combined vamp and quarter for boots and shoes, composed of rubber and a textile fabric practically elastic in but one direction, cut as described with reference to the elastic line, and requiring, above the soles or foxing, either one single non-elastic vertical heel-seam, or in lieu thereof a single longitudinally elastic instep-seam, substantially as shown and described.

2. The herein-described improved boot or shoe, composed in part of rubber and a textile fabric practically elastic in but one direction, the entire vamps and quarters of which are wholly elastic longitudinally, and in which all seams above the foxing or soles are vertically non-elastic or longitudinally elastic, as and for the purposes specified.

3. The improved overshoe, consisting of the longitudinally elastic vamp and quarter composed of a textile fabric and of rubber, practically elastic in but one direction, and of the rubber soles and foxing, substantially as described.

115,423. — STEAM-HEATER.—Noah Bowen, Columbus, Ohio.

Claim.—1. The hollow sections A of a heating apparatus united so as to communicate with each other by means of ball-joints C, for the purpose described.

2. The middle heating-section or sections A, supported endwise by the intermatching hollow ribs D of the outside sections, and vertically by and upon the communicating ball-joints, thus dispensing with fastenings for the middle sections, as described.

3. The pipe I, when arranged to enter the section A after having first passed directly from the boiler-pipe into the hot-air flue, for the purpose of increasing the draught by increasing the heat of said flue, and also heating the nest of sections quicker, as described.

4. The several sections A of the heating apparatus secured together by means of bolts E, arranged in a triangular form, so as to embrace within their bearings the hollow globe-joints C and their communicating tube-connections, to equalize the adjustment of the joints, as described.

5. To compensate for the expansion and contraction of the heating apparatus under varying temperatures of heat and cold, mounting the two outside sections upon rollers fitted to move upon a track, and thus prevent the breaking of the joints of the steam-pipes connecting the apparatus with the generator, as described.

6. The valve *d*, with its adjustable stop-plate *e* and tubular screw-cap *b*, as applied to one or more sections of a steam-heating apparatus, as described.

7. The combination of the heating-sections A, the intermatching hollow ribs D, the ball-communicating and sustaining-joints C, the connecting-rods E, the induction and exhaust-pipes G and H, and the regulating escape-valves, the several parts being constructed and arranged as and for the purpose described.

115,424.—LATHE FOR TURNING AXLES.—Adam J. Bower, Albion, Ill.

Claim.—1. In combination with a tail-block C, constructed with a center, K, which is adjustable both laterally and vertically, the rotary cutter-head R U, connected and operating as described, and for the purpose specified.

2. The combination of the tail-block C, adjustable blocks L and M, screws *d* and N, and nut P, as described, and for the purpose set forth.

3. The chuck, composed of the parts *f g h i*, as described, and for the purpose specified.

4. In combination with the cutters U, the adjustable slides W, screws X, gear-wheels Y, G, and H, and counter-spindle I, connected and operating substantially in the manner and for the purpose set forth.

115,425.—PROPULSION OF VESSELS.—Richard Boyman Boyman, London, England.

Claim.—The tubes for steam-jet propelling and backing, in combination with the curved reaction-tube, for propulsion, operating substantially as and for the purpose set forth.

115,426.—SINKER-WHEEL FOR KNITTING-MACHINES.—Horace C. Bradford, Providence, R. I.

Claim.—The improved sinker-wheel for rotary knitting-machines herein described, the teeth of which are bent or curved at their tips, as and for the purposes specified.

115,427.—CORN-CULTIVATOR.—Gustavus D. Brown, Lebanon, Ill.

Claim. — In a cultivator, the arrangement of standard-guides F F' having slots *f*, plows E, standards E' having holes *e*, hand-levers G, ratchet standard f^3, plow-frame A having holes *f'*, tongue B, hand-bar C, segmental bar C', seat-bar D', and seat D made adjustable, when all said parts are constructed to operate as described.

115,428.—MUSICAL TRANSPOSING-BOARD.—John M. Bruner, Roanoke, Ohio.

Claim.—1. The combined arrangement of the lettered scale, the several slides A B C, and the pointers, as and for the purposes herein specified.

2. The combination of the musical staves, lettered scale, slides A B C, pointers, and reversible slide D, marked on one side for flats and on the other for sharps, and provided with shutters for masking any desired number of the said signature marks.

115,429.—APPARATUS FOR DISTILLING TURPENTINE, &c. — Charles J. T. Burcey, Black Rock, Conn.

Claim.—1. The pipes N, provided with perforated heads, and arranged within the still, substantially in the manner described.

2. In combination with the pipes N, the outer encircling pipe *m*, provided with stop-cocks for pipes N, substantially as described.

3. In distilling apparatus, the reservoir H, worm-vessel J, coil J', and pipe *L'*, arranged and combined to operate substantially as described.

4. In combination with the next above, the bulb-valve *a'* in reservoir H, and stop-cock K in pipe *L'*, to equalize the influx of matter to be distilled with the efflux of matter distilled, substantially as described.

5. In combination with worm-vessel J and worm-tub G', the pipe I, when arranged to operate, substantially as described.

6. The serpentine pipe *r* around the discharge-pipe *s*, substantially as and for the purpose set forth.

7. In combination with a distilling apparatus, a filter, 5, constructed and arranged substantially as herein described.

115,430.—MATCH-BOX.—Denslow Burhans, Burlington, Iowa.

Claim.—The match-box and holder combined, constructed of the material and form described, as and for the purpose herein specified.

115,431, antedated May 26, 1871.—GRAIN-DRIER.—Jabez Burns, New York, N. Y.

Claim.—The jacket B, provided with an internal spiral flange, in combination with the perforated cylinder A, containing flanges *h h'*, and capable of being revolved together with the jacket, substantially as set forth.

115,432. — RIVET. — William Butterfield, Boston, Mass., assignor to himself and Charles E. Woodman, same place.

Claim.—The rivet described, having the slotted shank A, the slot dividing the shank into rounded and pointed sections, substantially as described.

115,433. — CAR-COUPLING. — William Callow, Jr., Baltimore, Md.

Claim.—1. The bumpers A C, constructed with enlarged solid convex faces, strengthened by means of ribs F F, and arranged to act in the double capacity of coupling and bumper, substantially as set forth.

2. In combination with the combined bumper and coupling constructed as herein described, the chain connections, all arranged to operate in the manner and for the purpose specified.

115,434, antedated May 19.—MINNOW-PROPELLER.—William D. Chapman, Theresa, N. Y.

Claim.—A minnow-propeller, composed of the body A, formed of the two convex plates, secured together at their edges so as to embrace the tail-piece B, and provided with the openings *a* and *a'*, and having attached to its end and sides, or either, as may be desired, the hooks C and E, substantially as and for the purpose specified.

115,435.—TWISTING AND SPINNING-HEAD.—John W. Chappell, Berlin, Mich., assignor to himself and Dennis Macomber, same place.

Claim.—1. In combination with a carding-cylinder, H, the above-described spinning-head and spool mechanism, operating substantially as and for the purposes specified

2. In spinning-heads, the rolls B B, slowly revolving in opposite directions on their own axes, and rotated, at the same time, in a plane at right angles to their axes, and having the reversely-obliqued teeth on the edges thereof, all substantially as and for the purpose specified.

3. The tube D having wiper F, and rolls B B having reversely-obliqued teeth on their edges, combined and operated together, as and for the purpose specified.

115,436.—SEWING-MACHINE MOTOR.—David A. Constable and John F. Riggs, St. Joseph, Mo.; said Riggs assigns his right to said Constable.

Claim.—1. The blades *a*, hinged and arranged in connection with the opening and closing apparatus, and combined with the motor mechanism for sewing, &c., as shown and described, whereby they are adapted to regulate the speed of the machine, as set forth.

2. The combination of the spring brake *o*, link *n*, and treadle *l*, with a motor mechanism, as described.

3. The apparatus herein described, constructed, arranged, and operating as explained.

115,437. — STEAM-COOKING APPARATUS.—John Graham Cooey, St. John, Canada.

Claim.—The combination of the sections designated on Figure 2 by the letters B C D, with the adjustable vegetable boiler and strainer designated on fig. 7, and the dome, designated by letter A on fig. 1, and also the cold-air condensing space, designated on fig. 3 by the letter H, with the spout, designated on fig. 1 by letter *c*, and the gutter, designated on fig. 3 by the letters *b b*, for reconducting the steam to the boiler, substantially as and for the purposes hereinbefore set forth.

115,438, antedated May 26, 1871. — SURFACE-GAUGE. — William F. Cornell, Adrian, Mich.

Claim.—The tapering shoulder *i* on the head H, the slot or opening *n*, and the recessed seat *l* in the end of clasp E, as and for the purpose set forth.

115,439. — ADJUSTABLE DRAW-HEAD FOR RAILROAD CARS.—David P. Cory and Josiah Crane, Jr., Crawford, N. J.

Claim.—The combination of the draw-head C, rear block B or its equivalent, block D, frame E, bolt *a*, and wrench-nut *b*, all constructed and ar-

ranged to operate substantially as and for the purposes herein set forth.

115,440. — Feather-Renovator. — Benjamin Franklin Cramer, Tyrone, Pa.

Claim.—The feather-renovator herein described, having revolving case A, drying-space C, feather-chamber, as represented, perforated steam-chamber G' arranged in the door G, as shown, together with the notched cleats F and pipes and cocks, as described, constructed, and arranged, substantially as specified.

115,441. — Cotton-Gin Saw. — Thomas C. Craven, Philadelphia, Pa., assignor to Barton H. Jenks, same place.

Claim.—As a new manufacture, a corrugated saw for cotton-gins, substantially as set forth.

115,442.—Standard for Drop-Lights.—James Cunningham, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—In combination with the tube A and cylinder B, the spring D arranged within the cylinder, the packing *a b*, and adjusting-plug E, substantially in the manner herein set forth.

115,443.—Machine for Rolling Leather.—John G. Curtis, Warren, Pa.

Claim.—The combination of the rollers G with the bearing-blocks K and weighted blocks I, forming a track for said rollers G, for the purpose herein described.

115,444. — Hot-air Furnace. — Mark A. Cushing, Aurora, Ill.

Claim. — The construction and arrangement, within the casing F, of the ash-pit A, fire-pot B, flue J, and crescent-shaped radiator H, having a sleeved or extensible exit-pipe, K, and with or without the air-pipes I, substantially as described, and for the purpose specified.

115,445.—Permutation-Lock.—George L. Damon, Cambridge, Mass.

Claim.—1. The lever O and arm Y, the lever O hung to a fixed point of the bolt Q and the arm Y to the case, and the two connected together through pin X and slot W for the lever O to move on the arm Y, and both constructed and arranged to interlock with the tumblers B and fixed disk V of spindle C, as described, for the purpose specified.

2. The bushing H^2, having a female-screw thread, a shoulder, K^2, and a flange, I^2, in combination with annular screw-nut M^2, and spindle C, as and for the purpose described.

3. An index or pointer, F, having an elongated slot, *n*, as and for the purpose described.

115,446.—Process of Seasoning Wood.—Ezra Davee, Marshall, Ill.

Claim.—1. The process for seasoning timber, substantially as herein described.

2. Seasoning timber by the agency of heat applied through an intervening wall or interval of earth, substantially as herein described.

115,447.—Sliding Gas-Joint for Extension Drop-Lights.—Charles Deave, New York, N. Y., assignor to the Archer and Pancoast Manufacturing Company, same place.

Claim.—The case B C, of conical form at its inner extremities, in combination with the flexible packing *e e* at each end, and the interposed spiral spring S, as shown and described.

115,448.—Locking-Latch for Gates. — Jonathan L. Devol, Parkersburg, West Va.

Claim.—In a gate-latch substantially such as described, the combination of the jaws A B and sliding plate G, serving to lock them, and operating in the manner set forth.

115,449, antedated May 18, 1871.—Axle-Box.—Davis Henry Dotterer, Philadelphia, Pa.

Claim.—1. In an axle-box, the combination of the journal of the axle with an annular or bell-shaped bearing, F, hung to and arranged to turn within the box, substantially as described.

2. The said journal and bearing, when geared together to insure a positive movement of the bearing, as set forth.

3. The combination, with the bearing, of a strengthening-band or collar, *h*, of wrought-iron or steel.

4. The combination of the openings *j*, arranged at the front of the bearing, and recessed at the edges, and passages *k* for conducting lubricating material from said recessed edges to the pin G, to which the bearing is hung.

5. The pin G, adapted to a recess at one side of the box, and to a block, H, fitted to and arranged to have a limited movement in an opening, *d'*, in the opposite side of the box, all substantially as described.

6. The trunnions I, resting in bearings supported by springs *v*, as specified.

115,450. — Tackle-Block. — Ellis Doty, Janesville, Wis.

Claim.—1. In a tackle-block, the independent wheels C C' C'', graduated to make their revolutions in equal times, substantially as specified.

2. In a tackle-block, a wheel provided with an extended hub to serve as a bearing for the other wheels of the block, substantially as specified.

115,451.—Machine for Tapping Nuts.—John N. Durrell, Dunkirk, N. Y.

Claim.—1. In machines for tapping nuts, the annular groove a^3 in the bed A, arranged with a series of taps and tap-spindles, the former pointing upward, and the latter arranged in the bed A, as hereinbefore set forth.

2. The arrangement, in relation to one another, to the table A, and central shaft C, of the series of tap-spindles, the series of fixed gear-wheels, and the several series of interchangeable gear-wheels, substantially as described.

3. The connection of the upper reservoir F with the table A by means of the slides E placed respectively between and equidistant from the tap-spindles, as described, for the twofold purpose of supporting said reservoir and guiding the nut-holders, substantially as hereinbefore set forth.

4. The construction of the tap-holders with a hole in each extending from end to end, and, jointly therewith, the arrangement of them in the table in a circular series, as described.

5. The stops I, constructed in halves *i i*, formed with offsets, and secured to the slides by a clamp-screw, *i*, in the manner and for the purpose hereinbefore set forth.

115,452. — Driven Well. — Jacob Edson, Boston, Mass.

Claim.—The combination of the suction-pipe *a*, holes *b b b*, the pointer *c* welded to the suction-pipe, and the corrugated perforated strainer *d*, when all are arranged and combined substantially as set forth and described.

115,453.—Wagon-Coupling.—Amos Fassett, Sterling, Ill.

Claim.—The combination of the plate A', tube *a*, with its exterior lugs *b b* and the interior lugs *a' a'*, the tube *d*, and support C with the recesses *c' c'*, and the plate D, tube *d*, and exterior flanges *d' d'*, all arranged to operate as herein set forth and shown.

115,454. — Spring Wagon-Seat. — Amos Fassett, Sterling, Ill.

Claim.—The combination of the hollow posts C, ferrule B, guides B' B', rod D, and springs *d*, when said posts C serve as the standards for the seat-rail, and the whole is arranged in connection with the seat so as to operate in the manner and for the purposes herein set forth.

115,455.—Watch-Case Spring.—Wesley Fenimore, Philadelphia, Pa.

Claim.—A watch-case spring, consisting of a block, adapted to, but detachable from, the case of a watch, and a strip of steel, having an uncut "skin" formed, in drawing or rolling the said strip, and secured to said block, as specified.

115,456.—Show-Stand.—William Fisher, New York, N. Y.

Claim. — The combination of the glass plates, shelves, or receptacles G G G, metal columns C C C, interposed washers *e e*, and central screw-bolts and nuts, substantially as and for the purpose herein set forth.

115,457.—Combined Concrete and Wood Pavement. — Mark Flanigan, Detroit, Mich., assignor to himself and Harvey D. Winser, same place.

Claim.—A pavement composed of small cylindrically-shaped blocks A, placed upon a composite, bed, B, and held in place by the composite filling C, substantially as set forth.

115,458. — Lamp-Chimney. — Samuel W. Fowler, Brooklyn, N. Y.

Claim.—The new article of manufacture of a lamp-chimney, constructed with a circular base, a contracted neck, an oval or elliptical flue, when said flue is provided with straight sides and when the opening through the neck is of less area than the opening at the top of the chimney or at any point along the flue, substantially as herein specified.

115,459. — Cultivator. — Conrad Furst, Chicago, Ill.

Claim.—1. The frame A, constructed as described, and extending back of the axles, when so combined with the short axles C that the ends of the plow-beams may be raised and lowered, substantially as and for the purposes specified.

2. The adjustable bars J, when combined with the frame and plow-beams so as to move with the beams E, substantially as described.

115,460.—Medical Compound.—George H. Goltry and Frederick W. Hogarth, Port Allegheny, Pa.

Claim.—The fluid extract of *uva ursi*, prepared of the ingredients and in the proportions substantially as herein set forth.

115,461. — Clothes-Drier. — Fred. W. Goodale and John J. Brennan, Danbury, Conn.

Claim.—The combination of the posts A and A' having slots or grooves *a a* therein, and cross-ties or rounds *d* and *d'*, and forming the end frames, with the folding slats B B B and cross-rods C', C'', and C''', when constructed and arranged to operate in the manner and for the purpose described.

115,462.—Canceled.

115,463.—Metallic Packing for Stuffing-Boxes.—Albert H. Hall and Theophilus Locher, Sacramento, Cal.

Claim.—The projections G G on ring F, substantially as herein described, and for the purpose set forth.

115,464.—Alarm-Baton.—John F. Haskins, Fitchburg, Mass.

Claim.—1. A pneumatic alarm or signal, consisting of a pump-cylinder, a piston, and a whistle or sonorific vibrator, constructed, combined, and relatively arranged, substantially as shown and described.

2. The air-pump, having an orifice through which the air is both admitted and ejected without any valve or valvular mechanism, and having a sonorific vibrator in combination with such pump.

115,465.—Combined Hand-Spinning and Reeling-Machine.—William P. Hatch, Lincoln Centre, Me.

Claim.—1. The combination and arrangement of the friction driving-wheel A, standard *t*, rocker-bar *r*, screw *s*, friction-wheel *a*, speed-wheel C, belt H, small pulley *l*, and spindle *v*, as herein described, for the purposes set forth.

2. The combination and arrangement of the friction driving-wheel A, standard *t*, rocker-bar *r*, screw *s*, friction-wheel *z*, pulley *c*, belt *w*, pulley *d*, and reel *g*, as herein set forth, for the purposes described.

115,466.—Lamp-Burner.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place.

Claim.—1. The interior air-tube *e*, made out of one piece of metal, notched, bent, and soldered in the manner and for the purposes set forth.

2. The guide *m* for the rack *l*, made of the metal of the burner-shell, and projecting inside the wick-tube *e*, as and for the purposes set forth.

3. The exterior Argand wick-tube *a* united to the shell of the burner by passing said tube through the metal of the shell and spreading said tube above and below said shell, as specified.

4. The reducing band 5, made with an internal screw for the burner-screw *b*, and an external screw, 6, of smaller diameter for the reservoir, as and for the purposes set forth.

115,467.—Coffee-Pot.—John Heberling, Mount Pleasant, Ohio.

Claim.—A coffee-generator and leacher having its sides and bottom perforated, and provided with a screen-bottomed funnel, C, and a lifting-handle, D, formed with a hook, E, all as herein shown and described.

115,468.—Cooling and Preserving Beer and other Liquids on Draught.—John M. Heiss, Baltimore, Md.

Claim.—The combination of the boilers B B', the pipes C, F F', and H H', with their respective cocks and gauge, acting upon any number of kegs, barrels, &c., that may be desired, together with the receiver M and its pipes, and the ice-box or chest N, the whole arranged for the purpose herein set forth, and substantially as described.

115,469.—Thread-Cutter.—John Joseph Henry, Baltimore, Md., assignor to himself and W. D. Williams, same place.

Claim. — The removable cutter C, fitting in grooves in the plate A, and hook B, substantially as shown and described.

115,470. — Railway Switch. — Benjamin Hinkley, Troy, N. Y.

Claim.—1. The sliding table D, with the rail sections C C' inclined to each other and fast thereon, when arranged in combination with the crossing-rails A A^1 and B B^1, substantially as described.

2. The combination of the sliding table, having inclined rail-sections C C' fast thereon, with the switch-rails J J' and track-rails A A^1 A^2 and B B^1 B^2, substantially as herein set forth.

115,471.—Fire-Proof Roof.—Isaac Hodgson and William H. Brown, Indianapolis, Ind.

Claim.—1. In a slate roof, the hooks D, for holding the slate E, in combination with the hollow

flanged laths C, with which said hooks interlock, essentially as described.

2. The slate E, held and secured in position at both ends, its outer one by means of the hook D, and its inner lapped end by the flange of the hollow lath, as described.

3. In a fire-proof slate roof, the combination, with the beams A, of the grooved flanged plates B, the hollow flanged laths C, and the hooks D, the several parts forming a frame for supporting the laths and slate, and locking the latter thereto, as described.

115,472.—Fire-Proof Beam, Floor, and Ceiling.—Isaac Hodgson and William H. Brown, Indianapolis, Ind.

Claim.—1. The plates B for securing the flooring to the beams, arranged as described, supported upon said beams by the flanges D, and having also flanges C for the support of the corrugated plates G of the flooring, as described.

2. The grooved plates B of the beams A, in combination with the dogs or nails E, constructed and applied to said plates and the flooring, as described, as a means for securing the flooring to said beams, as described.

3. The perforated lath-suspender I for securing and suspending the laths to the beams A, as described.

4. A metallic lath, hollow, and heart-shaped in its cross-section, and open at the bottom, as and for the purpose described.

5. In a fire-proof flooring, the combination with the beams A of the grooved flanged plates B, sliding knee-dogs E, the corrugated metal-plates G, hollow open laths J, and their perforated suspender I, the several parts being constructed and arranged essentially as described.

115,473.—Machine for Whitening and Shaving Skins and Leather.—Jabez Hodskinson, Salem, Mass.

Claim.—1. The longitudinally-reciprocating table G, in combination with the vertically-reciprocating cross-head O, with its attachments, substantially as described.

2. The sliding cross-head O, provided with the transverse cross-head P and its connections, as and for the purpose set forth.

3. The sliding plate *m*, with its pivoted rods *p p*, connected to cross-head P by cords *o o*, and to lever *d* by rod *r*, in combination with the track *l* and pulleys *n n'*, substantially as described.

4. The bell-crank levers *c d*, in combination with cams E F, operating the rocking-shaft L and cross-heads O P, all arranged and operating substantially as described.

5. The bent lever *f* for shipping or disconnecting levers *c d* from cams E F, substantially as described.

6. The shaft S, provided with cutters T and revolved by cogs U V and ratchet W, substantially as described.

7. The disk *s*, provided with depressions with which the dog *t* engages to hold the shaft S, substantially as described.

8. The circular table A' and roller B', in combination with cutters T, for treating skins when in a damp condition, substantially as described.

9. The adjustable guard C', in combination with the cutters T, substantially as described.

115,474.—Oyster-Shucker.—George Holtzmann, Baltimore, Md.

Claim.—1. The combination of the frame A, socket B, jaw C, and lever D, as specified.

2. The combination of the standards G, rest F, case H, blade L, spring plate I, and lever M, as described.

3. The combination of the standard P and universally-jointed blade O, as and for the purpose specified.

115,475.—Pavement.—William Wheeler Hubbell, Philadelphia, Pa.

Claim.—The manner hereinbefore described of building up the concrete and stone pavement by the application of a solution of lime with dry coal-ashes or gravel, and Rosendale or hydraulic cement, mixed and sifted into the crevices of the broken stone so that the broken stone shall interlock between the bed and each other with this concrete between them, and form the stone and concrete surface described.

115,476.—Open-Front Stove and Fire-Place.—James G. Hunt, Cincinnati, Ohio.

Claim.—1. In an open fire-place or open stove, the grate A and receptacle B, located relatively to each other, and operating in the manner described.

2. The air-chamber C, perforated back D, and receptacle B, when combined and operating as described.

115,477.—Steam-Heater.—Albert L. Ide, Springfield, Ill.

Claim.—The construction and relative arrangement of the cold-air duct F, the pipe-chamber E, the steam-pipes C, and the distributing-chambers G, substantially as and for the purpose specified.

115,478.—Valve-Motion.—Simon Ingersoll, Brooklyn, N. Y.

Claim.—The tappet-lever K, with its beveled tappets *k*, in combination with the piston P, and bent lever H to give motion to the valve-stem 9 and cause it to slide within the steam-chest F, substantially as and for the purpose set forth.

115,479.—Safe.—George H. Ireland, Somerville, Mass.

Claim.—1. A vault, safe, or chamber constructed, as set forth, of masonry, in combination with a metallic frame arranged to interlock with the said masonry, substantially as and for the purpose described.

2. In combination with the above, the entrance to the vault, constructed as described, together with a door arranged to fit therein of hydraulic cement, substantially as and for the purpose specified.

115,480.—Machine for Cutting off Horseshoe-Nails.—Charles Fred. Johnson, Jr., Owego, N. Y.

Claim.—1. As an improvement in machines for making nails for horseshoes, the combination of a stationary cutter, a rotating cutter, and mechanism for giving to the latter a variable velocity so as to cause it to approach and recede from the anvil at a comparatively slow speed, and to cross said anvil rapidly, substantially as and for the purpose specified.

2. The revolving disk I, the pivoted arm L, the pin *l*, the anvil A, the reciprocating carrier R, provided with the spring S, and the cutters M and N when combined with each other and with suitable actuating mechanism for operating the same, substantially as and for the purpose shown.

115,481.—Striking Mechanism of Clocks.—George A. Jones, New York, N. Y., and Horace H. Warner, Bristol, Conn., assignors to George A. Jones.

Claim.—The lever A and lever B hinged thereto, when the same are constructed and arranged for joint operation, as herein described, in combination with the click C, rack D, wheel E, and springs I, as shown and set forth.

115,482.—Rocking-Grate Bar.—James Jones, Rochester, N. Y.

Claim.—1. The combination, in a grate-bar, of the segmental spiral flanges *b b* with the axle A, substantially as and for the purpose described.

2. The arrangement of the truss C in relation to the ends *a a* of the flanges *b b*, so as to form the two draught and discharge-spaces I I, in the manner and for the purpose described.

3. The grate-bar, in which the axle A, flanges *b* *b*, truss C, and braces *d* are employed in combination, substantially as described, for the purpose specified.

115,483.—Revolving Fire-Arm.—Benjamin Franklin Joslyn, New York, N. Y., assignor to Tomes, Melvain & Co., same place.

Claim.—1. The combination, with the cylinder of a revolving fire-arm, of a sliding breech-piece, H, operating substantially as and for the purposes specified.

2. The said movable breech-piece, operated in one direction by a projection or projections, *i*, on the face of the hammer, on the descent of the latter, and in the opposite direction by a spring, *g*, or its equivalent, when the said hammer is raised, all substantially as described.

3. The combination, substantially as herein described, of the said movable breech-piece, the hammer, and a fixed pin, J, of the frame of the fire-arm.

4. The firing-pin *k*, adapted to an opening in the movable breech, and so combined with the latter and the hammer that it shall be thrust forward by an incline, *i*, on the latter, after the completion of the forward movement of the said breech-piece.

5. The ejecting-rod *k*, consisting of two sections, *p* and *p'*, hinged or swiveled together, and arranged to be operated substantially in the manner described.

115,484.—Compound for Staining Wood.—John Michael Keller, Evansville, Ind.

Claim.—The compound for staining wood herein described, compounded in the manner, of the ingredients, and in the proportions specified.

115,485.—Bedstead.—Michael Lally, East Palestine, Ohio.

Claim.—The center slat F', provided with the studs *g*, in combination with the side rails A and supporting-strips E, provided with the locking-plates H, substantially as and for the purpose specified.

115,486.—Machine for Washing Coal.—George Lander, New York, N. Y.

Claim.—1. The adjustable gate D, combined with and arranged to serve, as represented, relatively to the perforated flooring A, tank or bash N, and means B L for inducing an alternate up-and-down motion of the water through the openings in the flooring A, so that the coal and the foreign matter, while it may be tumbled promiscuously in any convenient quantities on the receiving sides of the partition D, will be introduced to the separating side thereof at the desired rate and at a uniform level, as herein specified.

2. The dead-flooring A', in combination with the gate D and with the perforated flooring A, bash N, and means for inducing an alternate up-and-down motion of the water through the perforated portion of the flooring, as specified.

115,487.—Skate.—Beecher M. Lank, Oswego, Kan.

Claim.—A runner for skates, composed of two parts or sections hinged together so that they may be swung apart, but still be held in true and proper position for grinding, and when ground be swung together and fastened into one, as it were, substantially as and for the purpose herein described and represented.

115,488, antedated May 27, 1871.—Comb and Brush.—Tolbert Lanston, Washington, D. C.

Claim.—A comb and brush attached to the same handle, and combined in such a manner that both operate on the hair at the same time.

115,489.—Granulated Photograph.—William Augustus Leggo, Montreal, Canada.

Claim.—1. The granulated positive, produced as described.

2. The granulated negative, produced as described.

115,490.—Process for Obtaining Molds for Electrotyping Purposes.—William Augustus Leggo, Montreal, Canada, assignor to himself and George Edward Desbarats, same place.

Claim.—1. The mole-skin, or its equivalent, in the manner and for the purpose substantially as herein shown and described.

2. The employment of the wax sheet, or its equivalent, to receive the impression, in connection with the mole-skin, substantially as described.

3. The taking of a second impression from the face of the types upon the wax sheet, or its equivalent, substantially as described.

4. The general method, herein described, of obtaining finished molds for electrotype and other purposes.

115,491.—Roller for Wringers.—John Makechney, Trenton, N. J.

Claim.—The shaft A provided with longitudinal slots or openings, in and around which the rubber cylinder B is formed, substantially as and for the purposes herein set forth.

115,492.—Head-Block.—Henry R. Martin, Hillsborough, N. H.

Claim.—The chains I I and sprocket-wheels H H, mounted and operating, as hereinbefore explained, to actuate the log-feeding or setting-carriage of saw-mills.

115,493.—Machine for Piercing Side Seams of Boots, &c.—William May, Binghamton, N. Y.

Claim.—1. The combination and arrangement of the series of awls and awl-plate C, and corresponding movable plate B, perforated plate F, gauge-bar G, and removable clamp I, substantially as and for the purpose herein set forth.

2. In combination with the plates B C F, gauge-bar G, and clamp I, the balance-wheel E, crank-shaft H provided with weighted arm *b*, and their connections, all being constructed and operating as hereinbefore described, for the purpose set forth.

115,494.—Electric Advertising-Cabinet.—Harry W. McAllister, Chicago, Ill.

Claim.—The cabinet A, when provided with advertising-spaces *a*, in combination with an electrical battery, D, so constructed and arranged as to be adapted to operate advertising mechanisms within said cabinet, substantially as specified.

115,495.—Fire-Plug.—John McClelland, Washington, D. C.

Claim.—1. The combination of the cam-cylinder G, provided with the cam-slots *e* and *f*, the operating-lever H, and the valve-rod E, substantially as shown and described.

2. The guides *d* and *b' m'*, located, respectively, below the main valve and above the delivery-port of the hydrant, in combination with the valve-stem and its operating device, substantially as shown and described.

3. The waste-water valve I, consisting of the weighted flap *n* and arm *p*, hinged to the interior wall of the hydrant, near its base, and adjacent to a suitable delivery-port, substantially as described.

4. In combination with a stack of hydrants, operated by axial valve-rods and supplied from a common chamber, the hanger F, and the radial guides *d*, substantially as shown and described.

115,496.—Churn-Dasher.—Jacob W. McClure, St. Louis, Mo.

Claim.—The metallic churn-dasher above described, consisting of the hub A, beveled above and concave beneath, the radial ribs C having the triangular cross-section shown in fig. 3, and the con-

centric rings D, spaced, as set forth, and having the cross-section shown in fig. 4, all as and for the purpose specified.

115,497. — CARRIAGE-WHEEL. — John McCreery, Springfield, Ill.

Claim.—A carriage-wheel, combining a raised centre, dodged spokes, metal bands, and bolts or rivets that connect the metal bands and pass through or between the spokes and through the solid wood of the hub, substantially as herein described.

115,498, antedated May 26, 1871. — CARTRIDGE.—Isaac M. Milbank, Greenfield Hill, Conn.

Claim.—1. The cylindrical case, of wood or similar material, receiving the ball, and made with a conical end and edge for cleaning the barrel, in combination with the rigid wad introduced in the cartridge-case between the powder and said ball and cylinder, as and for the purposes specified.

2. The projections *e e*, combined with the sectional charge *a b* and wad *c*, substantially as and for the purposes set forth.

115,499.—SAW-FRAME.—Henry S. Miller, Philadelphia, Pa., assignor of one-half his right to Samuel H. Davis, Jr., same place.

Claim.—The saw-frame herein shown and described, provided with the braces E of curved form pressing directly downward on the stretcher F, and yielding in the longitudinal direction of the frame, as and for the purpose specified.

115,500.—SAW-FRAME.—Henry S. Miller, Philadelphia, Pa., assignor of one-half his right to Samuel H. Davis, Jr., same place.

Claim.—The spring F, as arranged with the stretchers E E of the saw-frame, substantially as and for the purpose described.

115,501.—HIGH AND LOW-WATER INDICATOR FOR STEAM-BOILERS.—Frank Millward, Cincinnati, Ohio.

Claim.—A high or low-water indicator for steam-boilers having two chambers, C E, communicating with the water-line and steam-space of the boiler separately, and a diaphragm alarm-valve, B G, dividing the chambers, operated in one direction by a preponderance of pressure in one compartment created by the support of a hydrostatic column in the other, and in the opposite direction by any suitable retractile force, substantially in the manner and for the purpose set forth.

115,502.—MOUNTING AND WORKING ORDNANCE.—Alexander Moncrieff, Culfargie, Scotland.

Claim.—1. The combination herein described of the cylinder K, bar O, carriage N, and pipe K′, with elastic or non-elastic fluids for absorbing and storing up the force of the recoil of guns, and utilizing the same to raise the gun into firing position, as set forth.

2. The arrangement of the cylinders containing fluids or gases, as above described, with gun-carriages supported upon inclined slides, guides, or rails, substantially as described.

115,503.—ROCK-DRILL.—Duncan Morrison, Portland, assignor of one-half his right to Samuel Calderwood, same place, and F. F. Hall, Falmouth, Me.

Claim.—1. The combination of the pins *n n*, adjustable lever T with spring W, and adjustable post V, all constructed and arranged as described, for operating the immediate mechanism that rotates the drill, substantially as herein set forth.

2. In combination with the pins *n n*, upon the same shaft which carries the cams N N for raising the drill and the lever T, the slotted lever *m*, pawl *p*, and ratchet-wheel *k*, substantially as and for the purposes herein set forth.

115,504.—FELLY-PLATE.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—1. A felly-plate which, in the process of forming, is reduced or drawn from a point at or near the center to the edges, substantially as described.

2. A felly-plate having the flat seats *d d* formed around the bolt-holes *d*, as and for the purpose specified.

115,505.—FERTILIZER-DISTRIBUTER.—John A. Morton, New Orleans, La.

Claim.—1. The combination of the hopper A provided with followers G G G′, toothed cylinder C, and spout B, with the revolving axle and intermediate gear D and F, the parts being constructed and arranged in the manner and for the purpose herein set forth.

2. In combination with the hopper A, constructed as described, the cylinder L, arranged in the manner and for purpose set forth.

115,506.—GAS-BURNER.—Henry B. Myer, Philadelphia, Pa.

Claim.—The tube B, tip C, globe E, and mouth G, when arranged and combined as herein described, and for the purposes set forth.

115,507.—CAR-COUPLING.—William Nichols, Centralia, Ill.

Claim.—The wedge H, in combination of the link E and with the draw-bar A, constructed as described, and provided with the transverse slot G, substantially as and for the purpose specified.

115,508.—LOOM.—Archibald Nimmo, Philadelphia, Pa., assignor to himself, Thomas Moran, and Valentine Stausse, same place.

Claim.—1. The combination, with a drop-box, of graduated levers and slotted cams or their equivalents, the whole being arranged and operating substantially as described.

2. The combination of the slotted cams G G′ with double-hooked pawls I, controlled by a pattern-chain, the whole being arranged to operate in the manner described.

3. The levers L, controlled by the pattern-chain through the medium of a system of levers, *m*, hung to the said levers L, and controlled by pins on a cylinder, P, or by a supplementary pattern-chain on the said cylinder, all substantially as described.

4. The combination, with the supplementary levers *m m*′, of a series of pins, *n*, arranged on the cylinder P so as to operate the said levers successively when the roller is turned.

5. The combination of the projection *q*′ on the pattern-chain with the arm *q*, and with devices substantially as herein described, through the medium of which the roller P may be slightly turned at the termination of every complete movement of the pattern-chain.

6. A pattern-chain, the links of which are composed of two bars hinged or otherwise connected together so as to retain the pins of the pattern-chain in the manner described.

7. The hinged retaining-plate *s*, having journals which serve as pins for connecting the links of the chain together.

8. The said plate *s*, hinged to the bar *r*, as set forth, so as to be detached therefrom in the manner described.

115,509.—HINGE.—Edwin D. Norton, Cuba, N. Y.

Claim.—The combination of the pintle B, the perpendicular or nearly perpendicular offsets *c c*, the inclines of different angles upon bases of different widths, and the bearing-surfaces *d d*′, sustaining the entire weight of the gate when open, substantially as herein described.

115,510.—CHAIR FOR RAILROAD CARS.—William Palmer, New York, N. Y.

Claim.—1. The divided rack *r r* upon the base *a* and column *c*, in combination with the hinged foot-rest and pawl *u*, as set forth.

2. The cushion-board *d*′, pins 5 5, and holes 6 6 in the seat *d*, as and for the purposes set forth.

115,511.—PAPER FOR NAPKINS AND OTHER ARTICLES.—Edward Parrish, Philadelphia, Pa.

Claim.—1. A fabric, from which to make a substitute for woven towels, &c., consisting of the web or water-leaf dried after passing from the machine, without being pressed, and treated as set forth.

2. As a new manufacture, a sheet of said paper, having a wrinkled surface and forming a substitute for a woven towel or napkin.

115,512.—COMPOUND FOR EXTERMINATING VERMIN. — Ahira E. Pearl, Mansfield, Conn.

Claim.—A vermin-exterminator, the ingredients combined and compounded substantially as set forth.

115,513.—BUCKLE.—John Peckham, New Haven, Conn.

Claim.—The loop B, stuck out from a single piece of metal, with headed journals, substantially as and for the purpose set forth.

115,514. — DUMPING-CAR. —Alois Peteler, New Brighton, N. Y.

Claim.—1. The rockers *a*, provided with recesses *b*, resting in seats in the reach, in combination with inclined rails extending laterally from both sides of the reach and forming the supports for the rockers while the contents of the car are being dumped, substantially as set forth.

2. The rollers *d* in the ends of the box A, in combination with segmental rails *e* provided with hooks *g*, substantially as and for the purpose described.

115,515. — GRATE.—James Fisher Phelps, Huntsville, Ind.

Claim.—1. The outer grate A, shaped to suit the shape of the fire-box A′, made in one piece or in sections, and fitted together so slanted as to be in the shape of a hopper, and having the converging ribs B and conduits *g*, substantially as and for the purpose set forth.

2. The inner grate D, formed of straight or curved bars *f*, so arranged and shaped as to be adapted to the opening *e* in the outer grate, so that the ends of the bars *f* shall be opposite to the ends of the ribs B², substantially as and for the purposes set forth.

3. The combination of the outer grate A with the inner grate B, both constructed and arranged substantially as and for the purposes set forth.

4. The combination of the fire-box A′, outer grate A, and inner grate D, all constructed and arranged substantially as and for the purposes set forth.

115,516.—MOTIVE POWER FOR SEWING-MACHINES.—David T. Pittenger, Trenton, N. J.

Claim.—1. The beveled slotted cam-hook *c* and weight H for attachment to the belt, as an adjunct to the ordinary coiled-spring motion for sewing-machines, constructed, arranged, and adapted for use, substantially as specified.

2. The construction and arrangement of the spring-bar *e*, rollers *n*, lever *s*, guard *v*, and thumb-screw *y*, substantially as and for the purpose set forth.

115,517. — CAR-COUPLING.—Albert Porter, Irving, Ill.

Claim.—The turn piece, consisting of the hold-ing-pin C, provided with a projection, *c*, trunnions E E, and rear extension F, made in one piece, in combination with the shouldered gravitating-catch H *h*′ *h*′, cap I, and recessed draw-head A D G *a*, all constructed, arranged, and operated in the manner and for the purpose set forth.

115,518.—ELECTRO-MAGNETIC MACHINE.—James W. Powell, New York, N. Y.

Claim.—1. A scale, R, in combination with the movable and stationary coils B B′ of an electro-magnet, substantially as and for the purpose herein set forth.

2. An elastic lining or washer, K, in combination with the rim or edge of the battery-cup or cell D, of an electro-magnetic machine, and with a cap-plate, E, secured thereon, substantially in the manner and for the purpose herein set forth.

115,519.—GALVANIC BATTERY.—James W. Powell, New York, N. Y.

Claim.—The elastic plate K, in combination with the cells and battery-plates of a galvanic battery, fitted and arranged in reference thereto, substantially in the manner and for the purpose herein set forth.

115,520.—HORSESHOE-MACHINE.—David I. Pruner, Bellefonte, Pa.

Claim.—1. The reciprocating frame B, with curved flanges *b*, ram *f*, slotted bars *f*′′, in combination with the frames A and F, as arranged, and for the purpose specified.

2. In combination with the subject-matter of the first claim, the cams *d d*, projections *d*′ *d*′′, die G, lever H, and pins *g*, arranged to operate substantially as and for the purpose specified.

3. The table J, orifice I, and lever K having stub *k* and gauge *k*′, in combination with the frame B, constructed and arranged substantially as and for the purpose specified.

115,521. — INSULATOR FOR TELEGRAPH-WIRES.—Horatio Read, Jersey City, N. J., assignor to himself and B. B. Hagerty, Brooklyn, N. Y.

Claim.—A telegraph-insulator, A, provided with a smooth socket, in the inner part of which is secured a metallic screw-thimble, *a*, to screw on the supporting-pin, while the outer portion of said socket forms a guide for the body of the supporting-pin, substantially as described.

115,522, antedated May 25, 1871. — CAR-COUPLING. — William Rickards, Jr., Franklin, Pa.

Claim.—The plate E, made of iron or other metal, attached by a joint or hinge to the top of the draw-head A, with a hole to suit the formation of the coupling-pin, arranged and operating on the draw-head in combination with the bolt or coupling-pin, as described, for the purposes set forth.

115,523.—GRAIN-DRILL.—John L. Riter, Brownsville, Ind.

Claim.—In a seeding-machine, having radiating seeding-shafts *h h h* which carry the seeding-wheels, the pinions *i i* for the purpose of causing the right-hand seeding-shaft to rotate outward or in the opposite direction to the left-hand shaft, for the purpose set forth.

115,524.—LAMP-WICK.—Horace T. Robbins, Hyde Park, Mass.

Claim.—As a new article of sale, the coiled lamp-wick *c*, held in shape by the stitches *d*, and adapted to be used in a lamp, in manner shown.

115,525.—HARROW.—William E. Robbins and George Enderton, Sterling, Ill., assignors of one-third their right to Abram B. Enderton, same place.

Claim.—The triangular harrow-sections A A,

provided with lap-hinges *a a*, and coupled by means of a rod, B, in combination with the lever C, bar D, and chains *d d*, when said lever slides upon the rod B, and is connected by the chains *d d* with the opposite corners of the triangular harrow-sections, substantially as and for the purposes herein set forth.

115,526.—GARDEN-CULTIVATOR.—Caleb F. Ruggles, Henderson, Ky.

Claim.—The combination of the bent and curved bar A, having angular arms *a a*, with the mortised helves B B, which support the movable plows or shovels, and secured by the set-screws *b*, all substantially as shown and described.

115,527.—LAMP-SHADE SUPPORTER.—Edwin Russell, Waterbury, Conn., assignor to himself and Francis W. Platt, same place.

Claim.—The arrangement of the ring *d*, having a slotted arm, C, and tension-screw *f*, socket *b*, and set-screw *e*, for supporting a shade-holder by attachment to the lamp-collar D, substantially as shown and described.

115,528.—LAMP.—Marks Samuels, San Francisco, Cal.

Claim.—The burner-supporting tube *e*, surrounding the oil-tube B so as to leave an air-space between the two, substantially as and for the purpose above described.

115,529.—NEEDLE-WRAPPER.—Charles Schleicher, Schœnthal near Aix-la-Chapelle, Rhenish Prussia, assignor to A. Liebenroth and Von Auw, New York, city.

Claim.—The wrapper for needles, made in the manner specified, as a new article of manufacture.

115,530.—APPARATUS FOR PITCHING BARRELS, CASKS, &c.—Louis Schulze, Baltimore, Md.

Claim.—1. The combination of the frame A with standards D and cross-pieces G, constructed substantially as and for the purpose herein set forth.

2. The combination of standards D and cross-pieces G with transverse pieces H and the screws I, arranged as shown, for the purpose set forth.

3. The arrangement of the bed A, uprights B, standards D, rack *d*, and pinion *e*, wheel *e'*, and pinion *f*, on shafts E and F, when constructed substantially as and for the purpose set forth.

4. The combination of the scales *k k'* with block *l* and the barrel-heads, as and for the purpose herein set forth.

5. The method for centering and revolving barrels herein shown and described, as and for the purpose set forth.

115,531.—TREE-BOX.—Edward O. Schwageri, St. Louis, Mo.

Claim.—The rectangularly-arranged interior guards E and eyes or perforated lugs D, for the insertion and attachment of the same, substantially as specified.

115,532.—AX-HANDLE.—James M. Sears, Vandalia, Ill.

Claim.—1. The elastic, flexible joint in the ax-handle, substantially as and for the purpose herein specified.

2. The elastic flexible joint formed by the parts A B, straps C C, hook D, loop or eye *d*, and India-rubber block E, arranged substantially as and for the purpose herein specified.

3. The part A secured to the ax by the projection *h* and wedge *i*, and to the part B, or handle proper, by the straps C D, substantially as specified.

115,533.—RAILROAD-CAR HEATER.—Joseph Shackleton, Rahway, N. J.

Claim.—1. The arrangement, with relation to each other, of the steam-pipe A having the bents *a b* and cock *d*, the bent pipe F having the cock *e*, and the bent pipe G provided with the cock *f* and with the nozzle *e*, entering the pipe A at the bent *b*, all operating as herein set forth and shown, for the purpose specified.

2. The protecting-troughs I, in combination with the heating-pipe A and with registers *m'* in the bottoms of the cars, substantialy in the manner described.

115,534.—SHADE-ROLLER AND FIXTURE.—Charles D. Shrieves, Philadelphia, Pa., assignor to himself, Alfred B. Davis, and John H. Roeloss, same place.

Claim.—1. A shade-roller, consisting of two hinged sections, *a* and *a'*, adapted for the reception between them of the edge of the shade, in combination with tubular stationary or adjustable clamps F and F', or equivalent devices, by which the said sections may be bound tightly together so as to retain the shade, all substantially as specified.

2. The fixtures D and D', having pointed projections *h* and *i*, and arranged for attachment to a window-frame in the manner described.

115,535.—BUCKLE.—Earle A. Smith and Dwight L. Smith, Waterbury, Conn.

Claim.—The herein-described buckle, consisting of the frame A A, slots *a d*, and central bar *b*, and having the tongue D constructed, hinged to, and so as to bear against the said bar, and in relative position to the buckle-plate, substantially in the manner described.

115,536.—DEVICE FOR MAKING ENDS OF BURIAL-CASES.—Edward T. Smith and Joseph S. Winston, New York, N. Y.

Claim.—The rigid parts G and H', and flexible part H, with screws I, for forcibly operating when the parts are flared, as represented, and the strap H is drawn obliquely inward or together at the sides, so as to press all the surface of the bent and flared casket end, as herein set forth.

115,537.—SULKY ATTACHMENT TO PLOWS.—George M. Smith, Pittsburg, Ind.

Claim.—The reversible slides G, adjustable spindle F, and transverse bar B, cleft at each end, and provided with the adjusting-sectors H, constructed, combined, and arranged substantially as and for the purpose specified.

115,538.—ROLL FOR GANG SAW-MILLS.—Henry F. Snyder, Williamsport, Pa.

Claim.—The saw-mill roll herein described, composed of castings B B, matched, as represented, within the flared ends of the tubular surface piece C, and held together by bolts D, having their heads and nuts let in and protected, substantially as and for the purposes herein specified.

115,539.—ADJUSTABLE CAR-SEAT.—Charles Stevenbanks and Joseph Quinn, Wilmington, Del.

Claim.—1. The seat B, its slotted segmental plate C adapted to the plates *a*, in combination with tightening-rods, arranged substantially as described.

2. The combination of the seat B, its segments P, slotted arms L L, rods J, and back I.

3. A seat, B, having edges *i i* and a sliding cushion, so arranged as to afford a recess within the edges for the reception of the lower edge of the back.

115,540.—STOVE-LEG.—David Stuart and Lewis Bridge, Philadelphia, Pa., assignors to Stuart, Peterson & Co., same place.

Claim.—A stove-foot having a projection, B, in which is one or more recesses, in combination with the base-plate of a stove having a groove, *f*, and with a key or wedge, operating as described.

115,541.—AUGER.—James Swan, Seymour, Conn.

Claim.—The floor-lip constructed as herein described, commencing at a point at or nearly upon the opposite side of the center from its termination, and curved around the center up to the extreme edge of the cut, in the manner as herein set forth.

115,542.—DOCUMENT-CASE.—Constant S. Trevitt, Washington, D. C.

Claim.—1. The movable shelves or horizontal partitions S, formed with lips or flanges, (one or more,) substantially as herein described.

2. The combination of the aforesaid movable shelves S with vertical partitions X X X, grooved to receive them, substantially as and for the purpose set forth.

115,543, antedated May 22, 1871.—SUBSOIL-PLOW.—Robert Themar and Brand Brothers, Sheboygan, Wis.

Claim.—The subsoil attachment herein described for plow and wheel-cultivators, consisting of the ground-bar *a*, front and rear connecting-arms *b b* with forward sharpened edges, recess *y*, and convex point D, when constructed and combined as and for the purpose specified, substantially as shown and described.

115,544.—HOUSING FOR CLOTHES-LINES.—Andrew Turnbull, New Britain, Conn.

Claim.—The combination of bracket C, formed with the open bearings *i i* and holes K K to receive the pins *d d*, with the case B mounted loosely upon the gudgeons *a a'* of the reel A, as herein shown and described, for the purpose set forth.

115,545.—WEATHER-STRIP.—Amos M. Ulmer, Philadelphia, Pa.

Claim.—A hinged weather-strip, arranged to be raised by an inclined door-sill, and to be caught and held in its raised position by a spring, G, when the door is opened, and to be released by the said spring so as to again fall by its own weight onto the sill when the door is closed, all substantially as herein set forth.

115,546.—BREECH-LOADING FIRE-ARM.—Friedrich Von Martini, Frauenfeld, Switzerland.

Claim.—The combination, in a breech-loading fire-arm, with the breech-block, the cocking-lever or hammer, and the trigger, of a single flat bent spring, which shall perform the three separate functions of holding the breech-block in its proper place and position, of actuating the cock or hammer for discharging the arm, and of a trigger or sear-spring, substantially as herein shown and described.

115,547.—MEDICINE FOR THE CURE OF DIARRHEA.—Robert Ambrose Walton, Shawneetown, Ill.

115,548.—CARTRIDGE.—Charles S. Wells, Springfield, Mass., assignor to himself and William A. Brinie.

Claim.—1. The re-enforcing cup *b*, secured within the shell *a* by means of the flange *i* at the base of the cup, and the annular flange of pulp *n*, substantially as described.

2. In an improved cartridge-shell, the thin metallic covering *d*, having its edges secured by means of the fold or lock *e*, substantially as described.

3. The combination herein described of the re-enforce cup *b* and nipple *c* with the paper cartridge-body having a thick base, *a*, said base forming a curb for the nipple, all as set forth.

115,549.—AXLE-GAUGE.—David C. Wetsell, Carrolltown, Pa.

Claim.—A rule for wagon-makers, consisting of the rule A, lever B, slides C, E, D, G, and H, and set F, combined, arranged, and constructed substantially as and for the purpose specified.

115,550.—BRACKET.—James M. Whiting, Providence, R. I., assignor to himself and Heman M. White, same place.

Claim.—As an improved article of manufacture a bracket, when constructed of paper, cardboard, or other similar material, and covered with one or more coatings of enamel, as herein shown and described.

115,551.—WATER-WHEEL.—Titus Whitmore, Waterloo, Iowa.

Claim.—The plate E, with its cam-slots D D, in combination with the adjustable levers C C and gates *b b*, when constructed and arranged so as to open the gates of a turbine water-wheel in pairs and on the opposite sides of the wheel, substantially as and for the purpose set forth.

115,552.—CHURN.—James B. Williams, Glastenbury, Conn.

Claim.—The flaps *b b'*, arranged and operating as described, with a dasher, *a c*, substantially as set forth.

115,553.—SEED-DRILL.—George W. Millner, Charlottetown, Prince Edward Island.

Claim.—1. The adjustable tube D^1, in combination with the extension tube *d* and the bar D^2, arranged to operate substantially as described, and for the purpose set forth.

2. The combination of the frame H with the axle-tree M and adjusting-chain S, when the same is arranged in connection with the sliding bar D^2 so as to determine the inclination of the tube D^1, substantially as described, and for the purpose set forth.

115,554.—APPARATUS FOR FUMINATING PHOTOGRAPHIC PAPER, &c.—Joseph L. Winner, Elizabeth City, N. C.

Claim.—1. A single case, adapted to be used either for fuminating photographed paper, drying negatives or plates, or for evaporating baths.

2. The box A, provided with a top lid, B, and side door *c*, with lamp D, situated under the box, substantially as shown and described, for the purpose set forth.

3. The perforated inner top F of the box A for the escape of the vapor, and the lower lid of sheet-iron *e*, and pins *e e* to hang the paper while fuming, arranged substantially as described, for the purpose set forth.

REISSUES.

4,399.—APPARATUS FOR EVAPORATING SALT BRINES.—Samuel D. Gilson, Syracuse, N. Y.—Patent No. 108,701, dated October 25, 1870.

Claim.—1. The process or method of making salt by subjecting or exposing salt-water to the periphery or surface of one or more rotating cylinders heated by steam, hot air, or heated water, substantially as described, for the purpose set forth.

2. The hollow dripping-pipes formed with a slot or opening, and operating substantially as described.

3. The hollow rotary evaporating steam-chamber or cylinder, provided with an opening, H, for the passage of condensed steam, substantially as described, for the purpose set forth.

4. A hollow rotary steam or hot-air evaporating-cylinder, in combination with an evaporating-pan or reservoir, when the periphery of said cylinder touches the salt-water, substantially as described.

5. The combination of a knife or scraper with a dressed or undressed revolving steam-cylinder, substantially as set forth.

6. The dripping-pipes E E, steam-chamber or

cylinder C, in combination with the evaporating-pan or reservoir A and the knife G, substantially as described.

4,400.—PRINTING-PRESS.—Richard M. Hoe and Stephen D. Tucker, New York, N. Y. Patent No. 84,627, dated December 1, 1868.

Claim.—1. The combination of two or more feeding-tables, with the means described, or the equivalent thereof, for taking the sheets of paper from the feeding-tables and conducting them to the impression-cylinders, substantially in the manner and for the purpose described.

2. Separating or changing the direction of the printed sheets of paper so that they may be automatically piled in two or more piles, or in more than one pile, by mechanism constructed and operating substantially as described.

3. The means, substantially as herein described, for clamping stereotype or other printing-plates directly to the surface of the type-cylinder, as set forth.

4,401.—RADIATOR.—William Steffe, Philadelphia, Pa., assignor to himself and Jesse Reynolds, same place.—Patent No. 80,883, dated August 11, 1868.

Claim.—The compound radiator, consisting of the permanent wrought-iron radiators A A′, constructed with the cleaning-out passage B B′ at the bottom of each radiator, whereby the necessity of removing the radiators is obviated, and also with vertical partitions C C in each radiator, respectively, and with a transverse passage at F between the radiators, so arranged as to cause the products of combustion to circulate, substantially as described.

4,402.—STENCIL-PLATE.—Eugene L. Tarbox, New York, N. Y.—Patent No. 81,032, dated August 11, 1868.

Claim.—1. The plate B, shield C, and handle A, when the letters of the alphabet and the figures (or either the letters or the figures) are arranged in the plate facing the center of the plate, substantially as shown and described, and for the purposes set forth.

2. Using the margin of the plate and the distance between the openings and the figures as a spacing distance between the letters and figures, substantially as shown and described.

3. The shield C, constructed substantially as and for the purposes described.

4,403.—Division A.—TAP FOR OIL-PACKAGES.—Albin Warth, Stapleton, N. Y.—Patent No. 110,612, dated December 27, 1870.

Claim.—The protecting-plate d, formed with the vent e, spout f, and central depressed opening, in combination with the valve b provided with the loops g and k, the former operated upon by a bar, h, the latter connected with the end of the spring, the whole constructed and operating substantially as described.

4,404.—Division B.—TAP FOR OIL-PACKAGES.—Albin Warth, Stapleton, N. Y.—Patent No. 110,612, dated December 27, 1870.

Claim.—The combination of a flanged seat-plate, B, a valve-cap, c, and an inclosed valve, b, working between said cap and the flanged seat-plate, and acted on by a screw, i, which presses it down upon the seat of the flanged plate to close the opening therein, substantially as described.

4,405.—CRIB FOR HORSES.—Henry Eddy, North Bridgewater, Mass.—Patent No. 36,287, dated August 26, 1862.

Claim.—1. The metallic collar A, having substantially the configuration shown, to be applied as and for the purpose specified, substantially as described.

2. The adjustable feed-regulators M N forming, in conjunction with the inclined planes J J, the variable openings d p, substantially as described.

3. The plates B and e, connected and adjusted in the manner and for the purpose specified.

4,406.—LOCKING-WASHER FOR NUTS.—James H. Gridley, Washington, D. C, assignor to Hadwen L. Purdie.—Patent No. 62,483, dated February 26, 1867; reissue No. 4,354, dated April 25, 1871.

Claim.—1. In combination with a threaded nut working on a screw or bolt, a hinged or pivoted plate whose edge or edges fall close to and parallel with one or more of the sides of said nut, for the purpose specified.

2. In the same plate for locking nuts, a straight edge falling parallel to one side of the nut, and an angular recess shaped to correspond with the corners of the nut, for the purpose specified.

3. A hinged or pivoted nut-lock, combined with the washer of the nut, as and for the purpose specified.

4. The combination of the washer C and hinged or pivoted flap C′ with the talons b on the back of the washer, substantially as described.

4,407.—MACHINE FOR CHANNELING ROCK. Ebenezer G. Lamson, Shelburne Falls, Mass., assignor to The Windsor Manufacturing Company, Windsor, Vt.—Patent No. 58,435, dated October 2, 1866; reissue No. 3,366, dated April 13, 1869.

Claim.—1. The sliding stock with its chisel or chisels, the crank on a rotating shaft or its equivalent, the connecting-rod or equivalent device, a spring interposed between the chisel-stock and the connecting-rod, and the feeding mechanism or equivalent, all mounted in a frame adapted to move on ways, substantially as and for the purpose specified.

2. In machinery for channeling rock, the combination of the sliding stock with its chisel or chisels, the crank on a rotating shaft or its equivalent, the connecting-rod or equivalent device, a spring and strap or its equivalent interposed between the connecting-rod and chisel-stock, and the feeding mechanism or equivalent, all mounted in a frame adapted to move on ways, substantially as and for the purpose specified.

4,408—ADJUSTABLE METALLIC DASHER FOR VEHICLES.—George M. Peters, Columbus, Ohio.—Patent No. 102,315, dated April 26, 1870.

Claim.—1. The adjustable metallic dash for vehicles, with moldings raised or pressed into it in the form and for the purpose of stiffening it, as described.

2. The adjustable foot, when applied to a dash.

4,409.—CIRCULAR-SAW MILL.—Samuel R. Smith, Cincinnati, Ohio. — Patent No. 16,454, dated January 20, 1857; extended seven years.

Claim.—1. The knee V, arranged to slide independently on the head-block, and connected to the automatically-operating mechanism by the lever y and pawl z, substantially as described, whereby it can be operated automatically, and also by hand independently of the automatic apparatus, as herein described.

2. The combination in a saw-mill carriage of a head and tail-block having an automatic apparatus mounted thereon, and connected by the longitudinally-moving bar f with a hand apparatus, substantially such as described, whereby the log can be adjusted automatically equally at both ends, and also independently at either end, substantially as described.

4,410.—RAILROAD TURN-TABLE.—Andrew Jackson Wight and William Lewis Meeker, Newark, N. J.—Patent No. 104,388, dated June 14, 1870.

Claim.—1. Connecting the parts a a a a, composing the sides of the turn-table, by means of the oval straps or bands b of wrought-iron fitted over lugs or projections c cast on the outer surfaces of the parts a, in combination with the central casting B, constructed, as shown, with the two vertical plates d d and the horizontal plate e, all cast in one piece, together with the bolts C D for securing the castings a to the center-piece B, and securing the former at the proper distance apart, substantially as shown and described.

2. The keys i passing through lug h at the inner side of the parts a, in combination with the projections g, also at the inner sides of the parts a, and fitting in recesses in the vertical plates d d of the central casting B, for the purpose of retaining said parts a in proper position, as set forth.

3. The side pieces a a a a of a turn-table, constructed as described, and provided with projections g fitting in recesses in the vertical plates d d of the central casting B, in combination with the adjusting-screws G G, said projections retaining the side pieces in the proper position while the same are being adjusted up or down, substantially as described.

4. The elastic cushions i, in combination with the cross-bars H and side-pieces a a a a of a turn-table, substantially as set forth.

5. The combination of the disks n o with the stem m of the hemisphere l, which supports the bearing-plate E of the turn-table, substantially as described.

DESIGNS.

4,942.—CLOCK-FRONT.—John A. Batchelor, New York, N. Y.

Claim.—The design for a clock-front embodied and shown in the accompanying photographs.

4,943.—CARPET-PATTERN.—Richard Charlton, Liversedge, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a Brussels carpet, as shown.

4,944. — CARPET-PATTERN. — John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,945.—CHAIN-PUMP.—Henry L. Fry, Cincinnati, Ohio, assignor to James L. Haven & Co., same place.

Claim.—The design for a chain-pump curb, as shown.

4,946. — SHOW-CASE. — William Henry Grove, Philadelphia, Pa.

Claim.—The design for a show-case having one side inclined, and the opposite side composed of two plates or sections inclined in respect to each other so as to form an angle at the point of junction, all substantially as described, and as represented in and by the accompanying drawings.

4,947.—STOVE.—Luther W. Harwood, Troy N. Y., assignor to Fuller, Warren & Co., same place.

Claim.—1. The design for the cover A, as hereinbefore described.

2. The design for the top plate E, as herein set forth.

3 The design for the door-frame H, as described and shown.

4. The design for the plate K, as herein described.

5. The pendent ornament P Q, shaped and arranged upon and cast with a panel of a door or plate of a stove, substantially as shown.

6. The design for the grate R, as described and shown.

7. The design for the damper-plate U, as shown and specified.

8. The design for the bottom plate X, as herein set forth.

4,948. — CLOCK-CASE SASH.—Elias Ingraham, Bristol, Conn.

Claim.—1. The design for the whole clock-case sash, as shown in fig. 1.

2. The design for the sash A, consisting of alternate radial sections of light and dark woods a b, substantially as shown and described.

3. The design for the rosette B, consisting of alternate radial sections of light and dark woods a b, substantially as shown and described.

4,949.—BELLOWS.—Alfred F. Jones, New York, N. Y.

Claim.—The design for the oval bellows, as shown.

4,950.—CARPET-PATTERN.—William Kerr, Philadelphia, Pa., assignor to William Hunter & Sons, same place.

Claim.—1. The design for the border B, substantially as described and represented.

2. The design for a pattern in which the border B and body A are combined, as shown and described.

4,951.—CARPET-PATTERN.—William Kerr, Philadelphia, Pa., assignor to William Hunter & Sons, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawings.

4,952.—CARPET-PATTERN.—William Kerr, Philadelphia, Pa., assignor to William Hunter & Sons, same place.

Claim.—The design for a carpet-pattern, substantially as described and as represented in and by the accompanying drawings.

4,953. — OVEN-SHOVEL. — Thomas Lyons, Hartford, assignor to Russell & Erwin Manufacturing Company, New Britain, Conn.

Claim.—The design for an oven-shovel, herein described and shown in the photographic illustration.

4,954.—FRUIT-CAN.—John F. Merrill, Cincinnati, Ohio.

Claim.—The combined conformation of the can-body A a a′, the shoulders B C, and cover F, as herein shown and described.

4,955.—BED-QUILT.—John U. Nef, Housatonic, Mass.

Claim.—1. The design for the border of a quilt, as shown.

2. The design for the main part or body of a quilt, as shown.

4,956.—CARPET-PATTERN.—John H. Smith, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,957. — CELLULAR FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a cellular fabric, substantially as described, and as illustrated in and by the accompanying drawing.

4,958.—IRON MANTEL.—Caleb B. Evans, John Carlisle, and Grant H. Burrows, Cincinnati, Ohio.

Claim.—The design for iron mantels, as shown and described.

4,959.—IRON MANTEL.—Caleb B. Evans, John Carlisle, and Grant H. Burrows, Cincinnati, Ohio.

Claim.—The design for iron mantels, as shown and described.

4,960.—IRON MANTEL.—Caleb B. Evans, John Carlisle, and Grant H. Burrows, Cincinnati, Ohio.

Claim.—The design for iron mantels, as shown and described.

4,961.—IRON MANTEL.—Caleb B. Evans, John Carlisle, and Grant H. Burrows, Cincinnati, Ohio.

Claim.—The design for iron mantels, as shown and described.

4,962. — BRACKET. — Harlow Gilson and Charles F. Southwick, Nashua, N. H.

Claim.—The design for a bracket, as shown.

4,963.—CENTER-PIECE IN CEILINGS.—Edouard Goutink, Detroit, Mich.

Claim.—The design for a center-piece for ceilings, as shown.

4,964.—WEATHERBOARDING.—Jacob Jacoby, Johnstown, Pa.

Claim.—The design for a weatherboarding, as shown.

4,965.—CENTER-PIECE.—Samuel Kellett, San Francisco, Cal.

Claim. — The design for a center-piece, as described and shown.

4,966.—CENTER-PIECE.—Samuel Kellett, San Francisco, Cal.

Claim. — The design for a center-piece, as described.

4,967.—CLAW-BAR.—John McMahon, Wooster, Ohio, assignor to himself and Benjamin Scott, same place.

Claim.—The design for an improved claw-bar, as shown.

4,968.—FLOOR CLOTH PATTERN.—Victor E. Meyer, Lansingburg, N. Y., assignor to Deborah Powers, Albert E. Powers, and Nathaniel B. Powers, same place.

Claim.—The design for floor oil-cloths, as shown on said drawings and herein described.

4,969.—SPADE.—Harrison Parkman, Philadelphia, Pa.

Claim.—The design for a spade herein shown and described.

TRADE-MARKS.

290.—FLOUR.—S. H. Anderson & Co., Palmyra, Mo.

291.—TWIST-TOBACCO.—R. W. Cameron & Co., New York, N. Y.

292.—KEROSENE.—R. W. Cameron & Co., New York, N. Y.

293.—FERTILIZER.—Charleston (South Carolina) Mining and Manufacturing Company, Philadelphia, Pa.

294.—CARPET-LINING.—George W. Chipman, Boston, Mass.

295.—STOVE.—Comstock, Castle & Co., Quincy, Ill.

296.—GENTLEMEN'S FURNISHING GOODS.—Fisk, Clark & Flagg, New York, N. Y.

297.—GENTLEMEN'S FURNISHING GOODS.—Fisk, Clark & Flagg, New York, N. Y.

298.—GARTER.—Amasa H. Pike, Somerville, Mass.

299. — RAZOR. — Robert J. Roberts, New York, N. Y.

300. — RAZOR. — Robert J. Roberts, New York, N. Y.

301.—WHISKY.—Seltzer & Miller, Philadelphia, Pa.

302.—AX.—The Douglas Axe Manufacturing Company, Douglass, Mass.

303.—AX.—The Douglas Axe Manufacturing Company, Douglass, Mass.

304.—AX.—The Douglas Axe Manufacturing Company, Douglass, Mass.

305.—SOAP.—Charles E. Willetts, Chicago, Ill.

ISSUE OF JUNE 6.

PATENTS.

115,555.—BOLT-HEADING MACHINE.—John R. Abbe, Providence, R. I.

Claim.—1. The combination of the levers I I, having crooked slots *l l* in them, with the pins *k k*, the slide C, and the dies *a a'* and *g g'*, essentially as shown and described.

2. The treadles K K', in combination with the chain *q'*, the pulley L, the sliding frame J, the links *p p'*, and the jaws *h h'*, essentially as described.

3. The lever-spring R, in combination with the stud or stop *c*, the main shaft B, the loose pulley N, and clutch for establishing and breaking connection between the said pulley and shaft, essentially as described.

4. The friction-disk S, in combination with the loose pulley N, the driving-shaft B with its stud *c*, and spring-top or lever R, substantially as specified.

5. The combination and arrangement of the dies *a a' g g'*, the main slide C, the levers I I with their crooked slots *l l* and pins *k k*, the slide E carrying the upset *f*, and the bell-crank F, essentially as herein set forth.

115,556.—WHIP-SOCKET.—William R. Allen, Stockton, N. J.

Claim.—The whip-socket, supplied with the conically-shaped case having a lock and the semicircular flange or projection, substantially as herein shown and described, and for the purpose set forth.

115,557, antedated May 29, 1871. — DRY GAS-METER. — August W. Almqvist and Frans W. Ofeldt, New York, N. Y.

Claim.—1. The combination of the two chambers A and A' (each formed of two spheric or nearly spheric segments) with each other and with a rotary valve of the construction described and shown, substantially as herein set forth.

2. The arrangement of the chambers A A' herein shown and described, at such an angle to each other that the two slides of the casing L tangenting the outer curves of the said chambers, between their centers and rear edges, may meet at a right angle in the point M to obtain sufficient space for the play of a crank of such length as to secure an easy movement of the valve while maintaining the meter within a small and convenient compass, giving to it the desired prismatic form adapted to fit in an angle of a room, substantially as hereinbefore set forth.

115,558. — SMOOTHING-IRON. — William A. Andrews, Columbus, Ohio.

Claim.—The combination of the post and holder, marked with the figures 2, 3, 4, 5, 6, 7, and 8, substantially for the purpose hereinbefore set forth.

115,559.—FURNACE FOR ROASTING ORES.—John P. Arey, Georgetown, Col. Ter.

Claim.—1. The employment of adjustable plates in the shaft or stack of a roasting-furnace, whereby the flue-space can be contracted or enlarged and at the same time given a zigzag or serpentine form, substantially as described.

2. The combination of a chlorine-gas generator and injector, in combination with a roasting-furnace, through the stack of which the powdered ore falls, and in its fall is treated by fire and said chlorine gas, substantially as described.

115,560.—MECHANICAL FLY-BRUSH.—Henry E. Aughinbaugh, Harrisburg, Pa.

Claim.—The construction and combination of the flanged ferrule *a*, to secure it to the wall or other desirable location, with its pulley *e*, plate B, with its pulley S, crank-wheel, with its connection, cord *c*, pipe or tube *b*, with the ferrule *i*, flanged, with its ears and connecting-arms *c c c c*, crosshead *d*, with its stay-rods 1, 2, 3, 4, all as shown and described, and for the purpose specified.

115,561.—ELECTRO-MAGNETIC SEPARATOR. Alfred Holme Balch and Wolfred David Emelius Nelson, Montreal, Canada.

Claim.—1. The arrangement of magnets within the periphery of the cylinder *d*', as described.

2. The specific construction of the hopper *a* with its oscillating board *f*', the latter being operated by means of the wheel, shaft, gearing, and crank-shaft, as described.

3. The insulated wheel *h*', with its periphery of iron and wood, in combination with the springs of the cylinder-arms, as described.

4. The combination of the cylinder, having magnets arranged as described, with the hoppers, belts, and hub arranged as described, for the purpose set forth.

115,562. — APPARATUS FOR CARBURETING AIR.—John F. Barker, Springfield, Mass., assignor to the Gilbert & Barker Manufacturing Company, same place.

Claim.—In combination with a generator, A, the receiver B with its pipe F, having the orifice *b* at the upper end, and also the orifice *a* therein, said receiver B being inverted within the vessel D, or its equivalent, and communicating with the generator A through the pipe E, all substantially as described.

115,563.—SWAGE FOR FORMING CUTTERS FOR NAIL-MACHINES.—Elenzar Bless, Indianapolis, Ind.

Claim.—The swaging-dies A and M, formed as shown, to mold the moving and stationary cutters, substantially as set forth.

115,564.—APPARATUS FOR DRYING SALT.—George C. Briggs, Boston, Mass.

Claim.—1. The salt-drying apparatus, composed of instrumentalities as described, arranged to operate substantially as specified, such instrumentalities consisting of the drying-chamber A, the hot-air induct *b*, the vapor-strainer and fine-salt retainer E, and the rotary agitator and elevator C, as explained, the chamber being provided with an inlet for reception of the salt, and an outlet for its discharge, arranged essentially as represented.

2. The combination and arrangement of the hot-air receiving-space B, and its discharging-educt or educts *b*, with the chamber A, the elevating agitator C, and the fine-salt retainer and vapor-strainer or discharger E, all being substantially as described.

115,565.—APPARATUS FOR CLEANING PRIVIES.—Henry C. Bull, New Orleans, La., assignor of one-half his right to Joseph M. Lowenstein, same place.

Claim.—1. The combination and arrangement of the funnel O, neck *i*, and valve *d* with cask B, neck M, and float-valve *f*, substantially as shown and described.

2. The combination and arrangement of the vault A, cask B, and suction-pump C, substantially in the manner and for the purpose described.

115,566. — BOOT AND SHOE. —Duncan H. Campbell, Sunderland, Scotland, and Erastus Woodward, Charlestown, Mass.

Claim.—As a new article of manufacture, a boot or shoe, when the soles are attached together and to the boot or shoe-upper by means of pegs formed from one central wire, or a column of wires surrounded by one or more wires of any desirable pitch, and united together by means of an alloy or solder.

115,567.—BOOT AND SHOE-PEG ATTACHMENT.—Duncan H. Campbell, Sunderland, Scotland, and Erastus Woodward, Charlestown, Mass.

Claim.—As a new article of manufacture, the metallic cable-screw pegs *b b b*, soldered onto the metallic ribbon *a*, in the manner and for the purpose as herein fully set forth and described.

115,568.—COTTON-HOE.—John S. Carroll, Covington, Ga.

Claim.—The two blades E E of a cotton-hoe, arranged at an angle to each other of about one hundred degrees, and having the long cutting-edges *e*' and short cutting-edges *e*² located as specified.

115,569.—TOOL FOR MOLDING GLASS.—David Challinor, Birmingham, Pa.

Claim.—1. A tool for molding and finishing blown glass-ware, consisting of a pair of jaws, *d d*, which close on each other, with suitable cavities for giving the desired shape to the article to be blown, and the jaws being attached to handles *b*', or their equivalent, substantially as described.

2. A pair of jaws, *d d*, attached to a bow, *b*, in combination with a mold-plate, *c*, substantially as described.

115,570.—VARNISH FOR COATING AND WATER-PROOFING. — Cornelius V. Chapin, Collinsville, Conn.

Claim.—A varnish composed of the said ingredients, in substantially the proportion specified.

115,571.—PRUNING-SHEARS. — John Christy, Clyde, Ohio.

Claim.—The improved pruning-shears herein described, as a new article of manufacture, said shears combining the shouldered angular shank C,

the concave hook A with angular shank, and the convex slotted blade B with angular rear attaching end, all constructed and arranged as described.

115,572. — Apparatus for Evaporating Liquids by Means of Air-Blasts.— George Clark, Buffalo, N. Y.

Claim.—1. With a liquid-evaporating vessel, the arrangement of the nozzle of an air-blast pipe at an angle to the surface of the liquid, and in such close proximity thereto as to cause the air as it is discharged therefrom to impinge the surface of the liquid, substantially as and for the purpose herein-before set forth.

2. In combination with an air-blast pipe and evaporating-vessel, arranged as specified in the foregoing claim, the buoy E and sliding joint of the nozzle, or equivalent means, for maintaining a uniform and definite distance between the mouth of the air-discharge aperture and the surface of the liquid, substantially as and for the purpose hereinbefore set forth.

3. The arrangement, with an air-blast nozzle, E, and evaporating-vessel A, of a shield, G, as and for the purpose hereinbefore set forth.

115,573.—Process and Apparatus for Purifying Brine and other Liquids. George Clark, Buffalo, N. Y.

Claim.—1. The process of precipitating the heavier impurities held in suspension in liquids, by first heating the liquid in a suitable vessel to rarefy the same, and then applying a shower of cold liquid to the surface thereof, as hereinbefore set forth.

2. The combination, with the vessel A, provided with steam-pipe and coil C C′, or equivalent means for heating the liquid therein, of the cold-liquid reservoir D and perforated diaphragm G, or equivalent means, arranged so as to enable a cold liquid to be showered upon the surface of the heated liquid in A, substantially as and for the purpose hereinbefore set forth.

115,574. — Eye-Glass. — Isaac Clements, Fort Ann, N. Y.

Claim.—In combination with eye-glasses, the self-adjusting plates D D, substantially as and for the purposes described.

115,575. — Tinner's Swage. — Benjamin Coddington, La Fayette, Ind.

Claim.—The combination of the block or body A, the handle B, the adjustable grooved guide D, face-plate E, and gauge-screw F, substantially as and for the purposes hereinbefore set forth.

115,576, antedated May 27, 1871.—Parlor Game. — George A. Coffin, Cincinnati, Ohio.

Claim.—A ball, cue, and pocket game, having a central carroming-pin and surrounding advance and discount-pocket angles, substantially as described, and for the purpose specified.

115,577.—Governor-Valve for Steam-Engines.—William A. Cogswell, Rochester, N. Y., assignor to Junius Judson, same place.

Claim.—The conical collar B and ring C provided with the arm D, when combined with the valve-rod A, in the manner and for the purpose specified.

115,578.—Water-Wheel. — Ashly Dodge Cole, Toronto, Canada.

Claim.—The improved wheel formed by the straight inclined chute-plates E′ and buckets G a, curved as shown and described, and secured in a ring beveled or flared outward at its lower edge, all arranged and operating as set forth.

115,579.—Meat and Vegetable-Cutter. Enoch Covert, Farmer Village, N. Y.

Claim.—1. The lever-arm, when composed of two pieces connected together by the knife C and angular plate D, rendered laterally adjustable by the clamp-screws E, and operating as and for the purpose herein described.

2. The arrangement and combination of the bed-plate G, cutting-board K, transverse piece H, pieces A and B, knife C, and angular plate D, when operating together, as and for the purpose described.

115,580.—Earth-Closet. — Rensselaer A. Cowell, Cleveland, Ohio.

Claim.—1. In combination with the chamber D, the slide c, guides d, lugs f, ears k, rods l, spring m, rod i, and rods g, when arranged and operating as shown, and for the purpose set forth.

2. In combination with the chamber D, the door or chute A and rod j, as and for the purpose set forth.

3. In combination with the seat N, the elastic cushion o, arms p p, cords s s, and bar t, when constructed, arranged, and operating as shown, and for the purpose set forth.

115,581. — Heel of Boots and Shoes.— Albert O. Crane, Boston, Mass.

Claim.—A lift inserted between the sole of the boot or shoe and the heel, and matched to said heel by a tongue and groove, substantially as and for the purposes described.

115,582.—Screw-Driver.—Jonas P. Curtiss, New Britain, Conn.

Claim.—As an improved article of manufacture, a screw-driver, having the tang of its blade inserted in a solid handle and partially embedded in soft metal, in the particular manner herein described.

115,583.—Wagon-Seat.—John A. Dann and William F. Dann, New Haven, Conn., assignors to Dann Brothers & Co., same place.

Claim.—In carriage and other wood-work, the curved portion C, bent into shape, and united to the adjacent straight parts, in the manner substantially as described.

115,584.—Oar.—Nelson Davenport, Troy, N. Y.

Claim.—1. The adjustable row-lock T with the eyes O O, substantially as and for the purposes hereinbefore set forth.

2. The combination of the lower eye O with the pin P and oar-pin S, substantially as and for the purposes hereinbefore set forth.

3. The combination of the stiff arm L with the hook-and-eye joint at the oar-ring, substantially as and for the purposes herein set forth.

4. The combination of the adjustable handle H with the arm L and the hook-and-eye joint at the oar-ring, substantially as and for the purposes herein set forth.

5. The combination of the small crane N with the adjustable spring K and the oar, substantially as and for the purposes herein set forth.

115,585. — Cork-Screw Attachment.— Walter Dickson, Albany, N. Y.

Claim.—The blade D, constructed substantially as herein described, to serve as an ice-pick, screw-driver, and cord or wire-cutter, and arranged on one end of the cork-screw handle, substantially as herein described.

115,586. — Air-tight Joint for Gas-Retorts.—Charles F. Dieterich and August Schüssler, New York, N. Y.

Claim.—One or a number of recesses or grooves and corresponding projecting rims, in combination with an elastic packing, of suitable material, on joints of man or hand-hole plates or lids for gas-retorts which are subjected to a high temperature.

115,587. — Circular Cutter.—Rufus H. Dorn, Port Henry, N. Y.

Claim.—The protective guard g, applied to the rod D, in combination with the knife d, substantially as herein shown and described.

115,588. — Joint End for Sheet-Metal Pipes. — John T. Fanning, Norwich, Conn.

Claim.—As a new article of manufacture, a sheet-metal pipe provided with metal ends cast thereon, adapted to form the joints, as described.

115,589. — Apparatus for Converting Motion. — Lemuel Scudder Fithian, Brooklyn, N. Y.

Claim.—1. The arrangement of ratchet-wheel A upon shaft S, in combination with disks B B and partly-cogged and spring-dogs C C, substantially as and for the purposes set forth.

2. The longitudinal frame D, internally cogged and working within guides E E, in combination with and acting upon the gear of disks B B, substantially as and for the purposes set forth.

3. The ratchet-wheel A′, in combination with the single disk or wheel L, grooved on its outer side, substantially as and for the purposes set forth.

4. The arrangement of the single disk or wheel L, grooved on its outer side, in combination with the ratchet-wheel A, and in combination with the spring-dog C, substantially as and for the purposes described.

5. The cord or its equivalent H H, passing over the grooves of the pulley L, and having the treadle attached to one end and the weight to the other, substantially as and for the purposes set forth.

115,590.—Stove-Grate.—David A. Flood and Daniel W. Brown, Woodbridge, N. J.

Claim.—1. The divided grate, pivoted to opposite sides of the fire-place, and supported at its line of division by a movable support, substantially as herein described, which provides for either half or division of the grate falling from the center, and being let down separately from the other.

2. The combination of the divided grate of the semicircular supporting-bar D, arranged to provide for the dropping of either or both of the halves or divisions of the grate, substantially as described.

115,591.—Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. A secondary tank, placed either within or without the gas-holder tank, and communicating therewith below the water-line, and containing a float having a lever, or other equivalent devices for arresting the gas-holder and stopping the inlet of gas thereto from the retort, substantially as set forth.

2. The subject-matter of the above claim, in combination with an automatic gas-machine, consisting of gas-holder, tank, retort, and their connections and devices, substantially as shown.

115,592.—Gas-Machine.—Thomas B. Fogarty, Kings county, N. Y.

Claim.—1. A hydrocarbon-tank, E, containing compressed air for forcing carbureted air directly to the burner for heating the retort, or to the gas-holder, or to both at the same time, in combination with the pipes H, d′, J, and I, substantially as set forth.

2. The subject-matter of the first claim, in combination with a gas-machine, consisting of a retort, A, gas-holder D, and gas-holder tank C, substantially as set forth.

115,593.—Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. An air-injector or back-pressure valve for carbureters or gas-machines, moved mechanically, and actuated by the same mechanism which opens and closes the valve by which vapor is allowed to escape from the retort, operated substantially as described, and for the purposes set forth.

2. The air-valve, moved mechanically, as described, in combination with the lever K provided with the arm O or its equivalent, the lever H, and springs S, constructed and operated substantially as described, for the purposes set forth.

115,594.—Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. A valve, A, with its needle-guide a′ passing through the vapor-jet and working intermittently, having its stem passing directly through the blow-pipe C, and connected with the actuating devices either directly or through the partition D, opposite the mouth of C, substantially as set forth.

2. The subject-matter of the first claim, in combination with the lever K, clutch J, and air-valve I, substantially as and for the purposes set forth.

115,595. — Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. The combination of the holder S, float A, valve-gear V, levers B′ and C′, burner O, air-valve W′, injector J, and retort B, with their connecting-pipes and devices, constructed and operated as set forth.

2. A gas-machine, consisting of the subject-matter of the first claim, in combination with a pump, tank, and gauge, and their connecting-pipes and devices, constructed and operated substantially as set forth.

115,596.—Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. The combination of the chamber F and heater H with the retort-stove A, constructed and operated substantially as and for the purpose set forth.

2. The cock K and lever N, constructed and operated substantially as described, and for the purposes set forth.

3. The combination of the air-chamber T and its diaphragm d′, air-tube x, and rod y, with the lever N and cock K, constructed and operated as and for the purposes set forth.

115,597.—Gas-Machine.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. The lever D, constructed and operated substantially as described, in the manner and for the purposes set forth.

2. The clutch F, constructed and operated substantially as described, in the manner and for the purposes set forth.

3. The lever K, constructed and operated substantially as described, in the manner and for the purposes set forth.

4. The sliding rod V, spring X, pin b, and roller d, constructed and operated substantially as described, in the manner and for the purposes set forth.

5. The combination, in a gas-machine, of the several parts herein claimed, constructed and operated substantially as described, in the manner and for the purposes set forth.

115,598.—Camp-Stool.—Henry Free, Lewiston, Me.

Claim.—1. A camp-stool, provided with jointed legs, sliding sleeves, and holding-springs, as described.

2. The camp-stool described, having its legs united by a triple screw, the legs being jointed and provided with sliding sleeves, substantially as described

115,599.—Gig-Saddle.—George D. Gillett, Meridian, N. Y.

Claim.—1. The box or depression b upon the top of the bow, arranged to lie below the upper ends or edges of its sides, and to project below the under side of the bow, substantially as specified.

2. The shoulders c c on the under side of the bow, in combination with the projections f f or upper ends of the under sides of the pockets, essentially as and for the purpose herein set forth.

3. The skirts or flaps G G, cut and fitted to embrace both the upper and under sides of the bow

and to enter between the shoulders *e e* and projections *f f* of the latter, essentially as specified.

115,600.—MACHINE FOR DRESSING MILL-STONES.—James T. Gilmore and John S. Crane, Lake Village, N. H.

Claim.—1. The elastically-extensible connecting-rod C, substantially as and for the purpose herein specified.

2. The cylindrical pulley D, having the conical portion *g* thereon, or connected and revolving as one therewith, substantially as and for the purpose herein specified.

3. The revolving diamond tool when provided with journals E E having the combined cylindrical and conical forms, as described, in connection with a corresponding double form of bearings, H H, to receive the journals, for the purpose herein specified.

4. The small capillary-threaded lubricating-passage *k* arranged just at the apex or extremity of the conical bearings H H of the diamond-tool journals, for the purpose specified.

5. The detachable jaws *t t* of the diamond-holder I, having a free self-adjusting movement to adapt themselves to the irregular shapes of the diamonds, in combination with the fixed jaws *s s*, substantially as herein specified.

6. The toggle-bars *z z*, arranged in combination with the carriage A, lever-arm B, and connecting-rod C, substantially as described, and for the purpose specified.

115,601.—BILLIARD-TABLE.—Louis A. Grill, New York, N. Y.

Claim.—A bed for billiard or other ball-game tables, consisting of pasteboard or other suitable material stretched upon a frame, substantially as specified, as a new article of manufacture substituted for slate or marble beds.

115,602. — ANTI-FRICTION BEARING FOR JOURNALS.—Alex. W. Hall, New York, N. Y.

Claim.—1. In combination with the journal or axle A and the box or hub B, the rollers C C and *d d*, journals *i i*, and circular bearings *n n*, all arranged to operate substantially as and for the purposes set forth.

2. Placing the center of the rollers *d d* within the center line *k k*, substantially as shown, and for the purposes specified.

3. The outer walls *r r* of the grooves *f f*, in close proximity to the journals *i i*, substantially as and for the purposes shown.

115,603.—TENONING-MACHINE.—Eminel P. Halsted, Worcester, Mass., assignor to R. Ball & Co., same place.

Claim.—1. The combination, with the auxiliary frame B, of the double adjustable shaft-supporting or bearing-frame C, adjusting-screws F and G, and adjustable bearings H H¹ H², substantially as and for the purposes set forth.

2. In the combination with the elements of the first claim, the vertically-adjustable frame I, adjustable shaft-bearings J J', and frame-adjusting devices, consisting of the screw L, gears L', shaft M', and hand-wheel M, substantially as and for the purposes set forth.

115,604.—PRESSING, IRONING, AND SMOOTHING-MACHINE.—Hugh Hamill, New York, N. Y.

Claim.—The combination of the rocking table with the ironing, pressing, smoothing, or fluting-wheel, so arranged that the cloth is caused to be drawn between the pressing and ironing or smoothing and fluting surfaces, and its withdrawal to be immediately followed, and in which latter operation the surface of the cloth is ironed, smoothed, or polished, the ironing or polishing-wheel being for that purpose held stationary during such withdrawal by the ratchet-wheel and pawl or other suitable device, arranged, constructed, and operating substantially as described.

115,605.—MILK-COOLER.—Jacob F. Harly, Cleveland, Ohio.

Claim.—The perforated tubing *b*, whose diameter, for the purpose of obtaining uniformity of pressure, is gradually reduced in size from the inlet *f* to the extremity, when constructed and applied substantially as described.

115,606.—MILK-CART.—John Harris, New York, N. Y.

Claim.—1. The milk-box or reservoir G, constructed to form the body of the vehicle, and pivoted, as at *a*, on opposite sides of the frame thereof, above the axle, substantially as and for the purpose herein set forth.

2. The combination, with the ice-box J, of the surrounding chamber, formed by the screen *e* and partition K, and the well L, in combination with said chamber within the reservoir G, substantially as described.

3. The partition *f*, with its lower passage *g*, in combination with the reservoir G, the screen-chamber K, the ice-box J, and the well L, essentially as specified.

4. The combination of the guides *g g* with the well L, the chamber M, the delivery-nozzle or spout O, and the sliding scoops or measures N, pivoted to their handles *h*, so as to be capable of tilting, and arranged for operation on and in relation to said guides, essentially as herein set forth.

115,607. — LAMP-WICK TUBE.—Edgar K. Haynes, Boston, Mass.

Claim.—The wick-tube A D, when the upper part A is made of thin metal, substantially as and for the purpose herein described.

115,608.—LAMP-BURNER.—Edgar K. Haynes, Boston, Mass.

Claim.—The dividing-bar B, with its arms or crosses C C, substantially as and for the purpose hereinbefore set forth.

115,609.—RAILROAD HAND-CAR.—John C. Hearne, Pleasant Hill, Mo., assignor to himself and George W. Deitzler, Lawrence, Kan.

Claim.—The independent shafts D D', in combination with levers I I', hubs H H', springs G G', ratchet-wheels F F', spring pawls *f f*, spur-wheels E E', and pinions *e e'*, substantially as and for the purpose set forth.

115,610. — RAILROAD DANGER-SIGNAL.—Stephen C. Hendrickson, Brooklyn, E. D., N. Y.

Claim.—The combination of an endless screw or worm, operated by a toothed wheel or wheels, with one or more electro-magnets, armatures, and armature-bars, substantially as and for the purpose specified.

115,611.—MODE OF EXPANDING WHEELS.—Daniel Hitchings, Litchfield, N. Y.

Claim.—As an article of manufacture, the socket C, having the end recesses F F, the transverse central recess G for containing the nut E, and the arched back for forming a continuation of the tire, as shown and described.

115,612.—ENAMELED FLEXIBLE METALLIC PLATE FOR PHOTOGRAPHERS AND OTHERS.—William Hoge and Joseph R. Peck, Washington, Pa.

Claim.—The preparation of a flexible metal plate with enameled surface, for photographing purposes, substantially as and for the purposes herein before set forth.

115,613, antedated June 1, 1871.—ROTARY PUMP.—Charles W. Isbell, New York, N. Y.

Claim.—1. The combination and arrangement of the revolving elliptical piston B, the cylinder or chamber C formed in part of a curvature corresponding to the travel of the major axis of the piston and in part of an enlarged sweep or outline, the inlet *a* and outlet *b*, and the flap or hinged abutment D, substantially as specified.

2. The combination of the spring E, arranged within the enlarged portion C² of the cylinder, the revolving elliptical piston B, and the cylinder C, constructed as described, and provided with an inlet *a* and outlet *b*, all arranged for operation together, essentially as herein set forth.

115,614.—LOOM-SHUTTLE.—Thomas Isherwood, Stonington, Conn.

Claim.—The combination of the float-preventive, as described, with a shuttle, such float-preventive consisting of the knife or clamp E, its operative spring *a*, shoulder *b*, the trigger *d*, and the bent wire *f* and its spring *h*, all arranged in and applied to the shuttle-body A and its eduction-tube D, substantially in manner and so as to operate as specified.

115,615. — ATOMIZER.—Charles P. Janes, Boston, Mass.

Claim.—1. The arrangement of the drip-cup *e* and its conduit *f* with the jet-tube *d* and the air-syringe nozzle, as described.

2. In the improved atomizer, the arrangement of the valve-case *b* and nozzle *a* of the elastic bulb A, the branch *k*, the jet-pipe *d*, the drip-cup *e* and its conduit *f*, all being substantially as specified and represented.

115,616. — SHUTTER-WORKER.—James W. Jedkins, Monmouth, Me.

Claim.—1. The bracket-plate D with the bars *e e*, the sector-plate F with the teeth H, stem G, crank J, and catch L, combined and arranged substantially as and for the purposes described.

2. The curved plate I and lip K, in combination with the sector F and bracket-plate D, substantially as and for the purposes described.

115,617. — SOLDERING APPARATUS.—Isaac Kaylar, Jersey City, N. J.

Claim.—1. The combination, with the furnace, of one or more angular hot-air flues B, constructed to form inclined soldering-beds *g*, and made to dip down into or through the fire-chamber, substantially as specified.

2. The angular hot-air flue or flues B, constructed with an annular groove, A, on their upper inclined surfaces *g*, and arranged in relation to the grate of the furnace and its top or lid, essentially as shown and described.

115,618. — MODE OF LUBRICATING AXLES AND JOURNALS. — William Kenworthy and John H. Pollitt, Birmingham, Pa.

Claim.—The arrangement of the oil-chamber *c*, gum washer *f*, and cavity with relation to the bore of the hub C of the wheel A, and collar A on and recess *x* in the axle B, the whole constructed, arranged, and operating as herein described, and for the purpose set forth.

115,619. — CASTER. — Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—In casters, the disk A and tube B, cast together, combined as described, with a wrought-metal band, F, spun on said disk, to provide a cup-connection which will not crack when driven on the furniture.

115,620. — SMUT-MACHINE.—Jesse Lantz, Wheeling, W. Va.

Claim.—The arrangement herein shown of the small fan M, rubber I J, beater H, and the large fan S, when all constructed and operating substantially as shown, for the purpose set forth.

115,621.—BOOK-BINDING MACHINE.—Robert G. Lowey, Brooklyn, N. Y., assignor to George H. Sanborn, same place.

Claim.—1. The combination of a platform, A, front gauge C, and top gauge D, when the same shall be constructed and operated substantially as and for the purposes set forth.

2. In combination with the platform A and gauges C and D, constructed and operated as described, the gauge B, for the purposes specified.

115,622.—PROCESS OF SEPARATING OIL AND NAPHTHA FROM PARAFFINE-WAX, &c.—Robert B. Lucas and William W. Lucas, Cleveland, Ohio.

Claim.—The process of chilling the wax by subjecting it to a water-bath before subjecting it to the press, for the purpose of readily separating the oil from the wax, substantially as described.

115,623.—CHILDREN'S CARRIAGE.—George Martiensson, Brooklyn, N. Y.

Claim.—The parts A A and C C, jointed together and forming the sides of the carriage, the wheels E and F, top G, bottom K, and cord I, constructed and arranged for use and to fold together, substantially as and for the purposes described.

115,624.—VEGETABLE AND FRUIT-PEELER.—Oscar F. Mayhew, Indianapolis, Ind., assignor to himself and William H. Weeks, same place.

Claim.—The combination of the roughened disk D, roughened removable lining B, tub A, and operating mechanism F T E, arranged and operating as specified.

115,625. — WEATHER-STRIP FOR DOORS.—Sylvester McFall, Blandinsville, Ill.

Claim.—The metal strip E, pivoted in the plates D D, and curved or shaped as shown, to adapt it to enter the groove in the bottom of the door, the guide-plates G, and the coiled springs F, all arranged and operating as set forth.

115,626.—OVEN.—Duncan McKenzie, Brooklyn, N. Y.

Claim.—1. The revolving carrier C, with its one or more shelves or bread-holders D held by positive means to occupy horizontal positions during the rotation of the carrier, in combination with an oven or baking-chamber within which said carrier is arranged, substantially as specified.

2. The combination of the shelves or bread-holders D with the revolving end frames *e e*, the cranks *h*, the ring *k*, and the eccentric track *m*, essentially as shown and described.

115,627.—RAILWAY-CAR COUPLING. — Edward D. Meier, St. Louis, Mo.

Claim.—In combination with the ordinary draw-head or bumper B, the draw-bars E, spring G, link *g*, chain *f*, and levers F, constructed and arranged substantially as and for the purpose set forth.

115,628. — TOY-WHISTLE. — Max Miller, Brooklyn, N. Y.

Claim.—The tubular stem A, open at both ends, but flattened at the lower end, combined with case B, having apertures *a a*, the whole adapted to be operated as and for the purpose specified.

115,629.—PLOW.—James G. Miner, Nashville, Tenn.

Claim.—1. The combination of the full-turning

mold-board with the rear of the colter of a subsoil-plow for the purposes above set forth, and constructed and operating as described, and this whether the same be attached to the colter in the manner herein described or is made stationary thereon.

2. The oscillating shaft J and wings P, constructed and arranged substantially as and for the purpose above set forth.

3. The mole N, elongated at the rear of the colter B, substantially as and for the purpose above set forth.

4. The combination of the mold-board A, colter B, lugs C, D, F, G, H, and K, pin E, parts I, shaft J, wings P, rod L, eyes M, and beam N, substantially as and for the purposes set forth.

115,630.—Railway-Rail Joint. — George E. Morris and Charles W. Gregory, Danville, Ill.

Claim.—The double-slotted plate B and the two slotted clips D, having upper ends E and slotted lower ends F, combined, as described, with a shouldered inclined gib, H, and key K, for the purpose specified.

115,631. — Sole of Boots and Shoes.—Alfred A. Moss, Philadelphia, Pa.

Claim.—The construction of boots and shoes with an unobstructed and durable air-space or chamber, formed by a convex exterior supplemental sole, strengthened, braced, or stiffened by a sufficient number of rivets, nails, or pegs, and secured to a raised welt or rand running around the edge of the sole, substantially in the manner described.

115,632.—Center-Seal for Gas-Works.—Peter Munzinger, Philadelphia, Pa.

Claim.—1. The distributing-chamber R, divided into two parts by the horizontal diaphragm S, for the purpose shown and described.

2. The vertical pipes or up-takes X, which connect the lower distributing-chamber T′ with the valve W.

3. Combination and arrangement of the inlet, outlet, and drip-pipes O P Q, the distributing-chamber R, the pipes X, and the valve W, as shown.

115,633. — Tidy-Pin. — Hial H. Newton, Cleveland, Ohio.

Claim.—The combination, with a pair of straight and parallel prongs, B B, of the opposite corrugations A A and laterally-branched head C, arranged to form an intermediate narrow recess, as and for the purpose specified.

115,634.—Seal for Hydraulic Mains of Gas-Works. — Alfred Odiorne, Springfield, Ill.

Claim.—1. The suspended and moveable sealing-box A, having separate compartments d d d, combined and operating with the series of dip-pipes C C C, as and for the purpose described.

2. The annular cups E and sealing-cups F, applied to form an air-tight packing for the connecting-rods a, substantially as herein shown and described.

115,635.—Reed-Organ Bellows.—Joseph R. Perry and Samuel R. Perry, Wilkesbarre, Pa.

Claim.—1. The inner fold *b′* of the exhaust-bellows, arranged as described, in connection with the valve-passage *c*, for the purpose of partly covering said passage when the fold is contracted.

2. The expanding-spring *d*, arranged in connection with the lever *h* and the bellows-boards, as described, and for the purpose of taking the spring off at any point, so as to reduce the pressure of the said bellows.

115,636.—Toy-Carriage.—Joseph W. Pilkington, Bridgeport, Conn., assignor to himself and Charles H. Cole, same place.

Claim.—1. The combination of a carriage, a pair of horses, the driving mechanism arranged between the horses, the leading wheels, and the mechanism for actuating the horses' legs, substantially as described.

2. The combination of a pair of horses, the driving mechanism arranged between and connecting the horses, the leading wheels, and the mechanism for actuating the legs of the horses, substantially as described.

3. The combination of the driving-wheels beneath the horses, the connecting-rod, the sliding cross-bar, and the pivoted legs of the horses, all these members being constructed and operating in combination, substantially as described.

115,637.—Hydrant.—Joseph L. Pillsbury, Columbus, Ohio.

Claim.—In combination with a hydrant having the two nozzles *a b*, the stem *c*, swiveled at an equal distance between said nozzles, and provided with an arm, *e*, and disk *f* at the inner end, as and for the purpose specified.

115,638.—Toy-Gun and Pistol. — Henry M. Quackenbush, Herkimer, N. Y.

Claim.—1. A toy-gun or pistol, provided with an annular movable piston around the barrel, so that the backward motion of the piston will cause a forward motion of the projectile, as set forth.

2. The sliding barrel D, arranged within the case B, and combined with the spring E, annular piston F, and trigger C, to operate substantially as herein shown and described.

3. The case B, provided with the movable breech-plate G and with the movable barrel D, substantially as herein shown and described.

115,639.—Gang-Plow.—William B. Quick, Belleville, Ill.

Claim.—The combination and arrangement of the seat-frame E, foot-board E′, movable frame G, connected to plow-beams D, lever-shaft H, carrying hook-rod I, with friction-roller I′, substantially as and for the purpose specified.

115,640.—Coal-Chute. — Joseph Rhodes, Dunkirk, N. Y.

Claim.—1. In combination with the coal-pockets or receivers A A, the sliding frame C, bearing and having a spout, D, said frame and spout being capable of being moved from one discharge-outlet to another of said pockets, as herein described.

2. In combination with the sliding frame C, the friction-wheels *e e* and *d d* at the top, and rollers *f f* at the bottom, acting upon the tracks *b* and *c*, in the manner and for the purposes specified.

3. In combination with the chute D and outlet-spouts *a a*, the extension E, having an end movement for closing the break between said parts, as hereinbefore described.

4. The sliding frame C, the adjustable chute D, hung upon the chains or links *g g*, and raised by cord *x* at the outer end, and the extension E moved by slides or rods *i i*, the whole arranged as described, and operating in the manner and for the purpose specified.

115,641.—Rock-Drilling Machine.—Norman W. Robinson, Burlington, Vt.

Claim.—1. The vertical slotted supports E F, mounted on the horizontal slotted bars, for lateral adjustment, the vertical driving-shafts and gears thereon, the vertically-adjustable brackets K, the brackets L, and the wheels Q, all combined and arranged for horizontal and vertical adjustment of the drills, substantially as specified.

2. The combination, with the vertically-adjustable brackets K and shafts G H, and the laterally-adjustable supports E F, of the vertically and horizontally-oscillating swivel-supports for the drill-rods, constructed and arranged substantially as specified.

3. The swivel-supports U V W X, constructed and arranged for supporting the drills on the brackets K, oscillating them vertically and horizontally, and clamping them thereto, all substantially as specified.

115,642. — Range.—Philip Rollhaus, Jr., New York, N. Y.

Claim.—The flue-partitions or walls D D and the smoke-dampers E E, in combination with the heat-inlets C C, the smoke-flues G G, and the ovens B B in the frame A, substantially as and for the purpose hereinbefore set forth and described.

115,643.—Car-Coupling.—John C. Rupp and Stephen Ott, Newark, Del.

Claim. — 1. The extension G, pieces L, and springs E, in combination with the pivoted jaws D and the slide C, substantially as described, for the purpose specified.

2. The slide C, carrying the coupling-jaws D, separately pivoted, or the head F, when connected to the slotted side pieces B by means of the double slots *a a′* and rods *b*.

3. The combination, with the adjustable tenoned slide C, of the separately-pivoted hooks D, head F, springs and guides *d e e*, and operating-cord or chain H, substantially as described, for the purpose specified.

115,644. — Fire-Place Range. — Watson Sanford, Brooklyn, N. Y.

Claim.—A warming-closet in a fire-place range, when said closet is arranged directly beneath the baking-ovens, flues, and ash pit, and at the base of the range, substantially as described.

115,645.—Door-Bolt.—Joseph B. Sargent, New Haven, Conn.

Claim.—A bolt in which the barrel is constructed with the flanges *a a* and the plate B with the slot C, so as to be set down over the barrel onto the said flanges *a a* for the purpose of securing the parts together, substantially as described.

115,646.—Corn-Sheller.—Silas C. Schofield, Chicago, Ill.

Claim.—1. The combination of the yielding and revolving roller E, and the revolving shelling-cylinder B, when constructed and arranged substantially as shown, and for the purposes set forth.

2. The combination of the yielding and revolving pressure-roller E, the revolving shelling-cylinder B, and the diagonally-ribbed bar F, all constructed and arranged substantially as shown, and for the purposes described.

115,647.—Locking Device for Dog-Collars.—Agustus R. Scott, Albany, N. Y.

Claim. — The detached screw-lock for metal strap, or other similar dog-collars, the same being constructed substantially as hereinbefore shown and described.

115,648.—Shoe.—Nathan J. Simonds, Woburn, Mass.

Claim.—As a new article of manufacture and sale, a leather stiffening, composed of a back, *a*, face *b*, and one or more diminished pieces, as shown at *a′* and *b′*, and having the edge rolled or otherwise flattened, as shown, and molded by machinery, substantially in form as described and shown in figs. 4 and 5.

115,649. — Manufacture of Metallic Rolls for Rolling Iron, Steel, &c.—Robert Sleeth, Pittsburg, Pa., assignor to Bagaley, Young & Co., same place.

Claim.—The manufacture of metal rolls, dies, and roll-pinions from a mixture of cast-iron and steel, substantially as set forth.

115,650.—Attaching Knobs to their Spindles.—Olney L. Smith, Providence, R. I.

Claim.—The combination of the knob D with a square socket and screw-nipple F, the sleeve or shank N with a right-and-left screw-thred, and the threaded square spindle S, substantially as described, for the purpose specified.

115,651.—Machine for Burnishing Boot and Shoe-Heels. — Vivian K. Spear, Lynn, Mass., assignor to Tapley Heel-Burnisher Machine Company, same place.

Claim. — A revolving disk for burnishing the heels of boots and shoes, provided on one of its faces with a recess to receive the heel, the sides of the recess being convex and its depth being such as to allow its bottom to come in contact with the tread of the heel, substantially as and for the purposes set forth.

115,652.—Malt-Reservoir.—Frederick Ch. Spiess, New York, and Anton Dobler, Brooklyn, N. Y.

Claim.—1. The combination of a grain-elevator with a so-called Archimedean or Dutch screw and two or more pairs of spouts communicating with four or more separated compartments, as hereinbefore fully described, and for the purpose set forth.

2. The combination of grain-elevator, Archimedean or Dutch screw, spouts, and sieve, arranged as herein fully described, and for the purpose set forth.

115,653.—Coping for Walls.—Daniel M. Sprogle, Annapolis, Md.

Claim.—The artificial-stone coping-blocks herein described, provided with the projections *a*, recesses *b*, and longitudinal hollow or groove *d*, constructed and arranged substantially as described and shown, formed either with or without the horizontal grooves *c*, and applied to and combined with the tops of walls by the use of cement or equivalent materials, as described and shown, and for the purposes set forth.

115,654. — Buckle.—George F. Stephens, Portland, Oreg., assignor to himself and John Nation, same place.

Claim.—A case, formed of slotted top plate A, upwardly-converging bottom plate B, side plates C C, and flange E, combined with a wedge, H, having stud I, all constructed as and for the purpose specified.

115,655.—Photographic Camera.—John Stock and Jacob Stock, New York, N. Y.

Claim.—1. The arrangement of the ways C on the inner sides of the frame B to guide the camera-box, in combination with the blocks D and D′ and the spring *n*, or their equivalents, attached to the bottom of the camera-box, substantially as and for the purpose hereinbefore set forth.

2. The corners *p*, constructed with projections or lugs *u*, in combination with pins *s*, substantially as and for the purpose described.

3. The plate E, in combination with its hinge *z*, bolt P, sliding plate R, and bolt T with tightening-nuts, substantially as and for the purpose hereinbefore set forth.

115,656. — Sewing-Machine.—Hannah G. Suplee and John H. Mooney, San Francisco, Cal.

Claim.—1. The combination of a rotating hook substantially such as described, with a recessed thread-holder, the two operating to hold one part of the bight of the thread and pass the loop over the bobbin-case, substantially as described.

2. The combination of a slotted hook with a recessed and stationary finger-plate, substantially as described.

115,657.—Ice-Cream Freezer.—John Tingley, Philadelphia, Pa.

Claim.—1. The horizontally-revolving motion of the vessel B, in combination with the can C, the spindle D, the iron belt E with its attached bear-

ings *e e*, the cross-bar *f*, the trunnion *d*, and the swinging brace *h*, by which the upright and horizontally-revolving positions are obtained.

2. The gasket J, in combination with the internal brass wire X, the lid K, and the loops *s s*.

115,658. — SCREW FOR WATER-GAUGES.— Charles Tivnan, Holyoke, Mass.

Claim.—1. In the combination consisting of the glass-tube B, elastic packing W, conical hollow screw and case A, with slits *f f* and nut H, the glass tube B entering loosely into the case A and not in contact with metal, substantially as and for the purpose set forth.

2. In the same combination, the shoulder *g*, substantially as and for the purpose set forth.

115,659. — REPEATING ORDNANCE.—Alfred H. Townsend, Georgetown, Col. Ter.

Claim.—1. A breech-piece, formed of two pieces, A B, with perforations *a' b'* and converging apertures F at their joint or junction, as and for the purpose specified.

2. A tongued breech-piece A B, grooved plates H E, and detachable pin and spring G, combined as and for the purpose specified.

3. The independent sectional barrels C, the perforated plates D K, and the bottom plate E, combined, constructed, and put together as described.

4. The arrangement of spring B B and hinge O beneath the barrel, as and for the purpose specified.

115,660.—CURRENT-WHEEL.—William Tuder, Moffettown, Tex.

Claim.—1. The gate F G, arranged to swing upon the shaft A of a current-wheel, as and for the purpose described.

2. The arrangement of circular racks K K, pinions L L, shaft M, worm O, pinion N, and shaft P, as and for the purpose described.

3. The arrangement of the buckets D to fold inwardly and flatly upon the radial arms B, as and for the purpose described.

115,661. — SEWING-SILK, THREAD, &c.— Archibald Turner, Leicester, England.

Claim.—A sewing-thread, having its several constituent strands interlaced by braiding, as described.

115,662, antedated May 30, 1871.—VINE-LOCK.—Edward F. Underhill, Brocton, N. Y.

Claim.—The within-described vine-lock, adapted to be permanently attached to the trellis-wire or its equivalent, and to allow the vine to be engaged and removed, as herein set forth.

115,663.—FENCE.—Matthew Van Wormer, Troy, Ohio.

Claim.—The wooden posts P P, metal hooking anchor-pieces *p p*, stone sills F F, short back-pieces J J, long wooden pickets A, base-board B, and metal hooking anchor-braces N, all constructed, arranged, and operating together in the manner and for the purpose described.

115,664. — FOLDING-STEP FOR CARRIAGES. George H. Vollhardt, New Haven, Conn.

Claim.—The two steps B C pivoted in the frame in the manner described, and combined with the jointed post D E, so as to operate as and for the purpose specified.

115,665.—FOLDING-STEP FOR CARRIAGES. Edward Wells, New Haven, Conn.

Claim.—In combination with the two steps B C, pivoted in the frame A, and provided with arms D, the transverse slide E and the two rods B' and C', independently connecting the two rods to the said slide, substantially as set forth.

115,666. — GAS-HEATER. — Henry F. W. Weeche, New York, N. Y.

Claim.—The cooking apparatus, composed of the stand I, lamp A, with cap and burner F E, combustion and illuminating-chamber O R R, pipe S, and pots T, U, W, and Y, constructed, arranged, and operating substantially as and for the purposes described and set forth.

115,667.—STEAM-POWER CAR-BRAKE APPARATUS. — George Westinghouse, Jr., Pittsburg, Pa.

Claim.—1. A steam or air-discharging nozzle, arranged in the air-outflow pipe of a car-brake cylinder, discharging in the direction of the outflow of air from the cylinder, and in combination with such cylinder, substantially as described.

2. In combination with the subject-matter of the previous claim, a check-valve, *m*, arranged substantially as set forth.

115,668. — STEAM-ENGINE VALVE AND PORT.—George Westinghouse, Jr., Pittsburg, Pa.

Claim.—1. A pair of valves arranged in a valve-chamber, intermediate in the line of steam communication between a main and a reversing or auxiliary steam-cylinder, substantially as set forth.

2. A pair of independently and alternately-acting valves, in combination with a steam-port which admits steam between them, and a pair of ports which conduct steam alternately from the seating-face of each valve to an auxiliary steam-cylinder, substantially as described.

3. The valves *c c* inclosing a steam-space between them for the admission of steam, which keeps both to their seats, in combination with ports which lead from such inclosed steam-space to the opposite faces of the valves, whereby when either valve is lifted from its seat the steam is free to pass by a port or ports so uncovered to the steam-cylinder B'.

4. The valve *c*, pressed to or toward its seat by steam or other suitable pressure, in combination with a stem, *f*, for lifting it from its seat and uncovering the port c^3, arranged substantially as described.

5. The valve *c* having a sleeve, c^4, projecting into the cylinder B, arranged to be lifted from its seat against the pressure by the action of the piston, and so as to uncover the port c^3, substantially as set forth.

6. The valve *c c*, seated as described, in combination with annular grooves c'' c'', port a'' c^3 c^3, and stem *f*, arranged substantially as set forth.

7. The valves *c c* operated by and in combination with a hollow piston-stem, substantially as described.

8. The construction and arrangement of the ports *a a'* with reference to the port a'', and in combination with the valves *c c*, substantially as described.

115,669.—WOOD-CARVING MACHINE.—John Westworth, Chicago, Ill.

Claim.—1. The combination of the frame B, pivoted to move both horizontally and vertically, with the pantograph device H I J carrying a tracing-point and a revolving bit or cutter, substantially as and for the purpose specified.

2. The frame B balanced upon a double pivot and carrying pulleys D D' E E' F F', in combination with the pantograph device H I J carrying the pulley G, substantially as and for the purpose specified.

115,670.—STEAM PUMPING-ENGINE.—Norman W. Wheeler, Morristown, N. J.

Claim.—1. The combination and arrangement, in relation to each other, of the stand-pipes *w*, distributing-cup *s*, and exhaust-pipe Y, substantially as and for the purposes described.

2. The combination of the valve M, exhaust-pipes Y Y, and stand-pipes *w w*, substantially as and for the purposes described.

3. The combination and connection of the valve M with the working vessel P and valve-thrower *h i k*, substantially as and for the purposes described.

4. The combination of the tubes *h*, barrel *i*, and diaphragm *k*, substantially as and for the purposes described.

5. The combination of the steam-pipe O, passages *e e*, and valve M, when they are so arranged as to supply the boiler with water, substantially as and for the purposes described.

6. The combination of the automatically-operated valve M with the two working vessels P^1 P^2 and the two condensing stand-pipes *w w*, substantially as and for the purposes described.

7. Actuating a valve, as M, by means of the pressure of secondary steam, generated in the manner and in the apparatus, substantially as described.

115,671.—CABINET-ORGAN.—George Woods, Cambridgeport, Mass.

Claim.—1. The music-rack I and cloth-screen L, constructed together in one device, and arranged substantially as specified.

2. The arrangement of slides M, plate N, and screws O in a cabinet-organ, as described, to allow of said slides being drawn out singly, in the manner described.

115,672.—STEAM-ENGINE.—Henry W. Adams, Philadelphia, Pa.

Claim.—1. A double-cylinder steam-engine, having passage arranged and valves operating, substantially as set forth, so that the within-described actions of the steam on the pistons will occur when the latter and the cranks are in the positions hereinbefore explained.

2. In a double-cylinder engine, a nozzle, *e*, for the escape of exhaust steam from the small cylinder into the pipe through which the larger cylinder is exhausted.

3. The combination, with a steam-engine's exhaust-pipe, of a nozzle, through which live steam can be discharged into the said pipe.

115,673.—FURNACE FOR ROASTING ORES OF THE PRECIOUS METALS.—Jonas Sely Akin, Rye Patch, Nev.

Claim.—The rotating or discharging-hearths H K, constructed with reference to a roasting and chloridizing-furnace, in combination with the pits L and cooling-floor M, substantially as and for the purpose set forth.

115,674.—HAND-CARRIAGE.—William Allen and John Wesley Bond, St. Paul, Minn.

Claim.—The within-described hand-carriage supported upon the wheels C C and D, having body A pivoted to the center of the axle B, pivoted upright bar I, head-rest J, cogged segments K L, rach M, and extending arms E E, cranks G G, shaft *e*, wheel *d*, chain *b*, and wheel *b*, the various parts being constructed, arranged, and operating substantially as set forth.

115,675. — ATTACHING KNOBS TO THEIR SPINDLES.—Matthew Andrew, Melbourne, Victoria.

Claim.—1. The bearing *i* of the socket D, in combination with the ratchet-spindle B, spring *f*, and recess *c*, substantially as and for the purpose specified.

2. In combination therewith, the arrangement of the aperture *l* through the side of the shank A, substantially as and for the purpose set forth.

115,676. — SPINNING-MACHINE. — Seth R. Ballard and George W. Ballard, Cold Water, Mich.

Claim.—The arrangement of the sliding frames K and L, rail M, the racks and pinions W and *v*, the ratchet mechanism R *t*, the coupling-bar S, and the cams T T, substantially as and for the purposes specified.

115,677. — FURNACE-POT. — John Ballou, Boston, Mass.

Claim.—The impermeable wrought-iron jacket furnace-pot, herein described.

115,678.—PIPE-WRENCH.—William Henry Barwick, Montreal, Canada.

Claim.—The wrench, formed of the fixed jaw A, movable jaw C, both serrated, and having the particular shape and angle shown, and provided, respectively, with the handles B and D, all as shown and described.

115,679.—THRASHING-MACHINE.—David C. Baughman, Tiffin, Ohio.

Claim.—In combination with the reciprocating rake-bars in a thrashing-machine, the bar A, constructed as shown, and provided with inclined cleats B B, grooved on their upper ends, and with the wire or metallic strip C, substantially as and for the purposes herein set forth.

115,680.—THRASHING-MACHINE.—David C. Baughman, Tiffin, Ohio.

Claim.—1. The rock-shaft *n n*, in combination with the toothed bars E E, substantially in the manner and for the purposes herein set forth.

2. The movable bottom H, shafts *n n*, and vibrating arm S, constructed and arranged substantially as and for the purposes herein set forth.

3. The vibrating arm S with its connections R, *z*, and *s'*, arranged to operate substantially as and for the purposes herein set forth.

4. The tailing-board M, provided with teeth on its upper side, and arranged in relation to the elevator N, substantially as herein set forth.

5. The arrangement of the belt *f'*, connecting the fan-shaft with the conveyer, the pinion *h'* on the conveyer-shaft, cog-wheel *k'*, shaft *m*, and pulleys *n' n'*, said pulleys to be connected with the stacker, all substantially as described.

6. The toothed bars E E, when operated by means of eccentrics *x' x'*, set at varying angles on a straight shaft, substantially as herein set forth.

115,681.—WATER-WHEEL. — William Bayley and Abner B. Crowell, Wilmington, Del.

Claim.—1. A gate for a turbine water-wheel, provided with webs or flanges A and B, the webs A being extended further from the line of contact with the case than the web B, substantially as described, and for the purpose set forth.

2. The combination of a turbine water-wheel, a shaft, and a case, so constructed as to afford greater space or clearance between the shaft and case at the upper than at the lower end, substantially as and for the purpose set forth.

3. The combination of the shaft S, the case U, and the coupling P, provided with a downward-projecting lip, *b*, substantially as and for the purpose set forth.

115,682.—FEED-WATER HEATER FOR STEAM-BOILERS.—Robert Berryman, Hartford, Conn.

Claim.—1. The combination of the extractor C and one or more pipes D proceeding from it, as described, with the vessel A and its pipes, for the induction and eduction of the exhaust steam, as set forth, all being arranged substantially in manner, and so as to operate as described.

2. The combination of the automatic feed-regulator herein first described (provided or not with the stand-pipe and the cock thereof, as explained) with the induction-pipe *b*, the vessel A, its exhaust-steam pipes, and the extractor C and its pipe or pipes D, all being arranged, combined, and constructed so as to operate substantially in manner as set forth.

115,683.—ELEVATOR.—Valentine C. Blair, Wheatland, Pa.

Claim.—1. The lever-clamps or catches C, placed

one upon each side of each of the slides B, and each provided with a spring, G, or equivalent spring, in combination with the frame-work A and slides B of an elevator or hoisting apparatus, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever-clamps or catches C, springs G, pivoted bars D, four-armed bow E, and stop *f* with each other, and with the frame-work A of the cage or platform, and slides B, substantially as herein shown and described, and for the purpose set forth.

115,684.—MANUFACTURE OF PNEUMATIC GAS.—Homer Bloomfield, San Francisco, Cal.

Claim.—1. In combination with the carbureter D, an automatic feeding device, substantially as described, whereby the gasoline or its equivalent may be maintained at different depths, as desired.

2. In combination with the carbureter D, the vaporizer R, or its equivalent, and an automatic feeding device, whereby the uniform depth of immersion of the vaporizer may be maintained.

3. In combination with carbureter D, an adjustable vaporizer, R, or its equivalent, constructed substantially as described, whereby the vaporizer may be maintained at any desired height within the carbureter, as set forth.

4. In combination with the carbureter D and a feeding device, made adjustable so as to vary the depth of the gasoline, an adjustable vaporizer, operated automatically to rise and fall to maintain a uniform immersion.

5. The combination of forked rod I, hand-wheel K, stand J, pipes F and L with carbureter D, substantially as set forth.

6. The combination of the forked rod I, hand-wheel K, stand J, pipe F, vaporizer R, with the carbureter D for adjusting the height of the vaporizer, substantially as described.

115,685.—BUILDING-BLOCK.—Nicholas Boch, New York, N. Y., assignor to himself and W. J. Maidhof, same place.

Claim.—As an improved article of manufacture, a rabbeted building-block, A B C, provided with the flue D, as and for the purpose specified.

115,686.—INKSTAND.—James A. Bowen, Boston, Mass.

Claim.—A cover or top, F, constructed on its under or inner side for interlocking with a key inserted in the hole G, substantially as and for the purpose described.

115,687.—COMPOUND FOR COVERING COFFINS.—James W. Bower, Greencastle, Ind.

Claim.—The compound for covering coffins, &c., to make them air-tight, formed of the ingredients, and applied in the manner specified.

115,688.—COMBINED SEEDER, PLANTER, AND CULTIVATOR.—John Bowman and William G. Selby, Princeville, Ill.

Claim.—The arrangement of the interchangeable rods K and *e*, seeders B, bearing or support-rods E E, lifting-lever *c*, and catch h h, whereby either of the cultivators I or the planters F may be readily combined with the seeder, the whole constructed so as to operate substantially in the manner as herein described.

115,689.—ORNAMENTING HAT-LININGS AND TIPS.—Thomas W. Bracher, New York, N. Y.

Claim.—1. Combining leaf-paper with linings or tips of hats and caps, to form a surface or ground for impressions between dies, substantially as described.

2. An embossed hat-lining, having a piece of paper or other material for support interposed between metallic foil or leaf, composing an embossing surface, and the silk or other material that composes the lining, substantially as set forth.

3. Combining metallic leaf or foil with leaf-paper in taking impressions between dies, by interposing such leaf or foil between the leaf-paper and the die, substantially as described.

115,690.—MACHINE FOR CROZING STAVES.—Hugh Bradshaw, Chicago, Ill.

Claim.—1. A crozing-machine, consisting of the vertical hangers A, frame C suspended from bolt *c*, and provided with cutter-head E, in combination with the table G provided with the sliding heads K, the whole constructed and arranged, to operate substantially as and for the purpose set forth.

2. The combination of the rod *c* with the vertical hangers A and frame C, both being provided with transverse holes, substantially as described, for the purpose of changing the line of movement of the cutter-head, as desired.

115,691.—ANIMAL HOPPLE.—George Lee Brent, Gordonsville, Va.

Claim.—A tether, composed of the ring A, straps B B, clasps C C, and rings D D, arranged and united in the manner and for the purpose specified.

115,692.—BALE-TIE.—Sydney Brett, New York, N. Y.

Claim.—The wire bale-tie, constructed as described, with the eye B upon one end and the hook C upon the opposite end, and applied to a bale in the manner herein set forth and shown.

115,693.—STAMP-CANCELER.—Franklin W. Brooks, New York, N. Y.

Claim.—1. A cap-plate, C, formed with spines to puncture and be turned down upon the under surface of the stamp, and held by a flanged or barbed spike or screw, or other fastening, said appliances being constructed and arranged in any manner, substantially as herein explained, to permit the sticking of the stamp directly to the surface of the barrel or other package without the interposition of a metallic plate beneath it, but effectually prevent the removal of said stamp in a whole condition.

2. In a cap-plate, C, constructed and applied as above specified, the embossed tables shown in fig. 1, for the purpose of permanently indicating the several particulars of date, number, and capacity, as explained.

115,694.—COMPOSITION FOR STEAM-PACKINGS.—William R. Bunnell, Jersey City, N. J.

Claim.—The herein-described composition for steam and other packing, consisting of asbestus, plumbago, and rock-salt, combined substantially in the proportions specified.

115,695.—COMBINATION TOOL.—Benjamin S. Burch, Petersburg, Va., assignor to himself and William H. Baxter, same place.

Claim.—The herein-described improved tool, comprising in one implement the hook, nippers, and shears, or the hook and nippers only, all substantially as specified.

115,696.—LADDER-STAND.—Daniel R. Burkholder, Plainfield, Pa.

Claim.—The combination of the ladder *g*, foot-piece A, hollowed braces *d*, cross-bar *a e f*, clamp *i*, and side frames *b c*, as specified.

115,697.—LOCKING-COVER FOR MILK-CANS.—Durrant Burnett, Bedford Station, N. Y.

Claim.—The tube D and bar E, the slotted neck B formed with a shoulder B′ and inclined plates *s s*, and the slotted cover, C, having hooks *y y* attached, when the same are so combined and arranged as to operate substantially as described.

115,698.—MEDICAL COMPOUND OR COUGH-SIRUP.—Benjamin F. Burroughs, West Perry township, Pa.

Claim.—The medical compound herein described, compounded in the manner, of the ingredients, in the proportions, and for the purpose specified.

115,699.—HOT-AIR FURNACH.—John H. Burtis, Brooklyn, N. Y.

Claim.—1. The combination, with the combustion-chamber C, of the drum H, provided with the vertical air-passages K K and horizontal flues I I, substantially as set forth.

2. In combination therewith, the downward flue-passages J J, supplementary chamber L, and smoke-pipe O, arranged and operating substantially as set forth.

115,700.—EXCAVATOR.—William J. Carroll, Natchez, Miss.

Claim.—1. The combination of the tongue, rigid double-tree draft-chains H H, single-trees I I, and supporting-bar and chain O O′, arranged with reference to one another and to the frame and carrying-belt, substantially as and for the purpose set forth.

2. The combination of the tongue F, supporting-bar and chain O O′, frame J, link E^2, and lever E, fulcrumed upon a post of the tongue, all arranged to operate substantially as set forth.

3. The combination of the frame, standards G, clips G^2 g^1, and chains g^2, substantially as set forth.

115,701.—PLOW.—Charles F. Chambers, Hutsonville, Ill.

Claim.—1. The combination of the forked and slotted sheth C *c c′* G, share F *f*, shaft H, provided with a collar, h, nuts J L, and convex wheel I *i i′*, as and for the purpose set forth.

2. In combination with the handle B, sheth C, and adjustable wheel I, the adjustable guards N *n n′* and O *o o′*, as and for the purpose set forth.

115,702.—BOLT-HEADING MACHINE.—George Chapman, Rockford, Ill.

Claim.—The header F and jaws G G, combined with slides B L, nuts C M, and screw D O P, the latter arranged to operate the former, as and for the purpose specified.

115,703.—CULINARY-VESSEL.—Samuel W. M. Chattaway, Middletown, Conn.

Claim.—1. The ball B^1 B^2, jointed a little above the edge of the vessel, and pivoted to the sides of said vessel a little above the horizontal plane of its center of gravity, substantially as herein shown and described, and for the purpose set forth.

2. The lock-catches C *c′*, constructed as described, in combination with the jointed ball B^1 B^2 and with the vessel A, substantially as herein shown and described, and for the purpose set forth.

115,704.—PEN-AND-PENCIL CASE.—James M. Clark, Jersey City, N. J.

Claim.—The two-part case *a b* screwed together, and containing a magazine, *d*, and pen-holder in the part *a*, and a pencil, projected by the tube *c* and screw-form slotted tubes in the other part *b* of the case, as and for the purposes set forth.

115,705.—APPLE-PULPING MACHINE.—Gregg Clayton, Marshallton, assignor to himself and Samuel Ringwalt, Downingtown, Penn.

Claim.—The combination of the cylinder B and its blades with the adjustable concave E and the blade D, rendered adjustable independently of the concave, all substantially as described.

115,706.—SLIDE-VALVE.—Joseph M. Coale, Baltimore, Md.

Claim.—The bridge *b*, having upwardly-projecting side flanges *e* and secured at each end to the ledges *a a* of the steam-chest A, the plate *e* provided with pendent end flanges *f*, and extended laterally to unite with the blocks h h of the valve *d*, the anti-friction rollers *g g* being arranged between said bridge and plate, as herein shown and described, for the purpose specified.

115,707.—GRAIN-CLEANER AND SEPARATOR.—William A. Cockrill, Zanesville, Ohio, assignor to himself and Charles H. Durban, same place.

Claim.—1. The guards or check-boards e^3 e^5, in combination with the inclined boards or steps e^4 e^6 of the screen E, arranged to operate substantially as and for the purpose described.

2. The screen E, side pieces e^2 e^3, cover e^5, inclined boards or steps e^4 e^6, and guards or check-boards e^5 e^6, all combined, constructed, and arranged to operate substantially as and for the purposes set forth.

115,708.—SEPARATING OIL FROM COTTON-WASTE.—Andrew Norton Cole, Brockville, Canada, assignor to himself and Herbert C. Jones, same place.

Claim.—Treating the oil-saturated waste or refuse cotton with the chemical solutions, prepared as described, in the manner and for the purposes set forth.

115,709.—CURRIER'S SLICKER.—George T. Collins, North Eastham, Mass.

Claim.—1. The arrangement of the blade and handle, substantially as shown, for adjusting the former, and the combination therewith of the adjusting-screws, substantially as specified.

2. The combination, with the blade and handle, of the metallic band D, substantially as specified.

115,710.—PLOW.—John Coston, Bowden, Ga.

Claim.—1. The combinaton of the foot E, arms *b b*, handles A A, cross-bar *d*, and latches *c c*, all constructed and arranged substantially as and for the purposes herein set forth.

2. The reversible plowshare G, pointed at both ends, and provided with two sets of holes, *h i*, in combination with the foot E, bolts *k m*, tap *n*, and brace *p*, all substantially as and for the purposes herein set forth.

115,711.—HORSE-POWER.—David D. Craig, Macon, Ga.

Claim.—The frame A, bed-plate B, stud C, branch-stand D, driving-wheel E, bevel-wheel K, pinions I and O, shaft L, and band-wheel P, constructed, combined, and arranged to operate substantially as and for the purposes herein shown and described.

115,712.—HANK FOR SAILS.—David Crowell, Jr., Yarmouth Port, Mass.

Claim.—The hank or mast-hoop herein described, consisting of the jaws D D, hinged at C, and bent in the form described, in combination with the spring catch A B and the mortise-and-shoulder J, substantially as and for the purpose specified.

115,713.—DEVICE FOR HANGING LOOKING-GLASSES AND PICTURES.—David Crowell, Jr., Yarmouth Port, Mass.

Claim.—The device shown, a dog's head, A, to be attached by screw H, in combination with cords C C, and mouth D, chain E, hooks J I I, as shown and described.

115,714.—DEVICE FOR OPERATING SAFE-DOORS.—George L. Damon, Cambridge, and Hiram B. Tripp, Boston, Mass.

Claim.—Hinge or hinges C, having an elongated opening or openings *f* and rod G, constructed with

a cam or eccentric *g*, when all combined with a door hung to said hinges C, substantially as and for the purpose described.

115,715.—HOSE-LEAK STOPPER.—William C. Davol, Jr., Fall River, Mass.

Claim.—The hose-leak stopper, constructed as described, viz., of the two semi-tubular jaws A B, hinged together, their rubber linings or water-proof cushions *h h*, and means, as explained, for clamping such jaws or the linings upon a hose, such means being the ears *e e*, the screw C, the tubular standard *b*, the nut *f*, and its handle *g*, all being as represented.

115,716.—BEDSTEAD.—Ira Deyo, Naples, N. Y., assignor to himself and O. Brown, Brookville, Pa.

Claim.—1. The device for connecting the rails and posts of a bedstead and supporting the bed-bottom, formed of the plate D, provided with the hook E, projecting both above and below the pin F, and with the socket G, as shown and described.

2. The combination of sectional bed-bottom I J, cross-slats H, devices D E G, rails A C, and posts B, as and for the purpose specified.

115,717. — STEP-COVER.—Daniel Popham Dieterich and Richard Morris Popham, Philadelphia, Pa., assignors to Daniel Popham Dieterich.

Claim.—As a new article of manufacture, a step-cover or protector, consisting of rubber or equivalent material inclosed in or secured to a frame or plate, and adapted to the top of a step, as specified.

115,718.—CURRENT WATER-WHEEL.—John F. M. Doan, Niles, Mich.

Claim.—The gates L and N, provided with the crank-rods M and O, and pivoted within the frame, consisting of the bed-plate B, top rail C, posts D and F', and the brace-rails K and K', substantially as and for the purpose specified.

115,719. — COMPOSITION OR SOAP FOR CLEANSING THE TEETH.—James O. Draper, Pawtucket, R. I.

Claim. — The above-described tooth-soap, substantially as specified.

115,720.—UMBRELLA.—William A. Drown, Jr., Philadelphia, Pa.

Claim.—An umbrella or parasol having a rod composed of lengths arranged to slide into each other, as set forth, and ribs or stretchers jointed to the said rod, as specified.

115,721.—WASHING-MACHINE.—Francis W. Dustin, St. Louis, Mo.

Claim.—1. The combination, with the tub B', yokes E, bearing-bow I, rollers F F^2 G G^2 K, and endless sheet H, of the hook-bearings *e g j*, constructed and arranged substantially as described, by which all of said rollers and said "sheet" are adapted to be readily removed.

2. The improved washing-machine herein shown and described, composed of box or tub B, with legs A and metallic bottom C, stove D, rollers F F^2 G G^2 K, endless sheet H, bearing-bow I, and crank-shaft J, the said legs, stove, rollers, and endless sheet being removable, and all combined and arranged as represented, for the purposes set forth.

115,722. — SUSPENDER. — Robert Henry Eddy, Boston, Mass., assignor to A. G. Eddy.

Claim.—1. In suspenders, the combination of the adjustable back or shoulder-straps and the adjustable front or button-straps, all being substantially and to operate as described.

2. Suspenders, substantially as explained, viz., as composed of the back connection, the adjustable back or shoulder-straps, and the adjustable fore or button-straps, all being to operate essentially as set forth.

115,723.—WASHING-MACHINE.—William N. Faucitt, Brooklyn, N. Y., assignor to himself and Thomas C. Morris, same place.

Claim.—1. The fixed or stationary apron *e* attached to the removable frame *b*, and provided with the spring slat *d*, in combination with the rubbing-roller C and reservoir A, the several parts constructed and operating as and for the purpose herein set forth.

2. The cylinder C of the reservoir A, fixed apron *e* attached to the removable frame *b*, counter-spring D, with its central bearing K and connecting-rods *a d*, combined, arranged, and operating substantially as set forth.

115,724.—COMBINED DOOR-FASTENING AND ALARM.—Oscar Fisher, Smyrna, Del.

Claim.—1. The cylindrical casing C, provided with opening *a*, slot *b*, and spring *d*, in combination with chain *e* and ball *f*, all arranged substantially as and for the purpose set forth.

2. The combination, with a door-frame and alarm, of the casing C with spring *d*, chains *e h*, ball *f*, and hook *i*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

115,725.—BEDSTEAD-FASTENING.—Seymour A. Frayer, Coxsackie, N. Y.

Claim.—As an improvement on bedstead-fastenings formed in two parts, the tongues *a*, having wedges *c* at the lower ends and outwardly-beveled sides *b* on the upper parts thereof, combined with the correspondingly-constructed plates C *d e*, as specified.

115,726.—VALVE OF STEAM PUMPING-ENGINES.—Lucien M. Gilbert, Cow Run, Ohio.

Claim.—1. In combination with the main slide-valve of a steam-engine, the oscillating valve H, arranged in a casing H^1 in the steam-chest, and operated by the steam in the latter, substantially as set forth.

2. The combination of the main slide-valve D, oscillating valve H H^1, steam-passages *a* and *b*, exhaust *c*, and secondary slide-valve I, substantially as set forth.

3. The combination of the recessed thimble L' on the rod of the secondary slide-valve I, and the collar H^2 A^2 on the journal of the oscillating valve H, substantially as and for the purpose set forth.

115,727. — MACHINE FOR PRESSING AND STUFFING HORSE-COLLARS. — William Guilfoyle, New York, N. Y.

Claim.—1. The perforated mold A and perforated plate B, combined to constitute an apparatus for preparing horse-collar stuffing, as set forth.

2. The spring catches *c c*, arranged within the mold to hold down the perforated plate B, substantially as herein set forth and described.

115,728.—BURGLAR-PROOF SAFE.—Edward K. Hall, Louisville, Ky.

Claim.—1. The plates *a*, constructed substantially as herein described, for use in safes, vaults, &c., as set forth.

2. The rubbeted back plates *c*, in combination with the series of plates *a*, when constructed and arranged substantially as described.

3. The T-shaped recesses *d*, in combination with the correspondingly-shaped projections *n*, when applied to the doors of safes, vaults, or cells, substantially as set forth.

115,729.—WHARF-BOAT.—Edwin W. Halliday, Columbus, Ky.

Claim.—The wharf-boat or floating dock, provided with a tower, B, having one or more floors, C, and platforms D, and a bridge, F, connecting with the tower or a platform thereon and the shore, or a platform or trestle thereon, the said bridge being detachably connected to the tower or platform thereon, and arranged for shifting from one to the other of the platforms or floors, all substantially as specified.

115,730.—MACHINE FOR MAKING SHEET-LEAD. — Henry Hannen, Philadelphia, Pa., assignor to himself, Thomas Woods, and Benjamin F. Pine, same place.

Claim.—1. The combination of the said flanged wheel, the melting-pot with its spout, and the stripping-blade K, substantially as and for the purpose specified.

2. The knife H, in combination with the wheel D, stripper K, reservoir A, and spout B, for the purpose specified.

115,731.—WINE-PRESS.—Christian Frederick Hartmann, Nazareth, Pa.

Claim.—1. The combination of the metallic casings E G, press-bottom H, grates I, and the wire-netting *f*, as herein shown and described, for the purposes specified.

2. The arrangement in the wine-press, substantially as herein shown, of the grates I, constructed of trapezoidal strips *d* united by dowels *e*, substantially as described.

3. In the wine-press herein shown, the combination of the wire-netting *f* with the trapezoidal strips *d*, forming the grates I, substantially as set forth.

115,732. — BED-LOUNGE.—George Hartzell and John P. Reifsneider, Philadelphia, Pa.

Claim.—The frame A, its inclined arm B, and back C, in combination with the frame D, also having an inclined end and sliding on the frame A, and with a cushion, consisting of two sections, F and F', hinged together, the section F being secured to the frame D and the section F' being thicker than the section F and flexible, so that when turned over it will adapt itself to the frame A and its inclined arm B and form a continuous couch, as specified.

115,733.—INKSTAND.—William O. Haskell, Boston, Mass.

Claim.—The continuous flanged edge *b* of plate D having hole E and closed portion G, in combination with a lid or slide, F, and desk-top A, as and for the purpose specified.

115,734.—BRICK-KILN.—Frederick E. Hoffmann, Berlin, Prussia.

Claim.—1. The arrangement, in a burning kiln, of a series of arched chambers, the arches of which are supported by zigzag partition-walls, substantially as and for the purposes herein shown and described.

2. The movable caps *l*, in combination with the hot-air flue *n* n^1 n^2, with apertures passing down and through the arch of the kiln, partly into the kiln-chambers and partly into the hot-air flue, substantially as herein set forth.

115,735. — PRUNING-SHEARS.—William E. Hughes, Aylmer, Canada.

Claim.—The combination and arrangement of the knives A and B, together with the arms C C and the steadying-arms D D, substantially as and for the purpose hereinbefore set forth.

115,736. — WATER-COOLER. — Thomas J. James, Petersburg, Va.

Claim.—The combination of the upper and lower water-reservoirs *b* A, the intermediate ice-chamber *d*, the connecting-pipe *i*, and the inverted conical bottom *e*, as specified.

115,737.—APPARATUS FOR SEPARATING AND CONCENTRATING ORES AND OTHER MATERIALS.—James Jenkins, South Bethlehem, Pa.

Claim.—1. The combination of the adjustable conduit *b* and water-pipe *c*, as and for the purposes set forth.

2. The adjustable conduit or conduits *b b*, supply *c*, and leads *d*, in combination with tanks *e* and frame E and F, when constructed and operating substantially in the manner and for the purposes set forth.

3. The hopper G, with feed-tubes *a*, in combination with the conduit or conduits *b*, leads *d*, and tanks *e*, when constructed and operating substantially in the manner and for the purposes set forth.

115,738.—APPARATUS FOR DUMPING COAL.—Robert Jenkins, and Theodore Woods, Allegheny county, Pa.

Claim.—1. The drums *f f'* attached together by the line *o*, in combination with the brake-band *d* and lever *e*, as described, and for the purposes set forth.

2. The roller *h* with pawl and ratchet *i*, in combination with the small rollers *m m'*, and lines *l l'*, and box *c* with pivoted arms *k k'*, substantially as shown and described, and for the purposes designated.

3. The combination of box *c* with gate *c'* and drums *f f'*, and lines *n n'* with roller *h* and lines *l l'* and pivoted arms *k k'*, arranged as described, and for the purposes set forth.

115,739.—OIL-CAKE TRIMMER.—Agur Judson, Newark, N. J.

Claim.—1. The plane-carrying levers M E, or their equivalents, provided with planes D F, and adapted to produce a reciprocal and alternate action of said planes on the adjacent edges of an oil-cake, substantially as specified.

2. The combination, with the table A and lever-stop J, of the plane-carrying levers M E, substantially as specified.

115,740.—PROCESS OF REDUCING WOOD AND OTHER FIBROUS SUBSTANCES TO PULP.—Vincent E. Keegan, New York, N. Y.

Claim.—The improved process, which consists in forcing the alkaline or acid solution into the pores of the wood or other fibrous vegetable substance by hydrostatic pressure, in combination with the after treatment of the saturated wood or other fibrous substance, with a high degree of heat, substantially as and for the purpose specified.

115,741. — WELT AND STRAP-CUTTER. — Charles Keniston, Somerville, assignor to himself, William Butterfield, and Charles E. Woodman, Boston, Mass.

Claim.—1. The standards C C, provided with concave outer sides and sharp edges, substantially as described, said edges being located in line with the outer cutters of a leather-cutting mechanism.

2. The standards C C, constructed as described, in combination with cutters B and grooved roller D, as and for the purpose set forth.

115,742.—FENCE.—Josiah J. Knight, Long Point, Ill.

Claim.—1. The means employed for locking together the panels and corner posts, consisting of the wedge-bar G and wire *g*, combined with said parts, substantially as shown and described.

2. In combination, the panels, composed of the rails A and strips B, the posts F provided with the studs or pins *f*, the wedge-bar G, and the wire *g*, substantially as and for the purpose specified.

115,743.—CURRY-COMB.—William E. Lanrence, New York, N. Y.

Claim.—1. The combination of the combs B, rods

a, and sleeves B, with the open cast-metal back A, all constructed as herein shown and described.

2. The open cast-metal back A, having the lugs *c* cast thereon to receive the front comb C, which is supported by and clamped to said lugs by the screws *d*, as herein shown and described.

115,744.—FLUID FOR WRITING ON CHECKS, DRAFTS, &c.—Charles L. Lawrence, New York, N. Y.

Claim.—The writing material, prepared as aforesaid, and bottled for use as an ink upon tinted paper, as set forth.

115,745. — PUMP. — Albert D. Laws and James C. Cooke, Bridgeport, Conn.

Claim.—The single cylinder, formed of two diameters, in combination with a single piston, the whole constructed and operating as described.

115,746.—GAUGE-COCK.—Bernhard E. Lehman and Robert Ross, Bethlehem, Pa.

Claim.—1. A gauge-cock, in which the orifice *a*, for the escape of steam, is closed by an elastic pad, D, fitted to a weighted lever, E, and adjustable by means of the screw-stem C of said lever, as described.

2. The lever, consisting of the weighted screw-stem C, block E, projection J, and pins *d d*, in combination with the stem A and its hooked lugs F F, as and for the purpose specified.

115,747. — MILLSTONE-EXHAUST. — Jacob Lingenfelter, Bloody Run, Pa.

Claim.—The case B, openings G, guards G′, chute H, exhaust-tube D, and fan E, all constructed and arranged substantially as and for the purpose specified.

115,748.—SHEET METAL.—John J. Locke, Whitestone, N. Y.

Claim.—The combination of sheet-zinc and tinned-iron plates soldered in contact, substantially as and for the purpose herein set forth.

115,749.—BROADCAST FERTILIZER-DISTRIBUTER. — James P. Machen, Centreville, Va.

Claim.—1. The arrangement of the stirrer *k l*, distributer *a b*, cleaner *h i*, receiver D, and sieve *p*, as described.

2. The arrangement of the slots *m* in the ends of the receiver, the springs *n*, and the journals of the distributer, as explained.

115,750.—BROADCAST FERTILIZER-DISTRIBUTER. — James P. Machen, Centreville, Va.

Claim.—In combination with the spirally-grooved rollers, the hinged scrapers *d d*, having inclined or oblique front edges to operate upon said roller, substantially as herein described, for the purpose specified.

115,751, antedated June 2, 1871.—STILL FOR SPIRITS, &c.—Wesley Makely, Alexandria, Va.

Claim.—A cooler, M, when employed in connection with a still, substantially in the manner and for the purpose specified.

115,752. — MITER-BOX. — Henry Markle, Spencer, Ind.

Claim.—The adjustable base C, hinged braces *d d*, adjustable guides A and D, reciprocating saw-frame E, and saw *a*, in combination with the adjustable table H, the whole being arranged, constructed, and operating in the manner and for the purpose specified.

115,753.—SLIDE-BAR FOR BRIDLE-BITS.—Arnold P. Mason, Franklinville, N. Y., assignor of one-half his right to William H. Bard, same place.

Claim.—The slide-bar, consisting essentially of the pieces *a*, pivoted together at *b*, and provided with the hooks *c* and slots *d*, the latter being in the same places as the hooks, as specified.

115,754. — SCREW-CAP AND RING FOR FRUIT-JARS.—John L. Mason, New York, N. Y.

Claim.—The metallic screw-cap or ring constructed with the struck-up peripheral thumb-piece C, substantially as described, for the purpose specified.

115,755.—CORN AND SEED-PLANTER.—Rodney H. Mathews, Nebraska City, Neb.

Claim.—1. The arrangement of the elongated frame H, hinged or pivoted to the front beam of the machine, the third or central wheel I provided on its axis with a disk having a projecting pin, *g*, oscillating rod H with dogs *h h*, central or dropper-bar S, levers L *n*, and holder *p*, all constructed and combined so as to operate substantially as described.

2. The arrangement of the runners O and P, shanks Q, braces R *p*, springs *t*, arched rods N, lever M, and holder *y*, all constructed and combined so as to operate substantially as described.

115,756.—TENSION-ROLLER FOR SEWING-MACHINES.—Joseph McCarthy, Woburn, Mass.

Claim. — As an improved tension device, the glass ring or wheel, formed with the peripheral groove *c*, having radial projections *d*, the whole being molded in a single piece and at one operation, substantially as shown and described.

115,757.—FIRE-KINDLER.—William H. McCrary, Kingston, Ga.

Claim.—The process of manufacturing balls for fire-kindlers, herein described.

115,758.—WAGON-SPRING.—Thomas A. McFarland, Erie, Pa.

Claim.—1. The springs B B and D D, when formed and secured as shown, rods C C and slats C′ C′, when the same are so combined, arranged, and connected as to operate substantially as described.

2. The springs B B and D D, when the same are combined and arranged so as to operate substantially as described.

3. The springs B B, D D, and E, when the same are so combined and arranged as to operate substantially as described.

115,759. — DUMPING APPARATUS.—Robert M. McGrath, La Fayette, Ind.

Claim.—A grain-dump, having the pivoted track with the weight guides *c*, lever A, and bar *g*, arranged and operated as herein set forth.

115,760. — SOLDERING-TOOL. — Louis McMurray and Robert J. Hollingsworth, Baltimore, Md.

Claim.—The combination of the tubular soldering-iron A, hollow stem B, handle C, and presser-rod D, which is guided in the handle to play through the stem and soldering-iron, substantially in the manner set forth.

115,761.—FOOT-MEASURE FOR SHOEMAKERS. John McNichol, Pontiac, Ill.

Claim.—The foot-measure herein described, consisting of the platform A, hinged graduated bar B, brackets C D, and graduated slide E, having cross-piece F, tape H, and removable uprights K K′, with adjustable transverse scale L, when constructed and arranged to operate substantially as shown and described.

115,762.—SHUTTER-FASTENER.—Joseph W. Megaw, Wilmington, Del.

Claim.—The catch or button *d*′, or its equivalent, attached to the arm D, and adapted for locking into the recess of a window-sash, substantially as and for the purpose specified.

115,763.—HAND-STAMP.—Joseph G. Moody, New York, N. Y.

Claim.—1. The combination, with the toothed wheel *p*, of the feeding-slide K having the under rack *m*, the clamping-spring *l*, and points *a′ a′*, substantially as specified.

2. The ratchet and pawl, operated by the arm B, and connected, by friction-spring, with the shaft of the pinion in gear with the rack of the feeding-slide.

115,764.—FOLDING-BOX.—Charles C. Moore, New York, N. Y.

Claim.—1. The hinged front C, swinging ends *b b*, and the lip A of the bottom, in combination with the back D composed of two longitudinal parts hinged together and to the top and bottom, the intermediate hinge being reverse-jointed, substantially as and for the purpose specified.

2. Forming inside stays by means of the knuckles of the continuous hinges, substantially as and for the purpose set forth.

115,765.—RAILWAY RAIL.—George C. Morgan, Chicago, Ill.

Claim.—The combination of wood A provided with the rib D, with the metal portion C provided with the shoulders *a*, substantially as and for the purposes specified.

115,766. — REVERSIBLE WINDOW-SASH.—William P. Nelson, St. Louis, Mo.

Claim.—The combination of the sash D, pivot E, and guide C with the rope *b* and weight B, substantially in the manner and for the purpose set forth.

115,767.—PARLOR-SKATE. — Oliver Benjamin Oakley, San Francisco, Cal.

Claim.—1. The combination of the ball D and plate *c* with springs G, inclosed in a suitable socket, substantially as and for the purposes set forth.

2. The ball D, plate *c*, springs G, in combination with the casing *c*, having flanges *d*, substantially as and for the purpose set forth.

3. The ball D and shaft E, when provided with springs G, in combination with the socket C, having a suitable opening through the cap *f* for the passage of the shaft E.

115,768.—DOOR-CHECK.—George W. Pagett, Oxford, Ind.

Claim.—The beveled latch E, hinged to the plate A, in combination with the stop C, pin G, and spring *g*, at right angles to E, constructed and arranged substantially as and for the purpose specified.

115,769.—FURNACE FOR OXIDIZING ORES. Ira M. Phelps, Chicago, Ill.

Claim.—1. The system of terraces *a′*, so arranged as to form a series of sub-terrace air-chambers, *f*, and inter-terrace air-slots, *g*, whereby the separate currents of air are introduced into the flue in a descending direction, and in a reverse direction to the draught-current, substantially as and for the purpose described.

2. The combination of the feed-hopper N and the fluted feed-roller O with the hollow arch wall L′, all arranged within the furnace and at the upper portion of the flue, whereby the ore is discharged into the flue beneath the draught-current, substantially as and for the purpose described.

3. In combination with the atmospheric reservoirs E E, the air-pipes *h* and cut-off valves *i*, the whole arranged to operate substantially as and for the purpose described.

4. The partitions *m m*, so arranged as to form a triangular-shaped air-chamber, *n*, substantially as and for the purpose specified.

115,770.—SCREW. — David Rufus Quick, New York, N. Y.

Claim.—A screw constructed in sections, having hollow hubs bearing on a common shaft, and united by clutch-coupling, substantially as specified.

115,771.—CULTIVATOR.—J. Eugene Reed, Mineville, N. Y.

Claim.—In combination with the curved and perforated beams A A and wheel E, the pivoted shafts D D with breast-plates H H, strap I, bar G, and strap *d*, all constructed substantially as and for the purposes set forth.

115,772. — RIDING-SADDLE. — Georg F. Schmidt, Kiel, Prussia, assignor to Rudulph Schmidt.

Claim.—In combination with the spring saddle-tree A A′ B C, the blanket E, and spring-bolsters D D′ attached to the latter, substantially as set forth.

115,773. — PRUNING-SHEARS. — David B. Seely, Sterling, Ill.

Claim.—The combination of the stationary hooked blade A connected to the handle B, and provided with the clip D, having set-screws *a a*, with the sliding blade C connected to the curved end of the handle B′, which is pivoted to the blade A, all substantially as set forth.

115,774. — WATER-WHEEL.—Lorenzo Dow Butters Shaw, Boston, Mass.

Claim.—The combination of the guide-cylinder E, dome-wheel D, and vertical shaft F, stepped as described, all constructed, arranged, and operating as and for the purpose specified.

115,775. — MACHINE FOR BENDING AND HARDENING HORSE-RAKE TEETH.—George F. Simonds, Fitchburg, Mass.

Claim.—1. The rotary griping and bending mechanism jointly with the hardening vat, relatively arranged, substantially as described.

2. In combination with the rotating bender, the mechanism for griping the wire, substantially as set forth.

3. In combination with the rotary bender, the mechanism for griping and bending the eye of the rake-tooth, substantially as described.

4. In combination with the bender and griping mechanism, the spring roll *r*, substantially as described.

115,776.—PUMP.—James A. Sinclair, Woodsfield, Ohio, assignor to himself and Warren Hollister, same place.

Claim.—1. The chamber *a*, constructed in pieces that are provided with lugs *b*, and connected by plates *c*, heads *d*, and stay-rods *f*, as specified.

2. The combination of the chamber *a*, pipe *j*, and reservoir *m*, as described.

3. The combination of the chamber *a*, pipe *j*, reservoir *m*, plunger *h*, collar *i*, and rods *g k*, as explained.

115,777.—TYPE-DISTRIBUTING MACHINE.—John T. Slingerland, New York, N. Y.

Claim.—1. The combination, with the column feeder, of a spring, *b*, pulley-block *c*, and cord *e*, substantially as described.

2. The arrangement, on the column side plate, of a projecting lip, *o*, and sustaining-spring *o²*, substantially in the manner shown and described.

3. The combination of the lip *o*, or the column side plate, with the spring *n*, with the first line of types in the galley, and with the type-channel *a*, substantially as set forth.

4. The arrangement of a recess in the line-feeder to receive a hook-shaped spring, *r*, substantially as and for the purpose described.

5. The lip *p*, on the line-feeder, to act on the projection *q* of the column side plate, so as to release said side plate whenever the line-feeder moves back to admit a fresh line in the type-channel, substantially as set forth.

6. The cam-edge h^1 on the feed-pawl *s*, in combination with the line-feeder E, feed-lever *t*, and weighted arm e^1, substantially as described.

7. The cam-disk d^1, in combination with the feed-pawl *s*, weighted arm e^1, and stop-pawl *x*, substantially as described.

8. The swivel-bar b^1 and lever a^1, in combination with the cam-disk d^1 and stop-pawl *x*, substantially as set forth.

9. The stop-pin f^1 and stop-lever k^1, in combination with the feed-pawl *s* and its weighted arm e^1, substantially as described.

10. The spring m^1, to prevent the feed-pawl and its weighted arm from rebounding, substantially as set forth.

11. The tappet n^1 on the line-feeder, in combination with the stop-lever k^1 and feed-pawl *s*, substantially as described.

12. The follower o^1 and spring p^1 in the weight G, which serves to retract the line-feeder, substantially as set forth.

13. The weighted arm f^2, in combination with the lifter f^3, constructed and operating substantially as described.

14. The set-screw u^2, in combination with the weighted arm f^2 and lifter f^3, substantially as set forth.

15. The arrangement of a governing-nick, s^2, in each type, substantially as set forth.

16. The governor t^2, in combination with the nick-levers m^2, substantially as set forth.

17. The governor-stop u^2, serving to recover all the nick-levers m^2, substantially as described.

18. The incline levers p^2, being made to oscillate on a pivot, q^2, substantially as set forth.

19. The long loose jaw x^{10} of the nippers x^1, to form a yielding abutment for the type, substantially as described.

20. The combination of the nippers x^1 with the lifter f^3, substantially as described.

21. The rotary conveyer, capable of grasping the types and of depositing them on the distributer-lifters, substantially as set forth.

22. The combination of the rotary conveyer with the oscillating nippers, substantially as described.

23. The hammer s^3 for knocking the types out of the rotary conveyer, substantially as set forth.

24. The spring-stop j^3 in the hammer s^3, substantially as described.

25. The lifter x^4, hinged to the distributer d^3, substantially as set forth.

26. The combination of the lifter x^4, hammer s^3, and rotary conveyer y^3, substantially as described.

27. The double incline z^4, in combination with the lifters x^4 and with the rotary conveyer y^3, substantially as described.

28. The distributers d^3, being hinged at their bottom ends to the wheel H, and provided with fingers b^3 at their middle, and with lifters x^4 at their top, substantially as set forth.

29. The lifting-ring L, in combination with the distributer-lifters x^4, substantially as described.

30. The perforated ring K and distributer-fingers b^3, in combination with the groove k^3 in the lifting-ring L, and with the lifters x^4, substantially as set forth.

31. The central bolt o^3 and radiating levers l^3, in combination with the lifting-ring, substantially as set forth.

32. The arrangement of spring catches r^3 on the opposite sides of the spouts of the type-cases, the tips of said catches being beveled off in opposite directions, substantially as shown and described.

33. The combination of the lifters x^4, having their upper edges chamfered off, with the spring catches r^3 on the type-cases, substantially as set forth.

34. The partitions z^4, situated between the lifters, and provided with notches to admit the ends of the spring catches r^3, substantially as described.

35. The combination of lifters x^4 and lifting-ring L with type-cases M, arranged on the circumference of a cone, substantially as described.

115,778.—Axle-Gauge.—Henry W. Spaulding, Chelsea, Vt.

Claim.—1. The standard A, arranged substantially as described, for the purpose intended.

2. The standard A, provided with the slide D, in combination with the standards B and C, provided, respectively, with the slides E and F, arranged and operating substantially as shown and described.

115,779. — Sewing Machine Casters.—Charles F. Stafford and Lemuel Stansberry, Evansville, Ind.

Claim.—The frame or support A, in combination with the shoes B *b*, slotted for adjustment upon the frame as shown, and casters D, substantially as shown, and for the purpose set forth.

115,780. — Washing-Machine. — Noah H. Stallins, Windsor, N. C.

Claim.—The tank or case A, provided with the lever C, fastened at one end, and having a cross-piece, D, resting on springs E E, in combination with the perforated board F attached to the upright arm *c*, with or without the box B, arranged and operating substantially as herein shown and described.

115,781.—Fastening for Window-Shutters.—Elbridge J. Steele, New Britain, assignor to Turner, Seymour & Judds, Wolcottville, Conn.

Claim.—The fastening made of the two-part case *a b*, knob *d*, swinging fastening *c*, projection *i*, and spring *e*, acting upon the cam-projection *i* to hold the fastening closed or open, as and for the purposes set forth.

115,782.—Piano-Action.—C. F. Theodore Steinway, New York, N. Y.

Claim.—1. The adjustable balance-spring *b*, arranged with relation to the hammer E and the fixed flanges D, as herein set forth and shown, for the purpose specified.

2. The arrangement of one or more springs in the cushion of the back-check F, substantially as set forth.

3. The metallic check-bar H, in combination with the jacks G of a piano forte action, substantially as and for the purpose described.

4. The arrangement of adjustable supports or brackets *f*, forming the connection between the metallic check-bar and the standards of the action-frame, substantially as described.

5. The arrangement of a filling of lamp-wick or other soft material in the metallic tubular check-bar H, substantially as set forth.

6. The soft pedal I, constructed of a metal tube filled with wood, and connected to the standards B by hooks *h*, substantially as shown and described.

115,783. — Hay-Gatherer. — Alexander Strean, Harrodsburg, Ind.

Claim.—The combination of the side beams A A, wheels B B, frame C, shaft D, teeth E E, pins I I, lever G, catch *b*, and toothed bar H, all constructed and arranged substantially as and for the purposes herein set forth.

115,784.—Preserving Wood.—Augustus Henry Tait, Jersey City, N. J.

Claim.—The process of preserving wood by means of sulphurous acid combined with a base in the manner described, and for the purposes set forth.

115,785.—Elbow for Hot-Air Pipes.—John M. Thatcher, Jersey City, N. J.

Claim.—An elbow, the branches of which are arranged at right angles, or nearly so, to each other, and are of different forms, one being adapted to an

flattened pipe and another to a cylindrical pipe, as set forth.

115,786.—Steam Road-Wagon.—Charles Franklin Thomas, Andrew James Craig, and James A. Craig, Jasper, and Jerome W. Hathaway, Woodhull, N. Y.

Claim.—1. A carriage or wagon-bed supported upon springs and carrying a boiler and engine, or boilers and engines, connected, by springs and upright shafts and other mechanism, with the axle, when said shafts are provided with universal joints, and allow one of the gear-wheels connected to the bed to slide up and down thereon, substantially as and for the purposes herein set forth.

2. In a steam road-wagon, a steering apparatus, in which one of the shafts connecting the wagon-bed with the axle is provided with a universal joint, and allows one of the gear-wheels connected to the bed to slide up and down thereon, substantially as and for the purposes herein set forth.

115,787.—Chair.—Joseph H. Travis, Charlestown, Mass.

Claim.—The foot-rest C^2, constructed of side rails D joined together, and provided with a handle or handles, G, hung to the chair-frame, and arranged to rest and move upon a guide, J, of chair-frame, substantially as and for the purpose specified.

115,788.—Apparatus for Exhausting Gas from Retorts.—Samuel Trumbore, Easton, Pa.

Claim.—1. The combination of the exhaust-pipe of a retort and a steam-pipe, *c*, arranged as specified.

2. The lip or plate *b*, arranged within the exhauster in respect to the steam-pipe or nozzle *c*, as described.

115,789.—Machine for Labeling Round Boxes.—Edward Tyrrell, Brooklyn, N. Y.

Claim.—1. The clamping-arm *r*, having pivoted finger *a'* on the end thereof, for the purpose specified.

2. The two rolls, *c' c'*, and spring *n'*, when attached to the vertically-reciprocating frame by hinged rods *d' d'*, and arranged immediately over the box-carrier, as and for the purpose specified.

3. The smoothing-rolls *e' e'*, held toward each other by yielding pressure, combined with a clamp, *r a'*, which holds the box centrally until the said rolls straddle it, in the manner specified.

4. The rod *v'* and T-headed crank-shaft *t'*, arranged as described, to open and close the divided nut, as set forth.

5. Pasting-plates O, having lateral play against a yielding support on their respective arms, for the purpose specified.

6. The box-carrier and label-pasting and carrying-plates O O, combined to operate together in the manner specified.

7. The label-pasting and carrying-plates and clamps *r*, combined to operate together in the manner specified.

8. The intermittently-moved box-carrier, label-pasting and carrying-plates, clamp, and smoothers, combined to operate together in the manner specified.

115,790. — Cough Mixture for Use in Candies.—Louis Violet, New Lebanon, N. Y.

Claim.—The cough mixture for candies, herein described.

115,791.—Grist-Mill.—Ausbert H. Wagner, Chicago, Ill.

Claim.—1. The means employed for securing in place and adjusting the fixed stone, consisting of the spider I provided with the angular arm or lug K, and the screws H provided with the nuts *h*, in combination with the plate G and standard C, substantially as shown and described.

2. The means employed for adjusting relatively the stones E and F, consisting of the step or bearing M provided with the inclined faces *m*, fitted within a corresponding box, N, and against the end of the spindle D, and capable of being partially rotated in either direction by any suitable mechanism, substantially as specified.

115,792.—Friction-Brake or Clutch.—Albert G. Waldo, Milwaukee, Wis.

Claim.—The application, simultaneously, to the opposite ends of a drum, spool, or similar gear, of friction-disks, by means of hinged levers operated by right-and-left screws on a shaft, substantially as herein described, for the purpose of making the friction on each end of the drum, as set forth.

115,793.—Brick-Kiln.—Benjamin Wallis, Baltimore, Md.

Claim.—1. In combination with the furnaces B, floor A^2, and pigeon-holed walls D' belonging to the permanent structure of the kiln, a chamber, C', extending to the cover of the kiln, as shown in fig. 4, formed in piling the green bricks, and openings through said green bricks for conducting the draught horizontally from the chamber C' through said openings into the flues, substantially as set forth.

2. The air-passages G, in combination with the hot-air chamber C C', substantially as and for the purpose set forth.

3. In a series of compartments or kilns, A, the flue F, in combination with the flues D of one kiln and the flue and hot-air chamber C C' of the next, said connecting-flue F being controlled by suitable dampers, and arranged substantially as set forth.

115,794. — Stop-Valve. — James Walsh, Philadelphia, Pa.

Claim.—1. The combination, with the screw-spindle F, carrying a valve, E, of the supplementary valves or disks *f* and *e'*, adapted to seats on the valve-casing and on a screw-plug, G, fitted within the said casing, all substantially as specified.

2. The screw-plug G fitted within the casing, slotted for the reception of the wings *d* of the valve E, and having a seat formed on it for the disk or valve *e'*, all as set forth.

115,795.—Slotting-Machine.—William H. Warren, Worcester, Mass.

Claim.—1. In a slotting-machine, the rocking block E', in combination with the rectifying slide H, the lever *k*, and the friction-clutch J M, or its equivalent, substantially as specified.

2. In a slotting-machine, the notched rocking block E', pivoted to the bar B', with its axis of rotation parallel with the cutting-edge of the chisel secured to its face, substantially as specified.

115,796.—Type-Composing and Casting-Machine Combined.—Charles S. Westcott, Elizabeth, N. J., assignor to Westcott's Type-Setting Company, New York city.

Claim.—1. The combination of type-composing and casting mechanism, substantially as set forth, so that the matrix will be presented and the type cast in the order in which they are composed or set up in line, substantially as specified.

2. Automatic self-adjusting mechanism for dressing types of various thicknesses, in combination with casting and composing mechanism, substantially as set forth.

3. Type-casting, dressing, and composing mechanism, arranged substantially as shown, in combination with a cylinder containing cam-ribs or grooves to communicate the respective movements at the proper time, as set forth.

4. A reciprocating carrier and a sliding gauge and matrix combined with the type-molds *a* and *b*, substantially as and for the purposes set forth.

5. The frames *k*, gauges *f*, and slides *g*, arranged at right angles to the slide-bars *h'*, in combination

with the carrier A, the parts being constructed and actuated substantially as set forth.

6. The locking-bar *p*, in combination with the keys *m*, levers *m'*, frames *k*, and slides *g*, as and for the purposes set forth.

7. The delivery-fingers *s* and stop 24, in combination with the mold *a b* and trough *u*, substantially as and for the purposes set forth.

8. The jaws *t t'* and cutters *x x' y y*, in combination with mechanism for pushing the type endwise between such cutters, substantially as set forth.

115,797.—WAGON.—Rand B. White, Sheboygan Falls, Wis.

Claim.—1. In combination with the axles A and A', the reaches D, pivoted and arranged substantially as and for the purpose specified.

2. The hereinbefore-described fifth-wheel, consisting of the plate F and G, and the disk I provided with the boss *i*, when constructed and combined substantially as shown, and for the purpose set forth.

115,798.—APPARATUS FOR CARBURETING GAS AND AIR.—Samuel Whitney, Flushing, N. Y.

Claim.—1. Gas-carbureters or carbonizers and gas-generating apparatus, provided with exterior protecting-cases or jackets, arranged to provide space between them and their shells, and the said spaces packed with gypsum or plaster of Paris, substantially as specified.

2. The jacket for the dome, arranged detachably with the other part, and provided with the slotted arm, for operation with the cap of the supply-pipe, substantially as specified.

115,799.—APPARATUS FOR COMBINING OR MIXING TWO OR MORE SUBSTANCES.—George W. Wilson, Chelsea, Mass.

Claim.—1. The duplex hopper, substantially as set forth.

2. The duplex hopper, in combination with one or more mixers, substantially as and for the purpose set forth.

3. In combination with the duplex hopper, the reciprocating agitator, substantially as and for the purpose set forth.

4. The adjustable gauge-plates C C', in combination with the hopper, as and for the purpose set forth.

5. The cylindrical mixer G, provided with beaters and rollers, as described, in combination with the cradle or concave mixer, substantially as hereinbefore specified.

6. The horizontal reciprocating mixers N N', constructed as described, in combination with the mixers S S', arranged in manner and for the purpose stated.

7. The mixers N N' and S S', constructed substantially as set forth.

8. The combination of the vibratory cylindrical mixer, provided with beaters and rollers, as described, and the concave mixer I with one or both series of horizontal mixers, arranged in manner and for the purpose set forth.

9. The hereinbefore-described apparatus for mixing pulverulent substances, the same consisting of the duplex hopper, the agitator, the cylindrical mixer, the concave mixer, and the two series of reciprocating horizontal mixers, the whole being arranged within a suitable case or structure, and made to operate together, substantially as and for the purpose set forth.

115,800.—COOKING-RANGE.—Charles J. Wood, Baltimore, Md.

Claim.—1. The improvement in that class of ranges which is provided with side ovens on a line with or below the fire-box, which consists in connecting the main flue with the oven-flues at a point below and in rear of the fire-box, and also with the fire-box direct, in order that, by opening or closing the dampers A, A', and I, the draught of hot air may be made to encircle one or both ovens, or be discharged direct from the fire-box to the flue, without coming in contact with the walls of either oven, substantially as described.

2. The peculiar location, combination, and arrangement of the dampers A A', *g g'*, and I, and the several flues with which they are respectively connected, by means of which a current or draught of cold air will, when desired, be made to encircle the ovens and flow in a reverse direction to that taken by the heated air, substantially as shown and described.

3. The water-heater E, provided with the end projections *e* and *f*, the interior partition *b*, and so arranged that both the induction and eduction-pipes may be attached thereto at one of its ends, as described.

4. The improvement in combined cooking and heating-ranges, which consists in the peculiar location, construction, and arrangement of the rear plate of the fire-box, the branching flues L L', main flue C, and air-chamber M, all substantially as described, for the purpose of utilizing the direct heat radiated from the rear of the fire-box and the flues.

REISSUES.

4,411.—MACHINE FOR CROZING STAVES.—Harrison Elliott, Elijah Smith, and Solomon S. Gray, Boston, Mass., assignees, by mesne assignments, of H. T. Elliott.—Patent No. 86,912, dated February 16, 1869.

Claim.—1. In combination with the cutters and carrier-wheels herein described, the table B for presenting the staves to the action of the teeth of the carrier-wheels, substantially as specified.

2. In combination with the carrier-wheels and table, the slide or follower D and mechanism for operating said follower, substantially as described.

3. In combination with the carrier-wheels and cutters, the springs G for holding the blanks to the wheels and to the action of the cutters, substantially as described.

4,412.—LOCK-NUT.—Pierre L. Gibbs, Dunleith, Ill.—Patent No. 96,218, dated October 26, 1869.

Claim.—1. The combination of a nut and washer fitted to turn together and take a bearing on or against a plate, so that, by tamping the edge of the washer into or over the edge of a groove or recessed portion of the plate, the nut will be prevented from working loose or becoming unscrewed, substantially as described.

2. The grooved plate B', having the one edge of its groove *a* beveled as described, in combination with the bolt or bolts C and nuts D screwing thereon, and fitted or provided with washers E so as to be capable of turning only with the nuts and of locking with the plate, essentially as herein set forth.

4,413.—LAMP.—Halvor Halvorson, Nashua, N. H., assignor to Rufus S. Merrill.—Patent No. 25,506, dated September 20, 1859.

Claim.—1. The combination, in a lamp-burner of the following elements, namely, two wick-tubes with a draught-passage between them, a deflector with a single slot, arranged so that the flames from the two wicks will pass through it in the form of a single flame, and appliances for holding the lamp-chimney in place, substantially as herein shown and described.

2. The combination, in a lamp-burner substantially such as described, of the two wick-tubes and the valve for regulating the supply of air which passes between said tubes to the flames, substantially as shown and set forth.

3. The combination, in a lamp-burner, substantially such as described, of the two wick-tubes, the valve regulating the supply of air passing up between said tubes to the flames, and the dome adjustable to a greater or lesser height above the wick-tubes, substantially as shown and set forth.

4. The arrangement of the wick-raising devices, substantially as shown and described, so that one or more of the wheels or pinions on the one shaft may gear into or engage directly with a corresponding pinion or pinions in the other shaft, for the purposes stated.

4,414.—BEDSTEAD AND TESTER.—François Layaux, Monroe, La.—Patent No. 106,842, dated August 30, 1870.

Claim.—The combination of the posts C C', tester B, inside posts A, and net D, when constructed and operating as and for the purpose herein described.

4,415.—CORSET.—Clementine D. Rutherford, Brooklyn, N. Y., assignor to David H. Fanning, Worcester, Mass.—Patent No. 60,428, dated December 11, 1866.

Claim.—1. A skeleton corset, the two parts or halves of which are constructed of cased vertically-arranged ribs, stiffeners, or braces, the cases of which are connected together at top, middle, and bottom by tapes or flexible cloth-band sections to sustain them in the corset form.

2. A skeleton corset, the vertically-arranged stiffeners of which are sustained in position by upper, central, and lower band-sections, the said stiffeners being connected at the breast portions of the corset by a material so constructed that it shall be sufficiently open to admit of ventilation and at the same time have sufficient body to support the breasts.

3. A skeleton corset, the vertically-arranged incased stiffeners of which are connected by an open net-work to support the person and permit ventilation.

4,416.—CHEESE-VAT.—Ezra H. Stuart and Walter A. Stuart, Cedarville, N. Y.—Patent No. 112,090, dated February 21, 1871.

Claim.—1. The arrangement, in a cheese-vat where steam is used to produce heat, of the steam-pipe at the sides of the vat, substantially for the purpose described.

2. The removable perforated steam-pipes C C, arranged or located on the side or sides of the air-tight space of the double vat A B, whereby the steam may be shifted from the sides to the bottom, and *vice versa*, substantially as set forth.

3. The case B, provided with faucet *a* at each end and a faucet, *b*, at the bottom, in combination with the milk-vat A, perforated pipes C C with their screw-plugs *d d*, cross-pipe D, connecting-pipe E, and levers G G, all constructed and arranged substantially as and for the purposes herein set forth.

4,417.—PROCESS OF TREATING PETROLEUM AND ITS PRODUCTS.—Joseph A. Tatro, Hartford, Conn.—Patent No. 99,728, dated February 8, 1870; reissue No. 3,867, dated March 1, 1870.

Claim.—The process described of applying the said substances—sulphuric acid, dry lime, (or phosphate of lime,) or their chemical equivalents, in about the proportions specified—to crude petroleum oil, to distilled oil, or to the whole product arising from the distillation of crude petroleum oil, for the purpose set forth.

4,418.—REDUCING WOOD TO PAPER-PULP. Henry Voelter, Heidenheim, Würtemberg, assignor to Alberto Pagenstecher, New York, N. Y.—Patent No. 21,161, dated August 10, 1858; antedated August 29, 1856; reissue No. 3,361, dated April 6, 1869; extended seven years.

Claim.—1. The improvement in the art herein described, which consists in tearing or grinding out fibers from blocks of wood, in the manner substantially as described, without cutting or severing the fibers either perpendicularly or diagonally to their length, as heretofore practiced in this art.

2. The improvement in the art herein described, which consists in regrinding the fibers already separated from a block, by grinding them over again between another block and a grinding surface.

3. In combination, a grinding surface and cells or boxes for blocks of wood, so constructed and arranged with reference to the surface that the fibers of blocks of wood placed therein lie in the plane, substantially, of the grinding surface, and across the line of motion of points in the grinding surface, as described.

4. In combination with a revolving grinding surface, blocks of wood, so held thereon that their fibers are in the relation to the surface and to the motion of points thereon, substantially as herein described, so that, by the operation of the grinding surface upon the blocks, fibers will be separated from the same without being cut across.

5. In combination, cells for holding blocks of wood and a revolving grinding surface, where the cells are so arranged in reference to each other and to the grinding surface, substantially as described, that fibers torn out or ground from one block shall, by the motion of the grinding surface, be carried under a succeeding block and there reground, substantially as described.

6. Feeding the blocks to be converted into pulp to the stone by mechanism, substantially such as herein described, whereby the blocks are forced forward by a motion dependent upon the velocity of the revolving grindstone.

7. The contrivance, substantially as herein described, whereby the feeding motion is intercepted or stopped automatically.

8. The separating apparatus as improved by me, and consisting, essentially, of a series of perforated revolving cylinders, in combination with take-up rollers, channels, and troughs, substantially as described.

DESIGNS.

4,970.—RANGE.—William H. Burrows, New York, assignor to Jordan L. Mott, Mott Haven, N. Y.

Claim.—The design for the front and fire-place end of a stove, herein shown and described.

4,971.—COOKING-STOVE.—William H. Burrows, New York, assignor to Jordan L. Mott, Mott Haven, N. Y.

Claim.—The design for a range, as herein shown and described.

4,972.—SHOT-POUCH, &c.—Joseph T. Capewell, Woodbury, Conn.

Claim.—The duplex design herein shown.

4,973.—BILLIARD-TABLE.—Hugh W. Collender, New York, N. Y.

Claim.—The design for billiard-tables, as herein shown and described.

4,974.—GAS FIRE-LOG.—Thomas N. Dixon and Charles Friese, Philadelphia, Pa., assignors to Thomas S. Dixon & Sons, same place.

Claim.—1. The design for gas-logs represented at A, substantially as shown and set forth.

2. The design for gas-logs as represented at B, substantially as shown and set forth.

3. The design for gas-logs as represented at C, substantially as shown and set forth.

4. The design for gas-logs as represented at D, substantially as shown and set forth.

5. The design for gas-logs as represented at E, substantially as shown and set forth.

6. The design for gas-logs as represented at F, substantially as set forth.
7. The design for gas-logs as represented at G, substantially as set forth.
8. The design for gas-logs as represented at H, substantially as set forth.
9. The design for gas-logs as represented at J, substantially as set forth.
10. The design for gas-logs as represented at K, substantially as set forth.
11. The design for gas-logs as represented at L, substantially as set forth.
12. The design for gas-logs comprising the specific features in combination as enumerated in the foregoing clauses of claims, substantially as represented in the accompanying photographs.

4,975.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—1. The design for the stripe A, as shown and described.
2. The design for the entire stocking fabric, including the stripes A B B^1 B^2 and the ribs *c* and *d*.

4,976.—STOCKING FABRIC.—Thomas Dolan, Philadelphia, Pa.

Claim.—The design for a stocking fabric, substantially as described and as represented in and by the accompanying drawings.

4,977.—NAPKIN-RING.—Charles W. Goodhue, Lowell, Mass., assignor to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—The design for a napkin-ring, shown in the accompanying drawing—that is to say, a napkin-ring made of wire, the ends scalloped or pointed, and the center mounted by a band or ring, substantially as described and specified.

4,978.—SHOW-CASE.—William H. Grove, Philadelphia, Pa.

Claim.—The design for a show-case with inclined sides and vertical ends, substantially as shown and described.

4,979.—CLOCK-CASE.—Elias Ingraham, Bristol, Conn.

Claim.—The design for the molding A of a clock-case frame, consisting of alternate transverse stripes of light and dark woods 1 2, substantially as shown and described.

4,980.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to W. & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

4,981.—TYPE.—John K. Rogers, Brookline, Mass.

Claim.—The design for printing-type, as shown.

4,982.—TYPE.—James A. St. John, Boston, Mass.

Claim.—The design for printing-types, as shown.

4,983.—LAMP-CHIMNEY.—Michael Sweeney, Martinsville, Ohio.

Claim.—The design for a lamp-chimney, as shown.

TRADE-MARKS.

306.—RANGE AND STOVE.—Abendroth Brothers, New York, N. Y.

307.—RANGE AND STOVE.—Abendroth Brothers, New York, N. Y.

308.—THRASHING-MACHINE.—James Brayley, Buffalo, N. Y.

309.—BAKING-POWDER.—William N. Hedges, Springfield, Ohio.

310.—MEDICINE.—Thomas E. Jenkins, Louisville, Ky.

311.—NETS AND LACE.—Abraham G. Jennings, New York, N. Y.

312.—NETS AND LACE.—Abraham G. Jennings, New York, N. Y.

313.—NETS AND LACE.—Abraham G. Jennings, New York, N. Y.

314.—COTTON-BALE TIE.—James Jennings McComb, Liverpool, England.

315.—UMBRELLA.—Horace T. Robbins, Hyde Park, Mass.

316.—CIGAR.—Schmidlapp Bros., Memphis, Tenn.

317.—COSMETIC.—Herman Schroeder, Quincy, Ill.

318.—PISTOL.—The American Standard Tool Company, Newark, N. J.

319.—FERTILIZER.—Walton, Whann & Co., Wilmington, Del.

320.—CANDY.—Francis M. Whitelaw, Cincinnati, Ohio.

EXTENSIONS.

ROSALIE CROOME, of Brooklyn, N. Y, executrix of WILLIAM CROOME, deceased.—Letters Patent No. 17,319, dated May 19, 1857.

"Method of Printing in Colors."

Claim.—1. The movable tablets for the separate colors, in combination with the guided roller or equivalent surface for taking up the inks, operating substantially as described.
2. In combination with the printing surface and with the inking surface, the corresponding guides for insuring the uniform action of the inking surface upon the printing surface, as set forth.

WILLIAM F. CHANNING, of Providence, R. I., and MOSES G. FARMER, of Boston, Mass.—Letters Patent No. 17,355, dated May 19, 1857.

"Electro-Magnetic Fire-Alarm Telegraph for Cities."

Claim.—1. The signal system herein described, consisting of a series of signal stations, scattered at short intervals, through a whole city or town, or any part thereof, and telegraphically connected with a common center or point, or with each other, by one or more signal circuits, by which means a constant communication may be established and maintained between all parts of a city or town, however extended, and with the center or centers at which the signal circuit or circuits converge or meet, so that the moment a fire occurs its existence and locality may at once be known at the center of the system, and efforts for subduing it be properly directed.
2. The alarm system herein described, consisting of a series of alarm stations, suitably distributed throughout a whole city or town, or any part thereof, and telegraphically connected with a central station, by one or more alarm circuits, by which means a public alarm of the existence and locality of a fire may be given at different points.
3. In combination with the alarm system for striking the number of the district upon the alarm-bells, the signal system for communicating the number of the station at which the fire occurs, to all the signal stations, as well as for communicating an alarm to the central station.

WILLIAM T. B. READ, of Chicago, Ill.—Letters Patent No. 17,451, dated June 2, 1857.

"Improvement in Harvesters."

Claim.—Making the shoe E in one piece, as described, so that by its peculiar formation it shall serve not only as a support for the finger-bar A, and as a support and guide for the inner end, both of the sickle-bar C and connecting-rod D, but also as a means of preserving the connection between the connecting-rod and the sickle-bar, as herein set forth.

ISSUE OF JUNE 13.

PATENTS.

115,801.—PASSENGER-RECORDER FOR VEHICLES.—James T. Aldrich, New York, N. Y.

Claim.—1. The independent spring treading-pieces, in combination with a reversible plate and rocking, swinging, or rotating punches, so that either treading-piece may interchangeably register the entrance and exit of passengers upon a paper fillet.
2. In combination with the treading-pieces, a wheel for indicating the number of the station along the line of travel, set by a device under control of any person other than the passenger, but operated only by the passenger.
3. In combination with the treading-pieces, a swinging, rocking, or rotating punch, either of which produce a double record, or a register of the ingress or egress of passengers.
4. In combination with the treading-pieces, spring clamping-rollers for feeding paper fillet.

115,802, antedated May 29, 1871.—STEAM-CARRIAGE FOR COMMON ROADS.—Francis Alger, Boston, Mass.

Claim.—1. The steering-handle K^3, when provided with a toggle-joint, K^3, in combination with the endless screw K^1, gear K, wheel H', and steering-ropes h h, substantially as described, and for the purpose set forth.
2. The combination of the double pawl L^3, the disk L^1, and axle L, operating substantially as described, and for the purpose set forth.

115,803.—MILKING-STOOL.—Levi O. Allen, Gardiner, Me.

Claim.—The curved wire pail-clamp C, formed with coils *a a*, and adapted to be secured by its ends to a milking-stool, substantially as and for the purpose herein shown and described.

115,804.—REFRIGERATOR.—Charles Lewis Anderson and Alfred Bogardus, Yonkers, N. Y.

Claim.—The water-refrigerating chamber E, placed between the ice and provision-chambers, and having the air-pipe G, supply-pipe F, and discharge-pipe H, all arranged as and for the purpose specified.

115,805.—MEDICINAL PREPARATION OF IRON.—Walter A. Aspinall, Brooklyn, N. Y.

Claim.—The compound of iron which I call jellate of, or gelatinized iron, composed of the ingredients in about the proportions herein described.

115,806.—LET-OFF MECHANISM.—George Bailey, Putnam, Conn.

Claim.—1. The strap A Q R, ring C, hook B, screw-bolt D, and nut E, combined with block F of the lever G, as and for the purpose specified.
2. The friction mechanism A Q R B C D E, the lever G, having hook H at one end and socket piece I at the other, and the spring mechanism K L M N O P, when said instrumentalities are constructed and arranged together, substantially as and for the purpose specified.

115,807.—BARREL, KEG, AND PAIL.—George W. Banker, New York, N. Y

Claim.—A barrel, tub, pail, or other round-hooped package having a taper on which to drive the hoops, the body of which is formed of a single piece of wood, with a single seam, when the taper is formed by annularly compressing the wood, all substantially as described.

115,808.—BOOT-AND-SHOE STRETCHER.—Emerson Reed Bardin, Newburg, N. Y.

Claim.—The sole A, the movable heel B, the reversible detachable anatomical projection attached to the heel, the loose detachable instep, when the parts are all constructed and arranged as described and specified, when used for the purposes set forth.

115,809.—STEAM-TRAP.—Albert G. Bearup, New York, N. Y., assignor to himself and Patrick Carraher, same place.

Claim.—1. The valvular sleeve B constructed with a closed end, *b*, but formed with an opening or openings at its side, and arranged to fit the end of the steam connection A, as described, in combination with the adjusting-nut D and water connection C, substantially as specified.
2. The combination of the outside nut or screw-box E, the interior adjusting-nut D, the valvular sleeve B, and the water connection C, the whole being constructed and arranged essentially as described.

115,810.—HOISTING APPARATUS.—Joseph R. Benedict, Williamson, N. Y.

Claim.—1. The combination of the standard A, track B, and adjusting-chain or rope C, the said track being provided with ways *f f* for the reception of car D, the whole arranged as described, and operating in the manner and for the purpose specified.
2. The standard A, track B, adjusting-chain C, and the crook or bend *e* of any hay-fork, the several parts being constructed and arranged to operate substantially as herein shown and described.

115,811.—STAVE-DRESSING MACHINE.—Lorenzo D. Benson and Leander C. Benson, North Jackson, Pa.

Claim.—1. The knives pivoted at one end and movable at the other, substantially as specified.
2. The combination, with the knives being movable at one end and pivoted at the other, of the tapered feed-rollers, one of which is adjustable, and the small ends being arranged relatively to the movable ends of the knives, all substantially as specified.
3. The combination of the conical rollers, springs, and knives, one roller being adjustable and mounted on the springs, and the knives also mounted on them, all substantially as specified.

115,812.—PHOTOGRAPHIC BACKGROUND.—Lyman G. Bigelow, Grand Rapids, Mich.

Claim.—A revolving background for photographic purposes, when its surface is graded radially from the center in regard to light and shade, substantially as and for the purposes described.

115,813.—ELEVATOR.—Josiah Bishop, Austin, Tex.

Claim.—The construction and arrangement, with the endless carrier D E F G *d'*, of the frame A a^1 a^2, and the carriage C, having rollers c^1 and loops c^2, for the purpose specified.

115,814.—PERMUTATION WHEEL FOR LOCKS.—Edward W. Brettell, Elizabeth, N. J.

Claim.—1. The flat cam *f*, in combination with

the ring *c* of the wheel, having the recess or box A, substantially as and for the purpose set forth.

2. The crab spring *e*, having bearing-points at each end, in combination with the inner ring *a* and cam *f*, or its equivalent, substantially as and for the purpose set forth.

115,815.—MOP-HEAD.—John Brizee, Alvarado, Cal.

Claim.—The handle A, mop-head B, clasps D D, wire E, jaws F F, and ferrule G, all constructed and arranged together, as and for the purpose specified.

115,816.—VARNISH FOR COATING THE SURFACES OF BOBBINS OR SPOOLS.—William Brooks, South Canton, Mass., assignor to himself and Isaac C. Fisher, same place.

Claim.—The improved composition, made of spirits of wine, gum shellac, gum sandarach, and oil of juniper alone, or such and a small amount of gum arabic, as stated.

115,817.—DISCHARGE-APPARATUS FOR OIL-TANKS, GRAIN-CARS, &c.—William J. Brundred, Oil City, Pa.

Claim.—A stem, B, for oil-tanks, made hollow, and threaded at *a' B'* to work in castings *a* D, when provided with a prolongation having the apertures E at the lower end, for the purpose of allowing the liquid to escape through the bottom of stem, but of retaining sticks and leaves.

115,818.—FRICTION-CLUTCH.—William C. Burch and George D. Oatley, Gloucester, N. J.

Claim.—The friction-dog D, provided with the hollow pillar *e*, spring *f*, piston *g*, and pin *j*, and combined with the slotted arm *i* of the pawl E, to operate substantially as herein shown and described.

115,819.—CAR-COUPLING.—Eugene Campbell, Medusa, N. Y.

Claim.—The bifurcated draw-head D, combined with the pivoted hook F, for the purpose specified.

115,820.—MACHINE FOR CUTTING IRREGULAR FORMS.—James W. Campbell, New York, N. Y.

Claim.—1. The expanding pattern, composed of a series of plates or sections, arranged to move toward and from each other, substantially as and for the purpose herein described.

2. The combination, substantially as described, with such series of plates or sections, of a system of "lazy-tongs" levers, L L, operating to produce and regulate the uniformity of the expansion and contraction of the pattern, substantially as herein set forth.

115,821.—RIVETING-TOOL.—Benjamin F. Cobb, West Troy, N. Y.

Claim.—As an improvement in double wheels, the two parts A B, constructed with internal spaces *d d*, and grooves leading thereto from the periphery, as and for the purpose specified.

115,822.—SASH-HOLDER.—David N. B. Coffin, Jr., Newton, Mass.

Claim.—1. The combination of the laterally-acting spring and friction-plate with the adjusting-screw and sash-guiding groove, substantially as described.

2. The arrangement of the accessible part or head of the adjusting-screw of a frictional sash or window-supporter within or beneath the lower rail.

115,823.—CUPOLA-FURNACE.—Anson G. Cook, Burlington, Vt.

Claim.—1. The bed D D, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the bed D D, of one or more apertures, as E, substantially as and for the purposes hereinbefore set forth.

115,824.—WHEEL-BORER AND KEY-WAY CUTTER.—Benjamin F. Copp, West Cumberland, Me.

Claim.—1. The combination of the drum *b*, the pulley *d*, the screw-shaft *e*, band *c*, pulley *i*, head *m*, and threaded stock *j*, as herein described.

2. The combination of the sliding tool-post, fork *r*, sleeve *m*, cutter *n*, and mandrel *o*, arranged as described, for the purpose set forth.

115,825.—SWING.—Jesse A. Crandall, Brooklyn, N. Y.

Claim.—The elbow-levers *b c* D and swing-body A, combined with flexible cords B B and *d d*, arranged as and for the purpose specified.

115,826.—SPECTACLE-CLEW FOR SAILS OF VESSELS.—George H. Creed, New York, N. Y.

Claim.—The improved clew herein shown and described, the same consisting of the combination with a spectacle-clew of the additional ring or eye A, whereby the clew-garnet may be readily attached and held without jamming or chafing, as set forth.

115,827.—STOVE-GRATE.—Salmon P. Davis, Constantine, Mich.

Claim.—In combination with grate A, the vertical grate C, when the two are constructed and connected as and for the purposes set forth.

115,828.—MACHINE FOR CLEANING SISAL, HEMP, AND OTHER GRASSES.—Charles A. Dean, Boston, Mass., assignor to James A. Cole, same place.

Claim.—1. The scraper and roller or scrapers *g h*, arranged to operate automatically by the passage of the material between them, substantially as described.

2. In combination with the scrapers *g h*, the reciprocating feed or draw-bar *i*, substantially as described.

3. The method of holding the sisal or other grass or fibrous material for the action of the stripping or scraping mechanism by means of the reciprocating bar *i*, as and for the purpose described.

115,829.—CLOTHES-DRIER.—John K. Derby, Jamestown, N. Y.

Claim.—The combination of the central bar A, hinged blocks B, pivoted horizontal bars C, and pivoted vertical bars D with each other, substantially as herein shown and described, and for the purpose set forth.

115,830.—FENCE.—Henry Deyoe, Machias, N. Y.

Claim.—The post formed of the rods A, base-block B, and rings E, all arranged substantially as specified.

115,831.—COOKING-STOVE.—Nancy Duncan, Beaver Falls, Pa.

Claim.—In combination with a grate constructed substantially as set forth, the division plate or grate *c*, arranged and operated as described.

115,832.—PANTALOON.—George R. Enger, Boston, Mass.

Claim.—The pantaloons, with similar adjustable waistbanded front and rear flaps, substantially as and for the purposes described.

115,833.—GRAIN-DRIER.—Thomas W. Eaton, Kankakee, Ill.

Claim.—The grain-drier and cooler described, consisting of the walls A and B, shelves D D' and G, deflectors E, coiled pipes *e* and F, and conveyer K, all constructed, arranged, and operating substantially as and for the purpose herein set forth.

115,834.—PRUNING-SAW.—Peter Eberle, Freetown, Ind.

Claim.—The pruning-saw herein described, when constructed and used substantially as set forth.

115,835.—WASHING-MACHINE.—Francis M. Ellis, Galva, Ill.

Claim.—In combination with an ordinary perforated and stationary board, the corrugated and water-tight board J, arranged vertically to force the water through the perforated board H, in the manner described.

115,836.—BEDSTEAD.—Charles F. Nahmmacher, Pittsburg, Pa., administrator of Henry Evert, deceased.

Claim.—1. A bedstead-frame, consisting of side and end rails and posts of angle-iron, substantially as described.

2. The side rails *a a*, having split ends, each flange of the rail being folded against and riveted to a flange of the posts *c c*, substantially as described.

3. The end rails *b b*, having split ends, each flange of the rail being folded against and riveted to a flange of the posts *c c*, substantially as described.

115,837.—PROJECTOR.—William Farini, London, England.

Claim.—1. The springs *f*, movable stage *e*, stem *i*, and projecting platform *h*, arranged, combined, and operating substantially as herein set forth.

2. The trigger-detent *m* and its operating means *p*, arranged to serve relatively to the stem *i* carrying the projecting platform *h* and forced upward, substantially as herein set forth.

3. The self-acting detent *j*, for allowing the return of the projecting platform *h* immediately after its rise, as herein specified.

4. The elastic beds *c' c*, arranged as shown relatively to the projecting platform *h* and stem *i*, so as to induce a gentle extinguishment of the velocity, as herein specified.

5. The entire machine or apparatus, adapted for projecting objects or persons through the air by the means of springs acting on a platform, *h*, which may be flush with a stage or floor, as herein shown and described.

115,838.—BOAT-DETACHING APPARATUS.—Hickman E. Foster, Decatur, Ill.

Claim.—The slots G H and stops *g h*, in combination with the block A and weighted hook B, the whole arranged and operating substantially as described.

115,839.—SCHOOL-DESK.—John H. French, Burlington, Vt.

Claim.—1. The combination of the devices consisting of the braces G, H, and I, and the rod K, for the purposes of opening, closing, supporting, and operating the desk, substantially as herein described.

2. The devices for operating the desk, in combination with the devices consisting of the legs E and the braces F, combined with the seat B and the standard A, for folding and supporting the seat, as herein described.

115,840.—PIN-CLAMP FOR RIVETING.—Edward L. Gaylord, Terryville, Conn.

Claim.—The armed perforation B, one or more clamps, C, provided with recesses and springs D, and shaft E having inclined projections *e'* formed upon its upper part, in combination with each other and with the block A, in which they work, substantially as herein shown and described, and for the purpose set forth.

115,841.—HOT-AIR FURNACE.—William B. Geddes, Rochester, N. Y.

Claim.—1. The drum H, constructed of a series of rings formed with the walls *d d* and pipes *k k*, in combination with the air-passages *b b*, dome C, exit-pipes D, shell cone N, and fire-pot G, the several parts being constructed and arranged to operate as herein set forth.

2. The shell cone N, dome C, air-passages *b b*, stove-pipe L, with the arms L' L' and thimbles M M, arranged and operating in connection with the drum H, composed of the series of rings provided with the walls *d d*, pipes *k k*, and drum resting upon the fire-pot G, and forming a continuation of the fire-space, substantially as set forth.

3. The water-basin P, arranged within the front part of the chamber B surrounding the fire-pot G, operating in connection with the passage *m* in the top of the ash-pit E, said opening *m* being opened and closed by the slide *n* and stem *p*, as herein shown and described.

115,842.—CARRIAGE-SEAT.—Simon Peter Graham, London, Canada.

Claim.—1. The sheet-metal top rail *a*, combined with the rod *b*, made in one piece with the side handles *c*, as specified.

2. The improved carriage-seat, constructed of the several parts combined and arranged as herein shown and described.

115,843.—BEE-HIVE.—Daniel M. Griffith, Alum Bank, Pa.

Claim.—The arrangement of the part A, inclined bottom C, hinged body B provided with the openings E and doors *e*, the honey-cap F having the openings G G and L, the comb-frames D, and the removable cover J with opening M and plate *m*, all arranged and operating substantially as and for the purpose set forth.

115,844.—MILLSTONE-ELEVATOR.—Joseph B. Hall, Lebanon, N. H.

Claim.—The improved arrangement of the devices herein shown, consisting of the crane-post A, the gears I K, crank M, shaft H, the bevel-gears G F, and screw B, all constructed, arranged, and operated substantially as shown and described, for the purpose set forth.

115,845.—CAR-COUPLING.—James B. Harper, St. John, Mo.

Claim.—1. The stationary draw-head C, provided with lips *q* at the front, which are separated throughout their length so as to leave a clear cavity through the draw-head, in combination with the link *m m'*, weight *o*, bar and rotary draw-head A.

2. The rods *h h*, forming at their junction a pivot-bearing for the shaft *a* of the draw-head, and passing through the plates *b b* and elastic blocks *i i*, as shown and described.

115,846.—DEVICE FOR INDICATING AND REGISTERING THE MOTION OF MARINE ENGINES.—Andrew R. Harris, St. Louis, Mo.

Claim.—1. The shaft A having cam B, in combination with the T-lever D and slotted bar C, arranged adjustably to post B', substantially as and for the purpose set forth.

2. The T-lever D, bar C, post B', in combination with the tablet F', rods G G', springs *g g'*, and indicating-knobs H H', arranged to operate as and for the purpose set forth.

3. The parts described in second claim, in combination with the cam-levers I I' I², light signals J J', metallic plates *j j'*, and knobs *i i'*, when arranged to operate as indicating and registering devices, substantially as and for the purpose set forth.

115,847.—ELECTRO-MAGNETIC INDICATOR FOR STEAM-ENGINES.—Andrew R. Harris, St. Louis, Mo.

Claim.—1. The arrangement of wheel B on shaft A, spring C, metal brackets C' C² having keys *c c'*, post B', in combination with electro-magnets E E', armatures *e e'*, target-levers G G', hands

f f^1, to indicate the motions of engine-shaft A, substantially as set forth.

2. The plate H, light-signals h^1 h^2, pointer I, arranged in tablet F, in combination with target-levers G G^1, armatures e e', and electro-magnets E E', to register the motions indicated, substantially as described.

3. The arrangement of keys l l^1, springs L L', brackets k k', electro-magnets K K', vibrating armature M carrying pointer f^2, in combination with electro-magnets J J^1, armatures J^2 J^3 carrying hammers j j^1, for signaling and registering the bells, substantially as set forth.

115,848.—SAWING-MACHINE.—John Harris, Grand Ledge, Mich.

Claim.—The platform-frame B, provided with platform b, line or rope H, and bearing-bar G, in combination with frame A, lever C, pitman D, and guides F, constructed and arranged substantially as and for the purposes set forth.

115,849.—BEE-HIVE.—H. Harvey, Meriden, Ill.

Claim.—The metal strip b, combined as described with the double comb-frames B, for the purpose specified.

115,850.—BEER-COOLER.—George M. Hasinger, Vicksburg, Miss.

Claim.—1. The combination of the ice-box H and the reservoir D and waste-pipe B, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the ice-box H and reservoir D and waste-pipe B, of the spaces I and J, substantially as and for the purpose hereinbefore set forth.

115,851.—ANGULAR STRAP-HINGE.—Charles F. Hawley, Kansas City, Mo.

Claim.—An angular strap-hinge, having the inward corrugation B at the vertex thereof as a truss to the angle.

115,852.—MACHINE FOR BENDING SPOUTS. Daniel Hayes and John Marten, Cambridge, Mass.

Claim.—The mandrel A, having one or more joints, D E F, in combination with curved dies, as and for the purpose set forth.

115,853, antedated June 2, 1871.—MECHANISM FOR POLISHING THE HEELS OF BOOTS AND SHOES.—Charles H. Helms, Poughkeepsie, N. Y.

Claim.—1. The straight-edge R, in combination with either one or both of the right-and-left-hand vertically-reciprocating heel-polishers L, substantially as hereinbefore set forth.

2. The heel-rest P, in combination with one or both of the right-and-left-hand vertically-reciprocating heel-polishers L, substantially as hereinbefore set forth.

3. The combination of the right-and-left-hand polishers L with the vertically-reciprocating polisher-holder E and upright of the frame A having the slots B and C therein, for the purposes set forth, and substantially as described.

4. The combination of the intermediate crank G with the reciprocating polisher-holder E and crank-pin I on the shaft J, substantially as set forth.

115,854.—ROTARY ENGINE.—Benjamin I. Henderson, Salem, Mass.

Claim.—1. A circular case having inner concavities B and convexities C, packing F, and outlet-ports H, combined with a drum having pivoted blocks P T, recesses I M, and inlet-ports N, all constructed and arranged as and for the purpose specified.

2. The arrangement of the small steam-inlet channels G with respect to the cylindrical packings F to cause them to make a steam-tight joint with the drum, as specified.

115,855.—HAIR-PIN.—Edward Hewitt and John McAuliffe, New York, N. Y.

Claim.—As an improved article of manufacture, hair-pins provided with knobs or enlargements on the ends of the prongs, substantially as specified.

115,856.—EXERCISING-CLUB.—Charles E. Hiester, New York, N. Y.

Claim.—The exercising-club described, consisting of the shaft C provided with holes, V to V^6, for the insertion of keys, and surrounded with concentric weights, the outer ones of which are tongued and grooved, all the parts being arranged and combined substantially as set forth.

115,857.—BUTTON-HOLE-STITCHING MACHINE.—Daniel W. G. Humphrey, Chelsea, Mass., assignor to himself and Eugene Humphrey, same place.

Claim.—The two separate feed-cams for spacing the stitches on the sides of the button-hole, in combination with an intermediate ring for spacing the stitches around the eye of the button-hole, substantially as described.

115,858.—PISTON FOR STEAM-ENGINES AND PUMPS.—John Adam Huss, Bowling Green, Ky., assignor to Bowling Green Improved Cylinder and Pump-Packing Company, same place.

Claim.—1. The armed sleeve B, placed around the piston-rod, within the expansion ring D, which has the noses b b, to be operated substantially as herein shown and described.

2. The spring F and adjusting-screw d, combined with the arms a, sleeve B, and expansion ring D, substantially as and for the purpose herein shown and described.

3. The adjusting-pistons H H, fitted within the sliding piston, and combined with the ports A A and adjusting-arms a to move the latter by steam-pressure, as set forth.

115,859.—WOVEN FABRIC.—Thomas Isherwood, Ramsbottom, England.

Claim.—1. The new or improved fabric as made with the main and auxiliary warps and the main and auxiliary fillings carried by separate shuttles, all as described, each longitudinal tubular stripe of such fabric having a thickness double that of the part of the cloth next adjacent to it, all as specified.

2. The mode, substantially as hereinbefore explained, of weaving such new fabric or cloth, viz., by the main and auxiliary warps, and by fillings carried by separate shuttles operating with the said warps, in manner as hereinbefore described.

115,860.—BENT SLEIGH-KNEE, BENCH, AND BRACE.—George Ives and Hiram Ives, Detroit, Mich.

Claim.—A sleigh-bench, a, knee b, and supplementary knee or brace c, when bent from one piece of timber, substantially as set forth.

115,861.—MECHANISM FOR TRANSMITTING POWER.—Frederick P. Jaquith, Hoosick Falls, N. Y., assignor to himself, Lyman W. Wilder, William Chapman, and Alvin Willey, same place.

Claim.—The arrangement of the belt-rim H, intermediate rolls or gears E, and central shaft C, for transmitting power from said rim to said central shaft, the parts operating together as and for the purpose described and represented.

115,862.—EGG-BEATER.—Henry F. Jenks and Thomas Marsh, Pawtucket, R. I.

Claim.—The arrangement and combination of gears G H E E', piece X, beater I, and eccentric beaters D D', when operating in the manner and for the purpose substantially as described.

115,863.—BED-BOTTOM.—Robert V. Jenks and William Allan Miller, Paterson, N. J.

Claim.—The two-part and pawled side rails F f^1 J, webbing G, roller I, ratchets K, cross-pieces H f^2, and stapled cross-bar L M, all combined, constructed, and arranged as and for the purpose specified.

115,864.—POWER FOR SMALL MACHINERY. Charles L. Johnson, Omaha, Neb.

Claim.—The combination of a weight, a, when hung outside a building, by means of pulleys b c g and a cord, d, with the mechanism placed inside the building for driving small machinery, as specified.

115,865.—APPARATUS FOR HEATING AND DRYING SAND, GRAVEL, &c.—Hiram R. Johnson, Detroit, Mich.

Claim.—In a sand and gravel-drying apparatus, the combination of crank-shaft F, rods G, scrapers E, cross-tie I, V-shaped slides K, and pivoted slide L, with the pan B and arch A, when constructed and operating substantially as and for the purposes set forth.

115,866.—CLOTHES-DRIER.—John Johnson, Perry, Ill.

Claim.—1. The arms E E, arranged in pairs, and having toes G G on their inner ends, combined as described, with a notched post, A B, for the purpose specified.

2. The rack H, combined as described with the lower part of post A for the purpose of receiving and supporting the arms, as set forth.

115,867.—DRIVING ATTACHMENT TO WASHING-MACHINES.—William M. Johnston, Wilmot, Ohio.

Claim.—The separate driving attachment for washing-machines, constructed and arranged substantially as herein described, in combination with the sockets d d, so as to be instantaneously attached and detached, for the purposes herein specified.

115,868.—COMBINED MACHINE FOR CUTTING, PUNCHING, AND BENDING TIRES. James C. Jordan, Watertown, Wis., assignor of one-fourth his right to Thomas Baxter and one-half to J. W. Mathes.

Claim.—The combination described of the frame A, levers B C, pinion D, and blocks E F.

115,869.—HYDRAULIC MOTOR.—Volney Kromer, Grand Rapids, Wis.

Claim.—1. The improved water-motor, consisting of the case A, piston-valves or gates A A' and O O', and the driving-shaft X and valve-operating gear, combined and operating substantially as specified.

2. The combination of case A, vibrating blade D, and the valves or gates A A' and O O', arranged substantially as specified.

115,870.—BLAST-HEATING FURNACE OR OVEN.—Gabriel H. Lagorce, Newcastle, Pa.

Claim.—1. A blast-heating apparatus or stove mounted on trucks so as to be removable at will from the gas-chamber, and replaced in like manner, substantially as described.

2. In a blast-stove mounted on wheels, the trunk-pipes B, constructed so as to be extended through the walls of the gas-chamber, and with suitable external connections, whereby the stove can be disconnected from the blast and furnace-pipes outside the chamber, substantially as described.

3. Two or more series of air-heating pipes of different diameters, arranged with reference to each other, substantially as described.

115,871.—TREATING SOLID AND LIQUID HYDROCARBONS.—Frederick Lambe, London, England.

Claim.—The herein-described process of treating paraffine and fatty oil, consisting, essentially, in reheating the clarified portion of the same, agitating it mixed with sulphuric acid for removing the colored matter, adding fuller's-earth, and mixing it with naphtha, as shown and described.

115,872.—SEWING-MACHINE.—John H. Lester, Brooklyn, N. Y.

Claim.—1. The shaft D recessed at the neck D^1, and connected, by a remaining part, D^2, with an enlargement having horns D^3, D^4, and D^5, when operated within a race, A, and adapted to serve, relatively, to a shuttle, C C', and to a needle and its connections, as herein set forth.

2. The combination of the shuttle C C', and the means provided therein for carrying and delivering the shuttle-thread, with the peculiarly-formed driving means D D^1 D^2 D^3 D^4 D^5, operating together in a sewing-machine, as herein set forth.

115,873.—APPARATUS FOR CARBURETING HYDROGEN GAS.—Charles B. Loveless, Syracuse, N. Y.

Claim.—The combination of generators D d D d, connections f, rigid arms F, and a gasometer, A, the generators d d being connected with the carbureter by means of flexible tubes g g', all arranged and operating substantially as described, for the purpose specified.

115,874, antedated June 10, 1871.—FEEDING DEVICE FOR CATTLE-STALLS.—Ariel H. Maham, Hamden, N. Y.

Claim.—The combination and arrangement of the perpendicular sliding partition G, guide-boards C C, and retaining-pins d d, the whole being combined with the manger and stanchion-frame of cattle-stalls, in the manner and for the purposes hereinbefore set forth.

115,875.—CULTIVATOR.—Philip Maier, Mapleton, Wis.

Claim.—The arrangement of the frame A, axle C, standards B having the self-locking pins e, the standards h, lever D, hinged strap j, and hook k, as herein shown and described, for the purpose specified.

115,876.—STEAM AND OTHER MOTIVE-POWER ENGINE.—Robert Mudge Marchant, London, England.

Claim.—The provision, between the working-cylinder of a steam or other motive-power engine and the generator-reservoir or other source of supply of the steam or other gaseous body, of one or more measuring-chambers and valves, substantially such as are herein described, whereby charges of the steam or other gaseous body are measured and cut off from the generator-reservoir or other source of supply before their admission to the working-cylinder, as herein set forth.

115,877.—PROCESS OF OBTAINING MOTIVE POWER.—Robert Mudge Marchant, London, England.

Claim.—The process, herein described, of obtaining motive power by compressing air in progressive stages and passing it at each stage through water, and finally passing it through a heater, and from thence to the cylinder of an engine, substantially as specified.

115,878.—SLIDE-VALVE.—Isaac Martin and Daniel B. Perrow, Lone Jack, Mo.

Claim.—1. The arrangement, in the valve-seat, of recesses or chambers B B, communicating with each other by the ports or passage b, substantially as and for the purpose set forth.

2. The pipe C' with oil-cup C, when arranged in communication with oil-recesses B B, in combina-

tion with supply-steam pipe e, substantially as set forth.

115,879.—REFRIGERATOR.—Peter McBride, New York, N. Y.

Claim.—An improved refrigerator, formed by the combination of the rectangular wooden case A, cylindrical concentric sheet-metal cases D F, disks or washers C E, ring G, cover B, stop-cock or faucet H, and waste-pipe I, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

115,880. — FINISHING VULCANIZED INDIA-RUBBER BELTING.—Charles McBurney, Boston, Mass.

Claim.—The within-described process of successively heating, stretching, compressing, and cooling the belting after it has been vulcanized, substantially as and for the purpose set forth.

115,881.—COMBINED CRANK, RATCHET, AND BRAKE.—Robert B. McElrath, Newburg, N. Y.

Claim.—1. The lever L L^1, with slot G and with pawl M and brake H attached, substantially as described, and for the purpose as set forth.

2. The lever L, in combination with slot G, pawl M, hub H, ratchet-wheel D, with friction-face K, drum A, shaft B^1 B^2, and latch N, substantially for the purpose as specified.

115,882.—NON-FREEZING HYDRANT.—Hugh Merrie, Cincinnati, Ohio.

Claim.—1. In combination with a hydrant, the double case A, extending below the surface of the earth, and filled with hydraulic cement A', or similar non-conducting material, substantially as and for the purpose set forth.

2. The combination of the hydrant C, hermetically-sealed air-chamber F, and double case A, extending below the surface of the earth, and filled with hydraulic cement A', or similar non-conducting material, substantially as and for the purpose set forth.

115,883.—GATE.—Gershom Mott, Big Run, Ohio.

Claim.—The arrangement of the elongated staples c, c^1, and c^2, adjustable loop c^3, and pin c^4, when constructed and operating together, as and for the purposes described.

115,884.—ANIMAL-POKE.—Fordyce M. Moulton, Ferrisburg, Vt.

Claim.—The poke A, forked at one end and curved at the other, substantially as and for the purposes described.

115,885.—KNIFE-SCOURER.—David S. Neal, Lynn, Mass.

Claim.—The above-described combination of wooden cap A with the loose plate D and gauze E, or a perforated sifter, and the cork B, all constructed and arranged substantially as set forth.

115,886. — BOOK-SUPPORT. — Crandall J. North, Auburn, N. Y.

Claim.—1. The upright A, made in three sections of wire, e g d, with its clip B and thumb-screw C, as shown and described.

2. The curved arms F, attached to the curved uprights G on top of the frame, and connecting-link o, forming a spring to hold it in position on the book, as shown and described.

3. The combination of the upright frame A in sections e g d, clip B, thumb-screw C, legs D constructed with ends e e, braces E E, cross-bar or support I, holder F, curved uprights G, and connecting-link o, all constructed and arranged as shown and described, for the purpose set forth.

115,887. — CONCRETE ASPHALTIC PAVEMENT. — William B. Parisen, Newark, N. J.

Claim.—1. Fine gravel, Portland cement, plaster of Paris, distilled coal-tar, and asphaltum, combined with the stone by incorporating and mixing it therethrough before the base of the pavement is laid, as and for the purpose specified.

2. The amalgam or bond used with the angular stone forming the base, as set forth.

3. My system of coating with pure hot liquid (as herein specified) between the wedging and first mastic and second mastic courses, and the mode of coloring the surface to a slate color, as set forth.

4. The asphaltic pavement, composed of the several courses, substantially as herein shown and described.

115,888. — COAL-SCUTTLE. — John Pfeifer, Philadelphia, Pa.

Claim.—The shoulders a' a' and slotted flanches a'' a'' on the arched guard A, and the headed stud 4 and turn-button 5 on the corresponding inner sides of the bod B, constructed and arranged to operate together, substantially as and for the purposes hereinbefore set forth.

115,889.—NUT-LOCK.—William H. Phipps, Southborough, Mass.

Claim.—The nut-lock described, consisting of bolt A, having wedge-shaped groove B and curved spring plate C I, substantially as described.

115,890.—LAMP-BURNER.—Seabury B. Platt, Derby, Conn.

Claim.—1. The combination, with the wick-tube A, of the flame-regulator, the latter being arranged for confining the wick against A, and for adjustment vertically to regulate the flame, substantially as specified.

2. The flame-regulator, having the spiral slots j acting on the segmental flanges h and operated by the ring N, substantially as specified.

3. The stationary tubes A, roughened at I and ribbed at k, as and for the purpose specified.

4. The suspended ring N, studded at n, combined with cylinder f, notched at i, for the purpose of enabling the latter to be turned in the manner described.

5. The said tube, having the flare or bell-mouthed upper end, for action, in conjunction with the flame-regulator, for confining the wick and limiting the thickness of the flame, substantially as specified.

6. The combination, with the regulator, of the ring O, either having slots corresponding to slots p or not, all substantially as specified.

7. The revolving flame-regulator, having wick-adjusting slots p, substantially as specified.

115,891.—LANTERN.—William Porter, Jr., New York, N. Y.

Claim.—The guard-hoop A, provided with the loop b, which is fitted through the flange of the canopy, for the purpose of receiving the fastening-hook, as set forth.

115,892.—METALLIC CARTRIDGE.—Timothy J. Powers, New York, N. Y.

Claim.—A center-fire cartridge-case, having the butt perforated for the purpose of priming, when there is combined with it a gas-check that is formed and applied and fastened to the butt of the case as described, substantially as and for the purpose specified.

115,893. — RAISIN-SEEDER.—George Pratt, West Roxbury, Mass.

Claim.—1. The grate-jaw D and compressing-jaw C, in combination with lever or cam-flange F of wheel E, substantially as described.

2. The grate-jaw D and compressing-jaw C, provided with tail-pieces K and L, in combination with spring J, substantially as and for the purpose specified.

3. The retainer or rest H, operated by cam-groove G of wheel E, in combination with a grate-jaw, D, expelling-jaw A, and compressing-jaw C, substantially as described, for the purpose specified.

4. The expelling-jaw A or compressing-jaw C, or both, constructed with a bevel-sided opening, S, and perforated plate f, backed with soft solder, substantially as and for the purpose described.

5. The floor R, attached to and in combination with a moving jaw of the raisin-seeder, substantially as and for the purpose set forth.

115,894. — SUN-STROKE PROTECTOR FOR HEAD-COVERINGS.—Hellwig Prévôt, New York, N. Y.

Claim.—1. The sun-stroke protector, consisting of the box A, with the flexible water-tight bottom a, substantially as herein shown and described.

2. The double cover b d, combined with the box A and flexible bottom a, substantially as herein shown and described.

3. The combination, with the hood B, of the box A, as specified.

115,895. — HOSE-PIPE. — Adam R. Reese, Phillipsburg, N. J.

Claim.—As a new article of manufacture, the hose within described, consisting of the pipes B having the flared ends C, flexible connections A, and rings D, when all are combined, substantially as specified.

115,896. — BOOK-BINDING.—John L. Rile, New York, N. Y.

Claim.—The method herein described of making file and sample-books, with the aid of removable guards, as set forth.

115,897. — SNAP-HOOK. — Julius Robbins, Auburn, N. Y.

Claim.—1. The construction and arrangement of the hook A with its open socket a, loop cross-pin b^1, and pin-follower e, and the tongue B with its open socket b and cam f, the whole arranged and operating as described.

2. The tongue, provided with a cam, f, and an opening or socket, b, permitting it to be applied to the cross-pin b^2 of the loop C, in connection with the pin-follower e, as described.

115,898.—ADJUSTABLE MIRROR.—George S. Roberts, Meredith Village, N. H.

Claim.—1. The spring pulley C or its equivalent, cord E, bar B, friction-lever F, and glass A, arranged to operate substantially as and for the purposes described.

2. In combination with the glass A, arranged as above described, the glass J, jointed rod I, and swivel-rod L, substantially as and for the purposes herein shown and described.

3. In combination with an adjustable mirror or glass, A, the friction-lever F, either with or without the pulley C.

4. A pair of mirrors, A J, connected together, and rising and falling in unison, as and for the purpose specified.

115,899.—MOP.—Thomas F. Rooney, Chicago, Ill.

Claim.—1. The combination of the ring G, arms H, and rollers I with a mop-head provided with a rest or stop, N, substantially as and for the purposes specified.

2. The combination of a mop-head with a wringer arranged to slide thereon, substantially as and for the purpose set forth.

3. In combination with the wringing-rollers I, when mounted in the sliding arm-heads K, the springs J, as and for the purpose set forth.

4. The combination of the screw-piece C, provided with a groove, b, about its lower end, with the socket D and pin a, for the purpose of loosely connecting the socket to the screw-piece in such manner that the former will turn freely about the latter.

115,900.—ROLLER AND MARKER FOR PLANTING. — Frederick Roth and Bernhard Fürst, Lacon, Ill.

Claim.—The frame A, provided with a jointed tongue, and having side bars extended rearward, and beveled to form shoes or supports for the marking device when the same is elevated, as set forth.

115,901.—WATER-HEATER. — David Smith and John Lynch, Boston, Mass.

Claim.—1. The fire-box D, (with the cells G and water-back H_1,) cast in a single piece, substantially as and for the purposes described.

2. The combination of the shell F and base A with the fire-box D, arranged substantially as and for the purposes herein shown and described.

115,902.—DOOR FOR STOVES.—George W. Smith, New York, N. Y.

Claim.—The brace D, constructed of the tube d and rod e, in combination with the door or shelf B and plate A, as shown, and for the purpose set forth.

115,903.—SAW-MILL.—Edward H. Stearns, Erie, Pa.

Claim.—1. The wheel G provided with vertical flanges r and r, and the V-shaped grooves, and the counter-formed top g of the rail D, constructed, arranged, and operating for the purpose described.

2. The wheel G provided with the axle s, having end bearings, as described, in combination with the saw-carriage A provided with scrapers o n, head-block B, knee C, and gib-headed dog g, all constructed in the manner and for the purpose specified.

3. The combination of the windlasses mounted upon the sliding knees C C C and upon the shaft E, revolving in conjunction with the movement of the knees with the described saw-carriage, constructed and operated substantially as and for the purposes set forth.

4. The combination of the lever m with the hand-dog n, pivot V, and sliding knee C, as a device for locking said dog, constructed and operating as described.

115,904.—THROTTLE-VALVE GEAR.—Charles A. Stewart, Aspinwall, U. S. of Colombia.

Claim.—The combination of the throttle-valve with the levers B, strap C, eccentric D, shaft E, and lever F, all arranged substantially as herein shown and described.

115,905, antedated June 2, 1871.—TRUNK. Ninian Stewart, Detroit, Mich.

Claim.—The trunk A, provided with the slides C, table-top D, mirror E, and braces G G', all the parts being constructed and arranged substantially as described and shown, for the purposes set forth.

115,906. — STOVE-PIPE JOINT. — William Stine, Elmore, Ohio.

Claim.—Connecting stove and other pipe by means of an adjustable ring expanded by a cam constructed, arranged, and operated substantially as described.

115,907. — PLOW. — John Thomas Story, Magnolia, Ark.

Claim.—The screw-threaded standard A, cross-bar a, pivoted handles D, forked plow-beam C d e, adjustable brace i, and plowshares B j, all relatively constructed and arranged as herein shown and described, for the purpose specified.

115,908.—HAME-FASTENER.—Alvah Sweetland, Syracuse, N. Y.

Claim.—1. The link A, closing lever B, and hooked bar C, the said bar C having nibs or projections c c, and the lever B having rails e e, that embrace said projections c to lock the lever in the closed position, all constructed and arranged substantially as specified.

2. The detachable throat-blocks F f, in connection with the link A, lever B, and bar C, as and for the purpose described.

115,909.—HORSE HAY-RAKE. — Martin W. Trescott, North Canaan, Conn.

Claim.—The attachment of the rake to the truck-

frame by the flexible drawing-straps D and pivoted bars E, the lifting-rope G and the lever F, and the bar N O and lever L, all substantially as specified.

115,910.—FLAX-HARVESTER.—Samuel W. Tyler, Troy, N. Y.

Claim.—1. The combination of retracting gathering-arms *h*, with the pulling devices of a flax-harvester, substantially as described.

2. The frame A, constructed in one piece with the standard *a*, bearing a^1, and stirrup a^2, and applied for the purpose and in the manner substantially as described.

3. The endwise adjustable supporting-boards D, supported and arranged substantially as described.

4. The swath-guide or director *J*, arranged in rear of the flax-pulling devices, substantially as described.

115,911.—BREECH-LOADING FIRE-ARM.—Silvanus Frederick Van Choate, Boston, Mass.

Claim.—1. In a breech-loading fire-arm, substantially such as described, the combination with the rear end of the barrel of a rotating and sliding bolt, having a recessed front end to receive the rear of the cartridge-shell and a notch or equivalent formation in said recess into which a portion of the shell is forced, by the explosion of the cartridge, under the arrangement shown and set forth, so that the cartridge-shell shall be started by a rotary movement of said bolt, and then withdrawn from the barrel by the sliding movement of the same.

2. In combination with the elements named in the preceding clause, a cartridge-ejector, arranged and operating substantially as shown and described.

3. The breech-bolt, provided with hemispherical or equivalently-formed cavity in its front end, and a notch or score, *k*, formed in said cavity, in combination with the ejector, hinged to said bolt in such position that its front end shall form part of the wall of the said cavity or recess, as set forth.

4. The arrangement, herein shown and described, of the breech-bolt, the ejector hinged to the recessed front end of said bolt, and the block d' of the trigger in the slot m' formed in the bolt, said parts being constructed and operated as set forth.

5. The combination of the breech-bolt, the firing-pin, the grooved collar *q* and collar *r*, the block d^1, and trigger E, under the arrangement and for operation as shown and set forth.

6. In combination with the breech-bolt, trigger, firing-pin, and collars *q r*, the scar a^1, operating in connection with said parts, substantially as herein shown and set forth.

7. The scar a^1, united with the breech-bolt, in the manner and by the means herein shown and described.

115,912.—METALLIC TILE FOR ROOFS.—Cornelis G. Van Pappelendam, Charleston, Iowa.

Claim.—In tiles for roofs, plates formed with ridges a^1 a^2 a^3, two tiles thus making a covered channel, as shown in fig. 2 of drawing, to prevent the wind from driving the water over the second ridge.

115,913.—CARRIAGE-AXLE.—Ernest Friedrich Wagner, Houston, Texas.

Claim.—1. The linch-pin H J, washer D, pipe-box E with oil-recess *f*, sleeve B provided with recess *g* and collar C, arranged as shown and described, in connection with the axle-journal A, made square in cross-section, as shown and described.

2. The sleeve B provided with collar C, and the pipe-box E having oil-recess *f*, arranged in connection with the square axle A, as specified.

115,914.—LUBRICATING ARRANGEMENT FOR AXLES OF WAGONS.—Charles A. Wakefield, Pittsfield, Mass.

Claim.—An axle having a perforation, D, starting in the screw-thread *b* at its outer end and upper side, and extending downwardly to near its mid-length, in combination with the nut C having perforation *c*, arranged for operation, substantially as specified.

115,915.—WRITING-INK.—Edward F. Walsh and Sanford Duryea, Brooklyn, N. Y.

Claim.—The compound denominated writing-ink, of the ingredients, in the proportions, and for the purposes set forth.

115,916.—REVOLVING FIRE-ARM.—Franklin Wesson, Worcester, Mass.

Claim.—The combination of the filling-pieces *a* or a' with the frame of a revolving fire-arm, substantially as and for the purpose herein described.

115,917.—HOSE-COUPLING.—Levi Wharton, Salem, Ohio, assignor to Amos Rank, same place.

Claim.—1. The combination of the flaring socket, its internal lip, the tapering plug, and the spring-hooks on the plug, interlocking with the internal flange on the lip, all these members being constructed to operate in combination, substantially as hereinbefore set forth.

2. The combination of the socket, its internal flange, the gasket E resting on the flange, the plug inserted in the socket and bearing on the gasket, the packing-ring surrounding the plug, the spring-hooks on the plug, and the lip in the socket into which they interlock, all these members being constructed to operate in combination, substantially as hereinbefore set forth.

115,918.—STEAM-PUMP AND FIRE-ENGINE.—James W. Whitaker, Kenosha, Wis.

Claim.—1. The cold-water tank, arranged with the condensers for having the water forced through it, and provided with the weighted valve *p* in the escape-pipe and injecting-pipes *g*, with valves therein, all operating substantially as specified.

2. The arrangement, with the piston-valve and steam-chest L, of the valve O W, weighted lever X, floats, and the cranked rod thereof, all substantially as specified.

115,919.—Suspended.

115,920.—CHILD'S CARRIAGE.—John B. Wightman, Brooklyn, N. Y.

Claim.—Pivoting the body to a child's carriage or perambulator in such manner as will admit of its position being reversed, as and for the purposes specified.

115,921.—FURNACE FOR SMELTING LEAD ORES.—John V. Woodhouse, Mine La Motte, Mo.

Claim.—1. The arrangement of a reservoir or water-back, C, partially or wholly surrounding the top of a hearth, A, substantially as and for the purpose set forth.

2. The reservoir C, its bottom flange *c*, air-chamber E, tuyere pipes *c*, openings c^1, slides c^2, in combination with a hearth, A, projecting openings c^1, and flanges *c*, substantially as set forth.

3. The projecting ledges having openings c^1, substantially as set forth.

4. The reservoir C, air-chamber E, tuyeres *c*, openings c^1, tank or boiler D, supply-pipe *d*, return-pipe d', arranged in combination with a hearth, A, substantially as set forth.

115,922, antedated May 30, 1871.—PAPER-CUTTER.—Joseph Worell, Philadelphia, Pa.

Claim.—The combination and arrangement of the scorer C, adjustable collar B, and shaft A, substantially in the manner and for the purpose above described.

115,923.—STOVE-WAITER OR SHELF.—Charles D. Wright, Leesville, Conn.

Claim.—In combination with toasting-shelf, the yoke C D E F, band G, and screws H I I, constructed and arranged as and for the purpose specified.

115,924.—COMPOSITION PAVEMENT.—Anton Georg Anderson, Hoboken, N. J.

Claim.—The composition herein described, substantially as and for the purpose set forth.

115,925.—SEWING-MACHINE.—George W. Baker, Wilmington, Del.

Claim.—The arrangement on the shaft of the disk *e* having lateral eccentric e^1, and rod *g* having projection *h*, reacting spring h^7, and arms g^1 g^2, all constructed and arranged, with reference to the frame A B, substantially as and for the purpose specified.

115,926.—ELECTROPLATING WITH TIN.—John Edward Bingham, Victoria Park, Sheffield, Great Britain.

Claim.—The solution, composed of tin, potassic hydrate, cyanide of potassium, and calcic hydrate, substantially as and for the purpose herein specified.

115,927.—SCREW-CAP FOR CANS.—Louis R. Boyd, New York, N. Y.

Claim.—1. A metallic mouth-piece for cans and other vessels, having at its lower end a screw-thread, and at its upper end a nose or spout, substantially as described.

2. The combination, with a mouth-piece having the character described, of a screw-stopper, substantially as set forth.

115,928.—STEAM-ENGINE.—Gilbert Bradford, Watertown, N. Y., assignor to The Portable Steam-Engine and Manufacturing Company, same place.

Claim.—1. The arrangement of the engine-cylinder within a sectional steam-dome forming part of the man-hole of the boiler, substantially as shown and set forth.

2. The steam-dome, constructed in two sections, the upper of which contains the steam or engine-cylinder, substantially as herein shown and set forth.

3. The combination of the steam-cylinder with the base of the steam-dome and the boiler, substantially in the manner herein shown and described, whereby the base of the dome forms at once a part of the man-hole and a foundation for one end of the engine, and can be uncovered to open the man-hole into the boiler by removing the cylinder or the dome portion inclosing it.

4. The feed-water heater, arranged within a chamber in the steam-dome, substantially as shown and described.

5. The combination of the heater with an inclosing-chamber formed in the base of the dome, and communicating with the steam-cylinder exhaust under the arrangement shown and described.

115,929.—COTTON-SEED PLANTER.—Thomas E. C. Brinly, Louisville, Ky.

Claim.—1. The arrangement of the shovel C upon the frame of the machine and directly in front of the driving-wheel, for the purpose of opening a furrow for said wheel to run in, and for the reception of the seed as it passes from the seed-box.

2. The combination of the vertically-adjustable driving-wheel, the seed-box, and the seed-distributing wheel, and the mechanism for operating said distributing-wheel, the parts being constructed and arranged upon runners, substantially as and for the purpose specified.

3. The combination of the vertically-adjustable driving-wheel and the frame of the seed-planting machine, the whole being arranged upon runners, substantially as and for the purpose set forth.

4. The combination of the seed-coverer F F' and the frame of a seed-planting machine when such frame is carried upon runners, substantially as and for the purpose set forth.

115,930.—NOTATOR FOR MUSIC.—Samuel R. Brooks, St. Louis, Mo.

Claim.—1. The hollow markers R, adapted to contain a crayon, pencil, or any suitable marking material, and employed in combination with the levers L, wires or cords E, and carrying-rollers T T^2, V V^2, substantially as described.

2. The adjusting-plate F, when constructed and applied as described, in combination with the wires or cords E, for the purposes specified.

115,931.—PRESERVING WOOD.—Samuel P. Brown, Washington, D. C., assignor to himself and William E. Shaw, Portland, Me.

Claim.—The process of ironizing wood, substantially as described.

115,932.—SHINGLE-MACHINE.—George Challoner, Omro, Wis.

Claim.—1. In a shingle-machine having one horizontal saw and two carriages, the carriages D D' and their operating mechanism, when constructed and combined to operate substantially as and for the purposes herein set forth.

2. The adjustable yoke *d*, in combination with the carriage D or D' and the crank-shaft F *f*, substantially as and for the purposes set forth.

3. In connection with the eccentrics h^5 h^6 and shaft F *f*, constructed to operate as herein described, the pin *a* and collar a', substantially as herein set forth.

4. In connection with the eccentrics h^5 h^6, the shafts F *f* H^1 H^2, and the gear-wheels h^3 h^4, arranged and operating as described, the movable shaft H, the friction-wheels *h* h^1, and the hand-lever b', substantially as herein set forth.

5. The combination of the gauge ratchet and pawl *l* with the feed-ratchet l^1 and dog l^2, substantially as and for the purposes specified.

6. The combination of the pivoted lever M with the pins *m n*, the adjusting-screws, and the oscillating grate and cam-shaft, substantially as and for the purposes specified.

115,933.—WHEEL FOR ANIMAL-TRAPS.—William F. Collier, Worcester, Mass.

Claim.—1. A wheel for animal-traps, constructed substantially as herein described, with tread-bars F, corrugated holding-band and inner supporting-head, substantially as specified.

2. The combination, with the tread-bars F, of the corrugated holding-band H, substantially as and for the purposes set forth.

3. A wheel for an animal-trap, composed of a center disk, G, radial and horizontal wires F F^1 F^2, corrugated band H, and head-disk I, said parts being constructed and combined together, substantially as shown and described.

115,934.—MACHINE FOR ORNAMENTING PRINTERS' RULES.—James M. Conner, Brooklyn, N. Y.

Claim.—1. The combination of the screw-shaft G, clamping bed-plate B, and cam-shaft J actuating the tool-stock R, substantially as described, for producing wavy lines upon printers' rules, as set forth.

2. The combination, with the screw-shaft G and clamping bed-plate B, of the pattern feed-wheel *a* actuated by a pawl from the shaft J, substantially as described, for the purpose of producing crosswise or angular cuts or lines on the rules.

115,935.—PYROTECHNIC NIGHT-SIGNAL.—Martha J. Coston, Washington, D. C.

Claim.—1. The case C, consisting of the outer and inner parts *e* and e', having the friction composition and quick-match arranged between them as described, and for the purpose set forth.

2. The signal-holder Z, with its spring H and steel points I, constructed as described.

115,936. — Railway-Switch Signal.—Alonzo W. Cram, St. Louis, Mo.

Claim.—The spindle J, provided at its upper end with the signal N and colored lantern M, and having on its lower end the pinion I, said spindle J being attached to the switch-lever C, as shown, in combination with the lever C, rack H, and guide-bars G, all constructed, arranged, and operated as set forth.

115,937.—Water-Meter.—Joseph W. Cremin, New York, N. Y.

Claim.—1. A water-meter, in which is combined the case A, shaft *a*, ring *f*, and arms *e*, as specified.

2. In combination with the foregoing, the case A, tube *j*, and valve *m*, as set forth.

115,938.—Loom.—John Storey Davies and Walter Edward Yates, Manchester, Great Britain.

Claim.—1. The rod or shaft *a*, with its arms carrying the rods *e f* and its arms *g*, in combination with the warp-beam, the cords *k k*, spring *i*, and pulleys *l l*, the whole operating substantially as described.

2. The combination of the above and a device, substantially as described, for tightening and releasing the cords *k*, as set forth.

3. A reed, consisting of a central row of stationary dents, and at each end a series of dents separated by elastic washers, as and for the purpose described.

4. The adjustable swell *d*, in combination with the brackets *c* and stop-rod *f*, substantially as set forth.

115,939. — Corn-Sheller. — Lloyd Day, Baltimore, Md.

Claim.—1. The shelling-palms K L, constructed as herein shown and described, consisting of the slotted shanks *w*, with extended fingers *s'*, and provided with curved tines *s* on the upper side of said shanks, substantially as and for the purposes herein set forth.

2. The arrangement of the spiral springs *l l* upon the extended fingers *s'* of the palms K L, as and for the purposes described.

3. In combination with the stationary annular plate D and revolving annular plate *c*, the middle plate C, when provided with recesses *n n*, incline planes *a a*, and slots *d d*, substantially as and for the purposes herein set forth.

4. In combination with the shelling-palms K L and escaping-rollers F F, the yielding guides *b b*, when all such parts are constructed as described, and arranged to operate substantially in the manner and for the purposes specified.

5. The arrangement, in relation to the shelling-palms K L, constructed as described, of the relieving or escaping-rollers F F, as and for the purposes described.

6. In combination with a corn-sheller constructed substantially as described, the feeding attachment herein shown in figs. 11 and 12 of the drawing, when the several parts thereof are constructed and arranged to operate substantially in the manner specified and set forth.

115,940. — Water-Meter. — Augustus M. de Souchet, Evansville, Ind.

Claim.—1. The rotating or oscillating valve D, in combination with its operating rod, substantially as described.

2. The spring G, operated by the piston, in combination with the adjustable stud G', substantially as set forth.

3. The cylinder A, piston B, valve D, spring G, adjustable stud G', valve-rod I, and disk K, when all are combined to form a water-meter, substantially as described.

4. In combination with the valve D, the spring *o*, stem *d*' with its shoulder *e'*, and sleeve *e*, substantially as shown and described.

115,941. — Bee-Hive.—John Detrick and William B. Niven, Bellefontaine, Ohio, assignors to William B. Niven, same place.

Claim.—1. The combination of the protected induction-aperture H, the eduction-apertures *k*, the perforated bent tubes K, and protecting-cups *k'*, all constructed and arranged as herein described, for the purposes set forth.

2. The casing A, constructed with continuous sides extending from the bottom of the brood-chamber to the top of the store-chamber, in combination with one or more bottomless boxes, L, inclosed within said sides, the cap or cover I, and the projecting base D, all substantially as described.

3. The combination of the case A D, vertical frames *a'*, lighting-stand E, inclined support F, air-aperture H, side apertures *k*, and tubes K, and constructed and arranged substantially as and for the purposes set forth.

115,942. — Lifting Apparatus.—Charles H. Douglas, Hartford, Conn., assignor to William A. English, same place.

Claim.—1. The combination of the rod *c*, bevel-gear *z*, bevel-gears *x x x*, screw-rods *s s s*, and nuts *o o o*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

2. The combination of the rod *c*, springs *j j j*, rods *l l l*, pulleys *m m m*, forked nuts *o o o*, screw-rods *s s s*, gears *x x x*, and bevel-gear *z*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

3. The combination of the rod *c*, tube *d*, rod *f*, swiveled cross-bar and handles *h i i*, the springs *j*, and pulleys *m m*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

4. The combination of all the parts specified in the preceding clauses with the table *a*, legs *b b b*, and scales *t t t*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

115,943.—Sheet-Metal Can.—John G. Evenden, Chicago, Ill.

Claim.—1. The combination of a sheet-metal can, C, with a series of longitudinal wooden strips, W W, arranged around it with their edges parallel but not in contact, said strips being clasped firmly against the body of the can by means of hoops A A, and supported by the wooden base B, substantially as and for the purposes specified.

2. The supporting-hoop *i*, constructed with the large wire at its upper edge as described, and applied to the can in combination with the strips W W, which rest upon it and bear against the under side of the wire or rib formed by it, substantially as and for the purposes set forth.

115,944.—Device for Applying Remedies to the Ear.—Joseph Fanyon, Bridgeport, Conn.

Claim.—The pipe A, provided with the bulb B, flexible tube C, and mouth-piece D, constructed substantially as shown and described, and used for the purpose of applying remedies to the ear, as herein set forth.

115,945.—Weather-Board Gauge.—Henry Fellows, Bloomington, Ind.

Claim.—The combination of the cleat D having a rounded top, as described, nail E, staff A with scale, block B, and thumb-screw C, when arranged, constructed, and employed as and for the purpose set forth.

115,946. — Apparatus for Preserving Wood by the Robbins Process.—John W. Fielder, Princeton, N. J.

Claim.—1. The combination of the kiln *a*, boilers *d*, reservoir *e*, receptacle *j*, and pipes *f i*, as specified.

2. The combination of the kiln *a*, pipes *p*, and loaders *q*, as described.

3. The kiln *a*, provided with gutters *k* in the floor sloping from each end toward the center, as explained.

4. The kiln *a*, packing *w*, door *v*, and screws *s*, combined as set forth.

115,947.—Preparing Grain for Food.—R. Berkeley Fitts, Philadelphia, Pa., assignor to himself and George W. Waitt, same place.

Claim.—1. The within-described treatment of grain to the purifying and cooking by steam, followed by dry heat, for the purposes specified.

2. The product of the above-described treatment as a new commercial article.

115,948.—Invalid Bedstead.—Frederic G. Ford, Washington, D. C.

Claim.—1. In combination with the webbing or other suitable material forming the couch, constructed as described, a yielding bottom, H, arranged beneath the former, substantially as and for the purpose described.

2. In combination with the stationary frame or rails G, an inner frame, L, to which the webbing or canvas is rigidly attached, the two frames G and L being connected in a detachable manner, so that the head may be elevated or the foot lowered, substantially as set forth.

115,949.—Machine for Cutting Round Belts.—John C. Foster, New London, Conn.

Claim.—1. The combination of the feeding-slide C and pin E, the vertical and horizontal knives F and G, with the adjustable frame H, the spiral-spring presser I, and adjustable guide and gauge J and J', as shown and described.

2. The combination of the cutting-tube R and square unyielding die-tube S, as shown in fig. 2, the whole being constructed and arranged as described, for the special purpose hereinbefore set forth.

115,950.—Process and Apparatus for the Manufacture of Sparkling Wines.—William Gilham, Richmond, Va.

Claim.—1. The process of producing sparkling wine by its own fermentation in bulk, by inclosing it in tight vessels provided with suitable pipes and cocks, and causing the wine to become charged with the gas generated by its own fermentation under any required amount of pressure, substantially as herein set forth.

2. An apparatus comprising an exterior closed vessel, A, and open interior vessel B, in connection with a series of pipes or tubes, C D E, provided with cocks *c d e*, safety-valve I, and pressure-gauge J, all constructed, arranged, and operating substantially as and for the purpose herein described.

3. An apparatus comprising an exterior closed vessel, A, and interior closed vessel B, in connection with a series of tubes, C F' F G D E, provided with cocks *c d e*, safety-valve I, and pressure-gauge J, as and for the purposes herein specified.

4. The compound three-way cock H, having three sets of openings, $h\ h^3$, $h^1\ h^4$, $h^2\ h^5$, provided with conical valves or plugs $h^6\ h^7\ h^8$, substantially as and for the purposes specified.

5. The flanged wrought or plate-metal tank A, having a cast-metal head, A^2, with a single opening, a^2, in combination with the three-way cock H, pipes C D E, and interior vessel B, substantially as and for the purposes described.

115,951.—Atmospheric-Pressure Attachment for Dental-Plates.—James P. Gillespie, San Francisco, Cal.

Claim.—Corrugating the flexible disk on the side next to the plate, or corrugating the plate under the disk.

115,952. — Oscillating Engine. — John Goulding, Worcester, Mass.

Claim.—An oscillating engine having at each end of the cylinder the oppositely-arranged ports, communicating alternately with and being alternately cut off from the corresponding opposite inlet-ports and the opposite exhaust-ports, the pressure of the fluid being upon the opposite port-covers when the inlets are closed, all substantially as described.

115,953.—Lamp-Burner.—William H. Gray, St. Louis, Mo., and Samuel Ross, Washington, D. C.

Claim.—In a lamp-burner, the combination of the perforated shell B, wick-tube A, air-tube D D', and perforated flange *d* on the latter, all the parts being constructed and arranged with reference to one another, substantially as and for the purpose set forth.

115,954.—Corset.—Thomas F. Hamilton, New Haven, assignor to himself and Morris P. Bray, Birmingham, Conn.

Claim.—As an improved article of manufacture, a corset cut and formed substantially as herein described.

115,955.—Argand-Lamp Burner.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Haydens, same place.

Claim.—1. The tube *r*, introduced between the wick and the tube *a*, in combination with the said tube *a*, air-tube *c*, and lateral opening to hold a flat wick in a cylindrical form between said tube *r* and air-tube *c*, as set forth.

2. The tube *r*, made with a screw, in combination with the wick-holder *i*, air-tube *c*, lateral inlet, and tube *a*, substantially as set forth.

3. The sleeve *s*, in combination with the tube *r*, wick-tube *a*, air-tube *c*, and lateral inlet *f*, substantially as set forth.

4. The removable chimney-holder *d*, in combination with the sleeve *s*, tubes *r* and *a*, air-tube *c*, and lateral inlet, substantially as set forth.

115,956.—Hot-Air Furnace.—Shubael E. Hewes, Albany, N. Y.

Claim.—1. The pipe G, constructed and employed substantially as described, to conduct gases from the upper part of the magazine and deliver them in a heated state within the combustion-chamber.

2. The inner annular chamber E^2, supplied with cold air directly from the exterior, surrounding (excepting at the fuel-feed door) the sides and top of the magazine I, and surrounded on its own sides and top by the continuous smoke-flue L', as herein represented and described.

3. The two annular chambers E^1 and E^2, each supplied independently with air from the exterior, and communicating at top through pipes *e*, in combination with the annular smoke-flue L' interposed between the vertical sides and also between the upper parts of said air-chambers, as explained.

4. The connecting crown plate T *t t'*, constructed and employed substantially as and for the purposes set forth.

5. The drum K', constructed with partitions P P', arranged substantially as herein described, in combination with the damper Q, shaft or pivot R, and weighted arm S, arranged to operate substantially as described.

115,957. — Heating-Stove. — Shubael E. Hewes, Albany, N. Y.

Claim.—1. The coupling-bars B, employed to connect the sides A and crown C of the furnace, substantially as herein described.

2. The pivoted arms E, when constructed and arranged as herein represented and described, to form a close or continuous bottom in connection with the bars of the grate D, or to pass up between the said bars, for the purpose of stirring or shaking the burning fluid.

3. The combination of the furnace A, door or damper O, conductor P p, hot-air flue formed of the trays Q R S, and discharge-flues T K, substantially as and for the purposes set forth.

4. The air-discharge door or register N, one or more, in combination with the furnace A and casing M, substantially as described.

5. The continuous end plates A^1 A^2 extending from the base H to the top of the drum J, cast with flanges for the reception of the drum J, casing M, and the plates A B of the furnace, substantially as described.

6. The shield L, for protecting the sheet-iron drum and heating air admitted within the latter to effect the combustion of the gases.

7. The register f, in combination with the drum J and furnace A, substantially as described.

115,958. — HEATING-STOVE. — Shubael E. Hewes, Albany, N. Y.

Claim.—1. The extended grate D D^1, constructed and adapted for use in manner substantially as and for the purposes described.

2. The combination of the fire-chamber F and the crown I, when constructed and arranged as specified.

3. The combination of the oblong fire-chamber F and the surrounding casing E, substantially as described.

4. The combination of the casing E, open at top, and the conical hood G, constructed and arranged substantially as and for the purposes described.

5. The combination of the register k with the flue K, casing E, and hood G, substantially as and for the purposes set forth.

6. The double conical valve L, constructed and applied substantially as described within the enlargement K′ of the discharge-flue.

7. The combination of the two doors R and S with the crown I, air-casing E, and fire-place F F′, as described.

115,959.—BASE-BURNING STOVE.—Shubael E. Hewes, Albany, N. Y.

Claim.—1. In a stove, constructed substantially as herein described, the continuous casing E surrounding the stove, from the hollow base B to the top O, and employed in connection with the base ducts and the two sets of registers b^1 and O′, substantially as and for the purposes explained.

2. The combination of the upper combustion-chamber F^2, fire-pot F F^1, register i^2, and annular plate L, as and for the purposes specified.

3. The fire-pot F F^1, constructed of two converging portion, connected by a joint, f, and secured by means of short wires G to the plate B^2, substantially as herein described.

4. The annular air-heating plate H, constructed and applied in connection with the fire-pot F and grate D, and air-ducts h, substantially as and for the purposes specified.

5. The magazine I I′, constructed in separable parts, connected through the medium of the plate B^2, to admit of the removal and renewal of the lower part I′ when required.

6. The combined arrangement of the horizontal annular plates L L′ and vertical partitions M^1 M^2 M^3, adapted substantially as herein described, to impart a serpentine course to the heated gases on their way from the fire-chamber to the discharge-flue K.

115,960. — WOOD PAVEMENT. — Lysander Hill, Alexandria, Va.

Claim.—1. A wood pavement-block, having its under side formed of two oppositely-inclined surfaces extending entirely across the block, for the purposes specified.

2. A pavement consisting of the blocks B, interlocking with each other, as shown in fig. 3, and having the spaces filled with concrete, asphalt, or tar and gravel, substantially as described.

115,961.—CHIMNEY.—Seth Hopkins, Napoleon, Ohio.

Claim.—The sectional chimney, herein described, built of horizontal sections A superposed upon one another, and secured by the double dovetail keys B B, as specified.

115,962.—TOY-RING.—William Hutchings, Newark, N. J.

Claim.—The ring a, with flanges b b, in combination with the holder c, substantially as shown, and for the purpose specified.

115,963.—MOTIVE-POWER ENGINE.—John Stuart Johnstone, Ayr, North Britain.

Claim.—The arrangement and construction of motive-power engines, wherein the motive force employed is that due to the surplus units of velocity of a falling weight over and above the unit of distance through which it has fallen in any given time, and caused to act upon spring-balances, which in turn effect the reactions hereinbefore described.

115,964. — CAR-COUPLING. — Tolbert Lanston, Washington, D. C.

Claim.—1. The draw-head A, having the lateral walls of its bell-mouth notched at G G, and recessed above and below the notches, in combination with the coupling-link D having the slotted arms a a extending laterally beyond the walls of the bell-mouth.

2. In combination, the notched draw-head A, the automatic triangular catch E, and the coupling-link D, having the hook K, the laterally-expanded elbows c′ c′, and the slotted arms a a, substantially as specified.

115,965. — SHUTTER-FASTENER. — John S. Lash, Philadelphia, Pa., assignor to himself and Jonathan R. Seltzer.

Claim.—The lug L, provided with the rubber plug R P, said lug sliding in the slot S of the rod R, substantially in the manner and for the purpose specified.

115,966.—SWITCH FOR GALVANIC BATTERIES. George Little, Rutherford Park, N. J.

Claim.—The automatic circuit-closing wheel c, in combination with springs l l', and connections to two batteries, substantially as specified, whereby the circuit to each battery is automatically broken and closed through said wheel c, as set forth.

115,967.—RELAY-TELEGRAPH INSTRUMENT. George Little, Rutherford Park, N. J.

Claim.—A permanent magnet combined with the armature of an electro-magnet to withdraw said armature, substantially as set forth.

115,968. — CIRCUIT-CLOSING ROLLER FOR TELEGRAPHIC APPARATUS.—George Little, Rutherford Park, N. J.

Claim.—A circuit-closing roller made with projecting yielding points, substantially as and for the purposes set forth.

115,969. — APPARATUS FOR PERFORATING PAPER FOR TELEGRAPHIC PURPOSES.—George Little, Rutherford Park, N. J.

Claim.—1. The perforating-die c, made with a hollowed end and projecting corners so as to perforate the paper in the telegraphic composing instrument, in the manner set forth.

2. In a punch, die, and pressure-foot employed in perforating paper for telegraphic communications, a space made between the pressure-foot and the end of the die at the delivery side thereof, to allow the perforated paper to pass away without obstruction, substantially as set forth.

3. The pressure-foot f upon the paper and the die below such paper, in combination with a punch and an opening or space on the delivery side of the punch, to allow the paper to pass freely away, as set forth.

4. The circuit-closer, made of a pair of spring jaws receiving the swinging end of a lever, substantially as set forth.

5. The sliding sleeve d, adjusted by the screws 4 5, and connected to the lever f by the block and pin 3, in combination with the yoke d′, punch c, and die, arranged and acting in the manner and for the purposes set forth.

6. The arrangement of the feed-wheels n, elastic rollers o, levers o′, armature p, pawl 16, and ratchet-wheel n′, substantially as and for the purposes set forth.

7. The arrangement of the tablet t with the letter-plate in the middle of the tablet, for the purposes set forth, and the grooves allotted to rows of pins that are of greatest length at the sides of such letter-plate, substantially as set forth.

115,970.—ARRANGEMENT OF CIRCUITS FOR TELEGRAPHIC PURPOSES.—George Little, Rutherford Park, N. J.

Claim.—The arrangement of the batteries a and b with two opposite poles, connected to the main circuit, and with a switch, c, to connect either of the other two poles in the main circuit, as and for the purposes set forth.

115,971.—SASH-HOLDER.—Zephaniah Lockwood, Saratoga Springs, N. Y.

Claim.—The double-sash lock, consisting of the two spring jaws with their points arranged in opposite directions, in combination with the rotating hub E having the two inclines g, arranged to engage under the jaws B, and thereby withdraw one or the other, according to the direction in which it is turned, substantially as described.

115,972.—MODE OF REEFING SAILS.—John J. Mason, Girdletree, Md.

Claim.—The rope F, in combination with main boom, reef-nettles, and eyelets, when arranged and operated by power applied at one point, as described.

115,973.—MOLDER'S FLASK.—Alfred Merriman, Plantsville, Conn., assignor to himself and Freeman Carleton, same place.

Claim.—As a new article of manufacture, the improved flask-pin eye, provided with the adjusting-screws b b, substantially as described, and for the purpose set forth.

115,974.—CROZING-MACHINE.—William R. Middleton, Cleveland, Ohio.

Claim.—The wedge a, when constructed with a flange or rib, c, as arranged to operate in combination with the slides C C′, in the manner as and for the purpose set forth.

115,975.—MACHINE FOR FELLING TREES.—Enoch R. Morrison, New York, N. Y.

Claim.—1. The combination of the movable head D with the feeding mechanism and the swinging arm G, which is provided with a segment, h, operating against the projections k k on the lateral sliding frame F to feed the cutting uniformly, as described.

2. The combination of the hinged dogs a a, and the adjustable long-arm spike-dog b with frame A, for securing the whole apparatus to a tree or log for cutting off, substantially as and for the purposes specified.

115,976.—DIE FOR FORGING KING-BOLTS.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—Jointly with a die, in the two parts of which are arranged a dividing-rib, D D′, and recess to serve as a guide to govern the position of the metal, the die, in one part of which are arranged a dividing-rib, H, and a recess or seat to govern the position of the metal to be wrought, substantially as set forth.

115,977. — CUT-OFF FOR WATER-CONDUCTORS.—Henry Myers, Jr., McLean, Ill.

Claim.—The combination, with the expanded section A, provided with the tapering guide-tube B and the elliptical opening d, of the tubular elbow-spout D, hinged at the top of the opening d, and beveled at its inner end, substantially as herein shown and described.

115,978. — CORN-HARVESTER.—Richard L. Nelson, Orange Court House, Va.

Claim.—1. The combination of the brackets f, adjustable hinged sockets g, and round shank i, and slot 2 on the sickles, as and for the purpose described.

2. In combination with the adjustable socket g, hinged and capable of being raised and lowered by the foot-treadles 3 and their connections, and with the sickle-shank having a turning motion in said socket, the bearing-spring m for allowing the sickles to rise to pass any obstruction, and be returned again after passing it, as described and represented.

115,979.—CHAIR AND STOOL-IRON.—Henry Ocorr, Sheboygan, Wis.

Claim.—1. A chair or stool-iron for revolving seats, composed of the pivot-pin socket, rim, and connecting-frame or arms, substantially as herein shown and described.

2. A revolving chair or stool, provided with an "iron" composed of a socket for receiving the pivot-pin of the revolving seat, a rim formed with sockets to receive the ends of the chair or stool-legs, and a skeleton frame connecting said rim and pivot-pin socket, substantially in the manner herein shown and set forth.

115,980. — GANG-PLOW.—William Parrish, Dayton, Oreg.

Claim.—The sulky attachment herein described, connected as specified, in combination with the yoke C, caster-wheel D, arms E F, and lever F′, substantially as and for the purpose set forth.

115,981.—WHEEL FOR VEHICLES.—Joseph C. Pierce, Bridgeport, Ill.

Claim.—The combination of the hub or box A flattened at its top, and with a collar, a, corrugated or checkered plates B B′ flattened to correspond with the box, spokes C C, axle E with collar d, keys b b, and nuts D G, all constructed substantially as shown and described.

115,982.—COMBINED PRESSURE AND VACUUM-VALVE.—John Porteous, Cincinnati, Ohio.

Claim.—The described arrangement, in a suitable barrel A B C I, of the outlet and inlet-valves D d d′ and k k, springs E and L, and followers F and M, for the objects set forth.

115,983. — KNITTING-MACHINE. — Henry Pudder, Dayton, Ky., and Thomas W. Hulbert, Cincinnati, Ohio.

Claim.—The combination, in a knitting-machine, of the needles, needle-bed, and followers, constructed substantially as described, so as to enable the operator to lower any one or more needles in their place in the bed beyond the reach of the cam, so that they shall cease to operate without casting the stitch from the needles, or disturbing their longitudinal position.

115,984.—BROILER.—David E. Roe, Elmira, N. Y.

Claim.—1. The grate C, composed of a series of separate wires radiating from a common elevated central ring and united to a depressed outer ring, as shown and described.

2. The combination, with the frame A and channel or groove D, of the downwardly-projecting flange E, arranged substantially as and for the purposes herein set forth.

3. As a new article of manufacture, frame A, made or stamped from a single piece of metal, substantially as described.

115,985.—BUCKLE.—Frederick A. Ross and Silas De La Mater, Terre Haute, Ind.

Claim.—1. A harness-loop, which is constructed with a bed-plate, G, having tongue *b*, and with two longitudinal loops, *a a*, terminating in an end loop, *a'*, for receiving a continuous trace and tug, and also the belly-band and back-band billets, substantially as described.

2. The trace-strap B, inclosing between its strips a bed-plate, G, which is constructed with raised loops *a a* and tongue *b*, substantially as described.

115,986.—DRAW-HEAD AND BUMPER FOR RAILROAD CARS.—Daniel Shaaber, Reading, Pa.

Claim.—The housing, consisting of the box A, immovably attached to the front sill of a car, and adapted for the reception of springs *h* and *h'* and plates *f* and *f'*, or their equivalents, operating with the draw-head B, substantially as described.

115,987.—MEAT-CUTTER.—Frenzes G. Siemers, Winona, Minn.

Claim.—1. The shaft D, having the rotary knives F and pinions E mounted thereon, in combination with the bed A provided with the sides *a* and racks *c*, all arranged to operate substantially as described.

2. The bed A provided with the pins *e* for holding the material in place while being cut, substantially as set forth.

115,988.—APPARATUS FOR CARBURETING AIR.—Byron Sloper, St. Louis, Mo.

Claim.—An air-gas apparatus or lamp, so constructed that the air will be automatically admitted to and shut off from the carbureter, substantially as and for the purposes herein described.

115,989.—HAND-STAMP.—Joseph Sloper, Walbrook House, London, England.

Claim.—The general construction of apparatus for perforating, cutting, or stamping paper, metal, or other material in which a hanging frame is combined with a descending plunger, substantially in the manner described and set forth.

115,990.—ASH-SIFTER.—William T. Stoutenborough, Brooklyn, N. Y.

Claim.—The divided covers *a b* hinged together and carrying the supports *c* for the parallel bars *d d* of the sieve *e*, in combination with the handle *g* that passes out through the rim of the cover *a*, as set forth.

115,991.—SHIP'S RUDDER.—Levi P. Thurston, Rockport, Mass., assignor to himself, Alfred Parsons, and William Knutsford, Jr., same place.

Claim.—In combination with the rudder-post, the two sets of roll frames and their adjusting-screws, by means of which the frames which support the rolls can be simultaneously adjusted and kept up to the post as they wear, substantially as described.

115,992.—MANUFACTURE OF CAST-STEEL DIRECT FROM THE ORES.—Thomas Trafford, Dublin, Md., assignor to himself, John S. Brown, and Samuel A. Worth.

Claim.—The process herein described of manufacturing cast-steel or refined iron direct from ore.

115,993.—STEAM-BOILER.—Sewall Tucker and John R. Brownell, Dayton, Ohio.

Claim.—A tubular or flue-boiler, A, combined with a water-circulating boiler composed of tubes or flues D united at their ends by the hollow water-front and back E F, and connected with said tubular or flue-boiler A by the circulating-pipes G H, substantially as set forth.

115,994.—BOOT-AND-SHOE CHANNELING-MACHINE.—Henry S. Vrooman, Boston, Mass.

Claim.—1. In combination with feed-wheels and an edge-guide, e^2, a movable channeler-knife, *n*, hung to a swinging lever, so that it can be thrown out from the channel, substantially as described.

2. In combination with feed-wheels and an edge-guide, a channeler-knife, held in operative position, laterally, by the stress of a suitable spring.

3. A channeler-knife held in operative position by a suitable spring, and having provision for throwing it out of position against the stress of the spring, substantially as described.

4. In combination with feed-wheels and an edge-guide, a channeler-knife, arranged to cut a channel to uniform distance from the side of the sole opposite to which the knife enters.

5. In combination with the edge-guide e^1, a presser-foot, d^2, moving with said guide, or maintaining a fixed relation thereto, laterally, substantially as described.

6. In combination with the feed mechanism and edge-guide e^2, and with a channeler-knife arranged to cut to a depth uniformly distant from the surface of the sole opposite to that which the knife enters, a presser-foot, e^3, varying with the inequalities of the sole, coincidently with the upper feed-wheel *f*.

7. The combination of the laterally-movable channeler-knife, feed-wheel, and presser-foot with a lever, *r*, by operating which the movable knife, feed-wheel, and presser-foot may all be raised and the knife thrown outward, substantially as described.

8. The jointed presser-foot d^2, forced up by a spring and down by the arm *k*, substantially as described.

115,995.—PRUNING-SHEARS.—William A. Wallet and Isaac Harbaugh, West Salem, Ohio.

Claim.—The arrangement of the hook C, knife D, with toothed shank D', guides E and F, toothed lever G, rod H, lever H', and handle A, substantially as and for the purpose set forth.

115,996.—GUN-LOCK.—George B. Warren, Prospect, Pa.

Claim.—1. The tumbler of a gun-lock, when provided with projections on its circumference so that the tension of the mainspring may be regulated, substantially as herein set forth.

2. The dog H, provided with the projection *b*, substantially as and for the purposes herein set forth.

3. The combination herein shown and described, of the mainspring E, dog-spring G, dog H, and tumbler C, when they are attached to and arranged within the circumference of the lock-plate, substantially as herein set forth.

115,997.—BREECH-LOADING FIRE-ARM.—Eli Whitney, New Haven, Conn.

Claim.—1. In combination with the breech-piece C and cam D upon independent pivots, the latch L, arranged in the frame to catch and hold the cam when thrown back, and tripped by the breech-piece to release the cam, substantially as described.

2. The arrangement of the plate R, provided with one or more projections, S, upon the frame, in the manner described, so as to retain the pivots C D in place, substantially as set forth.

115,998.—EXCAVATING-MACHINE.—Elias H. Williams, Clermont, Iowa.

Claim.—1. The frame H carrying the roller M', and adjustable in two directions vertically with the plow-frame and horizontally, by means of the lever A, to tighten or loosen the belt, all substantially as explained.

2. The combination of the earth-elevating wheel E, endless apron F, the receiving-box C embracing the front and part of the side of said wheel, and the adjustable scraper S for removing the earth from the wheel and delivering it into the box, substantially as herein explained.

3. In combination with an excavating machine, constructed as described, the bell-crank axle's front bar *b'*, pivoted draft-frame D, tongue D', and whiffletree *b''*, all arranged and operated as described.

115,999.—FARE-BOX.—James F. Winchell, Springfield, Ohio, assignor to Elijah C. Middleton, same place.

Claim.—1. In combination with the case A, the movable part E, with gates B and C attached, and operated as described by means of cam I and link G.

2. In combination with the case A and the movable part E, having the gates B and C attached and operated as set forth, the stationary partition J, located and arranged in relation to the gate C, as set forth.

3. In combination with the case A and the movable part E, having the gates B and C attached and operated as described, the trip-bell O, adjusted to strike an alarm before the ticket-hole is uncovered.

116,000.—HORSE HAY-FORK.—Cyrus Yengst, Annville, Pa.

Claim.—The connecting-rod *r*, as attached to the beam B, and the brace-rod *b*, substantially as and for the purpose hereinbefore set forth.

116,001.—COMBINED LIGATURE, PROTECTOR, AND FERTILIZING-BAG FOR FRUIT-TREES.—Sheldon P. Gilbert, Racine, Wis.

Claim.—The combined ligature, protector, and fertilizing-bag for fruit-trees, consisting of the folded shield A, containing a fertilizer secured to a tree by the nail B and wire ligature C, as herein described, for the purposes specified.

REISSUES.

4,419.—TAPE-MEASURE.—Lewis P. Bradley, New Haven, Conn.—Patent No. 92,573, dated July 13, 1869.

Claim.—1. The arrangement of the spring cylinder B within a case, A, combined with a knob, D, arranged through the bearing of the cylinder so as to operate the bar *f*, the whole operating in the manner herein set forth.

2. The knob for actuating the holding and releasing-catch, arranged in the center of the case, substantially as specified.

4,420.—HARVESTER.—John Butter, Buffalo, N. Y.—Patent No. 27,034, dated February 7, 1860.

Claim.—1. A hollow-metal gear-frame, substantially as described, in which is placed the secondary gearing, through which motion is transmitted from the driving-wheel to the cutters.

2. The hollow-metal gear-frame, provided with bearings for the secondary or bevel-wheel shaft.

3. The hollow-metal gear-frame, provided with bearings for and adapted to inclose the crank-shaft, substantially as described.

4,421.—BASE-BURNING STOVE.—Albert C. Corse, Troy, N. Y.—Patent No. 107,597, dated September 20, 1870.

Claim.—1. In combination with the magazine O, provided with radial openings *o*, an annular or surrounding chamber, M, placed at the upper end of said magazine, and communicating, through suitable downward flues L and G, with the flues in the base of the stove, substantially as shown, and for the purpose described.

2. In combination with the magazine O, annular chamber M, and combustion-chamber S, the annular chamber H placed immediately above and communicating with said combustion-chamber, and connected with said annular chamber M and with the base-flues by means of the vertical flues L and G, respectively, substantially as and for the purpose specified.

3. An annular or horizontal flue or chamber placed above mica windows, when the same is arched upward immediately above each window, so as thereby to permit the vertical dimensions of the latter to be increased, substantially as shown and described.

4. An annular or horizontal flue or chamber placed above and projecting outward over mica windows, when the same is beveled or inclined inward and downward immediately above said windows, substantially as and for the purpose set forth.

4,422.—BOOT AND SHOE.—Charles Story Dunbrack, Swampscott, assignor of one-third interest to William N. Spinney, Lynn, Mass.—Patent No. 95,210, dated September 28, 1869.

Claim.—1. A shoe, as made with an upper receiving-channel, *c*, in that face of the sole which is next to the laps of the upper.

2. A shoe, as made with an upper receiving-channel, *c*, in the outer sole, and with a stitch-receiving channel, *d*, in the opposite face of the said sole.

3. A shoe, as made with an upper receiving-channel, *c*, in its outer sole, and with the stitching or sewing for connecting such sole to the upper carried around the periphery of, but not through, the insole.

4. A shoe, as made with the outer sole channeled in its two opposite faces, as set forth, and with the sewing for fastening the said sole to the upper carried through the two channels of the sole and around, but not through, the insole or the part *b*, for supporting the laps of the upper.

5. An outer sole, as made with the upper receiving-groove or channel *c*, arranged in that face, or part of it, which is to abut against the upper leather to be joined to the sole.

6. An outer sole, as made with the sewing or stitch-groove *d* on its outer face, and with the upper receiving-groove *c* in its inner or upper face, such grooves being arranged relatively or opposite to each other in manner as represented.

4,423.—MOUNTED HORSE-POWER.—Massena B. Erskine, Racine, Wis.—Patent No. 107,237, dated September 13, 1870.

Claim.—1. The axle A, formed with the standard B and hollow axle-arm C, substantially as and for the purpose set forth.

2. The standard B of the axle A, provided with the strengthening-bar A^1, substantially as and for the purpose set forth.

3. The enlargement or swell of the flange of the axle, said flange being perforated with three openings or holes out of direct line with each other, substantially as and for the purpose set forth.

4. The wrought-iron eyebolt H, when used in the connection and for the purpose substantially as herein shown and specified.

5. The truss-rod D, connecting the two axles, substantially as and for the purpose described.

6. The hollow axle-arm C of the axle A, in combination with the truss-rod D, for the purpose specified.

7. The two nuts *b b*, or equivalent fastenings, arranged upon the truss-rod at each end of the hollow axle-arm C of the axle, substantially as herein shown.

8. The master-wheel L, formed with a series of openings, *i*, and arranged to operate in connection with the adjustable brackets K and sockets N, substantially as herein shown and set forth.

4,424.—DIAPER.—John C. Hempel, Baltimore, Md.—Patent No. 91,334, dated June 15, 1869.

Claim.—The diaper A, substantially as described and shown.

4,425.—STOCK-CAR.—Amos Rank, Salem, Ohio, assignor to The National Cattle-Car Company, same place.—Patent No. 111,872, dated February 14, 1871.

Claim.—1. The combination, with a stock-car, of adjustable and flexible or elastic stall-partitions,

constructed substantially as hereinbefore set forth, to prevent injury to the stock from the jerking of the cars.

2. The combination, with a stock-car, of adjustable and flexible removable stall-partitions and suspending-rollers or swinging beams mounted in the ceiling of the car, and operating, substantially as hereinbefore set forth, to roll or fold the partitions out of the way.

3. The combination, with a stock-car, of adjustable flexible slatted rolling stall-partitions, constructed substantially as hereinbefore set forth.

4. The combination, with a stock-car, of adjustable rolling or swinging canvas stall-partitions, constructed substantially as hereinbefore set forth.

5. The combination, with a stock-car, of slatted partitions, constructed as described, swinging from the roof of the car, and made removable to serve as a foundation for a middle deck, as set forth.

6. The combination, with a stock-car, of the longitudinal feed-boxes, constructed as described, and divided into compartments, one set of which contains the feed while the other set communicates with the feed-troughs in the car.

4,426.—BASE-BURNING STOVE.—Alexander White, Rock Island, Ill., assignor to The Rock Island Stove Company, same place. Patent No. 101,688, dated April 5, 1870.

Claim.—1. The magazine of a base-burning stove constructed with telescopic sections, when the lower section is raised or lowered by means of depending rods, substantially as shown.

2. The movable base or lower section D', constructed with an expanded mouth, substantially as described.

3. In combination with the movable base D, rods I I and bail J, all arranged to operate substantially as described.

4. A ring or plate, H, encircling the lower end of the magazine in a base-burning stove, substantially as and for the purposes herein set forth.

5. In combination with a ring or plate encircling the lower end of the magazine in a base-burning stove, hooks attached to said ring, or lugs on the magazine for supporting the magazine, substantially as herein set forth.

6. In combination with a ring or plate encircling the lower end of the magazine in a base-burning stove, as herein described, openings in the outer shell of the stove, so as to admit air into the chamber above said ring or plate, for the purposes herein set forth.

DESIGNS.

4,984. — CHANDELIER. — Pietro Cinquini, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—The design for chandeliers, as hereinbefore described and shown in the accompanying illustration.

4,985.—PORTABLE STAND FOR A BILLIARD-MARKER.—Hugh W. Collender, New York, N. Y.

Claim.—The shape and design of my new marker-stand, substantially as shown and described.

4,986.—CLOCK-CASE. — Paschal Converse, New Haven, Conn.

Claim.—The design for clock-case, as herein described and shown in the accompanying drawing.

4,987. — CARPET-PATTERN. — John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,988. — CARPET-PATTERN. — John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,989. — CARPET-PATTERN. — John Fisher, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,990.—TYPE.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, same place.

Claim.—The design or pattern for printing-types, herein set forth and shown.

4,991.—TYPE.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, same place.

Claim.—The design or pattern for printing-types, herein set forth and shown.

4,992.—FORK OR SPOON-HANDLE.—William T. Kennedy, New York, N. Y.

Claim.—1. The design for the front of the handle, as shown.

2. The design for the back of the handle, as shown.

4,993.—LONG COMB. — Charles E. Moore, New York, N. Y.

Claim.—The design for a long comb, herein represented and described.

4,994.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,995.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,996.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,997.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,998.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

4,999.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,000.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,001.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,002.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,003.—CARPET-PATTERN.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,004. — TOY STEAM-ENGINE.—Edward P. Ryder, Brooklyn, N. Y.

Claim.—The design for a toy steam-engine, as shown.

5,005.—CHANDELIER.—Frederick R. Seidensticker, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—The design for chandelier, as hereinbefore described and shown in the accompanying illustration.

5,006. — HARNESS-TRIMMING.—Charles M. Theberath, Newark, N. J.

Claim. — The covering for harness-trimming, arched or raised in the middle and grooved near the side, as set forth.

TRADE-MARKS.

321.—WHISKY.—Allen H. Gillett, Syracuse, N. Y.

322.—WHISKY.—Jesse Moore & Co., Louisville, Ky.

323.—POLISHING COMPOUND.—Enoch Morgan's Sons, New York, N. Y.

324.—POLISHING COMPOUND.—Enoch Morgan's Sons, New York, N. Y.

325. — PERFUME. — Phalon & Son, New York, N. Y.

326. — CLOTHES-WRINGER. — Albert H. Spencer, Providence, R. I.

EXTENSIONS.

JAMES E. A. GIBBS, of Steele's Tavern, Va. Letters Patent No. 17,427, dated June 2, 1857; reissue No. 573, dated July 13, 1858.

"Improvement in Sewing-Machines."

Claim.—1. In single-thread sewing-machines, a hook or looper revolving in one direction only, being so constructed as to make a series of chain stitches, when operating in connection with a reciprocating needle.

2. The peculiar construction, substantially as herein described, of a revolving hook, whereby, while one loop is taken from the needle by the hook, spread, twisted, and held in the path of the needle until another or fresh loop is taken, the former loop shall be released and drawn up during the retreat of the needle.

JAMES G. HOLMES, of Charleston, S. C.—Letters Patent No. 17,567, dated June 16, 1857.

"Improvement in Chairs for Invalids."

Claim.—1. The arranging of the joint, by which the seat and back are attached and move, so that it shall correspond with the hip-joint of the human frame, that is, placing it above the seat and in advance of the back, substantially in the manner and for the purpose set forth.

2. Arranging the knee-joint in the chair or seat to correspond with that of the human knee joint of the person occupying it, substantially as described.

3. The frame-work of metal or other material, by which all the joints and pivots, excepting that of the separate apron which moves with and supports the leg from the knee down, are combined either with or without the arm-rest, as may be desired, as herein set forth.

GEORGE H. CORLISS, of Providence, R. I. Letters Patent No. 17,423, dated June 2, 1857.

"Improvement in Steam Pumping Apparatus."

Claim.—1. The arrangement of a series of steam-cylinders and pumps, combined radially around a central crank-shaft, with a central crank and crank-shaft with which the whole series of pumps and steam-cylinders is connected, substantially in the manner and for the purpose herein described.

2. The method herein described of forming the connection between the pistons of a series of cylinders and a single crank-pin, by means of a disk-ended connecting-rod, which is appropriated to one piston in the series, and which is fitted with a series of pins to which the remaining connecting-rods of the series of cylinders are applied, thus obviating the direct application of all the connecting-rods in the series to the same crank-pin.

CLARA A. EASTMAN, of Boston, Mass., executrix of JOSEPH L. EASTMAN, deceased. Letters Patent No. 17,560, dated June 16, 1857.

"Improvement in Steam-Pressure Gauges."

Claim.—The arrangement of the diaphragm I, disk M, bearing against the diaphragm's multiplying lever C, compensating spring R, and index, substantially as herein set forth.

GEORGE P. PERRINE, of Richmond, Va., and JAMES E. BOYLE, of New York, N. Y. Letters Patent No. 17,632, dated June 23, 1857.

"Improved Hydrant."

Claim.—The hollow piston-rod and nozzle when so constructed and arranged, in combination with cylinders of unequal diameters, and their corresponding pistons or plungers, that they will be elevated by the pressure of the water from the supply-pipe upon the under surface of the piston p, and the water withdrawn therefrom, for the purpose specified.

DISCLAIMERS.

JACOB LAGOWITZ, of Newark, N. J., assignee of JOHN MYERS and ROBERT G. EUNSON.—Letters Patent No. 10,965, dated May 23, 1854.

"Improvement in Machines for Sawing thin Boards, &c."

(Filed May 20, 1871.)

Disclaims:

"That part of first claim of said Letters Patent which covers the use of the deflecting plate E at the side of the saw;" also, that part of the description of nature of invention embraced in the following:

"1st. In the employment or use of deflecting plates 'one or two,' placed at the sides of the circular saw, &c."

EBEN PECK and GILBERT J. BOGERT, of New York city, assignees of John MYERS and GILBERT J. BOGERT.—Letters Patent No. 10,965, dated May 23, 1854.

"Improvement in Machines for Sawing thin Boards, &c."

(Filed May 20, 1871.)

Disclaim:

"That part of first claim of said Letters Patent which covers the use of the deflecting plate E at the side of the saw;" also, that part of the description of nature of invention embraced in the following:

"1st. In the employment or use of deflecting plates 'one or two,' placed at the sides of a circular saw, &c."

GEORGE H. CORLISS, of Providence, R. I.—Letters Patent No. 17,423, dated June 2, 1857.

"Improvement in Steam Pumping Apparatus."

(Filed May 27, 1871.)

Disclaims in the following words, viz.:

"Also, the method herein described of forming the connection between the pistons of a series of cylinders and a single crank pin, *a*, by means of a disk-ended connecting-rod, L, which is appropriated to one piston in the series, and which is fitted with a series of pins, S, to which the remaining connecting-rods M are applied, thus obviating the direct application of all the connecting-rods to the same crank-pin."

ISSUE OF JUNE 20.

PATENTS.

116,002.—SPRING HINGE FOR DOORS.—Robert Adams, Borough of Southwark, Great Britain.

Claim.—The circular spring, resting at both ends against the lug on the box, and operated in either direction by the direct action of the pintle, furnished with lugs for that purpose.

116,003. — COTTON-PLANTER. — Parker H. Altstatt, Clark County, Ind.

Claim.—1. The arrangement of the plows D D upon the sides of the opener E when they are provided with separate lifting-levers J, whereby the plows may be independently adjusted, all constructed, arranged, and operating as herein described.

2. The slot holes N, studs O, and iron rod Z, in combination with the truck-frame A, the bolster and axle X, the wheels B B, the hub-pulleys Y Y, and double-tree P, substantially as and for the purpose herein set forth.

116,004.—ATTACHMENT FOR VACUUM-CUPS. William Amer, Janesville, Wis.

Claim.—1. The conductor A B, constructed, substantially as herein shown and described, to adapt it for use with Dr. Hadfield's vacuum-cups, as and for the purpose set forth.

2. The adjustable cap electrode C D, in combination with the conductor A B, substantially as herein shown and described, and for the purpose set forth.

3. The conductor E, constructed, substantially as herein shown and described, to adapt it for use with Dr. Hadfield's receivers, as and for the purpose set forth.

4. The metallic electrodes F, constructed, substantially as herein shown and described, to adapt them, in connection with the conductor E, to be used with Dr. Hadfield's receivers, as and for the purpose set forth.

116,005.—WHIFFLETREE.—Joseph R. Ames, Chest Township, Pa.

Claim.—1. The revolving hook C', in combination with the whiffletree as constructed, substantially as and for the purposes set forth.

2. The hinged ends A A, in combination with the whiffletree, substantially as and for the purposes set forth.

3. A whiffletree provided with the revolving hook C', irons B B, hinges A A, and hooks C C, all constructed and arranged substantially as and for the purposes set forth.

116,006.—FASTENING FOR MEETING-RAILS OF SASHES.—Stephen D. Arnold, New Britain, Conn., assignor to P. & F. Corbin, same place.

Claim.—The latch *k* within the box *f*, and projecting therefrom as shown, in combination with the lever *d*, projection *i*, spring *e'*, and box *e*, as and for the purposes set forth.

116,007.—STEAM-BOILER.— John Bowman Atwater, Geneva, Ill.

Claim.—The auxiliary flue steam-generator B and the combustion-chamber C, arranged in front of a flue-boiler in the fire-chamber thereof, substantially as described.

116,008. — SOAP. — Israel D. Balch, Cambridge, Mass.

Claim.—A soap made with the peculiar silicious ingredient, substantially as described.

116,009.—SASH-HOLDER.—Robert R. Ball, West Meriden, Conn.

Claim.—1. In a sash-lock, the guard F or its equivalent, in combination with a pivoted tumbler, so as to operate substantially as and for the purposes shown and described.

2. In combination with the socket or key-hole of a sash-lock, the slot or recess E, substantially as and for the purposes described.

3. In a sash-lock, the combination of the guard F and the shoulders I I in the lock-case and lid, for limiting or stopping the guard, substantially as shown and described.

116,010.—DOOR.—Benjamin F. Barker, Belfast, Me.

Claim.—In combination with an ordinarily-apertured sill, F C, the door A, having vertical grooves D E D at the joints thereof to form channels for the reception of air, water, and dust, and its guidance into the discharge-channel F of the sill.

116,011.—AX-BIT-BLANK MACHINE. — Enos Bartholomew, Mill Hall, Pa.

Claim.—1. The combination of the cutters D E, carriers K, punch P, and die O, substantially as specified.

2. The compressers, arranged and operated in connection with the broad punch and female die, for the purpose of beveling the steel ends of the blank and swelling the sides in the center thereof, as specified.

3. The combination, with the die O and punch P, of the hinged plates L and adjusting-screws L', substantially as specified.

4. The cutters D E and carriers K, combined with female die, broad punch, and compressers, as and for the purpose specified.

5. The combination, with the cross-head and the movable plate, of the bent bar T, said bar working in the oblique hole S in said plate, substantially as specified.

6. The combination, with the compressers having the holes W and projections X, of the bars Z, attached to the cross-head, and having the curbed ribs Y, substantially as specified.

116,012. — DIE FOR FORMING CARRIAGE-SHACKLES.—Henry M. Beecher, Plantsville, Conn.

Claim.—1. Jointly, the swinging or hinged die-blocks A A, together with their dies, the bed B, and hammer C with its projection *c*, for use in the formation of carriage-shackles, substantially as described.

2. As an improvement in machines for forming carriage-shackle blanks into shackles, substantially as set forth, the points *k k* projecting from the bottom of dies *a a*, as and for the purpose set forth.

116,013.—BED-CLOTHES RETAINER.—John Birkenhead, Canton, Mass.

Claim.—As a new article of manufacture, the bed-clothes retainer, made in manner and for use as described.

116,014.—MILKMAN'S SIGNAL.—Elisha Belcher Blake, Tarrytown, N. Y.

Claim.—The signal C placed on a sliding yoke, D, and held up by the filled pitcher on platform G, the bell-clapping mechanism, and the cupolaed milk-house A, all combined for the purpose of, first, calling attention by the alarm that the milk has been deposited, and secondly, of exhibiting the corroborating signal thereof, whereby the housekeeper is notified to take charge of said milk.

116,015.—EARTH-CLOSET.—William Joseph Bradshaw, Cleveland, Ohio.

Claim.—1 The hinged hollow cylinder F, in combination with the elliptic plate H, substantially as and for the purpose hereinbefore set forth.

2. The combination of the roller G and weight O with arm N and cylinder F, substantially as described.

116,016.—BRICK-KILN.—Samuel C. Brewer, Water Valley, Miss.

Claim.—The arrangement, upon the top of the kiln, of the course A of bricks, forming a series of intersecting and horizontal flues, *c d*, and thereabove the edge-laid course B of fire-brick, with registers C therein, all as and for the purpose specified.

116,017, antedated June 16, 1871.—ANIMAL-TRAP.—William W. Brigg, Home, Tenn.

Claim.—1. The base A, rods *a a*, stub B, and trigger C, when permanently attached, as shown, latch D, cord E, and spring F, when the same are so combined and arranged as to furnish a trap, substantially as described.

2. Anchoring the trap by means of a rod, B, and staples *b b*, or their equivalents, substantially as described.

116,018.—OFFICE-INDICATOR.—Lewis Burger, Chicago, assignor of three-fourths his right to W. S. Gobble, Scottsville, Ill.

Claim.—The business-indicator, consisting of the box A, hinged face B, dial C, disks D, E, F, and G, plate H, and slats I, all combined substantially as herein shown and described.

116,019. — STEAM-ENGINE AND BOILER.—Gottlieb F. Burkhardt, Boston Highlands, Mass.

Claim.—1. In combination with the main boiler and engine, an auxiliary tubular boiler, *f*, arranged as shown and described, and having a series of steam-tubes leading through it, surrounded by a water-space, above which space is a steam-space connected by a pipe, *l*, with auxiliary steam-cylinder *o*, or with the steam-room of the main boiler.

2. In combination with the main boiler, the auxiliary tubular boiler *f*, the auxiliary fire-box *t*, and flue-pipes *s*, substantially as shown and described.

3. The arrangement of the auxiliary fire-box *t*, flue-pipe *v*, cylinder *f*, and flue-pipes *s w*, substantially as shown and described.

116,020.—PREPARING AND BLEACHING PAPER-PULP. — John Campbell, Chatham Village, N. Y.

Claim.—The combination of a receiver, G, and tube E provided with a stop-cock, F, with the pipe or pipes D, that introduce the air-blast and chemicals into the engine A, substantially as herein shown and described.

116,021. — TELEGRAPH-WIRE COUPLING.—Alanson Cary, New York, N. Y.

Claim.—1. A sleeve-coupling, A, for connecting the ends D D of telegraph-wires, substantially as shown and described.

2. The rivets E, passing through the sleeve-coupling A and between the wires D D, whereby said wires are forced into the spaces B of the coupling, substantially as shown and described.

116,022.—ROTARY ENGINE.—Warren Case, Troy, Ill.

Claim.—1. The sliding valves C C, operating in the radiating channels *e e* and circumferential groove *a* on the wheel B, substantially as and for the purposes herein set forth.

2. The wheel B, provided with circumferential grooves *a* and *b b*, channels *e e*, and slots *d d*, all substantially as and for the purposes herein set forth.

3. The grooves *b b* and tongues *h h*, constructed in the wheel B and casing A, substantially as and for the purposes herein set forth.

4. The combination of the casing A, wheel B, sliding valves C C, block D, steam-ports *m m*, and air-ports *n n*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

116,023, antedated June 17, 1871.—SEAT FOR STORES.—Daniel Christian, Chagrin Falls, Ohio.

Claim.—The detachable bracket A and detachable seat E, combined, as described, with the socket-plates and counter, for the purpose specified.

116,024. — FERRY-BOAT. — Henry Clenny, Gallatin, Tenn.

Claim.—1. A boat, having its hull or bottom formed with the four faces, *a*, *b*, *c*, and *d*, constructed and arranged as described.

2. The platforms T, hinged at opposite sides of the boat, and connected by a rope or chain to a windlass, U, substantially as described, whereby one is raised as the other is lowered.

116,025.—WATER-ELEVATOR.—Roderick F. Clow and William H. Down, New York, N. Y.

Claim.—1. The vented coil D, emptying itself so soon as the valve M is closed, and arranged to serve relatively to the valve M, pipe C, and elevated supply of water, and to the vessel A, heating apparatus E, piston B, and suitable automatic devices for communicating motion to the valve M, substantially as and for the purposes herein set forth.

2. The divided or two-part reservoir G^1 G^2 with the controlling-cock or valve *t*, for discharging the water from the compartment in which it is received into the cooling-compartment from which it is discharged, arranged as represented relatively to the condensing-vessel D, in an automatic steam elevating apparatus, for the purposes specified.

116,026.—CIGAR-MACHINE.—Seth L. Cole, Brooklyn, N. Y.

Claim.—The machine herein described, consisting of a mold or series of molds, each made in parts 1, 1', 2', 3, 4, 4', 5, 6, 6', &c., so arranged that each mold is independent of the other, the whole being operated by means of a rod or rods, R R, springs N N, screw-nuts S S, spring catches or hooks O O, and hinges A A, all constructed, arranged, and operating in the manner and for the purpose of forming the tip as well as the body of a cigar.

116,027.—BAND-KNIFE.—Frederick Coulon, Rockford, Ill., assignor to Elias Nashold and Jacob Martin, same place.

Claim.—The knife described, provided with the serrated edge *a* and the abruptly-curving shank *a'*, the latter being provided for the double purpose of raising the hand above the cutting-line, and of furnishing a guard to prevent the hand from being crowded forward onto the serrated edge, as set forth.

116,028. — HARNESS-BUCKLE. — Thomas Crakes, Mishawaka, Ind.

Claim.—The lever C, provided with the shoulder *c'*, pivoted to the piece A at its end c^2, and curved at its free or outer end to enter the hole a^2 in the part A, in connection with the plate B, provided with square holes b^3 and shoulders b^4, all as herein shown and described, whereby said parts are adapted to operate as set forth.

116,029.—KNIFE-SCOURER AND SHARPENER. David Crowell, Jr., Yarmouth Port, Mass.

Claim.—The combination and arrangement of the rollers C C, the extended roller B, scouring and sharpening devices A and F, journal-boxes with springs D, connecting device G with its gearing and crank to give motion, all as shown, for the purpose described.

116,030.—SCRUBBING-BRUSH.—William Devines, Williamsburg, N. Y.

Claim.—A scrubbing-brush, with its ordinary back A constructed with longitudinal strips of India rubber B on each end, and transverse strips of rubber B in the middle, sustained and held by strip C, as shown and described.

116,031.—STEAM-ENGINE.—Albert L. Dewey, Westfield, Mass.

Claim.—1. The construction and arrangement of the steam-chest B with its steam-passage P Q, in combination with the steam-cylinder A, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the steam-chest B and valve-face E, of the port-face D and steam-valve C, with its connections *e e*, substantially as and for the purpose hereinbefore set forth.

116,032. — WOOL-DRIER. — James Millen Dick, Buffalo, N. Y.

Claim.—1. In a wool-drying machine, a fan, C, and trunk B' B, so arranged that the current of air is impelled against the wool at its entrance, and is blown out, as herein described.

2. In a wool-drying machine, in combination with the fan-trunk B B' and fan C, the revolving picker E and picker-beds E^1 E^2, arranged and operating as herein set forth.

3. In a wool-drying machine, the expressing-rollers G G', and the endless apron H, having the water-space *f* between the same, in combination with the fan or blower C, constructed and arranged so that the wool receives the air-blast upon its entrance into the machine, substantially as and for the purpose set forth.

4. The flaring mouth D', for the exit of the wool, provided with the air-holes *g g*, when employed in a wool-drying machine, in the manner and for the purpose specified.

116,033.—STRAW-CUTTER.—John H. Dickinson, Chicopee Falls, Mass.

Claim.—The roller D, with its flat-faced spiral flanges, in combination with roller C furnished with square-faced spiral cutters *c c* so arranged that the faces of the cutters will press against those of the flanges, and, by the more rapid motion of the former over the latter, impart a surface draw-cut upon the straw passing between the rollers, substantially as described.

116,034.—CLOTHES-LINE HOLDER.—Emerson Dingman, Liverpool, N. Y.

Claim.—The cap or socket A, having standards *a a*, in which are mounted an anti-friction roller, B, and serrated cam-lever C, with counter-balance D, all constructed and arranged as and for the purpose specified.

116,035. — TEA-KETTLE COVER. — Zohrab Dixon, Bristol, Ill.

Claim.—1. In combination with the cover A, the case B and exhaust-pipe E, the whole arranged substantially as and for the purpose described.

2. In combination with the cover A, provided with the exhaust-pipe E and case B, the non-corrosive rim *a*, arranged substantially as and for the purpose described.

116,036.—COAL-SCUTTLE.—Edgar Eltinge, Kingston, N. Y.

Claim.—1. The slots *d'*, formed in the side flanges of the rear part of the shield D to receive the ears of the scuttle, substantially as herein shown and described, and for the purpose set forth, whether the openings into said slots be through the side or rear edges of said shield.

2. The bent projecting ends of the stiffening-wire, to form the outer sides of the slots *d'*, substantially as herein shown and described, and for the purpose set forth.

116,037. — HARVESTER.—Joel Farrington, Corry, Pa.

Claim.—1. The slide or sleeve H and rock-shaft G, in combination with the rake, operating substantially as and for the purpose described.

2. The crank-wrist *f'*, in combination with the rock-shaft G, slotted arm G', and chain or cord *f* for giving the vibratory and rising-and-falling movements to the rake, as described.

3. The slotted standard *c* and bolts *b*, in combination with the hinged platform for adjusting the angle of said platform, as described.

116,038. — GEARING FOR HARVESTERS.—Joel Farrington, Corry, Pa.

Claim.—1. The bevel-wheel B and smaller bevel wheel C, arranged concentrically to each other, and having their cogged faces in about the same vertical plane, in combination with the inclosed intermediate shifting-clutch E, substantially as and for the purpose described.

2. The pinion A, provided with the hub or shank A^1 A^2, in combination with the concentric bevel-wheels B and C, operating substantially as described.

3. The clutch E inclosed between the bevel-wheels, in combination with the loose collar F and rods *f*, for operating the same, as described.

4. The combination of pinion A, bevel-wheels B C, inclosed clutch E, and double pinion H H', arranged and operating substantially as described.

116,039. — PULP-ENGINE OR CRUSHER.—Moore R. Fletcher, Boston, Mass.

Claim.—1. The cylinder A, provided with cogs C and buckets E, the same alternating longitudinally, substantially as described.

2. The cylinder B, provided with cogs D and flattened spaces *b*, the same alternating longitudinally, substantially as described.

3. The combination and arrangement of cylinders A B, substantially as described.

4. As an equivalent of cylinders A B, the indented cylinder H and plain cylinder I, substantially as described.

116,040.—TREADLE FOR SEWING-MACHINES. Albert Fontayne, Cincinnati, Ohio.

Claim.—1. The combination of the leg of a sewing-machine, cam P, levers N N, and casters R R, substantially as and for the purposes set forth.

2. The combination of the leg of a sewing-machine, journal-box K, and axle B, substantially as and for the purposes set forth.

3. The adjustment of the balance-wheel C outside of the leg of a sewing-machine, and at or near the end of the shaft or axle M, substantially as and for the purposes specified.

4. The wooden platform W, within a metallic frame, substantially as and for the purposes set forth.

116,041.—FIRE-EXTINGUISHER.—David M. Ford and John A. Kley, Chicago, Ill.; said Kley assigns his right to said Ford.

Claim.—1. The top A of a fire-extinguisher, provided with the flange B, shoulder *d*, and female screw *e*, substantially as and for the purpose specified.

2. The cap or cover D, provided with a screw, *b*, shoulder *a*, and one or more handles, C, substantially as specified.

3. The top A of a fire-extinguisher, provided with the flange B, shoulder *d*, and female screw *e*, in combination with the cap D, provided with a screw, *b*, shoulder *a*, and one or more handles, C, substantially as specified.

116,042.—GATE-LATCH. — Charles W. Fox, St. Louis, Mo.

Claim.—The combination of the slotted plate A with its two projecting guiding-bands and openings *d*, *e*, and *s*, latch B, handle *k*, and keeper E, all constructed and arranged as and for the purpose shown and specified.

116,043, antedated June 10, 1871.—FERMENTING MASH. — Charles H. Fringe, Centreton, Mo., assignor to himself and Charles Braches, same place.

Claim.—The application to a grain mash, at the time and in the manner specified, of salts containing all the yeast-forming elements in a soluble form, as and for the purpose specified.

116,044, antedated June 10, 1871.—PREVENTING WASTE OF ALCOHOL IN FERMENTING-TANKS. — Charles H. Fringe, Centreton, Mo., assignor to himself and Charles Braches, same place.

Claim.—In combination with the grain-mash tubs of distilleries, a water-proof, flexible, and perforated cover of an animal bladder moistened, as and for the purpose described.

116,045.—BED-PLATE FOR PAPER-PULP ENGINES.—Phineas Frost, Medfield, Mass.

Claim.—A bed-plate for paper-engines, composed of the cast-metal box A having its upper surface concave transversely, the series of bars *a a*, &c., stripe *b b*, knives *c c*, and the re-enforced clamp-bars *d d*, the whole being united by the bolts *e e'*, and producing results herein stated.

116,046. — PROCESS OF MANUFACTURING NAIL-PLATES AND SHEET-STRIPS.—James Frowen, Edward Hemmings, and James Sheldon, Niles, Ohio.

Claim.—The herein-described process of preparing nail-plates and sheet-strips by hammering the mass or balls of metal directly from the furnace into blooms, ready, by reheating, for the finishing-rolls, substantially as set forth.

116,047. — SURVEYING INSTRUMENT.—Richard F. George, Palmyra, Va.

Claim.—The combination of the two movable or angle-measuring arms and perpendicular with the fixed or level distance-arm, as and for the purpose specified.

116,048.—PLOW.—Martin L. Gibbs, Canton, Ohio.

Claim.—1. The colter-head C and tension-bolt F, in combination with the colter E, plow-beam A, and standard B, the several parts being arranged as and for the purpose specified.

2. The arrangement of the colter E in a flaring seat in the colter-head C or beam A, and between the side set-screws *b b*, arranged as described, as and for the purpose specified.

3. The combination of the pitch-screw *a*, colter-head C, colter E, and tension-bolt F, the several parts being arranged in the manner and for the purpose specified.

116,049.—VENTILATOR.—Henry A. Gouge, Brooklyn, N. Y.

Claim.—The combination of the blower B and the ventilating-flue D, and the arrangement of the tube J, substantially as and for the purpose hereinbefore set forth.

116,050. — FELLY-CLIP FOR VEHICLE-WHEELS.—David Grim, Pittsburg, Pa.

Claim.—1. The hollow rib D, in combination with the screws *c c*, as a means of securing the ends of carriage-fellies, in the manner shown and set forth.

2. The hollow rib D and screws *c c*, in combination with the ferrule C, in the manner shown, for the purposes set forth.

3. Such construction of the hollow rib D as will cover the heads of the binding-screws *c c* and allow them to slide therein, in the manner shown, for the purposes herein set forth.

116,051.—DIRECT-ACTING ENGINE.—Thomas Hanson, New York, N. Y.

Claim.—In combination with the steam-piston and valve, the employment of the valve-rod *m*, working in the semi-hollow piston-rod for the purpose of operating the steam-valve mechanism, and which receives its motion at each stroke of the piston partially from the piston-rod and partially from a driving-spring and cam, substantially in the manner described.

116,052.—TRACE-LOCK.—George L. Hart, New Britain, Conn.

Claim.—1. The combination of the whiffletree *a*, the piece *b* having grooves *c c*, the spring *d*, the swinging piece *e*, and the pawl *f*, the whole constructed, arranged and operated substantially as and for the purpose set forth.

2. The combination of the whiffletree *a*, piece *b*, spring *d*, spring *i*, swinging piece *e*, and pawl *f*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

116,053. — APPARATUS FOR COOLING AND DISCHARGING BEER AND OTHER LIQUIDS ON DRAUGHT.—John M. Heiss, Baltimore, Md.

Claim.—1. The combination of the air-forcing vessels B B' with casks L L' and cooling-reservoir M, substantially as described.

2. The arrangement and combination of a series of casks, L L', and soda-fountain P with receiver M, provided with cooled pipes and spigots, so as to supply cool liquids of different kinds on draught, as described.

3. The combination of the vessels B B', the pipes C, F F', and H H', with their respective cocks and gauge acting upon any number of kegs, barrels, &c., that may be desired, together with the receiver M and its pipes and the trough N, the whole arranged for the purpose herein set forth, and substantially as described.

116,054.—ELECTRO-MAGNETIC GAS-LIGHTING APPARATUS. — Friedrich Heyl and Philipp Diehl, East New York, N. Y.

Claim.—The combination of the valve *a*, lever C,

and prong *f*, with the projecting plate *e* and electric conductors E F, all arranged to operate substantially as herein shown and described.

116,055. — MACHINE FOR TEARING UP LEATHER.—Edward S. Hidden, Millburn, N. J.

Claim. — 1. The combination, substantially as herein set forth, of a feeding-box, a follower or piston, and a set of revolving tearing-teeth, such teeth having intervals between them in the direction of their axes of revolution, and the combination being such that the teeth tear over the whole exposed surface of the material acted upon, substantially as described.

2. In combination with a feeding-box, a follower and a set of revolving tearing-teeth, all constructed and operated substantially as specified, a set of revolving clearers, acting as described, to clear out the tearing-teeth.

3. The combination of a feeding-box, a follower, a set of revolving tearing-teeth, and two sets of clearers, all operated and constructed substantially as set forth.

4. The combination of a feeding-box, a set of revolving tearing-teeth, a follower or piston, and a contrivance for jetting streams of water upon the teeth, all constructed and operating substantially as herein specified.

116,056.—BAND AND EDGING-GUIDE FOR SEWING-MACHINES. — Elijah Leavitt Howard, Malden, assignor to George Augustus Whiting, Charlestown, Mass.

Claim.—My improved band and edging-guide mechanism, made as described, viz., with the band and edging-guides A B G arranged and provided with adjustable gauges, as set forth, and with lateral openings *m m* and edge-receivers *e* and openings *f* to the band-guides, and with the edge-guide G adjustable relatively to the band-guides, and provided with a clamp-screw, all as set forth and represented.

116,057.—CLOTHES-PRESSING MACHINE.—Patrick Howe, Boston, Mass.

Claim.—1. The arrangement of the adjustable treadle *c*, bearings *d d*, levers *h h*, and bearings *i i*, and spiral springs *p p*, for the purpose set forth.

2. The construction of the bearings *r r* for the rail *y*, consisting of the forked blades with the slot-holes *u u* and projections *s s*, surrounded by the spiral spring *t*, in a manner and for the purpose described.

3. The press-board *v*, having one single support, *v'*, and provided on the inside with the ribs 3 3 3 3 and air-spaces 4 4 4 4, for the purpose set forth.

4. The construction and arrangement of the screw-threaded bolt 9, provided with the slot-hole 13, in combination with the handle 10 and the forked bearings 11 11, in a manner set forth, and for the purpose described.

5. The triangular frame 7 7 7, in combination with the rollers 6 6, hub 8, and bolt 9, for the purpose set forth.

116,058. — COOKING-STOVE.—William Jenkins Hoxworth and Silas Hoffman La Rue, Allentown, Pa.

Claim.—1. The fuel-magazine G, arranged on one side of the center of the fire-chamber C, and provided with a passage, J, leading into it at a point above its lower end, substantially as described.

2. The adjustable inclined plate S, arranged at the lower end of the fuel-magazine G, and adapted to operate substantially as described.

116,059.—RAILWAY.—Henry Temple Humphreys, West Limerick, Ireland.

Claim.—1. The combination of the metal cap *d*, the double-headed rails *b*, under-griping or guide-wheels *m*, and carrying-wheels *f f*, when constructed and operating together, as described.

2. The combination of the double-headed rails *b*, griping-wheels *m*, adjusting-rod k^x, suspension-rods l^x, and support-wheels *f*, when constructed and operating together, as and for the purpose described.

116,060. — PRINTING-PRESS. — Truman H. Ide, Claremont, N. H.

Claim.—1. The bed-plate E, supported and adjustable on the rails O, when combined, as described, with table D, for the purpose specified.

2. The vertically-adjustable beam H, held by the crossed levers I, and connected with the platen, and by said levers with the table D, substantially as herein shown and described.

116,061. — ROCKER FOR CRADLES, &c.—Richard A. Jackson, Alliance, Ohio, assignor to himself, Francis G. Walker, and Patrick Fetherstone, Allegheny, Pa.

Claim.—A new article of manufacture, viz., a rocker, provided with a plain groove and sockets, in which are secured the strip B and stops C, said strip and stops being in separate pieces from each other, as herein described.

116,062. — HAND-CAR. — David Johnston, Eddyville, Iowa.

Claim.—The railroad hand-car, constructed with the suspended adjustable beam G, foot-levers or treadles J J, crank-axle F, and pull-ropes *e e*, all arranged and combined substantially as described and shown.

116,063.—HARVESTER. — Samuel Johnston and Charles H. Jenner, Brockport, N. Y.; said Jenner assigns his right to said Johnston; said Johnston assignor to James S. Thayer, New York city.

Claim.—1. In a one-wheeled harvesting-machine, the main drive-wheel mounted in a yoke or frame which vibrates about the secondary pinion-shaft as a center, in combination with a grain-wheel mounted on a crank-arm of a rock-shaft operated from the drive-wheel shaft, substantially as set forth.

2. The yoke I I^1 I^2, in combination with the main frame, drive-wheel, secondary shaft, and a lifting device applied to the yoke and main frame, substantially as set forth.

3. The combination of lever N, standard O, link N', and standard M with the tongue and main frame, substantially as set forth.

4. The reel-bearer Q', pivoted at the main axle, in combination with the standard S' mounted on the main frame, made adjustable relatively to the main axle, substantially as set forth.

5. The reel-bearer Q, pivoted to the platform, in combination with the standard S mounted upon the crank-arm of the rock-shaft, substantially as set forth.

6. The movable socket P' and sliding block P, in combination with the lever N, standard O, and spring o^1, constructed and operating substantially as set forth.

7. In combination with the main frame and vibrating yoke, the tripod K *k k k*, screw L, and link *l*, substantially as set forth.

116,064. — WALL OR WAINSCOT-CHAIR.—John L. Kapple, Chicago, Ill.

Claim.—The combination of the hinged seat C, hinged swinging bracket D, and spring *g*, arranged and operating so as to compose a wall or wainscot chair, as specified.

116,065. — REFINING IRON AND STEEL.—William H. Kimball, Boston, Mass.

Claim.—The employment of the bromide of potassium in combination with the ordinary carbons and fluxes used in the process of producing iron or steel.

116,066.—MAGAZINE FIRE-ARM.—John L. Kirk, Mattoon, Ill.

Claim.—1. The slide *n* and spring catch O, arranged, as shown and described, to operate as and for the purpose specified.

2. The breech-plate P *p* and spring S, arranged, as shown and described, to operate as and for the purpose specified.

116,067.—TRACE-HOOK ATTACHMENT.—Jacob B. Kook and John S. Shrawder, Fairviewville, Pa.

Claim.—As an article of manufacture, the trace-hook herein described, formed of the body A G, leaves D D, stud E, and loop or ring F, constructed and arranged as shown and described.

116,068.—BREECH-LOADING FIRE-ARM.—James Lee, Milwaukee, Wis., assignor to Philo Remington, Ilion, N. Y.

Claim.—1. The combination of a hammer and hook attached, and a breech-block hinged at its rear end, with a firing-pin passing through it, so that on pulling back the hammer to half-cock the hook shall first draw back the firing-pin and then draw down the breech-block to a loading position, substantially as described.

2. In combination, the mainspring-lever, breech-block, and hook, whereby the double purpose of raising the breech-block and of disengaging the hook therefrom is effected, substantially as described.

3. In combination with a breech-block, hinged at its rear end, and drawn down by the hammer, an ejector that catches and holds said breech-block, and that closes or bridges the space between said breech-block and the frame of the arm, and that is acted upon by the mainspring to bind it against said block and frame, substantially as described.

4. The combination of a breech-block, hinged at its rear end, with the hammer, lever, and mainspring for the purpose of closing the breech and of operating the hammer, substantially as described.

5. The combination of the hammer, hooked lever, and mainspring, for the purpose of engaging and disengaging said hook with the breech-block, substantially as described.

6. The combination, herein shown and described, of a breech-block, hinged at its rear end, and an ejector near its front end, whereby said ejector hooks over and holds said breech-block when it is drawn down to a loading position, substantially as described.

7. The mechanism herein shown for drawing back the firing-pin by or through the medium of the hammer as it is raised, substantially as described.

8. The combination and relative arrangement of the hammer and mainspring, arranged for operation as described, whereby the mainspring is attached and moves with the hammer, substantially as described.

116,069.—CONSTRUCTION OF CARS.—John E. Looper, Godfrey, Ill.

Claim.—1. The combination of the beams A, cross-bars C, outer and inner sheet-metal shells D F, and the T-ribs E, all substantially as specified.

2. The combination, with the above, of the perforated floor H and the concave plate I, substantially as specified.

3. The bottom H and the inner shell F, being perforated, and having the air admitted to them from the space below the floor, all substantially as specified.

116,070. — SIDE-HILL PLOW.—George W. Leonard, Middle Valley, Pa.

Claim.—The combination of the pivoted adjustable plate B with the double mold-board of a swivel or side-hill plow, substantially as herein shown and described, and for the purpose set forth.

116,071. — WATER-WHEEL. — George W. Leonard, Middle Valley, Pa.

Claim.—The curved flutes, shoulders, or offsets *c'*, formed in the inner surface of the outer sides of the buckets C, substantially as herein shown and described, and for the purpose set forth.

116,072.—ROOF-GUTTER.—James F. Lockwood, Taylorville, Ill.

Claim.—A roof-gutter of sheet metal to be placed on the roof, the channel being formed by the curved side A and inclined plane B, the latter extending up under the shingles, and the gutter being supported and having the adjustable fastening, as herein described and shown.

116,073.—BABY-WALKER.—Conrad Maschmann, Watertown, N. Y.

Claim.—The baby-walker, consisting of the ring A, legs B B, straps C, belt D, flexible removable seat E, and hinged table F, all combined substantially as herein shown and described.

116,074, antedated June 8, 1871. — SAW-SET. — George W. May, Baldwinsville, Mass., assignor to himself and Daniel L. Thompson, same place.

Claim.—1. The lever B, carrying the set C, and operating the feed-lever G by means of the lever E and cam F, substantially as described.

2. The removable feed-lever G, having the spring tooth I, in combination with a hand-lever and a cam, F, substantially as and for the purpose described.

3. In combination with the removable feed-lever G, having spring tooth I, the pin M, substantially as described.

4. The adjusting-screw K, in relation to the projecting arm E of the hand-lever, substantially as and for the purpose set forth.

5. The adjusting devices, consisting of set-screw K, cam F, and pin M, in connection with the feed-lever G and hand-lever B, substantially as and for the purpose set forth.

116,075.—TENONING-MACHINE. — Andrew C. McQuaid, Wenona, Ill., assignor to Edward L. Mouser, same place.

Claim.—The adjustable guide M, in combination with the guide H and knife C, arranged to operate substantially as and for the purposes described.

116,076.—FASTENING FOR MEETING-RAILS OF SASHES.—Charles Morrill, New York, N. Y.

Claim.—The combination of the sliding slotted toothed jaw B, the stationary toothed jaw A, holding-plates C C', and locking-lever D, all constructed, arranged, and operating substantially as and for the purposes herein specified.

116,077. — WRENCH AND PIPE-TONGS.—James A. Morrison, Brady's Bend, Pa.

Claim.—The jaws B B, serrated on their concave inner surfaces, and pivoted to the tenoned and curved ends of the handles A A, as shown and described, whereby said parts are adapted to operate, as specified, to clamp tubes and other articles.

116,078.—REVOLVING FIRE-ARM.—John L. Moss and Edward W. Johnson, Columbus, Miss.

Claim.—1. The breech-plate D, provided with the grooved recesses to constitute a holder of cartridges and shell-extractor, as set forth.

2. The sliding cylinder B, combined with the rotary breech-plate D, substantially as herein shown and described.

3. The barrel C, connected and combined with the rotating reciprocating cylinder B, substantially in the manner herein shown, so that it can slide together with the same, as specified.

4. The guide-pins *e e*, combined with the sliding barrel C and the frame, substantially as herein shown and described, for the purpose specified.

5. The lever E and link *f*, combined with the sliding barrel and cylinder to operate the same, as set forth.

6. The base-pin A, grooved lengthwise, combined with the headed keys *d*, whereby the sliding and also the rotating motion of the cylinder is obtained, as specified.

116,079.—CENTER-BOARD FOR VESSELS.—John J. Moule, Huntington, N. Y.

Claim.—1. The combination of the center-board A with the end strap C, substantially as and for the purpose herein shown and described.

2. The second chain *e*, combined with the strap C and center-board, substantially as herein shown and described.

116,080.—GRATE-BAR.—William Muir, Archibald, and Pierce Butler, Carbondale, Pa.

Claim.—A furnace-grate having broad base, narrow oval top, concave sides, and grooved and apertured bottom, all made of cast metal and in one piece, as specified.

116,081.—CLOTHES-DRIER.—John F. Mullowny, Pittsburg, Pa.

Claim.—The telescopic extension staff having long socket B and threaded socket below it, combined with the movable rack-staff F G, carrying-arms M, and the base C, having screw D, all constructed, arranged, and applied together as and for the purpose specified.

116,082.—DOOR-BELL.—Wallace T. Munger, New Britain, Conn., assignor to P. & F. Corbin, same place.

Claim.—The tumbler *s* and arm *t*, in combination with the spur-cam wheel *r*, stops 2 2, and bell-hammer *d i*, the parts being arranged and operating substantially as and for the purposes set forth.

116,083.—APPARATUS FOR STEAMING, FILTERING, &c.—John Murdock, South Carver, Mass.

Claim.—1. The stand A, composed of the funnel B, flange B′, and legs E, and either with or without the cone F and pipe H, substantially as and for the purposes herein shown and described.

2. The combination of the stand A and cask D, substantially as and for the purposes described.

116,084, antedated June 17, 1871.—SAFETY-VALVE. — Adolphus F. W. Neynaber, Philadelphia, Pa.

Claim.—The construction of valve A, substantially as and for the purpose hereinbefore set forth.

116,085.—SLEIGH-BELL.—William H. Nichols, East Hampton, Conn., assignor of one-half his right to Robert H. Hall, same place.

Claim.—1. As a new article of manufacture, a sleigh-bell composed of two sections, A C, of sheet metal, hardened, the one being formed with a flanch, *a*, and the other with a concave rim, whereby the parts are joined, substantially as set forth.

2. In combination with a sectional sleigh-bell, A C, having a flat base provided with two slots, the plate-clamp E, inserted and bent, as herein set forth, to rigidly secure the bell to the strap.

116,086.—WATER-SUPPLY ATTACHMENT TO WASH-BASINS.—Frederick Norboe, Chicago, Ill.

Claim.—In combination with the reservoir or supply-pipe C, the double-acting faucet-stopper G, pipes B and E, sleeve M, valve P, and discharge-pipe N, the whole arranged to operate together substantially in the manner and for the purpose described.

116,087.—BUTTON-NEEDLE AND FASTENER. John August Ostburg, Boston, Mass.

Claim.—1. As a new article of manufacture, the eye-pointed needle *a*, constructed so as to carry the fastener or anchor *f*, as fully set forth and described.

2. The fastener *f*, provided with an eye, and having one end, *g*, pointed and the other end, *h*, curved, in a manner and for the purpose as fully set forth and described.

116,088.—MANUFACTURE OF CUTTER-BAR HEADS FOR HARVESTERS.—Amos Padgham, Syracuse, N. Y.

Claim.—A cutter-head or heel, constructed as herein described, of a cutter-bar, by welding a steel bush or plug into a wrought-iron forging, forming a permanent hardened-steel lining to the eye thereof, as and for the purposes herein set forth.

116,089.—TENONING-MACHINE.—George W. Passel, Cincinnati, Ohio, assignor to J. A. Fay & Co., same place.

Claim.—The combination, in a tenoning-machine, of the cutter-heads and shafts when belted at the side of the machine, and when both or either of them are made laterally and vertically adjustable, substantially as described.

116,090. — EXTENSION SHANK FOR BORING-BITS. — William S. Pattin, Portsmouth, Ohio.

Claim.—In combination with a stock, D, slotted and having a clamp-dog at the end, and a sleeve, B, to close it, the flat-sided bit-shanks converging diminishingly upward, and the threaded nut C placed above the sleeve for the purpose of locking the bit more securely and preventing lateral play thereof.

116,091.—CUT-NAIL MACHINE.—Archie W. Paull and John Morgan, Jr., Wheeling, W. Va.

Claim.—As our improvement of nail-cutting machines of the character generally herein described, the particular construction of the rotary cutter-stock—that is to say, with lateral eccentric flanges for operating the pivoted nail-cutter D, preventing lateral displacement of the nail-plate, and alternating reversely-inclined recesses in and extending across its periphery between the cutters, all as described, and for the purpose specified.

116,092.—HEMP-HATCHELING MACHINE.—George W. Pittman, Brooklyn, N. Y., assignor to Samuel L. Thursby, same place, and Todd & Rafferty, Paterson, N. J.

Claim.—The cylinder *b* armed with radial-pointed teeth, and the cylinder *c* armed with inclined-pointed teeth, the latter traveling faster than the former so as to draw and comb the fiber, in combination with the feeding-rollers *a a* and drawing-rollers *e*, as and for the purposes set forth.

116,093. — COMBINED SUSPENDER AND SHOULDER-BRACE. — Thomas O. Potter and Joseph William Smith, Boston, Mass.

Claim.—1. A suspender and shoulder-brace combined, consisting of the shoulder-straps A A′ and the dorsal-strap B, and the connecting-straps D D′ when the front ends of the shoulder-straps are free and when the dorsal-strap is connected to each of the shoulder-straps at C, and also by means of connecting-straps D D′, the whole being substantially as described.

2. The combination of the shoulder-straps A A′ and dorsal-strap B (when united together at C) with the connecting-straps D D′ and their attachments E F F, whether these connecting-straps be adjustable or not, the whole arranged and operating substantially as described.

116,094.—METALLIC CARTRIDGE.—Timothy J. Powers, New York, N. Y.

Claim.—The combination and relative arrangement, herein shown and described, of the internal flange *a* and cap-pocket or battery-cup *b*, whereby the said battery-cup is secured in position and a gas-tight connection effected, as set forth.

116,095. — PROPELLING BOATS BY OARS.—Thomas G. Pringle, New York, N. Y.

Claim.—1. The oar-lock, formed in two parts, F G, constructed and arranged as and for the purpose specified.

2. The combination of the row-lock F G, constructed as described, journals D, studs C, plates B, and segmental gear-wheels E with each other and with the adjacent ends of the parts a^1 and a^2 of the oar A, substantially as herein shown and described, and for the purpose set forth.

116,096. — HOISTING-MACHINE.—Henry J. Reedy, Cincinnati, Ohio.

Claim.—1. The combination of the ratchet-wheel or its equivalent and a stationary pawl, substantially as and for the purposes specified.

2. The combination of hoisting-axle, slotted journal, ratchet-wheel or its equivalent, and stationary pawl, substantially as and for the purposes set forth.

3. The clutch N N′, of which one-half, as N, is attached to the hoisting-axle X, and the other half, as N′, is attached to the axle of operating gear, substantially as and for the purposes set forth.

4. The combination of clutch N N′, hoisting-axle X, slotted journal S, ratchet-wheel N, and stationary pawl P, substantially as and for the purposes specified.

116,097.—POLICE-BATON.—Henry C. Reichard, Pottsville, Pa., assignor to Sol. Foster, Jr., same place.

Claim.—1. The combination of the rattle devices D S R with the baton A, when arranged in relation to each other so that the baton can be secured in a straight rigid position to the handle by means of the plates *b* and *b′*, stays C C, and catches *c c*, substantially as described.

2. The combination of the chamber E with the police-baton A, for containing the manacles F F, substantially as described.

116,098.—TUBE-FASTENING OF CONDENSERS. George H. Reynolds, New York, N. Y., assignor to himself, C. H. Delamater, and A. K. Rider, same place.

Claim.—1. The tapering thimbles C, arranged, as represented, in correspondingly-tapered holes made through the tube-sheet A, so as to make a tight fit around the tube B and provide for variations in the sizes of the parts, as herein specified.

2. The arrangement of the cut and bent portion *b* of the metal of the tube, so that its cut end shall abut against the thimble C to serve directly to prevent the end movement of the tube or thimble, as specified.

3. The entire tube-fastening, having a tapering thimble fitted in a tapering hole extending through the tube-sheet, and retained by an abutting portion, *b*, of the metal of the tube, all constructed and arranged for joint operation, as and for the purposes herein specified.

116,099.—SLIDE-VALVE.—Alexander K. Rider, New York, N. Y., assignor to himself, C. H. Delamater, and G. H. Reynolds.

Claim.—1. The side bearings of the main valve G and of the pieces I and J, arranged, as represented, relatively to each other and to the exhaust-ports H, so that when the steam begins to be received upward through the small port *g* to act on the valve *g* to complete its throw, the exhaust-passages or ports H shall be covered until the valve has leaped forward, and shall then be opened widely, as herein specified.

2. The top bearing-ring G′, mounted on the main valve G, and operating as represented against the parallel surface or bearing on the upper side of the interior of the steam-chest, opposite the cylinder-face, in combination with the means I and J, or their equivalents, for commencing the throw of the valve G by a positive movement of the mechanism, and also with the ports *g*, arranged as specified, and adapted to allow the completion of the throw of the valve G by direct steam-pressure, as herein specified.

116,100.—CULTIVATOR.—Thomas B. Roberts, Franklin, Ill.

Claim.—A straddle-row cultivator having three turn-plows on each of two beams, the foremost two arranged to turn from the row of plants, and the hindmost one throwing the pulverized dirt back and up to the roots of the crop, as described.

116,101.—FEATHER-RENOVATOR. — James C. Rose and John F. Silversmith, Albany, N. Y.

Claim.—1. The arrangement of the feather-chambers B′ and B″ within the renovating-box B with a connecting passage between, whereby the feathers may be alternately received and discharged from one of the said chambers to the other in the process of the manipulations of the feathers, substantially as set forth.

2. The arrangement of the D-shaped steam-chambers C C centrally between the feather-chambers B′ B″ and opposite each other, with a space between, whereby the said steam-chambers are made to act as heaters, hoppers, and divisions for the said feather-chambers B′ B″, substantially as set forth.

3. The arrangement of the feed steam-pipe D, hollow journal *b*, and exhaust-pipes F F, with the steam-chambers C C, whereby the said steam-chambers can be supplied with steam independently from the chambers B′ B″, substantially as and for the purpose set forth.

4. The arrangement of the perforated steam-pipe E in the passage-way between the feather-chambers B′ B, and the steam-chambers C C, to operate on the feathers when passing from one chamber B′ to the other chamber B″, substantially as set forth and shown, for the purpose specified.

5. The arrangement of the trunnions *b b* and their bearings *a a* with the renovating-box B, provided with the two feather-chambers B′ B″ placed opposite each other, whereby the said chambers may have their relative positions alternately reversed, substantially as and for the purpose set forth.

6. The arrangement of the pickers G G in the passage-way between the steam-chambers C C and feather-chambers B′ B″, whereby the said pickers are rendered capable of operating on the feathers in small quantities to draw the same from the chamber B′ above to the chamber B″ below, in the while the said feathers are being disintegrated or otherwise manipulated, substantially as set forth.

7. The arrangement of the fan-blower H with a doubled-chambered renovating-box, provided with pickers G G placed between the chambers B′ B″, and operating simultaneously with the same, whereby the feathers will be acted upon in small quantities to be discharged, dried, and sorted, substantially in the manner set forth.

116,102.—TREATMENT OF SACCHARINE LIQUIDS. — George L. Rundle, Greenville, N. Y.

Claim.—1. The fumigation of vessels, to contain saccharine fluids, with the combined vapor of brimstone, kino, and benzoin, in the manner and for the uses and purposes substantially as herein shown and described.

2. The process for treating sweet cider, as set forth and described.

3. The process for treating "dry" cider, as set forth and described.
4. The fumigator, Fig. 3, as herein described.
5. The composition pastil, as herein described.

116,103.—SAFETY APPARATUS FOR HOISTING-MACHINES.—William T. Sands, New York, N. Y.

Claim.—1. The spring F, combined by the bolt *e* and with the lever L, for automatically regulating the brake or safety attachment, as set forth.
2. The lever L combined with the slide J, sleeve H, and rod G to operate and lock the platform, substantially as herein shown and described.
3. The rod G fitted through sleeve H, which has the loose section *e*, and works in the eccentric jacket I, substantially as herein shown and described.

116,104.—BOILER.—William P. Skiffington, New York, N. Y.

Claim.—The combination of expansion joints B and square flanches C, arranged on the ends of boiler-tubes A, substantially as and for the purpose hereinbefore set forth.

116,105.—METALLIC CARTRIDGE.—William S. Smoot, Ilion, N. Y.

Claim.—The combination, herein shown and described, of the closed tube A and disk *c*, whereby said disk is secured to the body of the cartridge, the fulminate-pocket formed, and the anvil secured in place, when said head is riveted to the cylinder by the metal of which said cylinder is composed, and forms a head and flange, both as described.

116,106.—BREECH-LOADING FIRE-ARM.—William S. Smoot, Ilion, N. Y.

Claim.—The solid block E, interposed between the open rear end of the chamber and the bearings on the frame, in combination with the link F and tumbler I, as and for the purpose described and represented.

116,107.—BOTTLE-CAPPING MACHINE.—William H. Sperling, Washington, N. J.

Claim.—The arrangement and combination of the jaws A and C with a spring and treadle, when the former are made to operate substantially as and for the purpose described.

116,108.—BOBBIN.—John N. Stearns, New York, N. Y.

Claim.—The tubular axle, soldered to the sheet-metal heads A A of a swift, and covering the heads of the rivets *a*, which constitute the gudgeons, substantially as herein shown and described.

116,109.—GRAND PIANO.—George Steck, New York, N. Y.

Claim.—The improved grand piano-forte iron frame, as herein described, having the entire space back of the bridge G and between it and the border parts F J of the frame open and free for the transmission of sound, and arranged in connection with the wooden case, substantially as herein specified.

116,110.—ELECTRO-MAGNETIC MEDICAL APPARATUS.—Albert J. Steele, Brooklyn, N. Y.

Claim.—1. The bath-cup A, combined with the cover B, which constitutes one element, and with the other element, C, suspended therefrom, as set forth.
2. The combination, within and on the block D, of the coil E, rods *b c*, binding terminals *p q*, helix F, spring armature G, and screw *m*, all arranged substantially as herein shown and described.
3. The adjustable magnets or plugs H I J of different strength, arranged in the electro-medical generator for producing currents of suitable strength, as set forth.
4. The case N, combined with the electric battery A and apparatus D for inclosing, and provided with springs *t* for supporting, the same, as set forth.
5. The sponge or cup-holder L, provided with the pin *r*, and arranged substantially as shown and described.
6. The combination of the cup A, block D, cups M and O, and inclosing-case N with each other, all arranged to operate substantially as herein shown and described.

116,111.—WASHING-MACHINE.—T. H. Stewart, Winona, Miss.

Claim.—A washing-machine, with its rubbing-board C and revolving rubber D constructed with openings, in combination with box A, standing so inclined that the suds or water is conducted through openings E', in the manner shown and described.

116,112.—FISH-HATCHING APPARATUS.—Livingston Stone, Charlestown, N. H.

Claim.—A fish-hatching box or trough, carbonized or charcoal-lined, as described.

116,113.—TENSION MECHANISM FOR SEWING-MACHINE SHUTTLES.—Joseph W. Strange, Bangor, Me.

Claim.—1. In combination with shuttle *c*, the spring *d* and block *e*, when all are constructed and arranged to operate substantially in manner as and for the purposes specified.
2. The sliding bar C, with its spurs *f* and *f'*, when constructed and arranged to operate substantially as and for the purposes specified.

116,114.—CAN-FILLING AND SOLDERING APPARATUS.—Leopold Charly Straub, Pittsburg, Pa.

Claim.—1. The rotary frame B, carrying the several swivel-disks C C^1 C^2, whereon a number of cans can be supported to be filled, closed, and soldered, as set forth.
2. The shaft E and pinion *e*, combined with the gear-wheels *c*, arbors *b*, and spring catches *k*, all arranged to operate substantially as herein shown and described.
3. The hopper F hinged to the post A, which carries the rotating swivel-disks C, C^1, and C^2, to be used for filling cans, as set forth.
4. The spring-bar G, carrying the lamp H, vessel I, and tube *f*, to constitute a soldering apparatus, as specified.

116,115.—SAD AND FLUTING-IRON.—Joshua E. Swift, New York, N. Y.

Claim.—1. The swinging fluted segment *d*, in combination with the sliding bed *b*, handle *g*, and iron *a c*, substantially as set forth.
2. The stop *e* upon the swinging fluted segment *d*, in combination with the fluted sliding bed *b* and iron *a c*, substantially as and for the purposes set forth.
3. The pin *i* in a segmental slot in the portion *f* of the handle, in combination with the pin or rivet *h*, smoothing-iron *a*, standard *c*, and fluted segment *d*, substantially as and for the purposes set forth.

116,116.—MACHINE FOR SOWING PULVERULENT MANURES.—N. G. Swift, Hart's Village, N. Y.

Claim.—The arrangement of box A, roller C, spring pressure-bar D *a*, gauge E, and spring clearer G H, as and for the purpose specified.

116,117.—GAME-SIGNAL.—William M. Tileston, New York, N. Y.

Claim.—The toy herein described, consisting of handle A, spring B, plug C, and toothed wheel D, all the parts arranged as and for the purpose described.

116,118.—BOILER-FLUE SCRAPER.—Hermann Voelker, Newark, N. J.

Claim.—1. The sliding heads C C, applied loosely to the stem A to receive the springs B, and combined with the sliding sleeves D D, substantially as herein shown and described.
2. The nuts E and F, applied to the ends of the stem to retain the springs, in combination with the heads C and sleeves D, and so shaped as to constitute, respectively, the point and coupling of the stem, as set forth.
3. The scrapers *d*, arranged in zigzag rows around and upon the springs B, substantially as herein shown and described.

116,119.—WAGON-SEAT.—Henry Wahlstedt, Princeton, Ill.

Claim.—The combination of the supplementary seat B, seat-support C, and sliding rod D, substantially as described and for the purpose set forth.

116,120.—HARVESTER-DROPPER.—John N. Wallis and Theodore Wallis, Fleming, N. Y., assignors of one-third of their right to Henry G. Wise, same place.

Claim.—1. The dropper B and beater E, combined with a carrier, D, as described, arranged in close proximity thereto, to enable the former to throw the grain on the latter, as specified.
2. In combination with the above, the described mechanism for operating the same, as set forth.

116,121.—LAMP-CHIMNEY CLEANER.—Lewis Ward, Poughkeepsie, N. Y.

Claim.—The combination of the staple C with the sponge B and the handle A, as and for the purpose specified.

116,122.—GRAIN-CLEANER.—John H. Weaver, Gap, Pa.

Claim.—1. The screen Q and shoe K, combined with grooved and pivoted arms S and slotted arms T, as and for the purpose specified.
2. The screen Q, movable plate U, bar V, shoe K, and screen O, combined, constructed, and arranged as and for the purpose specified.
3. The box B, having end projections R, vertical gates W W, and pivoted bottom X, constructed and arranged as and for the purpose specified.

116,123.—ROUNDER FOR REINS.—David Webber, Houlton, Me.

Claim.—1. The combination of the wheels B C, having grooves varying in size formed in their faces, bars A, wedge-key E, screw D, plate, bolt, and nut F G H, brake-block K, and crank-screw L M with each other, substantially as herein shown and described.
2. The combination of the gear-wheels J and crank I with the wheels B C, for the purpose of adjusting said wheels, substantially as herein shown and described.
3. The combination of the wheels B C, having grooves varying in size formed in their faces, bars A, wedge-key E, screw D, plate, bolt, and nut F G H, crank I, gear-wheels J, brake-block K, and crank-screw L M with each other, substantially as herein shown and described.

116,124.—BUCKLE.—David Webber, Houlton, Me.

Claim.—The buckle-frame A C C having the cross bars B B flush with the sides, in connection with the rectangular clamp having curved sides G G working in grooves F F, and the piece H, elongated at each end to rest upon the frame, the whole being arranged and operating substantially as shown and described, and for the purpose set forth.

116,125.—APPARATUS FOR COLORING WARPS.—Nelson D. White, Winchendon, Mass.

Claim.—1. The combination, with the coloring-tank A, provided with a series of yarn-rolls, C, and draft-rolls F F' of the yarn-guides *e d*, supporting-rolls G, separating-rod or pin K, and holding-pin *e*, substantially as and for the purposes set forth.
2. The swinging frame I, provided with comb-guides *d*, and separating-rod K, substantially as and for the purposes set forth.
3. The combination, with the delivering-beam E, receiving-beam H, and supporting-rod G, of guides *e d* and separating-rod K, substantially as and for the purposes set forth.

116,126.—BROOM.—William E. S. Whitman, Augusta, Me.

Claim.—The method of manufacturing a broom, as herein shown, combining the handle A, screw B, the socket C having the threaded aperture D and shoulder E, and the broom F, substantially as described, for the purposes set forth.

116,127.—DUMPING-CAR.—Jacob C. Wiswell, Lennoxville, Canada, and Frederick A. Wiswell, Beebe Plain, Vt.

Claim.—1. In combination with the railroad car, a platform, D, made in two longitudinal sections, *a b*, hinged together at *c c*, and applied, as and for the purpose specified.
2. The levers E E F F, combined with the hinged leaves *a b*, and with the nuts *m* and screws *h*, to operate substantially as herein shown and described.

116,128, antedated June 6, 1871.—FLOOR-COVERING, ROOF, &c.—David Ludwig Wolff, Chicago, Ill., assignor to himself, Matthias Poncelet, and Henry Nass.

Claim.—As a new article of manufacture, the roofing or flooring-felt, prepared substantially as herein described.

116,129.—FURNACE FOR MELTING ORES AND METALS.—William S. Wood, Newtown, N. Y.

Claim.—Admitting a current or currents of atmospheric air into a melting-cupola or pot, substantially as and for the purposes described.

116,130, antedated June 7, 1871.—PROPELLING APPARATUS FOR LAND CONVEYANCES.—Jacob Woolf, Burr Oak, Mich.

Claim.—1. In combination with the eccentric annular weight M and elevating-cranks L, one or more planet-wheels, which turn the said elevating-cranks by their axial rotation, and have an orbital revolution around the central wheel and shaft, as explained.
2. The concentric shafts I and O, in combination with the eccentric annular weight M, elevating-cranks L, and connecting or planet-wheels, as represented and described.

116,131.—STEAM-PUMPING ENGINE.—Henry R. Worthington, New York, N. Y.

Claim.—A duplex engine, consisting of two independently-acting steam-cylinders of different sizes, the movement of the piston in the high-pressure or smaller cylinder operating the valve of the larger or low-pressure cylinder, the piston of which, in turn, operates the valve of the high-pressure or smaller cylinder, between which said cylinders is interposed an equalizer or reservoir admitting the steam from the high-pressure and delivering it into the low-pressure or larger cylinder, all constructed, arranged, and operating substantially as herein shown and described, and for the purposes set forth.

116,132.—HAND-STAMP.—Parker O. Wright, Oswego, N. Y.

Claim.—A pivoted lever, A, having vertical play, in combination with a canceling-stamp, G, a circular cam-flange, P, and one or more springs, S S, when the lever and the cam-flange are arranged substantially as described, so that a revolution of the one or the other shall produce a successive lifting and dropping of the lever and stamp, in the manner and for the purpose herein set forth.

116,133.—Folding Easel.—Rufus Wright, Brooklyn, N. Y.

Claim.—1. The central bar A, the uprights G G, the bottom pieces H H, the two pairs of joint-bars I I and L L, and brace-hooks M M, arranged substantially as and for the purposes described.

2. An easel so constructed that the uprights may fold toward the center, substantially as described.

3. In combination with an easel, the cam-fastening F, substantially as shown and described.

116,134.—Split Casting.—James Yocom, Jr., Philadelphia, Pa.

Claim.—A metal casting which is separated or split by means of one or more pieces of metal, which form, when the wheel is cast, interlocking joints for the sections, substantially as described.

116,135.—Compound for the Cure of Spavin.—William J. Andrews, East Machias, Me.

Claim.—The combination of the within-named ingredients, compounded, substantially as and for the purpose described.

116,136.—Tobacco-Cutter.—José M. Aguayo, Boston, Mass.

Claim.—A knife or cutter, combining a fixed blade, B, and a free wheel-blade, E, substantially as and for the purpose described.

116,137.—Manufacture of Glass.—William Henry Balmain, St. Helen's, Great Britain.

Claim.—1. The use of caustic alkali of the purity described, in the manufacture of glass.

2. Glass produced by the use of a caustic alkali of the purity described.

116,138.—Bucket for Chain-Pumps.—William C. Barker, Ypsilanti, Mich.

Claim.—1. The semi-spherical elastic bucket A, provided with apertures *a b*, arranged, when drawing water, with the spherical part uppermost, as described and shown.

2. The combination of the bucket A, provided with leak-holes *a*, the washer or button B, and loop-link C, when each is constructed and arranged to operate as set forth.

116,139.—Slate-Frame.—William N. Bartholomew, Newton Centre, Mass.

Claim.—1. An elastic corner for slate-frames, composed of a metallic supporting and holding-plate, made substantially as described, and a vulcanized-rubber head placed upon the said plate while in the green or plastic state, and then united therewith by vulcanization, as set forth.

2. The combination of an elastic corner, made as described, with the corner of a slate-frame, the shank of the holding-plate being let into the frame, and the two being united by the same rivet which fastens together the adjoining ends of the frames, substantially as shown and set forth.

116,140.—Broom-Holder.—Charles T. Beardsley, Hamden, Conn.

Claim.—The herein-described broom-holder, consisting of the socket A and India rubber ring B, substantially in the manner described.

116,141.—Machine for Molding Pipes.—Benjamin S. Benson, Baltimore, Md.

Claim.—1. In combination with the revolving flask D, the sliding packer D', packer-shaft *e*, and the steady-shaft F, as and for the purpose described and represented.

2. In combination with a revolving flask and sliding packer, the hopper, measuring-wheel, and conveyer, when timed and regulated to run together and deliver to the flask measured quantities of sand, as and for the purpose described.

3. The air-tubes *h i*, arranged in connection with the friction-rolls 2 and the shafts *F e*, as and for the purpose described and represented.

116,142.—Purifying Pyroligneous Acid.—Carl Frederich Binder, Philadelphia, Pa.

Claim.—The treatment of the vapor of pyroligneous acid by subjecting the same to sulphuric acid and manganese, substantially in the manner described.

116,143.—Water-Back for Stoves.—Abner J. Blanchard, Boston, Mass.

Claim.—The combination, with a cooking or heating-stove or range, of a water-back, when said parts are constructed and arranged substantially as herein shown and described, to permit the water-back to be readily withdrawn from and inserted in said stove or range.

116,144.—Cotton-Press.—James P. Bolin, Orangeburg county, S. C.

Claim.—The arrangement, in the cotton-press herein described, of the frame L, follower H, levers F F, braces G G, wheel D, chain or rope E E, rope C, and windlass B, when all these parts are constructed and operated as shown and described, for the purpose set forth.

116,145.—Fur-Box.—Henry Braunhold, New York, N. Y.

Claim.—A fur-box cut in an oblique direction, and containing in one part a reversible semi-cylindrical muff-receiver and in the other a covered collar-receptacle, substantially in the manner herein shown and described.

116,146.—Fire-Place.—Phillip Brecher, Louisville, Ky.

Claim.—1. The basket-grate C C' formed in two parts, hinged together so that the front part can be thrown on top of the back part, substantially as and for the purposes herein set forth.

2. The rear part C of the grate, provided with hooks *d f* and eyes or loops *e e*, substantially as and for the purposes herein set forth.

3. The combination of the rear part C, having hooks *d f* and eyes or loops *e e*, with the front part C', provided with pins to fit in the loops *e e*, substantially as and for the purposes herein set forth.

116,147.—Cultivator.—Thomas E. C. Brinly, Louisville, Ky.

Claim.—The herein-described shaft-cultivator, composed of a rectangular frame, the elongated side beams of which form the shafts A A, and carry at the rear the handles B B, fixed central beam D tied to the side beams by triangular stay D', laterally-adjustable beams E and F, slotted iron standards H, which are provided with adjustable shovels G and adjustably connected to their respective beams D E F by braces I, and the gauge-wheel K, hung in a frame, L, which is suspended from the side beams of the main frame, and raised or lowered by means of a brace, M, passing through the beam D, all the parts being constructed and arranged substantially as set forth.

116,148.—Wheel for Vehicles.—Marshall R. Brown, Mingo, Ohio.

Claim.—1. The sleeve C, provided with the shoulder *b* and a circular flange around its outer end, having its face surface beveled and provided with double V-shaped lugs *d d*, substantially as and for the purposes herein set forth.

2. The combination of the box A with shoulder *a*, sleeve C with shoulder *b*, and double V-shaped lugs *d d*, spokes D D, and screw-sleeve B with circular V-shaped bead *e*, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the sleeves C B with inclined flanges, flared spokes D D, flanged spoke-seat G, and felly E, all substantially as set forth.

116,149, antedated June 15, 1871.—Water-Wheel.—Robert Buchanan, Winslow, Ill.

Claim.—1. The combination of the curved buckets D D with the rims C C, curved so as to form water-passages which increase in width from the center each way toward the outer and inner ends, substantially as and for the purposes herein set forth.

2. The combination of the curved buckets D D, the inner curved rims C C, and the plate G with the chutes F F, all constructed and arranged substantially as and for the purposes herein set forth.

116,150.—Sash-Holder.—Charles M. Burns, Jr., Philadelphia, Pa.

Claim.—The combination of the plate with its recesses and the tumbler with its shoulders, when united and held in working position by a spring and without any pivot, and when automatically operated, as herein set forth and described.

116,151.—Steam Fire-Engine.—Lysander Button and Theodore E. Button, Waterford, N. Y.

Claim.—The improved steam fire-engine herein described, formed by the arrangement of an engine, A, directly over the forward axle F, so that the wheels E E may turn about it, and the boiler B, in connection with the rear axle G, together with the curved reaches C C, all constructed and arranged substantially as shown and described, for the purpose specified.

116,152.—Nautical Alarm.—Samuel G. Cabell, Quincy, Ill.

Claim.—1. The divided tube, with slotted partition and vibrating tongue, substantially as herein described, and shown in Fig. 2 of the drawing.

2. The combination of a clarionet-trumpet and a whistle, substantially as described.

3. The combination of my improved trumpet, or trumpet and whistle combined, as herein described, with a rotary blower, substantially as herein set forth.

4. In combination with a trumpet or whistle, or whistle and trumpet combined, the improved blowing apparatus herein described, substantially as represented in Fig. 4 of the drawing.

5. The combination of a trumpet or whistle, or both combined, with a buoy, the same being constructed and arranged to operate substantially as herein described.

116,153.—Hinged Hay-Rack.—Milo Carpenter, Wayland, Mich., assignor to himself and J. H. D. Snell, same place.

Claim.—The wings or side frames C, when constructed and operating substantially as herein set forth, in combination with the bed-frame or wagon-box, the whole forming an adjustable hay-rack, wagon-box, or platform, as herein described.

116,154.—Railroad-Car Seat.—Dexter H. Chamberlain, West Roxbury, Mass.

Claim.—A rest-block, E, for car-seats, &c., provided with an elastic cushion, *b*, and a stirrup shield-plate, *c*, applied about the block E, and partially or wholly encircling the same, as described, for the purpose specified.

116,155.—Tap or Faucet for Bottles.—Dexter H. Chamberlain, West Roxbury, Mass.

Claim.—A tap constructed with a tapering spigot or pipe, D, in combination with a pointed stem, F, arranged within it, substantially as and for the purpose described.

116,156.—Elevator.—Dexter H. Chamberlain, West Roxbury, Mass.

Claim.—The screw-shaft A, endless connected sector nuts H, pulleys K, vertical guide-posts I, and platform N, combined and arranged together for operation, substantially as described, for the purpose specified.

116,157.—Apparatus for Holding and Adjusting Umbrellas on Vehicles.—George F. Child, Dayton, Ohio.

Claim.—1. The umbrella-holder A, constructed substantially as described.

2. The combination and arrangement of the holder A, shaft B, and eyes E and F, in their relation to a vehicle, substantially as and for the purpose specified.

116,158, antedated June 15, 1871.—Apparatus for Heating Bolt-Blanks.—James B. Clark, Plantsville, Conn.

Claim.—The apparatus herein described, consisting of the fire-box A, side boards B B, back C, and slats D D.

116,159.—Pool-Board.—Hugh W. Collender, New York, N. Y.

Claim.—A ball-rack, composed of a plane or board of any suitable material, provided with a series of projecting ball-holders, substantially in the manner and for the purposes set forth.

116,160.—Running-Gear for Vehicles.—James L. Corbus, Quincy, Mich., assignor to himself and William H. Cole, same place.

Claim.—1. The box-clip D, spring plate D', and nuts *d*, arranged and operating with relation to the reach B and circle-iron C, as and for the purpose herein shown and specified.

2. The elastic perches G, when interposed between the body of a vehicle and its springs F, substantially as and for the purpose set forth.

116,161.—Roller-Skate.—Allen Thompson Covell, San Leandro, Cal.

Claim.—The T-shaped lever D, pivoted in the stock A, with its vertical part working in the recess or slot of the front reach, as shown and described.

116,162.—Sash-Holder.—James M. Cowles, Burlington, Iowa.

Claim.—The combination of the slotted face-plate F with spring roller-arm B, secured upon a lug, *f'*, on the back side of it, the loop C surrounding it, the arm C', and the screw E, arranged and operating substantially as and for the purpose described.

116,163.—Plotting Instrument.—James E. Crupper, Berlin, Ky.

Claim.—1. The method of draughting herein described, consisting essentially in the simultaneous delineation of all the courses and distances to be draughted, by means of a series of slotted rules, R R, clamped together, substantially as herein set forth.

2. The set of instruments, adapted to operate, in combination with each other, in carrying out the method herein described, such set consisting essentially of the slotted rules R R, graduated in rods and decimals of rods, the circular or annular protractor A, graduated in degrees, &c., and marked with the points of the compass, and the set-screws *s s*, for clamping the rules together, all adapted to and designed to be used in connection with each other, substantially as described.

116,164.—Folding-Table Support.—Joseph Daly, Troy, N. Y.

Claim.—1. The combination of the bars A A^1 A^2 A^3 and connecting-bars B and B', when constructed and arranged to operate substantially as and for the purpose described and set forth.

2. The braces G and H, when constructed substantially as and for the purpose described and set forth.

3. The jointed bars E and F, in combination with their respective bars A A^1 A^2 A^3, when arranged and operating substantially in the manner and for the purpose as described and set forth.

4. The combination of the bars A A^1 A^2 A^3, connecting-bars B and B', jointed bars E and F, and braces G and H, when arranged and operating substantially in manner and for the purpose as described and set forth.

116,165.—APPARATUS FOR FEEDING FURNACES WITH FUEL.—George Frederick Deacon, Liverpool, England, assignor to Dillwyn Smith, Burlington county, N. J.

Claim.—1. The combination, with the hopper and fuel-distributing fan, of a screw or worm, revolving within a cylinder or trough and conveying the fuel, substantially as herein described.

2. The combination, substantially as herein described, of the hopper or other receptacle for the fuel, fans, or vanes, by which the said fuel is projected into the furnace, and a screw, tapered, as and for the purpose specified.

3. The opening *b*, close to one end of the screw-cylinder and above the level of the bottom of the same, in combination with pins or projections *c* on the screw-shaft, for the purpose of lifting the fuel and pushing it into the said opening.

4. The adjustable deflector J J', arranged and operating in combination with the fans and with the discharge-opening *a*, substantially in the manner described.

5. The spiral vanes *e*, cast on or secured to the bottom of the propelling-fans, for the purpose specified.

6. The combination of the feed-screw, the feeding-fan or fans, the conical pulleys *i i* on the driving-shafts of the fan and feed-screw, and their adjustable strap, the whole being arranged as described, so that the speed of the feed-screw may be increased or diminished without altering that of the fan, as set forth.

116,166.—MEAT-CRUSHER.—Oliver P. Dennison, Mulberry, Ohio.

Claim.—The roller C', movable bearing-plates *c c*, and plate D, in combination with the frame A B B, stationary roller C, spring *d'*, bar *d*, and lever E, substantially in the manner shown and for the purpose described.

116,167.—STEAM-GENERATOR.—Erasmus P. Doyen, Portland, Me.

Claim.—1. The vertical transverse section herein described, comprising in an entire casting the steam-chamber B, water-tubes A C, fire-box F, mud-drums D, and water-grate E, substantially as specified.

2. The combination, with a sectional casting comprising the steam-chamber B, water-tubes A C, fire-box shoulder F, and mud-drums D, of the hollow grate-bars E, substantially as specified.

116,168.—DEVICE FOR HOLDING SPINNING-BOBBINS ON SPINDLES.—George Draper, Hopedale, Mass.

Claim.—1. In combination with the dead-spindle A and its whirl B, the friction-bobbin supporter C, extended from and above the whirl and on the spindle, and constructed substantially in manner and for operation with the bobbin and spindle, as described.

2. In combination with the subject of the above claim, the bobbin and spindle-pivot *i* and step h, or the equivalent thereof, arranged at the head or upper part of the bobbin, as set forth.

116,169.—RAILWAY-CAR BRAKE.—Charles B. Eaton, Grafton, Ill.

Claim.—1. The lever H, rod I', cranks J, shafts K and Q, cam L, friction-pulley S, and rope or chain T, arranged substantially as and for the purpose described.

2. The sliding frame O, frame R, and sliding box N^2, in combination with the springs P and *r* and tilting shaft Q, substantially as and for the purpose described.

116,170.—FLOOD-GATE.—Joseph W. Edgerton, Thorntown, Ind, assignor to himself and David J. Moffitt, same place.

Claim.—The combination of the section-fence, composed of the pickets *a* and the sills B, the latter being journaled in the posts A, with the springs D secured upon the apron C, when the several parts are constructed and arranged substantially as described and shown, and operated so that the gates are locked in either a vertical or horizontal position.

116,171.—DREDGING-SCOOP.—Albert C. Ellithorpe, Chicago, Ill.

Claim.—The combination of adjustable weights with a pair of scoops operated by means of the lowering and opening-chain Y and the closing and lifting-chain Z, substantially as specified.

116,172.—MORTAR-MIXING MACHINE.—Albert C. Ellithorpe, Chicago, Ill.

Claim.—1. In a mortar-machine, the mixing-reel D, provided with the curved springing arms *f* and the spatula ends *g*, substantially as specified.

2. The combination, in a mortar-machine, of the rotating reel D having vertical motion, and the mortar-bed *e* having horizontal motion, substantially as specified.

116,173.—MACHINE FOR PASTING PAPER UPON STRAW BOARD, &c.—Maurice Fitzgibbons, New York, N. Y.

Claim.—1. The combination of the rollers Q and Q' with the coiled spring *a* and the reservoir P', substantially as set forth.

2. The combination of the reservoir P', the valve V, rod W, lever Y, connecting-rod U, and the crank-pin on eccentric Z, substantially as set forth.

3. The roller O, in combination with the rollers Q and Q' and the screw-roller R, substantially as set forth.

4. The drying-roller G with the rollers E and H, the shield F, apron C, and knife I, substantially as described.

116,174.—MOP-HEAD.—Bridget French, Rochester, N. Y.

Claim.—The angular groove or water-receptacle *m* of the pivoted clamp C, in combination with the T-shaped cross-head B, provided with the saw-teeth *b*, the several parts constructed and operating substantially as set forth, for the purpose specified.

116,175.—TYPE-WHEEL FOR PRINTING-TELEGRAPHS.—Robert H. Gallaher, New York, N. Y.

Claim.—1. A monogrammic wheel, drum, cylinder, roller, disk, or plane, provided with or having formed and arranged on and around the periphery, rim, or circumference, or face thereof, in any suitable manner, abbreviated and condensed combinations of letters, emblems, signs, symbols, characters, figures, or numerals to represent names, show quantity, denote kind, and express rate of value of any railroad stock, bonds, or other securities or commodity of commerce, the said devices combined in operation, and used in connection with any kind or system of electro-magnetic or telegraphic or other printing machinery for the purpose of communications, substantially as set forth and represented in the accompanying diagrams.

2. The combination of my monogrammic wheels, provided with their several peculiar signs and symbols, with a system of single or double arrangement of wheels, drums, rollers, or cylinders having plain separate alphabetic letters, numerals, figures, or fractions, and producing similar impressions and communications to what are shown on the pilot representation in Fig. 9.

116,176.—GAS-REGULATOR.—Henry Gerner, New York, N. Y.

Claim.—1. In combination with the tube A having cap D, and connected with the inlet and outlet-pipes B C, the inner sliding tube *a*, open at both ends, and the float *b*, connected together by the screw-rod *c*, provided with the regulating set-screw *e*, all substantially as and for the purposes herein set forth.

2. In combination with the tube A with inner tube *a*, screw-rod *c*, set-screw *e*, and float *b*, the elbow E and glass tube F, provided with cap H and air-regulating screw K, all substantially as and for the purposes herein set forth.

116,177.—LANTERN.—Orrin L. Gridley and Carl Engelskerchen, Buffalo, N. Y.; said Engelskerchen assigns his right to said Gridley.

Claim.—In combination with A and B, the transparent protecting-disk D, for the use and purpose specified.

116,178.—DOVETAILING-MACHINE.—Crawford Staples Griffin and Josiah Wells Wilkins, Chelsea, Me.

Claim.—1. In a dovetailing-machine, the back plate A, upon which is supported the turning plate B, in combination with the standard F, when constructed substantially as and for the purpose specified.

2. The arms F', in combination with the standard F and back plate A, constructed substantially as and for the purpose set forth.

3. The combination of the screw-shafts H and I, arms F', standard F, and plates A and B, constructed substantially as and for the purposes specified.

116,179.—BLOW-OFF PIPE FOR STEAM-BOILERS.—James S. Griffith, St. Louis, Mo.

Claim.—The combination and arrangement of the vertical perforated pipes *a y*, horizontal pipe B, vertical pipes C C^1, horizontal pipe C^2, and the valve *b g*, said pipes increasing in diameter from the bottom of the boiler up to the discharge-valve *g*, as shown and described, and the several pipes with the valve forming an attachment which can be applied to a boiler in the manner represented, all for the purpose set forth.

116,180.—ENVELOPE.—J. William Groomes, Portsmouth, Ohio.

Claim.—The flap M, provided with two slits, *o o*, and fold G, in combination with the top fold C having tongues A A', and flaps E E having slits B B, substantially as shown and described.

116,181.—SAW-MILL.—Samuel W. Harris, Jamestown, N. Y., assignor to himself and Josephus H. Clark, same place.

Claim.—The stirrups M, in combination with the oscillating cross-head H, gibs F F, strap E of the pitman B, and the keys D and *x x*, all constructed and operating substantially as and for the purposes herein shown and described.

116,182.—UPRIGHT PIANO-FORTE ACTION.—A. Horace Hastings, Jersey City, N. J.

Claim.—1. The cast-iron frame A B C, constructed, as described, to form the key-rest rail and the hammer and damper-rail, and to support the hammer-rest rail, substantially as described.

2. The wooden plugs *a a*, in combination with the iron key-rest rail, for the purpose of receiving the tacks by which the cushion is secured to the rail, substantially as herein specified.

3. The detached wooden strip *w*, in combination with the grooves in the hammer-flanges, the screws S S, the hammer-rail C, and the interposed cloth *c*, substantially as described.

4. The combination of the projections *i* on the front jaws of the hammer-flanges, the notch *e* in the said jaw, and the recesses *i* in the back jaws, substantially as and for the purpose herein set forth.

5. The arrangement of the damper-lever in oblique positions, in which that for each note is supported by the flange which supports the hammer of the next or a neighboring note, substantially as and for the purpose described.

6. The head *b* of the hammer-check, constructed of continuous bands of cloth, leather, or other material, through which the shank passes, and which are each lapped twice over or around the head of the shank, substantially as and for the purpose herein described.

116,183.—HOG-STOCK.—William Clark Hays and John Doddridge Scott, Sharonville, Ohio.

Claim.—The combination of the tapering box A, hinged gates B B, sliding door C, slide D catching in notches *a a*, hinged door I, forked gate E with lever G, and the sliding gate H with scallops *d d*, all constructed, arranged, and operating substantially as set forth.

116,184.—FOLDING BRUSH.—Peter Henrichs, Erie, Pa.

Claim.—The bars B B, having tufts of bristles B' B', connecting-rod C, and spring D, when the same are so combined and arranged as to furnish a folding brush that is automatically opened for use, substantially as described.

116,185.—BRUSH, &c., FOR THE POCKET.—Peter Henrichs, Erie, Pa.

Claim.—1. A memorandum or similar book, having one or more folding brushes, B, arranged as stated, and a hat-brush, C, when the whole are so constructed, combined, and arranged as to operate substantially as described.

2. One or more folding brushes, B, hat-brush C, either with or without the mirror C', flexible leaf D, tablets E E, pouch F, when the same are so combined and arranged as to form a memorandum-book, substantially as described.

116,186.—TORSION-SPRING FOR VEHICLES.—Benjamin Hershey, Erie, Pa., assignor to himself, E. Geer, Richard Dudley, and Richard F. Gaggin.

Claim.—1. The looped spring, when the same is so formed that its narrowest section shall be at the point from which the lateral lever-arms turn off, substantially as described.

2. The looped torsion-spring, when the lateral lever-arms are so turned out as to project in opposite directions, substantially as described.

3. The lateral lever-arms, when the same are formed with a concave face as to act in connection with the rocker-plates, substantially as described.

116,187.—TORSION-SPRING FOR VEHICLES.—Benjamin Hershey and Richard F. Gaggin, Erie, Pa., assignors to themselves, E. Geer, and Richard Dudley.

Claim.—The V, or angular, and the U, or curved, spring, formed of two rods or sections, so as to avoid the opposite wrenching of the rod during the torsional action of the spring, substantially as described.

116,188.—LAWN-MOWER.—Amariah M. Hills, Hockanum, Conn.

Claim.—The combination of the flexible adjustable connection E with the pivoted handle D and frame A of a lawn-mowing machine, substantially as described.

116,189.—MACHINE FOR SHARPENING SAWS.—Rudolph Hines and Louis Beyer, Washington, D. C.

Claim.—1. The combination of the spring T with

the sliding pin *a*, adjustable lever N, and bed B, substantially as and for the purpose described.

2. The link P', oscillating slotted lever arm P, and clamp-screw *d*, applied between the rocking saw supporting bed and the saw-sharpener A, substantially as and for the purpose described.

3. The clamp G', yoke G, carriage *e e*, and bed B, arranged on the frame A, in combination with a self-feeding rotary saw-sharpener substantially in the manner and for the purpose described.

4. The head *e*, carrying a saw-tooth sharpener A, in combination with an adjustable block, *n*, carrying the saw-feeder *k*, substantially as described.

5. A saw-supporting table, which is adjustable in different planes, in combination with a combined rotary saw-feeder and saw-tooth sharpener, substantially as and for the purpose described.

6. The combination of a rotary self-feeder for feeding the saw longitudinally, a rotary sharpener, and a mechanism for feeding the saw laterally and holding it up to the sharpener, substantially in the manner herein described.

116,190.—MACHINE FOR SHARPENING SAWS. Rudolph Hines and Louis Beyer, Washington, D. C.

Claim.—1. The flexible feeder D, made adjustable at both ends, substantially as and for the purpose described.

2. The fixed head B on arbor A, with adjusting-screws *c d*, in combination with the slide C and flexible feeder D, substantially as described.

3. The screw *c*, shouldered and connected to the free end of the feeder D so as to prevent deflection or twisting of said feeder, as described and shown.

116,191, antedated June 7, 1871.—SELF-PROPELLING SLEIGH.—Charles H. Hudson, New York, N. Y.

Claim.—1. The combination, with a sleigh, of the vibrating seat C and pawl *d*, substantially as and for the purpose hereinabove set forth.

2. The combination, with a sleigh, having the vibrating seat C and the pawl *d* applied thereto, of the guiding-runner *g*, substantially as specified.

3. The combination, with a sleigh, having the vibrating seat C and pawl *d* attached thereto, of the pins *l* secured to said pawls, and the slotted guides F secured to the sleigh, substantially as set forth.

116,192.—CORN-SHELLER.—Lester T. Hulbert, Painesville, and Albert P. Teachout, Madison, Ohio.

Claim.—1. The hollow cast-iron cylinder D, when the heads L and bars *c* thereof are of one entire piece and having attached thereto the reversible toothed bars *d*, substantially in the manner and for the purpose set forth.

2. The arrangement of the tube H, having the spiral revolving fan G therein, in relation to the mouth J and cylinder D, as and for the purpose substantially as described.

3. The corn-sheller herein described, consisting of the case in two sections, A and B, jacket or shell K, mouth J, cylinder D, tube H, and revolving spiral fan G, constructed and arranged to operate in the manner as herein described.

116,193.—WHEEL FOR VEHICLES.—Willis M. Hunt, New York, N. Y.

Claim.—A wheel composed of a loose tire, A, an elastic band, C, a wooden filling-piece, B, and side flanges D E, clamped to the wooden filling-piece by screw-bolts, which do not come into contact with the tire, all constructed substantially in the manner herein shown and described.

116,194.—CHURN.—John Jackson, Coopersville, Mich.

Claim.—In churns, the shaft B, rods H, and paddles or dashers I, when constructed and arranged relatively to each other, substantially as and for the purposes herein set forth.

116,195.—BINDER FOR SEWING-MACHINES. Frank Stephen Judd and John G. Powell, Philadelphia, Pa.

Claim.—1. The presser-foot, notched at its forward end for the passage of the needle, the binding-guides with their edges lying close to the edge of the presser, and the adjustable guide for the back of the binding, all arranged in relation to each other, as described, and forming a presser-foot binder.

2. The combination of the flexible lips *e* and *f* having bent ends, and a guiding-tongue or tongues, *h*, extending from the edge of one or both of the lips, as specified.

116,196.—DOOR AND GATE-SPRING.—Philip Kern, Dayton, Ohio.

Claim.—The spring S, when attached at one end to the door or frame, while the other end passes under a bridge, V, which resists torsion, but permits longitudinal movement, substantially as described.

116,197.—SPONGE-HOLDER FOR ELECTRO-MEDICAL APPARATUS.—Jerome Kidder, New York, N. Y.

Claim.—The sponge-holder, composed of an insulating handle, A, central conducting-rod B, and clamping-plates D and E, the whole combined substantially as and for the purpose herein set forth.

116,198. — VIOLIN TAIL-PIECE. — Robert Kirk, Clarksville, Ohio.

Claim.—The violin tail-piece herein described, provided with the notches G', F', and H, arranged as shown, for winding and attaching the E-string, substantially as specified.

116,199. — MEDICAL COMPOUND OR EYE-BALSAM. — William Klingbeil, Champaign City, Ill.

Claim.—The composition for an eye-balsam, herein described.

116,200. — VALVE-OPERATING MECHANISM FOR WATER-METER.—Orrin H. Langdon, Homer, assignor to himself and Charles W. Kinne, Cortland, N. Y.

Claim.—A valve-operating mechanism for water-meters, consisting of a water-case or division, one end or side of which is formed of a flexible or moving diaphragm to receive the direct impact of the water, within which case is placed a suitable device for tripping the valve, the said device being actuated by the pressure of the head of water and the throw of the diaphragm or the piston within the meter, substantially as described.

116,201. — APPARATUS FOR HEATING THE CONVERTERS AND OTHER VESSELS USED IN THE BESSEMER PROCESS OF TREATING IRON.—Carl G. Larson, Stockholm, Sweden.

Claim.—The apparatus called "gas-heater," and described in specification and drawing, which, by means of air as well as gas led from a furnace or from a separate gas-generator, coursing through the same, heats the converters, ladles, and other tools and utensils requisite in the Bessemer process and other metallurgic operations, or in repeated operations retains said apparatus at a high temperature.

116,202.—GATE. — Nathan Long, Muncie, Ind.

Claim.—1. The incline P with slot O and catch C, substantially as and for the purposes herein set forth.

2. The combination of the gate R, inverted cup S, arm Y, and rod E, said rod placed in the slot O on the incline P, and in an eye on the spider J, substantially as and for the purposes herein set forth.

3. In combination with the incline P and catch C, the rod N, pitmen Z Z, and double crank M, all arranged to operate substantially as described.

116,203. — SILK-WINDING APPARATUS. — James Macfarlane, Mansfield, Conn.

Claim.—The arrangement, with the spools A and the yarn-guide-operating bar H, of the guide C, bar E, and lever G, all substantially as specified.

116,204.—APPARATUS FOR SUGAR-COATING PILLS.—Frederick Marriott, Detroit, Mich.

Claim.—1. The peculiar arrangement of the pan A with the pivot C and socket D, curved arm G, and adjustable counter-balance H, as and for the purposes above set forth.

2. The combination of the above-named parts with the slotted arm E supporting the socket D, as and for the purposes substantially as set forth.

3. The combination of the pan A, pivot C, socket D, curved arm G, counter-balance H, slotted arm E, with the adjustable crane I and fire-pot K, substantially as and for the purposes set forth.

116,205.—VELOCIPEDE. — Michael Martin, New York, N. Y.

Claim.—1. The arrangement in a velocipede, with relation to the box E, the crank-axle C, and the pedal-rod *a*, of the loose arm *c*, coiled spring *d*, and straight spring *e*, as herein set forth and shown, for the purpose specified.

2. The tiller D, spring *f*, and king-bolt *k*, in combination with box E, the front axle C', and reach A, as described.

3. The boxes *h* and *i*, in combination with the box E, springs *g*, and crank-shaft C, substantially as set forth.

116,206. — DIE FOR FORGING CARRIAGE-SPRING HEADS.—Joseph H. Mason, New Haven, Conn.

Claim.—The dies for forging carriage-spring heads, constructed as herein described.

116,207.—COAL-SIFTER.—Alonzo D. McMaster, Rochester, N. Y., assignor of one-half his right to John W. Stebbins, same place.

Claim.—The coal-sifting apparatus herein described, constructed with cover A having the cleats B with grooves *c*, together with the sieve D having bumpers *m*, all arranged substantially as specified.

116,208.—SCROLL-SAWING MACHINE.—Andrew W. Mitchell, Detroit, Mich., assignor to himself and Henry W. Yates, same place.

Claim.—1. The arrangement of the frame, composed of the bars M O and posts N, and braces A, with the working-beams P, and the eyes or hooks *o* of the frame A, substantially as and for the purposes set forth.

2. In combination with the working-beams P, jig or scroll-saw Q, and elastic strap R, the elastic strap S, guide W, lever T, and rack U, substantially as and for the purposes set forth.

3. The arrangement of the parts named in the two preceding paragraphs with the frame A, shafts E H, belt G, circular saw I, boring-tool J, and supplementary table D, when the parts are combined to operate substantially as set forth.

116,209. — WASHING-MACHINE. — Matthias K. Morris, Louisville, Ky.

Claim.—1. In a clothes-boiler, in which water is forced or conveyed to or upon the upper side of the clothing being operated upon, a filter for cleansing said water as it leaves said clothing and before it is again returned to the upper side of the same, substantially as and for the purpose specified.

2. The boiler A, provided with the tube B, the fixed and removable diaphragms C and E, respectively, the filtering material D, and the removable cover F, substantially as shown, and for the purpose described.

3. The reservoir G, provided with the perforated false bottom G', and connected with the boiler by means of the pipe H, and the pipe K extending upward from said boiler and provided with the flaring or rose-nozzle L, in combination with each other and with said boiler, substantially as and for the purpose shown.

116,210, antedated June 9, 1871.—PIPE-CUTTER.—Eri Sewell Moulton, Chelsea, Mass.

Claim.—The sliding catch L bifurcated at its end *f*, with the spring N, both arranged within one of the arms K of the yoke B, and operated by a thumb-piece, M, in combination with the bar E and knife F, substantially as described.

116,211.—DYEING AND COLORING FURS.—Adolph Müller, San Francisco, Cal.

Claim.—The process herein recited for dyeing furs, consisting of, first, the employment of the frames; second, the employment of the blue vitriol in conjunction with the prussiate of potash; third, the employment of pyrogallic acid; all in the manner and for the purposes substantially as set forth.

116,212. — TACKLE-HOOK. — Wilson Newcomb, Baltimore, Md.

Claim.—1. A tackle-hook, provided with a hinged arm adapted to connect the point to the shank, for the purpose of forming a continuous loop, both sides of which support the strain applied to the shank, substantially as and for the purpose specified.

2. A tackle-hook, having its hinged arm adapted to engage with the main shank by means of reversed shoulders *m n*, substantially as described, for the purpose specified.

3. In combination with the hinged and shouldered arm B and the shouldered shank A', the spring catch C, substantially as described, for the purpose specified.

116,213.—MANUFACTURE OF ARTICLES FROM PULVERIZED HORN.—William F. Niles and Seth G. Pitts, Leominster, Mass.

Claim.—1. The process, substantially as above described, of manufacturing articles from pulverized or ground horn or hoof.

2. A martingale-ring made from pulverized horn or hoof, substantially as described.

116,214.—DOOR-LOCK.—Tannis A. Olson, Beloit, Wis.

Claim.—1. The combination of the pivoted rods D, sleeves E, arms G, guide J, and stem H, with the hub B, all constructed and arranged to operate the latch-bolt, substantially in the manner herein shown and described.

2. The combination of the dog M, lock-bolt L with slot O, dog N pivoted on pin *o*, and springs P R, all constructed and arranged to be operated by the same key and in a single operation, as described.

116,215, antedated June 10, 1871.—COMPOUND FOR CURLING HAIR.—Emogene L. Parsons, Grand Ledge, Mich.

Claim.—The compound, when made and employed as and for the purposes herein set forth.

116,216. — CLIPPING-SHEARS. — George H. Pratt, Boston, Mass.

Claim.—1. The shallow ribs *e e* and *f f* of plates E and D, substantially as and for the purpose set forth.

2. The arrangement of the adjustable gauge F,

the swinging arms G G, the ledge J, the inclined bearing k, and the stops i i, substantially in manner and for the purposes specified.

116,217.—Combined Wooden and Concrete Pavement.—Shubeal C. Prescott, Jersey City, N. J., assignor to Howard Smith and Dora E. Brown, New York city.

Claim.—A pavement, composed of series of blocks having their intermediate spaces filled with concrete, the concrete being caused to extend downward below the lower line of the blocks into the road-bed for the purpose of forming water-stops, as described.

116,218.—Machine for Forming Spiral Grooves on Metallic Rods.—Treat T. Prosser, Chicago, Ill., assignor to himself, Charles E. Ramus, Lawrence, Kan., and Henry Waller, Chicago, Ill.

Claim.—As an improvement in machines for forming screw-threads or spiral grooves upon long sections of wire or metallic rods, the combination, with the mechanism shown and described for feeding the wire or rod to the machine, of two pairs of grooved rolls, the axis of one pair being arranged perpendicular or nearly perpendicular to those of the other pair, the cavities in the peripheries of such rolls being provided with spiral grooves by which to produce the spiral projections upon the wire, substantially as and for the purpose set forth.

116,219.—Machine for Making Metallic Shoe-Pegs.—Treat T. Prosser, Chicago, Ill., assignor to himself, Charles E. Ramus, Lawrence, Kan., and Henry Waller, Chicago, Ill.

Claim.—1. In a machine for severing shoe-pegs or brads from wire, the combination, with the cutters and the rotating feed-roll, of the grooved friction-roller and lever on which the friction-roller is located, substantially as and for the purpose set forth.

2. In combination with the subject-matter of the first clause of claim, the drum or reel B, substantially as and for the purpose set forth.

3. In combination with the subject-matter of the first clause, the levers F F^1, cam G^2, and springs H H', substantially as and for the purpose set forth.

116,220.—Bench-Hook.—Henry Marshall Putnam, Fitchburg, Mass.

Claim.—The socket B, tubular shank D provided with hook E, and screws F I, combined and arranged to operate substantially as and for the purposes described.

116,221.—Means for Transmitting Motive Power.—James Richmond, Lockport, N. Y.

Claim.—The arrangement, with a series of workshops, C C^1 C^2, &c., of the wire cable G, main driving-pulley B, driving-pulleys D D^1 D^2, &c., auxiliary pulleys F F, and guide-pulleys H H for transmitting power from the prime mover to the various workshops, substantially as hereinbefore set forth.

116,222.—Spectacle-Frame.—Martin Reisley, Springfield, Mass., assignor to Samuel D. Burbank, same place.

Claim.—1. A spectacle-frame, having the temples A and transverse trunnions B formed of drawn wire and secured together in the manner described, and with the said trunnions working in bearings cut through the ears or lugs C, substantially as shown and for the purpose set forth.

2. The temples of spectacles, having the trunnions or pivots B attached thereto and arranged to turn in the eyes or bearings in the parts C, substantially as specified.

116,223. — Station-Indicator. — Amos Charles Rodgers, Suffield, Conn., assignor to himself and James A. Hamilton, same place.

Claim.—The combination of the wheel H, its pins and notches, the frame or bar L sliding as described, the spring-bolt g and its pin g', and the pawls e e', retaining-hooks f, and arm h, the whole being arranged and operating together as and for the purpose specified.

116,224.—Lamp-Supporter.—Edwin Russell and Francis W. Platt, Waterbury Conn.

Claim.—1. A series of tubes closing within each other on the telescopic plan, when said tubes have their upper ends slotted and spread so as to impinge against the inside of the next larger tube, the force being maintained substantially by the means and for the purposes herein set forth.

2. In combination with a series of tubes, constructed and arranged as herein described, the collars b b screwed on the lower ends of the tubes to hold the next smaller one in its place, substantially as set forth.

3. The combination of the sliding tubes A^1 A^2 A^3 with slotted end, adjusting-screws a a, and pin D, substantially as and for the purposes herein set forth.

4. The combination of the tubes A A^1 A^2 A^3, screw-cap B, screw C, pin D, screws a a, collars b b, arms G G, and holders H H, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

116,225. — Breech-Loading Fire-Arm.—George W. Schofield, United States Army.

Claim.—1. The hook or latch A, having the legs b b' working in the slots E, and pivoted in rear of the vertical plane midway of the convex shoulder I on the tail of the barrel V, and provided with the concave locking-notch m, arch d, notch x, and spring H, as and for the uses shown and described.

2. The combination of the hammer with the latch or hook A when the front face of the hammer impinges upon the arch in the latch, thereby fixing the latch immovably in its locked position, and preventing the opening or closing of the piece when the hammer is down, substantially as shown and described.

3. The combination and relative arrangement of the latch or hook A, tail of barrel V, and hammer, whereby the possibility of the discharge of the piece by the hammer is prevented until the barrel is securely locked and held down; also preventing premature discharge by the closing of the piece when loaded, as shown and described.

4. The combination of the lug L and tail V of barrel, provided with the mortise Z, and shoulders t fitting into corresponding recesses o in the recoil-shield, whereby the barrel is held against lateral and longitudinal strains, as shown and set forth.

5. The combination of a latch or hook, A, hammer, lug L, and tail V of barrel, provided with the mortise Z, whereby the piece is locked, as shown and described.

6. The sight and cylinder-stay M, constructed of one piece, and operating as shown and described.

7. The ejector-spring stop, as shown and described.

116,226. — Spittoon-Tongs.—Abraham H. Seipt, Philadelphia, Pa.

Claim.—The broad flat hooks a a', in combination with the spring tongs, substantially as described, and for the purposes specified.

116,227, antedated June 8, 1871.—Fire-Proof Safe.—William Hamelton Short, Montreal, Canada.

Claim.—The rod A, in combination with the arm f and stuffing-box N', as described, for the purpose set forth.

116,228.—Method of Fastening Pulley and Wheel-Hubs to Shafts.—Edward G. Shortt, Carthage, N. Y., assignor to himself, Levi Wood, Minor Guyot, George Gilbert, and A. Irving Stemberg, same place.

Claim.—The hub a combined with the wedges c, slotted key d, pins f g, and recesses e, as specified.

116,229. — Grain-Separator. — Martin Shreiner, Carlisle, Pa.

Claim.—1. The concave fan-case extension D, wind-regulating board E, and wings G G, when said parts are constructed and arranged substantially as herein set forth.

2. The side slides H, provided with wings I, substantially as and for the purposes herein set forth.

3. The construction and arrangement of the shoe L with the grooves 1, 2, 3, 4, 5, 6, and 12, openings 7 8 10, blocks 9 11, door n, and spouts O, O^1, O^2, and y, all substantially as shown and described, and for the purposes set forth.

4. The screen T, having a coarse sieve on its upper face and a fine sieve on its inner surface, the latter provided with a metal plate, and curved upward in the center, and so constructed as to allow an end discharge and two side discharges, substantially as and for the purposes herein set forth.

5. In combination with the shoe L, provided with the grooves, openings, and spouts as herein described, the rakes d h, sieves T V, and interchangeable screens, as and for the purposes set forth.

116,230.—Carrier for Unloading Hay.—George Smith, New York, assignor to John C. De Lany, Detroit, Mich.

Claim.—1. The combination of the pulley grooved as at e e', the chain N on the hoisting-rope R, the pawl notched at g', carrier-frame B, and stationary inclined tripping-catch F, all constructed and arranged to operate substantially in the manner herein described.

2. The combination of the tube K, the shoulder l of the hook H, chain N, pivoted dog E i, and catch F, substantially as and for the purpose described.

3. The carrier-frame B B, contracted laterally beneath the track A, braced and otherwise constructed, substantially as described.

116,231. — Sling for Hay-Elevator.—George Smith, Rochester, N. Y., assignor to John C. De Lany, Detroit, Mich.

Claim.—1. A sectional hay-sling, which is composed of parallel ropes and cross-bars, in combination with loops or rings which are applied to the cross-bars a a so as to swivel thereon, substantially as described.

2. The locking and unlocking device, consisting of a headed male portion, B, combined with spring pivoted jaws P P', embracing ends n' n' and a tripping cam-lever l, constructed substantially as described.

116,232.—Lifting-Jack.—James U. Smith, Orion, assignor to himself and Joseph Maseth, Wyandotte, Mich.

Claim.—The arrangement of the standard A, rack C, dog C', arms D, and lever-pawl E, when each part is constructed as described and shown, and connected to operate substantially as set forth.

116,233.—Stove-Pipe Shelf.—Milo Smith, Clinton, Mich.

Claim.—The extension E, constructed and arranged as shown, in combination with the disk A having a dependent rim, as described, slot B, studs D, and section C having lateral projections D^1 D^2, as and for the purpose set forth.

116,234.—Street-Lamp.—Roland H. Smith, Pittsburg, Pa.

Claim.—1. The arms f f, hinged between ears d d on the frame D, and locked by means of the pins e e, substantially as and for the purposes herein set forth.

2. The combination of the sections E E', provided with flanges a a', L-shaped frame D, with ears d d, arms f f, and pins e e, supporting-arms C C, and collar B, all substantially as and for the purposes herein set forth.

116,235.—Machine for Molding, Pressing, and Cutting Sugar.—Peter Spreckels and James Peterson, San Francisco, Cal., assignors to Claus Spreckels and Peter Spreckels, same place.

Claim.—The employment, in a machine designed for transforming loose granulated sugar into lumps, of, first, the belt, and also the curbs F in combination with it; second, the feed-knives; third the press-head, consisting of or carrying the three several things, to wit, the press, die, and the two sets of cutters; fourth, the entire structure as a new machine, each and all jointly and severally constructed in the manner and for the purpose substantially as set forth; fifth, the process of forming and drying the sugar by one continuous operation, substantially as set forth.

116,236.—Propulsion of Vessels.—John S. Stites, Baltimore, Md., assignor to himself and Abraham S. Stonebraker, same place.

Claim.—Inclined cylinders, provided with the reciprocating pistons, arranged in the central portion of a vessel and passing through the bottom of the same, as herein shown and described, for the purposes specified.

116,237.—Bed-Bottom.—Moses B. Towslee, Pewamo, Mich.

Claim.—The combination, with a bedstead, of the blocks B B, rubber bands C C, and slats D D, with or without the cross-bar E, all constructed and arranged substantially as and for the purposes herein set forth.

116,238.—Car-Coupling.—Harvey Trefry, Winfield, Mich.

Claim.—The combination of the spring G, lug H, and slide I with the draw-bar A, link C, pin D, buffer E, and spring F, when each part is constructed and arranged to operate substantially as and for the purposes set forth.

116,239.—Whiffletree-Iron.—William Wallace Urquhart, Bay City, Mich.

Claim.—The arrangement, within the walls C and D of the socket A, of the stud E, latch F, and spring G, constructed and operating substantially as described and shown, for the purposes set forth.

116,240.—Stove-Leg.—William H. Van Cleve, Ypsilanti, Mich.

Claim.—The wire D, in connection with the groove b in the plate a of the stove-leg, substantially as described, for the purpose specified.

116,241.—Call-Bell.—Charles Volger, Wilmington, Del.

Claim.—1. A coiled-spring shank for a bell-clapper, substantially as described.

2. The four-armed clapper and its flexible rod, in combination with the bell, as and for the purpose specified.

116,242.—Pen.—Michael Wagner, Cincinnati, Ohio.

Claim.—A fountain-pen, constructed with taper elastic jaws or nibs, b b b, and exterior sliding ring

or band C, substantially as and for the purpose specified.

116,243. — METAL-PLANER. — William H. Warren, Worcester, Mass.

Claim.—The wheel J, shaft I', pinions i', and racks i'' M, in combination with the rock-shaft E, applied to a planing-machine for the purpose of increasing the travel of the work-table, substantially as and for the purpose set forth.

116,244.—TAP FOR LIQUID PACKAGES.—Albin Warth, Stapleton, N. Y.

Claim.—The tap for liquid packages, constructed, as described, of the valve B formed on the head of the wood screw *c*, and the sheet-metal disk A, provided with spout C, and the bridge *d* forming the nut for the valve-moving screw, all as herein set forth.

116,245.—TAP FOR LIQUID PACKAGES.—Albin Warth, Stapleton, N. Y.

Claim.—The tap for liquid packages, consisting of the perforated screw-shank B, forming both the discharge-valve and vent, the sheet-metal disk A, and the soft-metal nut *e* formed on the disk A to receive the tube B, all as herein set forth and shown, for the purpose specified.

116,246.—MOLD FOR CASTING CAR-WHEELS. Nathan Washburn, Worcester, Mass.

Claim.—The improved mold as made, with the cavity for the holding of the re-enforce, the matrix for the casting of the body, and with the series of sprue-holes, radial ducts, and central receiver, arranged substantially as described.

116,247, antedated June 15, 1871.—FLOOD-GATE.—Henry O. Way, Thorntown, Ind.

Claim.—A flood-gate wherein the posts A, gates B, pintles C, springs D, and fenders E are constructed, arranged, and operating substantially as and for the purposes set forth.

116,248.—GOVERNOR FOR STEAM-ENGINES. Horatio B. Weaver, Hartford, Conn.

Claim.—1. The shaft *b*, made to revolve synchronously with the pulley *c*, but free to move with reference thereto in the direction of its length, and engaging with the conical pulley *d* by means of a male and female screw, substantially as described, for the purposes set forth.

2. The combination of the pulley *c*, pulley *d*, shaft *b*, gear *h*, gear *i*, shaft *j*, with the common ball-governor attached thereto, arm *m*, shaft *n*, arm *o*, and shipper *e*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

116,249.—STAIR-ROD.—Joseph Wilks, Trenton, N. J.

Claim.—The clasp B, slide C, having the slots D and H H H H and the grooves E E, when arranged, constructed, and combined, substantially as herein shown and described, for the purpose set forth.

116,250.—SPRING BED-BOTTOM.—Edwin L. Wright, Sterling, Ill.

Claim.—The combination of the cross-bars or rests B B, springs C C, slats D D, clips *d d*, and springs *e e*, all constructed and arranged substantially as and for the purposes herein set forth.

116,251.—LOOM PICKER-MOTION.—John C. Fisher, Providence, R. I., assignor to himself and Robert F. Walsh.

Claim.—1. The combination of the combined strap-lever and convex rocker-plate C with the picker-staff and the concave bed-plate, substantially as described.

2. The combination of the combined strap-lever and convex rocker-plate C, the picker-staff rigidly connected thereto, and a vertical slide, substantially as described, for the purposes specified.

3. The strap-lever C, bed-plate, picker-staff, and vertical slide, all combined substantially as described.

REISSUES.

4,427.—SKIRT-SUPPORTING CORSET.—Catherine Allsop Griswold, Willimantic, Conn. Patent No. 56,210, dated July 10, 1866.

Claim.—1. A corset open before and behind and adjustable in the back, provided with shoulder-straps attached directly to the metallic back-supports extending from the top to the bottom of the back edges, substantially as and for the purposes herein described.

2. A bodice made upon a metallic form, opening before and behind, adjustable in the rear, and having shoulder-straps and fastenings for the support of the skirts, substantially as shown and described.

4,428.—COOKING-STOVE.—Levi Hermance, Lansingburg, N. Y.—Patent No. 99,436, dated February 1, 1870.

Claim.—1. In combination with a cooking-stove, a dead-air chamber, formed by an extension of the stove and the water-reservoir, for the purpose of heating the water in the same, substantially as herein set forth.

2. The dead-air chamber D, formed on the outside of a cooking-stove, as described, for the purpose of heating the water in a water-reservoir, substantially as herein set forth.

3. The combination of a stove with the reservoir C and dead-air chamber D, substantially as and for the purposes herein set forth.

4. A reservoir or water-tank attached to a cooking-stove, when said reservoir or tank is placed upon or within a chamber or hot-air space formed outside of the walls of a stove, substantially as herein set forth.

5. Attaching or securing the reservoir C to the rear of a cooking-stove by means of lugs, flanges, or projections *a a* fitting into corresponding notches or recesses *b b* cast in the back part of the top plate of the stove, substantially as herein set forth.

4,429. — FEEDING PAPER TO PRINTING-PRESSES.—Richard M. Hoe, New York, N. Y., for himself, and assignor to Robert Hoe, Peter S. Hoe, Stephen D. Tucker, William L. Colby, and Robert Hoe, Jr.—Patent No. 25,199, dated August 23, 1859.

Claim.—1. The combination of the feeding mechanism, cutting apparatus, and the printing-machine, or their equivalents in the said combination, for feeding the paper from a roll to a printing-machine, and cutting or partially cutting it into sheets as it passes along to be printed, substantially as set forth and specified.

2. Constructing the cutter so as to leave the several sheets united in certain places, substantially as described, in combination with the conducting-tapes, or the equivalents thereof, as described, so that the conducting-tapes may pass around the cylinder, substantially as described and set forth.

3. The combination of the cutting-cylinder and the grooved cylinder, or the equivalents thereof, of the two pressure-rollers, or their equivalents, for keeping the sheet distended, substantially as described and specified.

4,430.—MACHINE FOR SEPARATING ORES.—Stephen R. Krom, New York, N. Y.—Patent No. 81,794, dated September 1, 1868; antedated August 5, 1868; reissue No. 3,182, dated November 3, 1868.

Claim.—1. Introducing the material upon the bed I in a thin stratum close to the surface of the bed, substantially in the manner and for the purposes herein set forth.

2. Traversing the material across the perforated bed I transversely to the length of the machine—that is to say, extending the bed I longitudinally of the length of the frame-work A, and causing the material to traverse across its narrowest dimensions, substantially as and for the purpose herein set forth.

3. In combination with a perforated separating-bed and a device for producing intermittent puffs to effect the separation of the granular substance on the bed, a rotating or traveling delivery device, arranged to regulate the discharge from the passage which carries off the heavier grades or particles passed below the separating-bed, substantially as specified.

4. The positive discharging means L Y' or their equivalents, controlling the discharge of the heavy material from a separating-bed by a positive motion, as specified.

5. The roller L, arranged and operating as represented relatively to the discharge-passage J, for the purposes herein set forth.

6. So gearing the mechanism or device which induces the intermittent puffs, and the device which regulates the discharge of the heavier material, that said devices are made to work at certain determined velocities to each other during all variations in the general speed of the machine, essentially as and for the purpose herein set forth.

7. In combination, the ore-bed I with its feeding and discharging devices, the adjustable oscillating bellows D, the trip-wheel C and its connections, and suitable means for varying the rate of discharge through the passage J, all arranged for joint operation, substantially as and for the purposes herein set forth.

8. In combination with the perforated bed I, and with means for introducing and removing the material, as specified, the bellows D, mounted on a rocking shaft, S, and operated by an adjustable vibrating motion, substantially as and for the purposes herein specified.

9. The trip-wheel C, arranged and operating relatively to the bellows D and to the perforated bed I, and its connections, as and for the purposes herein set forth.

10. The spring E, arranged and operating relatively to the intermittent puffing means D and the bed I and the hopper M, so as to puff the air suddenly through the bed with the same velocity at all speeds of the machine, as herein set forth.

11. The lever F and roller or striking-pin G, arranged, as shown, on the shaft S, distinct from the bellows D, so as to allow the action of the trip-wheel C, or its equivalent, to cause a positive motion of the bellows D in one direction and allow the automatic action of the spring E to carry it suddenly in an opposite direction, as specified.

12. The adjustable gates N and K, or either of them, so arranged as to allow the separate changes in the thickness of the stratums on the ore-bed I and the rate of delivery from the hopper M, substantially as and for the purposes herein set forth.

13. The within-described arrangement of the operating parts C F and their connections at the end of the frame-work A, so that they may operate by a direct connection through the rocking-shaft S with the bellows D, and that the closed end of the frame shall form one entire side of an inclosing-case to protect the working mechanism, all as and for the purposes herein set forth.

14. The flexible strap O and graduating fastening O', arranged, as shown, relatively to each other and to the lever F and roller G, or their equivalents, so as to regulate the extent of the motion of the bellows and to arrest its motion noiselessly, as specified.

4,431.—MACHINE FOR MAKING WIRE FERRULES. — Henry O. Lothrop, Milford, Mass., assignor of one-half interest to Albert H. Gilman.—Patent No. 95,918, dated October 19, 1869.

Claim.—1. The process of dipping or passing wire through molten solder, in the manufacture of wire ferrules, in order that the wire shall take up some of the solder, and then winding the wire on a mandrel, so as to coil and solder the same at one operation, as herein set forth.

2. The combination, in machines for making wire ferrules, of a rotating coiling mandrel, a movable collar, or equivalent device, having a projection on its face, substantially as described, and mechanism to impart to the said collar at every revolution of the mandrel a quick percussive movement against the coil, in order that the said projection may thereby create a short lateral bend in each successive coil and at the same time force, to a slight extent, the coil thus made toward and off the mandrel, substantially as set forth.

3. In coiling-mandrels, the combination of the tapering form, grooves *f f*, and groove *e*, all arranged and operating as set forth.

4. The combination of the beater *a* with the mandrel I, as herein set forth.

5. The mechanism by which the arbor and knife are operated, at the time and in the manner set forth.

6. The combination of devices, as herein set forth, for making soldered wire ferrule, as described.

4,432. — BEDSTEAD-FASTENING. — Ann M. Rodefer, Hamilton county, administratrix of Joseph Rodefer, deceased; assignor to James L. Haven & Co., Cincinnati, Ohio.—Patent No. 12,693, dated April 10, 1855; extended seven years.

Claim.—A bedstead-fastener, adapted to be held in place by being let into an annular groove on the side of the rail or post, substantially as described.

4,433.—SPARK-ARRESTER.—Edward Waud, for himself, and Benjamin F. Dorris, assignee of Edward Waud, Eugene City, Oreg.—Patent No. 99,378, dated February 1, 1870.

Claim.—1. The combination of the wheel I, revolved by the ascending gases, with the worm G, arranged substantially as shown and described, and for the purpose specified.

2. The combination of the horizontal tube F provided with a rotary worm, G, discharge-pipe E, inclined plate D provided with a flange, *a*, and inverted cam C, when operated together, as described.

4,434.—MANUFACTURE OF IRON AND STEEL. Richard Yeilding, Detroit, Mich., assignor to Frank W. Isham and Elizabeth Yeilding.—Patent No. 83,119, dated October 13, 1868.

Claim.—1. The process herein described of fusing and refining metal and decarbonizing iron.

2. The process herein described for converting iron into carbonized steel.

3. The converting of iron into unannealable steel, by the use of the foregoing articles, in the manner and for the purposes herein set forth, and the general combination of the principles and the use of the articles, combined and separately, and the use of the oil alone, in the manner and for the purposes set forth in the foregoing specifications.

4. The manufacture of unannealable-steel tools direct from the molten metal, treated with oxide of copper, oxide of zinc, and corrosive sublimate, substantially in the manner herein described, by casting the same in special metal molds for the special tools required, all substantially as described.

4,435.—LAMP-BURNER.—William H. Gray, St. Louis, Mo., assignor of part interest to Samuel Ross.—Patent No. 113,876, dated April 18, 1871.

Claim.—In combination with the wick-tube A, which is extended below the cap A' so as to reach down into the fluid in the lamp-bowl, the dome C,

when constructed with an elongated neck, C', to form an air-passage around and to or nearly to the top of the wick-tube, substantially as and for the purpose set forth.

DESIGNS.

5,007.—COFFIN.—William G. Algeo, Rochester, Pa.

Claim.—1. A curve-ended top frame *c*, substantially as described.

2. A curve-ended cover *d*, substantially as described and shown.

3. A raised coffin-top having square ends, and on each side three faces, substantially as described and shown.

5,008.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,009.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,010.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,011.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,012.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,013—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,014.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,015.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,016.—CARPET.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,017.—PIPE-WRENCH.—Thomas K. Cook, New York, N. Y., assignor to himself and Edward H. Hotchkiss, same place.

Claim.—The design for a wrench, as herein shown and described.

5,018.—CARPET.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

5,019.—CARPET.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown

5,020.—CARPET.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

5,021.—CARPET.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

5,022.—WOOD-INCASED CAN.—J. G. Evenden, Chicago, Ill.

Claim.—The design for a wood-incased can, herein shown.

5,023.—WOOD-INCASED CAN.—J. G. Evenden, Chicago, Ill.

Claim.—The design for a wood-incased can, herein shown.

5,024.—FOUNTAIN.—Joseph W. Fiske, New York, N. Y.

Claim.—The design for a drinking-fountain, as shown.

5,025.—FOUNTAIN.—Joseph W. Fiske, New York, N. Y.

Claim.—The design for a drinking-fountain, as shown.

5,026.—STEAM-PUMP.—William W. Hancom, San Francisco, Cal.

Claim.—The design for a steam-pump, herein set forth.

5,027.—DISPLAY-CARD.—Stillman Houghton, Worcester, Mass.

Claim.—The design for stocking-supporter cards, substantially as above described, and shown in the accompanying drawing.

5,028.—GRATE-HEARTH.—John G. Ils, San Francisco, Cal.

Claim.—The design for a grate-hearth, as shown.

5,029.—CARPET-PATTERN.—James C. Johnston, New York, N. Y.

Claim.—The design for a carpet, as shown.

5,030.—CAKE-PAN.—George W. Ketcham, New York, N. Y., assignor to E. Ketcham & Co., same place.

Claim.—The design for a cake-pan, as shown.

5,031.—WATER-COOLER AND REFRIGERATOR.—John Liming, Philadelphia, Pa., assignor to himself and Charles C. Savery, same place.

Claim.—The design for a portable water-cooler and refrigerative-vessel combined, substantially as described.

5,032.—CARPET.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—1. The design of the foliage border B, as shown.

2. The design for a carpet, as shown.

5,033.—CARPET.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—The design for a carpet, as shown.

5,034.—CARPET.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—The design for a carpet, as shown.

5,035.—CARPET.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—The design for a carpet, as shown.

5,036.—CARD-SUSPENSION CLIP.—George W. McGill, New York, N. Y.

Claim.—The design for a card suspender, as herein shown and described.

5,037.—CARPET.—Elemir J. Ney, Dracut, Mass., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,038.—CARPET.—Thomas Pennell, Melrose, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—The design for a carpet, as shown.

5,039.—TWINE-REEL.—Cornelius H. Tiebout, New York, N. Y.

Claim.—1. The design for the bed-plate of a twine-reel, as shown and described.

2. The design for the side frame B, as shown and described.

3. The design for the side frame B' with its cap D, as shown and described.

5,040.—CARPET.—Lyman A. Upson, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

TRADE-MARKS.

327.—LINEN GOODS AND FABRICS CONTAINING LINEN.—John Bullocke, New York, N. Y.

328.—COOKING-STOVES.—Giles F. Filley, St. Louis, Mo.

329.—CLOTHIERS' AND TAILORS' TRIMMINGS. Harris, Richmond & Shafer, New York, N. Y.

330.—CLOTHIERS' AND TAILORS' TRIMMINGS. Harris, Richmond & Shafer, New York, N. Y.

331.—CLOTHIERS' AND TAILORS' TRIMMINGS. Harris, Richmond & Shafer, New York, N. Y.

332.—INSECT-POWDER.—John M. Hughes, Brooklyn, N. Y.

333.—MEDICINE.—Lee & Brother, Ridgewood, N. Y.

334.—GOVERNORS FOR STEAM-ENGINES.—John Augustus Lynch and Edwin B. Buckingham, Boston, Mass.

335.—BELLS.—E. A. & G. R. Meneely, West Troy, N. Y.

336.—CABINET-ORGANS.—Redington & Co., Syracuse, N. Y.

337.—PHOTO-ENGRAVINGS.—Rockwood Photo-Engraving Company New York, N. Y.

338.—PHOTO-ENGRAVINGS.—Rockwood Photo-Engraving Company, New York, N. Y.

339.—WHISKY.—Charles H. Ross & Co., Baltimore, Md.

340.—WHISKY.—Charles H. Ross & Co., Baltimore, Md.

341.—SAWS.—The Bissell & Moore Manufacturing Company, New York, N. Y.

342.—RANGES.—The Scranton Stove and Manufacturing Company, Scranton, Pa.

343.—SHEET-METAL WARES AND TRIMMINGS.—Henry W. Shepard and Robert Seaman, New York, N. Y.

344.—PALM-LEAF BRUSHES.—John Langdon Sherriff, Dedham, Mass.

345.—MEDICINES.—Edward S. Wayne, Cincinnati, Ohio.

346.—MEDICINE.—Harrison Jerome Hartwell, Philadelphia, Pa.

347.—HYDRAULIC CEMENT.—Hydraulic Cement Company, Akron, N. Y.

348.—SIRUP AND MOLASSES.—William Moller & Sons, New York, N. Y.

349.—SUGAR.—William Moller & Sons, New York, N. Y.

350.—TOBACCO.—Adolph Pearl, New York, N. Y.

EXTENSIONS.

JAMES D. SARVEN, of New Haven, Conn. Letters Patent No. 17,520, dated June 9, 1857; reissue No. 3,079, dated August 11, 1868; reissue No. 4,116, dated September 6, 1870.

"Improvement in Carriage-Wheel."

Claim.—A carriage-wheel constructed with the spokes combined with the wooden hub, by tenons entering mortises in said hub, and with each other, in such manner that a solid belt is formed around the said hub, substantially as before set forth.

Also, a carriage-wheel constructed with a mortised wooden hub, with tenoned spokes, and with flanges which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth.

Also, a carriage-wheel constructed with a mortised wooden hub, with tenoned spokes combined with each other, so that a solid belt is formed around the hub, and with metallic flanges which embrace the faces of the spokes in the immediate vicinity of the hub, and are connected together so as to form a metallic band, through which the spokes extend into the mortises in the wooden hub, substantially as before set forth.

JAMES A. BURDEN AND I. TOWNSEND BURDEN, of Troy, N. Y., executors of Henry Burden, deceased.—Letters Patent No. 17,665, dated June 30, 1857; reissue No. 1,998, dated June 13, 1865.

"Improvement in Machines for making Horse-shoes."

Claim.—1. The above-described feeding apparatus, and in connection therewith the mode set forth of cutting off the rod, and the combination of the same with the devices for bending and swaging the shoe, by which combination the rod is cut into suitable lengths and fed into the machine automatically, and also the self-acting device for stopping the feeders and the mode of renewing their action at the proper time.

2. In machines for making horse and mule-shoes with rolling swaging-dies, the placing the blank in advance of the central elevated part of the die so as to make a space sufficient for the iron to be spread backward toward such central elevated part of the die in the act of swaging, substantially as described.

3. A flange on the upper die, when said die and flange are used independently of any mechanism for creasing and punching the shoe, such flange being formed by casting it with and as part of the die, substantially as described.

4. The combination of a revolving creasing-and-punching die with the revolving swaging-dies, by which both operations are successively and automatically performed.

5. The device set forth for taking the shoe from the upper and confining it to the lower dies, and finally taking it from the lower dies and conducting it to the flattener.

6. The means described for flattening the shoe, and their combination with rolling swaging-dies, by which the flattening of the shoe is automatically performed.

7. The combination and arrangement of machinery by which the several processes above described are performed successively by one machine, and without aid from attendants.

8. Those devices, or their equivalents, which shall effect the same purpose in substantially the same way.

ISSUE OF JUNE 27.

PATENTS.

116,252.—GUN-LOCK.—Joshua Albright, Pleasant View, Mo.

Claim.—The hair-trigger mechanism G I K H J, the dog E, springs F and C, bridle D, and hammer B, arranged, in connection with the lock-plate A, to operate as shown and described.

116,253.—APPARATUS FOR DIVIDING POWDERS.—George P. Allen, Woodbury, Conn.

Claim.—A powder-dividing apparatus, consisting of a plate or table provided with holes or pockets, and each hole provided with an adjustable bottom, all arranged to vary the depth of the pockets simultaneously and uniformly, all substantially as specified.

116,254.—HORSE HAY-RAKE.—Francis Andrews, Galesburg, Ill.

Claim.—The combination and arrangement of the levers N and R, pawl P, and cord *r*, and bars L L L′ with frame A, slotted bars I I, swinging bars E E, and carrying-bars J J, substantially as described, and for the purpose set forth.

116,255.—STEAM-BOILER.—Josiah F. Antisdell, George W. Cronk, and John H. Haviland, Janesville, Wis.

Claim.—Boiler V, pipes C and D, and circulating-pipe F, all in combination, substantially as and for the purpose described.

116,256.—CLAPBOARD-GAUGE.—William E. Babcock, East Pembroke, N. Y.

Claim.—The combination of the bar A and the slide B, substantially as and for the purpose hereinbefore set forth.

116,257.—BLIND-FASTENER.—Asahel G. Batchelder, Lowell, Mass.

Claim.—The improved blind-fastener, consisting of the auxiliary series *e* of teeth, or the equivalent thereof, the lever-latch, its operative spring, the toothed segment, and the bracket, all being combined and to operate as set forth.

116,258.—MACHINE FOR CUTTING SEGMENT-PATTERNS.—John Bean, Jr., Pent Water, Mich., assignor to himself, William H. Williams, and Bennett Goodsell, same place.

Claim.—1. Bed-piece A, arms C and H, with knives D, E, and I, arranged and operated substantially as described.

2. Bed-piece A, with hollow punches L, arranged substantially as described.

116,259.—SECTIONAL BOILER.—Benjamin F. Bee, Harwich, Mass.

Claim.—1. The grouped tubular boiler-section, consisting of upright tubes arranged side by side crosswise with the fire-box, united by transverse passages, the said section being fitted with nozzles for the passage of steam and water, and adapted to form a transverse rib of the roof of the fire-box, substantially as before set forth.

2. The combination of the said tubular boiler-section with tubular flues extending through the upright tubes, substantially as hereinbefore set forth.

3. The combination of a series of grouped tubular boiler-sections in couples, each couple arranged crosswise with the fire-box, and connected with the adjacent couple, the said couples constituting transverse ribs of the roof of the fire-box, substantially as before set forth.

4. The said grouped tubular boiler-section, constructed with a nozzle having flanges at its sides, which flanges are fitted to abut and form a wall to prevent the passage of flame, substantially as before set forth.

5. The combination of the series of grouped boiler-sections with the connecting-pipes by means of lugs and screw-clamps, substantially as before set forth.

6. The combination of the boiler, composed of said grouped tubular sections arranged in couples crosswise with the fire-box, with a casing constructed of removable sections, substantially as before set forth.

116,260.—PROCESS FOR BOLTING FLOUR.—Lemuel G. Binkly, Baughman, Ohio.

Claim.—The improved process in flour-bolting herein described, which consists in drawing off the thoroughly-clean flour from the first bolt, passing the residue into the second bolt, again drawing off the clean flour therefrom, and conveying it into the first bolt and the residue of the tail of the second bolt, again into the head of the said second bolt, and so on, with a series of any number of bolts, as herein shown and described.

116,261.—DEVICE FOR WORMING AND SERVING RIGGING.—Isaiah W. Bowden and Joseph D. Leach, Penobscot, Me.

Claim.—1. A device for worming rope, consisting of a channeled head, D, attached to a handle, A, and having adjustable guides *f f′*, straps *e e′*, and reels *a a′*, or their equivalents, substantially as herein set forth.

2. The truck *f*, attached, as specified, to the end of a serving-mallet, and having a lateral adjustment by means of the thumb-screws *m m*, or other equivalents, as specified.

116,262.—HAND CORN-SHELLER.—Ole Anderson Bryhn and William Theodor Farre, Montreal, Canada; said Farre assigns his right to said Bryhn.

Claim.—The improved hand corn-sheller herein described, consisting of the straight handles A B, pivoted together at one of their ends, as at *c*, and formed at their other or free ends with the curved jaws C, armed with shelling-teeth E, centrally inclined, as shown, with or without the intermediate spring D, as and for the purpose substantially as specified and set forth.

116,263.—FEEDING DEVICE FOR WOOD-SCREW MACHINES.—Ansel Buckminster, Boston, Mass., assignor to Daniel M. Robertson, same place.

Claim.—1. The combination of the sliding carrier G, having the recess *r*, groove *z*, and spring *s*, with the clamping-plate *e* and mechanism to operate said devices, in the manner substantially as described.

2. In combination with the subject-matter of the preceding claim, the plate N for pushing forward the screw-blank into the recess *r*, as specified.

3. The combination, with a sliding carrier of a screw-machine, of the clamp *e*, springs *e f*, stub *b*, and dog *d*, constructed, arranged, and operating as and for the purpose stated.

116,264.—TUYERE.—John Cappon, Rochester, N. Y.

Claim.—The lateral extension of the air-chamber, and the semi-spherical socket at the extremity thereof, combined with the semi-spherical socket in the hearth-plate and the semi-spherical protuberance on the lever, substantially as and for the purpose set forth.

116,265.—BLOWER.—Enoch Carleton, Cape Elizabeth, Me.

Claim.—The arrangement, herein shown, of the circular walls C D E, fans G, partitions H, shaft A, and casing I with mouth K, as herein described, for the purposes set forth.

116,266.—MODE OF TEMPERING SPRINGS.—Alanson Cary, New York, N. Y.

Claim.—The method of tempering furniture or other coiled springs, substantially as hereinbefore described.

116,267.—TEMPERING-OVENS.—Alanson Cary, New York, N. Y.

Claim.—In combination with the shaft or drum D and arms E, the detaching-rods G, arranged to operate substantially as specified.

116,268.—CURRY-COMB.—Jules Chaumont, Woodhaven, N. Y., assignor to Lalance & Grosjean Manufacturing Company, New York city.

Claim.—The combination of the strips of metal toothed at an edge only, the cross-bars, and the rivets passing through single strips and the cross-bars, substantially as before set forth.

116,269.—SAW-FRAME.—William Clemson, Middletown, N. Y.

Claim.—1. The saw-frame above described, composed of end pieces A and A′, stretcher B, strain-rod C, and sliding block D, arranged to operate in the manner and for the purposes described.

2. The sliding strain-block D, with the hole *a*, through which strain-rod C passes, at different distances from the plane of the different sides of said block, substantially as shown and described.

116,270.—BOLT-MACHINE.—Daniel S. Coe, Pine Meadow, Conn., assignor to himself, R. E. Holmes, and Philip E. Chapin, same place.

Claim.—The combination of the dies *a*, heading-die *c*, pouch *c*, and mechanism to cause said punch *c* to supplement the action of the heading-die *c*, for squaring the shank of the bolt, substantially as specified.

116,271.—EXTENSION CHAIR.—Nicholas Collignon, Claudius O. Collignon, and Adam Collignon, Closter, N. J.

Claim.—The seat A and rear legs C C rigidly connected together, the chair-back and front legs B B, the jointed arms D D pivoted to back and seat, the cross-supports F F, foot-piece I, and supporting-legs H H pivoted together, and the connecting cross-bar K, all constructed, arranged, and applied together, as and for the purpose specified.

116,272.—LOCOMOTIVE HEAD-LIGHT.—Andrew Collins and John Hardy, Galesburg, Ill.; said Hardy assignor of his right to said Collins.

Claim.—The glass B and rubber C when arranged to operate with the flange A and cap D, substantially in the manner described and for the purpose specified.

116,273.—AUTOMATIC APPARATUS FOR OPENING AND CLOSING VALVES BY THE EFFECTS OF TEMPERATURE.—Andrew Ainslie Common, South Bank, Regent's Park, London, England.

Claim.—The chamber A, with slightly-domed part B, in combination with the connecting-rod D, or its equivalent, substantially as and for the purpose hereinbefore set forth.

116,274. — PRESERVING AND SEASONING WOOD.—Silas Constant, Peekskill, and John Smith, Brooklyn, N. Y.

Claim.—1. The movable gate U, in combination with the radiators T T T, the hot-air chamber W, and wood-chambers E E, arranged as and for the purpose specified.

2. The combination of the diffuser S with the radiators T T T, arranged and operating as described.

3. The combination of the radiating-pipes, of the form described, with the other elements of the apparatus, substantially as and for the purpose specified.

116,275.—MECHANICAL FIRING. — Samuel Danks, Cincinnati, Ohio.

Claim.—The hopper H, located at the side of the grate, and having the auger A in the bottom thereof, by which the fuel is fed directly to the grate without the aid of a blast or other auxiliary, substantially as described.

116,276. — PENCIL-SHARPENER. — Samuel Darling, Providence, R. I.

Claim.—As a new article of manufacture, a pencil-sharpener, composed of two separate stocks, removable from each other, substantially as described, the one being furnished with a cutter which acts upon the wood only, and the other with a cutter which acts upon the lead and the remaining part of the wood together.

116,277.—IRONING AND STRETCHING BOARD. Jacob W. Davis, Reno, Nev.

Claim.—1. In combination with the adjustable sliding block B, the clamping-block *g*, held in place by the lever *f*, with its flange *i* and rack-bar *h*, substantially as and for the purpose above described.

2. In combination with the ironing-board A, the blocks B and K, and clamping-blocks g g^2, secured as above described, for the purpose specified.

116,278.—MACHINE FOR PULVERIZING THE SOIL.—George P. De Yo, Groton township, Ohio.

Claim.—The herein-described soil-pulverizing machine, consisting of the frame on bateau A provided with an overlapping bottom consisting of the pieces D, to which are secured the ribbed and grooved plates E, all arranged and combined in the manner substantially as described, and for the purpose specified.

116,279.—DRIER.—Ernest Drevet, New York, N. Y.

Claim.—A hose-rack, A B, having at its ends air-tight closets C E provided with one or more openings for the ingress and egress of air, substantially as herein shown and described, and for the purpose set forth.

116,280, antedated June 17, 1871.—EGG-CARRIER.—Watson Duchemin, Charlottetown, Prince Edward Island.

Claim.—The sectional transportation-box A A^1 A^2 A^3, when the said sections are constructed with the partitions L L, straps H H E E, and cords K K M M, substantially as described and shown, and for the purpose set forth.

116,281.—PROPULSION OF CANAL-BOATS.—William T. Duvall, Georgetown, D. C.

Claim.—1. The vertically-sliding frame L or L′, in combination with the well E or G and traction or trail-wheels H or I, substantially as specified.

2. The steam-cylinder *f* and its piston, in combination with the sliding frame L and wheel H, substantially as set forth.

116,282.—DREDGING-MACHINE.—John Ebbert, Chicago, assignor to himself and John Clark, Marengo, Ill.

Claim.—1. The hinged parts A and A′ of the carrying-basket, substantially as and for the purpose described.

2. The adjustable fender-plate B, in combination with the part A′, arranged as described, whereby the opening C is formed, substantially as and for the purpose described.

3. In combination with the parts A and A′, the shear-pointed levers F and F′ and auxiliary wheels E and E′, the whole arranged to operate substantially as and for the purpose described.

116,283. — ROTARY STEAM-GENERATOR.—Nathaniel T. Edson, New Orleans, La.

Claim.—1. The spiral tubes K, connecting the hollow boiler-heads, substantially as and for the purposes hereinbefore set forth.

2. The pipe P, in combination with the elongated opening formed in pipe N, and with the pipe L or its equivalent, substantially as and for the purpose hereinbefore set forth.

116,284.—VEHICLE.—Clark Elliott, Woodland, Cal., assignor to himself and Nathan Elliott, same place.

Claim.—1. The curved brace E, in combination with the vertical standard I having the horizontal plate J and India-rubber spring K attached, as described, for the purpose specified.

2. In combination with the curved brace E, the horizontal bar O, Fig. 2, and bed-piece *u*, together with the interposed rubber blocks *p*, guiding-plates *q* or pins *s*, and the steadying slotted plate *t*, all combined and arranged substantially as and for the purpose above described.

116,285.—DYNAMOMETER. — James Emerson, Lowell, Mass.

Claim.—The combination and arrangement, substantially as described, of the carrier or frame O with the standards D D, the driving-wheel A and train, the wheel C, and the spider B combined with the wheel C, by means, and provided with mechanism, substantially as described, for indicating the resistance of such wheel C, as set forth.

116,286.—ATOMIZER.—James J. Essex, Newport, R. I.

Claim.—The combination, with the suction-tube A of the atomizer, of the attached external tube D, between which and the suction-tube there is a channel, *c*, serving as the vent or drip-return passage, and adapted for use in connection with an ordinary cork or other stopper, substantially as herein described.

116,287. — BURGLAR-PROOF SAFE. — John Farrel, New York, N. Y.

Claim.—The combination, with the recessed door and jambs and the seamless angled frame, of hinges, operating as as described, for the purposes set forth.

116,288.—PUNCHING-MACHINE.—Daniel Anderson Faulkner, Centreville, Cal.

Claim.—1. The block *l* with its vertical guide-stem *m* and punch-stem J, in combination with handle P carrying the cam *s*, and arm *r* with its projection *t*, substantially as and for the purpose set forth.

2. The block *l* with its vertical guide-stem *m*, punch-stem J, and circular die-plate C provided with different-sized holes *f* and with slots *v*, in combination with the spring-ratchet *g*, handle P carrying the cam *s*, and arm *r* with its projection *t*, substantially as and for the purpose described.

116,289.—MOVABLE STANDARD IN WAGONS. William D. Fink, Windsor, Ill.

Claim.—A standard for bolsters of wagons, arranged to be adjusted laterally, substantially as shown and described.

116,290.—RING-DRIVER.—Alexander Fisher, Whitinsville, Mass.

Claim.—The ring-driver B, (pivoted at *e* to the slide A, and operated by such and the rack and pinion *a* and *b*,) the tubular projection C, ring-carrier D, and centering-cone D′, arranged together and with the bed-frame E and the roller-supporter F, all being constructed substantially in the manner and for the purpose as described.

116,291. — FLESH-FORK. — Paul Fisher, Brooklyn, N. Y.

Claim.—The tine C, square in cross-section, and fitting in a socket of the middle tine A′, substantially as shown and described.

116,292.—LAMP-BURNER.—Samuel W. Fowler, Brooklyn, N. Y.

Claim.—1. The combination of the filler-tube E with the base-plate B and perforated plate B′, substantially as and for the purposes herein specified.

2. The new article of manufacture of a lamp-burner composed of the body A, base-plate B, perforated plate B′, wick-tube C, ratchet-wheels and shaft, tubular filler E, perforated disk F, cone G, and chimney-holding springs D, substantially as herein specified.

116,293.—ROTARY STEAM-ENGINE.—Samuel B. Freeman, Ashland, Ohio.

Claim.—An oscillating engine-valve operated directly by the piston, and having a partition-arm arranged in the central portion of the valve-chest, and two piston-arms, each of a greater length than the partition-arm, arranged one at each side of the partition-arm, as is herein specified, for the purpose of obtaining a reverse motion of the engine by simply throwing over the valve and changing the steam-entrance, as well as to secure steam-packing on the valve during either motion, substantially as described.

116,294.—HOT-AIR REGISTER.—D'Alembert T. Gale, Fort Wayne, Ind.

Claim.—1. Air-pipe *d*, in combination with register-box *a*, as described, and for the purpose set forth.

2. Register-box *a*, pipes *b* and *d*, cocks *p*, burner *f*, reservoir *h*, shield *l*, and surface plate N, in the manner described, and their adaptation for heating rooms, cars, &c., substantially as set forth.

116,295.—LAWN-MOWER.—Emery R. Gard, Chicago, Ill.

Claim.—A lawn-mower, constructed with the transversely-vibrating pivoted arms D D, cutter-bar C, connecting-rod E, driving-wheel G, and handle B, all arranged and operating together in the manner and for the purpose herein specified.

116,296.—LIFTING-JACK.—Emery R. Gard, Chicago, Ill.

Claim.—1. The two sets or pairs of pawls D D and E E on the lever C, substantially as and for the purpose herein specified.

2. The lever C, provided with the two pairs of pawls D D and E E, and having a permanent handle, *c*, at one end, and a socket for a removable handle, *d*, at the other end, for the purpose set forth.

3. The guides G G, arranged and operating in combination with the pawls E E, substantially as and for the purpose herein specified.

4. The slide H, in combination with the guides G G, substantially as and for the purpose herein set forth.

5. The auxiliary socket-base I, with its adjusting-bolt *i* and holes *l l*, or their equivalent, in combination with the main standard A, for the purpose herein specified.

6. A lifting-jack, constructed and arranged so that it can be caused either to lift or lower the weight by the same movement of the operating-lever, as herein specified.

116,297. — ROTARY SPADING-MACHINE.—Lucius H. Gibbs, Brooklyn, assignor to himself and Philo Remington, Ilion, N. Y.

Claim.—1. The rotary-propelling spade-drum, which is composed of pairs of rings having spades pivoted to them, and operated substantially as described.

2. A support or stop, O, in combination with pivoted spades and yielding mechanism, substantially as described.

3. Clearers *d e*, in combination with pivoted spades applied to a rotary drum, substantially as described.

4. The rotary spading-drum, which is applied to an independent vibrating frame, and is driven independently of the carriage or supporting-wheels, and is propelled by the contact of its spades with the soil, all substantially in the manner herein set forth.

5. The locking-down device G G^1 G^2, in combination with a vertically-vibrating frame carrying a rotary-propelling spading-drum, substantially as described.

6. The pivoted arm L, carrying the stop O, having combined with it an adjustable rod, *f*, and a lever, *g*, substantially as described.

116,298.—PROCESS OF ROASTING COFFEE.—James W. Gillies, New York, N. Y.

Claim.—The within-described process of roasting coffee by subjecting it to two roasting operations, with an intervening cooling operation.

116,299.—PROCESS OF TREATING COFFEE.—James W. Gillies, New York, N. Y.

Claim.—The within-described process of treating coffee before roasting, by subjecting it to the action of the heat.

116,300. — HAY ELEVATOR. — Charles E. Gladding, Towanda, Pa.

Claim.—1. The inclined beam A of a hay-elevator, having the steep declivity Y, stop Z, and block A′ relatively placed, as and for the purpose specified.

2. In combination with a traveler, rope, hooks, and knot, the yoke N, tongue O, and pawl P, arranged as and for the purpose specified.

116,301.—SPINDLE FOR SCREW-MACHINES.—Dearborn P. Glines, Manchester, N. H., assignor to Daniel M. Robertson, Boston, Mass.

Claim.—1. The combination of the head M, rod P, nut N, and spring *i* with the toggle-levers S and T, and mechanism for connecting the same with the griping-jaws, in the manner and for the purpose described.

2. The combination, with the adjustable and yielding rod P, of the arms S′ S′ T T′, rod U, arms V V, and jaws W W′, in the manner and for the purpose specified.

3. In combination with the rotating mandrel and system of toggles, levers, and jaws, as set forth, the dogs *e* and sliding collar F, in the manner described.

116,302.—SASH-BALANCE.—Lewis Goodwin, Bangor, Me.

Claim.—1. The combination of cord C and its hollow rod *b*, substantially in manner as and for the purposes specified.

2. The combination of bar *g* and tube *b*, when constructed and arranged to operate substantially as and for the purposes specified.

3. The combination of bar *b*, spring *h*, and stud *j*, when arranged to operate substantially in manner as and for the purposes specified.

4. In combination with cord C, the elastic buffer *e*, substantially in manner as and for the purposes specified.

116,303.—FAN ATTACHMENT FOR SEWING-MACHINES.—Thomas Green, Brooklyn, N. Y., assignor to himself and Henry A. Bowdoin, same place.

Claim.—In combination with a sewing-machine, the fan mechanism, consisting of the socket B,

slotted arm D, and pivoted bell-crank lever F, all operating substantially as herein shown and described.

116,304.—STEREOTYPE-MOLD.—Louis Guex, New York, N. Y., assignor to R. Hoe & Co., same place.

Claim.—As an improvement in stereotype-molding cases, the use of soap-stone plates *a a*, constructed substantially as and for the purposes set forth and specified.

116,305.—ADJUSTABLE SHIELD FOR SHAFT-COUPLINGS.—Charles S. Hall, Rochester, N. Y.

Claim.—In combination with a shaft having a universal-jointed coupling, the shield A, made adjustable longitudinally upon the shaft, substantially as and for the purposes set forth.

116,306.—SHOW-CASE.—George A. Hearn, Jr., New York, N. Y.

Claim.—The arrangement of the glass-covered compartments A, substantially as shown in Figs. 1 and 2, as and for the purposes described.

116,307.—CLOTHES-CLAMP.—Eder Hedge, Liverpool, and Thornton H. Fleming, Canton, Ill.

Claim.—1. The block A, with its recess or inclined surface *b c f*, meeting the slot *a* at an acute angle, and the slot *a* in combination with the cam B, substantially as and for the purposes described.

2. The combination of the tubular cam-pivot C or riveted tube with cam B and block A, substantially as and for the purposes described.

116,308.—ADJUSTABLE AND FOLDING WAGON-BED.—Samuel Heffley and James D. Pettit, Rochester, Ind.

Claim.—The combination of the jointed bottom H H with the stay-plates G G on top of the bottom of the wagon-bed, and the stay-plates J J on the under side of the bed, having oblique apertures E E, with their iron curved supports D D and center joints or hinges K K K, as herein described, and for the purposes set forth.

116,309.—BRACKET FOR WATER-CONDUCTOR.—Leonard B. Hill, Albany, N. Y., assignor to himself and Peter Clark, same place.

Claim.—The combination of the grasping-arm A, spike C or equivalent, as described, and body D provided with the opening O, lip *a*, recess *a'*, and bearing *b* with the grasping-arm B, and angle-piece E provided with the lip *c*, substantially as and for the purpose set forth.

116,310.—MEDICAL COMPOUND OR BITTERS.—Moritz Holst, Memphis, Tenn.

Claim.—The above-specified medicinal compound for the cure of ague, as set forth.

116,311.—MANUFACTURE OF SPRING-HEADS.—George Hopson, Bridgeport, Conn.

Claim.—1. The within-described method of welding the clips to the spring, forming the several projecting ribs thereon, and imparting to the spring-head the proper finished shape by the dies M N and S T, as described.

2. The clips B, of the shape described, jointly with the implacement and attachment of them to the leaf A, as described.

116,312.—STEAM-ENGINE.—John Houpt, Springtown, Pa.

Claim.—1. The elevated vessel F and pipe *f'* in combination with the valve-chamber *c'* and reservoir-pipe E, the said parts being constructed and arranged to operate substantially as and for the purpose hereinbefore set forth.

2. In combination with the steam-heating chamber *b'''* around the steam-cylinder B of an engine, a pipe, *d'*, which forms a communication between the said chamber and the exhaust-steam pipe of either a steam-cylinder, a superheater, or the hot well of a condenser, substantially as described, for the purpose of keeping up the heat of said steam-cylinder by the waste steam of the engine, as described.

116,313, antedated June 15, 1871.—MODE OF PROPELLING SLEIGHS.—Charles H. Hudson, New York, N. Y.

Claim.—1. The combination, with a sleigh or wagon, of the rockers E E, which are attached to the said sleigh or wagon by means of the pins *e* and slotted brackets *d*, or their equivalents, and furnished with the pawls F and G, substantially as set forth.

2. The combination, with the running-gear, arranged and connected as shown in Fig. 3, of the rockers E E and pawls F and G, substantially as described.

3. The combination, with the rockers E E and pawls F and G, of the springs *h h'*, substantially as specified.

4. The shoe or pad, consisting of a frame, *g*, filling *i*, covering *k*, and locking-plate *j*, substantially as described.

116,314.—REVERSIBLE PLOW.—Edwin Jennings, Candor, N. Y.

Claim.—The cross-head bolts F and G, either or both, in combination with the beam A and perforated arms c^1 of the standard-frame C, substantially as herein shown and described, and for the purpose set forth.

116,315.—MOWING-MACHINE.—Samuel Johnston, Brockport, N. Y., assignor to James S. Thayer, New York city.

Claim.—1. The double or cross-acting stop-hinge G, constructed substantially as described, in combination with the main shoe and main or vibrating frame D, substantially as described.

2. The hinge G and pendent loop I, in combination with the main shoe E for connecting said shoe to the main or vibrating frame D and permitting its rocking and vibrating movements, substantially as described.

3. The main shoe, connected with the frame as described, in combination with the adjusting-rod or rack J, arranged and operating substantially as described.

116,316.—CALENDAR-WATCH.—Alfred Courvoisier Ionais, Chaux-de-Fonds, Switzerland.

Claim.—1. The wheel *h* provided with the pinion *i*, wheel *j*, bearing-pins or an escapement, *k*, and wheels *m* and *n*, when combined, arranged, and operating together as described.

2. The combination and arrangement of the wheel *m*, metal piece *o*, springs *p*, and wheel *g*, when operating together as and for the purpose herein described.

3. The arrangement of a dial operated substantially by the mechanism described in the foregoing claims, and showing the days, months, and dates, with a dial indicating the hours and minutes, when so constructed as to permit of the isolation of the works of the one from the works of the other.

116,317.—JOURNAL-BEARING.—Alfred F. Jones, New York, N. Y.

Claim.—The journal-bearings A B, provided with projecting lateral sides *a b*, conically shaped, threaded on the outer ends, and locked by nuts C C, when combined with a loosely-revolving shaft, as specified.

116,318.—SAFETY-POCKET.—Elias Jones, Grand River, Iowa.

Claim.—The combination of the armored cover C with the burglar-proof pocket A, substantially as herein shown and described.

116,319.—RAILROAD-CAR VENTILATOR.—Nathaniel Jones, Buffalo, N. Y.

Claim.—1. The projecting-frame A, revolving-plate B, and window D attached to the cross-bar C by the bolt E, as shown and described, to operate as specified.

2. The employment of the three-bladed valve I in the openings in the upper part of the car, substantially in the manner specified.

116,320.—EARTH-CLOSET.—William A. Jordan, New Orleans, La.

Claim.—The combination of the earth-dumper C, adjustable slide-gate I, pivoted lever E, seat C having slotted bar *e* attached, and hopper B, substantially as described.

116,321, antedated June 17, 1871.—GAS-REGULATOR.—Peter Keller, New York, N. Y., assignor to himself and Charles A. Martin, same place.

Claim.—In combination with the receptacle A, rod *r*, guide *k*, spiral spring *o*, and nozzle B provided with holes *c*, the valve C provided with the slots *f* and ring *g*, so arranged that when the valve is clear down the holes will all be open, but when the valve is raised the ring will partially close the holes, as and for the purposes set forth.

116,322, antedated May 29, 1871.—RUBBER COMPOUND FOR BEARINGS, &c.—Peter J. Kelly, New York, N. Y., assignor to Elizabeth Thompson, same place.

Claim.—A composition, formed of India rubber and a soft metal finely powdered, and applied in a molded or rolled form, for bearings, packing, and analogous purposes.

116,323.—PUNCHING-MACHINE.—Charles Keniston, Somerville, assignor to himself, C. E. Woodman, and William Butterfield, Boston, Mass.

Claim.—1. The pivoted arm G with its slotted plate J, provided with lugs V and adjustable slotted plate I, in combination with plunger D and lug F, substantially as described.

2. In combination with the subject-matter of the first clause, the slotted plate L, finger M, notched disk P, pawl R, pins *r*, and spring K, substantially as described.

3. The pivoted vibrating arm G, having the slotted plate L, finger M, notched disk P, and pawl R, in combination with spring K, as and for the purpose set forth.

116,324.—FURNACE FOR ROASTING ORES.—Frank Kesseler, San Francisco, Cal.

Claim.—1. A roasting-furnace, in which a stationary and a revolving hearth are employed in succession, both being heated from the same fireplace, in the manner substantially as described.

2. The beaters J J and lifters K K, substantially as and for the purpose above described.

3. The hollow upright shaft F, supported as described, and carrying the revolving hearth C, in combination with the beaters J J and lifters K K, substantially as and for the purpose above described.

116,325.—HAND-TRUCK.—Thomas F. Kiff, Fairbury, Ill.

Claim.—The combination of frame-work, axle E, and adjustable-clamp hooks D K, for the purposes set forth and described.

116,326.—FAUCET.—John Knoche, Cincinnati, Ohio.

Claim.—The arrangement of plug J, stem B *r*, coiled spring S, and pin T, when used in connection with the valve-chamber G and detachable cap G', as herein explained.

116,327.—SEED-PLANTER.—William Knowland and Kearnes Collings, Henryville, Ind.

Claim.—In a seed-planter, the roller *i*, crank-shaft F, and axle A, combined, as described, with a frame, H, as and for the purpose set forth.

116,328.—FLAX-BRAKE.—Jacob C. Kurtz, Wooster, Ohio.

Claim.—1. In combination with toothed drum J, the pair 1 of fluted rollers having surface motion slightly less than that of J, and pair 2 of fluted rollers having surface motion greater than that of J, as and for the purposes specified.

2. In combination with the aforesaid rollers 1, drum J, and rollers 2, the series of rollers 3, 4, 5, and 6, as and for the purposes set forth.

116,329.—FENCE.—John A. Kysor, Leon, N. Y.

Claim.—The inclined braces or legs B D and hooks C E, constructed and arranged in connection with the panels A, substantially as herein shown and described, and for the purposes set forth.

116,330.—PAN-LIFTER.—William H. S. Lawrence and Charles I. Collamore, Bangor, Me.

Claim.—The pan-lifter, constructed with an arm having forked shouldered under jaws, and with a gravitating forked clasp swinging on the arm, substantially as described.

116,331.—SHUTTLE FOR SEWING-MACHINES.—George H. Lenher, Elizabeth, N. J.

Claim.—The shuttle with fixed stud-screw E and bobbin with nut F, combined as and for the purpose specified.

116,332.—GANG-PLOW.—Michael Likes, Mansfield, Ohio.

Claim.—An improved gang-plow, formed by the arrangement of the frame A a^1 a^2, wheels C F, dovetailed block D *d'*, lever G *g'*, tongue H, pivoted bar I, plow-beam J, plows K, standards L, gauge-wheel M, slotted standard N, lever O, swiveled bolt P, and seat Q with each other, said parts being constructed and operating substantially as herein shown and described, and for the purposes set forth.

116,333.—CLOTHES-DRYING MACHINE.—Joseph O. Luther and Peter Staab, Grafton, Wis.

Claim.—A drying-machine, consisting of tub B, with a convex bottom, rack C, D, and E, pinions F and G, shaft H, pinions I and K, and cover N, in combination with frame A, all arranged substantially as described.

116,334.—STOVE-DOOR.—David N. Martin, Lawrence, Mass., assignor to D. N. & C. M. Martin, same place.

Claim.—Causing the door, valve, slides, or other device for affording an opening below the grate of a stove or furnace to be faced around the edge with brass or other non-corrosive metal, as above described, so that the said metal may close tightly against a similar facing upon the stove or furnace, for the purpose hereinbefore set forth.

116,335.—LITHOGRAPHIC PRESS.—Charles C. Maurice, New York, N. Y.

Claim.—1. The lithographic press, provided with the removable printing-cylinder B, substantially as herein shown and described.

2. The platform D, leather plate E, and spring 4, combined with the rollers B C of the press, as set forth.

116,336.—PISTON-PACKING.—James McAlonan, New York, N. Y.

Claim.—1. The spring-plates F F, provided with double-inclined ends, whereby they crowd the rings G G apart while expanding them, as specified.

2. The double rings G G, provided with the inclined recesses *g*, to be moved apart while expanded, as set forth.

3. The nut *d*, provided with the tubular extension *e* and with the screw-cap *f*, to regulate the sliding bar D, substantially in the manner specified.

116,337.—HOT-AIR REGISTER.—John W. McGlashan, Montreal, Can.

Claim.—The improved hot-air register and purifier and evaporating apparatus formed of the rectangular case A provided with a hinged top, the register B, inwardly-projecting air-pipe D, water-pipes F, G, and H, and the removable screen I, all arranged as shown and described.

116,338.—MACHINE FOR WASHING AND BLEACHING PAPER-STOCK.—Henry Monroe, Baldwinsville, N. Y.

Claim.—1. The washer B and reservoir A for washing and bleaching paper-stock, constructed and arranged substantially as and for the purposes set forth.

2. The process of washing and bleaching paper-stock, substantially in the manner and for the purposes specified.

116,339.—HOT-AIR FURNACE.—Hazen Moores, Chicago, Ill.

Claim.—The combination of the respective systems of pipes F, G, and J, arranged within case E, as described, the whole operating substantially in the manner and for the purpose specified.

116,340.—AUTOMATIC GOVERNOR AND CUT-OFF DEVICE FOR STEAM-ENGINES.—Charles Moore, New York, N. Y.

Claim.—1. The combination of the pistons F F', and G geared for operation together, as described, and arranged, as regards their respective cylinders, in relation with the steam-supply pipe or valve-chest and ends of the engine-cylinder, substantially as specified.

2. The hollow piston G, with its cylinder H, constructed to operate as a valve, in combination with the connected pistons F F' arranged to work in cylinders E E' and geared for operation in concert with the piston G, subject to control of a crank or eccentric pin, *f*, and pinion *e*, essentially as described.

3. The combination of the hand-valve J with the elements recited in the next preceding claim.

116,341.—BRICK-MACHINE.—Augustus Morand, Leeds, England.

Claim.—1. The combination and the arrangement with each other, as herein specified, of the horizontal shafts *h* and *n* with their connections, the worms *g* and *m*, worm-wheels *f* and *l*, shaft *e*, mold-wheel *d*, molds *d'*, followers *q q*, and inclined planes *p*, all substantially as and for the purpose set forth.

2. A sliding pusher, *t*, for delivering bricks from the mold-wheel or table *d* to a suitable carrier-belt or to a press, forced outward by a lever, t^3, actuated by projections t^1 in the periphery of said mold-wheel, and inwardly by a spring, t^2, all substantially in the manner and for the purpose herein set forth.

3. The pusher *t*, when provided with the lubricating-reservoir *u*, substantially as and for the purpose specified.

116,342.—PARING AND CHOPPING-MACHINE.—Stephen H. Morse, North Jay, Me.

Claim.—1. The fruit or vegetable-paring and chopping-machine as composed of the paring-arm M and knife O, the rotary paring-shaft L and fork, and the chopping-knife C, and the rotary receiver D, combined, arranged, and provided with mechanism, as described, for operating them in manner as set forth.

2. In the paring and chopping-machine as explained, the frame B, provided with the turn-button, and pivoted to the base A for the purpose of enabling such frame to be tipped on the base in manner to draw the chopping-knife out of the rotary receiver to admit of it being removed from the base.

116,343.—CURTAIN-FIXTURE.—Benjamin Moser, Waltham, Mass.

Claim.—1. The loose wheels *h* or *i*, or both, in combination with a spring, *k*, or its equivalent, substantially as described, for the purpose set forth.

2. The presser-wheel or wheels L, in combination with the third clause of claims, substantially as and for the object specified.

3. The spiral spring *f* having case *g*, in combination with curtain-cord E secured both to said spring and case, substantially as described, for the purpose specified.

116,344.—REFRIGERATOR.—Charles P. Munroe, Cambridge, Mass.

Claim.—1. In combination with the refrigerating or preserving-chamber D, the absorbing and evaporating-vessel or medium E and air-space K, substantially as and for the purposes described.

2. The channel-vessel E F, lining M, bottom G, and receptacle H, combined, as and for the purpose specified.

3. The top B with air-orifices L, or their equivalents, in combination with the vessel E and air-space K, substantially as and for the purposes set forth.

116,345.—DIE FOR MAKING CARRIAGE-CLIPS.—Wilson Noble, Derby, Conn.

Claim.—The process of forming a carriage-clip from a blank or bar of metal, *b*, of uniform size, by first forming the crooks *a'* and then the ends of the blanks, being confined by the clamps A', and abutments B pressing said blank down into the die A and imparting to it the form *a a b* by means of the die E, substantially as described.

116,346.—SCRUBBING-BRUSH.—Patrick O'Brian, New York, N. Y.

Claim.—The scrubbing-brush made with a zig-zag elastic strip passing lengthwise of the brush between the bristles, as and for the purposes set forth.

116,347.—BOTTLE-STOPPER.—John Park, Philadelphia, Pa., assignor, by mesne assignment, to Hale & Manley, same place.

Claim.—The combination of the spring cylindrical plate A, rod B, ball C, and knob D, all constructed and arranged substantially as and for the purposes herein set forth.

116,348.—CHURN.—Thomas Bee Parke, near Downieville, Cal.

Claim.—A churn, combining in its construction the shaft *j* and the hollow shaft *f*, revolving in opposite directions and at different rates of speed, the shaft *j* carrying the four-faced dasher *i*, and the hollow shaft *f* carrying the arms *h h*, secured by the circular brace *o*, and provided with the pendent stirrers *i i*, having cylindrical faces, and being supported by the wire braces *y y*, when all these parts are constructed and arranged substantially as and for the purpose specified.

116,349.—GAS-REGULATOR.—Charles C. Place, Boston, Mass.

Claim.—1. The cup L with its mercury filling acting as a weight and gas-tight joint, substantially as described.

2. The cup L, as described, in combination with vessel G and rod J, as and for the purpose set forth.

116,350.—FOLDING LOUNGE.—William Prufrock, St. Louis, Mo.

Claim.—The combination of the rod D and bolt E, substantially as and for the purpose hereinbefore set forth.

116,351.—COPYING APPARATUS.—William James Purcell, New York, N. Y.

Claim.—1. A box or reservoir, the inside being made non-corrosive, with wire fork attached to the lid, as described, and with rollers, one on edge of the lid and one on the edge of the box, for partly draining the moistening-sheet.

2. Making the moistening-sheet with two corners cut off, as shown in Fig. III.

116,352.—ROTARY STEAM-ENGINE.—Washburn Race, Lockport, N. Y., assignor to Warren Rowland Ingham and Nancy M. Race.

Claim.—1. The valve-abutments *h h'*, having the knuckle-joints made conical so as to fit closely in their working sockets, substantially as described, for the purpose specified.

2. The arrangement of the pipe H in the side of the case I, and the receptacle J in the piston for oiling the engine, substantially as set forth.

116,353.—STEAM-ENGINE PISTON-HEAD.—James Rees, Pittsburg, Pa.

Claim.—1. A piston-head, *n*, of taper form, combined with a series of wedge-shaped plates, the inclination of the plates corresponding with the taper of the head; and also a series of springs, *e*, arranged between the plates *d* and the packing-rings, substantially as described.

2. The wedge-shaped plates *d*, each having one or more seats, formed by ribs *s*, in which to seat the springs *e*, substantially as described.

116,354.—BED-BOTTOM.—George W. Robinson, Galesburg, Ill.

Claim.—A bed-bottom when constructed substantially as described, with main frame B B B, C C, and D D, slats E E E E secured to main frame by flexible straps I I I I I, allowing independent movement of each slat, and with springs *e e e e* and flexible connecting-strips H H H H, all arranged to operate in the manner substantially as described, and for the purpose set forth.

116,355.—PLOW.—Alfred Roden, Mumford, Ala.

Claim.—The combination, with a plow, H, of independent block G, standard-plate F, and side brace I, to hold the shovel H firmly in the position required.

116,356.—THRASHING-MACHINE.—Charles E. Roper, Canton, Ohio.

Claim.—1. A thrashing-cylinder, composed of two circular heads and of two or more cylindrical spike-staves, when said parts of the cylinder are united by tensional truss-rods which are bent up at the center, so as not only to draw the heads together, but also to draw down on the centers of the staves, substantially as and for the purpose specified.

2. The combination, with a thrashing-machine concave hung on pivot-joints at one end, of two eccentric disks working in slots in the side pieces at its other end, and each having a neck journaled in or on the machine-frame, said disks being operated simultaneously by a key-rod passing through their necks, and the several parts being constructed and arranged to operate substantially as is herein specified.

3. The combination, with the side piece of a hinged thrashing-cylinder concave, of an eccentric disk with a rim or collar on its inner end, a neck journaled in or on the machine-frame, and a clamping-nut on said neck, said disk with its several parts being constructed substantially as specified, and being arranged to support, adjust, and secure the movable end of said side piece, substantially as is herein set forth.

116,357.—ROTARY STEAM-ENGINE.—Charles F. Roth, Osceola, Iowa.

Claim.—The reversely-bucketed but single cylinder K having a flange, L, working in groove M of the case, the internally eccentric case, the double ports for separately-receiving the exhausting steam, and the valved channel way U U S, all constructed and arranged together in the manner specified and for the purpose set forth.

116,358.—GASALIER.—John H. Seaman, Brooklyn, N. Y.

Claim.—1. In combination with a fixed guide projecting downward from the fixed part of the gasalier, a sliding stem to which the branches are connected, and which has within it an internal sheath or guide cut off from the gas-way of the stem, and open at the top to receive the fixed guide, substantially as hereinbefore described.

2. In combination with the fixed guide and the sliding stem with its internal guide, the folding gas-pipe, which connects the gas-way of the stem with that of the fixed part connected with the source of supply, substantially as described.

3. The arrangement of the spring-barrel and cord-connection, in combination with the hollow fixed guide and sliding stem, substantially as described.

4. A folding gas-pipe connection, in combination with a sliding pipe and guide, when the folding pipe has a single middle joint, and is so arranged as to fold close to the stem, substantially as hereinbefore described and shown.

116,359.—GASALIER.—John H. Seaman, Brooklyn, N. Y.

Claim.—1. In combination with a pendant or chandelier for burning gas, a movable branch in combination with a sliding rod attached thereto, and a stem having an internal guide cut off from the gas-way, substantially as herein described.

2. In combination with the movable branch, sliding rod, and a stem with an internal guide cut off from the gas-way, the folding gas-pipe, whereby an extensible metallic gas-way is obtained between the gas center and the movable branch, substantially as described.

3. The arrangement of the spring-barrel and cord, in combination with the stem and its internal guide and the sliding rod, which supports the movable branch, substantially as described.

116,360.—GASALIER.—John H. Seaman, Brooklyn, N. Y.

Claim.—1. In combination with the central drop-light, the sliding side pipe, with its internal guide cut off from the gas-way, and a fixed guide projecting downward from the fixed upper part of the fixed chandelier, from which the fixed branches depend, but which forms no part of the gas-way, substantially as described.

2. In combination with the central drop-burner of a chandelier for burning gas and the chandelier, the folding gas-pipe connection, the side pipe with its internal guide, and the fixed guide, substantially as described.

116,361.—APPARATUS FOR COOLING BONE-BLACK.—Charles H. Senff, New York, N. Y.

Claim.—The series of vertical pipes, in combination with the surrounding cylinder or equivalent casing, provided with a hopper at the upper end and with an induction-pipe at the lower end, and a discharge-pipe at the upper end, substantially as and for the purpose set forth.

116,362.—WATER-METER.—Joel C. Slaughter, New York, N. Y.

Claim.—The angled buckets E E of a water-meter, connected by rods *h*, and swinging in pairs on their angles, as and for the purpose specified.

116,363. — Breech-Loading Fire-Arm.—William Tait Snedden, Johnstown, Pa.

Claim.—1. The cartridge-extractor G, when provided with the elongation or arm E, whereby the hook or point of said extractor may be passed over the flange of the cartridge so as to leave the same in the bore of the barrel when desired, as set forth.

2. The combination of the breech-block, when provided with the elongated slot or groove described, with the extractor G, as and for the purpose set forth.

116,364.—Breech-Loading Fire-Arm.—William Tait Snedden, Johnstown, Pa.

Claim.—1. The combination and relative arrangement of the operative parts herein shown and described, whereby the lock mechanism as well as cartridge-retractor are inclosed within the oscillating breech-block, as specified.

2. The metallic block I and sliding bolt K, in combination with the breech-block, for the purpose of holding said breech-block in position within the frame, and making the same readily removable, as set forth.

3. The combination and arrangement of the cocking-pawl F with the hammer B, the spring O, and retractor G operating within the breech-block and breech-frame for the purpose of cocking the hammer and withdrawing the exploded shell by means of a vibratory motion of the breech-block, as before described.

4. The combination of screw M with the hammer B and knife C, for the purpose of carrying the knife C backward and forward to explode paper cartridge.

116,365.—Base-Burning Fire-Place Heater.—George B. Snider, New York, N. Y.

Claim.—The combination of the side pipes H, dip-pipes I, up-takes J, air-heating chamber L, flue G, and escape-pipe F, all arranged with relation to the body A and fire-chamber B for operation, as shown and described.

116,366. — Oil-Tank. — Henry F. Snyder and George S. Snyder, Williamsport, and Autes Snyder, Freeport, Pa.

Claim.—1. The neck T^1 extending above the tank A, and inclosing the shaft M, which operates the valve D, as and for the purposes specified.

2. The neck T^2 extending down into the tank A around the shaft M, and arranged relatively thereto and to the valve D, as and for the purposes specified.

3. The matched valve-tops D^1 D^2, each having a concentric and eccentric hole partly coinciding, and each having an eccentric crescent-like projection adapted to match into the eccentric hole in the other, and be applied upon, and be removed from, the collared nut P P^1 P^2 and valve D, as herein specified.

116,367.—Double-Headed and Pointed Dowel-Brad. — John Sowle, Boston, Mass.

Claim.—The double-headed and double-pointed dowel-brad, made substantially as explained.

116,368.—Supporter and Pessary.—Henry Spillman, New Orleans, La.

Claim.—1. The metallic-stem pessary D, composed of two rings, E and H, the former having a flexible elastic movement by resting upon a spring within or without the stem or tube F, the latter being vertically adjustable, and the whole connected with the stem I by the universal joint *e*, all of which, when constructed substantially as described.

2. The stem-pessary herein described, in combination with the abdominal supporter, composed of the frame A, pad B, elastic belt and hip-plates C C′, pins *a a′* and *b b′*, and the elongated apertures *c c′*, substantially as herein described, and for the purposes set forth.

116,369.—School-Seat.—David I. Stagg, New York, N. Y.

Claim.—In combination with frames C, back D, and pivoted seat E, the cross-piece B, and single pedestal A, to form an improved school-seat.

116,370.—Steam-Engine Valve.—Nathan P. Stevens, Hopkinton, N. H.

Claim.—The valve, as provided with the opening *e* in its top, the branch ports *c c* leading therefrom, the exhaust-chamber *d*, and the circumscribing groove *h*, arranged as explained, in combination with the main ports *g g*, and main and auxiliary exhaust-passages *f i*, all constructed and arranged, substantially as set forth, for operation in a chest, as described.

116,371.—Drain-Pipe Machine.—John W. Stockwell, Portland, Me.

Claim.—1. The combination, with the mold-case B, Fig. 3, of latches *a b*, guides *d*, catches *e*, and plate *f*, when constructed, arranged, and operating as and for the purpose herein shown and described.

2. The combination of the spring-core C with expanding devices *i j k*, as and for the purposes herein set forth.

3. The arrangement herein shown of the spring-core C, expanding devices *i j k*, and bottom former D, all constructed and operating as and for the purpose described.

4. The combination of the spring-core C with the core-contractor E, as set forth.

5. The arrangement herein shown of the pan *o*, feeding-funnel *p*, mold-case B and its adjuncts, rollers *m*, and bed-piece *n*, when constructed and operating as shown and described.

116,372.—Die for Forming Beefsteak-Cutters.—Horace Thompson, Concord, N. H.

Claim.—The dies A^1 A^2 a^1 a^2 h^1 and B b^1 b^2 b^3, constructed and operating substantially as herein shown and described, and for the purposes set forth.

116,373.—Water-Proof Cigar-Box.—Judson L. Thomson, Syracuse, N. Y.

Claim.—The employment of paper boxes, constructed substantially as above described, for packing, keeping, and transporting cigars, as and for the purposes set forth.

116,374. — Basket. — Benjamin Franklin Tuthill, Chicago, Ill., assignor of one-half his right to Stephen V. R. Tuthill, same place.

Claim. — The basket A, constructed with the lower portion formed of the standards B B′ and base-piece C, in combination with the upper part of woven-work, substantially as described, for the purpose specified.

116,375.—Preserving Natural Flowers. Philomela T. Vining, Springfield, Mass., assignor to herself and Charles A. Wakefield, Pittsfield, Mass.

Claim.—The process of preserving natural flowers, substantially as herein described and set forth.

116,376.—Portable Power-Press.—Thomas B. Wait, Zena, Oreg.

Claim.—The sweep L P Q, vertical shaft K′ having pin N, and the crane R S, all combined as and for the purpose specified.

116,377.—Machine for Sapping Logs for Clapboards.—Elbridge Webber, Gardiner, Me., assignor of one-half his right to George W. Colburn, same place.

Claim.—1. The carriage C, constructed as described, in combination with the knife or cutter L and block I, the worm and its grooved shaft, and the rack K, when operating together, substantially as described.

2. The shaft G and levers *n o p r*, in combination with the pulley M, and their connecting-shafts and gearing, substantially as shown and described.

3. The arrangement of the carriage C and its operating mechanism, the cutter-block and cutters, the shaft, worm, and rack, the reversible gearing and the log-holder, substantially in the manner and for the purpose specified.

116,378. — Button-Hole Guide-Plate.—Albert W. Webster, Ansonia, Conn.

Claim.—1. The plates A B, connected by pins *a′*, and grooved or notched upon one or both their side edges, substantially as herein shown and described, and for the purpose set forth.

2. A plate, notched or grooved upon one or both its side edges to adapt it for use as a guide in working button-holes, substantially as herein shown and described.

116,379.—Combined Fastening and Buffer for Doors and Shutters.—Wellington C. Wendell, Philadelphia, Pa.

Claim.—The combination, with a socketed block, *b*, of an India-rubber block, *a′*, confined by a central adjustable fastening, the same being for fastening or holding doors and shutters, substantially as described.

116,380.—Presser-Foot for Sewing-Machines.—James Wensley, Philadelphia, Pa.

Claim.—The arrangement, upon a presser-foot, A, of the spring-pressed feather *a*, passing therethrough, and the eye-guide *f* projecting in front of and in line with said feather, as and for the purpose specified.

116,381. — Carriage-Lamp Support.—Thomas P. White, Bridgeport, Conn., assignor to White Manufacturing Company, same place.

Claim.—The lamp-supporting plate C, having the concave or other face adapted to fit the back of the lamp from end to end, and overlap the corners for being soldered to the back, top, and bottom, and provided with the lug E having the vertical tapered hole for the spindle F, and the binding-screw, all substantially as specified.

116,382. — Brush.—John Lake Whiting, Boston, Mass.

Claim.—The improved brush, constructed and having its parts arranged substantially as herein-before described and as shown in the drawing, the portions *c* and *e* being either permanently connected to or in one piece with the handle, and introduced into the ferrule and the butt of the mass of bristles by the aid of a separate cone or pivot, *f*, all as explained.

116,383.—Power-Press.—Moses G. Wilder, West Meriden, Conn.

Claim.—1. The combination of the shaft of the press, the sliding clutch-bolt, the clutch-bolt arm, the sang, and the movable cam-plate provided with the inclined guides, substantially as before set forth.

2. The combination of the sang, the clutch-bolt, the cam-plate, provided with two inclined guides facing each other, the eccentric, and the treadle, as before set forth.

116,384.—Iron Folding Chair.—George Wilson, Chicago, Ill.

Claim.—In iron folding chairs, the combination of the seat A provided with coiled springs *a a′*, the back B, the foot C, the legs D E F, the rest G, the radius bars I, and slotted arm-rest H, all the several parts being constructed, arranged, and operated substantially as described and shown.

116,385.—Vapor-Burner.—George H. Wilson, Mansfield, Ohio.

Claim.—The combination, with the lamp-tube A, of the adjustable tube C, sand-packing D, hot-air tubes F, the plate N and a gas-burner, the tube C having the perforations *e*, and all arranged for operation substantially as specified.

116,386.—Manufacture of Latch-Needles for Knitting-Machines.—Stephen Woodward, Manchester, N. H.

Claim.—In the construction of latch-needles for knitting-machines, &c., the employment and use of a shim of paper, or analogous substance, between the latch and the needle in riveting, which can readily be removed by heat, and thereby allow the latch to have perfect play in the needle, substantially in the manner and for the purpose described.

116,387. — Pruning-Shear. — Edwin L. Yancey, Batavia, N. Y.

Claim.—1. In a pruning-shear, the jaw A, provided with the reverse hook-blades *b b*, when combined with a centrally-hung double-acting cutter, B, operating in the manner and for the purpose herein specified.

2. In combination with the cutter B, the fulcrum-pivot *d*, open slot *f*, and jointed arms C D, arranged as described, and operating conjointly in the manner and for the purpose specified.

3. The arrangement as a whole, consisting of the double-hooked jaw A, lever A′, cutter B, connecting-arms C D, pivot *d*, and open slot *f*, and the saw E attached to hook *b*, all as herein described.

116,388.—Roller Attachment for Plows. Charles M. Young, Meadville, Pa., assignor to himself and Charles Gable, same place.

Claim.—1. The combination, with a plow or cultivator, of a roller, B, arranged in a frame, C, and applied and operating substantially as and for the purpose herein specified.

2. The combination, with the roller and its swinging frame, of a hooked catch, arranged substantially as herein described, to be operated by the feet of the plowman.

116,389.—Meat and Vegetable Sausage. John H. Zumstein, New York, N. Y.

Claim.—An improved meat and vegetable sausage prepared of the ingredients, in the proportions, and in the manner substantially as herein set forth and described.

116,390.—Machine for Dressing Stones. William Adams, Edinburgh, North Britain.

Claim.—1. The combination, in stone-dressing machinery, of stone-holding tables and cranks for actuating the same, the two being connected substantially as herein shown and described, so that the tables shall move with and follow the path of the cranks with which they are respectively connected, as set forth.

2. The combination, in stone-dressing machines, with vertically-moving tables actuated by cranks, as described, of springs for pressing together the stones as they are being dressed, substantially as herein described.

3. The combination, with the stone-supporting tables, of the jaws or gripers, constructed substantially as herein shown and described, to hold the stones upon the tables.

4. In stone-dressing machines, the combination with vertically-moving tables which support the stones, of the spiral feeder, constructed substantially as herein described, and arranged to supply sand to the surfaces of the stones being dressed, as shown and set forth.

116,391.—TWINE-CUTTER.—John Adt, New Haven, Conn., assignor to The Judd Manufacturing Company, same place.

Claim.—As a new article of manufacture, the herein-described twine-cutter, formed from cast metal, and provided with means for securing the same, substantially as set forth.

116,392.—FURNITURE-TIP.—Johan Frithjof Akerstein, Chicago, Ill.

Claim.—The combination of the tip A, plug B, screw D, and the projection C', constructed and arranged as and for the purpose set forth.

116,393.—VESSEL FOR OIL AND OTHER LIQUIDS.—George W. Banker, New York, N. Y.

Claim.—A new manufacture, consisting of the can A, the case B, and the band *b*, when constructed and combined in the manner and by the method herein described.

116,394.—STEAM-ENGINE.—James Banks, Port Blanchard, Pa., assignor to himself, Francis Flynn, and Peter Dailey, same place.

Claim.—1. The combination of the beam A, crossheads B B', with boxes *a a'*, rods C C' and D D', stationary guide E and rocking-guide H, all constructed and arranged substantially as and for the purposes herein set forth.

2. The combination of the rocking-levers *a b f*, connecting-rods *d e*, arms *h h*, and valve-stem *k*, all constructed and arranged as shown and described, to be operated by the beam A, substantially for the purposes set forth.

3. In combination with the gearing claimed in foregoing clause, the connecting-rods *m m*, L-shaped rocking-levers *n n*, and hand-lever *p*, for reversing the motion, substantially as herein set forth.

116,395.—ROTARY STEAM-ENGINE.—John Barnett, Fredericktown, Ohio.

Claim.—1. The combination and arrangement of the abutments B^1, their arms B^2, cams D D', and springs E E.

2. The construction of the double cam D D', substantially as and for the purpose set forth.

116,396.—STOVE-GRATE.—Matthew R. Barr, Erie, Pa.

Claim.—1. The grate-support or hanger D, having the resting arms deflected from the chord or center line, and a steady arm, *s*, to hold it in position.

2. A grate having a stationary center, so constructed as to be alternated and tilted independently of the center and support.

3. The trunnions O and movable ring or pieces, in combination with a stationary center piece.

4. The grate A, center piece B, ring C, support D, and steady arm *s*, arranged and combined as and for the purposes set forth.

5. The arm or shank *s*, and trunnions O, in combination with a movable ring-grate having a stationary center, substantially as and for the purposes set forth.

116,397.—CAR-COUPLING.—Joseph W. Barrett, Calhoun, Ga.

Claim.—The arrangement and combination of the link L, bolt B, open draw-heads D D', and spring coupling-bolt C, all constructed as described, with mechanism for operating the same from the top or either side of the car, in the manner set forth.

116,398.—BARREL-HEAD.—John B. Barsaloux, St. Louis, Mo.

Claim.—A barrel-head, formed of a chamfered center head, C, having packing *c*, when arranged and secured in a corresponding-shaped man-hole, B, in combination with the head or chimes A and strip A' of an ordinary barrel, substantially as and for the purpose described.

116,399.—STREET-LANTERN.—Joseph W. Bartlott, New York, N. Y.

Claim.—1. A glass, *a*, having a rib, *b*, thereon, combined with its supporting-frame or bracket and with a reflector held to place between such rib and frame, substantially as shown and described.

2. In combination with a glass shade, a metallic chimney, secured to the top of the glass, and provided with a reflector, *h*, substantially as described, and shown in Figs. 1 and 3.

3. In combination with a glass shade, a reflector directly surrounding and fitting the glass at a point beneath its top, and an auxiliary reflector surrounding the glass, at its top, substantially as shown and described.

116,400.—HEEL FOR BOOTS AND SHOES.—Horace H. Bigelow, Worcester, Mass.

Claim.—1. A boot or shoe-heel having a concavity formed upon its upper side by means of pressure, while, at the same time, the sides and bottom of the heel are retained in position by suitable pressure-dies, as stated.

2. A boot or shoe-heel in which a concavity, D, is formed in its upper side, and the nails C partially inserted, while the sides of the heel are subjected to pressure, substantially as described.

116,401.—SELF-WATERING VASE.—William M. Bingham and Henry Bemis, Rochester, N. Y.

Claim.—A vase or flower-pot, having double walls for providing a reservoir for water or air, and the necessary pipes, shown at B, D, and E, for the purposes specified, when constructed substantially as described.

116,402.—FEATHER-EDGING AND CHANNELING-MACHINE FOR BOOTS AND SHOES.—Lyman R. Blake, Fort Wayne, Ind.

Claim.—In combination with feed-wheels and an edge-guide, a cutter fixed to that frame or arm in which the shaft of one wheel is journaled, and acting on the side of the sole opposite that upon which such wheel acts.

116,403.—STEAM-TRAP.—James H. Blessing, Albany, N. Y., assignor to himself and Frederick Townsend, same place.

Claim.—The piston L L', whether constructed with its smallest part L' hollow or solid, in combination with the piston-case A and the inlet and outlet attachments thereto, substantially as described.

116,404.—SPUR.—John C. Bohn, Allegheny City, Pa.

Claim.—The combination and arrangement of the bayonet-cylinder A and the bolt or bar B secured in shank C, and provided with thumb-piece *c*, when constructed and operating substantially as shown and described.

116,405.—TURBINE WATER-WHEEL.—Jeptha G. Boyland and George Buchanan, Crawfordsville, Ind.

Claim.—A water-wheel, substantially such as described, in which each bucket D is constructed at its outer edge with a flange, E, running from the top to the bottom of the bucket, substantially as and for the purpose set forth.

116,406.—LITHOGRAPHIC-PRINTING PRESS.—Edward S. Boynton, Brooklyn, N. Y., assignor to himself and Charles Parker, Meriden, Conn.

Claim.—1. The combination of the stone D' and the holder E, arranged and made adjustable within the revolving frame F, substantially as described, whereby the surface of the stone may be set in proper relative position to the periphery of the cylinder, substantially as set forth.

2. The arrangement of the shoe 7 on the griper-shaft, the two reciprocating studs 11 12 combined with the double-acting cam 13x to introduce the fingers alternately to the operation of the griper-shaft, substantially as set forth.

3. In combination with the shoe 7 on the griper-shaft, constructed with projections 8 8 on opposite sides of the said shoe, and provided with the V-shaped cam, the lever 9, arranged upon the head of the cylinder and provided with a spring to force the said lever to act upon the said cam to throw the said shoe to either of its two extremes, the two extremes being limited by the said projections coming in contact with the rim of the cylinder, substantially as set forth.

4. The auxiliary fingers 13, having extensions 14, and attached by frictional-spring pressure to the shaft *h'*, in combination with griping-fingers h, substantially as and for the purpose set forth.

5. The arrangement of the cam 13, by which the gripers are operated, directly upon the shaft of the impression-cylinder, so that the said cam revolves with the said impression-cylinder, as described.

6. In combination with the plate or blade *i*, arranged and operating as described, the bar *i'*, provided with screws to adjust the said plate *i*, and operating to support and release the said plate, substantially as described.

7. In combination with the inking or dampening-rolls, the auxiliary or gravitation-rolls 4, arranged in the slots S, curved upward to bring the bearing of the gravitation-rolls above the bearing of the inking or dampening-rolls, so that the gravitation-rolls will force the inking or dampening-rolls, arranged below the center of the cylinder, up against the surface of the cylinder, substantially as set forth.

116,407.—STEAM-ENGINE.—Henry W. Adams, Philadelphia, Pa.

Claim.—1. An engine, to the cylinder of which steam is admitted through an open pipe, substantially in the manner described.

2. A steam-cylinder, into the opposite ends of which, alternately, steam is admitted through pipes or passages which are open to the air, and through which the steam is exhausted, all substantially as set forth.

3. Utilizing a portion of the exhaust steam from one side of the piston of a steam-cylinder by causing it to unite with a jet of live steam directed into the cylinder at the opposite side of the piston, substantially in the manner described.

116,408.—ORDNANCE.—Bashley Britten, Red Hill, England.

Claim.—A cast-metal gun, in the breech of which is embedded a breech-piece of malleable iron or bronze, upon which the body is cast, and which is bored out to coincide with the bore of the gun, as specified.

116,409.—COASTING-WAGON.—Adna Brown, Springfield, Vt.

Claim.—1. The fender J and stirrups or foot-rests *b b*, when formed of one rod or wire, and supported by a brace, *d*, substantially as herein set forth.

2. The combination of the wheels A A, axle B, bed C, seat D, collar E, post G, wheel or wheels H, tongue I, fender J, foot-rests *b b*, and brake K, all constructed and arranged substantially as and for the purposes herein set forth.

116,410.—SOLDERING APPARATUS.—Andrew J. Burke, Baltimore, Md.

Claim.—The combination of the platform A, case *b*, rail C, plate D, and platform E, as specified.

116,411.—HOOP-SKIRT.—Charles C. Carpenter, New York, N. Y.

Claim.—1. In a hoop-skirt having an upper and a lower nest of hoops with an intervening space, the lower or skirt-nest thereof, formed by the same hoop 9 which passes spirally through the space between the upper and the lower nests, and unites the two together without use of separate wires or fastenings, as described.

2. The lower portion of the bustle-nest and the knee-guards or fenders *g* of the lower nest, formed by one and the same series of wires, 5, 6, 7, and 8, in the manner described.

3. The bustle and knee-guard wires crossed and interlaced at the back, for the purpose of increasing the strength and supporting power of the skirt at the back, as described.

4. In a hoop-skirt in which the lower nest is formed of a continuous wire, which also unites it with the bustle-nest, the combination therewith of the separate wires 5, 6, 7, and 8, crossed and interlaced at the bustle or back, and the knee-guards or fenders *g*, formed thereby, crossing the front space above the lower hoops, as described.

116,412.—TABLE-KNIFE AND FORK.—Matthew Chapman, Greenfield, Mass.

Claim.—Table knives and forks having a foot or rest applied to the bolster, or therenbout, adapted to support the blade or tines in the manner described, said blade or tines being overbalanced by the handle, all substantially as specified.

116,413.—FRICTION-PAWL OR CLUTCH-MECHANISM.—Walter R. Close, Bangor, Me., assignor to himself, John E. M. Sanford, Emon C. Smart, Job Collett, Reuel W. Kimball, William Margesson & Son, and Frederick H. Coombs, same place.

Claim.—The combination, with the shaft *a*, of the pulleys *b c* loose thereupon, the clutch-wheel *m* fast thereupon, and the rolls *o p* located in peripheral recesses of the clutch-wheel, the two pulleys having flanges *k k*, which inclose the clutch-wheel and the rolls, and each pocket or recess having two rolls, one for each pulley, all substantially as shown and described.

116,414.—SCREW-PROPELLER.—John Cochrane, Wall township, N. J.

Claim.—The tongued and grooved hub-joints, in combination with the hub-bands, substantially as described.

116,415.—KITCHEN-SAFE.—Thomas Coltrane, Cedar township, Iowa.

Claim.—1. In combination with a kitchen-safe, constructed substantially as described, the chests E and F for the reception of flour and meal, respectively, as set forth.

2. The improved article of furniture herein described, composed of the meat-closet C, cupboard D, flour and meal-chests E and F, and compartments G and H beneath the chests, all supported and arranged to revolve on a pedestal, A, substantially as set forth.

116,416.—SWITCH-LOCK.—Alonzo W. Cram, St. Louis, Mo., and William B. Dunbar, Chicago, Ill., assignors to Alonzo W. Cram.

Claim.—1. The tubular bolt J *j j'*, spring-tumbler or tumblers I *i i'*, and spring-lever K *e e'*, substantially as and for the purpose described.

2. The combination and arrangement of the guide-bars F G, bolt J, tumbler I, and spring-lever K, with the switch-operating lever C, all substantially as described.

116,417.—ROWING-MACHINE.—William B. Curtis, Chicago, Ill.

Claim.—The combination, in a rowing-machine, of a seat, A, the standards B and B', the rotating friction-ratchet C provided with washer D, the arm E provided with spring-pawl *d*, and the row-lock F, all constructed, arranged, and operated substantially as described and shown.

116,418.—Reamer.—John K. Derby, Jamestown, N. Y., assignor to Daniel A. Seymour and Elias B. Stilson, same place.

Claim.—1. The combination of hollow guides E F and the notched and tubular block D with the curved cutter B and solid block A, as and for the purpose specified.

2. The reaming-cutter B having a shank with several holes therein, arranged detachably on the solid block A, and held thereto by a bolt, C, as described, so as not only to be held firmly in place, but to admit of a radial adjustment for the purpose of increasing or lessening the limit of its throw.

3. In combination with the hereinbefore-described reaming-cutter B and solid block A, the blocks D F, made in tubular form, and with notches or recesses to receive the chips, as specified.

4. The arrangement, upon a leader, A, and block D, of detachable tubular guides E F, to enable the same tool-stock to be used in boring different-sized holes.

116,419.—Dining-Table.—James H. Drane and Leonard Drane, Eminence, Ky.

Claim.—The combination and arrangement of the stationary table A, revolving table or platform B, column C, caster D, vertical shaft E, adjustable fans F F, and driving mechanism G, substantially as and for the purpose set forth.

116,420.—Punching-Machine.—James Duff, Peoria, Ill.

Claim.—The crank B and arm C, constructed with the slots *e e* and *e*, as described, in combination with the pin *d* of the toggle-joint D, carrying the guide-block E with punch *e e* and dog G, connecting by rod *f* with lever F, all arranged and operating as shown and set forth.

116,421.—Saw.—James E. Emerson, Trenton, N. J.

Claim.—A saw, having piece *a* partially slit or punched from plate A or tooth B, in the manner and for the purpose shown and described.

116,422.—Revolving Fire-Arm.—Sullivan Forehand and Henry C. Wadsworth, Worcester, Mass.

Claim.—1. The combination, with the removable base-pin in a revolving fire-arm, of a removable shell-discharging pin.

2. The combination, with the base-pin E, of the cartridge-shell discharging-pin F and spring catch-lever G, substantially as and for the purposes set forth.

116,423.—Apparatus for Storing and Discharging Naphtha, &c.—Theobald Forstall, New Orleans, La.

Claim.—1. The method, herein described, of storing naphtha or other volatile hydrocarbons in an equilibrated holder surrounded by water, into and from which the hydrocarbon is discharged, substantially in the manner and for the purposes set forth.

2. The combination of the tank, holder, and closed equilibrium-chamber covering the top of said holder, and extending down upon the sides of the same to a point below the water-line in the tank, substantially as shown and set forth.

3. The combination of the holder, equilibrium-chamber, and safety-valve, conducting any vapors generated in the holder, in the water counter-balance in the chamber, substantially as shown and set forth.

4. An apparatus for storing naphtha and other volatile hydrocarbons, consisting of the holder, inlet, and discharge-pipe, equilibrium-chamber, and tank, substantially as described, combined and operating in connection with the water contained in said chamber and tank to effect the entrance and discharge of the hydrocarbon into and from the holder, and to equilibrate the holder, substantially as shown and set forth.

116,424.—Thread-Cutting Device for Sewing-Machines.—Fred. H. Furnis, Waterloo, N. Y.

Claim.—The cutter C, spring *g*, and thumb-lever D, constructed as described, in combination with the presser-foot of a sewing-machine, substantially as and for the purpose specified.

116,425.—Combined Corn and Cotton-Cultivator.—William C. Gaines, Salem, assignor to himself and Harvey B. Varnes, Manassas, Va.

Claim.—The frame with slotted beams H H′, laterally adjusted by means of lever S, in combination with rock-shaft O, lever R, and levers N N, whereby the plows can be raised separately or collectively, substantially as set forth.

116,426.—Cooking-Stove.—Robert Gass, Troy, N. Y., assignor to Eddy, Corse & Co., same place.

Claim.—1. The means employed for pivoting the slide D to or upon the stove-front so as to permit the same to be slid or moved forward, and to one side upon the hearth B, consisting of the hinge F provided with a vertical opening, and with the recess *f*, in combination with the pintle G and lug H, substantially as and for the purpose specified.

2. The supporting-strip I, in combination with the slide or cover D and the hearth B, substantially as and for the purpose shown.

3. A draught-damper or slide, so arranged within the hearth or other equivalent portions of a stove as to bring all of its parts below the surface of the same, substantially as shown, and for the purpose set forth.

116,427.—Dentist's and Barber's Chair.—August Gebhard and John Blodan, Indianapolis, Ind.

Claim.—The toothed or notched segmental casting C attached to the hinged back B, the latch or catch D attached to the frame A, and the extension foot-rest F furnished with the hinged leaf G, all constructed and arranged substantially as set forth.

116,428.—Gang-Plow.—Samuel J. Gillham, William Capp Taylor, and James W. Stolle, Vandalia, Ill., assignors to said Gillham and Taylor.

Claim.—1. The adjustable hinge-connection *e f g*, between the fore ends of the beams and the frame, in combination with the guide-yokes H H′, connected to the axle-bar by adjustable socket-bolts *h*, substantially as and for the purposes set forth.

2. The adjustable brace-connections K *k* L I M N O *k*, in combination with the beam G, standard I, and axle C, substantially as set forth.

116,429.—Dial-Telegraph Apparatus.—Ezra T. Gilliland, Cincinnati, Ohio., assignor to Hiram D. Rogers, same place.

Claim.—1. The double-acting dial-telegraph, consisting of the shaft D E, disk F, ratchet-wheel G, forked and vibrating arm I I′ J K, and actuating-pawls H H′, when arranged to operate substantially as herein described and set forth.

2. The dial-plate A, boss B, and hub C, when cast in one piece, as herein described.

3. The described combination of notched disk Q R S, spring-conductor T, handle V, index W, pawl X, and collar Y, for the purpose described.

116,430.—Dial-Telegraph Instrument.—Ezra T. Gilliland, Cincinnati, Ohio, assignor to Hiram D. Rogers, same place.

Claim.—1. In connection with the dial-plate pointer and shaft, the pawl-arms E E′, pawls F F′, and ratchet-wheels D D′, combined and operating to move the pointer in either direction, substantially as described.

2. The adjustable stops H H′ I I′, or their equivalents, substantially as described, to limit the motion of the pawls.

116,431.—Car-Coupling.—Henry C. Gilliland, Wellsville, Mo.

Claim.—In combination, the draw-bar A, the pivoted jaw B, the coupling-pin D, and the spring F, substantially as and for the purpose shown and described.

116,432.—Scissors.—Russell S. Gladwin, West Meriden, Conn.

Claim.—In a pair of scissors, one of the blades constructed with a hook, *c*, at the end and on the cutting-edge, substantially in the manner herein set forth.

116,433.—Bottle-Stopper.—Claude Glover, New York, N. Y.

Claim.—A bottle-stopper, in which the tube A, cap C′, rubber cap or spring B, and the cap C are combined, and arranged to operate substantially as shown and described, and for the purpose set forth.

116,434.—Stamp-Canceler.—John Goldsborough, Philadelphia, Pa.

Claim.—A combined cutter and scraper for stamp-canceling machines, consisting of a wheel or plate having at the edge serrations and cutting-projections *i*, as specified.

116,435.—Loom-Shuttle.—Edmund H. Graham, Biddeford, Me., assignor to himself and Reuben W. Randall, same place.

Claim.—1. In combination with the automatic locking and unlocking device, the shuttle-arms D D, constructed and operating as described, and for the purposes set forth.

2. A shuttle, having an automatic lock, constructed in the manner substantially as and for the purpose hereinbefore set forth.

116,436.—Rotary Engine.—William A. Graham, Carlisle, Pa.

Claim.—1. The passages *d e* and groove *f* for admitting the steam behind the pistons G G, substantially as and for the purposes herein set forth.

2. The combination of the cylinder A with passages *a a′*, ports *b b′*, heads B B, passages *d e*, pipes D D′, and the cylindrical head E, with pistons G G and grooves *f f*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

116,437.—Let-off Motion of Looms.—Frederick William Graichen, Providence, R. I., assignor to Edward Barrows and Joseph Clayton, Dracut, Mass.

Claim.—My improved yarn-beam friction apparatus as composed of instrumentalities as described, arranged, and combined as set forth, such instrumentalities consisting of the single spring L, the lever K, the pawl I, the ratchet-wheel H, the wheel G, frame E, the shaft F, the bands M N, guide-wheels O O, and levers D D, provided with the friction-bands C C, applied to the yarn-beam as represented.

116,438.—Fire-Place Grate.—Alfred Greenaway and Hugh J. Needham, New Albany, Ind.

Claim.—The tile A, as above described, and the air-space D D behind it and at the ends, in combination with the open-grate back B, when made separate from the front part; also, the front C, when hung to the frame H by the hook J at the top, and held up by the pin E at the bottom, when arranged, constructed, and operated substantially as and for the purpose hereinbefore set forth.

116,439.—Boot and Shoe-Tap.—John C. Hancock, Charlestown, and Josiah C. Richardson and Edward P. Richardson, Somerville, Mass.

Claim.—A heel or sole-tap for boots and shoes, formed of cup-piece B and plain disk C, made of rubber, and the metal plate A perforated at D and E, the whole being relatively arranged and united together in the manner and for the purpose described.

116,440.—Instrument for Ringing Hogs.—John Heesen, George Heesen, and Henry Nyland, Tecumseh, Mich.

Claim.—The two pivoted concave jaws C D, combined with the flanges *c c*, acting as lateral guides to the metal blank and stops to the jaws, for the purpose specified.

116,441.—Fire-Escape.—William Henley, Chicago, Ill.

Claim.—1. In combination, the cylinder A constructed in sections as described, brackets D provided with lugs *d d′*, steps B, rail E, and balusters F, the whole arranged substantially as and for the purpose described.

2. In combination, the cylinder A constructed in sections as described, brackets C provided with lugs *a a*, steps B, rail E, baluster F, clasps G, and swivel-jointed rods H H, the whole arranged substantially as and for the purpose described.

116,442.—Lubricator.—John Hodge, Harrison, N. J.

Claim.—In combination with the box A of a wheel or pulley, the revolving oil-cup B, having spiral conduit C, as specified.

116,443.—Water-Wheel.—Otis J. Hodge, North Adams, Mass.

Claim.—1. The gate A, provided with chutes B B, arranged spirally, substantially as shown and described, and for the purposes herein set forth.

2. The gate A, with spirally-arranged chutes B B, in combination with the arms C C, inclines D D, spiral rack E, and pinion G, substantially as and for the purposes herein set forth.

116,444.—Cooking-Stove.—Henry T. Holmes and Wallace H. Priest, Little Falls, N. Y.

Claim.—The chamber C, having cold-air inlets G N, outlet H, and passage K, with corresponding dampers, combined with the air-surrounding pots F, as and for the purpose specified.

116,445.—Water-Gate.—William C. Hopwood, Fillmore, Ind.

Claim.—The arrangement of the spanning-rod *a*, supporting-posts *c c*, beams *g*, hinges *f*, slats *h*, scantlings *i*, and braces *j*, as specified.

116,446.—Plow Attachment for Cutting Stubble.—John T. Hovis, Clintonville, Pa.

Claim.—The reciprocating cutter *a*, finger-bar *b*, pitman *d*, shaft *f*, pinion *h*, crown-wheel *i*, shaft *j*, pinion *m*, and wheel *n*, arranged, in connection with a plow, substantially as shown and described.

116,447.—Tile-Machine.—John B. Hughes, Terre Haute, Ind.

Claim.—1. The movable bottom D with longitudinal depressions *b b*, opening *d*, and bevel *e*, substantially as and for the purposes herein set forth.

2. In combination with the movable bottom D, constructed as described, the pan E, having corresponding shape, substantially as and for the purposes herein set forth.

3. The combination of the beams A A, rack-bars *a a*, box C, bottom D, and pan E, all constructed

and arranged substantially as and for the purposes herein set forth.

4. The combination of the roller G, frame H, crank I, friction-rollers *i i*, and cog-wheels A A, all constructed and arranged substantially as and for the purposes herein set forth.

116,448.—TILE-MACHINE.—John B. Hughes, Terre Haute, Ind.

Claim.—The arrangement, in the tile-machine herein described, of the bed-piece A, boxes H H with different-shaped openings *f f* and flat opening *h*, reciprocating plungers G, rack-bar D, rollers *k k*, frames J J, and rods *i i*, all constructed and operating substantially as and for the purposes herein set forth.

116,449. — MANUFACTURE OF BACKS FOR CARRIAGE-SEATS. — Benjamin Hurlburt, Fort Wayne, Ind., assignor to himself and Noble G. Olds, same place.

Claim.—1. The process herein described, of making carriage-seat backs and ends by cutting the same in one piece, and in a flaring form, from a block of timber previously bent or curved, substantially as shown and set forth.

2. As a new manufacture, carriage-seat backs and ends, obtained from a block of timber first bent, as described, and then cut longitudinally into flaring sections, substantially as herein shown and described.

116,450.—APPARATUS FOR THE MANUFACTURE OF ILLUMINATING-GAS.— Edward Jones, Boston, Mass., assignor to The American Coal Gas-Light Improvement Company, same place.

Claim.—The outlet-pipe D with its valve or cut-off, connected with the retort A, so as to conduct the gas without pressure to the desired point, in combination with the outlet-pipe E, which is also connected with the retort, and extends down into the liquid contents of the hydraulic main so as to form a "dip-seal," substantially as and for the purpose set forth.

116,451. — GALVANIC BATTERY. — Jerome Kidder, New York, N. Y.

Claim.—1. The combination of longitudinal bars B B^1 B^2 with the battery-cells and their connections, when arranged as and for the purpose specified.

2. The combination of transverse bars *v v' v''* with the battery-cells and their connections, when arranged as and for the purpose specified.

3. The longitudinal bars B B' B'' and transverse bars *v v' v''*, combined and arranged with the battery-cells and connections, as and for the purpose specified.

116,452.—DOOR-LOCK.—John H. Kinsman, Salem, Mass.

Claim.—1. The slides B with the openings *b*, acting directly upon the primary tumblers by means of the key, in combination with the pieces B' with the openings *b'*, used to separate the slides B, substantially as and for the purpose hereinbefore described and set forth.

2. The bent slide E, with its curved edge V', in combination with the primary tumblers and pin *u'* attached to the cap-plate, as and for the purpose hereinbefore described and set forth.

116,453.—MACHINE FOR JOINING TUBULAR LIGHTNING-RODS.—George S. Knapp, Winona, Minn.

Claim.—1. The combination of the sliding jaws C, radially arranged, with the cams *g*, operated by the lever E for compressing the end of the lightning-rod, as described.

2. In combination with the clamping-jaws I and *r*, the sliding conical plug *m*, arranged to operate, substantially as described, for opening the ends of tubular rods, as set forth.

116,454.—PUMP.—Lucius J. Knowles, Worcester, Mass.

Claim.—The combination, with the piston-rod E and tappet-arm I, of the jointed hand-lever K, notched fulcrum-arm L, and supporting-studs J P, substantially as shown and described.

116,455. — DIE FOR FORMING CARRIAGE-CLIPS.—Wilson W. Knowles, Plantsville, Conn.

Claim.—1. The dies A and B, provided, respectively, with the rib *a* and groove *b*, substantially as and for the purpose shown and described.

2. The hereinbefore-described carriage-clip, having a grooved or concave under surface that corresponds in shape with its upper surface, substantially as and for the purpose shown.

116,456. — DIE FOR FORMING CARRIAGE-CLIPS.—Wilson W. Knowles and Le Roy S. White, Plantsville, Conn.

Claim.—The series of dies A D I and N, for constructing saddle-clips, substantially as shown and specified.

116,457, antedated June 7, 1871.—SIFTING-MACHINE.—Benjamin N. Lampman, Rutland, Vt.

Claim.—The roller C, provided with a zigzag groove-rod *n*, sifter E, tail-piece H, and crank-wheel *m*, all arranged to form a coal or ash-sifter, substantially as described.

116,458. — SAW-MILL. — Francis Layani, Monroe, La.

Claim.—The blades D, when combined and arranged with the transverse pieces C in the rear of the saws, as described.

116,459.—FLOWER-STAND.—Charles T. Lee, Taunton, Mass., assignor to himself and Lloyd H. Dean, same place.

Claim.—1. The ribs or bars G, having hook ends *a*, in combination with the staples Q on the plate or frame K, substantially as described, for the purpose specified.

2. The ribs or bars G, in combination with the frame or ring N, relatively constructed for being interlocked, substantially as described, for the purpose set forth.

3. The brackets or arms H H^2 H^3, in combination with a shelf relatively constructed for locking the shelf thereon, substantially as described.

4. A frame, composed of ribs or bars, G, having brackets or projections H, frame K having staples, and frame N, when relatively constructed for being secured together without the use of separate fastening devices, substantially as described.

116,460.—LOW-WATER DETECTER.—Lewis L. Lee, Milwaukee, Wis.

Claim.—The nut C, connected with pipe D and case B, and containing the opening O for the test-pipe E, substantially as set forth.

116,461.—MACHINE FOR STRETCHING SILK.—John N. Leonard, Rockville, Conn.

Claim.—The grooved rollers *f f*, of uniform size, in combination with a regulating tension, substantially such as shown and set forth.

116,462.—COMPOUND FOR DYEING HAIR.—Joseph S. Letord, Sedalia, Mo.

Claim.—The manufacture or preparation of a compound for dyeing hair, composed of the ingredients and in substantially the proportions set forth.

116,463.—FILTER.—William Linton, Baltimore, Md.

Claim.—The improved filter formed of the cylindrical case A, bends D E, perforated horizontal partitions B B, vertical scrolls F F, chamber C for filtering material, nozzles G and M, cock N, nozzles H and P, and caps K Q, all constructed and arranged as shown and described.

116,464. — SEWING-MACHINE TREADLE.—Amos D. Lufkin, Cleveland, Ohio.

Claim.—The combination of the rocking-lever A, the connecting-rods B B', the connecting-rod J, and the foot-treadles H H, substantially as and for the purpose set forth.

116,465.—COLLAR-CAP FOR HARNESS.—Arnold P. Mason, Franklinville, N. Y., assignor of one-half his right to William H. Bard, same place.

Claim.—1. The combination of the sides *a a*, seam *b*, metal lining *d*, and flanges *c*, as specified.

2. In a collar-cap, a metal lining, when made in two separate pieces, placed one at each side of the cap, as described.

116,466. — PORTABLE FARE-BOX.—William L. May, Philadelphia, Pa.

Claim.—The leaves E and E', the supplementary leaves F F', the lever C, links *d d'*, and spring L, operating as specified, said lever being arranged beneath the leaves, and projecting through the side of the box into convenient proximity to the handle of the same, substantially as herein shown and described.

116,467.—MACHINE FOR FOLDING CARPET-LININGS.—John C. Mayall, Boston, Mass.

Claim.—The combination of table E with the former J, having rolls *c* and rolls *h*, relatively constructed and arranged for operation, substantially as and for the purpose set forth.

116,468.—Suspended.

116,469.—HASP-LOCK.—William C. McGill, Cincinnati, Ohio, assignor to A. J. Woodworth, Jennersville, Pa.

Claim.—1. The locking-spring E, having the key-hole stem F attached to its free end, in combination with the ring-bolt G and box C, substantially as described and shown.

2. The guard-spring D, in combination with the locking-spring E, having the key-hole stem F attached to its free end, ring-bolt G, and box C, made and operating substantially as herein described and shown, and for the purpose set forth.

116,470.—MACHINERY FOR MAKING ROOFING-FELT.—Jerome B. Melvin, Lowell, Mass., assignor to himself, James H. Pindar, and John E. Crane, same place.

Claim.—1. A sand-filling apparatus, in combination with a felt-feeding apparatus, substantially as described, and for the purpose set forth.

2. The combination, substantially as described, of a sand-filling apparatus and a felt-saturating apparatus, with a feeding and a carrying and guiding apparatus, for the purpose and substantially as specified.

3. The combination, substantially as described, of a sand-filling apparatus, a bath or saturating apparatus, and a felt-squeezing apparatus, with the feeding and carrying mechanisms.

4. A sand-covering apparatus, which covers both sides of the roofing-felt with sand simultaneously, or by a single operation or process, as shown and described, in combination with the squeezing-rolls and with the bath or saturating apparatus, and the feeding and carrying mechanism, with or without the sand-filling apparatus, as set forth.

5. The edge-forming rolls, substantially as described, in combination with the sand-covering apparatus and the saturating apparatus.

6. The combination of the edge-forming rolls with the sand-covering and the saturating and the sand-filling apparatus.

7. The combination of the edge-forming rolls with the bath and the squeezing-rolls, and with the feeding and guiding mechanisms.

8. The combination, substantially as described, of a sand-distributer, E, with the beater or felt-agitating device F, operating in connection, substantially in the manner and for the purpose set forth.

9. The combination, substantially as described, of a feeding and carrying mechanism, a sand-filling apparatus, a saturating and a squeezing apparatus, and a sand-covering apparatus operating in the manner and for the purpose set forth.

10. The combination, substantially as described, of a feeding and carrying mechanism, a sand-filling apparatus, a saturating and a squeezing apparatus, a sand-covering apparatus, and an edge-forming apparatus, all operating in the manner and for the purpose set forth.

11. The combination, substantially as described, of a feeding and carrying mechanism, a sand-filling apparatus, a saturating and a squeezing apparatus, a sand-covering apparatus, an edge-forming apparatus, and a guiding and lap-rolling apparatus, all combined, arranged, and operating substantially in the manner and for the purpose set forth.

12. The process, substantially herein described, of producing sand-filled, and saturated, and sand-covered fibrous roofing-felt.

13. The process, substantially as herein described, of producing adhesively-saturated fibrous roofing-felt, such as herein described, in continuous sheets, with both sides covered with sand, as specified.

14. The process, substantially herein described, of producing fibrous roofing-felt with a lap-jointed edge or edges, whether filled or covered, or both filled and covered with sand, as set forth.

15. As a new manufacture, sand-filled, adhesively-saturated, and sand-covered fibrous roofing-felt, substantially as described.

16. Roofing-felt with lap-jointed edges, substantially as described, whether filled or covered, or filled and covered with sand, or only saturated with the adhesive material, as specified.

17. Saturated fibrous roofing-felt such as herein described, made in continuous sheets, with both sides covered with sand, as set forth.

116,471.—BINDER'S PLATFORM FOR HARVESTERS.—Curtis Miller, Lincoln, Pa., assignor to himself and J. R. Royer, same place.

Claim.—The arrangement of the wheel-supports A A, when made adjustable between the sills *s* and the top piece *e*, in combination with the adjustable binders' platform F, hinged table E, on a car, attached to ordinary platforms of reaping-machines, in the manner and for the purpose specified.

116,472.—BODY-LOOP.—Robert R. Miller, Plantsville, Conn.

Claim.—A body-loop provided with side flanges D and D' and dependent flange E, constructed and arranged substantially as described and shown.

116,473.—PLIER.—George W. Moore, Newark, N. J.

Claim.—In pliers composed of two jaws and handles, working upon a fixed center, as described, the cylindrical or partially-cylindrical head, formed on one of said jaws, in combination with an adjustable jaw, provided with a correspondingly-cylindrical recess to fit the cylindrical head upon the axis of which said jaw is hung and oscillates, substantially as and for the purpose shown and set forth.

116,474.—COMPOSITION FOR THE CURE OF PILES. — Louis L. Moore and R. B. S. Whayre, Calhoun, Ky.; said Moore assigns his right to said Whayre.

Claim.—The pulverized burned alum, the boiled or strained honey, and the mutton-tallow, when compounded or prepared in the manner set forth.

116,475.—Bearing for Railway-Car Axles.—Eliza Dexter Murfey, New York, N. Y., assignor to The Manhattan Packing Manufacturing Company, same place.

Claim.—1. The combination of a case or hub, A, the holder D fitting in the case and adapted to the journal *x*, and a lining, I, of the material described, carried by the holder, as set forth.

2. The said lining I secured to a holder, D, by cords *a*, so as to be detachable from the holder, as described.

3. The combination of the lining and chambers *e*, as specified.

4. The springs *f* and disks *f*, in combination with the chambers *e*, for the purpose specified.

5. The detachable thrust-plate F, carrying impregnated bearing material *i*, as specified.

116,476.—Street-Lamp. — Thomas North, Cincinnati, Ohio.

Claim.—The herein-described gasoline street lamp case, in which the glass sides are secured to the frame by the grooves *a* and *b* and leaden clips F, and the apertures J J′ covered by overhanging hoods K and K′, the conical top L of the upper hood K′ being provided with an aperture, J″, at the apex, substantially in the manner and for the purposes set forth.

116,477.—School-Desk.—Henry B. Osborne and Noah W. Hammon, Des Moines, Iowa.

Claim.—1. The groove *c* or *d*, elbowed or straight, and the pin *b*, in combination with either the long arm C attached to the end frame A and book-box B, or with the short arm D attached to the end frame A and seat-arm, operating substantially as described.

2. In a school-desk, the long arm C combined with the base of the frame, the book-box A, the pin *b*, the elbowed groove *c*, and the gravitating lock *a*, all made and operating substantially as described.

116,478.—Bolt-Cutter.—Abner W. Owen and Miol E. Lilley, East Canton, assignors to themselves and A. J. Walter, Le Roy, Pa.

Claim.—The within-described bolt-cutter, consisting of jaws A A′, cam-lever D, link C, and cutters *a a′ b b′*, all arranged substantially as set forth.

116,479.—Apparatus for Tapering Ferrules. — John L. Parker, Worcester, Mass.

Claim.—1. The combination of the block B having a tapering hole in it of the diameter and taper required for the ferrule externally, the mandrel A more tapering than the hole in said die-block, a support for said mandrel, and mechanism to reciprocate die-block B, substantially as and for the purpose described.

2. The combination, with the bed C and movable head D of the power-press, of the centering-spindle A, forming-die B, discharging-pin G, and cross-bar J, substantially as and for the purpose set forth.

116,480.—Tile-Machine.—Zeno F. Parun, Baltimore, Md., assignor to Geo. C. Hicks & Co., same place.

Claim.—1. The combination of the false sectional matrix *i* with the annular collar *j*, on the bottom of the cylinder or pug-mill B, substantially as and for the purpose specified.

2. The die H, made to connect with the core-plug T and matrix *i*, and made in three or more parts, of wedge-shape in both length and depth, so that they will freely separate from the pipe when the latter is lifted from the supporting-table, as set forth.

3. The disk *l*, fitting into a recess in the platform C, in combination with its rod *m* and levers *n* and *o*, for operation, essentially as described.

116,481.—Apparatus for Sizing the Initial Coils of Cops in Spinning-Machines.—Alfred Pearson, Assonett, Mass.

Claim.—1. The combination and arrangement of the brush A, the size-holder or reservoir B, and the adjustable gauge-plate C, all as set forth.

2. The combination and arrangement of the size-reservoir A, the brush B, the gauge-plate C, and the guide-wire D, all substantially as and for the purpose as hereinbefore explained.

116,482.—Bracket for Warp-Creels.—Napoleon B. Peck, Woonsocket, R. I.

Claim.—A single-screw glass bracket for creels of warp-frames, provided with the stud C on the back of the journal-seat wall, and the buffer *z* for strengthening the screw-hole, substantially as specified.

116,483.—Mechanism for Operating Ventilators.—Abraham L. Pennock, Philadelphia, Pa.

Claim.—The combination of an adjustable rod, F, or its equivalent, with a series of hinged ventilating-frames, and with mechanism substantially as herein described, by which the horizontal adjustment of the said rod or its equivalent will be the means of simultaneously raising or lowering the said frames.

116,484.—Brick-Machine.—Julius Frederick Moore Pollock, Leeds, Great Britain.

Claim.—1. The combination, in a brick-machine, of a pug-mill, molds *e* receiving the clay from said mill, and each provided with a plunger, e^3, a slide, r^3, a lubricating-roller, *q*, and a lubricating-plunger, *n*, the whole operating substantially as and for the purpose described.

2. The combination of the series of molds *e*, the slide r^3, and the press to which the molded bricks are conducted by the action of the slide, substantially as described.

3. The combination of the movable table having molds *e*, and a supplementary lubricating-plunger *n* supplied with lubricant, and operated substantially as described.

4. The combination, with the table, its molds *e* and plungers e^3, of the lubricating-roller *q*, arranged to pass over the surface of the bricks while in the molds, substantially as set forth.

5. The combination of the plunger of the press and a lower cross-head operating with the plunger and with a block, f^6, in the die *k*, to raise the bricks from the die, as set forth.

6. The delivery-slide and lever *r*, in combination with the check or guard-lever *t* for determining the exact position of the brick to be pressed, substantially as described.

7. The combination, with the delivery-rollers *l* and the belt *m*, of the rotating cylindrical brush 23 for removing excrescences from the bricks as they leave the machine, substantially as described.

8. The arrangement of the circular table *e*, and lower disk *f* having sockets f^3 for guiding the stems of the mold-plate e^2, as specified.

9. The combination of the table *e*, disk *f*, ring *g*, its pawl and devices for operating the said ring intermittently, as described.

116,485.—Cylinder-Cock.—John Porteous, Cincinnati, Ohio.

Claim.—In the described combination with the barrel B *b*, automatically-acting valve C *c*, spring E, and discharge-pipe F, the screw-cap D *d* adjustable from the outside, as and for the object set forth.

116,486.—Shaft-Protector.—Ahira S. Porter, North Bridgewater, Mass.

Claim.—An elastic cushion or shield for protecting carriage-shafts, substantially as described.

116,487.—Crank-Motion.—Edmund Quinn, Brooklyn, N. Y.

Claim.—1. The double crank herein described, substantially as specified.

2. The combination with the double crank, having its wrists placed, with reference to the shaft, at or about one hundred and twenty degrees of the lever B, and the pitmen E E, substantially as specified.

116,488. — Washing-Machine. — Horace Larden Richardson, Lyndon, Ill.

Claim.—The cylinder B, constructed as described—that is to say, supplied with the buckets b^1 b^1 and angular ribs or projections b^2 b^2, having the side apertures b^3 b^3, as shown and described, and for the purpose set forth.

116,489.—Composition Fuel.—Ernst H. Richter, Taunton, Mass.

Claim.—The composition or fuel, as hereinbefore explained, made of a carbonaceous material and the three different kinds of clay mixed together, substantially as described, in or about in the proportions, and molded, as hereinbefore set forth.

116,490.—Buck-Saw Frame.—Edward M. Madden and Shattiece D. Roberts, (administrators of Thomas D. Roberts, deceased,) Middletown, N. Y.

Claim.—1. The metal brace D, in combination with the strain-brace B and end pieces A, in the manner and for the purpose described.

2. As a new article of manufacture, the saw-frame herein described.

116,491. — Hand-Burnisher for Boots and Shoes.—John G. Ross, Philadelphia, Pa.

Claim.—A hand-burnisher, consisting of the handle *c*, shank *b* with its projection D, and corrugated detachable cap *a*, all constructed and operating together, as described.

116,492.—Trunk.—Edward A. G. Roulstone, Boston, Mass.

Claim.—1. The trunk A, when constructed as described, and secured at the edges and upper corners by the clamps *a a* and *a′ a′*, as shown in Figs. 1 and 2, the clamps *a′ a′* extending in front sufficiently to afford protection to the door.

2. The trunk A, when constructed as described, and having fitted within it the till or tray C and drawer or drawers D with their spring-catches *e e* and *f f*, all arranged and combined substantially as and for the purpose set forth.

3. The till or tray C, fitting into the top of the trunk and having the configuration shown in Fig. 5, in combination with the pivoted arm *c′*, substantially as and for the purpose specified.

4. The till or tray C, constructed as described, in combination with the incline C′, with or without the pivoted arm *c′*, when arranged with reference to a trunk, substantially as and for the purpose set forth.

116,493.—Convertible Corn-Planter.—Andrew Runstetler, Peoria, Ill., assignor to Samuel D. Cochran, same place.

Claim.—The convertible corn-planter, consisting of beams A A, removable beam E, stationary beam D provided with the uprights *r r*, and slotted clevis *d* carrying the heel of the tongue K, axle B provided with the guides *u u*, seat-bars Z Z with shoes *w w*, constructed so as to afford a bearing for the pivots of box-lever F, all arranged and adapted to receive the parallel levers R R and foot-bars S S, and removable beam E E carrying the rotary corn-stalk cutter, substantially as described.

116,494. — Rail-Joint or Splice. — John C. Rupp, Newark Del., assignor to Simon E. Pettee, Bethlehem, Pa.

Claim.—The railroad-rail joint or splice, consisting of the parts B B′, provided with the bases *c c* and shoulders *b b*, and applied to the rails by the bolts C C, as described, whereby the tightening of the lower bolts presses the shoulders *b b* upward against the bottom of the rail to support the same, as herein shown and described.

116,495. — Knife-Sharpener. — James J. Russ, Worcester, Mass.

Claim.—The combination, with a holding-frame in a knife-sharpener provided with supporting-bevels *b b*, of the beveled-sided cutter C and pressing-screw D, substantially as shown and described.

116,496. — Planing-Machine. — James J. Russ, Worcester, Mass.

Claim.—1. The combination, with the cutter-head B and one or more pressure-rolls R, of an endless traveling feeding-bed, G, with suitably operating mechanism, and a solid planing-bed, D, substantially as and for the purposes set forth.

2. The combination, with the bed-supporting shaft J and side frame A, of the draw-screws M and holding-bosses N, substantially as and for the purposes described.

3. A planing-machine for working wood, the parts of which—B, D, E, F, F′, G, H, I, J, K, L, and R R—are constructed and combined together for operation, substantially as shown and described.

116,497. — Process of Manufacturing Cloth.—Alfred Ruzé, Gaillon, France, assignor to Simon H. Sibley, Warren, Mass.

Claim.—The process herein described of manufacturing cloth.

126,498. — Woven Cloth.—Alfred Ruzé, Gaillon, France, assignor to Simon H. Sibley, Warren, Mass.

Claim.—A fulled cloth, the surface of which consists of uniformly-arranged knobs or frizzed projections formed from the ends of cut and raised face-filling threads, introduced as and for the purposes set forth.

116,499. — Shuttle-Guard for Looms.—John Rycroft and Lucius A. White, Millbury, Mass.

Claim.—1. The combination, with the central portion of the guard-rod B provided with the flanges *b b*, of a hooked or looped central support, D G, substantially as set forth.

2. The combination, with the flanged guard-bar B, of the hooked central-supporting standard D G, and end-supporting standards C and E provided with eyes F, substantially as and for the purposes set forth.

116,500. — Comb-Cleaner.—August Sahlstrom, Chicago, Ill.

Claim.—The combination of the angular pieces A and A′, socket B, handle C, wires D, and bristles E, arranged and constructed as and for the purpose set forth.

116,501.—Egg-Detecter.—August Sahlstrom and Peter Rohdin, Chicago, Ill.

Claim.—The combination of the tube A, reflector B, plate C, and springs D, substantially as and for the purpose set forth.

116,502, antedated June 19, 1871.—Seesaw. Sarah E. Saul, Brooklyn, N. Y.

Claim.—In combination with the lever or board B, provided with the slot *a*, openings *k*, seats D, and grooves *c*, the fulcrum-block A having the angular bearing *b*, and the pole E with its pulley *a* and cord *z*, substantially as specified.

116,503. — Molding-Machine. — Conrad Schilling, Pekin, Ill.

Claim.—1. The shaft G provided with the two bevel gear-wheels H, mounted in the movable bearings *f* pivoted to the levers *g*, having their opposite ends connected to the shifting-rod *h*, substantially as described.

2. The sliding shaft K, in combination with the bar M, screw N, perforated wheel *k*, and spring-pawl *l*, all arranged to operate substantially as described.

3. In combination with the devices last above named, the reciprocating or sliding bed B, arranged to operate as set forth.

116,504.—Treating Saccharine Liquids. Adolph Schreiber, New York, N. Y.

Claim.—The within-described process of treating saccharine juices by exposing the same, while in the vacuum-pan, to the action of sulphurous acid in solution, substantially in the manner herein shown and described.

116,505. — Wagon-Brake. — F. Wilhelm Schultz, Mount Pleasant, Iowa.

Claim.—1. The combination of the lever I', rod *b*, lever S, and sliding double-tree E', substantially as and for the purposes herein set forth.

2. The combination of the single-trees G G, chains *i i* and *m m*, levers O O and R, and yoke J, all substantially as and for the purposes herein set forth.

3. The combination of the lever I or I', rod *b*, yoke J, rod *d*, bar K, rods *e e*, levers L L, rods *f f*, and brake-bar M, all constructed and arranged substantially as and for the purposes herein set forth.

4. The spring *n* and rod *p*, connected with the bar K, and operating substantially as and for the purposes herein set forth.

5. The brake-block P, constructed as described, and sliding up and down in the guide *k* on the brake-bar, substantially as and for the purposes herein set forth.

116,506.—Jewelry-Case. — Julius Smith, Philadelphia, Pa.

Claim.—1. The combination of the base A, leaf C, and lid A', hinged to the base, and composed of two sections hinged together, all substantially as set forth.

2. The combination of the said leaf C with the grooved section *b'* of the lid.

116,507.—Hoop-Skirt.—Timothy S. Sperry, Chicago, Ill., assignor to Charles C. Carpenter, New York city.

Claim.—In a hoop-skirt, in which the lower nest B is formed of a continuous wire, which also unites it with the bustle-nest, the combination therewith of the knee-guards or fenders *a* and *b*, crossing the front space above the lower hoops, as described.

116,508.—Car-Starter.—Joseph F. Stokes, Philadelphia, Pa.

Claim.—The combination of the drums B B, tubes T T, coiled springs S, flanges F F, chain-pulleys P P and P' P', endless chains C C, bevel-gearing G, G^1, and G^2, shaft E, and hand-wheel H, all arranged and operating in conjunction with the teeth *t t* of the car-wheels W W, as and for the purpose herein specified.

116,509.—Machine for Forming Lips of Auger-Bits. — James Swan, Seymour, Conn.

Claim.—In combination with the projecting crimpdies *a a* and revolving mandrel C, the sleeve N arranged upon the said mandrel and held in position by one or more trunnions, to which the lever P is attached, the said sleeve having a longitudinal movement imparted thereto, through the lever P, by means of the cam R, the internal front of the sleeve being beveled or expanded outwardly, the whole operating in the manner substantially as described.

116,510.—Cravat-Holder.—John N. Thomson, North Attleborough, Conn.

Claim.—The metal plate *a*, provided with the opening 2, in combination with the wire loop *c*, which is attached to said plate *a* by the projection *d*, and bent ends 3 in the mortises 4, and formed with the shank-bow 5, as and for the purposes set forth.

116,511, antedated June 16, 1871.—Chain-Hook.—John R. Thorne, Waldoborough, Me.

Claim.—The within-described chain-hook, consisting of the stock *d* with the open hook *c*, the hinged hook *b*, and bifurcated lever *f* carrying the catch *k*, all constructed, arranged, and operating as herein set forth.

116,512. — Mop-Head. — Joshua Todd, Webster, N. Y., assignor to himself and William R. Bancroft, same place.

Claim.—The mop-head composed of the crosspiece B, clamp C, elbow-lever D, and loop E, arranged as described, and operating in the manner and for the purpose specified.

116,513.—Propelling Apparatus for Vessels. — Charles E. Tripler, New York, N. Y.

Claim.—1. The cylindrical casing C secured to the keelson of a vessel, and provided with interior interrupting wings or vanes D D', said wings or vanes being arranged radially therein, and having little or no projection at their forward points of attachment, but gradually increasing in such projection as they extend rearward, in combination with the propelling-screw B working therein, in the manner and for the purpose herein described.

2. The arrangement of the vanes D, forming part of the series of interrupting vanes or wings of the cylindrical casing within slots in the keelson, so that they are secured in position by the same bolts which secure the semi-cylindrical plates or sheets, thus strengthening the attachment of the parts, as herein described and shown.

3. The combination of the cylindrical casing C, having its sides elongated rearward, and provided with projections D', forming, with those, D, secured to the keelson, as described, interrupting vanes or wings for altering the motion of the water in its exit from the casing, and the rudder E, the whole constructed, arranged, and operating as herein described and shown.

116,514.—Bed-Lounge.—Benjamin Franklin Walton, Philadelphia, Pa.

Claim.—The combination of the lounge constructed substantially as described, the folding seat B', the thin detachable continuous strip *a*, the sockets *c c'*, and pins *b*, or their equivalents, arranged so that the strip may be applied to extend the length of the lounge, as set forth.

116,515. — Treating Sewage. — Robert Weare, Newcastle-under-Lyme, England.

Claim.—A system or series of tanks, constructed and relatively arranged substantially as shown and described.

116,516.—Table for Invalids.—Thomas N. Webb, Baltimore, Md.

Claim.—1. An invalid-table, adjustable vertically and laterally, when arranged to be used on a bed or chair, substantially in the manner herein described.

2. The frames A A, standards C C, and bars E E, in combination with the movable table F, arranged to operate substantially as described.

3. In combination with the bars E E, the table F provided with hooks *f*, arranged to operate substantially as described.

116,517. — Adjustable Tool-Rest for Lathe. — Joshua S. Wheeler, Asa N. Wheeler, and Orange Wheeler, Worcester, Mass.

Claim.—1. The combination, with the base-piece B provided with a stationary segment-gear, G, of the puppet-block C, rack F, and adjusting-screw I, substantially as and for the purposes set forth.

2. The arrangement of the concave puppet-block upon a convex or arched base-piece, substantially as shown and described, whereby dust and dirt and other clogging substances are prevented from dropping or falling upon the working parts of the tool-rest, or from working in so as to clog the same while in use.

116,518.—Harness Saddle-Tree.—Philip H. Wiedersum, New York, N. Y.

Claim.—The combination, with a saddle and tree having square holes, as described, of the hook D with square base *d*, the screw E with square head *e* and square plate *f*, and the nut G, all constructed and arranged substantially as and for the purposes herein set forth.

116,519.—Harness Saddle-Tree.—Philip H. Wiedersum, New York, N. Y.

Claim.—The combination of the saddle-tree A, plate B, ring C, and wings D D, constructed and arranged substantially as and for the purposes herein set forth.

116,520.—Sewing-Machine. — Charles H. Willcox, N. Y., and Cyrus Carleton, Brooklyn, N. Y., assignors to The Willcox & Gibbs Sewing-Machine Company, New York city.

Claim.—1. The spool-pin or spindle, so arranged that its axis shall be in line with or inclined toward the thread-receiving eye, as described, in combination with a disk or other device for holding the spool thereon, substantially as and for the purposes set forth.

2. The inclined spool-pin, arranged as specified in the preceding clause, in combination with a bracket or other suitable holder, in which the pin is held at one end, substantially in the manner described, so that it may be removed from and replaced in said holder at pleasure.

3. The spool-pin bracket or holder, having the end which receives the pin split, substantially as described, so as to form two spring-jaws between which the end of the pin may be inserted and held, as shown and set forth.

4. The combination, with the spool-pin, so arranged that its axis shall be in line with or inclined toward the thread-receiving eye, as specified, of a spool-holding plate or disk, provided with an annular flange, arranged substantially as described, to overhang the end of the spool in contact with the disk and prevent the thread from winding upon the spool-pin.

5. The combination, with the herein-described spool-holding device, of a tension pull-off and take-up, under the arrangement and for operation as shown and set forth.

116,521. — Sewing-Machine.—Charles H. Willcox, New York, and Cyrus Carleton, Brooklyn, N. Y., assignors to The Willcox & Gibbs Sewing-Machine Company, New York city.

Claim.—1. A tension device for sewing-machines, composed of the following elements, in combination: first, a thread-rest, consisting of a support upon which the thread in its passage to the needle is held by a smooth-surfaced ring or its equivalent, resting upon the thread by mere gravity, so as to exercise a gentle but permanent pressure thereon, substantially as shown and described; secondly, a thread-clamping device, consisting of a stationary support for the thread and a movable clamping-surface, actuated by a spring to compress or firmly hold the thread, substantially as shown and described; thirdly, a thread-relieving device, consisting of an eccentric operating the movable clamping-surface at proper intervals to release its pressure on the thread, substantially as shown and described.

2. The combination, with the thread-holding rest and the support thereof, of a washer, of wool or equivalent material, interposed between the two, substantially as shown and described, for the purpose of preventing the jars which attend the action of the eccentric through the connecting-rod on the spindle or case from being communicated to the thread-holding surfaces, and thereby causing the thread to escape from between them.

3. To avoid the use of oil, and therefore render access to the interior of the tension for this purpose unnecessary, the combination, with the spindle and its supporting-tube, of washers, of leather or other suitable material, interposed between the two, keeping said parts out of contact and forming the bearings for the spindle, substantially as shown and described.

4. A complete tension device, organized substantially as shown and described, so that all its parts, excepting such as connect it with the eccentric of the sewing-machine, shall be inclosed ready to be fitted in a case which is attached to or forms part of the frame of the machine.

5. In combination with the spindle and the thread-clamping surface, and connecting-rod with which said spindle is alternately in contact, the sound-deadening washers interposed between the spindle and said parts, substantially as shown and described.

6. The combination, with the tension and the connecting-rod, of a tappet for raising the tension-spindle, made adjustable in said rod, substantially as shown and described, so that its action on the spindle may be properly timed in relation to the action of the needle and take-up.

7. The construction of the tappet which actuates the tension-spindle when moving in the tension-tube, substantially as shown and set forth—that is to say, provided at or near its upper end with a leather or equivalent washer, fitting in a tubular bearing so as to move to and from the tension-spindle, as herein described.

116,522. — Sewing-Machine.—Charles H. Willcox, New York, and Cyrus Carleton, Brooklyn, N. Y., assignors to The Willcox & Gibbs Sewing-Machine Company, New York city.

Claim.—1. The combination, with a four-motion feed proper and a smooth presser-foot or pad, of a cloth-plate having that part of its surface which lies under the presser-foot and between feed-surfaces, serrated, substantially as shown and described, so that the cloth may be prevented from receding from under the beveled end of the pad, when the feed releases its hold thereon, as set forth.

2. A feeding surface of a four-motion feed, so divided as to afford an isolated feeding-surface on each side of and in the rear and front of the needle, one of the divisions or sections having its play within an elongated needle-hole in the cloth-plate, as shown and set forth, to afford a greater grasping-surface for the feed in rear of the needle.

116,523. — Sewing-Machine.—Charles H. Willcox, New York, and Cyrus Carleton, Brooklyn, N. Y., assignors to The Willcox & Gibbs Sewing-Machine Company, New York city.

Claim.—1. The herein-described double-acting pull-off for sewing-machines, the same consisting of three pins or eyes of suitable construction, the intermediate pin or eye attached to the frame or stationary part of the machine, the two outer pins or eyes to the needle-arm or other parts moving in unison therewith, substantially as and for the purposes shown and set forth.

2. The self-threading eye of the pull-off, constructed and operating substantially as shown and set forth.

3. The arrangement, on the needle-arm, of the self-threading eye and the bent pin or hook, through and over which the thread passes, in combination with the transverse pin on the frame traversing the path of the thread, substantially as shown and set forth.

4. The needle-arm, slotted to receive the end of the transverse or intermediate pin of the pull-off, substantially as and for the purposes set forth.

5. The pull-off, consisting of the three eyes, substantially as described, when arranged upon the interior opposite sides of the frame and needle-arm, substantially in the manner herein shown and set forth.

6. In combination with the pull-off, constructed substantially as described, the spool-holder, tension, and take-up, under the arrangement and for operation, as set forth.

116,524. — EVAPORATING-PAN.—James B. Williams, Glastenbury, Conn.

Claim.—An evaporating-pan for concentrating saccharine juices or liquids, in which are compartments made either by partitions, corrugations, or crimps, and in which the metal of which the pan is made is coated on its inner side with tin.

116,525.—WASHING-MACHINE.—George L. Witsil, Beverly, N. J., assignor to himself and Thomas T. Bates; assignors to themselves and Benjamin J. Williams, Philadelphia, Pa.

Claim.—A disk or cone, to be used in washing clothing and other substances, constructed with an air-tight chamber, as shown, in its interior surface, for the purpose set forth.

116,526.—GATE.—James Agin Wood, Crosswicks, N. J.

Claim.—1. The pulley H, adapted to and having a limited independent movement upon the cylinder *g*, substantially as described.

2. The combination, with the pulley H, operating a swinging gate, of the double crank-levers J J', their arms *i* projecting downward, the pulleys *f f'*, and continuous cords *e e'*, connected to said arms and passing around the said pulleys, as specified.

3. The combination of the pulley H with the cylinder *g* fixed to the spindle F, and with the locking device I, adapted to recesses in the said cylinder, and controlled by a lug, *k*, on the pulley, all substantially as herein described.

116,527.—HAND-CAR.—Martin E. Hastings, Salisbury, Md.

Claim.—The cam-lever L, the leg F with its pulley *e*, the hooks *f f*, and frame *r r* P, in combination, when constructed, arranged, and operated substantially as and for the purpose described.

116,528. — VEHICLE. — William H. Keppel and Henry Huffsey, Tiffin, Ohio.

Claim.—The combination of the extensions J J of the fifth-wheel C, the iron cross-bar H, the springs *i i*, and T-bar *f*, when each is constructed and all arranged substantially in the manner and for the purposes described.

116,529.—SPRING BED-BOTTOM, SOFA, AND CHAIR-SEAT.—Charles Rich, Poughkeepsie, N. Y., assignor to Metallic Union Spring Company, same place.

Claim.—The combination of a series of springs having eyes, loops, or bends formed in the wire itself, and in or on the top and bottom coils thereof a series of wooden or other suitable slats, so united by clasps or links as that the structure may be rolled or folded up, as and for the purpose described.

116,530.—MEDICAL COMPOUND FOR CURE OF CANCER AND OTHER DISEASES.—Francis Baker, New York, N. Y.

Claim.—The compound herein set forth, composed of the ingredients specified.

REISSUES.

4,436.—Division A. — APPARATUS FOR REFRIGERATING AND DESICCATING.—Edwin D. Brainard, Albany, N. Y.—Patent No. 73,292, dated January 14, 1868.

Claim.—1. The condensing and refrigerating inclined metallic surfaces combined with drip-gutters, arranged substantially in the manner and for the purposes above described.

2. The method of forming the condensing inclines by uniting the sides to a cap with closed double seams, substantially as described.

4,437. — Division B. — CONSTRUCTION OF ICE-CHAMBERS, REFRIGERATING-CHAMBERS, &c.—Edwin D. Brainard, Albany, N. Y.—Patent No. 73,292, dated January 14, 1868.

Claim.—The combination of a chamber or chambers with an ice-chamber, each having attached my improved ceiling, operating substantially as described.

4,438.—STOVE-PIPE THIMBLE.—C. A. Buttles, Milwaukee, Wis.—Patent No. 95,649, dated October 12, 1869.

Claim.—1. In a stove-pipe thimble, consisting of two perforated annular heads connected by concentric hoops or bands, the employment of a conical lower head, substantially as and for the purpose described.

2. A stove-pipe thimble, consisting of two annular heads connected by concentric hoops or bands, when the upper head is provided with a series of small openings and the under head with a series of larger openings, substantially as and for the purpose herein set forth.

3. A stove-pipe thimble, consisting of two perforated annular heads connected by two concentric hoops or bands, when so constructed that the bearings of the inner band are brought nearer together than those of the outer band, whereby the bands themselves can be cut of equal length, substantially as and for the purposes specified.

4,439.—APPARATUS FOR THE MANUFACTURE OF BESSEMER STEEL.—Henry Chisholm, Cleveland, Ohio. — Patent No. 114,109, dated April 25, 1871.

Claim.—Forming or making the joint or joints of steel-converters, and for other like uses, of graphite and fire-clay or ganister, either together, or combined with other material or materials.

4,440.—LUBRICATING COMPOUND. — Henry Grogan, Flatbush, N. Y. — Patent No. 106,053, dated August 2, 1870.

Claim.—1. The combination of caustic soda, tallow, and petroleum, or their respective chemical equivalents, in about the proportion set forth, treated and compounded substantially in the manner described.

2. Combining with the compound thus produced, or its chemical equivalent, animal hair, in about the proportion and for the purpose specified.

4,441.—EMBELLISHMENT OF GLASS.—Elias Ingraham, Bristol, Conn.—Patent No. 109,626, dated November 29, 1870.

Claim.—The process of embellishing upon glass plate, substantially as set forth.

4,442. — BOILER-FLUE BRUSH. — Robert King, Brooklyn, assignor to T. Prosser & Son, New York, N. Y.—Patent No. 60,013, dated November 27, 1866.

Claim.—A helical wire brush in which the contiguous wires are constructed and arranged to form alternately long and short projections from or on the same side of the core, and present at their ends alternate wires and intervening spaces, substantially as herein described.

4,443.—FLUTING AND SAD-IRON. — Myron H. Knapp, Fulton, N. Y., assignor of one-half interest to Edgar F. York.—Patent No. 105,953, dated August 2, 1870.

Claim.—1. A combined fluting and end-iron, constructed in sections, and so arranged that the same can be used for either fluting or smoothing, as may be desired.

2. The construction of a fluting and end-iron in two sections, A A', provided with corrugations or flutes *a a'*, in such a manner that the device may be used both as a fluter and end-iron, substantially as described.

4,444.—IMITATION BRAID, TRIMMING, LEATHER, &c.—Henry Loewenberg, New York, N. Y.—Patent No. 106,068, dated August 2, 1870.

Claim.—Flexible or elastic casts, forming facsimiles of leather, straw, enameled cloth, trimmings, embroideries, or any similar article, said cast being formed of the compound and by the means substantially as herein specified.

4,445. — COMPOUND FOR TREATING CATARRH, &C., BY INHALATION. — Dana Slade, Chicago, Ill.—Patent No. 112,858, dated March 21, 1871.

Claim.—1. The use of carbolic acid in combination with chlorate of potassa in an inhalent for medical purposes.

2. The combination of carbolic acid, cochineal, and chlorate of potassa in an inhalent for medicinal purposes.

3. The combination of chlorate of potassa and cochineal in an inhalent for medicinal purposes.

4. The combination of cochineal and carbolic acid in an inhalent for medicinal purposes.

4,446.—COMBINED GRIST-MILL AND COTTON-SEED HULLER.—James W. Smith, Columbus, Ga.—Patent No. 114,215, dated April 25, 1871.

Claim.—The combination of an agitator, *a b c* separator E, and fan F, when arranged for operation, as herein described, in connection with a grist-mill, substantially as herein specified.

4,447.—PRODUCING PRICES CURRENT, BULLETINS, &c.—William Smith and Hiram D. Rogers, Cincinnati, Ohio, assignors, by mesne assignments, to Hiram D. Rogers and Lebbeus H. Rogers.—Patent No. 105,380, dated July 12, 1870; antedated January 26, 1870.

Claim.—1. A book, tablet, or pack of prepared manifold paper, having imprinted upon its leaves the columns, lines, headings, or other permanent matter, with corresponding blank spaces in register, for quotations or other transient matter, substantially as described, for the purpose of producing statements, reports, notices, &c., in manifold, by the use of carbonized paper.

2. As an improved process for producing statements, reports, notices, &c., in manifold, the use of carbonized paper for producing the transient matter in connection with printed matter prepared in permanent form in relation to spaces for the variable matter, all as hereinbefore explained.

4,448.—PUNCHING-PRESS.—Moses G. Wilder, West Meriden, Conn.—Patent No. 65,143, dated May 28, 1867.

Claim.—1. The combination of the punch-holder of the press with the eccentric, the worm-wheel, and the tangent-screw, substantially as before set forth.

2. The combination of the eccentric, the worm-wheel, and the tangent-screw with the transmitting mechanism and punch-holder of the press, substantially as above set forth.

3. The combination of the eccentric and its pin, the worm-wheel, and the tangent-screw with the stock of the press, substantially as before set forth.

4,449.—FOLDING GUIDE FOR SEWING-MACHINES.—Willcox & Gibbs Sewing-Machine Company, New York, N. Y., assignee, by mesne assignments, of Burritt C. Boyes, deceased. — Patent No. 15,402, dated July 22, 1856; extended seven years.

Claim.—A hemming-guide arranged to automatically turn the hem, and having an elastic or yielding surface adapted to operate on material of different or varying thicknesses, substantially as described and specified.

4,450.—WRENCH.—Aury G. Coes, Worcester, Mass., assignee, by mesne assignments, of Albert C. Richard, deceased.—Patent No. 27,090, dated February 7, 1860.

Claim.—1. A smooth rectangular re-enforced wrench-bar, the forward part of which, next to the stationary head, is made broader on the back edge than the rear smooth rectangular part, in the manner and form, and for the purposes set forth and shown.

2. The combination with a smooth rectangular re-enforced wrench-bar, the forward part of which, next to the stationary head or jaw, is made broader on one edge only, than the rear smooth rectangular part, of a sliding jaw provided with two clasp-bearings or rectangular openings of different sizes to fit and work directly upon the varying-sized bar substantially as stated.

3. The combination with the forward part of the back or wrench-bar, and the stationary head, of a re-enforce substantially as set forth and described.

4. The combination with the bar B, and jaw C, of the screw J, substantially as described.

DESIGNS.

5,041. — SWIVEL AND SNAP-HOOK.—Philip G. Beckley, Newark, N. J.

Claim.—The design for swivel-hook, as shown and described.

5,042.—BASIN-FRONT.—Francis Boyd, Newburg, N. Y.

Claim.—The design for a basin-front, substantially as shown.

5,043.—SHOVEL.—Patrick William Groom, Philadelphia, Pa., assignor to himself and Jonathan R. Seltzer, same place.

Claim.—The design for a shovel-blade, the rear portion of which is of the form substantially as described, and as illustrated in and by the accompanying drawings.

5,044.—GARTER AND ARMLET-CARD.—Stillman Houghton, Worcester, Mass.

Claim.—The design for garter and armlet-cards, as shown in the drawing and herein described.

5,045.—BLACK-LEAD BLOCK.—William Collier James, Plymouth, England.

Claim.—The design for blocks of black lead, having a dome, *a*, and body *b*, substantially as herein shown and described.

5,046.—TYPE.—Alexander Kay, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

5,047.—CARPET.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—1. The design of the carpet, figure A, as shown.

2. The design of the center figure B, as shown.
3. The design of the scroll-belt D, as shown.
4. The design for a carpet, as shown.

5,048.—BORING-MACHINE.—Charles E. McBeth, Frederick Beutel and William C. Margedant, Hamilton, Ohio.

Claim.—The design for a wood-boring machine, as shown.

5,049.—STEAM-PUMP PISTON.—John H. McGowan, Cincinnati, Ohio.

Claim.—The design for a steam-pump piston, as shown.

5,050.—PHOTOGRAPHIC-CARD FRAME.—Matthias Joslyn Rice, Boston, Mass.

Claim.—The design for a card-photograph frame, as shown and described.

5,051.—CARRIAGE-SPRING.—George B. Robinson, Derby, Conn.

Claim.—The leaves A B, with pins *a b* projecting from the faces thereof, as a new design in carriage-springs.

5,052. — BOBBIN-SCORE. — John Salisbury, Scituate, R. I.

Claim.—The cone-shaped score C, as herein shown and described.

5,053.—BUCKLE.—Louis Schindler, St. Peter, Minn.

Claim.—The design for a buckle, as shown.

5,054.—BUCKLE AND RING.—F. Augustus Schultz, Mount Pleasant, Iowa.

Claim.—The design for a buckle, with ring attached, as shown and described.

5,055.—JELLY-GLASS AND CAP.—Joseph H. Smith and Daniel C. Ripley, Birmingham, and Alois Kwocsalla, Lawrenceville, Pa.

Claim.—The design for jelly-glass and cap, of the form hereinbefore described and shown.

5,056.—TYPE.—Richard Smith, Philadelphia, Pa., assignor to MacKellar, Smiths & Jordan, same place.

Claim.—The design for printing-type, as shown.

5,057.—ALTO-RELIEF. — Ames Van Wart, New York, N. Y.

Claim.—The design for an al to-relief, as shown.

5,058.—FLOOR OIL-CLOTH.—John T. Webster, Yonkers, N. Y., assignor to Page, Wilder & Co., Hallowell, Me.

Claim.—The design for floor oil-cloths, as shown.

5,059.—FLOOR OIL-CLOTH.—John T. Webster, Yonkers, N. Y., assignor to Page, Wilder & Co., Hallowell, Me.

Claim.—The design for floor oil-cloth, as shown.

5,060. — SURCINGLE-FASTENING. — Martin Wesson, Springfield, Mass.

Claim.—The design for a surcingle-fastening, herein shown in the drawing and described.

5,061. — CARPET - PATTERN. — George C. Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,062. — CARPET - PATTERN. — George C. Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,063. — CARPET - PATTERN. — George C. Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,064. — CARPET-PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

TRADE-MARKS.

351.—CLOTHING.—Oran S. Baldwin, New York, N. Y.

352.—MATCHES.—Bock, Genin & Co., New York, N. Y.

353.—WRITING-PEN.—Charles H. Clifton, Pittsburg, Pa.

354.—LIGHTNING-ROD.—Samuel J. Mitchell, St. Louis, Mo.

355.—WHISKY.—J. A. Monks & Sons, St. Louis, Mo.

356.—FIRE-EXTINGUISHER.—Northwestern Fire-Extinguisher Company, Chicago, Ill.

357.—MEDICINE.—E. R. Phillips & Co., Assonet Village, Freetown, Mass.

358.—NEEDLE.—Robert J. Roberts, New York, N. Y.

359.—LADIES' UNDER-GARMENTS, RUFFLES, &c.—George A. Whiting, Charlestown, Mass.

EXTENSIONS.

SALEM T. LAMB, of New Albany, Ind.—Letters Patent No. 17,685, dated June 30, 1857.

"Improvement in Self-Acting Rakes for Harvesters."

Claim.—1. In combination with a rake having the motions above described, the gyratory beam M and rock-shaft L, when the rake is attached to said rock-shaft as shown, and the whole operated in the manner herein set forth.

2. In combination with a rake operating as above described, the slotted guide *g* for regulating or governing its motions, which is combined with the beam M and shaft L, as set forth.

3. In connection with a rake having the motions above described, the combined use of the spring *h* for holding it to its work, and the set-screw *m* for regulating the extent of descent of said rake, substantially as set forth.

WILLIAM KELLY, of Louisville, Ky.—Letters Patent No. 17,628, dated June 23, 1857; reissue No. 505, dated November 3, 1857.

"Improvement in the Manufacture of Iron."

Claim.—Blowing blasts of air, either hot or cold, up and through a mass of liquid iron, (the oxygen in the air combining with the carbon in the iron causing a greatly-increased heat and ebullition in the fluid mass,) and decarbonizing and refining said iron without the use of fuel.

JOHN HAW, of Hanover county, Va.—Letters Patent No. 17,626, dated June 23, 1857; additional improvement No. 244, dated July 26, 1859.

"Improvement in Picker Sawing-Machines."

Claim.—The overhanging of the saw between braced guides *d* and *e*, the space between which is adjustable by wedges *i i* and slotted braces *l* and *m*, operating as specified.

Additional Improvement:

Claim.—Attaching the saw-guides to the overhanging bearing so as to adjust them to the sawing of small logs, substantially as set forth.

ISSUE OF JULY 4.

PATENTS.

116,531.—DRIER.—Henry W. Adams, Philadelphia, Pa., and Steuben T. Bacon, Boston, Mass.; said Adams assigns his right to said Bacon.

Claim.—1. In the apparatus above described, the open frames *k* and reel *b*, in combination with the supports *f*, substantially in the manner and for the purposes represented.

2. In the apparatus above described, the bottomless inclosure *i* with the escape-pipes *m m m m*, in combination with reel *b*, substantially in the manner and for the purpose shown and described.

3. In the apparatus above described, the escape-pipes *m m m m*, in combination with the inclosure *i*, substantially in the manner and for the purposes described.

4. In the apparatus above described, the steam-pipe *a*, in combination with the escape-pipes *m m m m* and the inclosure *i*, substantially in the manner and for the purposes set forth.

5. In the apparatus above described, the perforated trays *g*, in combination with the steam-pipe *a*, escape-pipes *m m m m*, and reel *b*, substantially in the manner and for the purposes shown and described.

116,532.—DRIER.—Henry W. Adams, Philadelphia, Pa., and Steuben T. Bacon, Boston, Mass.; said Adams assigns his right to said Bacon.

Claim.—1. The steam-pipe P, in combination with the vacuum-chamber D and the space between said chamber and its outer case, C, substantially in the manner and for the purposes shown and described.

2. The pipe p^1, in combination with the pipe P, and the space between C and D, substantially in manner and for the purposes shown and described.

3. The valve A C, in combination with the case C communicating with the space included between C and D, substantially in the manner and for the purposes shown and described.

4. The perforated pipe *e p* in the space between the case C and chamber D, in combination with the coil *e p* in the chamber D.

5. The coil *e p* communicating with the spaces between C and D, substantially in the manner and for the purposes shown and described.

6. The pipe p^4, in combination with E P and coil *e p*, substantially in the manner and for the purposes shown and described

7. The use of air entering through the valve A C into the space E, between C and D, in the manner and for the purposes shown and described.

8. In an apparatus substantially as hereinbefore described, the hot-air pipe F, provided with valve A C, all as herein set forth.

9. In the drying apparatus hereinbefore described, the flange *n n*, in combination with chamber D, and the corresponding flange on case C united together with packing by means of bolts and nuts *n' n' n' n'*, substantially in the manner and for the purposes shown and described.

116,533. — COMPOSITION FOR BLACKING STOVES.—Richard W. Bailey, New York, N. Y.

Claim.—The improved composition, composed of the ingredients hereinbefore described, substantially as and for the purposes specified.

116,534.—LIFTING-JACK. — Hamilton Ballentine, Philadelphia, Pa.

Claim.—The combination of the tubular slotted case B, the notched and guided rod or bar C, and the hand and pawl-levers D *d*, arranged to operate therewith, substantially in the manner and for the purpose described.

116,535.—FEATHER-RENOVATOR.—Charles E. Barber and William Dean, Central Village, Conn., assignors to themselves and George Loring, same place.

Claim.—The cylinder B having double bottom C, central gauze diaphragm D, and conical top E, the cylinder F thereunder having funnel-shaped door P and open at S, vertical shaft G having horizontal arms H, the tube R, and the shaft U having propelling-wheel T thereon, all constructed and arranged together, as and for the purpose specified.

116,536.—HARNESS-TRIMMING.—John Bauer, Newark, N. J.

Claim.—A terret-ring, or similar article of harness-trimming, constructed with a flattened interior surface, covered with leather, and lined with a cast-iron ring or piece, the outer periphery of which fits the interior of and is fastened in the covered ring, as specified, as a new article of manufacture.

116,537. — COMBINED STUMP-EXTRACTOR AND DERRICK.—William Q. Baxter, Maple township, Pa.

Claim.—The combination of the stump-extractor and derricks, substantially in the manner and for the purposes set forth.

116,538.—GAUGE FOR MORTISING-MACHINES.—Thomas Beach, Freeport, Pa.

Claim.—1. A gauge-board, *a*, for a mortising-machine, having lugs *b b'*, one at each end on one side one at least of which is adjustable, and a number of stops, *c*, on the other side at any desired intervals, constructed substantially as and for the purposes described.

2. The spring-lock *k*, composed of the tongues *l l*, spiral springs *r r* on the stems *n*, operated by means of levers *m m*, in combination with the devices of the previous claim, substantially as described.

116,539.—SAWING-MACHINE.—Homer Bean, Fredonia, assignor to Henry M. Wyeth, Newark, Ohio.

Claim.—1. The saw-bar *j*, saw *k*, guide-bar *p q*, frame *l*, standards D D', and lever *o*, combined as specified.

2. The hinged cross-frame E provided with feed-rollers *s* and leg *r*, and combined with the main frame A, as described.

3. The feed-rollers *s* holding-bar *t*, lever *v*, and rack *x*, combined as set forth.

4. The feed-rollers *s*, shafts *y o'*, gears *a' a*, belt *b*,

and the belt-tightener constructed of frame *d'*, rollers *e*, and levers *f' g'*, all constructed, arranged, and operating as described.

116,540.—SHIFTING BUGGY-TOP.—Beverly L. Benson, Fairview, Ind.

Claim.—1. The arms D D, having their outer ends of suitable length to receive the top joint, and their inner ends slotted and fastened to the seat by means of the swivel-bolt *d*, plate *f*, and projection *e*, substantially as herein set forth.

2. The rail C provided with the upright bars *b b*, hooks *a a*, and the arms D D, all constructed and arranged substantially as and for the purposes herein set forth.

116,541.—DIE FOR MAKING WASHERS.—George W. Billings, Chicago, Ill.

Claim.—The male die provided with the mandrel or center E, jointly with the female die provided with the flange G, substantially as and for the purposes set forth.

116,542.—PITMAN-ROD.—Edward S. Blake, Pittsburg, Pa.

Claim.—1. A pitman-rod, provided with straps, links, and set-screws, for the purpose of holding the brasses in close contact to the axis to which it may be connected, substantially as herein described.

2. A pitman-rod, consisting of the brasses *f*, straps B and C, links D D, and set-screws *e e*, so combined and arranged with relation to each other that a compensation is obtained for the wear of the brasses around its axis, substantially as herein described.

116,543.—MACHINE FOR CARVING AND MOLDING WOOD.—Myron T. Boult, Battle Creek, Mich.

Claim.—1. The mechanism consisting of the levers F G, stop *h'*, pawl *h*, and lever O, all arranged for adjusting and locking the vertically-adjustable spindle E, substantially as herein shown and described.

2. A rotary spindle, S, combined, as described, with a head having inclined slot *f*, and a sleeve having handle *e*, and pin *e*, all arranged as and for the purpose specified.

3. The adjusting-screw I, pivoted plate I', and stop *h'*, all combined as described, for the purpose specified.

116,544.—PADLOCK.—Daniel T. Brown, Plainfield, N. J., assignor to James H. McWilliams, New York city.

Claim.—The hook-ended tumblers *d h*, crossing each other and hinged together at 3, and swinging upon the stud *a* the parts being arranged and acting substantially as specified.

116,545.—LATHE-TOOL SUPPORTER.—Israel F. Brown, New London, Conn.

Claim.—The lathe-tool supporter made as described, viz., as consisting of the bar A and the three series of abutments *a a a*, and lower projections *b c*, arranged with and extended from such bar, as and for the purpose as specified.

116,546.—FIBER-CLEANING MACHINE.—James Brown, Bay Ridge, N. Y.

Claim.—1. The heckle D, composed of the series of hook-shaped teeth *d*, arranged in a continuous line, with their bases contiguous, and having tapering points, in combination with the cylinder B and the frame A, as described.

2. The cylinder B, adapted to move laterally, as described, in combination with the stationary heckles upon the frame A, as set forth.

116,547, antedated June 24, 1871.—BOLT-CUTTER.—James R. Brown, Cambridgeport, Mass.

Claim.—1. The cutter-head as made with the cylindrical bore, and with the bearing portion *d* beveled as described with respect to the axis of the head, in combination with the chisel as formed cylindrical to fit the bore and with the two bevels as and back of its cutting-edge, all substantially as represented and described.

2. The adjusting-screw C, as provided with the head *k* and neck *l*, in combination with the chisel as made with the head *d* and recess *m*, constructed to open out of one side of such chisel, in manner and for the purpose as specified.

116,548.—CAPSTAN.—John S. Brown, Schenectady, N. Y.

Claim.—The combination of the two windlass-bases with one another and with the single removable cap, which can be used on either base for varying the speed and power, all arranged so that the bases can be placed closer together, as when provided with independent caps.

116,549, antedated June 22, 1871.—GRAIN-SEPARATOR.—John D. Brunner, Doylestown, Pa.

Claim.—The combination, in the grain-separator herein described, of the screens D', provided with the cleats *k*, with the shoe C provided with the lug *g* and the shaft E, when all these parts are constructed and arranged as shown and described, for the purposes set forth.

116,550.—PORTABLE TALLYING-REGISTER.—Henry C. Buhoup, Pittsburg, Pa.

Claim.—1. In combination with a central shaft C, that is turned by a knob, D, returned by a spring, *b*, a hinged tappet, *j*, for turning the ratchet-wheel *k*, and a fixed tappet, *d*, for causing a bell to be struck through a hinged switch, *e*, when the parts are arranged to operate as and for the purpose set forth.

2. In combination with the ratchet-wheel and its shaft, and a spring-pawl, *s*, engaging therein, a cam-shaft, the protruding ends *u u* of which shafts are squared to receive a key, by which the spring-pawl may be disengaged and held out of action, and the ratchet-wheel run to reset the indicators upon the dials, as described and represented.

116,551.—PROCESS AND APPARATUS FOR THE MANUFACTURE OF SPELTER.—John E. Burrows, Newark, N. J.

Claim.—1. The apparatus above described for the manufacture of spelter or metallic zinc direct from ores of zinc.

2. The mode of condensing and heating the vapors of zinc when manufacturing spelter or metallic zinc.

3. The separation of metals by the process before described, when used in the manufacture of metallic zinc.

116,552.—CORN-PLANTER.—Samuel J. Bye, Bluff Point, Ind., assignor to himself and William C. Bye, same place.

Claim.—The arrangement of the platform H, hoppers I, slide J, cam projections L, adjustable plates K, brushes *h'*, spring M, lever Q, flexible conducting-tubes R, tubular standards S, arms U, draft-bars V, wooden pins *w*, arms W, pivoted bar X, rollers Y, and pivoted frames Z, with respect to each other and the frame C, axle B, and wheels A, substantially as herein shown and described.

116,553.—NAIL-HAMMER.—Henry Cheney, Little Falls, N. Y.

Claim.—A nail-hammer, provided with the cavity *b* which forms the supporting-shoulder *c*, substantially as and for the purpose herein shown and described.

116,554.—WHEAT-CLEANER.—Emanuel Chipman, Baltimore, Md.

Claim.—The combination, herein shown, of the frame A, outer casing B, shaft *a*, stones *c c d*, perforated case *e e*, fan-blower C, perforated floors *f f*, and funnel *g*, when said parts are arranged as shown, and for the purpose set forth.

116,555.—WINDMILL.—Ellwood Cleaver, North Wales, Pa.

Claim.—1. The combination of the vertical shaft the rods C, and vanes hinged thereon, the spirally-slotted cylinder supporting the rods, and the vertically-adjustable arms I, all substantially as specified.

2. The combination, with the arms I, of the lifter L, substantially as specified.

116,556.—COTTON-PLANTER.—James P. Clopton, Terry, Tenn.

Claim.—1. The combination of the wheel F, crank-wheels G, pivoted levers H, slide bars I, plates L, fingers R, frame O, and spring M, substantially as shown and described.

2. The arrangement of the supply-hopper or reservoir J and planting-hopper K with respect to each other and the frame A, substantially as herein shown and described, and for the purpose set forth.

116,557.—SPRING FOR SEATS, &c.—Zenas Cobb, Chicago, Ill.

Claim.—As a new article of manufacture, the annular coiled spring A A, consisting of two or more coils of flattened steel-wire, and joined together by the metallic clasp B B, substantially as specified.

116,558.—SMELTING IRON ORES.—Charles Cochrane, "The Ellowes," Upper Gornal, England.

Claim.—Deoxidizing or reducing iron ores before their introduction into the blast-furnace by first raising the ores to the requisite degree of heat, and then subjecting the same to the action of carbonic-oxide or blast-furnace gas, which has not been specially heated for that purpose, substantially as hereinbefore set forth.

116,559.—REVOLVING FIRE-ARM.—Frederic G. Cochran, St. Louis, Mo.

Claim.—The lever F, angle-link G, swiveled rod H rounded at its rear end, the ejector-disk I, and recess in the breech-block, combined and arranged as shown and described.

116,560.—SWING.—Gideon W. Cole, Canton, Ill.

Claim.—The standards A A A A, pieces B B and C C, and the cross-pieces D D and dowel-pins N N, and stay P or its equivalent, when arranged to operate substantially as described, and for the purpose specified.

116,561.—POOL-BALL RACK.—Hugh W. Collender, New York, N. Y.

Claim.—A ball-rack, composed of a plane or board of any suitable material, provided with a series of projecting ball-holders, substantially in the manner and for the purposes set forth.

116,562.—MEDICATED VOLTAIC PLASTER.—Willard C. Collins, Bucksport, Me.

Claim.—The combination of voltaic plates with medicated plasters, substantially as described and shown.

116,563.—CARBURETER FOR GAS AND AIR.—Matthias P. Coons, Brooklyn, assignor to himself, Philip Dater, New York city, and Charles N. Ayres, Brooklyn, N. Y.

Claim.—1. The large tube E, combined with a branch air-tube, E, a branch gas-tube, F, and branch discharge-tubes C D, when all are constructed and relatively arranged in a carbonizer, as and for the purpose described.

2. The wax tube operating as a safety-valve, in the manner described.

116,564.—SHOW-CASE AND COUNTER.—William Cooper, Jr., Mexico, N. Y.

Claim.—The combined detachable show-case and counter, provided with drawers and a transparent top, and set on dowel-pins E, whereby it is prevented from being moved laterally, as specified.

116,565.—TAMPING APPARATUS.—Daniel Corgan, Sugar Notch, Pa.

Claim.—A tamping-injector for use in blasting, constructed substantially as shown and described, so as to admit of the operation specified.

116,566.—CAR-COUPLING.—George E. Darling and Matthew Heus, Marytown, Wis.

Claim.—The combination of the latch-pin H I, slotted lever D G, link G, and draw-bars A, substantially as and for the purpose herein set forth.

116,567.—ADDRESSING-MACHINE.—George A. Davison, Montana, Iowa.

Claim.—1. The construction and arrangement of the hinged frame B, spring C, double-geared rack-bars D, with the relation to the case A for operating the endless paste-belt O, and slide F, substantially as described.

2. In milling-machines, the paste-box J, provided with opening *i*, and serrated distribution-plate *h*, as and for the purpose set forth.

3. The construction and arrangement of the case A, frame B, spring C, rack-bars D, intermediate gears E, shaft E', shear-bar G, drums H, K, M, N, and Q, pinion I, paste-box J, endless belt O, and cylinder P, for pasting, feeding, cutting off, and affixing the address-strip R, as herein described and set forth.

116,568.—TOY-LOCOMOTIVE STEAM-ENGINE.—Albert L. Dewey, Westfield, Mass.

Claim.—1. The construction, combination, and peculiar arrangement of parts A N Y, composing the boiler A, together with its supporting-jackets *l l l*, composing the fire-box and draught-chamber B B B, substantially as and for the purpose hereinbefore set forth.

2. The peculiar construction, arrangement, and combination of the parts composing the common steam-passage Q, connecting the two steam-chests R R', and forming one piece of casting with the engine-frame F, together with the separate pieces composing the pilot or cow-catcher H and truck-frame G, substantially as and for the purpose hereinbefore set forth.

3. The peculiar construction, arrangement, and combination of the parts composing the pipe N, throttle-valve *h*, and steam-pipe O, with the common steam-passage Q of the engine-frame F, substantially as and for the purpose hereinbefore set forth.

4. The arrangement and combination of the parts composing the boiler A with the furnace and draught-chamber B B B, engine-frame F, throttle-valve *h*, and steam-pipe O of a steam-working toy locomotive-engine, as herein described and set forth.

116,569.—SAWMILL.—Albert M. Dexter, Mattapoisett, Mass.

Claim.—1. The slide E and pin *u*, in combination with the bar O and screw *p*, as and for the purpose hereinbefore set forth.

2. The springs F F' and latches *h h'*, in combination with the levers I and 4, substantially as and for the purpose herein specified.

116,570.—BINDING ATTACHMENT FOR SEWING-MACHINES.—George E. Dolton, Monee, Ill.

Claim.—The self-acting device, for binding garments, described, consisting of the plate *a*, furnished with the guide-hooks *e* and *t* and slot *n*, in combination with the adjustable slide-gauge *m*, all arranged, operating, and constructed substantially as and for the purposes set forth.

116,571.—Swivel Rocking-Chair.—John W. H. Doubler, Darlington, Wis., assignor to himself and William Logue, same place.

Claim.—A chair having rockers *c c* with pulleys *f f* thereon, combined with a swivel-stool, *f f g*, having guard-rails *i i* thereon, as and for the purpose specified.

116,572.—Steam Pumping-Engine.—Patrick Doyle, New Comerstown, Ohio.

Claim.—The angular valve-plate L, forming the valve-seat and supporting the valve, and made removable, in combination with a pumping-engine, substantially as and for the purposes described.

116,573.—Vapor-Burner.—Michael B. Dyott, Philadelphia, Pa.

Claim.—1. The apartments 3 3, in combination with the vapor-jet holes 6 6, when the said apartments are each formed so as to open only at the perimeter of the burner-head and the said vapor-jet holes each arranged so as to discharge its jet of vapor horizontally through its particular apartment, substantially as and for the purposes hereinbefore set forth.

2. The fresh-air-supplying holes 7 7 in the apartments 3 3, in combination, respectively, with the radiating jet-holes 6 6 in the head A, substantially as and for the purposes hereinbefore set forth.

3. The annular guard C, when constructed and applied substantially as and for the purposes hereinbefore set forth.

116,574.—Mop and Brush-Holder.—David Edward, Montreal, Canada.

Claim.—The hook or curved bar D, hand-nut E, plate A, and hollow shank B, having a slot formed in its lower part and a screw-thread upon its outer surface, in combination with each other, whether the plate C be used or not, substantially as herein shown and described.

116,575.—Ice-Creeper.—Edward S. Ellis, Trenton, N. J.

Claim.—An ice-creeper or foot-safe provided with the elastic strap A, the plate G H, clamps B C D, and the pointed projections E F J, when arranged and constructed as herein described.

116,576, antedated June 20, 1871.—Water-Meter.—George D. Emerson, Calumet, Mich.

Claim.—1. The combination of the bell-cranks S, links W, plates X, and springs A′, T-headed lever C, rods R, and piston-rod for moving the lever C′ alternately in opposite directions.

2. The combination of the bell-cranks S, links W, plates X, springs A′, T-headed lever C′, rods R, and piston-rod for storing up the power in the springs and operating the said arm alternately in opposite directions, while the springs move in the same direction when imparting the movement of the said arm, substantially as described.

3. The attachment of the rods R to the pistons by a sleeve, P, pin, and slot, for allowing the pistons to be set in motion before encountering the resistance of the valve-operating gear, substantially as described.

4. The attachment of the described valve, operating-levers, and springs, to the meter-case, by means of the plate N², for moving the same, substantially as specified.

5. The meter-case, composed of the cylinder C, plate D, and oval top E, and having the ports K, L, and P², arranged all substantially as specified.

116,577.—Music-Leaf Holder.—Achille Extein and Jesse C. Mills, Springfield, Mass.

Claim.—1. As an improved article of manufacture, a leaf-holder, made substantially as herein shown and described.

2. The combination of an elastic cover, B, with the knob A, substantially as and for the purpose herein set forth.

3. The crook *f* and the spring *e*, made and operating substantially as described, for the purpose of holding up and clasping the leaf.

116,578.—Preparing Seal-Skin.—Louis Falkenau, San Francisco, Cal.

Claim.—1. The use of gum catechu in tanning seal and other fur-skins as a mordant for coloring and dyeing the same.

2. The method of coloring and dressing seal and other fur-skins by the combined use of gum catechu and the salts before mentioned, substantially as and in the method described.

3. The combination of the several operations herein described, so as to constitute a method of preparing the furs, substantially as described.

116,579.—Nickel Plating.—Moses G. Farmer, Salem, Mass.

Claim.—The formation of the double sulphate of nickle and ammonia in a solution of sulphate of ammonia by the agency of the electric current, substantially as herein described.

116,580, antedated June 20, 1871.—Measuring-Funnel.—Robert T. Fisher and George F. Waldron, Boston, Mass., assignors to George F. Waldron.

Claim.—The tube *c* with its openings 3 4, in combination with a valve-ping, *b*, spring *m*, valve-rod *d*, lever C, hooked rod *k*, and projection *l*, the whole arranged and operating substantially as and for the purpose set forth.

116,581.—Hasp-Lock.—Jacob Fisler and George Crompton, Jersey City, N. J.

Claim.—The revolving slotted locking-disk D, in combination with the cap C attached to the hasp-plate B, and with the headed pin G attached to the stationary plate E, substantially as herein shown and described, and for the purpose set forth.

116,582.—Rotary Engine.—Ransome N. Francis and Russel Francis, Girard, Pa.

Claim.—The arrangement of the steam-chests G G, valves I, abutments L, eccentric grooves J and *m*, casing B, piston-wheel N, and shaft O, substantially as and for the purposes described.

116,583.—Canal-Lock.—John W. Gentry and George W. Barcus, Peytona, W. Va.

Claim.—In canal-locks, the arrangement of long rods B and supporting-plates E in the recesses *c* of walls A, to act, in combination with the snubbing-ropes D, as and for the purposes specified.

116,584.—Ice-Cream Freezer.—Charles Gooch, Cincinnati, Ohio.

Claim.—1. The knife-edge or scraping-blade E, in combination with two or more elastic metal springs attached to the outer edge of dasher D, when constructed substantially in the manner and for the purpose specified.

2. The concave bottom of the can B, of sheet or cast metal, made so that the central pivot upon which the can revolves shall not project below the level of the outer edge of the can, so that the can will stand steady upon a level surface.

116,585.—Corset.—Cathrine A. Griswold, Willimantic, Conn.

Claim.—As an improved article of manufacture, a corset, made substantially as shown and described.

116,586, antedated June 24, 1871.—Umbrella.—Gouvion Gholson Griswold, Brooklyn, N. Y.

Claim.—1. The within-described combination of the runner C, springs *c c*, when inclosed within the eccentric shield B, in the manner and for the purpose herein set forth.

2. The combination of the rubber, cloth, leather, or other fibrous lining *d* with the runner C, shield B, and springs *c c*, in the manner and for the purpose herein described.

3. The rim D, in combination with the shield B, in the manner and for the purpose herein described.

116,587.—Brick-Machine.—Francis L. Hall, Oneida, N. Y.

Claim.—1. The follower G, in combination with the frictional roller g^6, lever g^5, and spring g^7, constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

2. The lever K, weight *k′*, eccentrics J J, and hinged or pivoted platform E, combined, arranged, and operating substantially as and for the purpose set forth.

3. The combination of the follower G, frictional roller g^6, spring g^7, lever g^5, spring g^4, lever K, weight *k′*, eccentric J J, and hinged or pivoted platform E, all arranged to operate substantially as herein shown and described, and for the purpose set forth.

4. The eccentric e^1, frame *e*, and handle e^2, in combination with the shaft D^1 and follower *d*, constructed and arranged to operate substantially as shown, and for the purpose described.

116,588.—Harvester.—William H. Harman, Westminster, Md.

Claim.—1. The forked draft-bar *n*, connected with the frame *m*, curved at its front end and carrying the friction-roller *p*, and the segment or curved socket-piece *o*, attached to the side of the case, as herein shown and described.

2. The cutter-bar D, swinging or hinged frame *m* supported on wheel *f*, forked bar *n*, segment *o*, connected or arranged with the case A, as shown and described, to operate as specified.

116,589.—Support for Mirrors and Picture-Frames.—Dominikus Hartmann, Mansfield, Ohio.

Claim.—The mirror-frames G G, yokes F F, and arms C C, provided with screw-bolts and nuts, and arranged in connection with a single bracket, A, as specified, whereby the said parts may operate as set forth.

116,590.—Reversible Seat.—Frank M. Hawkins, Indianapolis, Ind.

Claim.—The cam C, as connected with the reversible back B, in combination with an oscillating seat, S, by means of cam-rods R or their equivalent, all as shown and described, substantially, in the foregoing specification.

116,591.—Watchmaker's Chuck.—Harrison H. Heskett, Le Roy, Ill.

Claim.—The arrangement of the cylinder A, collar *B* upon the screw-threaded cap-springs D, jaws *F*, and face-plate C, substantially as hereinbefore described, and for the purposes set forth.

116,592.—Wheel for Animal-Traps.—Benjamin B. Hill and John R. Hill, Worcester, Mass.

Claim.—1. The combination of the plate A, having a hub and rim, *a*, with the wires and corrugated band inside the wires, as set forth.

2. The combination of the solid head with its hub, and pivot with the bent wires, as above described.

116,593.—Revolving Fire-Arm.—Freeman W. Hood, Boston, Mass.

Claim.—The arrangement and combination of the wedged slide-piece E with the rotary magazine A, its swinging arm B, and the abutment or cam *b* for operating the wedged slide-piece, as explained, all being substantially as specified.

116,594.—Needle for Sewing-Machines.—Orin L. Hopson, Waterbury, and Heman P. Brooks, Wolcottville, Conn., assignors to The Excelsior Needle Company.

Claim.—A sewing-machine needle possessing the peculiarities specified, and forming a new article of manufacture.

116,595.—Car-Coupling.—Henry R. Howe, Hartwick, N. Y.

Claim.—The construction of lever H and tongue J, combined with buffer A, block B, pin E, and link G, arranged as described and set forth, for the purpose specified.

116,596.—Governor for Steam-Engines.—Reuben K. Huntoon, Boston, Mass.

Claim.—1. The improved governor, composed of the rotary ribbed case A, as described, and the wheel or series of paddles *g* applied to separate shafts *b c*, with the driving-power drum or pulley or actuating device *w* fixed to the shaft *b* of the wheel, and with the valve-operating machinery applied to that *c* of the case, whereby the wheel, while in revolution in a fluid when in the case, will be caused to put the case in revolution and thereby operate the valve mechanism connected therewith, all being substantially as described and represented.

2. The combination of the scroll or fusee D and weight *l*, suspended therefrom, as set forth, with the engine-governor, as described, the valve-case C, valve or valves thereof, and the operative mechanism of the latter, all being substantially as specified.

3. The arm *q* and shaft *o*, as arranged and combined with the valve-stem *s*, the case C, and the induct E thereof, substantially as explained.

116,597.—Manufacture of Potato Starch.—Carleton B. Hutchins, Ann Arbor, Mich.

Claim.—The process of separating the starch from the pomace by a pressure either before or after the pomace has been rinsed over the sieve, substantially as set forth in the foregoing specification.

116,598.—Furnace for Puddling Iron, &c.—Richard Jenkins, Newark, Ohio.

Claim.—An oscillating puddling-box or hearth, which is supported upon bearings by means of hollow trunnions arranged in line with the flue leading from the fire-chamber on one side, and with the chimney on the opposite side, substantially as described.

116,599.—Garden-Syringe.—William J. Johnson, Newton, Mass.

Claim.—The double-chambered garden-syringe, constructed and operating substantially as described.

116,600.—Corn-Popper.—William J. Johnson, Newton, assignor to himself and Henry A. Hildreth, Lowell, Mass.

Claim.—1. The screw-shank, with malleable tines *a* and brace *b*, substantially as described.

2. The binding, crimped or corrugated at its corners, substantially as set forth.

3. The combination of binding, wire brace, and screw-shank, severally constructed and arranged in relation to each other, substantially as shown.

4. The corn-popper, with body, binding, wire, brace, and screw-shank combined, when severally constructed and arranged substantially as described.

116,601.—Harvester.—Dennis A. Kellogg, Valparaiso, Ind.

Claim.—In combination with the rocking tubular drag-bar, as described, having the crank-shaft passing through it, the shoe S and the covering-plate M, constructed as set forth.

116,602.—Machine for Laying out Sash. John N. Kikendall, Jr., Virginia, Ill.

Claim.—1. The combination, with the table A, having gauges B and C, of the rods D and adjustable cutters C thereon, constructed to move reciprocally toward or from each other and the table, substantially as specified.

2. The rods carrying the cutters mounted in a pair of curved arms, E, pivoted together and to the table at each end, and operated by a treadle, H, and a spring, all substantially as specified.

116,603.—Crutch-Handle. — Simon Kreger, Philadelphia, Pa.

Claim.—A crutch-handle, stationary on the staff when in use, but detachable therefrom at pleasure, and composed of a non-elastic shoulder-piece fitting under the arm-pit, and superimposed on springs held in place by rods or otherwise, and a base-piece, into which are inserted the ends of the side pieces that form the staff of the crutch.

116,604.—Desulphurizing and Volatilizing Lead and Silver Ores.—George T. Lewis, Philadelphia, Pa.

Claim.—The vaporizing and desulphurizing of lead ores bearing silver, or silver lead ores, and separating the silver therefrom by pulverizing the ore and submitting to the direct action of a flame, and separating the silver by its gravity and solubility, and collecting the oxide or salts of lead in bags.

116,605.—Exhaust-Nozzle.—James Lewis, Chicago, Ill., assignor to himself and Edward J. Cuyler, same place.

Claim.—The bisected conical valve D provided with projections *e e*, in combination with plate A provided with recesses *f f*, and arranged to operate substantially as and for the purpose described.

116,606. — Clothes-Drier. — Charles F. Linscott, Chicago, Ill.

Claim.—The folding frames A, arranged as described, in combination with the ropes C C′ C″, substantially as and for the purpose described.

116,607.—Hoisting-Machine. — William M. Lloyd, New York, N. Y.

Claim.—The cars E, stands or guides D D D, ropes I I, pulleys J and K, and drum L, constructed and arranged to operate substantially as and for the purpose hereinafter shown and described.

116,608.—Hot-Water Heater. — William H. Lungren, Baltimore, Md.

Claim.—1. The valve X working in cage A, substantially as and for the purpose hereinbefore set forth.

2. The receiver and condenser B B, substantially as and for the purpose before set forth.

116,609. — Shuttle for Looms. — James Lyall, New York, N. Y.

Claim.—1. The rollers *b* and links *c c*, in combination with the shuttle-carrier *a* and rollers *e e*, as and for the purposes set forth.

2. The receiver *i*, made removable from the shuttle, and containing the eye or eyes for the weft-thread, and adapted to contain the bobbin, cop, or spool, substantially as set forth.

3. The spring-holding clamp *r*, in combination with the removable receiver and the shuttle, substantially as set forth.

4. The eye or eyes *u* and extension *t* upon the removable receiver *i*, substantially as and for the purposes set forth.

116,610. — Steam-Plow. — Mirabeau N. Lynn, New Albany, Ind., assignor to himself and Edward H. Mann, same place.

Claim.—1. The reciprocating toothed yoke G, constructed as described, in combination with the spur-wheel J, pitman D, slide E, and pushing-legs C C, substantially as and for the purposes described.

2. The foot *t*, constructed as shown in Fig. 4.

116,611. — Water-Gauge with Feeder Attachments.—Mirabeau N. Lynn, New Albany, Ind., assignor to himself and Edward H. Mann, same place.

Claim.—1. The combination of the metal plate B B, glass plate C, elastic packing *c c*, and bollow-valved plugs T extending into the boiler, all constructed to form a water-gauge with a chamber, X, and inlet-passages from the boiler, substantially in the manner and for the purposes described.

2. The plate E, having formed on it perforated screw-tapped and shouldered bosses T^2, in combination with tubular valve-seated screws T^1 and their valves V, substantially as described.

3. The automatic feed-water attachment, consisting of a cylinder, D, float E, stem *e*, crank-stem *g*, and valve *g′*, in combination with pipes *d*, communicating with the boiler through a chamber, X, having a glass face, C, substantially as described.

4. The hollow plugs T, with spring-valves applied at the back of the chamber X and opposite a glass plate, C, said tubes with valves being located within the boiler when the gauge is applied, substantially as and for the purpose described.

116,612. — Grain-Drill. — Robert Marks and Andrew Christian Behne, Connersville, Ind.

Claim.—The combination and arrangement of the guard-plate N having the lugs or cut-offs *a a′ a″*, the feed-wheel P, provided with teeth *p* for conveying the grain to the dropping-apertures, bed-plate M, spouts O O′ O″, rock-shaft G, lever H, and gearing D E F I, substantially as and for the purpose specified.

116,613. — Pulley-Block. — Robert Marsden, Sheffield, England.

Claim.—1. The frame, as shown in the drawing and described in the above specification, in which the hook for suspending the same and the other working parts are contained.

2. The combining together the worm-wheel and the chain-pulley by means of clutches, by which they can be geared or ungeared into each other as occasion may require.

116,614. — Washing-Machine. — Moses S. Marshall, Somerville, assignor to John T. Folsom and John S. Folsom, Boston, Mass.

Claim.—The perforated basket G and perforated partition E, in combination with cylinder A, provided with two hinged or sliding doors, F, one on each side, all arranged and operated substantially as described.

116,615.—Cotton-Gin.—Orren Webb Massey, Macon, Ga.

Claim.—1. The central rib, made gradually wider above the peripheries of the saws to the top, so as to incline the grooves or spaces between the ribs each way from the center, substantially as described.

2. The side ribs, made to incline each way from the center toward the ends of the feed-box above the periphery of the saws, substantially as described.

3. A feed or roll-box for cotton-gins, made to flare gradually from the periphery of the saws to the top, so that it will be about one inch wider at the top than at the periphery of the saws.

116,616. — Griper for Cylinder Printing-Presses. — Victor F. Manger, New York, N. Y.

Claim.—1. The printing-cylinder, perforated in rows to receive the adjustable gripers, as set forth

2. The radial gripers C C, riding on cams D and guided in movable tubes *b*, substantially as herein set forth and described.

116,617.—Mechanical Movement.—James H. McCamey, Wytheville, Va.

Claim.—1. The oblong wheels A A, constructed substantially as and for the purpose hereinbefore set forth.

2. The curved racks B B, in combination with oblong wheels A A, substantially as described.

3. The oblong pinions A A, the curved racks B B, with the cam-wheel C, arranged together substantially as and for the purpose hereinbefore set forth.

116,618.—Clutch for Feeding Mechanism for Sewing-Machines. — Ephraim McDonald, Boston, and Nathan H. Cole, Swampscott, Mass.

Claim.—1. The arm B, constructed as described, with a rising hub, *c*, and arranged to swing on the center of the axis of the wheel, in the manner and for the purpose set forth.

2. The clutch E, constructed and applied as described, in combination with and pivoted to the lever D, and operating in connection with the rising hub *c* on the arm B, and with the flange *d* of the wheel, in the manner and for the purpose specified.

116,619.—Valve.—Edward McSteen, Pittsburg, Pa.

Claim.—The long screw-nut *e* furnished with arms *b b*, duplex wedges *c c*, the permanent incline B, valve *i*, screw on the stem *h*, in combination with each other and the inclosing-shell A, when said parts are constructed, arranged, and made to operate together in the manner shown and set forth.

116,620. — Hot-Water Heater.—Nathan Middleton and Stephen Morris, Philadelphia, Pa.

Claim.—1. The combination and arrangement of the hollow staves B having water-spaces E, the said spaces receiving their supply of water through a suitable feed-pipe or pipes, and having communication with exit hot-water or steam-pipes, substantially as described.

2. The combination and arrangement of the tank C with the chambers E by means of the pipes F, as and for the purpose set forth.

3. The combination and arrangement of the feed-pipe D and short pipes D′ with the tank C and the lower ends of the chambers E, substantially in the manner and for the purpose specified.

116,621.—Door-Fastener.—James A. Morris, Greenbush, N. Y.

Claim.—A door-fastening, formed of two pieces, E I, clamped by a screw, *d*, hinged at D, slotted at E, and having spurs F, shoulder G, and head L thereon, when applied to a door and its casing, as specified.

116,622.—Hay-Elevator and Carrier.—William T. Neil, Greensborough, Pa.

Claim.—The arrangement of the rope I, pulleys J K, car C D E F G H, as shown and described, whereby part of the load suspended from the hook L is sustained by the cord I, as specified.

116,623.—Framing-Joint.—Jonah Newton, New York, N. Y.

Claim.—1. The improved framing-joint herein described, consisting of a mortise having the end and bottom walls formed on a circular line and the edges and end of the tenon shaped to correspond, or both partly circular and partly straight, the said straight parts converging toward the axis of the tenon, and the curvature of the tenon being greater than that of the mortise, all substantially as specified.

2. The mortise having the tongue *a* in the curved or partly-curved and partly-straight walls, and the tenon having the groove *b* therefor, all substantially as specified.

116,624.—Curtain-Fixture.—James Norman, New York, assignor to Leah Anna Norman, same place.

Claim.—The fastening-hook or ratchet-bar B and holding-screw D, constructed and arranged to operate substantially as and for the purposes herein shown and described.

116,625. — Circular-Saw Mill. — Samuel M. Palmer, Glen's Falls, N. Y.

Claim.—A gang-saw shaft, having a pulley, D, at each end, and the feed-rolls E T located as described, combined with the mechanism herein shown and described for operating the same, all constructed and arranged as and for the purpose specified.

116,626. — Tanner's Sleeper.—Lewis K. Parsons, Charles E. Getchell, and Samuel W. Fairfield, Salem, Mass.

Claim.—The combination of the sleeper S, the valve P, and screw B, and the yoke A, or its equivalent, constructed and arranged substantially as described.

116,627.—Corn-Sheller.—Asahel H. Patch, Hamilton, Mass.

Claim.—1. The disks K K, when combined and arranged to incline toward each other at the top, as shown, in the manner and for the purpose substantially as specified.

2. The guide R on shaft N, stud V, and disks K K, when arranged to operate together, substantially as and for the purpose specified.

116,628. — Sash-Holder. — Alexander W. Pennington, Rochester, N. Y., assignor to Sarah A. Pennington and Chauncey Perry, same place.

Claim.—1. The combination of a rocking stop, *f*, a sliding stop, *e*, and an actuating spindle, *d*, common to both, arranged to operate substantially in the manner set forth.

2. The movable spindle *d*, provided with an arm, *g*, in combination with the spring *p* and stops *e* and *f*, whereby the spring acts to return both stops to their locked position, substantially as described.

116,629.—Tilting Chair.—Charles R. Peters and William P. Taylor, San Francisco, Cal.

Claim.—The combination of the base A having its rear portion inclined, and provided with the socket-plate D, with the seat F having the plate G′ constructed as described, as and for the purpose set forth.

116,630.—Setting Steam-Boilers.—Orrin Ranney, Corry, Pa.

Claim.—The fire-grate and the bottom wall behind the grate arranged on a regular ascending grade, the walls D E inclining toward the ends of the boiler, and the breeching graduated, as described, all in connection with a smoke-stack having greater capacity than the arch and the flues for creating a rapid draught through the arch and flues, all substantially as specified.

116,631.—Binnacle for Mariners' Compasses.—George W. Richey and Horace E. Bixby, St. Louis, Mo.

Claim.—1. The arrangement of shades E F, side pieces *e e′*, and circular shade G, in combination with a binnacle, B, formed with inclined sides B B′, hinged cover C with slot H, and slide I, con-

structed and colored substantially as and for the purpose set forth.

2. The improved binnacle B with shades or deflectors, in combination with a marine compass, A, and light or lamp D, substantially as set forth.

3. The compass-chart with printed list of landings, places, and objects, together with points of compass indicating their magnetic direction and position, substantially as and for the purpose set forth.

4. The compass-chart or river-guide I, constructed as described, when arranged on reels J J', in combination with a box or housing, K, constructed as and for the purpose set forth.

116,632, antedated June 28, 1871.—CLOTHES-LINE SUPPORTER.—Thomas Riley, Williamsburg, N. Y.

Claim.—The adjustable line-supporter B, constructed and applied substantially as shown and described.

116,633.—SEED-PLANTER.—Benjamin Saunders, Claverack, N. Y.

Claim.—1. The combined potato and small-seed planter herein described, when the two devices for measuring and dropping are constructed as set forth, and are made detachable and adapted to be operated within the circular frame or curb A by means of and in combination with vertical shaft O, wheel C, pinion P, axle N, and wheels T T, substantially in the manner and for the purposes described.

2. Curb or frame A with its detachable measuring-and-dropping devices, arranged and operated as above described, in combination with spout D, marker E, coverers H H, and roller F, substantially as and for the purposes herein set forth.

116,634.—DEVICE FOR FASTENING HANDLES TO SATCHELS, &c. — Morris Schwerin, Newark, N. J.

Claim.—A handle-fastening composed of the flanged tube B, flanged cup C, and spring-clasp E, arranged and applied substantially as described.

116,635.—KNIFE-CLEANER. — Joseph Seeberger, West Troy, N. Y., assignor to himself and Alexander Shiland, same place.

Claim.—The arrangement of the roller B, springs G G, part A A, and frame D, as set forth.

116,636. — MACHINE FOR TURNING THE FLANGES ON THE HEADS OF OIL-TANKS. George Selden, Erie, Pa.

Claim.—The herein-described method of concaving and flanging iron plates or disks.

116,637.—SHINGLE-MACHINE.—Charles Shelmidine, Summit, N. Y.

Claim.—1. In a shingle-machine, the jaws B B, constructed and arranged to operate as herein shown and described.

2. The combination of the gauging-knives D D and circular cutters F F in the jaws B B, arranged to operate substantially as and for the purposes described.

3. The incline planes G G and curved pieces or levers E E, in combination with the jaws B B, substantially as described.

116,638.—DEPILATING HIDES AND PRESERVING WOOD.—John E. Siebel, Chicago, Ill.

Claim.—1. The use of refuse gas-lime as a depilatory, especially for the use of tanneries, substantially as set forth.

2. The use of refuse gas-lime in connection with either one of the three following substances, viz.: sulphate of zinc, ferrous sulphate, or ferric sulphate, for the impregnation and preservation of wood, substantially as set forth.

116,639. — CLOTHES-DRIER. — Dow Carlos Smart, Cambridgeport, Mass.

Claim.—The improved combined spindle and pedestal-cap for clothes-driers, as composed of the journal *a* and its prolonged arm or shank *b*, the frusto-conic support and cap C, the screw-rods *c*, and nuts *f*, or their equivalent, the whole being formed and applied, or to be applied, to the pedestal D, in manner and for the purpose set forth.

116,640. — SHOT-CARTRIDGE FOR BREECH-LOADING FIRE-ARMS.—Charles Edward Sneider, Baltimore, Md., assignor to himself, Josias Pennington, Jr., and Nicholas G. Penniman, same place.

Claim.—A shot-cartridge, made of two or more sections or pieces, united by metal, paper, or cement to withstand handling but readily separable at their line of union when the cartridge is fired, substantially as and for the purpose described.

116,641.—CART-BODY FASTENING. — Enos Spalding, Plainfield, N. H.

Claim.—The pivoted bar D, having one or more notches, *d'*, formed in its forward end, bolt E having a long slotted projecting head, and spring F, said parts being constructed and arranged to operate in connection with the frame-work of a cart, substantially as herein shown and described, and for the purpose set forth.

116,642.—BREECH-LOADING FIRE-ARM.—George R. Stetson, New Haven, Conn.

Claim.—1. The locking-pin G and connecting cam-slotted levers C, combined with the breech-pin A and operating-lever B for actuating and locking the breech-pin, substantially in the manner described.

2. The cartridge-ejecting levers O P, arranged as shown and described, and actuated by the breech-pin through the medium of catches R S, substantially as specified.

3. The arrangement of the cover A' and spring B' with the aperture Y, substantially as specified.

116,643.—DRAIN-PIPE MACHINE.—John W. Stockwell, Portland, Me.

Claim.—1. The tip-former A, in combination with the flange *f* of the core *g'*, as herein described.

2. The improved joint for cement pipe, as shown in Fig. 12, plate 2, and as herein described.

3. The chains, sockets, and inclined pins, or their equivalents, as shown, in combination with the case, as described.

4. The trowels, as shown in Fig. 11, provided with projections *b'*, in combination with the collar A, when said parts are cast in one piece, as set forth.

116,644. — DOOR AND GATE-SPRING. — M. Frank Taber, Salem, Ohio.

Claim.—1. In combination with the vibrating arm E, spring C, shell D, and link G, the stop *D'*, substantially as and for the purpose described.

2. The combination of the vibrating arm E, spring C, shell D, link G, stop *D'*, and set-screw *d'*, substantially as and for the purpose set forth.

3. In combination with the link G, the loop *g* and screw-eye *g'*, substantially as described.

116,645.—SEWER-TRAP.—Stevenson Towle, New York, N. Y.

Claim.—1. The metallic basin A, constructed with two passages in one of its sides, a lateral extension-nozzle chamber B *g* in communication with the chamber formed by the basin A, and a movable valve, D, covering the upper one of said passages, all arranged and operating substantially in the manner and for the purpose described.

2. The depressed seat *b* for the stone E, formed on the basin A, in combination with the dovetail recesses formed in the basin for receiving cement to fasten the stone in place, all substantially in the manner and for the purpose described.

116,646.—SLOVE-DOOR.—John Van, Cincinnati, Ohio.

Claim.—The arrangement of the plates B, notched, raised, and slotted guard-plate C *c c'*, vertical gravitating bolt D *d d' d''* G, and catches E F, substantially as and for the objects designated.

116,647.—METHOD OF DRAWING PATTERNS FOR FLARING VESSELS.—Orlando B. Vandenburg, Findlay, Ohio.

Claim.—The method of drawing patterns for cutting sheet metal, substantially as herein shown and described.

116,648.—ROLLER-SKATE.—George Vincent Stockton, Cal., assignor of two-thirds his right to William H. Van Vlear and Charles D. Ladd, same place.

Claim.—1. The pivoted standards *a a* and plate B, in combination with the crank C, the rod E, and the axle A, substantially as and for the purposes hereinbefore set forth.

2. The plate or rod F, and the pad or cushion *a*, substantially as and for the purposes hereinbefore set forth.

116,649.—LATHE-CHUCK.—Alfred H. Wagner, Prairie City, Ill., assignor to himself, William J. Randolph, Levi Day, and Adam Harshberger, same place.

Claim.—In combination with the box A and screw B, the jaws C C, each working on its own center and into each other by one or more cogs, *b*, and regulated by the screw D, spring *d*, and nut E, all constructed and arranged substantially as and for the purposes herein set forth.

116,650.—BALING-PRESS.—Isaac P. Walker, Milwaukee, Wis.

Claim.—1. The combination of two or more pairs of toggle-levers linked together and operated from one and the same source, as and for the purpose described and represented.

2. In combination with the pairs of toggle-levers herein shown, linked together and operated from one and the same source, and a double set of rack-bars or ratchet-notches, the spring-pawls pivoted to said levers, and catching and working in said bars or notches, all constructed and operating substantially as and for the purpose described and represented.

3. In combination with the toggle-levers herein shown, ratchet-bars, and spring-pawls, an engaging-and-disengaging mechanism, substantially as described, whereby all the pawls may be simultaneously thrown out of or into action with the ratchet-teeth, as and for the purpose described.

116,651.—CEMENT FOR COATING OIL-BARRELS AND TANKS. — Isaac Waterman, London, Canada.

Claim.—The barrel cement, herein shown and described, consisting of alum, iodide of potassium, glue, plaster of Paris, and water, compounded in the manner and about the proportions specified.

116,652. — INSECT-TRAP. — Lyman I. Way, Annawan, Ill.

Claim.—The funnel A B, having recess E, collar C, and bag D, the whole combined, arranged, and applied as and for the purpose specified.

116,653.—SHOE-FASTENING.—Edward Webb, Norfolk, Va., assignor to himself, C. B. Ford, same place, and Benjamin F. Ford, Washington, D. C.

Claim.—In combination with the flaps of a boot or shoe, the cord C, series of eyelets or equivalents E E, buttons D D, and corresponding clasps F F, all constructed, arranged, and operating substantially in the manner and for the purpose herein set forth and described.

116,654, antedated June 22, 1871.—DOOR-STOP.—Isaac J. Wells, Willmar, Minn.

Claim.—The shouldered casting *a b*, let flush into the door A, and the casting *c* provided with the notch *c*, and secured to the floor by countersunk screws passing through the springs *g g*, as shown and described.

116,655.—VALVE DEVICE FOR STEAM-POWER AIR-BRAKE COUPLING.—George Westinghouse, Jr., Pittsburg, Pa.

Claim.—A rigid inflexible stem, *f*, arranged in one part of a pipe-coupling, in combination with a valve in the other part, the two being so arranged that when the couplings are united the valve shall be unseated by being brought in contact with the stem, substantially as described.

116,656.—SAFETY ATTACHMENT FOR HOISTING-CAGES.—William C. Williamson, Philadelphia, Pa.

Claim.—The arrangement of the pawls E, levers F, weight G, and spring J, in connection with each other and with the cross-bar D, hoisting-rope or chain I, and guides A, substantially as herein shown and described, and for the purpose set forth.

116,657.—FENCE.—Timothy C. Wood, Augusta, Mich.

Claim.—1. The two posts, having arms G G and seat E on each, the post N and the rods H, combined, constructed, and arranged as described, to support the panel in a vertical position.

2. The two iron posts, the two wooden posts, the top and bottom rails, the four braces, and the wires, all combined, constructed, and arranged as described, to form an improved panel of fence.

116,658. — NICKEL PLATING.—Isaac Adams, Jr., Boston, Mass.

Claim.—The application of heat to the solution of sulphate of ammonia in forming the double sulphate of nickle and ammonia by the battery process, substantially as herein described.

116,659.—FIRE-ESCAPE.—Ezra Ale, Clearfield, Pa., assignor to himself and J. Blake Walters, same place.

Claim.—The combination of the flexible metal ladder, the box B' within the window-casing or room, and the cover or block C, substantially as and for the purpose herein described.

116,660.—MAGNETO-ELECTRIC GAS-LIGHTING APPARATUS.—Almon N. Allen and Rodney H. Dewey, Pittsfield, Mass.

Claim.—1. The method, substantially as herein described, for admitting gas to a burner, and igniting the same, by a magneto-electric machine connected with the burner and actuated by a current of air, which also serves to open the gas-valve, as set forth.

2. The air-pipe *e* and bucket-wheel *d*, in combination with the arbors *e f*, magneto-electric machine D, gas-valve C, and burner A, substantially as shown and described.

3. The arbor *r* and bucket-wheel *t*, in combination with the arbor *l*, valve C, and burner A, substantially as set forth.

4. The toe *m* and spring *n*, in combination with the valve C, arbor *l*, arms *o s*, and pins *p q*, projecting from the arbor *e*, substantially as described.

5. The method, substantially as described, of extinguishing gas-flames by means of a current of air acting on the valve which controls the flow of gas to the burner, as set forth.

116,661. — BAG-HOLDER.—Ira Allen, Manchester, N. Y.

Claim.—1. The hopper G, hinged at its upper

rear side to the platform or back E, and provided at or near its lower rear side with link i, said link extending through the back E, all as and for the purpose set forth.

2. The hopper G, link i, rock-shaft m, provided with lever n and hook k, all combined and arranged substantially as shown and for the purpose set forth.

116,662. — PAINT-MILL. — William R. Axe, Rockton, Ill.

Claim.—1. The center plate C, in combination with the revolving plate E and stationary grinding-plate b, when constructed and operated substantially as and for the purposes set forth and described.

2. The shaft D, miter-wheel P, and set-screw f', in combination with center plate C, when constructed and operating substantially in the manner and for the purposes specified.

3. The shaft D, miter-wheel P, set-screw f', and center plate C, in combination with hollow shaft F, miter-wheel P', and set-screw i, when constructed and operating substantially in the manner and for the purposes described.

116,663.—CAR-COUPLING.—David H. Ball, Sinnamahoning, Pa.

Claim.—The combination of the draw-head a having square hole a, pin b, and slot i, with the link A having guards g and g' and f f, of the pin m having its upper shank square and notched at the throat and provided with a square cam-head, substantially as specified.

116,664.—MANUFACTURE OF BICARBONATE OF SODA.—William Henry Balmain, St. Helen's, Great Britain.

Claim.—The process of treating bicarbonate of soda and its salts, substantially as described.

116,665. — CLOTHES-WRINGER. — Elbridge G. W. Bartlett, Providence, R. I., assignor to Providence Tool Company, same place.

Claim.—1. The journal-casing, consisting of the parts A and B, provided with stop-joints d and b c, substantially as described.

2. The journal-casing, Fig. 2, provided with the lower stationary bearing, the upper sliding journal-box D, and the stop-joint at g, substantially as shown and described.

116,666, antedated June 29, 1871.—THILL-COUPLING.—Alma Bedford, Cold Water, Mich.

Claim.—Pole or thill-couplings for vehicles, the joint of which is provided with a projecting lip, c, on the thill-iron E extending back of the draft-pin or pintles f f, in combination with the yielding substance g secured in the recess a of the clip-iron A for supporting the thills or pole in any desired position, substantially as herein shown and described.

116,667.—BAGGAGE-CHECK.—Francis Xavier Bellerive, Plattsburg, N. Y.

Claim.—The baggage-check case herein described, made of leather, and provided with the guard-strap c and attaching-strap B, substantially as specified.

116,668. — DRAIN-TILE MACHINE.—Hiram Bissell, Hartford, Conn.

Claim.—1. In combination with a water or steam-cylinder, B, the hollow piston I and hollow plunger O, constructed and arranged substantially as and for the purposes set forth.

2. The former-collar G, constructed substantially as described, and arranged to operate in combination with the table C having a chambered recess, D, plunger O, and matrix E, and with or without the disk K and rods L, substantially as and for the purpose set forth.

116,669.—STEAM-GAUGE.—Richard C. Blake, Cincinnati, Ohio.

Claim.—In a diaphragm steam-gauge, the combination of the annular groove a in the face C of the case, metallic gasket H, diaphragm F having an annular bead G, and follower E, to form a steam-joint, substantially as set forth.

116,670.—STAVE-JOINTER.—Samuel C. Blinn, Tecumseh, Mich.

Claim.—The bed-plate E, standard F, rod F, arms G, spring h, screws a', and slots a, in combination with the concave cylinder B and frame A, the several parts being constructed substantially as and for the purpose specified.

116,671. — STEAM-PACKING.—Augustus O. Bourn, Providence, R. I.

Claim.—The improved packing described, consisting of the core formed by alternating layers of textile fabric and rubber surrounded by successive layers of the fabric saturated in rubber solution, as and for the purposes specified.

116,672, antedated June 24, 1871.—JACK-POST FOR PEGGING SHOES. — Daniel Bowker, Boston, Mass.

Claim.—1. The bed B, constructed as above described, in combination with a jack-post.

2. The combination of the jack-post A, clamp C, and base D, constructed as above described, and all arranged together as and for the purpose specified.

116,673. — TRACK-CLEARER FOR RAILWAY CARS.—Michael Croll Boyer, Norristown, Pa.

Claim.—1. The wheels J, suspended by swinging arms G so as to be maintained in contact with and operated by the flanged wheels of a car, as specified.

2. The combination of the above with the drum K on the shaft I.

116,674. — HEATING-STOVE.—Nathaniel A. Boynton, New York, N. Y.

Claim.—1. The detachable supplemental base D E, constructed of largest diameter in its central part, converging upward and downward to openings of equal or nearly equal diameter, to adapt it for application to stoves already made, and provided in its upper part with illuminating-windows d, all substantially as herein set forth.

2. The combination of the vertical grate or basket H with the aforesaid supplemental base D d E, as and for the purpose specified.

3. The combination of the horizontal grate G with the supplemental base D E, constructed as described, for the purpose stated.

116,675.—STOVE-PIPE DAMPER.—Nathaniel A. Boynton, New York, N. Y.

Claim.—1. The damper B, shaft b, and connected sleeve and plate C G, when constructed and combined, substantially as herein shown and described, to support the damper firmly in position while permitting its free rotation.

2. The combination of the handle D, divided shaft d b, and damper B, when applied, substantially as herein described, so as to retard the communication of heat to the handle D, as set forth.

116,676.—FOLDING CHAIR.—Charles Brada, New York, N. Y,

Claim.—1. The frames A A, shaft A, cross-piece A^2 and A^3, and the seat-piece C, constructed and arranged for joint operation, as specified.

2. The within-described construction of the cyn b b, embracing the shaft a and partially embracing the upper portions of the frames B, and arranged to serve relatively thereto and to the frames A A and seat C, as herein specified.

3. The within-described combination and arrangement of the frames A A with their several cross-pieces A^2 A^3, the shaft a, connected by the hinges or eyes b b with the frames B B, the seat C, and the hook-brace M, the whole forming the improved folding chair herein described.

116,677.—STOP-MOTION AND CREEL-STAND FOR KNITTING-MACHINES. — Horace C. Bradford, R. I.

Claim.—1. The combination of the yarn-levers, the actuating or tripping-lever, and the shifting weight, when arranged and operating substantially as described.

2. The combination of the spring-spindle P provided with an arm, p, and capable of a partial rotary movement, the cam a on the main shaft, the controlling-lever O provided with an arm, m, and the spring-shipper N so arranged that the depression of the spring-spindle will cause the shipper to be released, substantially as described.

3. The combination of the spring-spindle, the shipper, and the intermediate operative mechanism with the yarn-levers, the actuating or tripping-lever, the shifting weight, and a suitable connecting device, so arranged that the weight, when released by the breaking of a single yarn, will be directed to and allowed to exercise its deflective force upon the spring-spindle, and thereby release the shipper, substantially as described.

4. The combination of the posts D, the vertical sliding creel E, and the balance-weights D^3, substantially as and for the purposes specified.

116,678. — COMBINED CORN-PLANTER AND CULTIVATOR.—Edward Braggins, Mount Vernon, Ohio.

Claim.—The arrangement, upon one frame, of the seed-drill device D G' L, the corn-dropper device E G, the movable plows I I', and the rake J' f, all substantially as herein set forth.

116,679. — WINDOW-BLIND. — William E. Brock, New York, N. Y.

Claim.—The pivots C C, formed with slits, in combination with the jog a of the slats, substantially as herein described.

116,680. — BASE-BURNING FIRE-PLACE HEATER. — John H. Burtis, Brooklyn, N. Y.

Claim.—1. In combination with the air-heating passages A L k, the arrangement of the fire-pot eccentrically to the magazine, substantially as and for the purposes set forth.

2. The arrangement of an enlarged cold-air receiving-chamber occupying the entire space immediately surrounding the ash-pit except in front, in combination with the air-heating chamber 3 and the flue-space 4, arranged as set forth.

3. The enlarged cold-air receiving-chamber immediately surrounding the ash-pit except in front, extending back to the outer casing, and the fire-pot with the tubes g g which convey the admitted air through the combustion-chamber, in combination with the downward passages e e and flue-chamber 4 for the escape of the products of combustion, whereby the air to be heated is conducted, in passages which are surrounded through their whole course by heating-surfaces, until it enters the reservoir G, arranged substantially as set forth.

4. I do not claim, broadly, sliding doors; but I claim, in combination with a cylindrical front curved inwardly as at a', Fig. 1, and a fire-pot eccentric to the reservoir, making the frontal converging portion in sliding sections to expose the open fire and insure more general radiation and illumination therefrom, substantially as set forth.

5. In combination with the air-heating passages A L k, the oblique or inclined mouth of the magazine, and the branches A k which form a heat-receiving surface inclined upwardly from the rear of the combustion-chamber to the front thereof, as and for the purposes set forth.

6. A fuel-magazine, the walls of which are formed of tubes e e or equivalent hollow upright sections, substantially as set forth.

7. I do not claim an annular air-heating space at the base of a magazine; but I claim, in a fire-place heater, conveying the air from the chamber G in the rear by the branch k and annular passage L around the base of the magazine, and discharging it either through a register in front of the case or by passing it through the tubular sides of the magazine, returning it to the chamber G in a superheated state, substantially as set forth.

8. The combination, with the conductor or passages A L k, of tubes or branches w w and e e forming a part or the whole of the side of the magazine, and conveying and discharging the air heated in its course from the rear to the front of the heater through the top thereof into the hot-air chamber G, substantially as set forth.

9. The combination of said air-heating passage or passages A L k, receiving at the rear and discharging both at the front and top of the heater, with the reversible flues c c, which so control the products of combustion that their course is around the exterior surfaces of said conductors in ascending and descending currents, substantially as set forth.

10. Supporting the sides of the magazine on the annular trunks L and its branches A k, substantially as and for the purpose set forth.

11. The pendulous support o, in combination with the vertically-hinged cover F and step p, as and for the purpose set forth.

12. In combination with the damper-arm s and rod r, the stop t, arranged and operating as and for the purpose set forth.

13. The combination of the air-admitting chamber in the base surrounding the ash-pit except in front, and communicating with the chamber G at a' with the air-heating passages A L k, whereby a portion of the cold air pursuing the course of the arrows 2 2 is superheated and discharged at l or added to the warm-air reservoir G, substantially as set forth.

14. The register w, in combination with the tubes e e which form the walls of the magazine, as and for the purposes described.

15. Forming a portion of the side of the magazine of the separate air-conducting branch k of the annular tube L, substantially as set forth.

116,681.—COOKING-RANGE.—John H. Burtis, Brooklyn, N. Y.

Claim.—The platform-extension projecting from the body of the range, and forming a part thereof on the side nearest the fire-chamber, and arranged, at or near the level of the grate, to form a substitute for a warming-closet, said platform and the side of the range from which it projects being formed without doors, dampers, air-passages, or other openings, to prevent the access of dust and ashes, substantially as set forth.

116,682.—SLIDER FOR WAGONS.—Vosco M. Chafee, Clay City, Ill.

Claim. — The semicircular slider C, having its ends resting on the axle and secured thereto by hoops D, and also united with the hounds, as shown, when constructed and arranged substantially as specified.

116,683.—ANIMAL-POKE.—Harlow F. Chapin, Rochester, N. Y., assignor to himself and Pollock, Weaver & Co., same place.

Claim.—1. In an animal-poke, the arrangement of the arms A A, legs D D, and cross-bar G or equivalent, said arms being attached to the legs, and the latter projecting up within the arms so as to present several points of attachment for the cross-bar, as herein described.

2. The combination of the two cross-heads H I, each arranged to have a motion toward the other, and connected by the pivoted levers f g h or equivalent, as herein described.

116,684.—Package for Butter and Lard. John L. Cone, Waterloo, assignor to himself and Henry Churchill, Rochester, N. Y.

Claim.—1. The fastening, consisting of the ears C D, the swing-bar E with cam G and lever H, and the cross-bar I with claw *d*, open slot *g*, and socket *f*, all arranged as described, for the purpose of compressing the packing, thereby forming an air-tight joint.

2. The combination of the vessel A, cover B, packing *a*, ears C D, cross-bar I, swinging lever E, cam G, and lever H, arranged and operating together substantially as and for the purpose set forth.

116,685.—Bolting-Reel.—Sherman Corsett and Oliver D. Lowe, Middleville, Mich.

Claim.—The arrangement, herein described, of the two sectional ribs B of a flour-bolt and the strips *e* of bolting-cloth, whereby the edges of the adjacent strips are brought together in the clamping-joint, thus forming a continuous lining of cloth capable of bolting throughout its entire length.

116,686.—Safe-Door.—D'Estaing S. Covert, Chicago, Ill.

Claim.—The safe-hinge, consisting of the leaf C, provided with head *c*, which fits over pintle *d*, which latter slides on a projection, *e*, formed on leaf E, and lever D, all arranged to operate substantially as described.

116,687.—Shirt-Bosom Expander.—Calvin Crowell, Syracuse, N. Y., assignor to Daniel D. Smith, same place.

Claim.—A shirt-bosom expander, composed of the longitudinal strip A and transverse pieces *a a* attached thereto, the device being provided with buttons B *b* for securing it to the shirt-band and bosom, all constructed and arranged substantially as shown and described.

116,688.—Safe-Door.—D'Estaing S. Covert, Chicago, Ill.

Claim.—The combination of the lever C provided with opening *g* and slot *h*, with the leaf A provided with slot *e* and pin *d*, and leaf B provided with pintle *c*, substantially as and for the purpose set forth.

116,689.—Rocking-Chair.—George Caapp, New York, N. Y.

Claim.—1. The pedestal D, provided with legs *j*, in which casters *k k* attached to springs *i i* are secured, when the said legs and spring-casters operate in connection with the rocking mechanism and seat, as and for the purpose specified.

2. The chair B, mounted, by means of the tongue *g* and socket, on the levers C, oscillating on a pivot, *p*, which rests in the socket *c*, and rendered elastic in their movement by springs *e*, in combination with the pedestal and its parts, the whole constructed and arranged substantially as set forth.

116,690.—Roller-Skate.—George S. Curtis, Chicago, Ill.

Claim.—In a roller-skate having central driving-wheels, the combination therewith of one or more independent caster-wheels, operating substantially as described.

116,691.—Preparation of Wheat for Food.—Ira T. Curtis and J. Willard Smith, Rochester, N. Y.

Claim.—As a new article of food, crushed wheat prepared by being passed through rollers substantially as herein described.

116,692.—Butteris.—Samuel Davis, New Trenton, Ind.

Claim.—The combination of the knife A, bar B, and claw C, when the latter is pivoted at some point between the ends of the bar, and in relation to the knife, substantially in the manner and for the purpose set forth.

116,693.—Boiler-Tile Support.—William Dillon, Wheeling, W. Va.

Claim.—The boiler-tile supports *b b*, substantially as and for the purposes herein set forth.

116,694.—Cotton-Picker.—Bartholdt J. Dreeson, Schleswig, Germany, and James L. Buskett, St. Louis, Mo.

Claim.—1. The combination of the frame A B E D and the casing composed of the sheet-metal top F and the cloth sides G, all constructed, arranged, and connected together substantially as described and shown.

2. The combination of the frame A B E D and the shield P, pivoted on the rod J, for the purpose of pivoting said frame nearly at equipoise upon said shield, substantially as described and shown.

3. The arrangement of the guide-rod V, in connection with the frame A B E D and the pivoted shield P, for the purpose of directing the machine, substantially as described and shown.

4. The pivoted shield P provided with straps S T, and W, combined with the frame A B E D provided with the straps R, constructed, arranged, and operated substantially as described and shown.

116,695.—Electro-Medical Apparatus. Luis Drescher, New York, N. Y.

Claim.—1. The double or U-shaped cells for a galvanic battery, each cell being formed with distinct yet communicating compartments to receive its positive and negative plates, substantially as and for the purpose herein set forth.

2. A metallic needle or finger, traversing upon a metallic bar or plate parallel to the electro-magnet of a Faradic instrument, and connected with one of its electrodes so as to bear with its point upon the outer spiral layer of the induction-coil of the magnet, said layer being so exposed as to permit a direct contact of the finger with each convolution of its coil, substantially as and for the purpose herein set forth.

3. The combination of each of the loops by which the several layers in the helix or induction-coil of an electro-magnet are united to form one continuous length of wire, with one of a series of insulated points arranged in order upon a suitable plate or table within reach of a metallic pivoted switch-lever connected with one of the electrodes of the instrument or with a separate galvanic battery, so that a current passing through said switch-lever may be directed to either of the layers or coils of the helix at pleasure, substantially as and for the purpose herein set forth.

4. The combination of one or more suitable rods with the case of a galvanic or electro-magnetic instrument or the handles of its electrodes, and with the electrode cords or wires of the instrument to wind or coil them up neatly and compactly, substantially as and for the purpose herein set forth.

116,696.—Car-Coupling.—Henry William Earl, Baltimore, Md.

Claim.—1. The shackle F, constructed with the flange or shoulder *r*, substantially as shown, in combination with the spring-slide G engaging with said shoulder to lock the shackle against elevation by jolting.

2. The notches *p* in the shackle F, in combination with the spring-slide G for locking the shackle below level, substantially as represented and described.

3. The notches *q* in the buffer-heads *p* of the spring-slide G, in combination with the flange or lip *r* on the shackle F for locking the shackle above level, substantially as shown and set forth.

4. The combination, with the heads A E, of a horizontal shackle-coupling of the hooks S, arranged as shown and described, to attach links Q by chains R for coupling with common heads.

116,697.—Reversible Knob-Latch.—Henry H. Elwell, South Norwalk, Conn., assignor to The Norwalk Lock Company, same place.

Claim.—The arrangement of a bearing, *d*, substantially as described, upon the inside of the plate B, combined with the latch-bolt and case, so that by turning the said plate as set forth the latch-bolt is free to be reset, substantially in the manner specified.

116,698.—Smelting or Blast-Furnace.—William Ferrie, Monkland Iron and Steel Works, Great Britain.

Claim.—1. The forming of retorts, chambers, or spaces 1 in the upper part of a smelting or blast-furnace, substantially as and for the purpose hereinbefore set forth.

2. The forming of flues 6 7 in the upper sides of the furnace and of inlets for air into such flues, substantially as and for the purposes hereinbefore set forth.

116,699.—Coal-Scuttle.—Bridget Fielding, Cincinnati, Ohio.

Claim.—A coal-scuttle or bucket, constructed with side openings *a a* in the base B, and with extension wings D D from the bottom C passing through said openings and firmly secured to the bucket sides, in the manner and for the purpose specified.

116,700.—House for the Management of Bees.—Martin A. Glass, Independence, Iowa.

Claim.—The arrangement of the shelves C, boxes D, pans I, hive-board K, jack H, bar *b*, and wires *a a* within the house A, all operating substantially as and for the purposes set forth.

116,701.—Hot-Air Furnace.—Bartholomew Gommenginger, Rochester, N. Y.

Claim.—1. Constructing the water-jacket in two or more separate rings, capable of being placed one upon another, and each having a separate system of pipes, in the manner and for the purpose specified.

2. The combination of the water-jacket I, water-pipes K K′, steam-cock K″, branch pipes *g h*, and water-tank L, substantially as and for the purpose set forth.

116,702.—Axle-Box.—Albert Goodyear, 2d, Hamden, Conn.

Claim.—As a new article of manufacture, the herein-described axle-box, consisting of the wrought-metal tube A and malleable-iron neck B, the two united by the process of welding, substantially in the manner described.

116,703.—Pump.—Daniel J. Gorton, Quincy, Ill.

Claim.—The within-described pump, consisting of the cylinder A, valve-chambers B C, air chamber E, suction and discharge-pipes G H, ports *a a*′ and *b b*′, openings *a*² *b*², and the plunger D formed in double-cup shape by means of the flanges *i i*, and provided with packing *e e*, followers *f f*, and nuts *k k* on the plunger-rod I, all of said parts being constructed, combined, and arranged substantially in the manner and for the purposes herein set forth.

116,704.—Lubricating Compound.—Henry Grogan, Flatbush, N. Y.

Claim.—1. A lubricating compound, made of tallow, petroleum, caustic soda or other alkali, and plumbago or other mineral producing the same effect, as herein set forth.

2. A lubricating compound, made of tallow, petroleum, caustic soda, or other alkali, plumbago or other equivalent mineral, and animal hair, as herein described.

116,705.—Carriage-Spring.—Edwin Hall, Oxford, N. Y.

Claim.—1. The arrangement of the springs B, B′, and C, as described and shown, for the purpose of sustaining the weight in the first instance directly upon the upper centers of the springs B and B′, as explained and set forth.

2. The combination of the springs B, B′, and C and the bearing D, the several parts being constructed and arranged substantially as described and shown.

3. The combination of the springs B, B′, and C, the bearing D, and the spring-braces J, all constructed and arranged substantially as described and shown.

4. The spring draft-bars H, constructed, arranged, and operated substantially as described and shown.

116,706.—Sash-Holder.—Herrick R. Halsey, La Fayette, Ill.

Claim.—The face-plate A, constructed with lugs C and recessed lugs B, into which is fitted the end *F f* of the binder E, combined with the spring H, parts A and E cast in two pieces and secured only by the temper-screw J, substantially as described.

116,707.—Exhaust-Valve.—Robert W. Hamilton, Hartford, Conn.

Claim.—The screw *k*, arranged inside of the valve, in combination with the screw-threaded wedge *i*, packing-ring *h*, and rod *e*, substantially as set forth.

116,708.—Flower-Bracket.—William Hichborn, Charlestown, Mass.

Claim.—The above-described pendent flower-pot stand, as made with the series of arms A, the disk or table B, the spindles or rods C C′, and either with or without the slider or clamp *f*, the whole being constructed, arranged, and applied together and provided with means of suspension, substantially as set forth.

116,709.—Pressing and Stuffing Machine.—Ephraim S. Holloway, Columbiana, Ohio.

Claim.—The gate A, guides B, operating-gear C, D, and E, in combination with screw F and follower A, constructed, arranged, and operating with relation to each other, substantially as herein described, and for the purpose set forth.

116,710.—Hat.—Charles A. Hopkins, Charles H. Reid, George N. Raymond, and John S. Meeker, Danbury, Conn.

Claim.—The series of springs *a*, substantially as described, formed of successive loops, a portion of which is secured to the body of the hat, and the remainder of which projects to form an elastic cushion for the sweat-leather *b*.

116,711.—Apparatus for Evaporating Saline and other Liquids.—John Howarth, Salem, Mass.

Claim.—1. The combination, with an evaporating-pan or drying-table, of a steam pan-boiler, substantially as described, placed immediately under the pan or table and over the furnace-fire, and, when in operation, containing water and steam under pressure, substantially as and for the purposes herein shown and set forth.

2. In combination with the pan, pan-boiler, and furnace, arranged and operating as specified in the preceding clause, the system of pipes connected with the boiler, substantially in the manner herein shown and set forth, to insure free circulation of the contents of the same.

116,712.—Spring Bed-Bottom.—William C. Hubbard, Hubbardston, Mich., assignor to himself, Jerome J. Robbins, and William W. Carner, same place.

Claim.—The mortise D through the slat S, through

the head and foot cross-pieces H H, with wooden supporting-pin P resting in countersunk on top of cross-pieces, and wooden supporting-pin crossing mortise on under side of sled, substantially in the manner and for the purpose as herein described and set forth.

116,713. — LEAD-PENCIL. — Philip Hufeland, New York, N. Y.

Claim.—A lead-pencil having attached to one of its ends a paper tube forming a continuation of the pencil, and containing in its outer end a piece of India rubber, substantially as and for the purposes herein shown and described.

116,714. — FRAME FOR SASHES, ROOF SKY-LIGHTS, &c. — James L. Jackson, New York, N. Y.

Claim.—The combination of the rib A, constructed with gutters or shoulders for the support of the glass, substantially as described, and the covering-strip C secured to the rib, clamping the glass thereon and inclosing the putty or cement, substantially as and for the purpose specified.

116,715. — RUFFLING-AND-HEMMING ATTACHMENT FOR SEWING-MACHINES. — William Johnson, Haverhill, Mass., assignor to himself and Hosea B. Carter, East Hampstead, N. H.

Claim.—1. The combination and arrangement of the adjustable ruffler E and the hemmer F with a sewing-machine, substantially as and for the purpose set forth.

2. The improved ruffler, as formed with the inclined seam-slot *d*, as and for the purpose set forth.

116,716. — HARROW. — Benjamin Johnston, Sterling, Ill.

Claim.—The lever *j*, supported in a horizontal position, or nearly so, on the pivot-arms *k* and *l*, and connected with the hinged portions of the harrow, as specified.

116,717. — GRIST-MILL. — Charles Kaestner, Chicago, Ill.

Claim.—1. The means employed for sustaining the fixed stone O and for adjusting the same to position, consisting of the studs P secured radially to or upon said stone, the blocks Q, the housings R provided with the set-screws *r*, and the hinged bar S provided with the nuts *s* and passing through the brace T, substantially as and for the purpose specified.

2. The studs A′ provided with the wheels B′, and the studs P pivoted within the blocks Q, in combination with the stones M and O and with the rails D, substantially as and for the purpose shown.

3. In combination with the step U, lever V, stud W, and wheel X, the clutch-rod Z caused to embrace the spindle L and resting within the ears Y, the collar Z′, and the nuts *z*, substantially as and for the purpose set forth.

116,718. — FRUIT-GATHERER. — John C. Kearns, Lewistown, Pa.

Claim.—The sliding ring C *c*, in combination with the bar A, stationary ring *a*′, spring E, rod D, bag B, and handle *e*, arranged and operating substantially as shown, and for the purpose set forth.

116,719. — GRAIN-DRILL. — Benjamin Kuhns, Dayton, Ohio.

Claim.—In combination with the oscillating bar D, to which the changeable drag-bars are hitched, and its arms D^1 D^1, the studs *e* and *e*′ which play through the side beam of the frame, and are retracted and projected by means such as described, or equivalent means, all operating in the manner set forth.

116,720. — PRODUCING COLORED PRINTS ON PAPER AND OTHER FABRICS. — Moritz Lassmuel, Bay Ridge, N. Y.

Claim.—1. A block for printing many colors at one operation, said block being produced of sections made of resin, colored as required, and brought in the required shapes, all as set forth.

2. The method, herein described, of printing many-colored designs at one operation by means of a block made in sections, each section corresponding to one of the colors of the design, substantially as herein set forth.

116,721. — CAR-AXLE BOX. — John Joseph Lahaye, Reading, Pa.

Claim.—1. An axle-box, provided with a detachable partition, J, arranged above the bottom to form an oil-chamber, and so fitted within the box that the escape of oil from the chamber, except at the outlet provided for the same, is prevented, all as set forth.

2. The said detachable partition, in combination with the inclined lugs *g* and ledge *g*′ of the box, by which it is raised to and supported in a horizontal or nearly horizontal position, as specified.

3. The cork or other packing at the rear end and sides of the said detachable partition, in combination with the flange *f*′ and inclined inner edge *f* of the box.

4. The tubular wick or roller K, arranged so as to be revolved in the opening *m* of the detachable partition and extending into the oil-reservoir H, as described.

5. The partition J, constructed and fitted to the box so as to leave between the front end of the partition and the box a passage, *l*, which communicates with the passage in the lid, as specified.

6. The packing at the rear of the box, consisting of wooden strips *q q*, adapted to the recess *a* and axle, faced with leather or other suitable material *r*, hinged together at the point q^1 and acted on by a spring, q^2.

7. The combination of the said detachable partition, provided with packing at the side and back, and the lid of the box by which the partition is forced back into its place, as specified.

116,722. — REVOLVING CASTER. — Cyrus H. Latham and John S. Lugg, Lowell, Mass., assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—1. Constructing the base D of the caster of the series of wires *k* and uniting them to the nut *b*, substantially as described and specified.

2. Constructing the handle C of twisted wire, substantially as described and specified.

3. The combination, with the base D and nut *b*, handle C, and screw *c*, of the revolving plate E, provided with bottle rings B, constructed and operated substantially as described and specified.

116,723. — HOT-AIR FURNACE. — James A. Lawson, Troy, N. Y.

Claim.—1. In a heating-furnace, a dome, provided with upper and lower outlets for the heated escaping products of combustion, when said outlets are at or near the outer side of said dome and within the line vertically of its base, substantially as and for the purpose shown.

2. The dome I, provided with the openings *k* and *m*, in combination with the annular flue L, provided with the openings *l* and legs M, substantially as and for the purpose set forth.

3. The means employed for admitting air to the combustion-chamber, consisting of the concave metal ring G, resting upon the flange D′, provided with the lugs *d*′ and openings *s*′, when said parts are combined with the sections D and E, substantially as and for the purpose shown and described.

116,724. — HOT-AIR FURNACE. — James A. Lawson, Troy, N. Y.

Claim.—1. The side flues G, provided with diverging and converging passages, and having their vertical sides formed upon lines diverging horizontally from a common center, so as to give to said flues a general wedge-shape in plan view, substantially as and for the purpose specified.

2. The exit-flue L and side flue G, when combined in the manner and for the purpose substantially as shown and described.

3. The single side flues G′, substantially as and for the purpose set forth.

4. The side flue G, provided with the diaphragm *f* or *f*′, substantially as and for the purpose shown.

5. The general construction and relative arrangement of the fire-pot D, the dome F, the side pipes G, and the annular flue H, substantially as and for the purpose specified.

116,725. — HAME. — George J. Letchworth, Auburn, N. Y.

Claim.—The combination of the draft-eye *b*, hold-back-ring C, bolt D, and the lip *a*, constructed and arranged as described.

116,726. — PUNCHING-MACHINE. — George W. Lewis, Danville, N. Y., assignor to himself and John Hyland, same place.

Claim.—1. The pivoted holder M, formed with the opening *r*, in combination with the punch F and punch-block I, as and for the purpose herein set forth.

2. The punch-block I, formed with the flanges *f*, in combination with the clamp-frame K and the bed A′, substantially as described.

3. The pivoted holder M, punch F, punch-block I, gauge-plate L, and bed A′, combined and operating as set forth.

4. The pivoted holder M, punch F, punch-block I, bed A′, and clamp-frame K, combined and operating substantially as set forth.

5. The combination of the pivoted holder M, punch F, levers B D, connecting-links C E, punch-block I, clamp K, bed A′, and gauge-plate L, substantially as and for the purpose set forth.

116,727. — HEATING FEED-WATER FOR STEAM-BOILERS. — William A. Lighthall, New York, N. Y.

Claim.—1. The combination and arrangement of the superheating device C with the surface-condenser or heater B, whereby to render available the products of combustion escaping through the uptake of the steam-generators, in imparting additional heat to the feed-water or steam-boilers, substantially as herein described.

2. The arrangement of the superheating-coil in the up-take of a steam-generator with the surface-condenser or heater B, pipes *c*, *d*, and *b*, substantially as and for the purpose set forth.

116,728. — COMPOUND SURFACE-CONDENSER. — William A. Lighthall, New York, N. Y.

Claim.—1. The perforated plate M, combined with the receiving-chamber D and tubes *a a a*, substantially as and for the purposes specified.

2. In combination with the above, a compound surface-condenser, consisting of a number of tubes exposed externally to a refrigerating medium, and combined with partitioned chambers communicating with the interior of the tubes, and arranged in such manner that the steam or vapor to be condensed or the fluid to be cooled is conducted back and forth through different sections of the tubes within one case, when constructed and arranged substantially in the manner and for the purposes specified.

116,729. — DRYING AND PRESERVING FRUITS. — James Lowe, Guilford county, N. C.

Claim.—The washing of the peeled and sliced fruit in a solution of salt and water before drying.

116,730. — PISTON-FACING MACHINE. — William W. Lowerree and George A. Sanderson, Albany, N. Y.

Claim.—The combination and arrangement of head-block P, sleeve D, bracket E, tool-carrier e F, divided rings c^1 and c^2, and independent rings G and H with any suitable driving mechanism, substantially as and for the purpose herein shown.

116,731. — HAIR-CURLER. — Isaac S. Marcy, Nashua, N. H.

Claim.—1. A hair-curler, formed wholly or in part of soap-stone, substantially as specified.

2. The combination, with the handle D and bolt B, of the tubular soap-stone sections A, substantially as specified.

116,732. — COMBINED KNIFE AND PENCIL-SHARPENER. — Jacob McClure, Nashua, N. H.

Claim.—1. The cone-cutting recess *b*′ formed in or through the handle of a pocket-knife in such a manner that the ends of the recess shall be even with the sides or edges of the handle, substantially as specified.

2. A knife-blade provided with a file-back, *c*, having a central tapering smooth space between the slightly-inclined filing-surfaces, substantially as specified.

116,733. — COTTON-PRESS. — Alexander B. McGonnigil, Helena, Ark.

Claim.—The cotton-press herein described, constructed with frame D, slide-posts F, blocks E E′, G, and M, screw N, and boxes K and T, arranged to operate substantially as specified.

116,734. — WOOD PAVEMENT. — Edgar McMullen, Montreal, Canada.

Claim.—1. The sections for wood pavement, consisting of the rectangular blocks A united by means of the flanged keys B, as herein described, for the purpose of producing a pavement the sections of which may be taken up and replaced when desired, as set forth.

2. The combination of the keys B and F or staples C with the blocks A, when constructed and arranged in rows and sections of pavement, substantially as herein described.

116,735. — CORN-HARVESTER. — James I. Mettler, Mendota, Ill.

Claim.—1. The vertical picking-rolls D D′, when so placed that a line passing through their axes will form an obtuse angle with the row of corn, so that the ears, when severed from the stalk, will fall into the proper receptacle to one side, substantially in the manner specified.

2. In combination with the vertical picking-rolls, the wheels F^1, F^2, and G′ for feeding the stalks singly to the picking-rolls, substantially as set forth.

3. The combination of the vertical picking-rolls, the wheels I I^1 for straightening up leaning stalks, wheels H H′ for gathering the stalks, and wheels F^1, F^2, and G′ for feeding the stalks singly to the rolls, substantially as set forth.

4. The roll D′, countersunk around its lower journal *d*, in combination with the raised box of the step *d*′ and the dished wheel G′, all arranged with reference to one another, substantially as and for the purpose set forth.

116,736. — WEEDING-TOOL. — Philip Michael, Frostburg, Md.

Claim.—The herein-described weeding-tool, consisting of the curved blade B with tines B′ and handle A, all constructed and used as and for the purpose specified.

116,737, antedated June 23, 1871. — PERMUTATION LOCK. — D. K. Miller, Reading, Pa.

Claim.—The tumbler J, driving-disk E, its spindle and disks F, all constructed and operating together, substantially as described, so that the tumbler is partly elevated in notches in the disk F by the rotation of the disk E, and is further elevated

the head and foot cross-pieces H H, with wooden supporting-pin P resting in countersink on top of cross-pieces, and wooden supporting-pin crossing mortise on under side of clasp, substantially in the manner and for the purpose as herein described and set forth.

116,713. — LEAD-PENCIL. — Philip Hufeland, New York, N. Y.

Claim.—A lead-pencil having attached to one of its ends a paper tube forming a continuation of the pencil, and containing in its outer end a piece of India rubber, substantially as and for the purposes herein shown and described.

116,714. — FRAME FOR SASHES, ROOF SKY-LIGHTS, &c. — James L. Jackson, New York, N. Y.

Claim.—The combination of the rib A, constructed with gutters or shoulders for the support of the glass, substantially as described, and the covering-strip C secured to the rib, clamping the glass thereon and inclosing the putty or cement, substantially as and for the purpose specified.

116,715. — RUFFLING-AND-HEMMING ATTACHMENT FOR SEWING-MACHINES. — William Johnson, Haverhill, Mass., assignor to himself and Hosea B. Carter, East Hampstead, N. H.

Claim.—1. The combination and arrangement of the adjustable ruffler E and the hammer F with a sewing-machine, substantially as and for the purpose set forth.

2. The improved ruffler, as formed with the inclined seam-slot *d*, as and for the purpose set forth.

116,716. — HARROW. — Benjamin Johnston, Sterling, Ill.

Claim.—The lever *j*, supported in a horizontal position, or nearly so, on the pivot-arms *k* and *l*, and connected with the hinged portions of the harrow, as specified.

116,717.—GRIST-MILL.—Charles Kaestner, Chicago, Ill.

Claim.—1. The means employed for sustaining the fixed stone O and for adjusting the same to position, consisting of the studs P secured radially to or upon said stone, the blocks Q, the housings R provided with the set-screws *r*, and the hinged bar S provided with the nuts *s* and passing through the brace T, substantially as and for the purpose specified.

2. The studs A′ provided with the wheels B′, and the studs P pivoted within the blocks Q, in combination with the stones M and O and with the rails D, substantially as and for the purpose shown.

3. In combination with the step U, lever V, stud W, and wheel X, the clutch-rod Z caused to embrace the spindle L and resting within the cone Y, the collar Z′, and the nuts *z*, substantially as and for the purpose set forth.

116,718. — FRUIT-GATHERER. — John C. Kearns, Lewistown, Pa.

Claim.—The sliding ring C *c*, in combination with the bar A, stationary ring *a′*, spring E, rod D, bag B, and handle *a*, arranged and operating substantially as shown, and for the purpose set forth.

116,719.—GRAIN-DRILL.—Benjamin Kuhns, Dayton, Ohio.

Claim.—In combination with the oscillating bar D, to which the changeable drag-bars are hitched, and its arms D¹ D², the studs *c* and *c¹* which play through the side beam of the frame, and are retracted and projected by means such as described, or equivalent means, all operating in the manner set forth.

116,720.—PRODUCING COLORED PRINTS ON PAPER AND OTHER FABRICS. — Moritz Laemmel, Bay Ridge, N. Y.

Claim.—1. A block for printing many colors at one operation, said block being produced of sections made of resin, colored as required, and brought in the required shapes, all as set forth.

2. The method, herein described, of printing as many-colored designs at one operation by means of a block made in sections, each section corresponding to one of the colors of the design, substantially as herein set forth.

116,721. — CAR-AXLE BOX. — John Joseph Lahaye, Reading, Pa.

Claim.—1. An axle-box, provided with a detachable partition, J, arranged above the bottom to form an oil-chamber, and so fitted within the box that the escape of oil from the chamber, except at the outlet provided for the same, is prevented, all as set forth.

2. The said detachable partition, in combination with the inclined lugs *g* and ledge *g′* of the box, by which it is raised to and supported in a horizontal or nearly horizontal position, as specified.

3. The cork or other packing at the rear end and sides of the said detachable partition, in combination with the flange *f* and inclined inner edge *f* of the box.

4. The tubular wick or roller K, arranged so as to be revolved in the opening *m* of the detachable partition and extending into the oil-reservoir H, as described.

5. The partition J, constructed and fitted to the box so as to leave between the front end of the partition and the box a passage, *l*, which communicates with the passage in the lid, as specified.

6. The packing at the rear of the box, consisting of wooden strips *q q*, adapted to the recess *a* and axle, faced with leather or other suitable material *r*, hinged together at the point *q¹* and acted on by a spring, *q²*.

7. The combination of the said detachable partition, provided with packing at the side and heel, and the lid of the box by which the partition is forced back into its place, as specified.

116,722.—REVOLVING CASTER.—Cyrus H. Latham and John S. Lugg, Lowell, Mass., assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—1. Constructing the base D of the caster of the series of wires *h* and uniting them to the nut *b*, substantially as described and specified.

2. Constructing the handle C of twisted wire, substantially as described and specified.

3. The combination, with the base D and nut *b*, handle C, and screw *c*, of the revolving plate E, provided with bottle rings B, constructed and operated substantially as described and specified.

116,723. — HOT-AIR FURNACE. — James A. Lawson, Troy, N. Y.

Claim.—1. In a heating-furnace, a dome, provided with upper and lower outlets for the heated escaping products of combustion, when said outlets are at or near the outer side of said dome and within the line vertically of its base, substantially as and for the purpose shown.

2. The dome I, provided with the openings *k* and *m*, in combination with the annular flue L, provided with the openings *l* and legs M, substantially as and for the purpose set forth.

3. The means employed for admitting air to the combustion-chamber, consisting of the concave metal ring G, resting upon the flange D′, provided with the lugs *d′* and openings *e′*, when said parts are combined with the sections D and E, substantially as and for the purpose shown and described.

116,724. — HOT-AIR FURNACE. — James A. Lawson, Troy, N. Y.

Claim.—1. The side flues G, provided with diverging and converging passages, and having their vertical sides formed upon lines diverging horizontally from a common center, so as to give to said flues a general wedge-shape in plan view, substantially as and for the purpose specified.

2. The exit-flue L and side flue G, when combined in the manner and for the purpose substantially as shown and described.

3. The single side flues G′, substantially as and for the purpose set forth.

4. The side flue G, provided with the diaphragm *f′* or *f″*, substantially as and for the purpose shown.

5. The general construction and relative arrangement of the fire-pot D, the dome F, the side pipes G, and the annular flue H, substantially as and for the purpose specified.

116,725.—HAME.—George J. Letchworth, Auburn, N. Y.

Claim.—The combination of the draft-eye *b*, hold-back-ring C, bolt D, and the lip *a*, constructed and arranged as described.

116,726.—PUNCHING-MACHINE.—George W. Lewis, Danville, N. Y., assignor to himself and John Hyland, same place.

Claim.—1. The pivoted holder M, formed with the opening *o*, in combination with the punch F and punch-block I, as and for the purpose herein set forth.

2. The punch-block I, formed with the flanges *f*, in combination with the clamp-frame K and the bed A′, substantially as described.

3. The pivoted holder M, punch F, punch-block I, gauge-plate L, and bed A′, combined and operating as set forth.

4. The pivoted holder M, punch F, punch-block I, bed A′, and clamp-frame K, combined and operating substantially as set forth.

5. The combination of the pivoted holder M, punch F, levers B D, connecting-links C E, punch-block I, clamp K, bed A′, and gauge-plate L, substantially as and for the purpose set forth.

116,727. — HEATING FEED-WATER FOR STEAM-BOILERS.—William A. Lighthall, New York, N. Y.

Claim.—1. The combination and arrangement of the superheating device C with the surface-condenser or heater B, whereby to render available the products of combustion escaping through the uptake of the steam-generators, in imparting additional heat to the feed-water or steam-boilers, substantially as herein described.

2. The arrangement of the superheating-coil in the uptake of a steam-generator with the surface-condenser or heater B, pipes *c*, *d*, and *b*, substantially as and for the purpose set forth.

116,728.—COMPOUND SURFACE-CONDENSER. William A. Lighthall, New York, N. Y.

Claim.—1. The perforated plate M, combined with the receiving-chamber D and tubes *a a a*, substantially as and for the purposes specified.

2. In combination with the above, a compound surface-condenser, consisting of a number of tubes exposed externally to a refrigerating medium, and combined with partitioned chambers communicating with the interior of the tubes, and arranged in such manner that the steam or vapor to be condensed or the fluid to be cooled is conducted back and forth through different sections of the tubes within one case, when constructed and arranged substantially in the manner and for the purposes specified.

116,729.—DRYING AND PRESERVING FRUITS. James Lowe, Guilford county, N. C.

Claim.—The washing of the peeled and sliced fruit in a solution of salt and water before drying.

116,730.—PISTON-FACING MACHINE.—William W. Lowerree and George A. Sanderson, Albany, N. Y.

Claim.—The combination and arrangement of head-block P, sleeve D, bracket E, tool-carriage F, divided rings *c¹* and *c²*, and independent rings G and H with any suitable driving mechanism, substantially as and for the purpose herein shown.

116,731.—HAIR-CURLER. — Isaac S. Marcy, Nashua, N. H.

Claim.—1. A hair-curler, formed wholly or in part of soap-stone, substantially as specified.

2. The combination, with the handle D and bolt B, of the tubular soap-stone sections A, substantially as specified.

116,732.—COMBINED KNIFE AND PENCIL-SHARPENER. — Jacob McClure, Nashua, N. H.

Claim.—1. The cone-cutting recess *b′* formed in or through the handle of a pocket-knife in such a manner that the ends of the recess shall be even with the sides or edges of the handle, substantially as specified.

2. A knife-blade provided with a file-back, *c′*, having a central tapering smooth space between the slightly-inclined filing-surfaces, substantially as specified.

116,733. — COTTON-PRESS. — Alexander B. McGonnigil, Helena, Ark.

Claim.—The cotton-press herein described, constructed with frame D, slide-posts F, blocks E E′ G, and M, screw N, and boxes K and T, arranged to operate substantially as specified.

116,734.—WOOD PAVEMENT. — Edgar McMullen, Montreal, Canada.

Claim.—1. The sections for wood pavement, consisting of the rectangular blocks A united by means of the flanged keys B, as herein described, for the purpose of producing a pavement the sections of which may be taken up and replaced when desired, as set forth.

2. The combination of the keys B and F or staples C with the blocks A, when constructed and arranged in rows and sections of pavement, substantially as herein described.

116,735. — CORN-HARVESTER. — James I. Mettler, Mendota, Ill.

Claim.—1. The vertical picking-rolls D D′, when so placed that a line passing through their axes will form an obtuse angle with the row of corn, so that the ears, when severed from the stalk, will fall into the proper receptacle to one side, substantially in the manner specified.

2. In combination with the vertical picking-rolls, the wheels F¹, F², and G′ for feeding the stalks singly to the picking-rolls, substantially as set forth.

3. The combination of the vertical picking-rolls, the wheels I I′ for straightening up leaning stalks, wheels H H′ for gathering the stalks, and wheels F¹, F², and G′ for feeding the stalks singly to the rolls, substantially as set forth.

4. The roll D′, countersunk around its lower journal *d*, in combination with the raised box of the step *d′* and the dished wheel G′, all arranged with reference to one another, substantially as and for the purpose set forth.

116,736.—WEEDING-TOOL.—Philip Michael, Frostburg, Md.

Claim.—The herein-described weeding-tool, consisting of the curved blade B with tines B′ and handle A, all constructed and used as and for the purpose specified.

116,737, antedated June 23, 1871.—PERMUTATION LOCK.—D. K. Miller, Reading, Pa.

Claim.—The tumbler J, driving-disk E, its spindle and disks F, all constructed and operating together, substantially as described, so that the tumbler is partly elevated in notches in the disk F by the rotation of the disk E, and is further elevated

above the said disks on the longitudinal movement of the spindle, for the purpose described.

116,738. — Car-Coupling.—Thomas Morgan, Marquette, Mich.

Claim.—1. The lever B, constructed with socket A, in combination with rod E, lever G, and handle H, all arranged to operate pin D, substantially in the manner and for the purpose set forth.

2. In combination with the subject-matter of the above, pins D *b* and draw-head, all constructed and arranged to operate as described.

116,739, antedated June 28, 1871.—Griddle-Lifter.—Michael D. Murphy, Watkins, N. Y.

Claim.—As a new article of manufacture, a griddle-lifter, provided with a shield, D, to protect the hand from heat while using, substantially as set forth.

116,740.—Elevated Railway. — John B. Newbrough, New York, N. Y.

Claim.—1. A series of rollers or wheels, *d*, arranged substantially as described, so as to afford a bearing for flanges extending over said rollers from the top of a suspended car or truck.

2. The combination, with a beam, A, of straps *a*, or their equivalents, suspended from the beam and carrying the rollers *d d*, as set forth.

3. The combination, with the said straps and beam of keys and wedges *c' c'* or other retaining and adjusting devices, as and for the purpose specified.

4. The car B, with its flanges *f f* arranged to traverse the rollers *d*, substantially as described.

5. The combination of a car, suspended from a beam, A, and driving-pulley or pulleys I I bearing against the beam A, and operating substantially as set forth.

116,741.—Combined Cotton-Planter and Chopper.—Abel R. Nixon, Polo, Ill.

Claim.—The main frame A, sliding bar L, plows M M, hooks *f*, and pivoted handles I I, in combination with the axle B, gear E, shaft G, and wheel *a*, adapted to receive and operate the planting mechanism or choppers, substantially as described.

116,742.—Bottle-Fastener.—George Otto and George W. Bauer, Washington, D. C.

Claim.—As a new article of manufacture, the bottle-fastening, consisting of the arms *c c*, right-angular portion B, and horn or projection *b*, substantially as set forth.

116,743. — Mouse-Trap. — Amos Ovaitt, Unionville, Conn.

Claim.—In combination with the yoke D and spring-bar E, the lever F and bait-hook I, constructed and arranged as herein described, so that by depressing the spring-bar onto the lever the trap is set.

116,744.—Welt and Rand for Boots and Shoes.—Henry F. Packard, North Bridgewater, assignor to Asa B. Keith, Braintree, Mass.

Claim.—As a new article of manufacture, a welt and rand-strip or ribbon formed of pieces united end to end, substantially as shown and described.

116,745.—Device for Transmitting Motion.—Peter Palmlund, Brooklyn, N. Y.

Claim.—1. The combination, with the shafts A and B, jointed together as described and the latter of which has a conical revolving motion in addition to a rotating one on its axis, of the wheel D and fixed circular rack E having an equal number of teeth in them, substantially as specified.

2. The pitman C, and sleeve *d* connected therewith by universal joint, in combination with the universally-jointed or attached shafts A and B, the wheel D, and stationary rack E of unequal diameters, essentially as herein set forth.

3. The circular base or runner *b* at the foot of the conically-revolving shaft B, in combination with the wheel D, the fixed circular rack E, and the shafts A and B, substantially as specified.

116,746.—Sleeping-Car.—Francis W. Parsons, Cleveland, Ohio.

Claim.—1. The arrangement of the seats B, sliding panel D, cap E, bed-bottoms F J, curtains I, and wire-gauze K, substantially in the manner as described, and for the purpose specified.

2. The swinging brackets Q, curtains L, and wire-gauze K, as arranged in relation to the windows B and sliding panel D, in the manner as and for the purpose set forth.

3. The slide H and the hooks G, as arranged in the cap of the sliding panel D, and operated in the manner substantially as and for the purpose set forth.

116,747. — Nail-Machine. — Archibald W. Paull and John Morgan, Jr., Wheeling, W. Va.

Claim.—The construction and combination, as herein described, of the rotary disk X with the concentric and cam-shaped flanges upon its side, the swivel-cutters A B extending across from one flange to the other, and placed at angles relative to one another and to the radiuses of the disk, as described, and the oscillating anvil-cutter, for the purpose set forth.

116,748. — Rotary Sod-Cutter. — Josiah Pool, Rio Vista, Cal.

Claim.—In a sod-cutter provided with a series of rotating disks, the series of beams A having curved bearing-surface, as and for the purpose described.

116,749. — Water-Wheel. — Ezra Poole, Gouverneur, N. Y.

Claim.—1. The tapering bottom D', as described, in combination with the wheel C, spiral buckets C', case A, shaft D, and lever F, substantially as and for the purpose specified.

2. The gates J J hinged within or at the mouth of the opening I, bars L L, cross-head M, and bar N, combined and applied to a water-wheel, substantially as specified.

3. The combination and arrangement of the sleeve E, lever F hinged to the pen-stock B, spring H, and rod G, applied in connection with the tapering bottom D' of a water-wheel, substantially as specified.

4. The wheel C with spiral buckets C', case A, and shaft D, when combined together, substantially as specified.

116,750.—Boot-Crimper. — Eleanah Powell, New London, Ind.

Claim.—1. The clamp I, consisting of two hinged plates, with bolt *b*, nut *d*, and spring *e*, constructed and arranged substantially as and for the purposes herein set forth.

2. The blocks E E^1 E^2 provided with clamps I I, as shown and described, and operated upon the back of a crimping-board by means of the screws G G^1 G^2, substantially as and for the purposes herein set forth.

116,751.—Automatic Steam-Pump.—William Edgar Prall, Washington, D. C.

Claim.—1. The construction of a hot-water drum, R, having two or more flanges to prevent the agitation or mixing of the hot and cold water, and operating, as shown and described, for the purpose of preventing condensation of the steam, as set forth.

2. The movable diaphragm P, when combined with a water-elevator, operating substantially as and for the purpose set forth in the specifications.

3. The valves E and F and connecting-pipe D, when said pipe is made to contain water for connection at an elevation above steam-cylinder A, as shown and described.

4. The pipes G, H, and I, connecting-pipe D with cylinder A, as shown and described.

5. The pipe I, valve K, pipe D, and cylinder A, as shown and described, and operating substantially as set forth.

6. The combination of the cylinder A, constructed as shown and described, dome N, pipe D, and valves E, F, and K, operating as set forth.

7. The combination of pipe V, valve W, and cock X, with dome N, pipes I, G, H, and I, and pipe D, as shown and described.

116,752.—Device for Supplying Locomotive-Tenders with Water.—William E. Prall, Washington, D. C., assignor to himself and J. M. Blanchard & Co., same place.

Claim.—In combination with a locomotive-tender, an air-chamber, carried with the locomotive and tender for receiving and retaining atmospheric air under pressure, a sunken reservoir containing water, pipes for conveying the air to the water-chamber and communicating its pressure to the surface of the water, and for conveying the water to the tender, and means for conveniently forming the connection of said pipes with the air and water-chamber respectively.

116,753.—Farmer's Boiler.—William M. Pryor and Robert Ludwick, Kellogg, Iowa.

Claim.—1. The combination of the reservoir A with flanges or rims *a b*, the cover C with flange or rim *b'*, and the rubber packing *d*, all substantially as and for the purposes herein set forth.

2. The combination of the reservoir A with flanges or rims *a b*, faucet B, cover C with flange or rim *b'*, rubber packing *d*, adjustable escape-valve D, and tube or pipe E, with nozzle G or G', all constructed and arranged substantially as and for the purposes herein set forth.

116,754.—Railway Gate.—Robert Ramsey, New Wilmington, Pa.

Claim.—1. The sectional worm-shaft A, provided with the continuous flange B, partly spiral and partly straight, in combination with the segments C C', arranged as described, and connected by a chain or wire rope, *b*, substantially as and for the purposes herein set forth.

2. The blocks E G and pin *f*, in combination with the gate and worm-shaft, substantially as shown.

3. The arrangement, in a railroad gate, of worm-shaft A with flanges B B, pins *f f*, segments C C' D, chains *b d*, blocks E G, and spring *e*, substantially as shown.

116,755. — Constructing Wire Fence.—Joshua W. Rappleye, Farmer Village, N. Y.

Claim. — 1. The combination of the movable weight D, windlass E, cross-tree G or its equivalent, with the wires *e e e' e'* for maintaining equitable tension and adjustment to the taking up of the wire, substantially as and for the purpose set forth.

2. The double-tree or "evener" G, in combination with the windlass E, for obtaining uniform tension on the two sets of wires *e e e' e'*, as set forth.

3. The sheath or holder *i*, in combination with the open-headed spike or hook J and wires *e e*, substantially as set forth.

116,756.—Spring Vehicle.—Adam Reichert, West Lodi, Ohio.

Claim.—The combination of the bars D and D', pivoted under the wagon-body and connected with the axles, with the springs B B, hinged levers C C, axles *a a*, and ears *b b*, all arranged substantially as herein set forth.

116,757. — Book-Binding Apparatus.—Ira Reynolds, Dayton, Ohio, assignor to Reynolds & Reynolds, same place.

Claim.—1. The clamping-frame A, made in two parts, each part having cross-openings corresponding with those in the other, and having marks to indicate the points at which the sheets are to be perforated, substantially as shown and described.

2. Such clamping-frame, in combination with the table C and its rabbeted cross-bar B, or with the table G and its cross-bar *u*, substantially as shown and described.

3. The combination, in a book-making apparatus, of the adjustable revolving bits, a work-supporting table, and the clamping-frame A, substantially as shown and described.

4. The preparatory forming-jaws *h h'*, each formed with a bevel at its upper inner surface, combined with the vertically-adjustable back-rest, substantially as shown and described.

116,758.—Reversible Boot-Heel.—Frederick Richardson and Francis Hacker, Providence, R. I., assignors to "Reversible Boot-Heel Company," same place.

Claim.—The reversible metallic heel-tap B, provided with the solid, cylindrical, or corrugated frictional surface *e*, *f*, and *g*, as and for the purposes specified.

116,759.—Paper-Pulp.—Peter F. Schlicker, Baltimore, Md., assignor to himself and A. Clinton Plant, Washington, D. C.

Claim.—1. The process of preparing asbestus for use as a paper-pulp, by pulverizing, washing, and admixture with chlorine water, substantially as herein set forth.

2. A paper-pulp, consisting of pulverized and washed asbestus mixed with chlorine water, when prepared in the manner and proportions set forth.

116,760. — Traveling-Bag, &c. — Charles M. Shutz, East Cambridge, Mass.

Claim.—1. The locking-clasp F, made as described, with the catch *c* and the two lips *b b*, arranged as shown.

2. The clasp G, as explained, as provided with the tongue or part *t*, to extend underneath the locking-clasp.

3. The combination and arrangement of the locking-clasp F, as described, with the mouth-frames A B and lock E of a traveler's bag or valise.

4. The combination and arrangement of the locking and auxiliary clasps F G, as described, with the two mouth-frames and lock E of a traveler's bag or valise, all being substantially as specified.

116,761. — Binding-Guide for Sewing-Machines.—Jerome B. Secor, Chicago, Ill.

Claim.—The combination, with the presser-foot of a sewing-machine, of a binder composed of the body A, adjustable curved guiding-plate *c*, with its arms *d* and *e*, adjustable holder *i*, and projection *k* on the body of the binder, when all are constructed and operate in the manner described and represented.

116,762.—Oven.—Isaac H. Shaver, Cedar Rapids, Iowa.

Claim.—1. The above-described frame-work of iron running upon the guides H H, substantially as and for the purpose set forth.

2. The system of oven-plates *a b c d e f*, constructed of soap-stone or its equivalent, and arranged as set forth and described.

3. The combination of the frame-work in each section of the oven with the pulleys P P and chain C to bring the plates to the oven-doors, in the manner and for the purpose herein set forth and described.

4. The combination of the frame-work and oven-plates with the system of flues K and openings *e*, substantially as herein described.

116,763.—Apparatus and Process for Separating, Concentrating, and Amalgamating Ores. — William Crowther Shaw, Philadelphia, Pa.

Claim.—1. The within-described process of treat-

ing ores and minerals—that is to say, mixing the same with water and causing the mass to pass gradually downward to the bottom of a vessel or chamber while being overturned and agitated, and to then pass upward through another chamber, or through tubes or channels, to the point or points of discharge.

2. An apparatus for treating ores or minerals, in which are combined two casings, A and F, and a shaft, G, the said casings and shaft being armed with agitators and blades, arranged and operating substantially as herein described.

3. The perforated top H of the inner casing F of the apparatus, when curved in the peculiar manner described, so as to form an annular recess or hopper, A, for the purpose specified.

4. The said annular hopper H, formed with oblong perforations, and consisting of a number of radial plates bolted together and to the casing F, substantially as specified.

5. The combination of the said hopper with the arms *f* affixed to the frame B.

6. The perforated and curved bottom *e* of the inner casing, arranged in respect to the similarly-curved bottom of the outer casing, and having blades *b* extending into and arranged to revolve in the said outer casing, all substantially as specified.

7. The combination of the curved bottoms of the inner and outer casings, when formed with a grinding-surface or surfaces, and arranged to be adjusted from or toward each other, substantially as herein set forth.

8. The combination of the blades *g* of the inner casing with the rings or collars *t* of the outer casing.

9. The arrangement, substantially as described, of the outlet-passages *s*, s^1, s^2, and s^3, in the outer casing.

10. The combination of the within-described apparatus with another similar apparatus, or with a vessel or vessels in which a mass of ore or mineral can be treated, substantially in the manner described.

116,764.—COTTON-CLEANER.—Zachariah B. Sims, Bonham, Tex.

Claim.—1. The rotary breaker C′, stationary breaker B′, shaft D, curved chute G formed of a series of bars not contiguous to each other, in combination with the opening H, cylinder J, and shaft E bearing the cleaner-shaft F, substantially as and for the purpose set forth.

2. The rotary breakers C′ and C″, arranged upon each side of the bevel-wheels *b* and *d* of the revolving shaft D, in combination with the fixed cutters B B′ on the stationary shaft C, arranged and operating substantially as described, for the purpose set forth.

3. The inclined way or chute provided with the flanged or straight bars K K, in combination with the breakers B and C′, and cleaner-shaft F, substantially as described.

4. The cylinder provided with the flanged bars K K, in combination with the cover provided with the opening N.

5. The cylinder J, composed of a series of separate flanged bars, K, and provided with one or more openings, as described, in combination with the gear-shaft E, cleaner-shaft F, bevel-wheels *b d*, and breakers C′ B′.

116,765.—APPARATUS FOR PHOTOGRAPHING CHILDREN.—William Winston Sloan, Jefferson, Tex.

Claim.—The swing B, in combination with the seat C and rest D, substantially as and for the purpose set forth.

116,766.—TAN-VAT.—Noah Smith, McAllisterville, Pa.

Claim.—A series of tan-vats, A B C D, provided with movable and adjustable bottoms E E, and so arranged that the tanning-liquid may flow from the top of one to the bottom of the next vat, substantially as herein set forth.

116,767.—UMBRELLA-RUNNER OR NOTCH.—Orren Mark Smith, Philadelphia, Pa.

Claim.—The head of an umbrella-runner or notch, composed of two metal disks, cut, bent, and secured to a tube, substantially in the manner described.

116,768.—COOKING-STOVE.—Jakob Speaker and William Dorn, Chicago, Ill.

Claim.—1. The combination of the exterior hollow body A, the interior cooking-stove E, and the flues I, K, and M, provided with the valves *b* and *c*, when constructed and arranged to operate substantially as and for the purpose set forth.

2. Providing the iron doors of a cook-stove with two or more sheets of glass or other transparent material, arranged parallel with and a short distance from each other, substantially as and for the purpose set forth.

116,769.—HOISTING APPARATUS.—George Sprague, South Addison, N. Y.

Claim.—1. The upright guide I provided with the groove *f* and plates *g g*, in combination with the pulleys D F and the endless belt or chain E with its hooks *e e*, substantially as and for the purpose set forth.

2. The adjusting-block L, bearing the pulley F, in combination with the endless chain E, hooks *e e*, guide I, and pulley D, arranged and operating substantially as and for the purpose set forth.

116,770.—ELECTRO-MAGNETIC FAN.—George Stevens and James W. Moyle, Cincinnati, Ohio.

Claim.—1. A pair of magnets, B C, having inwardly-projecting legs D E, which terminate in the inclined faces F, when used in connection with the vibrating armature H A and fan-operating devices I J L, as herein explained.

2. The combination of the supporting-table A *a*, electro-magnet B C, inwardly-projecting legs D E, inclined faces F, vibrating armature H, lever I J, vibrating fan-rods L N, arms O P *p p*, tappets B B′, circuit-breaker U *u w* T *t*, spring-plates V V′, and wires *v v′* W W′ X, for the object stated.

116,771.—PHOTOGRAPHIC APPARATUS.—John Stock and Jacob Stock, New York, N. Y.

Claim.—1. The box A, with the plate C, brackets E E, pins G G, and rod D, arranged and constructed substantially in the manner and for the purpose as hereinbefore described.

2. The bevel *z* or enlargement of the forward end of the box A, when arranged with an expanding-plate C, substantially as and for the purpose hereinbefore set forth.

3. The developing-box J, with drawer K, observing-glass L, trough N, and pipe M, in combination with a box, A, constructed as above described, substantially as and for the purpose hereinbefore set forth.

4. The combination of the box A with the silver-bath H, constructed and operating substantially as and for the purpose specified.

5. The combination of the developing-box J with the water-bath P, substantially in the manner and for the purpose hereinbefore set forth.

116,772.—MACHINE FOR DISTRIBUTING PITCH IN BARRELS AND CASKS.—Benjamin J. Stukenborg, Cincinnati, Ohio.

Claim.—1. The frame C and clamping-frame J J′ J″, when the former is provided with journals D D′ upon which it revolves, and journal-bearings K K′ at right angles to journals D D′, upon which the cask revolves centrally within the frame C, substantially as and for the purpose specified.

2. The combination of journaled bars T T′, right- and left-hand screw-threaded rods S S, and clamps J J′ J″, as and for the purpose specified.

3. In the described combination with the revolving frame C and the revolving cask-frame J J′ J″, the air-pipe *c*, connected substantially in the manner and for the purpose specified.

116,773.—HUMMING TOY.—Metcalf B. Sumner, Boston, Mass.

Claim.—The humming toy, consisting of the hour-glass-shaped hollow instrument A, provided with orifices B, substantially as and for the purpose set forth.

116,774.—RAILROAD-CAR VENTILATOR.—Anthony B. Sweetland, Fitchburg, Mass., assignor to himself and James Daley, same place.

Claim.—1. The device D formed of two parallel wires with circle *d* and dividing-wire *e* at one end and bow *f* at the other, in combination with the slotted plate *b*, ring A and screw *k*, all substantially as and for the purposes herein set forth.

2. The combination of the window-frame A, auxiliary frame B, window C, device D, plate *b*, and screw *k*, all substantially as and for the purposes herein set forth.

116,775.—REPEATING ORDNANCE.—James Patton Taylor, Elizabethton, Tenn., assignor to himself and Nathaniel G. Taylor, same place.

Claim.—1. The slotted breech-plate E, constructed with perforations through the rear plate, as herein specified.

2. In a repeating gun, the stationary cradle or guide-frame O for holding the magazine-box L, substantially as described.

3. The combination of the brace O′, the frame O′ and upper stationary parts, whereby the parts are rigidly connected together and a convenient bearing for the shaft is afforded, as explained.

4. The magazine-box, constructed with concave ends, and provided with buttons *n* for securing the caps M, substantially as described.

5. The combination of the slotted and perforated breech-plate E, the revolving breech-piece K adapted for the use of flanged cartridges, the magazine-box L, and the feeder N *n*, all constructed and arranged to operate substantially as herein described, for the purposes set forth.

6. The combination of the lever P, pawl *p*, shaft Q, and ratchet-teeth *q*, operating substantially as described to revolve the breech-piece at one motion of the said lever, and to be released therefrom on the return motion.

7. The combination of the lever K and catch K′, operating substantially as described to automatically lock the revolving breech-piece each time it reaches the proper position for firing.

8. The combination of the lever P and spring-catch p^2 with the segment-lever K and catch K′, to release the breech-piece when it is to be moved, as explained.

9. The shaft Q, constructed with cams or ratchets q^1 q^2, in combination with the lever P and the simultaneous firing devices, as described.

10. The combination and relative arrangement of the plungers *i*, rod S, and head S′, to operate simultaneously on the cartridges, as described.

11. The cap s^2, combined with the lever R and rod S to cause the said lever to act upon the said rod or disconnect it therefrom, as described.

12. The pinion *v*, disk V, hammer s^3, and cam surfaces s^4, combined to effect a successive discharge of the cartridges, substantially as described.

13. The ejecting devices Y′ *y′* Z Z′, operating substantially as described.

14. The combination of the recessed and perforated breech-plate E, the barrels G screwed into said breech-plate, the casing J fitting at back within a flange or recess in the front of the breech-plate, the head E fitting upon the ends of the barrels and within the casing J, and the rod F and nut *f* securing the parts together, the whole being arranged substantially as herein described to admit of circulating water around the barrels to keep them cool.

116,776.—CULTIVATOR.—James J. Thompson, Columbus, Ohio.

Claim.—1. The boxes *g*, composed of cells *y* and flanges y^1 y^2 y^3 y^4, in combination with shovel-standards, beams, and the confining-bolts *s*, substantially as described.

2. The combination of the draft-pole A, side-beams B B, joints *t t*, sectional arch C C, joints *u*, standards D D, and loosely-connected brace E, all constructed, arranged, and operating substantially in the manner and for the purpose described.

3. The combination of the removable diagonal braces P P, brace E, hinged arch C C, beam A, and swinging side beams B B, substantially as and for the purpose described.

116,777.—BAG-HOLDER.—Thomas Jefferson Trapp, Williamsport, Pa.

Claim.—1. The combination of the standard *c*, slot *d*, block *e*, bolt *h*, nut *f*, and bag-holder *g h*, constructed and arranged as specified.

2. The combination of the base *a*, platform *j*, and treadle *i*, constructed and arranged as set forth

116,778.—INK-FOUNTAIN FOR PRINTING-PRESSES.—William V. Wallace, New York, N. Y.

Claim.—The scraper C hinged to the bottom of ink-reservoir A, and provided with the elastic packing H and set-screw D, substantially as and for the purpose herein set forth.

116,779.—FEEDING MECHANISM FOR SEWING-MACHINES.—Elliott P. West, Jersey City, N. J.

Claim.—The feed-regulating mechanism, substantially as herein described, when arranged in connection with an opening of the cloth-bed, whereby it can be operated by pressure to vary the feed, as herein set forth.

116,780.—DINNER-PAIL.—George Wetzler, Peoria, Ill.

Claim.—In combination with the dinner-can or pail A, the detachable wire-holder or bail B B, rings or ears *l l*, boxes C C, and springs *k k*, the whole constructed and operating substantially as described.

116,781.—COPYING-PRESS.—Alonzo Whitcomb, Worcester, Mass.

Claim.—1. In combination with the stationary bed B and the movable bed C, the eccentric G, arranged to operate substantially as described, whereby the movable bed is automatically locked in position, when elevated by the foot-lever, as set forth.

2. The combination of the beds B C, eccentric G, adjustable rod E, and foot-lever D, all constructed and arranged to operate substantially as herein set forth.

116,782.—CIGAR-BOX.—Thomas A. Wiley, Lancaster, Pa.

Claim.—The arrangement of a revenue cigar-box provided with a cross slat or slats for the reception of the revenue-stamp, substantially in the manner shown, and for the purpose specified.

16,783.—SEWING-MACHINE.—Charles H. Willcox, New York, and Cyrus Carleton, Brooklyn, N. Y., assignors to the Willcox & Gibbs Sewing-Machine Company, New York city.

Claim.—1. In a four-motion feed, the combination of a feed-bar with a single eccentric and intermediate mechanism, substantially as herein shown and described, the said bar being held by spring pressure in unbroken contact with said eccentric, deriving its up-and-down movement directly from

the eccentric, and its back-and-forth movement through the intermediary of the said mechanism operated by the eccentric, substantially as set forth.

2. In combination with an eccentric imparting to the spring feed-bar by direct contact with it the up-and-down motion of the feed, and with a stitch-cam regulating the length of stitches, the link connected with the feed-bar at a point below the axis of vibration, bearing with yielding pressure on a rocker operated by said eccentric to impart the back-and-forth motion of the feed, substantially as shown and described, so that the feed shall be noiseless at all adjustments of the stitch-cam, and whether the parts be worn or not.

3. In a four-motion feed mechanism, when operated by a revolving eccentric and a rocker, forming upon that portion of the rocker which is in contact with the eccentric a bevel, as shown and described, or equivalently inclining that portion so that the feeding-surface may continue its forward movement until after it shall have receded below the table out of contact with the cloth.

4. The combination, with the rocker, of the adjustable bearing on the link, substantially as and for the purposes herein set forth.

5. The link and stitch-regulating cam, adapted to operate together, substantially as described, and combined with the feed-bar and rocker so that the link may be adjusted on the rocker to regulate the feed, substantially as set forth.

6. The combination of the rocker with the link jointed at one end to the feed-bar and grooved or slotted at the other end to engage with the pin on the stitch-regulating cam, substantially as shown and described.

7. In the device herein described for regulating the back-and-forth movements of the feed-bar by means of a link, rocker, and cam, the groove or slot of such curvilinear form that that portion of the groove or slot which has its play around the pin on the cam shall be parallel with the table, or nearly so, in all positions of the cam.

8. The stitch-regulating cam, bearing on its eccentric peripheral portion numbers indicating the stitches to an inch, and arranged, as to said portion, tangentially to the cloth-plate, so that the number which is upon the tangential portion of the cam may show through a slot formed for that purpose in the cloth-plate.

9. The recessed stitch-regulating cam, when constructed and combined with the cloth-plate, as claimed in the preceding clause, in combination with a stop-pin in the frame to limit the play or movement of the cam within the compass of the series of numbers on the edge of the same, substantially as shown and set forth.

10. The combination, with a stitch-regulating cam indicating through the cloth-plate the number of stitches to the inch, of a table permanently attached to the sewing-machine indicating the number of thread or silk and needle corresponding with the number of stitches to the inch shown by the stitch-regulating cam, substantially as herein set forth.

11. The box surrounding the pin on which the feed-bar vibrates, as a bearing to the spring and to the feed-bar, substantially as herein shown and described.

116,784.—Iron Folding Chair. — George Wilson, Chicago, Ill.

Claim.—1. The seat-section B of an iron folding chair, constructed substantially as described, when suspended from the arches E by the pendulums F, as set forth and shown.

2. The combination, with the seat-frame B and an arch, E, of the lever L, link M, and arm N, as and for the purpose set forth.

3. The combination, with the seat-frame B and one or both arches, E, of one or two notched bars, *g*, as and for the purpose set forth.

4. The construction and arrangement of the arm-levers J and hook-braces I with the arm-pieces K, back-frame A, seat-frame B, and foot-frame C, substantially as described, for the purposes specified.

116,785.—Saddle-Tree. — George Woods, St. Catharine's, Canada:

Claim.—The scroll-yoke constructed with the branching arms *a a* and flanges *c c*, the pad-plates C C, and the blocks D D, attached by the screws *g g* and springs H H, said yoke and pad-plates having the openings *h h* for the attachment of the harness direct to the yoke, the whole arranged as described and operating in the manner and for the purpose specified.

116,786. — Toilet Paste.—Julio Desmarques Young, San Francisco, Cal.

Claim.—The manufacture or preparation of a compound, which is denominated "Elixir de Beaumond aire," of the ingredients, in the proportions, and for the purposes set forth.

116,787. — Bridge-Truss. — Albert Fink, Louisville, Ky.

Claim.—The auxiliary trusses (supporting the intermediate points $y\ y'\ y''\ y'''\ y^4\ y^5\ y^6$) in an ordinary triangular truss, substantially as described in the above specification.

116,788.—Apparatus for Operating Fans. William M. Bruton, Baltimore, Md.

Claim.—1. In an automatic-fan apparatus, the holder *f* provided with the elastic receivers *h h*, and shaped as and for the purpose specified.

2. The treadle-board, hinged in a recess formed in a block which is detached or disconnected from other parts of the apparatus, as specified.

REISSUES.

4,451.—Division A.—Process for Decorticating Grain.—Wilson Ager, Washington, D. C.—Patent No. 92,556, dated July 13, 1869; reissue No. 3,788, dated January 11, 1870.

Claim.—The improved process of decorticating grain by repeatedly abrading the surface of the grain and cooling it in alternate succession, substantially in the manner as hereinbefore set forth.

4,452.—Division B.—Machine for Decorticating Grain. — Wilson Ager, Washington, D. C.—Patent No. 92,556, dated July 13, 1869; reissue No. 3,789, dated January 11, 1870.

Claim.—1. In combination with a revolving stone or stones arranged to rotate vertically or nearly vertically in a bed of grain, a revolving screen and mechanism for producing and forcing a current of air into said screen and through the mass of grain, for the purpose of cooling the grain and the abrading-surfaces of the machine, substantially as set forth.

2. In combination with a revolving stone or stones, a grain-holder, a series of elevators, and means for producing and directing a blast or current of air into and through the machine, whereby the grain is repeatedly and alternately abraded and cooled, substantially as set forth.

3. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, and a grain-holding screen, an air-pipe arranged to direct a blast or current of air into the screen through the end thereof, substantially as set forth.

4. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, and a grain-holding screen, an air-pipe arranged to direct an induced blast or current of air against and through the periphery of the machine from outside thereof, substantially as set forth.

5. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, and a revolving screen, a grain-pipe or spout arranged to feed the grain into one end of the screen, and an air-pipe arranged to direct a blast or current of air into the opposite end of the screen, substantially as and for the purpose described.

6. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, a screen constructed with an impervious head and impervious portion of the periphery contiguous thereto arranged in such relation to the air-induction-pipe opening through said head that direction shall be given to the blast or current of air, substantially in the manner set forth.

7. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, and a revolving screen, a series of adjustable discharge-apertures in a head of the screen, whereby the depth of the bed of grain may be regulated and the passage of the grain through the machine accelerated or retarded, substantially as set forth.

8. In combination with a revolving stone or stones arranged to rotate vertically in a bed of grain, and a rotating screen provided with a series of adjustable discharge-apertures, a grain-feeding pipe which admits of a constant supply of grain into the machine, substantially as and for the purpose set forth.

4,453. — Capstan and Windlass.—David N. B. Coffin, Jr., Newton Centre, Mass., assignor, by mesne assignments, to himself and Benjamin Woodward.—Patent No. 98,032, dated December 21, 1869.

Claim.—1. The combination of the gear-wheels *h i j k* with the horizontal windlass-shaft and the chain or rope-barrel of a windlass, substantially as and for the purpose set forth.

2. The combination and arrangement of the center gear *y*, its axial shaft *z*, the lever-head, and the barrel of a capstan, substantially as shown and described.

3. The drainage-channel Z, when so constructed, in connection with the lever-sockets, (or barholes,) as to deliver water from them through the joint between the lever-head and the adjacent part, (see Fig. 10,) substantially as described.

4. The automatic bolt or bolts *m*, in combination with the center gear-ratchet and lever-head, substantially as described.

5. The automatic bolt *n*, in combination with the ratchet *q* on the barrel, and the lever-head, substantially as described.

6. The combination of the capstan, windlass, double-acting cam, and the rocking-shaft, substantially as described.

7. The combination and arrangement of the capstan-head *a*, double-acting cam *c*, rocking-shaft *d*, and vibrating arms *f f*, the parts being constructed substantially as set forth and operating as described.

8. The combination of the oscillating lever having in its ends sockets for the reception of levers, and the vibrating arms *f f*, they being connected by rods, as shown, and arranged substantially as and for the purpose set forth.

9. The arrangement of the flanged intermediate gear or gears *s*, in combination with the space between the teeth of the center gear and its ratchet-plate or other adjacent part, substantially as described.

10. The construction of the locking or sliding bolts of a capstan (see Figs. 13, 14, and 19) with expanded ends, substantially as and for the purpose set forth.

4,454. — Edge-Plane for Shoemakers.—Isaac A. Dunham, North Bridgewater, Mass.—Patent No. 18,237, dated September 22, 1857.

Claim.—1. The above-described sole or welt-trimmer as composed of a cutting-blade, *c'*, a guard, *d d*, and stock *e e*, constructed, arranged, and combined together, substantially as set forth.

2. In combination with the cutter *c'* and guard *d d*, the nipple or projection *s*, as and for the purpose set forth.

4,455.—Drawers.—H. G. Fisk, Thomas R. Clark, and Thomas J. Flagg, New York, N. Y., assignees of Henry Heath.—Patent No. 73,975, dated February 4, 1868.

Claim.—1. The combination of the pointed waistband of the drawers with a full leg having triangular portions removed from its upper end so as to obtain the requisite fullness at the hips and waist without the necessity of gather.

2. The combination of the ankle-band of the drawers with a full leg having a triangular portion removed from its lower end so that the requisite fullness of the leg is secured without a surplus of material in the vacinity of the ankle.

3. The combination of the pointed waistband of the drawers, ankle-band, and full leg having triangular portions removed at both ends, substantially as before set forth.

4. The combination of the leg of the drawers with a curved ankle-band, as before set forth.

4,456. — Manufacture of Artificial Stone, Stucco, &c.—George A. Frear, Chicago, Ill., assignor to Charles Holland, George A. Frear, and John M. Wilson.—Patent No. 73,965, dated February 4, 1868.

Claim.—1. The use of an aqueous solution of shellac in the production of artificial stones, stuccoes, &c., for useful and ornamental purposes.

2. In the manufacture of artificial stone with the within-described compositions, bringing the molecules of the mass in close proximity one to the other by means and with the use of a suitable tamping-tool applied systematically to successive layers of the composition, substantially as herein set forth.

4,457.—Manufacture of Illuminating-Gas.—Ferdinand King, Richmond, Va.—Patent No. 74,230, dated February 11, 1868.

Claim.—1. A retort containing coke or other equivalent material, so combined with a fire-furnace as to be subjected to a high degree of heat, with a steam-jet and a jet of liquid hydrocarbon simultaneously discharging therein, the whole being so constructed and arranged that the steam will force the gas rapidly from the retort, substantially as described.

2. The improved gas-generator herein described, constructed to operate substantially as set forth.

3. In combination with a retort, A, and a hydrocarbon reservoir, the two vessels, D and E, and the pipe C, constructed and arranged substantially as described, for introducing the dissolved tar or other liquid hydrocarbon into the retort.

4,458.—Apparatus for Pressing, Shaping, and Drying Cigar-Bunches. — Adolph Pearl, New York, N. Y., assignor to Henry Pearl.—Patent No. 108,290, dated October 11, 1870.

Claim.—The combination of the longitudinally-divided, externally, taper-mold and the table-rack or stand having openings for the reception of such molds, substantially as and for the purpose herein set forth.

4,459.—Method of Holding Bristles in Brush-Stocks.—Charles D. Rogers, Utica, N. Y., and Monroe P. Wilkins, Jersey City, N. J., assignors to The Manhattan Brush-Manufacturing Company. — Patent No. 70,270, dated October 29, 1867.

Claim.—1. A bunch of bristles in combination with a flanged ferrule, and these in combination with a hole or aperture, and countersink in a brush-stock, substantially as described.

2. In combination, a ferrule, a bunch of bristles,

and an attaching contrivance substantially such as described, the combination being substantially such as set forth; and also, these elements in combination with a hole in a brush-stock.

3. In combination, a flanged ferrule, an attaching contrivance, and a bunch of bristles, the combination being substantially such as described; and these, also, in combination with a hole and countersink in a brush-stock, the combination being substantially such as set forth.

4. A ferrule or eyelet having a portion or portions of its periphery bent or crushed into a bunch of bristles or fibers, or into the eye of a loop of bristles or fibers, as described, in combination with a brush-stock.

4,460. — FRUIT-JAR. — Henry E. Shaffer, Rochester, N. Y.—Patent No. 96,490, dated November 2, 1869.

Claim.—The top of the jar constructed as described, with the two exterior shoulders *f* *m* and raised flange *h*, in combination with the cover having the vertical flange *d*, notch *p*, and interior horizontal shoulder or bearing *b*, and with the horizontal gasket, all arranged as herein set forth and shown for the purpose specified.

4,461.—HOE. — Edward Warren, Ceresco, Mich.—Patent No. 102,891, dated May 10, 1870.

Claim.—A hoe having the edge of its blade A shaped in curves which converge together and form the pointed tips *a a* and *a*, when such blade, in addition to being curved longitudinally, is formed with a sharp central ridge, *r*, in the same direction, and each half-section is bent back, forming a concave surface, said ridge *r* extending in front from *b* to *a*, and the blade being constructed and hung, substantially as and for the purposes set forth.

4,462.—Division A.—MACHINE FOR PAINTING WIRE-CLOTH.—Charles H. Waters, Groton, Mass., assignor to The Clinton Wire-Cloth Company.—Patent No. 84,520, dated December 1, 1868.

Claim.—1. The combination of the wire-cloth beam *b*, the paint-trough *c*, and the pressure-rolls *k k*, substantially as described.

2. The combination of the paint-trough *c*, the pressure-rolls *k k*, and a mechanism by which the wire-cloth, after being painted, is drawn off from the rolls, substantially in the manner and for the purpose specified.

3. The arrangement of the paint-trough *c*, the pressure-rolls *k k*, and the drawing-off mechanism, whereby the painted cloth is drawn from the pressure-rolls into the drying-room, substantially as described.

4. The combination of the brushing device *m*, the paint-trough *c*, the pressure-rolls *k k*, and the drawing-off mechanism, substantially as described.

5. The use, in combination with the paint-trough *c*, of the pressure-rolls *k k*, when the said rolls have their axes adjustable toward and from each other so as to graduate the amount of paint to be left upon the cloth after being drawn through them, substantially as described.

6. The combination of the paint-trough *c* and the pressure-rolls *k k*, substantially as described.

4,463.—Division B.—METHOD OF PAINTING WIRE-CLOTH.—Charles H. Waters, Groton, Mass., assignor to The Clinton Wire-Cloth Company.—Patent No. 84,520, dated December 1, 1868.

Claim.—As an improvement in the art of painting wire-cloth, dipping it into a bath of paint to fully cover all parts of its surface with the paint, and then subjecting the face of the cloth to pressure to squeeze or press off the surplus paint, substantially as described.

DESIGNS.

5,065.—RUBBER OVERSHOE.—Augustus O. Bourn, Providence, R. I., assignor to The National Rubber Company, same place.

Claim.—The above-described design for the ornamentation of rubber shoes, as shown.

5,066.—RUBBER OVERSHOE.—Augustus O. Bourn, Providence, R. I., assignor to The National Rubber Company, same place.

Claim.—The above-described design for the ornamentation of gaiter overshoe as shown.

5,067.—RUBBER OVERSHOE.—Augustus O. Bourn, Providence, R. I., assignor to The National Rubber Company, same place.

Claim.—The design for the ornamentation of rubber shoes, consisting of the raised stripe A and B and the groups of raised ribs C extending across the vamp, substantially as described and shown.

5,068. — ADVERTISING PRINT. — Joshua Brooks, Boston, Mass.

Claim.—The design for an advertising medium, substantially as shown and described.

5,069.—PLATE OF ALARM-LOCKS.—Julian M. Case, North Lansing, Mich.

Claim.—The design for plate for alarm-lock, as shown.

5,070.—SHUTTER-BAR.—Lewis Crooke, New York, N. Y.

Claim.—The design for shutter-bar, hereinbefore set forth and represented in the accompanying drawing.

5,071.—SPOON OR FORK-HANDLE.—William B. Durgin, Concord, N. H.

Claim.—The design for forks, spoons, and silverware, as shown.

5,072.—COMBINATION GAME-BOARD.—William Hearn, New York, N. Y.

Claim.—1. The design for a combination game-board, substantially as herewith described and shown.

2. The design for a combination game-board representing a chess-board centrally localized within a Polish draught-board, substantially as herewith described and shown.

3. The design for a combination game-board representing a fox-and-geese board centrally localized within a chess-board, substantially as herewith described and shown.

5,073.—CARPET-PATTERN.—Otto Heinigke, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,074.—HOT-AIR FURNACE.—James A. Lawson, Troy, N. Y.

Claim.—The design for a heating-furnace, substantially as shown and described.

5,075.—HOT-AIR FURNACE.—James A. Lawson, Troy, N. Y.

Claim.—The design for a hot-air furnace, substantially as shown and described.

5,076.—CARPET-PATTERN.—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,077.—SPOON OR FORK-HANDLE.—Edward C. Moore, Yonkers, N. Y., assignor to Tiffany & Co., New York city.

Claim.—The design for a handle for spoons, forks, &c., substantially as described and illustrated by the accompanying drawing.

5,078.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,079.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,080.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,081.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,082.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,083.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,084.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,085.—CARPET-PATTERN.—Elemir J. Ney, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,086.—BANNER-PIN.—William Riker, Newark, N. J.

Claim.—1. The design of the pendent banner as applied to a breast-pin or badge, as shown.

2. The design of the pendent banner, when affixed to an upright stem, as shown.

5,087.—MUFF-AND-COLLAR BOX.—Raphael M. Seldis, New York, N. Y.

Claim.—The design for a fur-set box, as set forth.

5,088.—CARPET-PATTERN.—John H. Smith, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,089.—GROUP OF STATUARY.—Ames Van Wart, New York, N. Y.

Claim.—The design for a group of statuary, as shown.

5,090.—GROUP OF STATUARY.—Ames Van Wart, New York, N. Y.

Claim.—The design for a group of statuary, as shown.

5,091.—BRACKET AND CHANDELIER.—Thomas Village, West Meriden, Conn., assignor to Meriden Malleable-Iron Company, same place.

Claim.—1. The design for the wall-piece, substantially as shown.

2. The design for the bracket or chandelier-arm, substantially as shown.

3. The design for the basket for a bracket or chandelier-arm, substantially as shown.

5,092.—BRACKET OR CHANDELIER-ARM.—Thomas Village, West Meriden, Conn., assignor to Meriden Malleable-Iron Company, same place.

Claim.—1. The design for the form of the arm, with the pendant *a*, and vertical projection *b c*, substantially as shown.

2. The design for the sides of the arm, substantially as shown.

3. The design for the sides of the pendant *a*, substantially as shown.

5,093.—SPOON OR FORK-HANDLE.—George Wilkinson, Providence, R. I., assignor to Gorham Manufacturing Company, same place.

Claim.—The design for spoons and forks, substantially as herein set forth.

5,094.—RUBBER OVERSHOE.—Isaac F. Williams, Bristol, assignor to The National Rubber Company, Providence, R. I.

Claim.—The above-described design for the ornamentation of rubber shoes, as shown.

5,095.—RUBBER OVERSHOE.—Isaac F. Williams, Bristol, assignor to The National Rubber Company, Providence, R. I.

Claim.—The design for the ornamentation of rubber shoes, consisting of the ribbed vamp D, surrounded by the raised ornamental strips C and B, the latter extending to the quarters, substantially as described and shown.

TRADE-MARKS.

360.—STEAM AND HYDRAULIC PACKING.—William M. Canfield, Philadelphia, Pa.

361.—SCREW-WRENCH.—A. G. Coes & Co., Worcester, Mass.

362.—MEDICINE.—Dundas Dick, New York, N. Y.

363.—Hosiery, Trimmings, and Gentlemen's Furnishing Goods.—John P. Loring, Charlestown, Mass.

364.—Glycerine Soap.—Mark & Rawolle, New York, N. Y.

365.—Gin.—Lawrence Myers & Co., New York, N. Y.

366.—Sherry Wine.—Lawrence Myers & Co., New York, N. Y.

367.—Medicine.—Marie Eulalie Perrin, Montreal, Canada.

368.—Razor-Steel.—Robert J. Roberts, New York, N. Y.

369.—Hat.—Yates, Wharton & Co., Newark, N. J.

EXTENSIONS.

Ann M. Cooley, of Ceresco, Mich., administratrix of Anthony Cooley, deceased.—Letters Patent No. 17,668, dated June 30, 1857.

"Improved Whiffletree-Hook."

Claim.—1. Providing the outer extremity of the hook-socket A with an open slot C and spring-seat D, and fitting the feather-spring F and the shank of the snap G in the same, substantially as and for the purposes set forth.

2. Furnishing internally each of the cheek-pieces of the open slot C of the hook-socket A with a scroll-slot H, and the snap G with two short journals, I, and fitting these journals in said slots and holding them in place by means of the feather-spring F, substantially as and for the purpose herein set forth.

Francis C. Lowthorp, of Trenton, N. J. Letters Patent No. 17,684, dated June 30, 1857.

"Improvement in Iron Truss-Frames for Bridges."

Claim.—The straining-plate B, in combination with the rods G and H, when the latter are connected to the plate, substantially in the manner herein set forth, and when the said plate is arranged to receive the vertical or verticals and diagonals of iron truss-frame bridges.

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PATENTS.

116,789.—Fruit-Gatherer.—George Aldridge, Henderson city, Ky.

Claim.—In combination with the staff of a fruit-picker, the adjustable bar C and stand A, substantially as and for the purposes described.

116,790.—Hub-Centering Machine and Spoke-Guide.—King P. Allen, Homer Mich.

Claim.—1. The construction and arrangements of the standards B B' on the base A, clamps C, clamp-screws b, and clamp-plates c, substantially as described, for the purpose specified.

2. The mandrel F, constructed as herein described, and provided with the disk J carrying the leaves h, the flanged sleeve H, plate G, washer f, nut g, ordinate rod I, arm L, and guide i, substantially as and for the purposes set forth.

116,791.—Lawn-Mower.—William Allen, Worcester, Mass.

Claim.—The arrangement of the gear mechanism, the roller-gear f^3 being a ring turning on a circular flange, b^3, on a disk, f^2, fixed upon the journal of the driving-roller and meshing into a pinion, f^1, on a gear-wheel, w^2, which meshes into and drives a pinion, q^2, on the journal of a cutter-cylinder, the gear w^2 turning on a stud, pin, or bolt, fixed to the journal-plate, and said gear lapping the main gear f^3 and a flange on the cutter-cylinder gear q^2, and keeping them in position.

116,792.—Steam Water-Heater.—James Argall, Mineral Point, Wis.

Claim.—A steam water-heater, consisting of a series of concentric cylinders, with the parts connected therewith, constructed and arranged substantially as and for the purposes herein shown and described.

116,793.—Musical Instrument.—Thomas Atkins and Henry Drewer, Cincinnati, Ohio.

Claim.—1. The hook C, adapted to produce musical tones by the vibration of its prongs, constructed and employed substantially as set forth.

2. The hooks C, with two or more prongs tuned in octaves and adapted to produce musical tones, when constructed and employed substantially as herein set forth.

3. The combination of the hooks C with the frame B, substantially as set forth.

116,794.—Blacking-Brush.—Benjamin Franklin Averill, Dunkirk, N. Y., assignor to himself and Samuel James Gifford, same place.

Claim.—1. The flexible tube b attached upon the curved pipe a of the hollow cylinder C, in combination with the piston D and its operating-rod E, when constructed and arranged in relation to the brush B of the shoe-brush A, substantially as and for the purpose set forth.

2. The arrangement of the handle F, reservoir C, piston D, packed head c d, screw E, pipe a, and rubber tube b, in combination with brushes A B, all operating in the manner and for the purpose specified.

116,795.—Anti-Friction Journal-Box.—Burr C. Baker, Toledo, Ohio.

Claim.—The combination, in a cylindrical journal-box, B, of the shaft A, the series of rollers C and E, and the ring D, all constructed, arranged, and operating substantially as described and shown.

116,796.—Steam-Generator.—George A. Barnard, New York, N. Y.

Claim.—The combination of the cylinder A, semi-cylindrical lining B, exterior vertical pipes C, and interior vertical pipes D, substantially in the manner herein shown and described.

116,797.—Table, Stand, &c.—Daniel K. Barnhart, Gaines, Pa.

Claim.—1. The metallic sockets A, made with two or more projecting arms, a', at their upper ends, in combination with the top and legs of a table, substantially as herein shown and described.

2. A table, with the groove c' formed upon the under side of the top C near its edge, in combination with the rim D, substantially as herein shown and described.

116,798.—Cider-Mill.—Watson Barr, Ypsilanti, Mich.

Claim.—1. The combination of the concave B, cylinder C, and plunger E, constructed and arranged substantially as and for the purposes set forth.

2. The arrangement of the frame A, concave B, cylinder C, hopper-box D, plunger E, pulleys F H, belt G, crank-shaft I, pitman J, and apron K, when each part is constructed and combined to operate substantially as and for the purposes set forth.

116,799.—Ornamental Advertising Medium.—Jackson Ogden Belknap, New Orleans, La.

Claim.—1. The propelling-machine represented by Figs. 1, 2, 3, 4, 5, and 6, for fountains, substantially as above specified.

2. The propelling-machine herein described, in combination with an inclosed fountain to form an ornamental advertiser, substantially as and for the purposes set forth.

116,800.—Gate and Door-Spring.—Alonzo T. Boon and Lucien Mills, Galesburg, Ill., assignors to themselves, Frank Hughes, and W. S. Dewey, same place.

Claim.—In combination with the coil D, the fixed plate E having the annular groove e' and recess e'', the removable plates I' I'' having grooves i i, and the slotted plate H, substantially as and for the purpose specified.

116,801.—Car-Coupling.—Jacob H. Bull, Hereford, Md.

Claim.—In combination with a buffer-head having a spring coupling-bolt moving horizontally through it, the partition a, trigger c, and projections b and m, for the purpose of holding out and tripping and allowing said bolt to shoot into coupling position, substantially as described and represented.

116,802.—Ice-Run.—Gilbert Burhans, Rondout, N. Y.

Claim.—In combination with an ice-run, the jointed section H provided with cleats or stops, one or more, substantially as and for the purposes described.

116,803.—Evaporating Apparatus for the Manufacture of Sugar.—Francis G. Butler, Bellows Falls, Vt.

Claim.—1. A plain-bottomed battery or finishing-pan, in combination with an evaporator, the pan and evaporator both having flaring sides and communicating directly with each other, the bottoms of both being upon the same level.

2. An oscillating valve, operated by a pivoted rod or rods reaching to one or both sides of an evaporating-pan, substantially as shown and described.

116,804.—Stock-and-Freight Car.—James B. Calkins, Pacific, Mo.

Claim.—1. The partitions C, sleeve c, horizontal rods E, when arranged within a stock-car, substantially as set forth.

2. The arrangement of a sheave, E, in combination with horizontal rods E, substantially as and for the purpose set forth.

116,805.—Combined Gauge and Try-Square.—Frederic Castle, Montana, assignor to himself and Louis Burges, Boone, Iowa.

Claim.—The combination of the stud B, bracket C, and set-screws I and J, constructed and arranged substantially as and for the purposes set forth.

116,806.—Anchor.—Charles A. Chamberlin, Pittsburg, Pa.

Claim.—1. The combination of the flukes, connected by a curved or angular bar, b, extending beyond the center of oscillation, the bifurcated shank a and guiding device d located between the connecting-bar and center of oscillation, substantially as and for the purposes set forth.

2. The weighted head b or connecting-bar of the flukes, in combination with the shank a loosely pivoted thereto in such manner, substantially as described, as that the superior gravity of the connecting-bar shall give the flukes a vertical position in weighing or dropping anchor.

3. In combination with the devices described in the second claim, the guiding-bars d and braces d^3, attached by a screw-bolt so as to be readily folded upon the shank, for the purpose described.

4. A shank having flaring bifurcated arms a', each of which is loosely pivoted to one of the flukes, substantially as described.

116,807.—Knife-and-Fork Rest.—Le Roy Jones Cherrington, Boston, Mass.

Claim.—The construction and arrangement of the several parts, namely, the base A, the rests B and C C, and the protection D D, in a manner substantially as and for the purpose or purposes hereinbefore set forth.

116,808.—Oil-Can.—Paris Childs, Northampton, Mass.

Claim.—1. The wire C, connected with the bottom of an oil-can, A, in combination with the tube B having a long screw, b', formed upon its lower end, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the stuffing-box D and screw-plug E with the wire C and bottom of the oil-can A, substantially as herein shown and described, and for the purpose set forth.

116,809.—Sewing-Machine Table.—John C. Cochran, Ripley, Ohio.

Claim.—A cover, E, and table F, combined with plate A B C, screw D, rods G, and slide I, all constructed and arranged as and for the purpose specified.

116,810.—Vent-Bung.—Benjamin R. Cole, Buffalo, N. Y.

Claim.—1. The arrangement, with a vent-bung under a valve at the lower end thereof, of a rubber string attached to said valve and arranged in the vent-passage of the bung so as to retain the said valve in contact with its seat, substantially as hereinbefore set forth.

2. The combination and arrangement, in a vent-bung, of an automatic spring-valve and a throttle-valve, stop-cock, or plug operated by hand, for rigidly closing the vent, substantially as and for the purpose hereinbefore set forth.

3. The thimble-valve seat C, provided with flange c and ledge c' arranged in the vent of a wooden bung, as hereinbefore set forth.

116,811.—Folding Chair.—Nicholas Collignon, Claudius O. Collignon, and Adam Collignon, Closter, N. J.

Claim.—The seat A, formed of bent slats mortised into a surrounding frame, G, and reversely curved, the pieces C C reversely curved and placed under the front bar of frame G, and the pieces B B reversely curved from the middle to give an easy position to the back, all combined, constructed, and arranged together in the same chair, as and for the purpose specified.

116,812.—Grate-Bar.—Henry Collinson, Boston, Mass., assignor to himself and Nathan W. Hazen, same place.

Claim.—1. The arrangement of the props or fuel-supports b b alternately on either side of web A, and projecting upward from it, substantially as and for the purpose described.

2. The arrangement of said fuel-supports b b with web A, having inclined planes d d from the interior vertical surface of said fuel supports to the opposite exterior of web A, substantially as and for the purpose described.

3. The web A, formed on its top by the extension and continuation of said inclined planes d d from the lines e e on either side of web A, so as to form a sharp ridge between the alternate opposite

arrises of the adjacent inclined planes, substantially as and for the purpose described.

116,813.—Baby-Walker, Hanging Chair, &c.—Leighton O. Colvin, Newark, N. J.

Claim.—1. The combination of the suspension-cord C, the double cord F F, and the roller-block *g*, containing two rollers, D F, when the whole are arranged in connection with a chair, swing, or baby-walker, substantially as herein set forth.

2. In combination with the suspending-cord of a baby's chair, swing, or baby-walker, the spring S, connected with the cord, as herein described, whereby the range of the spring is limited.

116,814.—Automatic Car-Brake.—Joseph R. Crabill, La Crosse, Ill.

Claim.—1. The suspension of the brake from supports pivoted directly above the axle of the wheels to which the brake is to be applied, so that the movement of the said supports in either direction will apply the brake to the wheels, substantially as herein shown and described.

2. The pivoted brake-frame F G H, pivoting supports I, and arm J, in combination with the sliding bar C, car-body A, and wheels D, substantially as herein shown and described, and for the purpose set forth.

116,815.—Spring Bed-Bottom.—Delos V. Crandall, Chicago, Ill.

Claim.—The combination of rail D, clasps *d d'*, and springs A A', the whole constructed and arranged substantially in the manner and for the purpose specified.

116,816.—Joining for Watch-Chains.—Charles Croselmire, Newark, N. J., assignor to himself and Alfred V. C. Genung, same place.

Claim.—The blank link, Fig. 2, as and for the purpose specified and shown.

116,817.—Mill-Pick.—Jotham Cummings, West Charleston, Vt.

Claim.—A mill-pick, composed of the wedge-bar G with its head H and teeth *a a*, &c., and the reducing-blade K with its sloping end, the two being inserted within the orifice of the pick-head and operating therewith and with each other to produce results herein explained.

116,818.—Electro-Magnetic Car-Brake.—Henry S. Daggett, La Fayette, Ind.

Claim.—1. The magnet S, combined with a brake-shaft, I, working in the slotted bearing K L, to raise or allow the shaft to fall, as and for the purpose specified.

2. A fast pulley, M, on the rotary brake-operating shaft I, combined with a fast pulley on one of the car-axles, and a bolt, N, upon and between them, tightened to enable the car-axle to apply power to the brake mechanism, and loosened when that is not desired.

116,819.—Manufacture of Rubber Cushions for Billiard-Tables.—Mathew Delaney, New York, N. Y.

Claim.—1. The vulcanising-mold, provided with the slotted or perforated ends, and with the wire or string which can be stretched on the shafts C, as set forth.

2. The herein-described method of forming straight smooth apertures through rubber billiard-cushions by drawing a wire or string through them during the vulcanizing process, as specified.

116,820.—Oil-Pump Valve.—Trouson Draper, Petrolia, Canada.

Claim.—The adjustment of the leather packing-rings for expanding them by means of the metal rings, the vertically-adjustable part F of the stock, the bolt H, notched springs I, and the grooved barrel A, all arranged and operating substantially as specified.

116,821.—Soap.—Francis Marion Ellis, Brooklyn, N. Y., assignor to Joshua Beatty, New York city.

Claim.—The preparation of a compound which is deodorized sulphur-soap, of the ingredients, in the proportions, and for the purposes set forth.

116,822.—Carpet-Protector.—Henry W. Eskildsen, Boston, Mass.

Claim.—1. The molding B and the strip of rubber E, constructed and arranged together as and for protecting and securing a carpet in manner substantially as described.

2. The molding D and the strip of rubber E, constructed and arranged together and with a carpet, B, floor A, and base-board C, as and for the purpose set forth.

116,823.—Tube-Cleaner.—Philip Farley, Philadelphia, Pa.

Claim.—The bifurcated scrapers C, constructed substantially as described, in combination with the washers B and rod A, in the manner and for the purpose above set forth.

116,824.—Copying-Press.—John Fensom, Toronto, Canada.

Claim.—The application of a ratchet-wheel and spring in any form to the screw and handle in copying-presses, as herein set forth.

116,825.—Treating Rubber and Other Vulcanizing Gums.—Perry Finley, New York, N. Y.

Claim.—1. The combining of caoutchouc or other vulcanizable gums and amber or linseed or other drying-oil, either or both combined, for the purpose of converting those substances into hard and inflexible or hard and flexible materials, known as hard rubber or vulcanite, or for converting the same into japans, lacquers, and varnishes, when the same is subjected, or not, to a high degree of heat, substantially as specified; and this whether the said compound of caoutchouc, amber, and oil be or be not mixed with the other ingredients, as set forth.

2. Combining this substance with pyroxyline, for the purpose of producing a substance or manufacture possessing the qualities or properties substantially such as described, when the same is subjected or not to heat, as set forth.

3. The new manufacture or substance hereinabove described, and possessing the substantial properties herein described, and composed of caoutchouc or other vulcanizable gums and amber, and drying-oil, either or both combined, in the proportions substantially such as described, and when incorporated, subjected or not to a high degree of heat, as set forth; and this whether combined or not with pyroxyline.

116,826.—Printing-Telegraph.—David Flanery, New Orleans, La.

Claim.—1. The keys M and N applied to the main wire of an electric apparatus to control the current through the same, substantially as herein shown and described.

2. In combination with wheel F, the cushion G, vibrating lever H, armature-plate *e*, and coils I I, all arranged as specified, and for the purpose set forth.

3. The paper-feeding device C D and the wheel *i*, having pins *g h*, both connected by intermediate mechanism to the common spring-drum B, combined with the notched pallet *f* on the end of lever *e*, the armatured lever H, and the coils I I, for the purpose of causing the feed to move the paper just before the cushion reaches it.

4. In combination with paper-feeding and printing mechanism, the one main battery at the terminus of a circuit, the one series of wires, the resistance-coils, and the keys, all arranged and operated as described.

5. The printing-lever E, combined with the lever *e* and pallet *f*, substantially as and for the purpose herein shown and described.

116,827.—Corn-Planter.—John T. Force, Henry county, Ky.

Claim.—1. The marking-wheel R with its double-pointed cams O O, in combination with the lever S which operates the dropping-slides, substantially as and for the purpose set forth.

2. The share J with its covers L L and rib K on the bottom, substantially as and for the purpose hereinbefore set forth.

116,828.—Shoe.—Charles C. Geller, Albany, N. Y.

Claim.—The vamp of a laced shoe, provided with the projecting tongue or stay *a*, substantially as herein shown and described.

116,829.—Refuse-Burning Furnace.—George Goodsell, Bennett J. Goodsell, and John Been, Jr., Pentwater, Mich.

Claim.—1. A refuse-burning furnace, built of brick, the fire-box A of which is surrounded on three sides by a water-jacket B, connecting with an open metallic pan, B', substantially as and for the purposes set forth.

2. The combination of a brick furnace provided with fire-box, ash-pit, doors, water-jacket, deflecting-plate, and smoke-stack, with an open water-pan, when the parts are arranged to operate substantially as and for the purposes set forth.

116,830.—Treadle for Sewing-Machine.—James W. W. Gordon, Newport, Ky.

Claim.—The foot-piece A, rock-shaft B, and spring E, when constructed and arranged together, as described, to enable the ankle-joint of the operator to be always held in line with the center of motion of the treadle to save the waste of power in moving the entire lower limb at every vibration of the crank-shaft.

116,831.—Railway-Signal Apparatus.—William Green, Yonkers, N. Y.

Claim.—The combination of ropes arranged in sections along a line of railroad, and signals operated by the same to work in opposite directions, in the manner substantially as specified.

116,832.—Cooking-Stove.—Seth Gregory, South Norwalk, Conn.

Claim.—The damper-plates J, arranged in connection with the slides H, so as to be moved forward and backward therewith, and to be operated by hinged rods or bars, substantially as specified.

116,833.—Carpet-Sweeper.—Don C. Hall, Hannibal, Mo.

Claim.—1. The circular brush A, shaft B, box C, handle D, tubular sockets *a a*, ears *b b*, shaft E, pulleys *f e d h*, and cords *e g*, all combined, as described, to form an improved carpet-sweeper.

2. The pivoted and arc-slotted plates *l l*, lock-screw *n*, and arc-slotted box C, combined, as described, with the brush-shaft B, to embody a new way of adjusting the brush down as it wears away.

3. The box C, having the metal bottom *i*, provided with an adjustable metal dust-guide, *p*, which may be sprung into different positions, combined, as described, with an adjustable brush, A B, to enable the guide to be always brought into contact with the brush as it is used up and moved down.

116,834.—Keyed Musical Instrument.—Emmons Hamlin, Winchester, assignor to Mason and Hamlin Organ Company, Boston, Mass.

Claim.—1. In combination with the key-board, tipping and sliding on the rod *d*, the lifters *i* depending from the front of the key-board through slots or openings at the rear of the front board *l*, substantially as shown and described.

2. In combination with the lifting and sliding key-board, the stop-pin A and the stop-holes *x*, the construction being substantially as described.

116,835.—Can for Roving.—Ezra Haskell, Dover, N. H.

Claim.—A roving-can, made substantially as specified, viz., of a leather-board or pasteboard body, a wooden bottom, metallic top and bottom flanges, and a strengthening-band of leather board or the equivalent, all arranged and combined substantially as specified.

116,836.—Locomotive-Boiler.—Samuel J. Hayes and Edward T. Jeffery, Chicago, Ill.

Claim.—The crown-bars extended over the furnace to the sides of the boiler-shell and resting upon bars of angle or other iron, F, bolted or riveted to the shell, the ends of the said bars and the shell of the boiler being bolted together, all substantially as specified.

116,837.—Boring-Bit.—Daniel Kelly, Muskegon, Mich.

Claim.—A bit, having a conical point, *a*, provided with two cutting-lips, *b*, and its stock A with a spur, B, and cutter C, both spur and cutter terminating in the form of a screw-thread about the stock, the upper ends of said convolutions terminating in enlargements D E, the former being provided with cutter E and the latter with spur G, substantially as and for the purposes set forth.

116,838.—Corn-Ground Marker.—Francis B. Kendall, Monmouth, Ill.

Claim.—The wheels C C' C'' pivoted to the frame A A' A'' by bolts *c c' c''*, constructed and operated in the manner substantially as and for the purpose specified.

116,839.—Drain-Pipe Machine.—Charles W. Kennedy, Brooklyn, E. D., N. Y.

Claim.—1. The mold, composed of the truck-like bottom, the vertically-divided flask hinged to said bottom, and the sectional core, all combined substantially as herein described.

2. The combination of the turn-table, the mold bottom, the flask, the core, and the central pin, substantially as herein described, whereby the said pin serves to center the core in the mold and the mold on the turn-table, and to secure the mold from running off the turn-table.

3. The combination of the rammer W with the slotted lever-like dog A*, the sliding block or reciprocating carrier Z, and the stop *t*, substantially as and for the purpose herein described.

116,840.—Feed-Regulating Mechanism of Cotton-Lapper.—Richard Kitson, Lowell, Mass.

Claim.—1. The slide A, constructed, as described, with an under recess, *g*, and a rising hub, *d*, in and above the oil-chamber, in the manner and for the purpose specified.

2. In combination with the slide constructed with the under recess, as described, the rocking-box B, arranged in the manner and for the purpose set forth.

116,841.—Waste-Picker.—Richard Kitson, Lowell, Mass.

Claim.—1. The combination, with the cylinder A, of the screen-cylinder and feeding apparatus or feed-rolls *f*, the last interposed and operating between the screen-cylinder and the working-surface of the main cylinder and at the rear side thereof, substantially as specified, for the purpose of increasing the working capacity of the machine, substantially as described.

3. The flange or plate P, arranged in the bonnet B, in combination with and operating to guide the material onto the surface of the rotating screen-cylinder, in the manner and for the purpose set forth.

3. The adjustable rear bonnet B, in combination with and covering the screen-cylinder and feed-rolls *f*, when provided with a guide-plate, P, and otherwise arranged as described.

116,842.—PAPER-BAG MACHINE.—Margarett E. Knight, Boston, Mass.

Claim.—1. The follower I', constructed and operating as and for the purpose specified.

2. The plate-knife-holder F, constructed, arranged, and operating as set forth.

3. The guide-finger N', or equivalent device, whether fixed or movable, the function of which is to hold or push back a portion of the edge of the paper tube while the fold represented in Fig. 10 is being formed.

4. The combination of a guide-finger with mechanism or a device for pushing the paper tube under said guide-finger, for the purpose of forming the fold represented in Fig. 10.

5. The side-folders Q' R', constructed, arranged, and operated by the means described, as and for the purpose specified.

116,843.—HORSE-POWER.—Francis Marion Chester Liles, Roanoke, Ala.

Claim.—1. The combination of the wheels D D' and the rollers *k* H, substantially as herein set forth.

2. The wheels D D', J, G, and F, in combination with the wheel V on belt-wheel shaft T, the adjusting-screw *y'*, and the adjusting-nuts *n n*, all arranged substantially as set forth.

116,844.—BUTTER-KETTLE.—John Liming, Philadelphia, Pa., assignor to himself and Charles C. Savery, same place.

Claim.—A butter-kettle, A, provided with a refrigerative lid or cover, B, constructed and applied to operate substantially as and for the purpose hereinbefore set forth.

116,845. — ROOFING-BRACKET. — James H. Look, Jr., Rochester, Mass.

Claim. — The improved roof-staging bracket, formed by the combination of a bar, B, screw D, claw C, and arms E E provided with a head, F, substantially as shown and described.

116,846.—MEDICAL COMPOUND OR BITTERS. Abram M. Loryea, East Portland, Oreg.

Claim.—1. The ank-weed remedy, consisting of the above compound, substantially as specified.

2. The combination of the ank-weed, hypophosphate of potassa, and the compound tincture of cinchona, substantially as specified.

116,847.—RATCHET-DRILL.—James W. Mahlon, Brooklyn, N. Y.

Claim.—In combination with the stock or spindle of a drill, the polygonal ratchet-wheel A with rectangular pawl-recesses, the lever C D with its projecting rectangular pawl-teeth, one on each side, and the yoke B, substantially as hereinbefore described.

116,848.—ATTACHMENT FOR RATLINS.—Joseph P. Manton, Providence, R. I.

Claim.—The combination of the clamp A, socket-strap C, and ratlin O, substantially as and for the purpose specified.

116,849. — HOUSEHOLD IMPLEMENT.—Reuben A. McCauley, Baltimore, Md.

Claim.—As a new article of manufacture, a combined household-tool, having its several parts constructed and arranged as shown and described.

116,850.—FOLDING SOFA.—James W. McDonough, Chicago, Ill.

Claim.—1. The combination of the folding section of the head B C D with the permanent section G E I H, when so constructed and arranged as to project over said permanent section in such a manner as to cover the joint across the same, when folded, thus forming a finished head, substantially as specified.

2. The combination with the folding frame J provided with the loops N, the legs K having their upper ends curved and provided with the stops M and shoulders L, when arranged, as herein described, for the purpose of supporting the frame when in a vertical position and for supporting themselves when in a horizontal position, as set forth.

116,851.—HINGE FOR GATES, &c.—Alonzo D. McMaster, Rochester, N. Y., assignor to himself and Orrin Morse, same place.

Claim.—1. The construction of the leaf and knuckle of the hinge in two separate parts, connected together by a wedging and dovetailed slot and lug, or equivalent, as herein described.

2. The combination of the dovetailed plate A with the slot *a*, pintle C, spiral oval incline *f f*, of the knuckle B and its dovetail or lug *b*, substantially as set forth.

116,852.—CONVERTING THE RESIDUUM OF PETROLEUM INTO OIL.—Charles C. Mengel, Brooklyn, N. Y., and Alois Pöhr Von Pöhrnhoff, St. Catharine's, Canada.

Claim.—The conversion of the tarry residuum of petroleum distillation into illuminating oils by dropping into it water in a liquid state, or liquids containing water, while it is subjected to a high degree of heat in a still, substantially as herein described.

116,853.—STEAM-PISTON. — Edward Merriman, Allegheny, assignor to himself and Hugh Coll, Allegheny county, Pa.

Claim.—A relief-valve or valves, arranged in one or both ends of a steam-piston in such a way as to open only from within by steam-pressure when the pressure inside is in excess of that outside of the exhaust end, substantially as described.

116,854.—WATER-GATE.—David J. Moffitt, Thorntown, Ind.

Claim.—The combination of the float I, the levers D, the rock-shaft E pivoted in the slot *b* in the posts G, and the gates J, all constructed, arranged, and operating substantially as described and shown, for the purposes set forth.

116,855.—CHURN.—Oscar F. Monfort, Dearborn, Mich.

Claim.—The arrangement, in a churn, of the tubular shaft E, hollow arms F, solid arms F', and spiral beaters G, the sleeve H, arms K and K', spiral blades L, and pinions I and J rotated by the gear D, all constructed and operating substantially as described and shown.

116,856.—FOLDING CRADLE. — Thomas W. Moore, New York, assignor to Elric L. Nichols, Plattsburg, N. Y.

Claim.—1. The double joint F, for fastening the sides to the ends of a cradle or crib, substantially as described.

2. The bracket-support G, for supporting the bottom and holding the side in position, substantially as shown and described.

3. The cradle A B C E, jointed at F, and having two ends, D, beneath the bottom, combined as described, with the cord H, for the purpose specified.

116,857.—PRINTER'S GALLEY-REST.—John M. Murphy, Olympia, Wash. Ter.

Claim.—The combination of the socket-plates B

b' provided with longitudinal slots *b⁴* and cross-slots *b⁵ b⁵*, one or both, and the brackets C D E provided with pins, lugs, or projections *c'* with each other, to adapt them for attachment to a printer's case-stand, substantially as herein shown and described, and for the purpose set forth.

116,858.—WATCH-CHAIN FASTENING.—Daniel F. Myers, New York, N. Y.

Claim.—A watch-chain fastening, composed of a case, A, containing a spring, *e*, provided with a guard, F, a hinged hasp, *d*, having at one end a hook, *c*, for locking the same, when brought in contact with the spring *e*, substantially as and for the purposes specified.

116,859.—LIQUID-METER.—Hiram B. Nickerson, Boston, Mass.

Claim.—1. A meter having two measuring-chambers, K and K', of known capacity, and furnished with tanks B and B' for actuating the valves, all arranged and operating substantially as described, and for the purpose set forth.

2. The said measuring-chambers, in combination with the two pipes H H' and E E' provided with valves *f f'*, arranged to operate substantially as described, and for the purpose set forth.

116,860.—TASSEL.—James Norman, Brooklyn, N. Y.

Claim.—As a new article of manufacture, the tassel herein described, consisting of the block A, provided with a flange, B, and combined with a removable skirt, D, and cord or band, E, as and for the purpose specified.

116,861.—INVALID BEDSTEAD. — Mansel A. Ormsbee, Fair Haven, Vt.

Claim.—The sheet-frame C suspended by bands *a a* having hooks *b b*, and the mattress D suspended by bands *c c* from rollers *d e*, which have crank mechanism attached thereto, combined as described with the bedstead-frame A, for the purpose specified.

116,862. — BRACKET. — George W. Peirce, Boston, Mass.

Claim.—In the bracket, as specified, the back as made with the straight slots, and the shelf and brace as provided with the eye-headed screws, all as described, arranged, and applied together, as explained.

116,863.—MEDICAL COMPOUND FOR TREATING DISEASES OF THE LUNGS, CHEST, &c. Marie Eulalie Perrin, Montreal, Canada.

Claim.—The medical compound composed of lard, animal pancreas, alcohol, and bitter-almond oil, mixed together, substantially as and for the purpose set forth.

116,864.—CHIMNEY-CAP. — Walter J. Pettingell, Lowell, Mass.

Claim.—The construction and arrangement of the chimney-cap A having either slots or buttons, in combination with the brackets C C, said brackets being made in such a manner as to be adjustable in their places upon the cap, as set forth.

116,865.—APPARATUS FOR AMALGAMATING GOLD AND SILVER.—Ira M. Phelps, Chicago, Ill.

Claim.—1. The central discharge-tube J, in combination with rack K, pinion K', shaft L, wheel M, pinion M', and shaft N, or other equivalent mechanism, whereby a vertical movement may be imparted to said tube, substantially as and for the purpose described.

2. The hollow shaft E, in combination with the pipes H and H', substantially as and for the purpose described.

3. In combination, the hollow shaft E, wheel D', pinion D, shaft C, and cone-pulley C', the whole arranged to operate substantially as and for the purpose described.

116,866.—STOCK-CAR.—Amos Rank, Salem, Ohio.

Claim.—1. The combination of the rolling-stall partition with spring-bolts to hold the partition in place, as set forth.

2. The combination of adjustable stall-partitions, spring-bolts, and inclined boards, automatically to lock the partitions, as set forth.

3. The inclined boards which hold the partitions, constructed with removable sections opposite the door-ways, as hereinbefore set forth.

4. The combination of the partition-roller with the swinging lever-pawl and ratchet to work the rollers from either the outside or inside of the car, these members being constructed and operating as hereinbefore set forth.

5. The combination, with a stock-car, of a sliding swinging feed-rack, substantially as set forth.

6. The relative arrangement, as set forth, of the feed-bin, the outwardly-swinging door-way in the roof outside of the bin, and the feed-rack in the car.

7. The relative arrangement, as set forth, of the rolling partition, the feed-rack, and the opening in the roof, for the purposes set forth.

116,867.—BOOT AND SHOE-HEEL TRIMMING AND BURNISHING-MACHINE. — Timothy K. Reed, East Bridgewater, assignor to Arza B. Keith, North Bridgewater, Mass.

Claim.—1. In combination with a rotary trimming or burnishing-wheel, an adjustable rest, *f*, upon which the tread of the heel of a boot or shoe is supported horizontally while the edge of the heel is held up to the periphery of the wheel by hand, substantially as described.

2. In combination with the wheel *e* and heel-rest *f*, the spring-gauge *l*, having a point, *m*, to enter the crease between the counter and heel, and made self-adjusting to heels of varying thickness, substantially as described.

116,868.—MANUFACTURE OF SHEARS AND SCISSORS. — Robert Renz and Andrew Renz, Naugatuck, Conn.

Claim.—The method hereinbefore described of preparing the two parts, the handle and the blade, and of uniting the same together.

116,869.—PRESS FOR HAY, &c. — William Henry Reynolds, New Orleans, La.

Claim.—1. The arrangement, in a cotton-press, of the crank V, pinion T, pawl W, gears S S, arm or crank Z, and eccentric X, all constructed and operating as shown and described.

2. The arrangement, with the tube C, screw A, and detachable nut B, of the gear-wheels P S and pinion T, the said pinion being provided with a holding-pawl and one of the wheels S being mounted on an eccentric, all substantially as specified.

3. The improved press herein described, composed of the several parts specified, constructed and arranged to operate as set forth.

116,870.—SWIVEL-HOOK.—Celius E. Richards, North Attleborough, Mass., assignor to himself, William H. Robinson, and Daniel H. Robinson, same place.

Claim.—The combination of a rigid hook, A, hollow cap B, and ring C, substantially as described.

116,871.—CHURN.—Jacob L. Rust, Keithburg, Ill.

Claim.—1. The oscillating churn-vessel A and the rotating dasher D, when arranged to operate substantially as and for the purposes described.

2. The bar C, cords H H, and pulleys F F, arranged in combination with a churn-dasher, substantially as described.

116,872.—Boot and Shoe.—François Senn, Forestville, N. Y.

Claim.—The seam, composed of the upper, welt, lap *a*, and sole, being first stitched and then secured by thread or peg, as set forth.

116,873.—Blast-Protector for Exhaust-Nozzles.—John H. Setchel, Cincinnati, assignor to himself and John Durand, Xenia, Ohio.

Claim.—1. The provision, at the blast-issues of a locomotive or other engine, of conical stoppers F, released from said issues by the action of the live steam, substantially as set forth.

2. In the described combination with the blast-issues, the arrangement of the conical stopper or stoppers F, rock-shaft I H G, rods J K, piston L, and cylinder M, which communicates with the live-steam pipe.

116,874.—Knapsack.—Charles W. Schaefer, Philadelphia, Pa.

Claim.—A military knapsack in two longitudinal halves, A and A′, connected together by the articulated supporting-frames *a″ a‴* and having the sling-straps B B′ secured to the middle *b″ b‴* of the upper and lower parts, respectively, of the back of the knapsack, all as and for the purposes hereinbefore set forth.

116,875.—Medical Compound.—Albert F. Shannon, Quincy, Ill.

Claim.—The medical compound, herein described, when compounded of the ingredients, and used in the manner, and for the uses and purposes herein set forth.

116,876.—Submarine Excavator.—George V. Sheffield, Boston, Mass., assignor to himself and Lyman A. Cook, Woonsocket, R. I.

Claim.—The machine, substantially as described—that is, as composed of the scoops A A, the arms B B, the rack C, the pawl D, the piston F, and cylinder E, combined and arranged in manner and so as to operate as and for the purpose specified.

116,877.—Sawing-Machine.—Ira Shepard, Dowagiac, Mich.

Claim.—The arrangement of the oscillating frame H with the curved arms I I and saws *j* and *k*, as and for the purposes set forth.

116,878.—Automatic Fastener for Meeting-Rails of Sashes.—Henry Smiley and William T. Loughead, Boston, Mass.

Claim.—Our improved self-locking sash-fastener, as described, the same consisting of the two movable levers *e n*, constructed as described, and provided with actuating-springs, as specified, the pivoted lever *h*, its stud *k*, and hinged portion *r*, socket *m*, and incline *r′*, the whole being arranged and operating together, substantially as set forth.

116,879.—Musical Instrument.—Kilburn Smith, Lowell, Mass.

Claim.—The adjusting-lever C, constructed as described, with an end fulcrum, *f*, and varying string-slots *e*, *e′*, &c., applied to the tail-piece A, or to that part of the instrument which holds the knotted ends of the strings, and actuated by a screw, or its mechanical equivalent, for the purpose of adjusting all the strings simultaneously.

116,880.—Machine for Making Screws.—Luther Southworth, Jr., and Sewell Gibson Cushing, Stoughton, Mass.

Claim.—The combination of the driving-shaft *d*, the train of three gears, *a b c*, the two arbors E F, and separating-cutter carriage H and its tool-posts *i i′*, and the rotary cutter-head I, all constructed, arranged, and applied to a supporting-frame, A, substantially in the manner and so as to operate as and for the purpose as described.

116,881.—Flier for Spinning, &c.—Thomas Stibbs, Wooster, Ohio.

Claim.—The horizontal bar *o* and its enlargement *l*, in combination with the thread-carrier *m*, whirl-shaft B, and whirl C, all constructed and arranged as and for the purposes set forth.

116,882.—Lady's Elastic Supporter.—G. C. Stillson, Derby, Conn.

Claim.—1. A catamenial supporter, which combines in its construction two triangular pieces, A and B, two elastic straps, C C, two buckles, *a a*, and two elastic rings, B′ B², substantially as described.

2. The elastic rings, stayed and covered by cloth, and attached to the front and back pieces A B, the latter being connected together by elastic straps which are adjustable, to allow said rings to be kept in the median line of the body, substantially as described.

116,883.—Well-Auger.—William H. Stone, Pattonsburg, Mo., assignor to himself and Newton J. Smith, Omaha, Neb.

Claim.—The plates A A, when their lower ends are curved into lips D D, bent nearly together and cut off at the corners E E, combined with the twisted bar B, constructed to form a point, as and for the purpose specified.

116,884.—Memorandum-Book.—Isaac N. Swasey, Yonkers, N. Y.

Claim.—The combination of cover B B and blank leaves C, each leaf being folded in upon itself, and each succeeding fold being extended beyond the line of the preceding leaf and folding therein, as and for the purpose specified.

116,885.—Shearing-Machine.—Felix W. Tally and Michael Ryan, Philadelphia, Pa.

Claim.—1. In an animal-shearing or clipping-machine, the hinged cutter-case, composed of bottom plate H, top or cover H″, both deeply slotted or toothed at their forward ends, the points of the teeth in the two parts projecting alike, held in close contact, and fitted to receive and have work within it the vibrating cutter I′, in the manner and for the purpose herein described.

2. The vibrating cutter I′, pivoted upon stud *h″* and having arms *i″* and *i²*, connecting-link *i³*, crank-pin *g″*, collar *g′*, and tumbling-rod G′, in combination with the plate H having teeth *h⁴* at its forward end, in the manner and for the purpose described.

3. The combination of the standing cylinder F′, cylinders G G made flexible by joints *g*, with the tumbling-rod G′ revolving within and protected by said cylinders, in the manner and for the purpose herein described.

4. The combination of the slotted driving-wheel C, connecting-rod D and its guide-blocks, wheel C′, and band *c*, with the band *c′*, pulleys E. E′, E″, and E‴, standing cylinder F′, jointed protecting-cylinders G, jointed tumbling-rod G′, and vibrating cutter I′ with its intermediate connecting parts, the latter devices supported by and attached to the balanced and revolving beam F, in the manner shown and described.

116,886.—Composition for Dressing and Coloring Leather.—Zalmon A. Taylor, Haverhill, assignor to himself and Alonzo P. B. King, Lawrence, Mass.

Claim.—The manufacture or preparation of the above-described compound, of the ingredients and in the proportions substantially as and for the purposes hereinbefore explained.

116,887.—Chimney-Cowl.—George G. Thomas, St. Louis, Mo.

Claim.—1. The ventilator described, consisting of the tube A with flaring top *a*, caps B and D, shells C and E, combined and arranged as described.

2. The combination of the shells C and E with the cap B, the shells being separated from each other to form an air-passage, and the cap B being arranged to protect the opening of the tube A, as described.

116,888.—Combined Shovel and Post-Hole Digger.—Joseph Thompson, Decatur, Mich.

Claim.—The combination of the shank *m* of either blade of a divided detachable tubular cutter or post-hole digger with an aperture, *f*, in its handle, and with a key or wedge, *t*, for securing the same in position at right angles to said handle, substantially as and for the purpose herein set forth.

116,889.—Safety-Shaft for Vehicles.—Jonathan S. Tibbets, Brazil, Ind.

Claim.—1. The shafts A B, made in two parts or pieces, detachably connected with each other, substantially as herein shown and described, and for the purpose set forth.

2. The connection C, whether made in one or two pieces, in combination with the parts A B of the shaft, substantially as herein shown and described, and for the purpose set forth.

3. The eyes *e′*, draft-bar E, and levers F, provided with points or pins *f* upon their forward ends, in combination with the parts A B of the shafts, and with connections C and cross-bar D, substantially as herein shown and described, and for the purpose set forth.

4. The slotted and notched tubular arms H, guide-stems J, and nibs or catches I, springs K, and guard-plates L, in combination with the draft-rod E, levers F, connections C, and parts A B of the shafts, substantially as herein shown and described, and for the purposes set forth.

5. The combination of the strap G with the cross-bar D and stationary parts B of the shafts, when said shafts are made in two parts, A B, substantially as herein shown and described, and for the purpose set forth.

6. The double-looped strap N, attached to the under side of the middle part of the detachable parts A of the shafts to receive the holdback-strap and the strap O, substantially as herein shown and described.

7. The straps O, in combination with the double-looped strap N and detachable part A of the shafts, to secure the said parts A to the shaft, tug, or loop, substantially as herein shown and described, and for the purpose set forth.

116,890.—Pipe-Cutter.—George W. Tower, Cambridge, Mass.

Claim.—The frame or holder A, constructed with an opening, C, having flanges *a* cut away at E, in combination with the closing-piece K applied to the holder A and secured thereto by set-screw L and with blocks O and G, the latter carrying cutting-tool H, substantially as described, for the purpose specified.

116,891.—Mode of Attaching Car Basket-Racks.—Morton Tower, Boston, Mass.

Claim.—A car-basket provided with dovetailed tapering projections or studs *a*, adapted to fit in correspondingly-dovetailed sockets attached to the side of the car, substantially as and for the purpose shown and described.

116,892.—Inking Apparatus for Printing-Presses.—Nathan F. Turner, Williamsburg, N. Y.

Claim.—In an inking apparatus, consisting of inking-rollers L L and distributing-disk G operated as described, the short ink-fountain Q A′ T located at one side thereof, substantially as and for the purpose set forth.

116,893.—Sewing-Machine.—Sidney S. Turner, Westborough, and Isaac S. Craig, Boston, Mass., assignors to I. S. Craig.

Claim.—The auxiliary take-up C′ and its operating devices, all constructed, arranged, and operating substantially as described and shown, for the purpose of measuring off sufficient thread to form a loop for the shuttle, and preventing the winding of the thread by the impact of the hook, as set forth.

116,894.—Potato-Bug Destroyer.—John B. Turney, Inkster, Mich.

Claim.—1. In a machine for catching potato-bugs, the whips D, constructed, arranged, and operated substantially as described and shown.

2. The arrangement of the axle A, wheels B, ratchet-wheels C, whips D, arms E, springs F, and pans G, all constructed substantially as described, and combined to operate as and for the purposes set forth.

116,895.—Rectum-Bathing Apparatus.—Cornelious B. Veronee, Athens, Ga.

Claim.—The combination, with the chair having a hole through the bottom, of the water-tank and pipe, the latter being provided with a stop-valve, and all arranged substantially as specified.

116,896.—Apparatus for Pitching Beer and Other Barrels and Casks.—William Vogt, Louisville, Ky.

Claim.—1. The nozzles H, provided with orifices so made with and arranged that the flames issuing from them shall be of unequal length, substantially as herein described, for the purpose explained.

2. The slide L in the opening M, in combination with the barrel-stand and its elevating mechanism, whereby the said stand is made both vertically and horizontally adjustable, substantially as and for the purposes set forth.

3. An apparatus for heating barrels, composed essentially of the furnace B D E F G, with a nozzle, H I, and blow-pipe C, and a barrel-stand, R′, vertically adjustable and movable toward and from the furnace, all mounted upon a bed or frame, A, and operating substantially as hereinbefore described.

116,897.—Manufacture of Soap.—David Hibbard Warren, Montreal, Canada.

Claim.—1. The method or process of saponifying fatty matters by a concentrated solution of caustic soda, substantially as is described in my first operation.

2. The process of making soap by the four successive operations, substantially as described.

3. The soap produced by the described process, substantially, as a new manufacture.

4. The saponification of resin by sal-soda, in combination with the saponification of fat by caustic soda in the manufacture of soap, substantially as described.

116,898.—Thill-Coupling.—Edward Warren, Ceresco, assignor to himself, Isaac S. Peters, Silas Peters, and William B. Peters, Marshall, Mich.

Claim.—1. The combination, with each other and with the carriage-clip B, of the joint-head C, thill-iron head E, cap F, and elastic block G, arranged, connected, and operated substantially as and for the purposes set forth.

2. In suitably-arranged carriage-thill couplings, a ridge, *n*, groove, or other equivalent device, behind or into which the thill-heads may be sprung to automatically lock the thills or pole at a suitable angle of elevation to be out of the way when not in use and unlock the same when needed, substantially as described.

3. The T-headed bolt I, in combination with a

concave seat in the cap F, substantially as and for the purpose specified.

116,899. — UMBRELLA. — Walter Watson, Fayetteville, N. C.

Claim.—1. A sleeve, having apertures *e* and slotted enlargement *e*, combined with detachable conical ring *d*, screws *f*, stick A, and ball-ended ribs C, all constructed as and for the purpose specified.

2. The movable slide D, having apertures and enlargements *e*, combined with ring *i*, pin *j*, stick A, and ball ended braces E, all constructed as and for the purpose described.

116,900.—STOVE-PIPE DRUM. — Benjamin Webster, Kingfield, Me.

Claim.—The air-heating chamber shaped in the form of an inverted cone, the small cold-air-inlet pipes *b* near the apex, the larger hot-air-outlet pipes near the base, and the double damper C C over the top, all combined, constructed, and arranged in a stove-pipe, as and for the purpose specified.

116,901.—GAUGE FOR COUNTERSINKS.—Asa Wheeler, Brattleborough, Vt., assignor to G. B. Wheeler, same place.

Claim.—The adjustable gauge C c^1 c^2 D, constructed substantially as herein shown and described, in combination with a countersink, A *a'* B, as and for the purpose set forth.

116,902.—STEAM-ENGINE. — James Davenport Whelpley, Boston, Mass.

Claim.—1. The means, substantially as herein described, for giving the balance-wheel or abutment-ring and the cylinder revolving upon its trunnions a synchronous movement or equal velocity of revolution.

2. The substitution of friction-surfaces upon cross-heads and balance-wheel in apposition, with or without friction-rollers, permitting a lateral reciprocating motion of the cross-heads, in place of a permanent connection by pin, joint, or crank, substantially as and for the purposes described.

3. The introduction of friction rollers attached to the balance-wheel in contact with the cross-heads or heads of the piston-rod, permitting the lateral reciprocating motion of the same, substantially as and for the purposes described.

4. The combination between the devices described for the maintenance of the synchronous movements described and the friction-cradle, substantially as and for the purposes described.

116,903.—TREATMENT OF ORES BY MEANS OF FUEL, CHEMICALS, AND FLUXES.—James D. Whelpley and Jacob J. Storer, Boston, Mass.

Claim.—1. The method of burning solid fuel in a finely-divided state, while floated on an air-blast, either alone or in connection with fluxes or reducing agents, to eliminate the impurities in the fuel or the substance to be treated, and the employment of the feeding apparatus described in connection with the fan-blower, or of the comminuting apparatus described, combined with a fan-blower, for the purpose of furnishing to the air-blast "floated fuel" for aerial combustion.

2. The process of treating ores with fluxes and chemical re-agents, by combining the ore and flux or re-agent in fine powder, and floating them into the furnace by means of an air-blast or steam-jet, substantially as described.

3. The apparatus shown in Figs. 1 and 2, consisting of a hopper with feeding device, a fan-blower, a flue or flues, and combustion-chamber, all substantially as shown.

4. The apparatus shown in Fig. 3, consisting of hopper G, feeding-cylinder N, and blast, so as to carry the fuel into the furnace, as described.

116,904. — HARNESS-TRIMMING. — Simon Wiener, Newark, N. J.

Claim.—A harness-ring or hook covered with leather, having the seam beneath and protected by the metallic lining, as a new article of manufacture.

116,905.—COOKING-STOVE. — John Wilder, Detroit, Mich., assignor to himself and Alexander Toil, same place.

Claim.—1. The extension D of the plate C over the entire combustion-chamber B, said extension being provided with openings E and dampers F, substantially as and for the purposes set forth.

2. In combination with said extension D, constructed as described, the vertical flange G, substantially as and for the purposes set forth.

116,906.—COMPOSITION FOR HEALING-PLASTERS.—David G. Williams, Boston, Mass.

Claim.—The new manufacture or composition for a plaster, such being made of *calendula* and the compound solution of isinglass, in the manner and for application to a case substantially as set forth.

116,907. — LOCK FOR DOORS, &c. — John Theophilus Williams, Chicago, Ill.

Claim.—The plate D, provided with the holes *n* and the tumbler-wires *w* capable of being moved in all directions, in combination with the pinion *e*, rack R, bolt B, and key, substantially as and for the purpose set forth.

116,908. — HOT-AIR FURNACE. — Charles Wood, Worcester, Mass.

Claim.—1. The relative arrangement of the inclined air-tubes J, air-chambers A B, and walls D D', substantially as and for the purposes set forth.

2. The relative arrangement of the fire-pot or grate Q and dome P as respects each other, and the cold and hot-air chambers A and B, with their connecting-tubes, substantially as shown and described.

3. The relative arrangement of the inclined air-tubes J and division-plates L M N O, as shown and described.

116,909. — STEAM-CONDENSER. — William Wright, New York, N. Y.

Claim.—1. The arrangement, within the conduit or pipe A, up which the steam or vapor to be condensed passes, of the cold-water conduit or conduits E and return-water conduit or conduits B, or either, in combination with a chamber, C, above, with which said conduits are made to communicate, substantially as and for the purpose or purposes herein set forth.

2. The combination of the inner water-conduits or tubes B E, the outer conduit or steam-pipe A, the steam-inlet G, the condensed-water outlet H, the cold-water inlet I, and the jet-chamber C, in communication with the pipe A and tubes B and E, essentially as described.

3. The combination of the cap F and openings *b d* with the pipe A, the jet-chamber C, and tubes B E, substantially as specified.

116,910.—WAGON-BRAKE. — Joseph J. Adgate, Stevensville, N. Y., assignor to himself and Raymond M. Welles, Towanda, Pa.

Claim.—1. The combination of the spring K, pivoted lever J, and pivoted lever brake-shoe I with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the stop-block M and spring N with the pivoted cross-bar H, to one end of which the brake-shoe L is attached, and to the other end of which is attached the brake I J K, substantially as herein shown and described, and for the purposes set forth.

116,911.—TWINE-HOLDER.—John Adt, New Haven, Conn., assignor to "The Judd Manufacturing Company," same place.

Claim.—A twine-holder, A, provided with a ball for suspending the said holder, arranged and combined with the holder so that the ball is retained in a defined position, substantially as described.

116,912.—FRUIT JELLIES.—Charles Alden, Newburg, N. Y.

Claim.—1. A jelly, made from fruit or parts thereof from which the moisture has been evaporated, substantially as herein set forth.

2. The within-described process for producing jellies from fruits or parts thereof by treating the same substantially in the manner herein described.

3. A fruit marmalade, made from the residuum obtained from treating fruit substantially in the manner above described.

116,913. — COMBINATION OF WATCH-KEY, SWIVEL, AND HOOK.—John P. Allen and Henry Croft, Springfield, Ohio.

Claim.—A combined open hook, swivel, and key, constructed, arranged, and operating as herein described and represented.

116,914.—RAILROAD-CAR HEATER.—Joshua G. Allen, Philadelphia, Pa.

Claim.—1. The method herein described of ventilating a railway car by means of the vacant space or spaces A' between its walls, whereby said space is utilized as flues and the space between the walls is also thoroughly ventilated and dried.

2. In combination with the foregoing, the tubes C, having their open ends arranged to receive the outgoing air at or near the central aisle of the car and conduct it into the space or spaces A', substantially as described.

3. A car-heater, substantially such as is herein described, having a partition, V, dividing its hot-air chamber into two parts separate from each other, from both of which the hot air is conveyed into the car simultaneously, whereby the car is heated at both ends, irrespective of the direction in which it is moving or in which the wind may chance to be blowing.

4. The arrangement in a car of the ventilating and heating devices in such a manner that the incoming hot and fresh air shall enter at the bottom and the outgoing foul air shall also be taken from the bottom or near the bottom, substantially as described.

116,915.—SPOKE-SAWING MACHINE.—George F. Almy, Toledo, Ohio.

Claim.—1. The bar E, provided with head and tail-blocks C D, and hung or pivoted, at points *a a'*, on a line with the top of the saw, substantially as and for the purposes herein set forth.

2. The combination and arrangement of the screw G with pinion *b*, wheel H with fastening *d*, and the crank I with pinion *e*, all substantially as and for the purposes herein set forth.

116,916.—PNEUMATIC HOISTING-MACHINE. Joseph R. Anderson and Phillip C. Harlan, Freeport, Pa.

Claim.—1. The air-pump C and its operating parts, in combination with the pipe A and its inlet-pipe and cock, air-cylinder G, pressure-valve *g*, rope or chain *g''*, pulley G', and platform *a*, constructed and arranged to operate in the manner and for the purpose described.

2. The stop-cock A', in combination with the connecting-pipe A, open-pipe *h''* having stop-cock *i*, with the air-cylinder G and valve *g*, arranged in the manner and for the purpose described.

3. The hoisting-machine herein described, when composed of the parts recited in the claims above, and they arranged with relation to each other to operate as a whole, in the manner as shown and set forth.

116,917.—LIQUID FOR GALVANIC BATTERIES. Victor Barjon, New York, N. Y.

Claim.—A liquid for galvanic batteries, prepared substantially in the manner herein set forth.

116,918. — BRONZING-MACHINE. — Edward F. Benton, Buffalo, N. Y.

Claim.—1. The combination, with the endless belt or carrier of a bronzing-machine, of spring-gripers attached to the belt for clamping and holding the sheets of paper thereon, substantially as hereinbefore set forth.

2. The gripers P, stop-bars r r^1 r^2, and grooves R R' in the rollers D D', arranged and operating substantially as set forth.

116,919.—FAN ATTACHMENT FOR TABLES.—Thomas S. Binkard and Robert H. Boal, Urbana, Ohio.

Claim.—1. The combination and arrangement of the standard B C, armed shaft E F, racks H, retaining fingers A, and adjustable vanes G *g*, substantially as and for the purposes set forth.

2. The combination of the elastic clamp D *d d'* with the fan attachment, constructed and operating as specified.

3. The combination of the treadle M N, arms L J J, rods I, and clamp D *d d' d''* with the fan attachment, substantially as described.

116,920. — DRAIN-PIPE MACHINE. — Hiram Bissell, Hartford, Conn.

Claim.—The cylinder A, hollow piston and rod M N, and plunger J, in combination with former-ring L, cylinder B, mold-case D, and cap F, constructed and arranged substantially as set forth.

116,921.—CHANNELING SOLES FOR BOOTS AND SHOES. — Lyman R. Blake, Fort Wayne, Ind.

Claim.—1. A sole-channeler knife having the straight cutting-edge *l* and curved groove-cutting edge *m*, formed as one edge, substantially as shown and described.

2. The method of forming and filling the channel, consisting in cutting the slit with the groove below it, leaving the ridge on the flap, and compressing the ridge into the groove against the stitches, substantially as described.

3. A channeled sole in which the flap is formed with the displaced leather from the groove, substantially as described.

116,922.—MACHINE FOR THREADING SHEET-METAL SCREWS.—Edward C. Blakeslee, Waterbury, Conn.

Claim.—1. In combination with the two threaders C E, the hopper H, plunger L, and mechanism to cause said hopper and plunger to move toward and from one of the threaders, as and for the purpose described.

2. In combination with the subject-matter of the first clause of the claim, the edging-tool *n*, arranged to operate in the manner and for the purpose substantially as set forth.

116,923. — MACHINE FOR CUTTING SHEET METAL. — Seymour A. Bostwick, Waltham, Mass.

Claim.—1. The combination of the cutter C^1, the spindle C^2, the yoke C^3, the frame B B^1, and screws c^4 and c^5, when the same are arranged substantially as described, and for the purpose set forth.

2. The adjustable tube D, in combination with the yoke D^1, disks E^1 E^2, and frame B, substantially as described, and for the purpose set forth.

116,924.—COTTON-GIN.—William F. Bowen, Stark, Fla.

Claim.—The combination of the cam-wheels C, blocks or rollers D, levers E, thumb-screws F, springs I and R, either or both, set-screws J, and connecting-rods K, with the roller B, clipper N, and frame A, substantially as herein shown and described, and for the purpose set forth.

116,925. — Tie for Metallic Bands or Hoops used in Baling Cotton.—George Brodie, Plum Bayou, Ark.

Claim.—A tie for cotton-bales and other analogous uses, having beads or ribs *a a* and a slot, *c* in combination with intervening webs which taper toward the side in which the said slot is constructed, in the manner and for the purpose hereinbefore described.

116,926.—Glass-Press.—Aries P. Brooke, New York, N. Y.

Claim.—1. The combination, with the spindle K and screw-plunger L, of a mechanism for pressing said plunger into the molten glass by a direct longitudinal movement of the plunger, and for turning the same out after the glass has set, substantially as set forth.

2. The sliding head *i* on the plunger L, substantially as described.

116,927.–Heating-Stove.–Lorin A. Brooks, La Porte, Indiana.

Claim.—1. The arrangement, within a heating-stove, of the radiating-chamber D, flue *e*, damper *f*, air-pipes *g h*, and smoke-duct *i*, as and for the purpose set forth.

2. The construction and arrangement of the base A, top B, shell C, radiating-chamber D, damper *f*, air-pipes *g h*, and smoke-duct *i*, substantially as herein described, and for the purpose specified.

116,928.—Telegraph Apparatus.—Hugh Swinton Leguré Bryan, Liberty, Mo.

Claim.—1. The key-board B, properly arranged, with the keys *i* passing through the comb-guide H and leading to the cylinder A, connected and operated as described.

2. The key-raising lever C, slide D, wedge *d*, arm *d'*, and roller *e*, arranged and operated as set forth.

3. The circuit-breaker E, upright lever F, its spring *u* and tube *s*, and handle K, properly arranged, as and for the purpose set forth.

116,929. — Curtain-Fixture. — Chauncey Buckley, Meriden, Conn.

Claim.—In combination with a fixture, substantially as described, having a movement independent of the pulley I, the ratchet *d* arranged to revolve with or fixed to the curtain-roll, and the pawl *h* arranged upon the said pulley to engage the ratchet in one direction and leave the pulley free in the opposite direction, substantially as herein described.

116,930.—Molding Cigar.—John Charter, Sterling, Ill.

Claim.—The block A with said mortise therein, the said block B with said groove therein, the said block C with said groove therein, the said sliding block D fitted to and operating in said block C with the groove in said sliding block, and the said hooks G and staples F, all combined and operating substantially as and for the purpose above set forth.

116,931.—Machine for Seaming Cylindrical Tin Boxes.—Jonah R. Cole, New York, N. Y., assignor to himself, Thomas G. Browne, and Charles Herring.

Claim.—The rollers *m m*, adjustable upon the shafts *b* and *g* of the tinman's crimping-machine, in combination with the rollers *l l* at the ends of said shafts, substantially as and for the purposes set forth.

116,932.—Vise.—Alexander Crease, Cleveland, Ohio.

Claim.—1. The brackets H I, as arranged in relation to and in combination with the slide D, in the manner substantially as described, and for the purpose specified.

2. The slotted jaw B, slide D, brackets H I, jaw A, screw C, and nut F, all arranged to operate in the manner as and for the purpose set forth.

116,933.—Manufacture of Paper-Pulp from Straw.—Charles M. Cresson, Philadelphia, Pa., assignor to Robert P. Dechert, same place.

Claim.—The production of a pulp from straw by a process in which two branches or treatments solely are combined, namely, the preliminary boiling in water in the manner described, followed by subjecting the product to caustic or carbonated alkali, as set forth.

116,934.—Chair for Boats. — Richard H. Cutter, Cleveland, Ohio.

Claim.—The frames A and B, straps *c d*, hooks and screws *b b*, cushions F and *g*, when all are constructed and combined as shown, and for the purposes set forth and described.

116,935.—Skate.—Charles T. Day, Newark, N. J.

Claim.—The eccentrically-pivoted lever E, combined and arranged with the heel and toe-clamps of a skate, substantially as specified.

116,936.—Combined Shears and Button-Hole Cutter.—Samuel W. Eastren, Tremont, N. Y.

Claim.—1. The shear-blades A A, pivoted together at *x*, and extended in rear of said pivot-point, forming the graduated blades B B, all substantially as and for the purposes herein set forth.

2. The handles C D C D, pivoted independently on the same pivot that connects the shear-blades, and provided with headed swivel-pins *b b*, substantially as and for the purposes herein set forth.

3. The combination of the shear-blades A A, graduated blades B B, handles C D C D, and the headed swivel-pins *b b*, or other suitable device for attaching the handles to either set of blades, all constructed and arranged substantially as and for the purposes herein set forth.

116,937.—Water-Wheel.—Daniel Ehrhart, Bel Air, Md.

Claim.—1. The arrangement, substantially as described, of the gates for a water-wheel so that the mechanism for opening and closing the gates will operate directly on the rods or pins which, rigidly attached to said gates, pivot said gates in the casing, as set forth.

2. The combination of the grooved wheel H, slotted arms I I, pins *a a* and *b b*, and gates J J, all substantially as and for the purposes herein set forth.

3. The combination of the wheel A B, rims C C', plate D, sleeve E, spindle G, wheel H, arms I, gates J J, and pins *a b*, all constructed and arranged substantially as and for the purposes herein set forth.

116,938.—India-Rubber Shoe.—Lewis Elliott, Jr., New Haven, Conn., assignor to L. Candee & Co., same place.

Claim.—The corrugations in an India-rubber shoe made upon a last, with a cord interposed between the lining and sheet-rubber, as and for the purposes set forth.

116,939. — Universal Joint for Shaft-Couplings.–Joseph F. Emmert, Waynesborough, Pa.

Claim.—1. The connecting-block A, constructed with the two eccentric grooves *a a'*, substantially as and for the purposes set forth.

2. The forked plates B B, with their forked ends curved toward each other, and their opposite extremity adapted to be fastened to the shafting, substantially as and for the purposes set forth.

116,940.—Churn.–Francis Marion English, Evansville, Ind.

Claim.—The dasher B, constructed of a disk having a series of paddles or boards, *b b*, of a curvilinear form, and arranged radially upon said disk with reference to its center, substantially as herein shown and described.

116,941.–Attaching Knobs to their Spindles.—William A. Fenn, Rochester, N. Y.

Claim.—The spindle A, constructed to receive the screw E, combined with the knob B having the nut L arranged therein, so that the head of the screw may be drawn hard down upon the said nut to fix the position of the said knob, substantially as described.

116,942.—Brick-Machine.–Alexander Ferguson, David Ralston, and George Hildreth, Troy, N. Y.

Claim.—1. The packing-plates *e e*, constructed as described, and attached to the plunger or piston D, substantially as and for the purposes herein set forth.

2. The spring-plate *f*, attached to the box A, and operating upon the plunger or piston D, substantially as and for the purposes herein set forth.

3. The socket H, rod H' with notch *i*, and the lever L with tooth *m*, constructed and arranged to operate substantially in the manner and for the purposes herein set forth.

4. The combination of the connecting-rod H H', crank K with enlarged and slotted end, shaft I, arms J J, and rod *k*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

116,943.—Apple-Parer and Slicer.—Calvin A. Foster, Fitchburg, Mass., assignor to Sewall K. Lovewell, David Huntoon, and Cyrus A. Foster, same place.

Claim.—1. An apple-parer, having a rotating cutter and a fork which is moved from position to permit the cutter to complete its rotation after the apple is pared.

2. The combination and arrangement of the gears and cutter-wheel *g*, cutter-arm *x*, fork-arm *p*, and swing-plate *r*, substantially as shown and described.

3. In combination with a slicing mechanism, the bent knife *f*', operating to cut the apple, substantially as described.

4. In combination with a paring-knife and a slicing-knife, a swinging fork, that is continuously rotated in one direction for the paring operation and is intermittently rotated in the opposite direction for the action of the slicer.

116,944.—Electro-Magnetic Apparatus. Samuel Gardiner, Jr., New York, N. Y.

Claim.—1. Two or more electro-magnets placed opposite each other, and so connected as to be operated by one circuit, in combination with the ratchet-wheel I, the pawls or catches *m*, spiral springs H, adjustable collar-screws *n*, rods E and retaining-springs *g*, for turning on and off the gas of street-lamps or other gas-fixtures by electricity, arranged as described, for the purpose set forth.

2. Two or more pairs of electro-magnets arranged in one circuit, and operating simultaneously upon a ratchet-wheel or its equivalent, as and for the purpose set forth.

116,945.—Bridle-Bit. — Algernon Gilliam, Pittsburg, Pa.

Claim.—1. The combination of the cheek-pieces A A with the lever B, when the latter is attached to the bit proper, and pivoted in the manner and for the purpose herein described.

2. The construction and arrangement of a bridle-bit in the manner herein described, so as to admit of the arm to which the bit is attached being raised or loosened within a slot contained in the cheek-piece concentric with the point of attachment of said arm.

116,946.—Harness-Saddle.—Algernon Gilliam, Pittsburg, Pa.

Claim.—1. In a harness saddle-tree, the flanges D D formed upon the inner side thereof, in the manner and for the purposes herein set forth.

2. The combination of the spring or plate B with the slot E formed in a saddle-tree, and the flanges D D, in the manner and for the purposes herein set forth.

3. The combination and arrangement, as herein described, of the straps or stiffener C, spring B, and saddle-tree with its flanges and slots, in the manner and for the purpose herein set forth.

116,947.—Sewing-Machine for Boots and Shoes.—Charles Goodyear, Jr., New Rochelle, N. Y.

Claim.—1. The combination, with a curved vibratory needle, as described, of a feed-dog having a back-and-forth rectilinear motion, and a rocking out-and-in motion, the latter motion being concentric with that of the needle, substantialy as shown and described.

2. The combined feed-dog and channel-gauge, constructed and operating substantially as herein shown and described.

3. The combination of the curved needle and the combined feed-dog and gauge with the mechanism for operating the same, under the arrangement, substantially as described, whereby the work is held in position by the needle while the combined feed-dog and gauge releases the work and takes a fresh hold thereon preparatory to producing the feed, as set forth.

4. The combined feed-dog and gauge operating in the channel as described, and curved inwardly at its lower end so as to move laterally in the channel in the sole to effect the feeding movement without lifting up the lap over said channel, substantially as shown and described.

5. The combination, with the curved needle, of the combined feed-dog and gauge made adjustable, substantially as herein described, so that the part which enters or rests in the channel in the sole may be raised or lowered with reference to the needle.

6. In combination with the vibratory edge-gauge, operating substantially as specified, the mechanism herein described, or the substantial equivalent thereof, for locking or rendering rigid the said gauge at the proper intervals, as set forth.

7. The edge-gauge and the rock-shaft upon which it is mounted, in combination with the system of levers and spring and slide-bar, constructed and arranged substantially as herein described, for actuating and locking said gauge at the proper intervals, as set forth.

8. The combined edge-gauge and welt-guide, when mounted concentrically with the needle and operated by the rock-shaft and locking mechanism, as herein shown and described.

9. The combination of the vibratory edge-gauge and the sliding auxiliary edge-gauge with the mechanism herein described for actuating and locking the same, whereby both gauges are held rigidly by the operation of the same locking mechanism.

10. The auxiliary pressure-gauge arranged to bear at the proper time upon the top of the seam in the sole on the opposite side of the needle from the feed-dog, substantially as shown and described, to prevent the needle from lifting the sole from the last when drawing up the loop.

11. The auxiliary pressure-gauge mounted upon the same rock-shaft or axis with the vibratory edge-gauge, and actuated to move in unison with the same toward or away from the work, as set forth.

12. The combination, with a needle-shield mounted and operating concentrically with the needle, of the devices herein described, or their substantial equivalent, for keeping said shield at all times as near the needle-barb as possible both before the needle enters and after it withdraws from the work.

116,948.—Paper Collar.–Solomon S. Gray, Boston, Mass.

Claim.—As a new article of manufacture, a collar made of paper, or paper and cloth combined,

having the ends of the turn-over portion thereof made double by folding the part C under the part B, the said double ends being embossed or struck up, as at *d*, so as not to obstruct the neck-tie space, substantially as described.

116,949.—MANUFACTURE OF COMPOSITION PIPES FOR WATER, GAS, &c. — James Rent Griffin, Watertown, Canada.

Claim.—1. The combination of a composition pipe, as described, with a pipe of cement, concrete, clay, or artificial stone, or their equivalents, placed within the said composition, substantially as described.

2. The combination of the said composition pipe with the said cement pipe, when the said composition pipe is incased within the said cement pipe, substantially as described.

3. The composition pipe interposed between the cement pipes, substantially as and for the purpose set forth.

4. The clamp *v*, moving in guides, and operated as described, in combination with the clamp v^1, substantially as set forth.

5. In combination with the clamps v v^1, the guides *m m*, core *n*, feeding-roller *i*, vat D, and the driving mechanism, as set forth.

6. The self-adjusting pressure-roller *p*, core *n*, feeding-roller *i*, and vat D, in combination with the guides *m m* and the clamping mechanism, substantially as described, and for the purpose set forth.

7. The improved method of manufacturing a composite pipe by intermixing in a vat the fiber, in a pulpy state, with the adhesive and preserving compound, and feeding them unitedly to the core of the pipe, substantially as described.

116,950.—BILLIARD-TABLE.—Louis A. Grill, New York, N. Y.

Claim.—In a billiard-table bed, the combination with the frame A and paper covering E, of a filling of plaster or other suitable material supported on a bottom B, substantially as described.

116,951.—FABRIC FOR BEDS OF BILLIARD AND OTHER TABLES AND FOR OTHER PURPOSES.—Louis A. Grill, New York, N. Y.

Claim.—The within-described fabric, composed of wooden strips enveloped in a plastic substance or compound and covered by paper facings, substantially as specified.

116,952.—BEARING FOR JOURNAL-BOXES.—Henry Grogan, Flatbush, N. Y.

Claim.—The journal-box or bearing herein shown and described, the surface of the same formed with a series of broad spiral sections B B, and flaring grooves C C with open ends, constructed and arranged, as herein shown, for the purpose specified.

116,953.—REFLECTOR FOR LAMPS.—John W. Haines, Cambridge, Mass.

Claim.—A concave glass reflector, molded and pressed into suitable form, and having a central eye, *b*, and a connector, *a*, the connector and glass being fastened together by a pin or bolt, all substantially as shown and described.

116,954.—BURGLAR-PROOF SAFE.—Edward K. Hall, Louisville, Ky.

Claim.—1. A safe, having its body built up of the plates *a* and *b*, constructed as herein described, in combination with the corner pieces *c*, all arranged as herein set forth.

2. The plates *a*, having a flange, *e*, formed along one edge, and having a recess or rabbet formed along their remaining three edges on the opposite side from the flange, substantially as set forth.

3. In combination with the plates *a*, the back plate *b*, recessed along its four edges, as described.

116,955.—RATCHET-DRILL.—Ira S. Hamilton, Hamilton, Ohio.

Claim.—1. A ratchet hand-drill, constructed substantially as herein described, in which the intermediate wheel J and the wheel E have each a handle-socket N and N', respectively, and the loose frame H, which supports the intermediate wheel, is provided with the means shown, or their equivalents, for holding it stationary, all in the manner and for the purposes set forth.

2. In a ratchet hand-drill, constructed substantially as herein described, the automatic feeding mechanism composed of the screw-threaded spindle a^1, nut K *c*, sleeve L *b d*, and stud *e* of the wheel D, operating in the manner set forth.

116,956, antedated July 4, 1871.—GANG-PLOW.—William Hay and Thomas B. Freeman, Hillsborough, Oreg.

Claim.—1. The frame F having the plows G attached, in combination with the axle A having the arms *f* attached, the frame and axle being connected by the hinged rod or stirrup I, substantially as described.

2. The axle A, having the plates *e* secured to each end, in combination with the bent arms C having the lever E and catch *c* rigidly attached thereto, said arms being pivoted one to the upper and the other to the lower side of the axle, substantially as set forth.

116,957.—WAGON-BRAKE.—Dorus Healy, South Danville, N. Y.

Claim.—1. The combination of the bar F, having the rod I attached, with the bar E, rock-shaft G with its arms *i d*, and rod H, constructed and arranged to operate substantially as described.

2. The plates *a* attached to the bar E, in combination with the T-shaped lugs *c* attached to the sliding bar F for holding the latter in place and guiding it in its movements, as set forth.

116,958.—CARPET-BEATER.—James Hothersall and Joseph Banks, New York, N. Y.

Claim.—1. The rigid beaters C, secured to the ends of elastic arms A, in combination with trip-wheels *d*, tappet-levers *e*, rods *f*, belt *g*, flexible platform D, and feed-rollers G, all constructed and operating substantially as shown and described.

2. The oscillating front brush I and revolving back brush H, in combination with the rigid beaters C, flexible platform D, and feed-rollers G, substantially as set forth.

116,959.—SHOE.—George C. How, Haverhill, Mass.

Claim.—1. The instep part *a* of the shoe upper, as connected to the side portions or next adjacent parts of the upper or vamp of the shoe by elastic gores *d d*, arranged substantially as described.

2. In a shoe, the instep portion *a*, arranged to extend outside of and down each of the quarters *b b*, and connected with the vamp or part of the shoe below each instep portion by elastic gores *d d*, arranged as set forth.

3. In a shoe, the instep portion *a*, arranged to extend outside of and down each of the quarters *b b*, and connected with the vamp or part *c* of the shoe below each instep portion by elastic gores *d d*, as set forth, and having ribbons or gore-covering strips *e e* arranged with such gores in manner as described.

116,960.—CHILD'S NURSERY-GATE.—Eugene Howard, Milford, Mass.

Claim.—1. The right-and-left-hand screws *h h*, in combination with the frame *c c* for the purpose of adjusting a nursery-gate, substantially as herein-before specified.

2. The combination and arrangement of the double sliding rails *c c*, the center rail *g*, and the frame *c c*, substantially as and for the purposes herein-before set forth.

3. The combination and arrangement of the hard rubber pieces *d d*, or their equivalent, the frame *c c*, the rails *c c*, and the center rail *g*, the whole being combined, constructed, and arranged substantially as and for the purposes hereinbefore described.

116,961.—CAR-WHEEL.—Lewis B. Hunt, New York, N. Y.

Claim.—A car-wheel, combining an independent rim, a hub, and an irregular row of elastic cylinders interposed between them, when constructed as described—that is to say, having the hub made in two parts, B B', each bearing upon the axle, one of said parts, B, supporting the whole width of the rim C, and also supporting the rim laterally on the inner side at *b*, and the other part B' supporting the rim laterally on the other side, substantially as described.

116,962.—DRAUGHT-REGULATOR.—Albert L. Ide, Springfield, Ill.

Claim.—In combination with a reciprocating piston actuated by the pressure of steam within a boiler, and with suitable intervening mechanism, an alarm-bell so arranged as to sound when said steam-pressure falls below a fixed limit, substantially as and for the purpose specified.

116,963.—THILL-COUPLING.—John Henry Jennings, New Bedford, Mass.

Claim.—The separate metallic concave plate G, provided with the vent-lug *g* arranged as specified, in combination with the movable piece E and rubber cushion F, substantially as described.

116,964.—COTTON-BALE TIE.—Charles G. Johnson, New Orleans, La.

Claim.—The cotton-bale tie herein described, provided with the closed slot F and open slot C, having the projections *c* and *c*, and the strengthening-bar D, when all are constructed and arranged as shown, for the purpose set forth.

116,965.—HAY AND COTTON-PRESS.—David Knowles, Philadelphia, Pa.

Claim.—In the press herein described, the combination of the supplementary box *a* and head-block E, with cross-beam J provided with sheaves *d d*, the rope or chain *c* and P, sheaves d' d', windlass *g*, wheels N N', screw I, and clutch-pin *f*, when all are constructed and arranged substantially as shown and described, for the purpose set forth.

116,966.—COMBINED SKID AND TRUCK.—James M. Lane, South Norwalk, Conn.

Claim.—The combination of the skids and truck, as herein described, the said truck provided with a tilting-table, F, the whole constructed as herein set forth to carry the truck up and down the skids.

116,967.—STENCH-TRAP.—Samuel Lawrence, New York, N. Y.

Claim.—The combination of a valve, E e' F f', with the discharge-pipe of a stench-trap, substantially as herein shown and described, and for the purpose set forth.

116,968.—STEAM-ENGINE GOVERNOR.—Benjamin S. Lawson, Brooklyn, N. Y.

Claim.—1. Operating the pump of a Pitcher governor from the valve-motion of a steam-engine by means of the rod *b*, or its equivalent, directly connecting the two, substantially as and for the purposes herein specified.

2. The Pitcher or pump-governor and its regulating means L, so arranged and operating relatively to the variable cut-off mechanism of a steam-engine, by which it is operated, that the governor shall adjust the point of cut off correctly to maintain a uniform or approximately uniform speed, while the mean speed is itself increased or diminished at will by adjusting the piece L, or its equivalent, all substantially as herein set forth.

3. The within-described construction and arrangement of the valves and passages of the pump of the Pitcher governor, whereby all the four valves and their controlling springs are secured by a single plate, and may be got at for repairs by the removal thereof, as set forth.

116,969.—PRESERVING, COLORING, AND SEASONING WOOD.—Frederick Lear, St. Louis, Mo.

Claim.—1. The hereinbefore-described method of preserving timber, substantially as shown and specified.

2. The hereinbefore-described method of seasoning timber, substantially as and for the purpose set forth.

3. The hereinbefore-described method of coloring timber, substantially as and for the purposes shown.

4. The concave serrated disk or head H, substantially as shown, and for the purpose described.

5. The ring N, constructed as described, and combined with the head E and the rubber plate F, or its equivalent, substantially as and for the purpose specified.

6. In combination with the head H and post C, the bar G provided with the roller *g*, and the cam I provided with the lever I', substantially as shown and for the purpose set forth.

7. In combination with the frame A and movable post C, the pawls K and racks L, substantially as and for the purpose shown.

8. The relative arrangement of the clamping-press A, B, and C, the air-pump O, and the force-pump Q, substantially as and for the purpose specified.

9. The clamping-press, composed of the heads E and T connected together by means of the chains R and rods S, the bar G, the sliding head H', and the cam and lever I, substantially as shown and for the purpose described.

116,970.—APPARATUS FOR THE MANUFACTURE OF SALT.—Robert Gilmour Leckie, Acton Vale, Canada.

Claim.—The traveling surface *u*, transverse strips u', ropes *w*, friction-pulleys or rollers t', together with the evaporating-vessel *g*, and other parts of the apparatus, working substantially as and for the purposes set forth.

116,971.—WASHING-MACHINE.—William Lewis, Webster, N. Y.

Claim.—The adjustable bar C, sliding upon the standards *k k*, and held by screws or pins, when combined with the presser B and concave A, in the manner and for the purpose specified.

116,972.—PADLOCK.—Oscar D. Madge, Washington, D. C.

Claim.—The plate A', which inclines from the center of the aperture for the staple toward each end, and has grooves a' a' at the sides of such aperture, in connection with a staple the shoulders F *f* of which overhang the aperture upon every side, and are formed substantially as described, all for the purposes set forth.

116,973.—METALLIC HEEL.—Austin S. Mann, St. Louis, Mo.

Claim.—1. The combination of the hollow metallic or shell-heel A and shank B, when the latter is attached at a pivot-center, *b*, on the front wall *a* of the heel, so as to operate substantially as described, as and for the purpose specified.

2. The combination of the metallic heel A and the detachable ring or plate C, when the latter is provided with tacks or pins *c c* for securing the pad, and is formed, in the manner described, so as to allow of the removal of said tacks or pins and the substitution of new or additional ones when the pad is required to be renewed, substantially as described, as and for the purpose specified.

116,974.—PLANT-PROTECTOR.—Isaac Mayfield, Mayfield, Ky.

Claim.—The flower or plant-protector, consist-

ing of the triangular supports A and inclined sides B provided with the projecting points C on each side of the slot or opening D, substantially as herein shown and described.

116,975.—Railroad Rail.—Almeron McKenney, Maumee City, Ohio.

Claim.—A compound rail for railroads, consisting of the hollow arched base-rail B, provided with an outward flange on each side, grooved the entire length of each flange at the lower sides of the arch walls a a, in combination with the exterior cap-rail H, overlapping the top and entire sides of the base-rail, with its extremities fitting into the grooves in the same, and secured by lateral bolts, all substantially as and for the purpose set forth.

116,976.—Composition for Preserving Eggs.—James Timmons McKim, Remington, Ind.

Claim.—The composition for preserving eggs herein specified.

116,977.—Padlock.—James H. McWilliams, New York, N. Y.

Claim.—The staple-formed shackle b made with shoulders i to take the upper part of the case a and form a stop to determine the position of the notches in the shackle relatively to the circular tumblers e, and to prevent the ends of the shackle being driven against the bottom plate f, as set forth.

116,978.—Paper-Pulp Engine.—Harrison B. Meech, Fort Edward, N. Y.

Claim.—The double-cone cylinder and double-cone shell surrounding the same, both having uneven surface-plates for grinding straw, wood, grass, and the like, substantially as described.

116,979.—Manufacture of Paper-Pulp.—Harrison B. Meech, Troy, N. Y.

Claim.—1. The process of reducing *zizania aquatica* or water-oats to a pulp for the manufacture of paper, substantially as herein described.

2. A pulp for the manufacture of paper, obtained from *zizania aquatica* or water-oats by the process herein described, or its equivalent.

116,980.—Process and Apparatus for the Manufacture of Paper-Pulp.—Harrison B. Meech, Troy, N. Y.

Claim.—1. The combination of the boiler A, double-cone grinder B, circulating-pipe C, and pump D, substantially as and for the purpose set forth.

2. The shaft *d*, distributing-disk *b*, and agitator *c*, in combination with the boiler, as and for the purpose set forth.

3. The circulating-tube C with tube C^2 and cocks J and K, as described.

4. The process, herein described, of reducing straw, wood, or other fibrous substance to pulp for the manufacture of paper, the same consisting in boiling and grinding said substances in a weak solution of caustic alkali of about 1° strength Baumé, substantially as described.

116,981.—Bag-Holder.—Charles K. Mitchell, Groenville, Mich.

Claim.—The bag-holder, constructed substantially as described, wherein the plate C and hale F are combined with base A, standard B, and set-screw D, all constructed and arranged substantially as and for the purposes set forth.

116,982.—Watch-Key.—James L. Moore, Bridgeport, Conn.

Claim.—A watch-key with socket and handle, made by grooving and bending a piece of metal as described, and having the socketed portion held together by a collar or ring, all substantially as and for the purpose set forth.

116,983.—Roofing Compound.—Harrie Morrie, Rockford, Ill.

Claim.—The manufacture or preparation of a compound for roofing purposes of the ingredients and in substantially the proportions set forth.

116,984.—Argand-Lamp Burner.—Thomas H. Mott, New York, N. Y.

Claim.—1. The combination of the hollow inverted perforated cone F with the wick-tube D E, essentially as herein set forth.

2. The combination of the perforated outer cap or shell A and inner inverted perforated cone F with the wick-tube of the burner, substantially as shown and described.

3. The combination of the flame-regulating button G with the inner inverted perforated cone F, the outer perforated cap or shell A, and the wick-tube of the burner, when arranged substantially as described.

116,985.—Shingle-Machine.—Franklin Muzzy, Bangor, Me.

Claim.—1. The combination of the latch e^1, bar *g*, and lever *h*, as described.

2. The combination of the lever *e*, tongue *i*, lever *k*, and levers *l F*, as set forth.

3. The combination of the carriage A, finger *f*, connecting-bars d^2 e^4, lever *e*, counter-weight e^3, rod *f*, and arms f^1 f^2, as explained.

4. The combination of the shaft *o*, arm o^2, pitman o^3, handle o^4, and stand *u*, as described.

5. The combination of the lever *p*, arm p^2, pawl p^4, and ratchet p^5, as described.

6. The combination of the saw-collar F′, shaft *s*, and drawing-nut s^1, as set forth.

116,986, antedated July 4, 1871.—Elastic Chain-Link.—Ephraim Myers, Creagerstown, Md.

Claim.—Yielding chain-links, constructed substantially as herein specified.

116,987.—Corn-Sheller.—George O'Connor and Haines O'Connor, Mishawaka, Ind.

Claim.—1. The cylindrical vessel A, provided with ribs C C, constructed as described and shown, and springs D D, all arranged substantially as and for the purposes herein set forth.

2. The combination of the cylindrical vessel A, ribs C C, constructed as described, springs D D, and cylinder E, provided with rib or ribs *d*, all constructed and arranged to operate as shown.

116,988.—Shingle-Machine.—Oliver A. Olmsted, Sebastopol, Cal.

Claim.—1. In the shingle-machine, the arrangement of the dog S, joining-knife U, and splitting and shaving devices, substantially as shown and described.

2. The carriage E, with the spring K attached to the pitman, and operating substantially as and for the purposes described.

116,989.—Fence.—Preston C. Pearson, Louisville, Ky., assignor to himself and T. E. C. Brinly, same place.

Claim.—The combination of the panels A B, constructed with tenoned beams C C′, post E, and castings D and D^1, substantially as and for the purpose set forth.

116,990.—Cap for Billiard-Table Bolt-Heads.—Jules Plunkett, New York, N. Y.

Claim.—A covering or cap for bolt-heads, composed of the cap *c*, made of any suitable material and design, formed with a polygonal eye in the center of its face, and provided with a securing-screw, *d*, having a polygonal portion, *e*, adapted to enter the bolt-head and clamp the cap thereon, in the manner herein described.

116,991.—Rotary Harrow.—Roland Rakestraw, Wyoming, Ill.

Claim.—1. The center disk B, constructed with the outside arms *b*′, substantially as and for the purpose set forth.

2. The disk B, in combination with the radial arms A, independently hooked to the disk to allow the vertical play, as and for the purpose set forth.

116,992.—Cooking-Stove.—Albert J. Redway, Cincinnati, Ohio, assignor to Redway & Burton, same place.

Claim.—1. The air-chambers D in the division-plates of the stove-top, provided with eduction-apertures B and induction-apertures A, whereby air is introduced into said chambers from a point below the path of the flame and discharged above the stove-top, substantially as described.

2. The fire-pot, having its rear plate H arranged to slide to and fro for the purpose of cleaning it of ashes and cinder so as to admit of the passage of air, substantially as set forth.

116,993.—Backband-Hook for Harness.—Samuel Reynolds, Pittsburg, Pa.

Claim.—The backband-fastening herein described, provided with the hook B, middle bar C, and bar C′, having the guard *d* and the lateral rigid prongs or hooks E E, substantially as specified.

116,994.—Manufacture of Hydrocarbon Gas.—Frederick A. Sabbaton, Troy, N. Y.

Claim.—1. Utilizing the heat and gaseous products of combustion by conveying them into a retort by means of and in combination with a current of dry or superheated steam for the production of hydrogen gas, substantially as described.

2. The arrangement of the steam-pipe F, the injection-tube G, the flue-tube D, and the oil-tube H, in combination with a furnace or fire-box and a gas-retort, substantially as and for the purposes described.

3. The flue D, substantially as and for the purposes shown and described, in combination with a furnace and a gas-retort.

116,995.—Fish-Nursery.—Randolph E. Sabin, West Springfield, Mass.

Claim.—1. Combined with the side of a fish-tank A, one or more compartments, constructed substantially as shown and described, containing the screens C and D, and having the removable door.

2. The combination, forming a complete nursery, of the tank A, compartments, and hatching-troughs, substantially as and for the purpose shown and described.

116,996.—Curtain-Fixture.—Lodowick L. Sawyer, San Francisco, Cal.

Claim.—In combination with the drum C upon which the cord is wound for rolling the curtain, the shaft A and ratchet D provided with suitable springs, substantially as described, to create a friction between the said drum and ratchet, and the fixed pawl *a* to act with the said ratchet to apply or remove the friction, in the manner substantially as set forth.

116,997.—Compound for Coating Textile Fabrics.—Joseph Schultz, New York, N. Y. assignor to himself and Leopold Hecht, same place.

Claim.—1. A compound made of flaxseed or Irish moss, balsam of fir, tapioca boiled in water, and a suitable coloring matter, mixed together substantially as and about in the proportions herein set forth.

2. The combination of the above-named compound with cloth or other textile fabric by applying the same to the fabric and exposing it to the action of suitable dies, substantially in the manner described.

116,998.—Seed-Tube for Corn-Planters.—Levi Scofield, Watertown, Wis.

Claim.—1. A seed-tube for corn-planters, through which the seed from the hopper drops without obstruction into an open receptacle at the back of said tube upon the upper surface of a valve hung in said receptacle, and operated by an independent oscillating lever pivoted to the back of the seed-tube so as to leave the whole upper surface of the valve exposed to view from each side, substantially as herein described, for the purpose specified.

2. The V-shaped box C, in combination with the oscillating valve and lever, all arranged outside of the seed-tube, substantially as described.

116,999.—Weighing-Scales.—George Scott, Montreal, Canada, assignor to Hubert R. Ives and Roger N. Allen, same place.

Claim.—The semi-spherical twine-receptacle *d*, provided with suitable openings for the withdrawal of the twine, in combination with the semi-spherical cover *e* with plate *f*, the latter being adapted to hold the weights and serve also as a handle for raising the cover, the holder *d e* being located beneath the balance-beam, so that the twine may be withdrawn therefrom without interfering with the movements of the scale, as described.

117,000.—Thimble-Skein for Wagons.—Albert L. Shears, St. Louis, Mich., assignor to himself, Timothy Hutchings, and John L. Sandell, same place.

Claim.—A cast-iron thimble-skein for wagons, having a wrought-iron tang, B, secured thereto, substantially as described.

117,001.—Window-Blind.—Seeley M. Sherman, Fort Dodge, Iowa.

Claim.—1. In a window-blind having wooden slats, the metallic ends formed of sheet metal, part of which is bent over to firmly clamp the ends of the slat, and provided with a projection, *a*, which is pivoted to the stile by headed pins, as and for the purpose set forth.

2. The combination of the frame-slats A′ with metal ends and washers, as described.

3. The slotted and pivoted bar, combined with the blind-rod, when operated by means of the toothed wheel, as described.

117,002.—Sewing-Machine.—John P. Sherwood, Fort Edward, N. Y.

Claim.—1. The bent-arm *w*, provided with the double-beveled slot B, in combination with the double-tapered friction-roller C, or its equivalent, as explained.

2. The combination of the bent arm *w*, vertical shaft *s*, sway-bar E, and shuttle-carrier F, all constructed as described.

3. The shuttle K, provided with the spring-tongue H, when the same supports one end of the spool I and is sunk within the plane of the outer surface of the shuttle side, as set forth.

117,003.—Meat and Vegetable-Cutter.—Albert R. Silver, Salem, Ohio, assignor to himself and John Deming, same place.

Claim.—1. The cast-metal frame A, constructed with elongated bearings *b* b^1 b^2 for the shafts of spur-wheels D D′, in combination with the vibrating knife-arm G, substantially as described.

2. The horizontally-flanged T-head formed on the curved knife-arm G, in combination with the knife-blade *g* and the set-screws and supporting-screws *y y*′, substantially in the manner described and shown.

3. The vertically-adjustable bearing J, vibrating knife-arm *g*, and meat-tub N, combined and operating substantially as described.

4. The spring S, thumb-pin *e*, and retaining-pin *y*, in combination with pitman-pivot *t* and knife-arm G, substantially as described.

5. The curved pawl or feed-bar L and its spring

S, in combination with the ratchet-wheel w on tub N, and with the vibrating knife-arm G, substantially as described.

6. The catch or stop r on the stand A, in combination with the curved feed-bar, curved knife-arm, and a removable meat-tub, substantially as described.

117,004.—WAGON.—Jacob Skeen, Mound City, Ill.

Claim.—1. The cross bearing-plate B, constructed substantially as described and shown.

2. The combination of the cross bearing-plate B and the side rails C, constructed and secured together, substantially as described and shown.

3. The side rails C, provided with the groove f^4, in combination with the hind wheels G, constructed and arranged substantially as described and shown.

4. The combination of the wheels G, the spindles H, and the journal-boxes f^3, all constructed and arranged substantially as and for the purpose described and shown.

5. The combination of the wheels G, the spindles H, and the trusses g, constructed and arranged substantially as and for the purpose described and shown.

6. The combination of the side frames E and E', constructed and arranged substantially as described and shown.

7. The combination of the side frames E and E' with the yokes F, all constructed, arranged, and connected substantially as described and shown.

8. The combination of the trucks U, the truck-boxes T, and their frames S, all constructed and arranged substantially as described and shown.

9. The combination of the trucks U, the truck-boxes T, the frames S, and shafts V and Y, all constructed and arranged substantially as described and shown.

10. The combination of the trucks U, the truck-boxes T, the frames S, the shafts V and Y, and the wheel u, the pinion W, and the gear-wheel X, all constructed and arranged substantially as described and shown.

11. The covering-plate J, provided with the frame K cast in one piece, and constructed and arranged substantially as described and shown.

12. The brake P, composed of the wheel l, the chain l', and the lever o, all constructed, arranged, and operated substantially as described and shown.

13. In combination with the covering-plate f provided with the frame K, the balance-pawl L, constructed, arranged, and operated substantially as described and shown.

14. The combination of the shaft N, the wheel Q, the cord R, the brake P, the ratchet-wheel M, the pawl L, and the lever O, all constructed, arranged, and operated substantially as described and shown.

15. The combination of the forward and rear winches in one wagon, each winch being constructed, and both arranged and operating as described and shown.

16. The body Y', constructed, arranged, and operated substantially as described and shown.

17. The combination of the body Y', the shafts N, Y, and V, and their operative devices, all constructed and arranged substantially as described and shown.

18. The wagon A, as a whole device, with its several parts constructed, arranged, and operating substantially as described and shown.

117,005.—ANIMAL-TRAP.—Barton C. Smith, Pekin, Ill.

Claim.—1. The arrangement, in an animal-trap, of two distinct and separate compartments, each with a hinged drop connected with a rocking-door, to alternately open and close the entrances to said compartments, substantially in the manner and for the purposes herein set forth.

2. The combination of the sector H, rod b, arms c c, and drops I I, all constructed and operating substantially as and for the purposes herein set forth.

3. In combination with the box provided with the drops I I and sector H, arranged as described, the lighted chamber E provided with the jagged projections h h, all substantially as set forth.

117,006.—BASE-BURNING STOVE.—David Smith, Albany, N. Y.

Claim.—1. In a stove, the flue B constructed and arranged within the base A in front, and terminating at the sides of the ash-pit C at the rear, substantially as and for the purpose set forth.

2. In a stove, giving entrance to the ash-pit C from the rear of the same, substantialy as and for the purposes set forth.

3. In a stove, the flue G running obliquely from the rear and top of the fire-box D to the bottom and front of the same, converging in the opening d' communicating with the flue B, substantially as and for the purpose set forth.

4. In a stove, the sloping division-plate d, when placed between the cylinder E and fire-box D in a manner to produce the chambers or flues G and H, having reverse directions of draught to and from the front of the stove, substantially as and for the purpose set forth.

5. Giving the grate K an inclination in the fire-pot from an elevated point back to a depressed point front, substantially in the manner set forth, for the purpose specified.

6. The plates M, in combination with the ring L, and both in combination with the cylinder E, substantially as and for the purpose set forth.

7. The combination of the dome O with the reservoir N, when arranged substantially as and for the purpose set forth.

8. Feeding air from the rear of the stove to the under side of the grate K, substantially in the manner and for the purpose set forth.

9. The dampers s, v, and s', in combination with the door P, when arranged substantially as and for the purpose set forth.

10. Constructing the drum Q in sections q, q', and q'', or in an equivalent manner, whereby the said drum may be turned from over the plates M, substantially as and for the purpose set forth.

11. In combination with the drum Q, constructed as described, the shelves t, substantially as and for the purpose set forth.

12. Operating two or more concentric groups of rings or bars in a grate, K, in opposite directions to each other, by means of the lever T operating the several groups k k', substantially as and for the purpose set forth.

117,007.—FIRE-ESCAPE.—George C. Smith and Frank M. Burrows, Baltimore, Md.

Claim.—1. The rigid braces F, in combination with the suspending-frame C and the grooved holding-bars g of the frame B, for the purpose of obtaining inflexible braces having the capacity to fold and unfold by a sliding movement with the frame, and thereby prevent all entanglement of the parts, as described.

2. The curved guard G of the frame C, hinged so as to slide and fold and unfold with the braces F of said frame, as and for the purpose described.

3. In a fire-escape having a hinged sectional folding and unfolding frame, A B C, which supports the escaping devices, the combination therewith of the folding and unfolding rigid braces F, the folding and unfolding curved guards G, stops h, grooved bars G, and the folding and unfolding feet J, the several parts being constructed and arranged as described.

117,008.—STEAM-BOILER-FLUE CLEANER.—Charles H. Stebbins, Circleville, Ohio.

Claim.—1. The bend J J' forming the water-trap K in a flue-cleaning steam-jet tube, substantially as and for the purpose specified.

2. The flaring mouth H and spiral tongue I, in combination, substantially as and for the purpose specified.

117,009.—FURNACE-GRATE.—Elijah F. Steele, Wallingford, Conn.

Claim.—The ribs c, pivoted in boxes b, combined with transverse and two-part bars d d, which are end-beveled, and overlap each other to enable the grate to hold itself in position without jamming.

117,010.—FRICTION-PULLEY.—Joseph Steger, New York, N. Y.

Claim.—1. The spider A with its shoes D mounted firmly on the shaft B, in combination with the drum C, constructed and operating substantially as herein shown and described.

2. The friction-rollers f, in combination with the spider A, shoes D, shaft B, and drum C, substantially as set forth.

117,011.—CORN-HUSKER.—Jost Stengel, Croton, and Charles C. Davey, Big Prairie, assignors to Henry B. Hershberger and Charles C. Davey, Grand Rapids, Mich.

Claim.—1. The cutter D, constructed as described, with point b, the cutting-edge serrated on the under side, and with the slot d for the purpose of adjustment on the block H, substantially as herein set forth.

2. The combination of the block A, band B, loop C, and adjustable cutter D, all constructed and arranged substantially as and for the purposes herein set forth.

117,012.—KNOCK-DOWN CHAIR.—Volney Stockton, Williamsburg, Ohio.

Claim.—The combination of the chair-legs A A' B B', seat C, rails D D' d, stretchers E E', mortises s s, and tenons F s', for the object stated.

117,013.—ICE-BAG.—Samuel Stroock, New York, N. Y.

Claim.—As a new article of manufacture, a felt bag or wallet for preserving ice, substantially as herein described.

117,014.—END-GATE FOR WAGONS.—Jeremiah L. Stropes, Bloomfield, Ind.

Claim.—1. The combination of the braces d, cross-bar B, and gate D, constructed with cam-sides E, and having spring-catches K' attached to said cams, substantially as specified and for the purpose set forth.

2. The combination, with the wagon-body having the recessed transverse bar B with staples and braces d, of the gate D, provided with the catches K', side pieces E, and bent hooks, substantially as specified.

117,015.—ENVELOPE.—Martin Taylor, Buffalo, N. Y.

Claim.—The fold and laps A' a^3 a^2 a^1, arranged with the pocket A a a^1 a^1 of an envelope, as herein-before set forth.

117,016.—DEVICE FOR OPERATING SAFE-DOORS.—William Terwilliger, New York, N. Y.

Claim.—1. The secondary frame f, hinged at one end to the stationary door-frame a and at the other end to the safe-door b, near the vertical center thereof, and arranged, substantially as specified, so as to allow of the door b being drawn bodily out from the frame a, in the manner and for the purposes set forth.

2. The bolt or stop e, in combination with the secondary frame f, door b, and hinges c i, substantially as and for the purposes specified.

117,017.—MACHINE FOR ROLLING LOGS.—John Torrent, Muskegon, Mich.

Claim.—The arrangement and combination of toothed segment, radial connecting-rod, crank, swivel-pulley, fixed sheave, chain and chain-drum, when operating together as and for the purpose described.

117,018.—MATERIAL FOR FILLING MATTRESSES, CUSHIONS, AND OTHER ARTICLES OF UPHOLSTERY.—William H. Towers, Boston, Mass.

Claim.—1. The material herein described for filling mattresses, beds, cushions, and other articles.

2. The new articles of manufacture produced from the material herein described.

3. The process herein described for treating fibrous pulp, the same consisting in drying and disintegrating so as to produce a soft, spongy, and elastic material, substantially as set forth.

117,019.—DEEP-WELL PUMP.—Thomas Jefferson Trapp, Williamsport, Pa.

Claim.—In combination with the funnel-shaped bottom b of the pump-cylinder, the sliding band h, and the cover g for closing the orifice j, as shown and described.

117,020.—PANELING-MACHINE.—Dwight F. Walker, Minneapolis, Minn.

Claim.—1. The arrangement of the knives or cutters I I provided with inclined cutting projections h h on cutter-heads H H, constructed as shown and described, so that one will cut the rabbet and the other on the same head cut the molding, substantially as herein set forth.

2. The arrangement of the bars D D, having platforms E E, shafts G G, adjustable cutter-heads H H, and adjustable cutters I I and guides J J, constructed substantially as and for the purposes herein set forth.

3. The combination of the cutter-heads H H, constructed as described, with the adjustable guides J J, stationary table B, guide K, and spring L, all constructed and arranged substantially as and for the purposes herein set forth.

117,021.—THREE-HORSE EQUALIZER.—Luther Warren, Dwight, Ill.

Claim.—An equalizer, formed of the plate A, levers C C, and rods F F, with the clevis, links, and rings, or their equivalents, connected therewith, substantially as and for the purposes described.

117,022.—BUTTER-WORKER.—William Weaver, Phœnixville, Pa.

Claim.—The within-described butter-worker, consisting of an inclined bed A with flanges a a, grooves b b, and cars c c, the shaft B, and worker C f with handles D E, all constructed and arranged substantially as herein set forth.

117,023.—COMBINED KNOB-LATCH AND LOCK.—Shepherd H. Wheeler, Dowagiac, Mich.

Claim.—In a gravitating combined lock and knob-latch, having U-shaped bolt B, case A, cam or hub D, stem G, shoulder a, and any suitable knob-handles, the use of the collar d, opening b, elongated mortise F, projection c, hook E, tumbler H, shoulders I and T, stop J, beveled latch k, keeper L having the projection s, and auxiliary bolt o, substantially as and for the purposes set forth.

117,024.—PLOW.—Edward Wiard, Louisville, Ky., assignor to Benjamin F. Avery, same place.

Claim.—1. The standard A, with extended support a and with land-side B united thereto and terminating at g, leaving a shoulder for the plow-point D', substantially as and for the purpose set forth.

2. The frame G, constructed with lugs p p, bent and adapted to receive through them bolts which secure the mold-board handles to the plow, substantially as described.

117,025.—PNEUMATIC TELEGRAPH.—Arthur McNutt Wier and Marshall Arthur Wier, Elm Lodge, Newton Road, Bayswater, Great Britain.

Claim.—1. The combination of the compressing

instrument A, the distributing and relieving-valves H H', and the operating-lever D, whether simple or compound, substantially as described and shown in Figs. 1 to 8, and for the purposes herein set forth.

2. The arrangement of the operating-lever D, whether simple or compound, whereby both the compressing instrument and the distributing-valve are operated by the same motion, substantially as herein set forth.

3. The swiveled lever D, arranged *to* as to operate both the compressing instrument and any one of the distributing-valves that may be desired, by a single movement, substantially as and for the purposes herein set forth.

4. The combination of the relief-valve 11 with the bell-crank lever 8 and connecting rod 10, in Figs. 9, 10, and 11, the whole operating substantially as and for the purpose herein set forth.

117,026.—Covered Article for Table-Service.—Horace C. Wilcox, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The arrangement, as herein described, of a bell in the cover of articles of table-service, the said bell being made a part of such cover and constructed to be operated substantially as set forth.

117,027.—Cotton-Press.—Uriah T. Wilson, Independence, Miss.

Claim.—In a cotton-press, the combination, with the follower B, lever D, and channeled beam F, of the lifting-arm H provided with the roller *k*, all constructed substantially as and for the purposes specified.

117,028.—Adjustable Dam.—John A. Wood, Pittsburg, Pa.

Claim.—The combination and arrangement of the adjustable walls A and B, guide R, cams C, shafts D and D', driving-pulleys *e e*, chains *f f*, friction-pulleys *g*, wheel h, endless screw *i*, and driving-wheels J and K, constructed, arranged, and operating substantially as hereinbefore described, and for the purpose set forth.

REISSUES.

4,464.—Rotary Harrow-Teeth.—John F. Chase, Westbrook, Me. — Patent No. 113,141, dated March 28, 1871.

Claim.—As a new manufacture, a rotary tooth for a harrow, said tooth being composed of the prongs *b* and the base *a*, arranged and formed in one piece of metal provided with a central pivot or bearing.

4,465.—Division A.—Car-Brake.—William H. Dunham, Hokah, Minn., and James Widney, Allegheny, assignors of part interest to Samuel P. Ross, Pittsburg, Pa. Patent No. 71,591, dated December 3, 1867.

Claim.—The levers C C', pivoted to the hangers or slotted supports A, and made inoperative by the springs 12, the whole constructed, arranged, and operated as described.

4,466.—Division B.—Car-Brake Shoe.—William H. Dunham, Hokah, Minn., and James Widney, Allegheny, assignors of part interest to Samuel P. Ross, Pittsburg, Pa.—Patent No. 71,591, dated December 3, 1867.

Claim.—The brake-shoe B, formed with the hook F and the lug G, the hook having a bearing in the slot S on the upper end of the brake-head, and the lug passing through the slot E in the lower end of the same and secured by a key, all constructed and arranged substantially as and for the purpose set forth.

4,467.—Boiler for Ranges, Stoves, &c.—William B. Semfe, Pittsburg, Pa.—Patent No. 107,817, dated September 27, 1870.

Claim.—A new article of manufacture, viz., a wrought-iron boiler for kitchen-ranges, stoves, &c., one or both ends of said boiler being a section of a sphere provided with a flange, the outer surface of which is parallel to the vertical axis of the spherical portion of the end, said flange being fitted in and secured by rivets to the cylindrical portion of the boiler, and afterward made water and steam-tight, as hereinbefore described, and for the purpose set forth.

4,468.—Drying Fruits, Vegetables, and Meats.—Francis H. Smith, Baltimore, Md., assignor of one-half interest to Isaac Simmons.—Patent No. 31,566, dated February 26, 1861; reissue No. 3,017, dated June 30, 1868.

Claim.—1. The process of preserving and drying fruits, vegetables, and meats, by first exposing them to the action of heated air of a comparatively low temperature and subsequently subjecting them to a gradually-increasing heat, substantially as specified.

2. Dried fruit, obtained by exposing fruits to a progressive process, substantially such as herein described.

3. Dried vegetables, obtained by exposing vegetables to a progressive process, substantially such as herein described.

4. Dried meats, obtained by exposing meats to a progressive process, substantially such as herein described.

4,469.—Grape and Vine-Trellis.—Theron G. Yeomans, Walworth, N. Y.—Patent No. 84,154, dated November 17, 1868.

Claim.—The lever B, used in connection with the wire or trellis-bars C, the posts A, and the ring *d*, constructed and operated substantially as and for the purposes above specified.

DESIGNS.

5,096.—Eccentric Yoke.—Daniel Appel, Cincinnati, Ohio.

Claim.—The design for an eccentric yoke, as shown.

5,097. — Center-Piece for Ceilings.—Charles Autenrieth, Philadelphia, Pa., assignor to himself and E. Collins, assignors to Thomas Heath, same place.

Claim.—1. The design for the central ornamental medallion A.

2. The design for the molding B.

3. The design for the outer foliated border C.

4. The design for the whole center-piece, including the medallion A, molding B, and border C.

5,098.—Ornamentation of Rubber Boots and Shoes.—Augustus O. Bourn, Providence, R. I., assignor to National Rubber Company, same place.

Claim.—The design described and shown for the ornamentation of rubber boots and shoes.

5,099.—Stocking-Fabric. — Conyers Button, Philadelphia, Pa.

Claim.—The design for a stocking-fabric, substantially as described, and as represented in and by the accompanying drawing.

5,100.—Stocking-Fabric. — Conyers Button, Philadelphia, Pa.

Claim.—The design for a stocking-fabric, substantially as described, and as represented in and by the accompanying drawings.

5,101.—Stocking-Fabric. — Conyers Button, Philadelphia, Pa.

Claim.—The design for a stocking-fabric, substantially as described, and as represented in and by the accompanying drawings.

5,102.—Handle and Bolster for Table Cutlery.—Frank R. Chapman, Greenfield, Mass.

Claim.—1. The grooves *a b* in the bolster A, as specified.

2. The combination of the grooves *a b* of the bolster with the grooves *c d* in the handle, as described.

5,103.—Picture-Frame.—Lyman L. Dennick, Chicago, Ill.

Claim.—1. The central rectangular frame A having fret-work C around its sides, substantially as shown.

2. The ornamental design for picture-frames, consisting of the central rectangular frame A provided with ornaments *a a*, and open ornamental fret-work C around its sides, as shown and described.

5,104. — Muff. — William Ettinger, New York, N. Y.

Claim.—The design for a muff, as herein shown and described.

5,105.—Bracket.—Wilmer D. Gridley, New Haven, Conn.

Claim.—1. The design for the whole bracket, substantially as shown and described.

2. The design for the base A, substantially as shown and described.

3. The design for the shelf B, substantially as shown and described.

5,106.—Shawl-Fabric.—Joseph Hodgson, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—1. A design for a shawl-fabric, having stripes A A following the course of the warp, and alternated with stripes B B of a plaid pattern, all substantially as set forth.

2. The plaid portion of the design, illuminated with stripes of silk on a woolen ground, as set forth.

5,107.—Shawl-Fabric.—Joseph Hodgson, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—1. The design, composed of inclined lines, thicker at some points than at others, and arranged as set forth.

2. A shawl-pattern, in which stripe of the said inclined lines are alternated with variegated stripes, substantially as described and as illustrated in and by the accompanying drawings.

5,108.—Carpet-Pattern. — Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the figure A, as described and illustrated.

2. The design for the figure B, as shown and described.

3. The design for the medallion C, as described and represented.

4. The design for the whole pattern, including the figures A and B, the medallion C, and minor ornamentation.

5,109. — Carpet-Pattern. — John Magee, New York, N. Y., assignor to Bigelow Carpet Company, same place.

Claim.—The design for a carpet, as shown.

5,110.—Mat.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, same place.

Claim.—The design for mats, as shown.

5,111.—Mat.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, same place.

Claim.—The design for mats, as shown.

5,112. — Oil-Cloth Pattern.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,113. — Floor Oil-Cloth Pattern.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,114. — Floor Oil-Cloth Pattern.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, and other fabrics, shown and described.

5,115. — Floor Oil-Cloth Pattern.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,116. — Floor Oil-Cloth Pattern.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,117.—Bell-Tower.—Thomas W. H. Moseley, Hyde Park, Mass.

Claim.—The design for a bell-tower, substantially as above set forth and shown.

5,118. — Blacking-Box.—Dennis O'Leary, Hubbard, Ohio.

Claim.—The design for the saucer-shaped blacking-box, provided with the pendent flange *a*, as shown.

5,119. — Carpet-Pattern. — Thomas Pennell, Morrisania, assignor to Bigelow Carpet Company, New York, N. Y.

Claim.—The design for a carpet, as shown.

5,120.—Hanging Vase.—Marcus Leonard Snow, West Sterling, Mass.

Claim.—1. The design for a vase, ornamented as shown.

2. The design for a vase, ornamented and provided with a concave base-flange, as shown.

5,121. — Carpet-Pattern.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereun-

to annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,122. — CARPET-PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,123. — CARPET-PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,124. — CARPET-PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,125. — CARPET-PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,126. — CARPET PATTERN.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

TRADE-MARKS.

370.—WHISKY.—Capel & Roebuck, Cincinnati, Ohio.

371.—WHISKY.—Capel & Roebuck, Cincinnati, Ohio.

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PATENTS.

117,029. — FRUIT-DRIER. — Judson Allen, Everett, assignor of one-half his right to William H. Crotser, Austin, Mo.

Claim.—The wooden fruit-drier case, containing the heater in a metal inner compartment, C, and the drawers in the compartment B above, and having the hot-air pipes, the smoke-pipe, and the cold-air pipes N, all arranged substantially as specified.

117,030.—EVAPORATOR FOR CONCENTRATING LIQUIDS AND BOILING FOOD FOR STOCK, &c.—Albert J. Andrews, Linden, Mich.

Claim.—1. The construction and arrangement of the shell A, internal flue B, heads C, fire-door D, and smoke-pipe E, in the manner and for the purpose herein set forth.

2. The combination, with the above-described evaporator, of the covering-plate G secured thereto, as and for the purpose specified.

117,031.—LOCOMOTIVE. — William D. Arnett, Denver, Col. Ter.

Claim.—The arrangement, on each side of a locomotive, of a pair of steam-cylinders, which receives steam through a single slide-valve bed, V, and whose piston-rods *e e* communicate motion to the crank-shaft P of the rear driving-wheels through pitmen-rods *a a* and *d d'*, substantially as described.

117,032.—RELISHING-MACHINE.—David G. Arnold, Winona, Mich.

Claim.—The stop and rest B, provided with two opposite concave surfaces, *a b*, in connection with a relishing-machine, A, substantially as and for the purposes set forth.

117,033. — HAY-LOADER. — Horace Baker, Cortland, N. Y.

Claim.—1. The revolving rake or rakes with yielding or elastic teeth, in combination with the positively-actuated endless aprons C D, substantially as and for the purpose herein specified.

2. The forward extensions of the positively-actuated co-operating endless aprons C D, said extensions being adjustable to different heights or angles and moving together, substantially as and for the purpose herein set forth.

117,034.—CULTIVATOR. — Phineas Orlando Baldwin, Spring Lake, Mich.

Claim.—1. The arrangement of the spring C provided with bolt *e* with the beam B provided with the post *m*, and the tongue D, when each of said parts is constructed to operate substantially as and for the purposes set forth.

2. In combination with the beams B K, the sectional extension guides G, lever F, and the extension of the spring E provided with latch-bolts *g* and *g'*, substantially as and for the purposes set forth.

117,035.—WATER-METER.—John S. Barden, Providence. R. I.

Claim.—1. The chambers B D D', in combination with chamber E, the latter being connected to chamber B by ports G G', substantially as described.

2. The combination of port G', valve M, ports J J' L L', passages K K', and pistons P P' S S', with chambers B, D, D', and E, substantially as described.

3. The combination of ports H H', passages *h h'*, recesses N^2 N^3, with pistons P P' S S' and valve N, substantially as set forth.

117,036.—SPRING-BED.—Benjamin Barstow, Westfield, Mass.

Claim.—The combination of the bedstead having the sides *b b* with the frame A, springs D D, and bars L L, the parts being constructed and arranged as shown and described.

117,037.—CURTAIN-FIXTURE.—John E. Baum, Philadelphia, Pa.

Claim.—The sliding cord-holder C, provided with the spiral spring E, in combination with the slide B and wedge D, constructed and arranged to operate in relation to the tightening-cord and the bracket A, substantially in the manner and for the purpose specified.

117,038.—CURTAIN-FIXTURE.—John E. Baum, Philadelphia, Pa.

Claim.—The combination of the bracket A having racks *b b*, adjustable slide B, sliding cord-holder C, and spiral spring D, constructed and arranged in relation to each other, substantially in the manner and for the purpose above set forth.

117,039. — STERN-BEARING FOR PROPELLERS.—James Boiles, New York, N. Y.

Claim.—The arrangement of the secondary bearing *b* in the extension F of the plate B, as a reenforcement to the ordinary bearing D, substantially as specified.

117,040.—GRAIN-AND-STRAW SHAKER.—William H. Bott and Peter Bott, West Manchester township, Pa.

Claim.—In combination with the perforated reciprocating bottom C^1 having elongated slots I and the double throw-crank D, the agitating-rods E when provided with the prongs H, substantially as and for the purpose described.

117,041. — COMBINED CIDER-MILL AND PRESS.—Orville M. Brock, Monroeton, Pa.

Claim.—1. The rotary knife-sections J and shaft K, with spur-wheel on one end, combined with the hopper and screw P, as and for the purpose specified.

2. The flange d^2 and dovetailed flange d^1, in combination with the ends of the plate D and with the upper ends of the sides A, constructed as herein shown and described, and for the purpose set forth.

117,042.—WOODEN TRUSS-BRIDGE.—Joseph Burke, Saginaw, Mich.

Claim.—1. In combination with the upper and lower chords of a bridge, the caps E F F' and steps *b' b''*, the lower caps F F' being provided with channels *c*, substantially as and for the purposes set forth.

2. The means employed for splicing the chords of a bridge, consisting of the splice-bars I, clamps J, plates K, each provided with tenons entering corresponding mortises in the chords, stirrups L, and tension-rods M, when the several parts are constructed, arranged, and operated substantially as described and shown.

117,043.—HYDROSTATIC PRESS.—John T. Burr, Brooklyn, N. Y.

Claim.—A hydrostatic accumulator, having the enlarged cylinder O, piston K, ram I, and water-cylinder F, constructed to operate substantially as hereinbefore shown and described.

117,044. — LADY'S WORK-STAND. — Chauncey S. Caple, Frankfort, N. Y., assignor to himself and William Gates, same place.

Claim.—The emery-bag I, spool-rack H, standard B, top plate A having hinged door *a'*, revolving plate D having bins E F, and knobs G, all constructed and arranged together upon feet C, as and for the purpose specified.

117,045.—PORTABLE WATER-CLOSET.—William Chapman, Mount Vernon, N. Y.

Claim.—The combination of the cover C provided with a deep flange, *c'*, and a spring-valve, D E, with the vessel A B, made in whole or in part with double walls, substantially as herein shown and described, and for the purpose set forth.

117,046.—CLAW-BAR.—David Christie, Chillicothe, Ohio.

Claim.—The combination of the detachable claw D, provided with the shoulder I and incline J, with the bar A formed to receive it, substantially as and for the purposes set forth.

117,047.—CONNECTION FOR IRON AND STEEL BRIDGES.—Thomas C. Clarke and Adolphus Bonzano, Philadelphia, Pa.

Claim.—1. Connecting two hollow flanged columns or sections together by means of an internal sleeve crossing the joint and serving as a tenon to both sections, in combination with external splice-plates *d*, substantially as and for the purpose described.

2. In combination with the flanged column, the lugs X, riveted thereto for the purpose of affording an attachment for lateral bracing and tie-rods, substantially as described.

117,048.—CONNECTION FOR IRON AND STEEL BRIDGES.—Thomas C. Clarke and Adolphus Bonzano, Philadelphia, Pa.

Claim.—In combination with a joint-box and with lateral struts thereon, the pins passing through the struts and through the eyes of the adjustable bolts which pass into or through said joint-box, substantially as described.

117,049.—CONNECTION FOR IRON AND STEEL BRIDGES.—Thomas C. Clarke and Adolphus Bonzano, Philadelphia, Pa.

Claim.—The attachment of lateral struts or bracing at any point of a column, and at any angle thereon, by means of a pin, eyebolt, and suitable washers, substantially as described.

117,050.—CONNECTION FOR IRON AND STEEL BRIDGES.—Thomas C. Clarke and Adolphus Bonzano, Philadelphia, Pa.

Claim.—The combination of the pins passing through the struts, and the eyebolts passing through the main column and sleeve therein, together with the splices at the outside of the column with pockets or tenons thereon to receive said struts or lateral bracing, substantially as and for the purpose described.

117,051.—PROPULSION OF VESSELS.—Keyes P. Cool, Glen's Falls, N. Y.

Claim.—The combination of floats *l*, rotary piston-rods *b*, arms *e f*, and cross-bars *d*, as described.

117,052.—APPARATUS FOR EVAPORATING BRINE AND OTHER LIQUIDS.—Leffert R. Cornell, Syracuse, N. Y.

Claim.—1. The combination of a steam-generator, a superheater, and a double-bottomed evaporating-pan, substantially as hereinbefore set forth.

2. The combination of a blower or equivalent means of producing a current of air, an air-heating chamber or flue, and a covered evaporating-pan, substantially as hereinbefore set forth.

3. The combination, with a double-bottomed evaporating-pan, of an arch or horizontal partition so arranged below it as to leave air-space between said partition and the said pan, and also air-space below said partition, substantially as hereinbefore set forth.

117,053.—FIRE-PLACE.—Mark Anthony Cushing, Aurora, Ill.

Claim.—1. The combination of my radiator and adjustable exit-flue pipe with an open-grated stove or fire-place, in the manner substantially as described, and with or without the fixed diaphragm *a*.

2. The fixed diaphragm *a*, in combination with the fire-place and radiator R and the adjustable exit-flue pipe *p*, substantially as described.

117,054, antedated July 12, 1871. — SIDE-HILL PLOW.—Daniel C. Day, San José, Cal.

Claim. — The combination, with the revolving plate E, of the band F, rod Q, pin I, rod *b*, and lever H, connected and arranged to operate together, substantially as and for the purpose herein set forth.

117,055.— HARVESTER-PLATFORM.—George E. Deardorff, Canal Dover, Ohio.

Claim. — The folding platform, spreading and closing fan-like around a pivot or center, substantially as and for the purpose herein specified.

117,056.—RECLINING-CHAIR.—William Donoghue, Philadelphia, Pa.

Claim.—A reclining-chair, composed of the back A, seat B, fly-leg C, upper and lower horizontal

bars D E, and the slotted arch L and adjusting-bolt M, the vertical links F G with their pins *c d*, the whole constructed, arranged, and operated substantially as shown and described.

117,057.–Galvanic Battery.–Luis Drescher, New York, N. Y.

Claim.—1. The within-described improved battery-jar or cell A, so formed as that its projecting neck shall constitute, substantially as herein set forth, an extension of the central portion of one side of its enlarged base or bulb.

2. The within-described non-conducting or insulating-cap C, in combination with the neck of the jar or cell of a galvanic battery and with its positive and negative reophore, substantially as and for the purpose herein set forth.

117,058. — Cotton-Gin. — John Du Bois, Greensborough, Ala.

Claim.—In a cotton-gin, the doors H and J, arranged relatively to each other and to the brush A, as described, for the uses and purposes hereinbefore set forth.

117,059. — Railroad-Car Stove. — Julien T. Evens, St. Louis, Mo., assignor to himself, William H. Meyer, and Adolph Redcrer, same place.

Claim.—The weighted bottom A, fire-box C, combustion-chamber D, upper chamber J, doors E E, shaft I, weighted frame K, and rod M, arranged to operate substantially as and for the purposes described.

117,060.—Apparatus for Pasting Lining to Paper.—Benjamin F. Field, Beloit, Wis.

Claim.—1. In combination with the paste-roller B and adjustable gauge H, the cylinder M or its equivalent, provided with the cam-groove L and the stud N, to produce a lateral movement of the roller H, as set forth.

2. In combination with the paste-roller B and adjustable gauge-roller H, the pinions I K, to cause said rollers to revolve at different rates of speed.

117,061.—Packing-Box.—John H. Foster, Chicago, Ill.

Claim.—As a new article of manufacture, a packing-box, the sides, ends, and bottom of which are composed of a series of panels, secured by cleats rabbeted upon their inner edges, substantially as and for the purpose described.

117,062.—Vault-Light.—James C. French, Chicago, Ill.

Claim.—The combination of the packing-ring *c* and packing *d* with the frame *a* and glass disks *b*, when used in the manner and for the purposes hereinbefore specified.

117,063.—Vault-Light.—James C. French, Chicago, Ill.

Claim.—The combination of the metallic plates *a* and *d* with the glass disk or lens *b* and screw-packing *c*, when made substantially in the manner and for the purposes hereinbefore specified.

117,064.—Key for Padlocks.—Edward L. Gaylord, Bridgeport, Conn.

Claim.—The rotating single-bitted key G′ having the wards g^1 upon the outer end and the wards g^2 upon the side of its bit, in combination with the tumblers B and C, arranged and operating as specified.

117,065.—Medicine for Cure of Hog and Chicken Cholera.–Margaret N. George, Evansville, Ind.

Claim.—The combination of the materials above described and the process of manufacturing the same, for the purpose set forth.

117,066, antedated July 17, 1871.—Table-Stand for Pitcher, &c.—John Gibson, Jr., Albany, N. Y.

Claim.—1. In combination with the stand A, either with or without the receptacle *b*, the flange or rim *d*, substantially as described, for the purpose set forth.

2. The combination of the supplementary stand B with the stand A, when arranged to be adjustable in height, substantially as and for the purpose specified.

3. In combination with the stand A or B, constructed with the receptacle *b*, the detachable or portable plate C, when arranged to operate substantially in the manner and for the purpose set forth.

4. In combination with the stand A or B, provided with the flange *d*, the vertical central opening *e*, substantially as and for the purpose set forth.

117,067.—Car-Coupling.—John W. Gillam, Newton, assignor to himself and H. C. Kelsey, Trenton, N. J.

Claim.—The spring-bumper J, vibrating clutch C D, and spring E, when constructed, arranged, and operating together in a car-coupling, as and for the purpose specified.

117,068. — Window-Curtain Roller.—William Gorton, New York, N. Y.

Claim.—A window-curtain-roller, formed in two parts, having their edges *a b* open and unfastened, combined with a clamping-plate, K, and screw *d*, as and for the purpose specified.

117,069. — Shirt-Stud. — Johnson G. Griswold, Hartford, Conn.

Claim.—1. An improved shirt-button or stud, constructed as described, having a cross-piece, *c*, which springs out at right angles to the shank *e* after the button is inserted, substantially in the manner herein described.

2. The combination of the spiral spring *s*, the stem *e*, and the cross-bar *c*, substantially as described.

117,070.—Churn.—George Groom, Brockville, Canada, assignor to Martin M. Reynolds, Syracuse, N. Y.

Claim.—The dasher E, weighted and plugged, substantially as described, in combination with the suspending-spring D, as and for the purpose herein specified.

117,071.—Packing Steam-Piston.—Thomas Hanson, New York, N. Y.

Claim.—Combining with a piston-head formed with grooves in its face, which are provided each with an ordinary packing split-ring, two sets of steam passages which communicate with each ring, the whole so arranged and operating that steam will be supplied simultaneously to the inner circumference of each ring to distend it and to the side of each ring to pack it laterally, substantially as herein described.

117,072.—Animal-Trap.—Elmer Hause and Libni Kelley, Tecumseh, Mich.

Claim.—The construction and arrangement of the frame C, lever D, pawl E, springs F G, treadle H, spring I, cam-latch *c*, and pin *d*, with relation to each other and the opening in the wall A, substantially as described.

117,073.—Windlass.—Oliver P. Hix, Rockland, Me.

Claim.—1. As an improvement in a windlass or capstan, the combination of its rope or chain-barrel with its shaft by one or more springs arranged to resist an effort to turn the barrel on the shaft, as and for the purpose set forth.

2. The windlass, as composed of the part A, fixed upon and so as to revolve with the shaft C, and the part B arranged to revolve on such shaft and provided with one or more springs applied to such part B and shaft C, so as to resist, by the elastic force of such spring or springs, an effort to turn the part B on the shaft.

3. The windlass-barrel or part B, as chambered at either or each of its ends, and provided with the diametric bar D, the abutment E, the curved rod *b*, and the spring or springs E or E′, arranged as set forth, the whole being applied to a shaft, as represented.

117,074.—Cotton-Gin Feeder.—Nathaniel Hoggatt, Madison Parish, La.

Claim.—The combination, with the gears C C′ C, and shafts with cranks D D, frame E, and fingers F, of a hopper, A, and bars H, substantially as and for the purpose hereinbefore set forth.

117,075. — Cider-Press. — Jonathan Holbrook, Sherburne, Mass.

Claim.—The arrangement of the base A, ledge *d*, educt *b*, slats *d d*, horizontal bars *e e*, cap-bar *f*, and straining-cloths *h h*, all substantially as and for the purpose as set forth.

117,076. — Railroad-Car Ventilator.—James Leland Howard, Hartford, Conn.

Claim.—The combination of the central raised portion of the roof of the car, the hood over the platform, and the air-passage connecting the spaces under the hood and in the raised portion of the roof, substantially as before set forth.

117,077.—Iron Rim for Wagon-Wheels.–Lucius Hubbard, Ottawa, Ohio.

Claim.—1. The malleable sockets E, provided with tenons *b*, in combination with the tubular felly C and spokes B, as and for the purpose set forth.

2. The construction and arrangement, with relation to the hub A and spokes B of a wheel, of the metallic sockets E, tubular felly C, bolt D, and grooved or concave tire F, as and for the purposes herein shown and set forth.

117,078. — Gaiter-Shoe. — Frank Henry Austin Hussey, Lynn, Mass., assignor to himself and Aaron F. Smith, same place.

Claim.—A shoe or boot as made with the stay *b*, arranged in a serpentine form in the button-hole flap, and having the button-holes and buttons arranged in or substantially in parallelism with the stay, all being as represented and described.

117,079.—Harrow and Marker Combined. — Samuel Hutchinson, Griggsville, Ill.

Claim.—The harrow, constructed, substantially as above described and shown, with the bars A, the drag-teeth B, the pivoted slats *a*, the adjustable braces C, the pivots *b*, and the detachable marker D, all the several parts constructed, arranged, and operated as described and shown, for the purposes set forth.

117,080.—Construction of Doors.—Willard C. James, Fishersville, N. H.

Claim.—The stiles C having their mortises enlarged outwardly, the tenons B correspondingly constructed, and the parallel plates E inserted between them, all combined and applied as and for the purpose specified.

117,081.—Peg-Sharpener.–Anthony Kehl, Indianapolis, Ind.

Claim.—The peg-wood sharpener herein described, when constructed substantially as set forth.

117,082.—Wood-Boring Tool.—Joseph J. Kraus, Menasha, Wis.

Claim.—The concavo-convex reamer A, provided with the cutting-lip *a*, external screw-thread *b*, and internal screw-thread *c*, as and for the purpose set forth.

117,083. — Molding-Machine. — Israel L. Lamb, Darien, Wis.

Claim.—1. The hollow mandrel, consisting of the two parts D E, arranged as described, and provided with the detachable rings or dies I K and the knife-carrying disks F G, all substantially as specified.

2. The knives mounted on the stocks pivoted to the disks, as described, and provided with the adjusting-gears Q R, substantially as specified.

3. The arrangement of the knife-stocks N and O with the dies or rings for holding them in place, all substantially as specified.

4. The hollow mandrels D and E, having a set of molding-knives or cutters mounted on their disks or heads, substantially as specified.

117,034.—Composition Steatite Pencil.–Reinhold Lanstrom, Cincinnati, Ohio.

Claim.—1. As an article of manufacture, the improved steatite pencil, composed of the ingredients herein described, mixed in the proportions and substantially in the manner specified.

2. The herein-described mode of making the pencils of the said compound, said mode comprising the several steps by which it is treated successively in the order substantially as specified.

117,085, antedated July 7, 1871.—Wheelbarrow.—Harry Lawrence, New York, N. Y.

Claim.—1. A wheelbarrow, having the sides and end pieces hinged to the frame for folding down on the bottom, or for the ends to fold down on the frame away from the bottom, substantially as specified.

2. The axle mounted detachably on the frame, and the wheel mounted detachably on the axle, substantially as specified.

3. The legs K jointed to the frame, and supported by braces U joined to them, and connected to the frame by the stud-pins V and notched and slotted bars W, substantially as specified.

4. The combination, with the folding sides C and end E, of the braces M, pivoted to the end pieces and arranged to catch on a stud-pin on the side C and on another on the frame, all substantially as specified.

5. The combination, with the folding sides and end E, of the slotted and hooked braces R pivoted to the frame and engaging with the stud on the end E and the staple on the side C, all substantially as specified.

6. The axle confined in the bearing by one fixed cap, *b*, and one spring-cap, *a*, substantially as specified.

7. The detachable wheel confined on the squared part of the axle by the springs *f* resting in the notches with the beveled walls *g*, or by the linch-pin *h*, having the smooth ends and the screw threaded part *i*, the latter screwing in a hole in the axle, all substantially as specified.

117,086. — Wheelbarrow. — Harry Lawrence, New York, N. Y.

Claim.—1. The combination of the side pieces A, bottom boards C, and rods B, all substantially as specified.

2. The improved brace for supporting the hinged end of a wheelbarrow or wagon-box, or the hinged legs of the wheelbarrow, having the lateral slotted projection M or not pivoted to the frame or box, and connected to the hinged boards or legs to be supported or locked, all substantially as specified.

3. The said brace, constructed as above described, and provided with one or more notches, *f*, substantially as specified.

117,087, antedated July 7, 1871.—Apparatus for Making Ice.—Charles P. Leavitt, New York, N. Y.

Claim.—1. The arrangement and combination of the injector D, its ingress and egress-pipes *e g* and *f b*, and valves *c c'* and *d*, with sprinklers C in the bottom of the expansion-chamber A, substantially as and for the purpose set forth.

2. The non-conducting lining *a*, of wood, within the cylinder A, substantially as shown and described.

3. The arrangement of a sprinkler, I, above the piston, and its supply-pipe *n* for injecting brine from the annular chamber *r*, substantially as and for the purposes herein set forth.

4. The combination of the low-pressure receiver F, the compressed-air receiver E with its brine-jacket E', the cylinder A with its lining *a*, the piston B with its attached plunger B', the sprinkler C I, and the injector D, for operation essentially as specified.

5. The freezing-house G, constructed with compartments S and L and attached brine inlet-and-outlet pipes h and *i*, arranged and operating substantially as specified.

6. The endless chains N, constructed or provided with double reversible rails *c'*, for operation as described.

7. The ice-pans M, provided with side wheels *d'*, in combination with the double rails *c'* of the chains N, substantially as specified.

8. The combination and arrangement of the ice-pans M having side wheels *d'* with the double reversible rails *c'* of the endless chains N and the freezing-house G with its compartments S L and attached brine-pipes h and *i*, all for operation together as herein shown and described.

117,088.—Printing-Press.—Thomas Leavitt, Everett, Mass.

Claim.—The combination of the cam J with the connecting-rods D, substantially as and for the purpose set forth.

117,089. — Reflector for Locomotive Head-Lights.—Charles S. Lee and William M. Baldwin, Troy, N. Y.

Claim.—In combination with an outer reflector, A, that receives and reflects once or twice, according to their obliquity, all the rays on one side of the lamp, the inner reflector C, which allows the horizontal rays on the other side to pass therethrough, but also reflects the oblique ones horizontally into the same pencil of rays, as and for the purpose specified.

117,090, antedated July 3, 1871.—School-Desk.—John Long and Eugene Convers, Oswego, N. Y.

Claim.—The shafts *e*, with arms *g* and studs *k*, in combination with spiral springs *i* and key *l*, constructed as described, and for the purposes set forth.

117,091.—Machine for Flanging Boiler-Heads.—Seth Lowen, Temperanceville, Pa.

Claim.—1. The rotating and bending-mandrels *g g'*, in combination with the guide-plate *n* and adjustable table *o*, having threaded rods *p* and nuts *q*, substantially as and for the purposes described.

2. The shafts *f f*, gear-wheels *b l* 1 2 3 4 5, shaft l^2, and crank l^3, in connection with the mandrels *g g'* for imparting a rotating motion to them, substantially as described.

3. The swinging arch *d* carrying the rotating and bending mandrels *g g'*, substantially as described.

4. The segmental gear-wheel A rigidly attached to the swinging arch *d*, gear-wheel l^1, and crank l^3, in combination with the swinging arch *d* for operating the same so as to make it describe the arc of a circle of which the line *x x* is the center, substantially as and for the purposes described.

5. The devices described and shown, or their equivalents, for imparting simultaneously a rotary and a radial motion to the mandrels *g g'*, for the purposes described.

117,092.—Attaching Cultivator-Teeth to Beams.—Michael F. Lowth and Orleau H. Porter, Wabasha, Minn.

Claim.—The brace *d* of the cultivator-tooth, provided with a series of holes for reception of a pin on which rests the free end of the plate-spring *f*, whereby the inclination of the tooth to the beam may be varied without changing the tension of the spring, as herein shown and described.

117,093.—Curd-Strainer. — Ralph Mason and Sidney Mason, Burgh Hill, Ohio.

Claim.—The herein-described curd-strainer, consisting of the vat A having channels C in the bottom thereof, and metal strainer D constructed with a perforated bottom, H, and frame F, in combination therewith, substantially in the manner as described, and for the purpose set forth.

117,094. — Liquid-Meter. — John Mead, Charlestown, Mass.

Claim.—1. The combination, in a fluid-meter such as described, with the wall D and connecting-rod H, of the tubular packing-piece *k*, arranged in a recess countersunk in that part of the wall surrounding the connecting-rod, as and for the purposes shown and set forth.

2. The combination, with the valve-seats in a diaphragm fluid-meter such as described, of two balanced piston-valves, connected together, and constructed and arranged to operate in the manner shown and set forth.

117,095.—Machine for Cutting Oval Tin Bottoms. — Julius Meinig, Cincinnati, Ohio.

Claim.—1. The combination, with the cutters, of the pivoted frames *d e*, the former carrying a rotating clamp for the blank sheet, as and for the purposes set forth.

2. The shaft *g*, carrying the beams *h* and *i*, having pins *s v w x*, as and for the purposes set forth.

3. The adjustable plate *t*, carrying the perforated weighted lever 5, as and for the purposes set forth.

4. The construction and arrangement of the perforated lever 5 relatively to the pins *s* and *v* in beam *h*, as and for the purpose set forth.

5. The adjustable plate *u*, carrying the notched latch 6, its pawl 7, and spring 8, as and for the purposes set forth.

6. The combination of the double pins *w* and *x* in beam *i* with the latch 6, as and for the purpose set forth.

7. The arrangement of the pawl 7 relatively to the ends of the revolving beam *i*, as and for the purpose set forth.

8. The combination and arrangement of the beams *h* and *i* and their stops or latches 5 and 6, as and for the purpose set forth.

117,096.—Cooking-Range.—Edward Mingay, Boston, Mass.

Claim.—As an improvement in cooking-stoves or ranges, &c., the adoption of a hollow, double, or tubular top plate having air-inlet orifices leading to the interior thereof and outlet-passages for the air passing through it to enter the oven, for purposes herein stated.

117,097.—Brick-Machine. — Augustus F. Mitchell, Valparaiso, Ind.

Claim.—1. The grouped molds, and connected or compound followers fitting the same, in a continuously-revolving mold-wheel, F, substantially as and for the purpose herein specified.

2. The mold-wheel F, when formed with its shaft *e* and thin radial plates or spokes cast in one piece therewith, and with the interior and exterior polygonal peripheries, as and for the purpose herein specified.

3. The adjustable segment-plates O P, in combination with the mold-wheel, substantially as and for the purpose herein specified.

4. The flanch *a*, when provided with the right-angled extension *m*, in combination with the frame of the machine, as and for the purpose herein set forth.

5. The fixed half of the pug-mill tub, when formed with the close dome-shaped top to support the upper bearing of the pug-mill shaft, as specified.

6. The transverse notch *v* in the movable pivot M of the friction-wheels L L, in combination with the transverse keys or wedges *u u*, substantially as and for the purpose herein specified.

117,098. — Drawing-Frame. — Benjamin Moon, Coventry, R. I.

Claim.—1. The combination, with the trumpet and its weight, of the pendent arm or lever D, hung as described at I, and operating in the manner and for the purpose set forth.

2. The carriage A, with the ratchet-racks *a a* and shipper C, in combination with the double-acting pawl B, and with the trumpet and its arm D, when all are arranged and operated as herein described.

117,099.—Steam-Trap.—George R. Moore, Philadelphia, Pa.

Claim.—The float B with valve D and stem *g*, constructed as shown, with lever F, counterbalancing-spring I, adjusting-nut J, and stem K, arranged within their respective cases, substantially as described.

117,100.—Button-Hole Cutter.—William A. Morse, Philadelphia, Pa.

Claim.—1. The bent U-shaped spring D D, provided with cutter guiding-slots *a a*, substantially as shown, and for the purpose specified.

2. The button-hole-cutting knife F, metallic reception-case or holder C C, U-shaped springs D D provided with cutter-guide or slots *a a*, and graduated scale, in combination, substantially as shown, and for the purpose set forth.

117,101.—Sewing-Machine.—Carl Necker, Berlin, Prussia.

Claim.—1. The combination of needle P, circular thread-taker T*b*, and angular thread-taker N, when constructed, arranged, and operated by means substantially as hereinbefore described.

2. The combination of needle P, circular thread taker T*b*, and carrier O, when constructed, arranged, and operated by means substantially as hereinbefore described.

3. The combination, with the arm C, of the arm D, link D*a*, and bell-crank D*b*, when operated substantially as described, and adapted to carry either the thread-taker N or O.

117,102. — Washing-Machine. — Philip Nichols, Troy, N. Y.

Claim.—The bearing-screw A, curved spring B, cross-bar C, in connection with the working spirally covered arms D, armatures E and E^1, shaft I, interlocking rollers H and J, all constructed, arranged, and operating within the outer frame of the machine as described and set forth.

117,103.—Arm-Revolving Shelf. — Philipp Nichols, Troy, N. Y.

Claim.—The combination and arrangement of two or more rotating or revolving shelf-arms upon the same plane, and resting upon and supported by corresponding flanged supports A' A' A' cast or constructed with the pipe-collar or clasp, when arranged as described and set forth.

117,104.—Roof.—Nelson G. Northup, Bloomington, Minn.

Claim.—The long metal caps G, constructed with a central and two side flanges to adapt it to be inserted into the joint of the roofing-plates or boards and to overlap on both sides, as and for the purpose specified.

117,105.—Hand Corn-Sheller. — Charles Melsom O'Hara, Cincinnati, Ohio.

Claim.—The improved hand corn-sheller herein described, consisting of the thumb-plate A and curved finger-plate C hinged together as shown, and provided with metallic loops B D outside, and shelling corrugations on their inner surfaces, as and for the purpose specified.

117,106.—Photographic Camera.—George W. Parker, Watkins, N. Y.

Claim.—1. The combination of the camera-box and slide H, dipper G, slide F, dipper *e*, compartments C, E, and N for containing dishes for the different solutions, and slide-cover D, substantially as and for the purpose set forth.

2. The combination with the camera-box A and door I set with colored glass, opening J, focusing-slide B, and doors M and K, all being constructed and operating substantially as hereinbefore described.

117,107.—Spool-Thread Case. — William S. Phillips, Chicago, Ill.

Claim.—1. A spooled-thread case, having the recessed or slotted fronts of its sliding drawers provided with flat or curved glass plates, for the purpose specified.

2. The sliding drawers of a spooled-thread case, provided with recessed or corrugated bottoms, substantially as described, for the purpose specified.

117,108.—Steam-Engine. — Ozi M. Pike, Chicopee, Mass.

Claim.—The valve-block O, having central hole *p* with branches therefrom, the apertured valve J, and the sliding plate R arranged between them, all combined to operate in a steam-engine, as and for the purpose specified.

117,109. — Dredging-Machine. — Edwin Platt, Charleston, S. C.

Claim.—In a dredging apparatus, the combination of boat A, anchor-staff O, wheel C, and elevator D E F G, made adjustable by cord or cords K and windlass, as shown and described.

117,110.—Sheet-Metal Key for Locks.—Titus Powers, New York, N. Y.

Claim.—A hollow lock-key fabricated from sheet metal, when the outline of the internal cavity conforms in shape to the external contour of the key, as set forth.

117,111.—Steam-Heater.—Frank H. Pulsifer, Auburn, N. Y., and William C. Wheeler, Baltimore, Md.

Claim.—1. The hollow partition B'', provided with air-passages *b b*, in combination with the grates *c c*, substantially as shown and for the purpose set forth.

2. The arrangement of the pipes *d d'*, connected in the center in the sections C D and bolted together, in the manner and for the purpose set forth.

3. The arrangement, in the heating apparatus herein shown, of the shell A, having sections B C D E, the partition B'', grates *c*, pipes *d d*, bolts *d''*, and fines E', when all constructed and arranged as shown, and for the purpose set forth.

117,112.—Cock.—Joshua Regester, Baltimore, Md.

Claim.—An elastic diaphragm, G, when compressed between the plug E' and the interior surface of the neck E, and caused to pack tighter when the cock is open than when closed, substantially as described.

117,113. — STEAM PLOWING-MACHINE.—Zerah Rider, Painesville, Ohio.

Claim.—1. The wheels M N, gearing K J, pinions H, driving-wheels B B, and plows D', all arranged to operate substantially in the manner as described, and for the purpose set forth.

2. The arrangement of the crank-wheel N, chain or band P, driving-wheel M, pinions K J and H H with the teeth G on the traction-wheel, together with the adjustable plow-beams C C, in the manner substantially as and for the purpose specified.

117,114.—CARRIAGE-JACK.—Henry L. Riouff, Pleasant Ridge, Ohio.

Claim.—In the described combination with the elements A B D E G H I J, the adjustable guide C and set-screw F.

117,115. — FLY-WHEEL. — Charles Root, Cleveland, Ohio.

Claim.—1. The combination, with the fly-wheel A having the disk B and lugs E, of the clamping-disks F O, notched disks N and K, and the elastic washers M, whether the disks F and K be grooved or plane, and the disk N conical, and O concaved, or not, all substantially as specified.

2. The combination, with the clamping-disks F and O and the wheel, of the pawls P, substantially as specified.

117,116.—MACHINE FOR CUTTING, PUNCHING, AND UPSETTING TIRES.—Hiram B. Sevey, Vienna, Me.

Claim.—The arrangement upon the frame A B and upon one another, as herein described and shown, of the punching and countersinking devices, the upsetting device, the shearing device, and the several levers and springs by which these several devices are operated, for the purposes set forth.

117,117, antedated July 7, 1871.—EXTENSION LADDER. — Elijah O. Shepardson, St. Louis, Mo.

Claim.—1. The car A A^1 arranged with guides B and levers C, and supporting the pivoted ladders D E, substantially as set forth.

2. The hooks or latches K made as herein shown and described, with a pin, *k'*, pivoted at *k* to the upper parts of the ladders, and engaging with pins *l* in the ladder next above, all arranged and operating as and for the purpose set forth.

117,118. — VENTILATED HORSE-COVER.—Stephen Sibley, Chelsea, Mass.

Claim.—The within-described ventilating horse-cover, constructed with a double portion, A B, extending partially over the back and sides, and one or more openings, *c*, in the portion A, operating substantially in the manner and for the purpose set forth.

117,119. — MOLD FOR COMPOSITION ARTICLES.—Isaac Smith, New York, N. Y., assignor of one-half his right to William Sanderson, same place.

Claim. — 1. In molding composition articles by compression, a die-clamp, constructed and operating substantially as and for the purpose set forth.

2. The holder-plates or die-plates, or both, so made that in the act of forcing the parts of the die together the material of which they are made will be sprung in the manner and for the purpose set forth.

117,120. — CARD-HOLDER.—Edward Stewart, Fort Madison, Iowa.

Claim.—The combination, with the board A, of the hinged stationary clamp B and the adjustable clamp C, substantially as shown and described, for the purpose set forth.

117,121.—FRUIT-JAR.—Leo Corly Straub Pittsburg, Pa.

Claim.—The conical collar C, applied detachably and to fit up close to the junction of the neck and breast of a fruit-jar to receive the sealing material and allow both collar and sealing substances to be removed together and again utilized.

117,122. — WOOD-PULP MACHINE. — James Taylor, Luzerne, N. Y.

Claim. — 1. The saws F F, combined with and made part of a wood-pulp machine, substantially as and for the purpose herein shown and described.

2. The grinding-shell C, made in two pieces, and provided with the elastic strips *c* between the edges, substantially as and for the purpose herein shown and described.

117,123. — EVENER. — Marvin Terrill, Star Prairie, Wis.

Claim.—The combination, with the bar C, held against vibration, and provided with the friction-rollers E, of the equalizing-bar G and the whiffletree-chains F, all substantially as specified.

117,124. — PHOTOGRAPHER'S REFRIGERATOR. — Mary A. Thornton, Perrysburg, Ohio.

Claim.—The arrangement of the compartments A, B, D, and E in a refrigerator, substantially as and for the purpose herein shown and described.

117,125. — FLAX-PULLER.—Samuel W. Tyler, Troy, N. Y.

Claim.—1. The fingers G G, in combination with the backwardly-extending swords G' G', arranged and operating substantially as and for the purpose described.

2. The swords G' G', extending back, above, and beyond the pulling-belts O O' for the purpose of supporting the flax-stalks laterally after they are pulled out of the ground until they are delivered to the carrying-belts, substantially as described.

3. The frame D^3, constructed with standards *d d'* and a rear stirrup-bearing, substantially as described.

4. The open side guards D^4, constructed substantially as and for the purpose described.

5. The sliding bearings m^2, adjusting-screws *m*, and inclined pulley-frame D^5, combined substantially as described.

6. The combination of pulling-belts O O', carrying-belts I I, and a gavel-receptacle, substantially as described.

7. The carrying-belts I I, applied around the pulleys F F^1 of the inner shaft of the rear pulling-belt pulleys, substantially as described.

8. The clearers *s s* upon the carrying-belts I, substantially as described.

9. The mechanism herein described, applied between the power-shaft C and the reel-shaft N' for the purpose of giving the reel of the gavel-receptacle an intermittent motion, for the purpose set forth.

10. The ovener-head K', in combination with the carrying-belts I and the gavel-receptacle, substantially as described.

11. The stop-arms W and stop or catch W', in combination with the revolving reel-shaft N' and a releasing device for said arms W, substantially as described.

12. A revolving tripping-arm or stud, *e*, applied on shaft C, the described clutching device and the described stopping device, in combination with the revolving shaft N' of the discharging-reel N, substantially as described.

13. The apron T, arranged between the pulling-belts O O' and the gavel-receptacle, in combination with carrying-belts I, substantially as described.

14. The combination of the gavel-receptacle and the carrying and pulling-belts, arranged in relation to the two-wheeled side-draft frame, substantially in the manner and for the purpose described.

15. Carrying-belts I I, and pulling-belts O O', and keepers J J, arranged in the manner substantially as described, so that the flax is securely held from the point at which it is pulled from the ground until it is conveyed to the point for effecting its discharge, substantially as described.

117,126.—WASHING-MACHINE.—Miner Van Auken, Utica, N. Y.

Claim.—The rod E, standards F F, slotted and offsetted arms G, rubber H, arms K, handle J, board C, and fender D, all combined, constructed, and arranged as and for the purpose specified.

117,127.—STEAM-HEATER.—Daniel Vaughan, Cincinnati, Ohio, assignor to himself, Augustus L. Helm, and John B. Mahoney.

Claim.—1. A steam-heating or vapor-condensing apparatus, composed of a series of annular chambers, A B, one within the other, connected and operating substantially in the manner and for the purpose specified.

2. In the described combination with the chambers A B C, the pipes D E F for the supply and circulation of steam, and pipes G H I for the discharge of water, the whole being connected and operating substantially in the manner and for the purpose specified.

117,128.—MACHINE FOR MAKING SPIKES.—Omar A. Wadsworth, Allegheny City, Pa.

Claim.—1. The rotating segmental feed-rolls *a a*, having working-faces of suitable length for feeding forward at each revolution the proper length of blank for the head and body of a single spike, removably attached to the rotating die-holders *b b*, in combination with the fixed guide *h* of a length equal to that of the rolled blank, said feed-rolls being arranged and adjusted to operate in relation to the operation of the clamping-dies and header, substantially as described.

2. In combination with the devices of the preceding claim, the dies *d d'*, arranged with their cavity, when they are closed, a little out of line of feed, one of the dies carrying a knife, *d''*, for cutting off the blanks, such dies being operative during the suspension of the forward feed, substantially as described.

3. A fixed guide, *h*, arranged between and in combination with the feeding and pointing-tools described at one end, and the griping-dies *d d* and cutter *d''* at the other end, whereby each blank is not only guided accurately in the line of feed, but also is held firmly against the effect of the forward thrust of the cutter in severing the blanks.

117,129.—CHIMNEY-COWL.—John Walker, Boston, Mass., assignor to Levi Chubbuck, same place.

Claim.—1. The corrugated shield B, as and for the purpose specified.

2. The combination of the flue-pipe A, corrugated shield B, and semi-cone C, as and for the purpose specified.

3. In combination with the flue-pipe A, the semi-cone C, when arranged and combined in the manner and for the purpose as specified.

117,130.—GRIDDLE-GREASER.—Lewis Ward, Poughkeepsie, N. Y.

Claim.—A device, for the purpose specified, consisting of a tube, A, wicking D, and screws E, arranged and operating substantially as described.

117,131. — CENTER-LIGHT FIXTURE FOR CHANDELIERS.—Robert F. White, Hoboken, N. J.

Claim.—1. The sleeve O and cavity M, when combined with the tube H and socket B, substantially as and for the purpose herein stated.

2. The nipple D, in combination with the socket E and bowl F, when operated and applied in combination with the tube H and sleeve O, substantially as and for the purpose herein described.

117,132, antedated July 6, 1871.—CHAIR.—George C. Winchester, Ashburnham, Mass.

Claim.—A tipping chair, having the globular feet *i* pivoted in socket-pieces *h*, and having also the lever-latch *p* for locking the seat in a tipped position, and a retractile spring, *o*, applied as shown and described.

117,133.—EASEL PICTURE-FRAME.—Rufus Wright, Brooklyn, N. Y.

Claim.—The frame A, stand B cut from the center of the frame, and brace C cut from the stand, all being thus made in a single piece, and having slots C, central space D, lugs H, and spaces I K, located as specified.

117,134.—MANUFACTURE OF PAPER-STOCK. William Adamson, Philadelphia, Pa.

Claim.—A new article of manufacture and commerce, consisting of paper-stock, made from wood or other ligneous substance by subjecting the same to the action of hydrocarbons.

117,135.—EXTRACTING RESIN AND GUM FROM WOOD. — William Adamson, Philadelphia, Pa.

Claim.—The process of extracting resinous and gummy matters from wood by the application thereto of hydrocarbon, substantially in the manner described.

117,136.—PROCESS OF OBTAINING PAPER-STOCK FROM WOOD, &c.—William Adamson, Philadelphia, Pa.

Claim.—The conversion of wood or other ligneous substance into paper-stock by subjecting it to the action of hydrocarbons, substantially in the manner described.

117,137.—BOILER-RIVET MACHINE.—Charles B. Allen, Philadelphia, Pa.

Claim.—1. The die *m*, provided with two or more holes, in combination with the cutter V, the finger W pivoted on said cutter, and the mechanism described for operating the cutter and finger to grasp and carry forward the rivets to the die, substantially as described.

2. The header E, lever F, and cam D, in combination with the subject-matter of the first claim, substantially as described.

3. The pin M, lever K provided with adjusting-screw L, and mechanism, as described, to vibrate said lever, in combination with the subject-matter of the first claim.

4. The combination of the pin M, lever K provided with the adjusting-screw L, sliding bar N, and cam D, substantially as and for the purpose set forth.

117,138.—WELT-TRIMMER FOR BOOTS AND SHOES.—Joseph H. Allen, Wadsworth, Nev.

Claim.—A welt-trimmer, constructed with bent bar *b d*, knife-holder *f*, and knife *g*, the whole being arranged and operated substantially as and for the purpose set forth.

117,139.—MANUFACTURE OF COATED SHEET-IRON TRAYS, PLATTERS, &c.—Jacob H. Armbruster, Philadelphia, Pa., assignor to himself and George Booth & Co., same place.

Claim.—1. The improved process herein described for preventing corrosion in sheet-iron platters, trays, and the like, the same consisting in forming the articles by stamping or striking up and coating with zinc, substantially as set forth.

2. A new article of manufacture, a sheet-iron tray, having its surface coated with zinc, as set forth.

117,140.—Elevator for Hods.—Leonard Atwood, New York, N. Y.

Claim.—The hod, provided with a hook at its upper end and a fork upon the shank or handle, in combination with an elevating-rope or chain, as and for the purposes specified.

117,141. — Valve-Gear for Engines. — Leonard Atwood, New York, N. Y., assignor to P. H. Walker, Boston, Mass.

Claim.—A pair of cut-off plates on the upper surface of the valve connected to cranks on the opposite sides of a shaft that is turned to control the cut-off action of such plates, substantially as set forth.

117,142.—Wheel for Vehicles.—James R. Baird, Vincennes, Ind.

Claim.—A wheel for vehicles, composed of the hub A, ring, B spokes C C with shoulders *a a* and tenons *b b*, the felly D, and felly-plate E with pin *d*, and spoke-socket G, all constructed and arranged substantially as and for the purposes herein set forth.

117,143.—Farm-Gate. — Michael Barthel, San Francisco, Cal.

Claim.—1. The wheel D with its cords C, and the eccentric pulley J with its cords I I or equivalent devices, in combination with the gate F′ and horizontal axis G, when constructed and operating substantially as herein described.

2. In combination with the wheel D and cords C, the peculiar lever E, latch *e*, and catches *e f*, when applied to a farm-gate, substantially as and for the purpose above described.

3. The crank-arm N with the eccentric rim K or an equivalent device, and the weight L, in combination with the wheel D and eccentric J, with their operating-cords, when constructed and operating substantially as herein described.

4. The gate F′ having the axis G, in combination with the wheel D and eccentric J, with their operating-cords and the holding-latch, substantially as and for the purpose herein described.

117,144.—Composition for Preserving and Coloring Leather.—Orrin F. Battey, Worcester, Mass.

Claim.—An anti-wearing preparation, compounded of the ingredients herein named substantially in the proportions specified and for the purposes set forth.

117,145.—Blacksmith's Tuyere. — John Bauer, Brooklyn, E. D., N. Y.

Claim.—A tuyere-iron, consisting of an outer case, A, and an inner box, B, constructed substantially as and for the purpose herein set forth.

117,146.—Standard for Railway Cars.—Sheldon S. Beeman, St. Albans, Vt.

Claim.—The combination of the segment B, having flange *a* and stops *b b*, standard C, collar or jacket D, with hook *f* and the square pin h inserted in the hole or mortise *i* on the segment, all constructed and arranged substantially as and for the purposes herein set forth.

117,147. — Wagon-Brake. — Washington Bryant, Batesville, Ark.

Claim.—The brake-shoes O P, pivoted on the front side of the bar L and provided with projecting forward ends, as and for the purpose specified.

117,148. — Manufacture of Nails for Horseshoes.—Alexander H. Caryl, Groton, Mass.

Claim.—As my improvement in the manufacture of horseshoe-nails, the process of taking a wrought nail finished as to shape, and then cold-rolling its edges, and its edges alone, in die-grooves, substantially as described.

117,149.—Harrow.—Joseph Chellew, Glasford, Ill.

Claim.—The arrangement of the elevated adjustable draft-bar C, provided with the holes *b b b* for attachment of draft-bolts *d d d* and blocks *a a a*, substantially in the manner and for the purpose as shown and described.

117,150.—Button.—Edward A. Cobb, Philadelphia, Pa.

Claim.—The washer D, having an inclined slot, *b*, projected from the eye *a*, in combination with the shank B of the button A, head C, and washer E, in the manner and for the purpose set forth.

117,151.—Collar-Pad. — George P. Cole, Hudson, Mich., assignor to Clemons Hathaway, same place.

Claim.—In combination with the end E of the collar and its rivet *x*, the pad A, spring-plate B, and slotted metal strap G, substantially as and for the purposes herein set forth.

117,152.—Cording Attachment for Sewing-Machines.—George A. Colton and Sylvester P. Babcock, Adrian, Mich.

Claim.—1. The adjustable welt-corder F, consisting of the tongue *d*, welt-cloth way *e*, welt-cloth separator *e′*, cord-guide *n*, and adjusting set-screw *x*, all constructed as specified.

2. In combination, the adjustable welt-corder F above described, the fingers D, bed-plate A, adjustable gauge-plate B, and the ribbed or corrugated presser-plate C, when all are constructed as specified.

117,153.—Rotary-Engine.—James M. Conkle, Beaver Falls, Pa.

Claim.—1. The openings *k m* and grooves *l* for conducting the steam from the cut-offs *i* to the rotary head or piston through the valves C, substantially as herein set forth.

2. The passages *n* through the rotary piston B, circular groove *p*, and passage *r*, for conducting the steam from the inside of the cylinder to the escape-pipe, substantially as herein set forth.

3. The piston or rotating head B, provided with recesses *i* and passages *n*, substantially as and for the purposes herein set forth.

4. The cylinder-head, composed of the three parts D, E, and G, with the various passages, arranged substantially as shown and described, and for the purposes herein set forth.

5. The combination of the valves C, recessed as described, followers *a*, and set-screws *b*, substantially as and for the purposes herein set forth.

6. The combination of the cylinder A, piston B, valves C, followers *a*, and heads D E G, all constructed as shown and described, and provided with the various passages, substantially as and for the purposes herein set forth.

117,154.—Wash-Tub.—Ambrose M. Cushing, Cambridge, Mass.

Claim.—A soap-stone wash-tub made with a washboard or plate located in the front part, said washboard being maintained in proper position by suitable stops or fastenings, and having a water-space, *i*, in rear of it, all substantially as shown and described.

117,155.—Paper for Buildings.—Francis N. Davis, Beloit, Wis.

Claim.—1. As a new article of manufacture, fire and damp-proof straw board in continuous lengths, either plain or colored with pigments, for the purpose specified.

2. The process, substantially as herein described, for treating continuous lengths of straw board to render them fire-proof and impervious to dampness, for the purpose specified.

117,156.—Draining Cellars.—Edward S. Dickinson and John L. Peake, New York, N. Y.

Claim.—1. The drain B and valve C, in combination with the open-top stand-pipe or tall casing D, arranged to operate relatively to each other and to the pit or place to be drained, and to a fluctuating water-level outside, as and for the purposes herein specified.

2. In connection with the drain-pipe B, stand-pipe D, and valve C, the cage E and lifting-rod G or their equivalents, adapted to allow the removal and return of the valve, as herein specified.

117,157.—Mold for Glass-Lamps.—Hiram Dillaway, Sandwich, Mass.

Claim.—1. In combination with the main jaws *a b*, jaws *i k*, which form a recess or recesses in the top of the article, and which have an upward as well as an outward or opening movement.

2. The levers *e*, connected to the jaws *a b* by pivots *r*, and constructed and arranged to lift the jaws *i k*, substantially as described.

3. The process of forming the top recessed lamp or other articles by means of lifting hinged top jaws and main side jaws, substantially as described.

4. The top-recessed blown lamp or other article formed by the lifting and hinged jaws, substantially as described.

117,158.—Nubia.—Thomas Dolan, Philadelphia, Pa.

Claim.—1. The combination, substantially as described, of a nubia with a head-dress.

2. A nubia plaited and puckered, substantially as described and illustrated in Fig. 2.

3. The pendent portion *m* of the nubia, in combination with the plaited and puckered edge of the same.

117,159.—Rotary Boiler.—Nathaniel T. Edson, New Orleans, La.

Claim.—1. The water-pipe E, connecting the stationary and the revolving boiler, substantially as and for the purposes hereinbefore set forth.

2. The division-partition S, substantially as and for the purposes set forth.

117,160. — Millstone-Curb. — George W. Eggleston, Monroe county, N. Y.

Claim.—1. The combination of the inlet P, sliding door G, outlets E E, stationary guard B, and stop B′ with the curb S, substantially as set forth.

2. In combination with the outlet or outlets E E, the supplemental case or shell C, and stop B′, operating as set forth.

3. In combination with the curb S, the concave metallic meal-carrier F, substantially as set forth.

4. In combination with the curb S, the metallic conducting-ring F and conductor S′.

117,161.—Decolorizing Raw Sugars.—Louis H. G. Ehrhardt, New York, N. Y.

Claim.—The process of decolorizing the raw solution of sugar by mixing the same with a suitable quantity of lime-milk and charging the mass with carbonic-acid gas, substantially in the manner herein specified.

117,162. — Apparatus for Saving Gold, Amalgam, &c.—George R. Evans, Virginia City, Nev.

Claim.—1. The upper-sluice section A, provided with transverse slots *b*, in combination with the section *c* having a fluted bottom, substantially as and for the purpose above described.

2. The corner spring-clasps *f*, substantially as and for the purpose above described.

3. A sluice, constructed in the manner above described—that is, having one or more perforated sections through which the heavier portions are precipitated, substantially as and for the purpose above described.

117,163.—Tub, &c.—Edwin Augustus Firby, East Norwalk, Ohio.

Claim.—The tub or measure herein described, constructed of staves channeled in their exterior surface for the reception of the hoop or band, substantially as and for the purpose specified.

117,164. — Water-Elevator. — Louis F. Fischer, Fennimore, Wis.

Claim.—1. The arrangement of the carriage J, wheels K K, latch *h*, bail L, and bucket M, all substantially as shown and described, and for the purposes herein set forth.

2. The combination, in a water-elevator, of the rod B, windlass E, lever I, carriage J with latch *h*, bucket M, spout or trough N, and guide-wire or tripping-device *k*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

117,165.—Preparing Wheat, Corn, and other Grains for Food.—R. Berkeley Fitts, Philadelphia, Pa.

Claim.—1. The within-described treatment of grain to the purifying and cooking by hot water, followed by dry heat for the purposes specified.

2. The product of the above-described treatment as a new article of commerce.

117,166. — Churn-Power. — Benjamin F. Frampton, Punxatawney, Pa.

Claim.—The driving-shaft *j*, fixed drum *k*, loose drum *l*, pawl *m*, ratchet *n*, gear-wheels *h i*, pulleys *q u*, small weight *s*, and large weight *v*, arranged in connection with the frame A B *r*, as shown and described.

117,167.—Scrubbing-Brush.—Stephen A. Gibson and James Binn De Haas, Clearfield; said De Haas assigns his right to William Hoover, Bradford township, Pa.

Claim.—A reversible brush and drier having the knuckle-joint K, provided with the spring-stop *c′ d* and the shoulder-stop *a′ b*, substantially as specified.

117,168.—Boot and Shoe.—Hiram Varney Gould, Dover, N. H.

Claim.—The arrangement of the stay *a* and linings *c d* and the film of caoutchouc *b* with the vamp A, all being substantially as specified.

117,169. — Adding-Machine. — Emery M. Hamilton, New York, N. Y.

Claim.—1. The combination of the disk A, bell-crank, and slide Z, the disk being provided with a spring for actuating it, either being directly applied to it or to another wheel gearing with it, also being notched and figured as described; the bell-crank being provided with the stud-pin O and the notched and figured projection; the slide being notched as described, and having a spring for working it in one direction; and all being arranged relatively to each other and operating substantially as specified.

2. The arrangement of the bell-crank on its pivot and with the disk A, for sliding the pin O from and to the said disk for releasing and engaging it when winding up the actuating-spring of said disk, substantially as specified.

3. The arrangement of the said sliding bell-crank and the spring-winding cord N, whereby the disk is disengaged simultaneously with and by the application of the power for winding up the said actuating-spring of the disk, substantially as specified.

117,170.—Machine for Boring Wheel-Hubs for Skitting Boxes.—John C. Hendry, Manchester, N. H.

Claim.—1. The sliding rack-bars D D, constructed and arranged as described, and operated by means of the annular cog-wheel E and pinions

substantially as and for the purposes herein set forth.

2. The combination of the swinging frame B, cross-head S, and swinging mandrel-holder or socket T, constructed, arranged, and adjusted as described, so as to cut any taper desired and any size without changing the taper, substantially as herein set forth.

3. The arrangement, upon one side of the revolving annular wheel E, of an upright frame carrying the mechanism for boring hubs, substantially as herein set forth.

4. In combination with the upright frame O placed upon one side of the revolving annular wheel, and carrying a mechanism for boring hubs, the screw W for raising or lowering the mandrel, substantially as herein set forth.

5. The within-described machine for boring hubs at a taper, when all its parts are constructed, combined, and arranged substantially as and for the purposes herein set forth.

117,171. — BUGGY-SPRING. — H. Harrison Hill, Pontiac, Ill.

Claim. — The spring-rest herein described for wagon-bodies, consisting of the supports E E′ and forked levers F F, connected to each other by the slot-joint *z*, and to the seat by the spring H and its regulating-swivel, substantially as specified.

117,172.—PROJECTILE.—Thomas Hill, Vallejo, Cal.

Claim.—1. The bottle *f*, containing the igniting-fluid, in combination with the plug *g* to which it is attached, substantially as described.

2. The tubes *d*, extending entirely through the chambers A and B and outside of the inner one C, and touching the outer surface of the projectile at various points, so that, in whatever position the shell strikes some one of the tubes will stand with its line nearly in the direction of the line of motion, substantially as set forth.

117,173. — METALLIC CARTRIDGE. — Alfred Charles Hobbs, Bridgeport, Conn.

Claim.—A cartridge-case, having its body and base drawn from a single piece of metal, with a solid disk, B, and the anvil-cup C secured thereto by a metallic washer, *c*, all as herein described.

117,174.—TRACTION-WHEEL.—Oliver Hyde, Oakland, Cal.

Claim.—1. The tire B, when formed with alternate elevations and circular depressions C D for traction purposes, substantially as above described.

2. The corrugated metallic tire B, in combination with the cylindrical elastic blocks E, substantially as and for the purpose above described.

117,175. — BELT-FASTENER. — Willard C. James, Fishersville, N. H.

Claim.—The clamp or clasp, consisting of parallel bars B disconnected at their ends, but connected intermediately by transverse bars C, adapted for use in connection with a notched wedge, D, all constructed and arranged to operate as herein described, for the purposes set forth.

117,176. — HOLLOW-GRATE FEED-WATER HEATER.—Griffith W. Jones, Nashville, Tenn.

Claim.—1. The perforated bolts applied to the hollow grate-bars for the purpose of securing the same to their supporting-vessels B C, and continuing the supply and discharge-channels for the same, substantially as herein shown and described.

2. The conical perforated plugs *c* arranged on the vessels B C, in connection with the tubular bolts *b* and heads *a*, substantially as herein shown and described.

3. The discharge-chamber B made higher than the supply-chamber C of the hollow grate-bars, and provided with the discharge-pipe F at its upper end, substantially as herein shown and described.

117,177.—WOOD PAVEMENT.—James Judge, New York, N. Y.

Claim.—The sleepers A, cross-pieces B, U-shaped metal bars D having flanges E, screws F, cross-pieces G, and stay-tubes H, combined and arranged with the block C, as and for the purpose specified.

117,178.—CUTTING APPARATUS FOR HARVESTERS.—William G. Kenyon, Wakefield, R. I.

Claim.—1. The combination of the finger *a*, ledger blades *s s*, and springs *s s*, constructed and operating substantially as described.

2. A yielding button, constructed and operating substantially as described, in combination with a guard finger-bar and cutter-bar, as herein set forth.

117,179. — BODY-LOOP FOR CARRIAGES.—Wilson W. Knowles, Plantsville, Conn.

Claim.—As a new article of manufacture, the hereinbefore-described body-loop, consisting of the bar A, the clip D, and the bolt C, constructed and combined in the manner and for the purpose substantially as specified.

117,180.—EARTH-AUGER.—Noah H. Lindley, Bridgeport, Conn.

Claim.—1. The cap B provided with the bail *e*, in combination with the cylinder A and the annular serrated cutter D, substantially as specified.

2. The annular serrated cutter D, provided with the inwardly-projecting points *z z*, substantially as specified.

3. In an earth-auger, the boring-case, formed in three separate parts, the cylinder A, cap B, and cutter D, all constructed substantially as shown and described.

117,181. — WINDMILL.—Thomas C. Little, Dixon, Ill.

Claim.—1. The combination of the hollow shaft A with the rod *b* of the slide-head B and the collar C, as described, the collar being rigidly united to the rod *b* by means of pins or screws moving in the slot of shaft A, as described.

2. The combination of the elements of the first claim with the bent bar *d* and its connecting-rods, as described.

117,182.—CAR-TRUCK.—William H. Little and George H. Little, Peabody, Mass.

Claim.—For wide and narrow-gauge tracks, a car-truck having wheels sliding upon the axles, when the axles for each pair of wheels are independent, and are journaled in housings upon each side of each wheel, substantially as shown and described.

117,183.—LOOM-SHUTTLE.—Joseph Lofvendahl, Woonsocket, R. I.

Claim.—1. The sheet-metal shuttle herein described, consisting of the pieces A A′, caps B′ C, and tube D, substantially as specified.

2. In a shuttle, the yarn-tube D provided with the central opening *d*, substantially as specified.

117,184. — SOLAR COMPASS. — Benjamin Smith Lyman, Philadelphia, Pa.

Claim.—1. Putting the solar apparatus on the bottom of the lower plate of a transit or compass or theodolite, or on the bottom of a plane-table or other like surveying instrument.

2. Shortening the lens-bar, or that part of it which is parallel to the natural course of the sun's rays, by means of reflection from one or more surfaces of one or more prisms or mirrors fixed to the lens-bar.

117,185. — CASK OR BARREL.—John Marshall, Brooklyn, N. Y.

Claim.—1. A wood-cased metal cask or barrel, the metallic portion of which is made in sections A A, united at the bilge, and with partially-concave ends B B, substantially as specified.

2. The bung-hole socket *c* with its ventilating-apertures *z* and tubes *f*, arranged as described, in combination with the flange-shaped screw-plug or bung, *g*, essentially as herein set forth.

117,186. — LADDER. — John Maxwell and Thomas Gray, Philadelphia, Pa.

Claim.—The improved ladder above described, constructed with the segment D operating in conjunction with levers or equivalent devices, as specified.

117,187. — PLOW-CLEVIS.—Andrew McCollam, New Orleans, La.

Claim.—The clevis A, provided with the adjusting-rings *m m*, substantially as and for the purposes specified.

117,188, antedated July 13, 1871.—WASHING-MACHINE. — William McCord, Sing Sing, N. Y.

Claim.—1. A washing-machine provided with a drum capable of receiving the clothes to be washed, and having a revolving motion imparted to it by the action of a current of water discharging on it, and produced by heating the water to its boiling point, substantially as set forth.

2. The open-work apron *i* surrounding the buckets *f*, and capable of being readily removed and refastened, substantially as described.

117,189. — NECK-TIE RETAINER. — Joseph McGee, Lancaster, N. H.

Claim.—The plate A having eye C, combined with the two-wired device D F hinged thereto, when all are constructed, arranged, and applied together, as and for the purpose specified.

117,190.—RAILWAY-CAR BRAKE.—John W. McGlashan, Montreal, Canada, assignor to E. Lyman Mills, same place.

Claim.—The groove W in the friction-wheel, substantially as and for the purposes described.

117,191. — GRAIN-DRILL. — Daniel E. McSherry, Dayton, Ohio.

Claim.—1. The tube A, composed of the two sections, divided longitudinally, having their inner lower corners *e* beveled or rounded off, and each section having a stud, *f*, formed thereon, whereby the parts can be inserted within the ring and then united with the ring attached, substantially as described.

2. The combination of the rigid spout A, pivoted ring D, and tube E, all constructed and arranged to operate substantially as and for the purposes herein set forth.

117,192.—BROOM.—William A. Middleton, Harrisburg, Pa., assignor to himself and George Winters, same place.

Claim.—The combination, with the handle C and broom B, of the metallic tube A, extending above the top of the broom-splits and down into the body of the corn, and secured to the handle C by the screw *x*, all as set forth.

117,193. — WATER-WHEEL. — Charles M. Mooney, Scotch Plains, N. J.

Claim.—1. The buckets F, hinged at their lower ends to the upper ends of the buckets C of the wheel B C, and surrounded with a curb, E, attached to the upper parts of the outer edges of said buckets C, substantially as herein shown and described, and for the purpose set forth.

2. The inner slotted curb G, adjustably attached to the upper end of the hub B of the wheel B C, in combination with said wheel B C and with the hinged buckets F, substantially as herein shown and described, and for the purpose set forth.

117,194. — STOVE-GRATE.—George Rodney Moore, Philadelphia, Pa.

Claim.—1. The annular shelf or shelves E, horizontal or inclined, perforate or imperforate, fixed or vibrating, interposed between the grate or bottom of the fire-chamber and the mouth of the reservoir or in the mass of the descending fuel, while at the same time they are open to the base of the stove to admit a direct draught to the burning fuel

2. The cleaning-stripe *n o* with the sliding shelves F G, or their mechanical equivalents, substantially as and for the purpose herein set forth.

3. The levers *j k* and sliding shelves F G, in combination with each other, substantially as and for the purpose herein set forth.

117,195.—SAFETY TRACE-FASTENER.—John F. Morley, Lansing, Mich.

Claim.—The fly-plate F with the apertures for admitting the catch C and strap H, also the catch C with its attachment M, in combination with the steel springs D and E and the strap H, substantially as and for the purposes specified.

117,196.—COMPOSITION FOR ROOFS, PAVEMENTS, &c.—Samuel G. Morrison, Williamsport, Pa.

Claim.—The use of iron carbon (black-band ore) pulverized, as a drier, when mixed with gas or coal-tar for cement, for the purposes aforesaid.

117,197, antedated July 5, 1871. — WASHING-MACHINE.—Thomas B. Neill, Philadelphia, Pa.

Claim.—1. The combination, with the shaft S, of the series of fingers F and blank flanges D D′, substantially as and for the purpose described.

2. The shaft S, carrying the fingers F and flanges D D′, and provided with flange A and projection B, in connection with the socket E and journal J, as and for the purpose described.

3. The combination, with the journal J, of the bearing T, recess *d*, flanges G G′, projection *h*, and screws P P, substantially as and for the purpose described.

117,198.—RAILWAY SWITCH.—Thomas Newman, New Orleans, La.

Claim.—The combination of an oscillating platform, arranged for operation, by the weight of the draft animals of the car, with a switch, in the manner substantially as herein shown and described.

117,199. — WELDING STEEL. — Byron W. Nichols, Coxsackie, N. Y.

Claim.—The facilitating the process of welding steel upon itself or upon iron by decarbonizing the surface of the steel to a very minute depth, leaving the balance or inner portion of the steel as it was originally or in its original state unchanged.

117,200. — MOLD FOR SHAPING CIGAR-BUNCHES. — Adolph Pearl, Brooklyn, N. Y.

Claim.—A cedar-lined mold for cigar-bunches, composed of a composition body and cedar lining, substantially as herein described, for the purpose set forth.

117,201.—HAY-RAKE AND FORK.—Thomas W. Peirce, Minneapolis, Minn.

Claim.—In combination with the ferrule B, having recess D and angular crank-stop H, the rotating head C provided with the shoulder E, substantially as specified.

117,202. — BAND-TIE. — Joseph I. Peyton, Washington, D. C., assignor to himself and J. E. F. Holmead, same place.

Claim.—The improved tie herein described and shown, constructed substantially as and for the purpose set forth.

117,203.—Sewing-Machine.—James Pitt, Joseph Pitt, Edward Pitt, and William Pitt, Cleckheaton, Great Britain, assignors to themselves and Charles Keighley, Philadelphia, Pa.

Claim.—1. The overhanging arm D with its cylindrical enlargement *a*, in combination with the block F, inclosed by and turning in said enlargement, and with the bar E, lever G, springs *g* and *h*, and sliding wedge K for operating the arm G, all as set forth.

2. The arm J, arranged and operating in combination with the bar E, sleeve K, lever G, and levers H and L, as specified.

3. The combination, with the sleeve K, of lever L and set-screw *n*, or its equivalent.

117,204.—Combined Hay-Rake and Loader.—Almon J. Preston, East Guilford, N. Y.

Claim.—1. The arrangement of the rocking-shaft K, arms L L, cog-wheel M, rack-pitman N, with frame *f* and the weighted arms O O, all substantially as shown and described, and for the purposes herein set forth.

2. The notched levers *m m* and staples *n n* for holding the forks open, in combination with the knee-screws *p' p'*, as and for the purposes herein set forth.

3. The combination of the levers P P, fork-head R, knee-screws *p p*, pins *i i*, and teeth *e e'*, all substantially as and for the purposes herein set forth.

4. In combination with the levers P P, head R, and teeth *e*, the cars A A, head R', and teeth *e'*, substantially as and for the purposes herein set forth.

117,205. — Clamping Device for Sash-Cords. — Charles R. Rand, Dubuque, Iowa.

Claim.—The clamp, consisting of the frame D having the pulley *a* arranged in its upper part, with the cam E having the spring and thumb-piece or lever *b* arranged to operate the same, substantially as set forth.

117,206.—Blower-Tube for Furnaces.—Baker W. Reynolds, Evansville, Ind.

Claim.—In combination with an ordinary blower-tube, A E, for locomotive-boilers, the jacket C H, both constructed and arranged within cap D, as and for the purpose specified.

117,207. — Sewing-Machine for Boots and Shoes. — Everett P. Richardson, Lawrence, assignor, by mesne assignment, to McKay Sewing-Machine Association, Boston, Mass.

Claim.—The reciprocating bar I, when the same is actuated with an unyielding movement from a cam or its equivalent without the intervention of a spring, and which operates in connection with a last cut away at its edges, as shown, and is adapted to bear directly on the sole near its edge, other means being depended on to hold the upper in its proper relative position.

117,208.—Apparatus for Cutting Glass Globes.—John Thomas Haden Richardson, Tutbury, England.

Claim.—1. The movable standard A, provided with the roller or rollers *i*, and combined with the spring-lever C and cutter *g*, all arranged substantially as herein shown and described.

2. The holder for the glass to be cut, consisting of the adjustable tube E, horseshoe-plate *m*, spring-rod K, and plate *n*, all arranged substantially as herein shown and described.

3. The standard A provided with casters, as described, and combined with the table B provided with the upwardly-projecting flange, substantially in the manner herein shown and described.

117,209.—Folding Chair and Life-Preserver. — J. Max Rudiger, Brooklyn, N. Y.

Claim.—A folding chair, having the buoyant seat B and the buoyant piece D of the legs combined and operating together so as to convert the chair into a life-preserver, in the manner described.

117,210.—Coffee-Pot.—Franklin I. Sage, Cromwell, Conn.

Claim.—The combination, with a Britannia-metal pot, A, of a strainer, B, applied to a rod, C, which is held in place at its extremities by pieces *a* and *g*, substantially as described.

117,211.—Anti-Friction Axle-Box.—Peter Seyl, Peter Fischer, and Philipp Brenner, Chicago, Ill.

Claim.—1. A hub for wagons or carriages, consisting of the body A with the inwardly-projecting flange *g*, and the ring E provided with a similar flange, *i*, with the friction-rollers F mounted therein, substantially as described.

2. In combination with a hub, as above described, the ring B applied thereto, as set forth.

117,212.—Wood Pavement.—William E. Shaw, Portland, Me.

Claim.—The wood pavement herein described, consisting of the lozenge-shaped blocks B B, locked together by means of alternate wedge-shaped and recessed ends, substantially as and for the purposes herein set forth.

117,213, antedated July 15, 1871.—Self-Adjusting Cart and Brake.—Isaac Showalter, Chester county, Pa.

Claim.—1. The combination of a tilting cart-body with a connecting device, K I G S S, or its equivalent, extending under the cart-body from the rear end thereof to the yoke or harness of the team, substantially as described, and for the purposes specified.

2. The combination of the sliding plates D D, the shafts S' S' hinged to the plates, the sliding bar G, the lever I, and the rod or chain K, substantially as and for the purpose set forth.

3. The combination of a cart-brake, F, and a tilting-rod, K, operating as described, with a single sliding bar, G, whereby both brake and rod are operated at the same time by the same force, substantially as described.

4. The locking device R T *t t'*, when combined with the sliding shafts, the automatic brakes, and the automatic tilting apparatus, substantially as described, for the purpose set forth.

117,214.—Halter-Buckle.—Philip A. Snyder, Butlerville, Ohio.

Claim.—The halter-buckle herein described, composed of the three wings A B C, with cross-bars *a b c* and tongues, all arranged substantially as specified.

117,215.—Cultivator.—Jacob W. Spangler, Jackson township, Pa.

Claim.—The arms I I having their lower extremities constructed with a double curve, as shown, in combination with the plow-shanks *i i* constructed with slots and slotted elbows, as described, substantially as and for the purpose specified.

117,216.—Hard-Rubber Trunk.—William C. Spellman, Hartford, Conn.

Claim.—As an article of manufacture, a trunk having a body and cover composed entirely of hard rubber lined with deodorized soft rubber, substantially as described.

117,217.—Journal-Box and Axle-Bearing.—Sylvester T. F. Sterick, Georgetown, D. C.

Claim.—1. An axle-bearing, composed of roller with movable pivots and a revolving frame, the whole constructed and operating in the manner shown and described.

2. An axle-bearing or journal-box, composed of rollers with movable pivots, a revolving frame with a flange upon said box on the inner side, the whole constructed and arranged to operate in the manner described and set forth.

117,218. — Skein-Twisting Machine.—Thomas Stibbs, Wooster, Ohio.

Claim.—The combination of the shaft *a*, pin *i*, notched or shouldered bearing or box *k*, clutch *c*, spring *h*, loose pulley *d g*, and hook *o*, substantially as shown and described.

117,219.—Printing-Press.—Robert J. Stuart, Yonkers, N. Y.

Claim.—1. The combination, with a reciprocating inking-table, A, of a series of sectionally-constructed color-rollers F F' F², arranged to rise and fall in relation to said bed and to color-fonts E E' E², arranged above the latter and provided with distributing-rollers, substantially as specified.

2. The sectionally-constructed color-rollers F F' F², composed of detachable bushes of any desired length or lengths, and faced with rubber, in combination with washers inserted between the sections to hold the rubber from spreading, essentially as specified.

3. The combination of the cams *k* and lifters L with the inking-table A, type-bed B, and inking-roller H, whereby the latter is operated by the reciprocating action of the type-bed, combined substantially as specified.

4. The combination of the adjustable tripping-toe *s* and slotted arm of cam K, substantially as specified.

117,220.—Loom-Shuttle.—Earl Amri Thissell, Lowell, Mass.

Claim.—The pivoted spring D, in connection with the arm C of the spindle B or its equivalent, substantially as described, and for the purposes set forth.

117,221.—Refrigerator.—Joseph Ramon Torres, New Orleans, La.

Claim.—The refrigerator herein described, consisting of the case C, ice-chamber B having pipe G for connection with a separable water-cooler, inclined bottom strainer H, partition C', and preserving-chamber B', all combined and arranged substantially as specified.

117,222.—Lime-Kiln.—David H. Turbett, New Bloomfield, Pa.

Claim.—In the lime-kiln A herein described, the arrangement of the lining *a*, arch D, chimney E, sliding doors *b*, and damper *c*, when all constructed and arranged as and for the purposes set forth.

117,223. — Floating-Dock. — Henry Van Keuren, Jersey City, N. J., assignor to himself and William Van Keuren, same place.

Claim.—1. The frame *a*, forming the bottom of the floating tidal dry-dock and receiving upon its upper side the planking *b*, with the stop-water plugs *i* beneath the plank-shear, for the purposes and as set forth.

2. The air-tubes *c c* between the timbers of the frame *a*, and passing up through the bottom of the dock and provided with movable caps, as and for the purposes set forth.

117,224. — Hoisting Apparatus. — Tilghman R. Vestal, Santa Fé, Tenn.

Claim.—1. The arrangement, in the shed A B, of the two pivoted rollers C D, the single rope E, and hand-wheel G, as and for the purpose specified.

2. The improved hand-wheel G, consisting of two ring-plates combined with four spokes attached to the center of the sides of the shaft and other four notched and fitted upon the corners thereof, as set forth.

3. In combination with shed A B, rollers C D, rope E, and wheel G, the sliding bar H, arranged as and for the purpose specified.

117,225.—Hot-Air Furnace.—John J. Vogelgesang, Columbus, Ohio.

Claim.—The fire-pot D, fire-basket D', grate F, openings *d'*, rod *f*, register *f' f²*, and cylinder E, constructed and arranged substantially as and for the purpose specified.

117,226. — Shutter-Worker. — Lewis H. Watson, Pittsburg, Pa.

Claim.—The shaft C, crank E, lever F, and slotted plate G, when combined to operate as described.

117,227, antedated July 13, 1871.—Sash-Cord Fastener. — George A. Wilbur, Woonsocket, R. I.

Claim.—The sash-rope fastening herein described, consisting of the cylindrical spring F, parted at *h* and perforated at K, substantially as and for the purposes herein set forth.

117,228.—Construction of Tea and Coffee-Pots.—Linus H. Williams, Cromwell, Conn.

Claim.—The cast white-metal chamber-section B, to which the tinned-copper or other analogous bottom C is connected, in combination with the tinned-metal-chamber section A, and the capping cast white-metal section D, all united by lap-joints, the inner edges of which are of cast white metal, all as and for the purpose therein described.

117,229.—Liquid-Meter.—David Williamson, New York, N. Y., assignor to himself and Eugene Bissel, same place.

Claim.—1. Two cylinders, moving one within the other, and provided with induction and eduction-ports, and connected with two moving pistons or wings, substantially as set forth, so that the induction and eduction ports to one piston shall be operated by the other piston without varying its own ports, substantially as set forth.

2. Two cylinders acting as eight-way cocks, with supply and discharge-pipes at the ends of the cylinders, and a diaphragm within the inner cylinder, in combination with the moving piston, and cases containing said pistons, substantially as set forth.

117,230.—Planing-Machine.—Solomon A. Woods, Boston, and George E. Woodbury, Cambridge, Mass.

Claim.—1. The arrangement of the mechanism by which the upper feed-roll is adjusted under the machine or in the under part of the frame, said mechanism consisting of the cross-shaft *r* and its bevel-pinions *q*, said pinions meshing into and driving the bevel-pinions *p* on the vertical screw-shafts *o*, and which, by means of vertically-sliding connecting-rods *j*, which work in grooves in the standards *e*, support and move the upper feed-roll, substantially as shown and described.

2. The weighted levers *s*, stirrups *w*, yokes *u*, bars *z*, screw-shafts *o*, nut-pieces *n*, and rods *j*, combined, substantially as shown and described.

3. The sectional feed roll *g*, furnished with feed-teeth or spurs *m*, and removably attached to the shaft *k* and main feed-roll *f*, substantially as shown and described.

4. The journal-stand e^3, combined with the frame *a* and adjustable laterally thereon, and having the inclined journal-supports d^3, upon which the journal-boxes b^3 of the cutter-cylinder are adjusted vertically, all substantially as shown and described.

5. The pressure-bar e^3, adjustably mounted on arms f^3, pivoted upon the yoke e^2, substantially as shown and described.

6. The combination, with the journal-yoke c^4, of the laterally-adjustable stand d^3 extending across in front of the cutter-cylinder to connect the journal-boxes, substantially as shown and described.

7. The adjustable shoe-pieces e^3, in combination with the slotted yoke-bar c^4 projecting from the journal-stand, substantially as shown and described.

8. In combination with the vertical cutter-cylinders, the plates or supports g^3, made adjustable with reference to the cutter-cylinders, substantially as shown and described.

9. The arrangement, shown and described, of the under cutter-cylinder h^3 and its boxes P with the wedges s^3 on the ends of screws p^3, by rotation of which screws the cutter-cylinder is adjusted vertically, substantially as shown and described.

10. The rest r^3 and swinging table d^4 at the back and front of the under cutter-cylinder h^3, each made adjustable toward or from the cutter-cylinder and combined therewith, substantially as shown and described.

11. The shoe-bar u^3, made adjustable vertically, but pivoted at one end, so that it may be swung up into vertical position, substantially as shown and described.

12. The work-supporting and adjustable swinging table d^3, in combination with the cutter-cylinder h^3, substantially as shown and described.

117,231. — SELF-ACTING MULE FOR SPINNING.—Edward Wright, Worcester, Mass.

Claim.—1. In combination with the fast pulley *c*, loose pulley *d*, and ring *h*, the pulley *e*, loose upon the shaft, but connected to and driving the shaft by means of a pin working through a slotted pawl, which is thrown out of connection with its ratchet when the belt is on the pulley *c*, substantially as described.

2. In combination with the draft-scroll, the prolonging-arm k^2 pivoted upon the scroll-shaft and jointed to the slotted arm l^2 or its equivalent, and made adjustable in position with reference to the scroll-wheel groove, substantially as shown and described.

3. In combination with the escape-lever c^2, escape-wheel d^2, and the cam-shaft, the rocking rod g^2, provided with one or more arms and arranged to be operated by the movements of the carriage to effect the movements of the cam-shaft, substantially as described.

4. In combination with the escape-lever c^2, escape-wheel d^2, and the lever e^4, the spring or its equivalent for holding the lever in position, substantially as described.

5. The slow-return lever k^2, gear n^2, pinion o^2, stud p^2, pulley s^2, chain q^2, pulley r^2, and slide-bar s^2, combined and arranged to operate substantially as shown and described.

6. The adjustable runner or shoe y^2, in combination with the slide s^2, pulley x^2, and hook u^2.

7. In combination with the slow-return gear n^2, slide s^2, and pulley x^2, the friction-washers c^4 for permitting said gear to turn on its shaft, substantially as and for the purpose described.

8. The combination of the rotary stop-rod g^2 and the movable fork-arm i^2, substantially as and for the purpose described.

9. The sliding sheave or pulley y^2, in combination with the connecting-yoke u^2 and the scroll-cord-guide sheave o^2.

117,232.—BUCKLE.—William Yost, Butlerville, Ohio.

Claim.—The buckle herein described, having frame A, bars *a b c d e f*, and tongues *c' c''*, constructed and arranged substantially as specified.

117,233. — COMPRESSION-BIB. — William Young, Easton, Pa.

Claim.—The lower valve D, provided with spring *b*, and arranged so as to be kept constantly open by the compression of the upper valve, and closed by the action of the water, aided by the spring, when the upper valve is removed, substantially as and for the purposes herein set forth.

117,234.—FRICTION-CLUTCH.—George Clisbee, Marlborough, Mass.

Claim.—1. The combination of the yoke D with the cam-shaped ways or inclined planes F, for the twofold purpose of locking the pulley A with the friction-collar C when it is desired to set the mechanism in motion, and of applying the friction-brakes when it is desired to stop it, in the manner and for the purpose substantially as herein shown and described.

2. The yoke D and the inclined planes or cam-shaped ways F, held upon the shaft by means of the collar G, and so arranged as that by the adjustment of the latter the horizontal motion of the pulley may be changed, more or less, to compensate for wear of the friction-collar, or said pulley, or for other purposes, as herein shown and described.

117,235. — DITCHING-MACHINE.—Benjamin Rhett, Abbeyville, S. C.

Claim.—1. The arrangement of the main frame A B of a ditching-machine upon the axle of its supporting-wheels in such manner as to admit of horizontal adjustment to exert the requisite degree of tension upon the driving-bands or chains operating the endless apron of the buckets when the elevation of the digging-frame is changed, as herein shown and described.

2. The arrangement of the frame E carrying both the colters I J and the endless apron of buckets F, in combination with the bracing-rods R, connecting the two frames together in the line of draft, so that the said digging-frame may be lowered by means of the rack *b* and pinion *a*, and inclined more or less, as may be desired, as herein shown and described.

3. The buckets of the endless apron F, constructed with a concave bottom, deeper in the center adjacent to the holding-rib, and becoming flush with said rib at either side and at its discharging end to discharge the dirt more equally onto the delivering-spout W, as shown and described.

4. The combination of the main frame A B, mounted upon its axle C so as to be horizontally adjusted, the frame E carrying the circular and plow-colters I J at its lower end, and the pulley K and trough W at its opposite end, the driving-chains or bands M for giving motion to the endless apron F, having buckets, as described, and the adjustable guide-wheel V, the whole arranged and operating as herein shown and described.

117,236.—CAP FOR PRESERVE-JARS.—William Taylor and Charles Hodgetts, Brooklyn, N. Y., assignors to Louis R. Boyd, New York city.

Claim.—The combination, with the cap or cover of a fruit-jar or other vessel, of a separate plate, lining, disk, or shield, of glass, porcelain, or other equivalent incorrodible material, substantially as and for the purpose described.

REISSUES.

4,470. — TRIP-HAMMER.—John C. Butterfield and James Hay, Chicago, Ill.—Patent No. 108,326, dated October 18, 1870.

Claim.—1. The combination of the frame D and springs J C with the hammer-beam H and hammer P, when made as and for the purposes hereinbefore specified.

2. The combination of the frame D and springs J C with the hammer-beam H, the hammer P, and shaft F, when made and operating in the manner hereinbefore specified.

3. The combination of the frame D and springs J C with the hammer-beam H, shaft F, and standards *g g*, when made and operating in the manner and for the purposes hereinbefore specified.

4. The combination of the frame D, the springs J C, and hammer-beam H with the adjustable sleeve R, rod or pitman U, the eccentric Y, and plate V, when made and operating in the manner hereinbefore specified.

5. The combination of the frame D, the springs J C, and hammer-beam H with the adjustable sleeve R, the pitman U, and eccentric Y, when made and operating in the manner hereinbefore specified.

6. The combination of the frame D, the springs J C, and hammer-beam H with the pitman U, strap Z, eccentric Y, and plate V, when made and operating in the manner hereinbefore specified.

7. The combination of the frame D and springs J C with the hammer-beam H, the pitman U, the adjustable sleeve R, the eccentric Y, and shaft *n*, when made as and for the purposes hereinbefore specified.

4,471. — Division A. — GUN-CARRIAGE.—James B. Eads, St. Louis, Mo.—Patent No. 93,691, dated August 17, 1869.

Claim.—1. The improved device above described, or its equivalent, for utilizing the recoil of heavy guns, consisting of the vibrating frame B, shaft C, gears I I, springs K K, pinions *b b*, shaft J, ratchet *d*, and pawl *e*, all substantially as shown and set forth.

2. The above device, in combination with springs H H arranged on the frame D, as and for the purpose specified.

4,472. — Division B. — GUN-CARRIAGE.—James B. Eads, St. Louis, Mo.—Patent No. 93,691, dated August 17, 1869.

Claim.—1. The combination of a gun with a cylinder, in which air of the natural density is used to take up and store the force of recoil for the purpose of restoring the gun again to the position for firing.

2. The combination of the gun A, frame B, carriage D, plunger L, and cylinder M, as and for the purpose set forth.

4,473.—ROLLER FOR CLOTHES-WRINGERS, &c.—John F. Holt, Providence, R. I., assignor, by mesne assignments, to The Boston Belting Company, Boston, Mass. Patent No. 49,030, dated July 25, 1865; reissue No. 3,930, dated April 19, 1870.

Claim.—1. A roll of vulcanized India rubber for wringing and other like machines, having its body secured to the shaft by means of a cord or strip of metal or other inelastic substance wound around and fastened to the shaft so as to be incapable of turning thereon, and at the same time embedded and enveloped in the roll, as and for the purposes set forth.

2. The method of binding upon the mandrel or shaft, by means of a strip or cord of metal or other inelastic substance wound around it so as to be incapable of turning thereon, a strip or layer of unvulcanized rubber, and finishing the roll upon such strip or layer so bound, substantially in the manner herein described, so that the outer portion of the roll may be united, by the act of vulcanizing, with the strip or layer bound on the shaft.

3. Constructing the roll, for the purposes hereinbefore stated, by combining, with a spirally-grooved mandrel, a preliminary thickness or layer of vulcanizable compound, bound thereon by means of a suitable inelastic cord, braid, or thong wound over said sheet or layer in the spiral groove around said mandrel, and a suitable cylindrical body of vulcanizable compound, and afterward vulcanizing the whole together, as herein described.

4. A wringer-roll, composed of a vulcanized India-rubber body fixed upon its shaft by means of a cord or thong of suitable material, which, while embedded in and forming part of the body of the roll, is wound spirally around and secured to the shaft, substantially as and for the purposes set forth.

4,474.—CULTIVATOR. — Leonard Packard, Galesburg, Ill.—Patent No. 25,037, dated August 9, 1859.

Claim.—1. The plates *a* and longitudinally-slotted plates *b*, secured to the forward ends of the beams D, and pivoted by rods F to the bar E so as to permit of the plows being moved in a vertical or lateral direction by lever G, as and for the purposes set forth.

2. The interchangeable standards M, adjustably secured to the beams D and braces N, for the purposes set forth.

3. The combination of the pivoted beams D and adjustable standards M with plates *a b*, and rods F, bar E, and lever G, substantially as and for the purpose set forth.

4,475.—HYDRANT.—Washburn Race, Lockport, N. Y., and S. R. C. Mathews, Philadelphia, Pa., assignors to S. R. C. Mathews.—Patent No. 19,206, dated January 26, 1858.

Claim.—1. The protecting-case or jacket E surrounding the stock or body of the hydrant in such a manner that both the hydrant and the case, or the hydrant alone, may be detached and removed, substantially as and for the purpose set forth.

2. The dead-air or non-conducting chamber formed between the stock *b* and inclosing-jacket E, arranged intermediately between the main pipe D and top *a*, substantially as and for the purpose set forth.

3. The annular yoke B' on the valve-rod C for steadying the rod C and centering the valve G, and also preventing any vibration of said rod or valve when the hydrant is opened, as set forth.

4. The valve G, constructed of the two parts *n o* and packing *q*, in combination with the rod C, substantially as and for the purpose set forth.

5. The annular valve B' and the disk-valve G attached to the rod C, in combination with the escape or leak-openings *j*, when arranged to operate as and for the purposes set forth.

4,476.—APPARATUS FOR CARBURETING AIR. Byron Sloper, St. Louis, Mo.—Patent No. 115,988, dated June 13, 1871.

Claim.—1. An air-gas chandelier or lamp, provided with an automatic valve for admitting and shutting off the air so that the carbureter may be heated, as and for the purposes specified.

2. The carbureter A, in combination with the automatic valve F, as and for the purpose described.

4,477.—SILVERING GLASS FOR MIRRORS AND REFLECTORS.—William Augustus Walker, New York, N. Y., assignee of Henry Balen Walker, deceased. — Patent No. 97,838, dated December 14, 1869.

Claim.—1. A mirror or reflector, consisting of any desired form of glass, having a silver coating applied thereto by the use of the silvering compounds, substantially as described.

2. A coating of shellac, dissolved in alcohol or its equivalent, applied to the silver coating for the purpose of protecting the same, as set forth.

3. The compound of litharge, red lead, and oil, applied as an outer coating for protecting the silvering and the shellac coating, as set forth.

4,478.—STEAM-PUMPING ENGINE.—Norman W. Wheeler, Morristown, N. J.—Patent No. 115,670, dated June 6, 1871.

Claim.—1. The combination and arrangement, in relation to each other, of the stand-pipe *w*, distributing-cup *s*, and exhaust-pipe Y, substantially as and for the purposes described.

2. The combination of the valve M, exhaust-pipes Y Y, and stand-pipes *w w*, substantially as and for the purposes described.

3. The combination and connection of the valve M with the working vessel P^1, and valve-thrower *h i k*, substantially as and for the purposes described.

4. The combination of the tubes *h*, barrel *i*, diaphragm *k*, and working vessel P^2, substantially as and for the purpose set forth.

5. The combination of the steam-pipe O, passages *c c*, and valve M, when they are so arranged as to

supply the boiler with water, substantially as described.

6. The combination of the automatically-operated valve M with the two working vessels P^1 P^2 and the two condensing stand-pipes w w, substantially as and for the purposes described.

7. Actuating a valve, as M, in two or more directions, by means of pressure of secondary steam generated in the manner and in the apparatus, substantially as described.

DESIGNS.

5,127.—GROUP OF STATUES.—Hans Christian Brix, Copenhagen, Denmark.

Claim.—1. The herein-described group of statuary, representing our Savior Jesus Christ and His twelve apostles, arranged as shown.

2. The above group of statuary, with a background representing a vine with its leaves and bunches of grapes surrounding the niches in which each individual figure is placed, substantially as shown.

5,128. — SHOW-CASE. — William H. Core, New York, N. Y.

Claim.—The design for a show-case, as set forth.

5,129.—CLOCK-FRONT.—William H. Griffiths, Boston, Mass.

Claim.—The design for a clock-front, substantially as shown by the accompanying photographs.

5,130.—JELLY-GLASS. — Thomas Rollason Hartell, Philadelphia, Pa., assignor to Hartell & Letchworth, same place.

Claim.—The design for a jelly-glass, as shown in and by the accompanying drawing.

5,131.—TABLE-CASTER.—Cyrus H. Latham, Lowell, Mass., assignor to himself, Edward P. Woods, and Daniel Sherwood, same place.

Claim.—The design for a table-caster, substantially as shown and described in the accompanying drawing.

5,132.—CAKE-PAN. — Adam Reid, Buffalo, N. Y.

Claim.—The design for a cake-pan, as shown and specified.

TRADE-MARKS.

372.—SALT.—Francis Baker, Boston, Mass.

373.—CASTOR-OIL.—H. J. Baker & Bro., New York, N. Y.

374.—CASTOR-OIL.—H. J. Baker & Bro., New York, N. Y.

375. — SUGAR CORN. —James P. Baxter, Portland, Me.

376.—MINERAL OIL FOR ILLUMINATING.—Bostwick & Tilford, New York, N. Y.

377.—MINERAL OIL FOR ILLUMINATING.—Bostwick & Tilford, New York, N. Y.

378.—COMPOSITION CAR AND OTHER BEARINGS.—Jackson & Wiley, Detroit, Mich.

379.—PAINT.—Oliver Johnson & Co., Providence, R. I.

380.—MEDICINE.—Simon Henry Kennedy, Johnstown, N. Y.

381. — WOOD-WORKING.—McBeth, Bentel & Margedant, Hamilton, Ohio.

382.—CRACKERS.—William N. Monies and Lewis Pughe, Scranton, Pa.

383. — CHEMICAL, PHARMACEUTICAL, AND GALENIC PREPARATION.—F. E. Suire & Co., Cincinnati, Ohio.

384.—PAINT.—The Averill Chemical Paint Company, New York, N. Y., and Cleveland, Ohio.

385. — PAINT. — George T. Young & Co., Plainfield, N. J.

386. — PAINT. — George T. Young & Co., Plainfield, N. J.

EXTENSIONS.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 17,798, dated July 14, 1857; reissue No. 3,580, dated August 3, 1869.—Division A.

"Improvement in Harvesters."

Claim.—1. The platform, constructed with converging sides, operating to compress the gavel while being discharged, as set forth.

2. The combination, with a rake-head, of teeth, pivoted to vibrate in a vertical plane parallel with the rake-head, but rigidly supported against lateral strains, as set forth.

3. The combination, substantially as set forth, with a platform gradually diminishing in width from front to rear, of a rake, having teeth pivoted to vibrate in a vertical plane parallel with the rake-head.

4. The combination, with a vertical rake-shaft, of a rake-head, oscillating in a vertical plane parallel to its length, and connected with the shaft by parallel bars, substantially as set forth.

5. The combination of a platform vibrating about the main axle, reel-supports vibrating with the platform, and an oscillating rake also vibrating vertically in conformity with the movements of the platform, the combination being and operating substantially as set forth.

6. The cam-guide, pivoted between the shaft and the rake-head, substantially as set forth.

7. The combination of a rake, turning on a vertical axis, with a cam-guide, vibrating vertically in unison with the movements of the platform about the main axle, the combination being and operating substantially as set forth.

8. The combination, with a pivoted cam-guide, of a rake-arm, pivoted to and turning with a vertical shaft, the combination being and operating substantially as set forth.

9. The combination, in a two-wheeled harvester, of a rake, turning on a vertical axis between the plane of the wheels, with a cam-guide, also pivoted between the plane of the wheels, the combination being and operating substantially as set forth.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 17,798, dated July 14, 1857; reissue No. 3,581, dated August 3, 1869.—Division B.

"Improvement in Harvesters."

Claim.—1. The combination, with a platform vibrating about the main axle of a rake, moving over the platform in the arc of a circle, the combination being and operating substantially as set forth.

2. The combination of a platform and reel-supports, vibrating about the main axle, with a rake, moving over the platform in the arc of a circle, the combination being and operating substantially as set forth.

3. The combination of a rake with a platform, suspended from a frame vibrating about the main axle, the combination being and operating substantially as set forth.

4. The combination of a frame, vibrating about the main axle, two driving-wheels, and a rake, moving in the arc of a circle over a platform suspended between the planes of the wheels, the combination being and operating substantially as set forth.

5. The combination of a vibrating frame, a platform, vibrating with the finger-beam around the main axle, and a rake, moving over the platform in a circular path, the combination being and operating substantially as set forth.

6. The combination of a platform, vibrating about the main axle, a rake, supported between the planes of the wheels, and a coupling-piece, interposed between the platform and raking mechanism, which secures the conformity of the movements of the rake with those of the platform, in passing over uneven ground, the combination being and operating substantially as set forth.

7. The combination of a rake with mechanism for adjusting the rake, finger-beam, and platform, so arranged that the driver can operate the adjusting-mechanism without stopping the machine, substantially as set forth.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 17,779, dated July 14, 1857; reissue No. 3,524, dated June 29, 1869.—Division A.

"Improvement in Harvesters."

Claim.—1. The combination, substantially as set forth, in a rear-cut harvester, of two main wheels; a frame vibrating about the main axle; a tongue, hinged within the periphery of the wheels; and a laterally-projecting finger-beam, vibrating with the frame.

2. The combination, substantially as set forth, in a rear-cut harvester, of two main wheels; a frame, arranged between said wheels, and vibrating about the main axle; a finger-beam, projecting laterally from said frame; and a tongue, hinged to said frame near the axle.

3. The combination, substantially as set forth, of two main wheels; a vibrating frame, arranged between the wheels, and projecting beyond their periphery at the rear end only; a laterally-projecting finger-beam, secured to the rear of said frame; and a tongue hinged to the forward end of said frame, near the axle.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 17,779, dated July 14, 1857; reissue No. 3,525, dated June 29, 1869.—Division B.

"Improvement in Harvesters."

Claim.—1. The combination, substantially as set forth, of a finger-beam, projecting laterally from a frame vibrating about the main axle, with a hinged supplementary frame supported behind said axle by a caster-wheel.

2. The combination, substantially as set forth, of two main wheels, a frame pivoted near the axle of said wheels in front, and supported by a caster-wheel in rear, and a vibrating frame, carrying a laterally-projecting finger-beam suspended from the caster-frame by flexible connections.

3. The combination, substantially as set forth, of two main wheels, a main frame, vibrating about the main axle, and carrying a laterally-projecting finger-beam, with a frame pivoted near the axle, supported at its rear end by a caster-wheel, and carrying devices for raising and lowering the finger-beam.

4. The combination, substantially as set forth, of two main wheels, a vibrating main frame, and a laterally-projecting finger-beam, with lifting-devices, and a driver's seat mounted on a vibrating frame behind the axle.

5. The combination of a laterally-projecting finger-beam, a frame, vibrating about the main axle, a supplementary frame, supported by a caster-wheel, a tension-spring and lifting-cord, the combination being and operating substantially as set forth.

6. The combination, substantially as set forth, in a two-wheeled rear-cut harvester, of a tongue, a frame carrying a laterally-projecting finger-beam, and a frame carrying lifting-devices, and a conductor's seat, the tongue and frames each being independently hinged near the main axle, and moving independently of each other.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 17,779, dated July 14, 1857; reissue No. 3,526, dated June 29, 1869.—Division C.

"Improvement in Harvesters."

Claim.—1. The combination, substantially as set forth, of two main wheels; a frame connected with the main axle in front, and supported by a caster-wheel in rear; a frame vibrating about the main axle; a laterally-projecting finger-beam, connected with the frame; and a platform vibrating with the finger-beam.

2. The combination, substantially as set forth, of a laterally-projecting finger-beam, vibrating about the main axle, with a platform, vibrating about the finger-beam, so as to raise the rear end of the platform as the finger-beam is lowered, and vice versa, to keep the platform horizontal.

3. The combination, substantially as set forth, in a two-wheeled harvester, of a laterally-projecting finger-beam, vibrating about the main axle, with reel-supports and a platform, both vibrating in unison with the finger-beam.

LYMAN F. MUNGER, of Rochester, N. Y.—Letters Patent No. 17,804, dated July 14, 1857; reissue No. 62, dated April 2, 1861.

"Improvement in Locks."

Claim.—1. A series of wheels, W, revolving on a common center and provided with teeth or indentations at their peripheries for changing their position relatively with other wheels, V, or their equivalents, when each of the wheels W aforesaid has a pin projecting from its side or sides, so placed as to interlock with similar pins in the wheel or wheels next adjoining it, to operate substantially as and for the purpose herein set forth.

2. The combination of the wheels W with the wheels V, or their equivalents, when the latter are arranged or placed on an adjustable axis or shaft, specifically as herein shown, for the purpose of connecting and disconnecting the wheels W and the wheels V, or their equivalents, as herein specified.

DANIEL PRATT, of Prattville, Alabama.—Letters Patent No. 17,806, dated July 14, 1857.

"Improvement in Cotton-Gins."

Claim.—The ledge e, secured or placed within the hopper or box E, as shown, so as to close the central portion of the lower end of the hopper or box and cause the cotton when fed into the box, as described, to be fed spirally to the saws from the center of the box toward each end, for the purpose set forth.

EDWARD F. WHITON, of Stafford Springs, Conn.—Letters Patent No. 17,814, dated July 14, 1857.

"Improved Centering-Machine."

Claim.—Arranging the laterally-adjustable notched holder d d in such a manner in relation to the longitudinally-adjustable spindle C and its pointed marker p as to enable the ends of shafts of various sizes to be centrally marked, substantially as herein set forth.

MARY J. KELSEY, of Brooklyn, N. Y., administratrix of WILLIAM S. GALE, deceased.—Letters Patent No. 17,855, dated July 21, 1857.

"Means for Rendering Joints Steam-Tight."

Claim.—The method herein described of causing steam to become a packing to itself in steam-cylinders, or other parts of steam machinery, by allowing the steam to act in one or more grooves, substantially as specified.

JOHN B. SLAWSON, of New York, N. Y.—Letters Patent No. 17,899, dated July 28, 1857; reissue No. 550, dated May 4, 1858; reissue No. 4,240, dated January 24, 1871.

"Improvement in Passenger-Fare Boxes."

Claim.—1. A fare-box, composed of two compartments so combined that the fare, on being deposited through an opening in one of them by the passenger, without the intervention of the driver or conductor, shall be temporarily arrested therein for examination and inspection by the driver or conductor, through an opening therein covered by a transparent medium, and then, when approved of, transferred directly to the second or general receiving-compartment, which, as well as the first, is made inaccessible, except by violence, to the driver or other unauthorized person, for the purpose set forth.

2. A fare-box, having two compartments, into one of which the fare is first deposited and temporarily arrested previously to its being deposited in the other, when the former is provided with openings covered or protected by transparent mediums or devices so arranged that the passengers can see through one and the driver or conductor through the other, in the manner substantially as and for the purpose set forth.

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117,237.—COUNTERSINK.—Sewall L. Abbott, Deering, Me.

Claim.—The countersink, constructed as herein described, that is, having the oval-shaped cutting portion, seen in section in Fig. 3, the tapering point, the inner cutting-edge *e*, the point *d*, and the gauges *f*, as herein set forth.

117,238.—STRAW-CARRIER FOR THRASHING-MACHINES.—Otis Abell, Witoka, Minn.

Claim.—The endless carrier H, provided with stripe E, the plate F, boards D, and side pieces C, when said parts are constructed, combined, and arranged for operation, substantially as and for the purpose set forth.

117,239.—PRINTING-TELEGRAPH APPARATUS.—George L. Anders, Boston, assignor to E. B. Welch, Cambridge, Mass.

Claim.—1. The method of operating one or more telegraph-printing instruments in a circuit by the transmission of electrical currents alternating in their direction to secure the selection of a character on the type-wheel, and subsequently taking an impression of the same by the transmission of a final, separate, and distinct current in the same direction as the one preceding, substantially as described.

2. The employment of one electro-magnet in a telegraph-printing instrument whose electro-motive force is applied to the selecting or impressing parts of said instrument through the agency of a permanent magnet, when said permanent magnet does not control an electrical circuit, thus avoiding the use of an automatic polarized or other circuit-breaker, and insuring a steady resistance in a circuit containing one or more instruments.

3. The plate B provided with the graduated slot or orifice C, and the plate E provided with pivoted guide X, in combination with the director D, as and for the purposes specified.

4. The plates B E provided with the rectangular lever O, pawl P, and arm T actuated by the vibrating armature, in combination with the type-wheel G having ratchet J, substantially as described.

5. The type-wheel G provided with arm L, in combination with one or more spring-detents or stops, N, operating, in connection with spring K, in such manner as to arrest the wheel in its backward motion and hold the same in any desired position, substantially as described.

6. The sliding plates B E, in combination with the rectangular lever *p* and pivoted feed-plates *r*, substantially as described.

117,240.—RECORD-BOOK.—Henry Arden, Brooklyn, N. Y., assignor to John C. Smith, same place.

Claim.—1 The arrangement in a book of two series of index-letters, *a b*, upon opposite sides of its leaves, substantially as and for the purposes specified.

2. The arrangement of a series of index-letters, *c*, upon the inside of one or both of the book-covers, as described, and for the purposes specified.

117,241.—TANNING COMPOUND.—Abel T. Atherton, Lowell, Mass.

Claim.—1. The process, as herein described, of making a tanning compound.

2. The tanning compound, as described, as a new article of manufacture.

117,242.—LEVER-STAFF FOR WATCHES, &c.—William E. Banta, Springfield, Ohio.

Claim.—The lever-staff *a* or its equivalent, constructed to operate in connection with the lever *c* and with a balance-wheel arranged to vibrate in the bend of said lever-staff, thus giving more length to the lever-staff *a* without taking up any more space in the watch than is allotted to the ordinary shorter lever.

117,243.—HORSE-RAKE TEETH.—Jonathan B. L. Bartlett, North Jay, Me.

Claim.—The perforated plate D, in combination with the rods *b'* and tooth A, constructed and arranged substantially as and for the purpose specified.

117,244.—WATER-WHEEL.—Joseph Bell, Carrollton, Mo.

Claim.—The spiral wheel B with the buckets F, in combination with the cylinder C and inclined chutes I I, when the same are constructed and arranged to operate substantially as and for the purposes described.

117,245.—GUN-LOCK.—William N. Bennett, Illyria, Iowa.

Claim.—The combination of the slotted arm C and lever D with the trigger A, substantially as shown and described.

117,246.—CONSTRUCTION AND MODE OF WORKING BLAST-FURNACES.—Henry Bessemer, London, England.

Claim.—1. The entirely enveloping the masonry or brick-work of a blast-furnace in a strong air-tight case or jacket, to admit of the gaseous products of combustion being retained under considerable pressure.

2. The inclosing the bosshes of blast-furnaces, so as to have the tuyere-holes opening externally into a large chamber accessible to workmen and containing air under pressure.

3. The inclosing the tap-hole of blast-furnaces in a large chamber capable of containing air under pressure, so that the pressure of air therein may, when required, prevent escape of flame thereat.

4. The providing outlets from a blast-furnace near the tuyeres for the escape of a portion of the gases in the state of carbonic acid.

5. The so arranging and operating, when a carburizing-vessel is used, that the metal may run continuously from the blast-furnace into the carburizing-vessel.

6. The smelting ores of iron in blast-furnaces, in which the gaseous products of combustion are retained throughout the furnace under a pressure considerably exceeding that of the external atmosphere.

7. The combining an air-engine and air-pump with a high-pressure blast-furnace in such manner that the gases issuing from such furnace are caused to pass through and work such engine, and thereby actuate the pumps which supply the blast to the furnace.

117,247.—FURNACE FOR THE MANUFACTURE OF MALLEABLE IRON AND STEEL.—Henry Bessemer, London, England.

Claim.—1. The employment of a vertical feeding-chamber for supplying scrap or other decarburized or uncarburized malleable iron or steel to reverberatory furnaces, where its fusion takes place under pressure of confined gaseous matters.

2. The arranging piles of scrap or other malleable iron or steel raised on supports on the hearths of reverberatory furnaces, in which the fusion of the metal is effected under high pressure of gaseous matters confined therein, and the forming such furnaces with a feeding-door at their ends to facilitate the introduction of such piles.

3. The constructing reverberatory high-pressure furnaces employed for the fusion of scrap or other decarburized or uncarburized malleable iron or steel with a movable roof or arch.

4. The cooling the outer shell or iron casing of reverberatory high-pressure furnaces employed for the fusion of scrap or other decarburized or uncarburized malleable iron or steel by water circulating in contact therewith.

5. The construction and employment of reverberatory furnaces for the fusion of scrap or other decarburized or uncarburized malleable iron or steel in such manner as to admit of fuel being burned on fire-bars by ordinary chimney-draught at the commencement of the process, and also to admit of the fuel being burned under a high pressure of confined gaseous matters toward the close of the fusing operation.

6. The employment of a movable double flue for changing the draught and opening the feed-hole of furnaces employed for the fusion of scrap or other decarburized or uncarburized malleable iron or steel, for the purpose of obtaining ingots or other masses of malleable iron or steel.

7. The decarburation or partial decarburation of molten pig or other carburet of iron on the hearths of reverberatory furnaces, and the subsequent fusion of scrap or other decarburized or uncarburized malleable iron or steel therein under the pressure of confined gaseous matters, for the purpose of obtaining malleable iron or steel by their fusion.

8. The general arrangement and combination of the several parts constituting the improved melting-furnace represented on Sheet C of the annexed drawing.

9. The employment of the combined cupola and reverberatory furnace, constructed as shown at Figs. 1 and 2 on Sheet D, and working under pressure of confined gaseous matters, for the purposes and in the manner described.

10. The employment of cupola-furnaces, constructed as shown at Fig. 3, Sheet D, such furnaces working under pressure of confined gaseous matter, for the purposes and in the manner described.

11. The means shown of protecting the mercury employed in gauges to indicate the pressure of gaseous matters in furnaces employed for the purposes described.

12. The constructing the peep-holes of high-pressure furnaces in the manner described.

13. The inclosing the orifices by which the products of combustion escape from furnaces used in the manufacture of malleable iron and steel, and working under high pressure in suitable tubes or passages to lessen the noise produced by the escape.

14. The forming the escape-apertures of high-pressure furnaces used in the manufacture of malleable iron and steel in metal, having water-passages formed therein to prevent their rapid destruction by heat.

117,248.—BESSEMER CONVERTER FOR CONVERTING CRUDE IRON INTO STEEL, &c.—Henry Bessemer, London, England.

Claim.—1. The constructing the Bessemer converting-vessel in such manner that the metal contained therein may have its temperature increased by being exposed to a considerable back pressure of gas during the converting process.

2. The conversion of molten pig or other carburet of iron into malleable iron or steel by passing atmospheric air through the fluid metal contained in vessels in which the gaseous products of combustion are retained above the surface of the metal at a considerable pressure in excess of the pressure of the external atmosphere.

3. The employment of movable rings or mouthpieces in vessels employed to convert molten pig or other carburet of iron into malleable iron or steel by the passing of atmospheric air through the molten metal.

4. Regulating the pressure of the gaseous products of combustion within the Bessemer converting-vessel, in the manner herein described.

5. The treatment of, or conversion into malleable iron or steel of molten pig or other carburet of iron by means of nitrate of soda or nitrate of potash, or by other oxygen-yielding salts or substances, when such treatment or conversion is carried on in vessels or chambers in which the gaseous products resulting from such treatment or conversion are retained under considerable pressure, as and for the purposes herein described.

6. The apparatus and methods herein described for effecting and regulating the pressure of the gaseous products within the vessels or chambers in which molten pig or other carburets of iron are treated, and converted into malleable iron or steel by the action of nitrate of soda, or nitrate of potash, or other oxygen-yielding salts or substances.

117,249.—APPARATUS FOR MELTING AND CASTING METALS UNDER PRESSURE.—Henry Bessemer, London, England.

Claim.—1. The fusion of malleable iron and steel and other refractory metals in high-pressure furnaces supplied with combustible gases or vapors generated under pressure sufficient to cause them to enter such furnaces by their own expansive force and without the employment of force-pumps or other gas-forcing machinery.

2. Casting or founding ingots and other masses or articles in iron or steel or in other metals or alloys of metals in molds contained in close vessels, in which great pressure is obtained by the evolution of aeriform matters from combustible matters either in the chamber containing the casting or in a chamber or vessel connected therewith.

3. Casting or founding ingots and other masses or articles in iron or steel or in other metals or alloys of metals in molds contained in close vessels, in which great pressure is obtained by the evolution of aeriform matters from liquids evaporated either in the chamber containing the casting or in a chamber or vessel in connection therewith.

4. The application of gases or vapors under high pressure generated in close vessels and acting by their expansive force on metals or alloys of metals in the process of casting or founding articles in such metals or alloys, substantially as herein described.

117,250.—CONSTRUCTION AND OPERATION OF METALLURGICAL FURNACES.—Henry Bessemer, London, England.

Claim.—1. The employment, for the fusion of scrap or other decarburized or uncarburized malleable iron or steel, of a cupola-furnace inclosed or partially inclosed in a chamber, into which the air for combustion is forced at a pressure much in excess of the external atmosphere.

2. The employment, for the fusion of scrap or other decarburized or uncarburized malleable iron or steel, of a reverberatory furnace inclosed in a chamber, into which the air for combustion is forced at a pressure much in excess of the external atmosphere.

3. The mode herein described of constructing and lighting the close iron chambers in which melting-furnaces for the melting of scrap or other decarburized or uncarburized malleable iron or steel are worked at high pressure.

4. The constructing-chambers, containing high-pressure furnaces, for the melting of scrap or other decarburized or uncarburized malleable iron or steel, with double inlet-doors, combined with inlet and outlet-pipes, as herein described.

5. The causing compressed air, in its passage into a chamber containing a high pressure furnace for the melting of scrap or other decarburized or uncarburized malleable iron or steel, to pass through suitable cooling apparatus to prevent the said chamber becoming unduly hot.

6. The general arrangement and combination of parts constituting the melting and casting apparatus shown in Figs. 1, 2, and 3 on Sheet B of the annexed drawing.

117,251.—Steam-Boiler. — Nathaniel L. Blanchard, Spuyten Duyvil, N. Y.

Claim.—1. The chimney-stack C, smoke-box D, smoke-tubes E, smoke-flue L, channels V W, and superheater F, combined, as described, with a series of water-chambers, separated by perforated diaphragms G H, for the purpose specified.

2. The diaphragms G H, arranged as partitions between several sets of tubes, to operate upon the circulation of water in the manner described, and for the purpose specified.

3. The valves O R, combined, as described, with the rod P in steam-drum F, for the purpose specified.

117,252.—Blower for Chimney-Stacks.—Nathaniel L. Blanchard, Spuyten Duyvil, N. Y.

Claim.—The top-closed chamber C D, the semi-cylindrical side and top-opened case B, the fan I J, and the top and bottom-opened case A N O, all arranged together between the fire-box and smoke-stack of an engine-boiler, and combined, as described, for the purpose of drawing the products of combustion from the fire-box through plate O into a close chamber, C D, which opens only into the sides of the fan-case, and of thence transferring said products directly into the smoke-stack, thus allowing no smoke or gas to reach the chimney without passing through the fan.

117,253.—Carriage-Spring.—Peter Broadbooks, Batavia, N. Y.

Claim.—The construction and arrangement of the elliptical spring A A′, rod D, cylinders E E′, rubber packings H H′, nuts B B′, and clevises F F′, when operating together, as and for the purpose described.

117,254.—Farmer's Boiler. — George H. Buckley, Quincy, Ill.

Claim.—1. The arrangement of the pendent caldron in braces *b b*, projecting from the furnace and within the jacket, as and for the purpose specified.

2. The movable bottom *c*, suspended from the trunnions of the caldron to be swung by the same, substantially as herein shown and described.

3. The pivoted caldron C, provided with the toothed segment or its equivalent, and with the projecting lugs *j*, as specified.

117,255.—Machine for Making Gutters for Buildings.—Albion K. P. Buffum, Gardiner, Me.

Claim.—The gutter-machine hereinbefore described, the same consisting of the series of platforms *a b c d e*, the guide *f*, the pressure-rollers *g h*, adjustable gauge *m*, the feed-and-pressure rollers I K N, the rotary cutter-stock R with its adjustable frame S, rotary cutter-stock W with its adjustable frame T, the cutter-heads X Y, and the cylinder Z, all the cutter-heads or cylinders being provided with cutters, and the whole being constructed and combined together and applied to the frame H, substantially in manner and so as to operate as and for the purpose specified.

117,256. — Preserving Cranberries. — James W. Campbell, Philadelphia, Pa.

Claim.—The described new article of manufacture, namely, uncooked fresh cranberries, so treated as to retain their natural qualities without drying, stewing, or admixing sugar, sirup, or other ingredient, substantially in the manner and for the purpose herein set forth.

117,257.—Wheeled Vehicle.—James F. Cass, L'Orignal, Canada.

Claim.—The arrangement of pivoted frame *d* and grooved wheel D centrally beneath an ordinary road-wagon, so that the latter may be let down upon a single rail E, and thus relieve the ordinary wheels of a large portion of the weight, as described.

117,258.—Harrow.—Joshua C. Center, Mason City, Ill.

Claim.—The combination of the handles F and braces G with the side bars C D of my improved harrow, substantially as herein shown and described, and for the purpose set forth.

117,259.—Sawing-Machine. — Cornelius Collins, Jonesborough, Ind.

Claim.—The machine herein shown and described, all the parts being constructed, combined, and arranged as and for the purpose specified.

117,260.—Lamp-Shade.—Michael H. Collins, Chelsea, Mass.

Claim.—A shade for a lamp or Argand burner having its body made of glass, porcelain, or paper, and of a frusto-conic, frusto-pyramidal, or frusto-polygonal form, and provided with a series of long tapering arms or springs, D, formed and applied thereto, substantially as shown and described.

117,261.—Stove-Leg.—James M. Corbin, Liberty, Mo.

Claim.—A stove-leg, having dovetailed base-plate C, with spring E and stops F, constructed, arranged, and applied as and for the purpose specified.

117,262. — Sewing-Machine. — Thomas Crane, Fort Atkinson, Wis., assignor to himself and Melvin A. Jones, same place.

Claim.—1. A sewing mechanism, composed of an eye-pointed needle receiving its motion from a crank coupled directly to the needle-bar, a self-adjusting cam-pulley upon the crank-shaft, and an oscillating bar carrying the crank-shaft, substantially as described, the combined action of which governs the feed, shuttle, and needle movements, in sewing the same form of stitch forward and backward, by reversing the motion of the machine, substantially as specified.

2. The crank-shaft E, when so arranged as to vibrate laterally simultaneously with a rotary movement of the same, whereby a vertical movement is imparted to the needle-bar, substantially as described.

3. The combination of the crank-shaft E, vibrating bar D, cam-pulley G, and rock-shaft K, the whole arranged to operate together, whereby a reciprocal movement is imparted to the shuttle-bar, substantially as described.

4. The combination of pulley G, stirrups I and J, rock-shaft K, oscillating bar D, and shuttle-bar L, the whole arranged to operate together, whereby the requisite reciprocating movement is imparted to said shuttle-bar by the rocking movement of the shaft K jointly with the oscillating movement of bar D, substantially as and for the purpose described.

117,263.—Gate.—Peter S. Crawford, Union, Ill.

Claim.—1. The pivoted lever *b*, connecting-link *b′*, rotating arm *b″*, link *b‴*, and eye *c*, when arranged with relation to the inclined guide-rail C′ of gate C, as herein described.

2. The plates E E, inclined or angular rails *e*, radial pickets *e′ e′*, guide-rail C″, rail C‴, braces *e″ e″*, and frame C, when constructed and arranged together, as described, to form the gate, as shown.

117,264.—Corn-Harvester.—John Crossland, Spencer Grove, Iowa.

Claim.—1. The arms H I, springs J, and jointed posts G, combined, as described, to enable the stalks to be gathered, substantially as specified.

2. The cutter K, combined with the weighted lever N, for the purpose specified.

3. The automatically-adjusting knife K, combined with weighted lever N and shoe M, as and for the purpose specified.

117,265.—Washing-Machine. — Sylvanus Decker and Frazee Ayres, Rahway, N. J.

Claim.—The combination of the dasher B with the movable side pieces D D, when both dasher and side pieces are attached to and operated by the lever, C, substantially as and for the purposes hereinbefore set forth.

117,266.—Molding-Machine.—John Demarest, Mott Haven, N. Y., assignor to himself and Jordan L. Mott, same place.

Claim.—1. In combination with sections D D′, the brackets E E and the two pairs of slides C C′, arranged as and for the purpose specified.

2. The combination of toggle-joint device F G, slides C C′, and brackets E E, arranged as described to form a convenient mechanism for reciprocating the sections, in the manner specified.

3. The combination of the sections D D′ with brackets E E, bolted firmly to one another at the bottom, but hinged loosely together at the top to allow the upper part of the mold to spread open a little, as and for the purpose specified.

4. The triangular gates arranged and operating in the manner specified and for the purpose set forth.

5. The construction of the core O in an oval form, with its shortest diameter in the line of movement of the sections D D′, as and for the purpose specified.

117,267. — Feed-Apparatus for Mill-Stones.—Alvah Dewey, Princeton, Ky.

Claim.—The combination of the disk or plate A with the tube C, bar E, and rods *a a*, as shown and described.

117,268.—Electro-Magnetic Instrument.—Lawrence L. Duerden, Brooklyn, N. Y.

Claim.—1. The arrangement of pin *i*, block A, spring *g*, pin *f*, arm *j*, and hammer K in the electric instrument, as and for the purpose specified.

2. The pillar B, bifurcated and arranged upon the bed-plate to hold the magnet between its forks, as described.

117,269. — Tobacco-Cutting Box.—William Theodor Farre, Montreal, Canada.

Claim.—1. The receptacle for tobacco and tobacco-cutter, consisting of the tube A, the tobacco receptacle F G H, the plunger I, the knife D, and the key K, substantially as described.

2. The match-box B, provided with a slit or mortise in its bottom for holding the knife for the tobacco-cutter, substantially as described and shown.

3. The tube in the center of the match-box, forming the seat for the key K when the instrument is out of use, substantially as described.

117,270, antedated July 18, 1871.—Kite.—Isaac Ferris, Cincinnati, Ohio.

Claim.—A kite, constructed of two parallel walls connected by a strip of the same material and properly stayed to keep the kite-shape, the space between the walls to be filled with gas lighter than common air, substantially as described.

117,271. — Process and Apparatus for Treating Rice, Wheat, Corn, &c.—R. Berkeley Fitts, Philadelphia, Pa., assignor to himself and George W. Waitt, same place.

Claim.—1. The process herein described for the treatment of rice, wheat, and other grain, consisting of the direct application of steam, followed by that of cold-air blast, as and for the purpose set forth.

2. The steam-chest D, steam-jacket C, and wire-cloth cylinder M, when all arranged and operating as and for the purposes specified.

117,272.—Wire-Blank for Napkin-Rings, Cruet-Holders, &c.—Charles W. Goodhue, Lowell, Mass., assignor to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—As a new and improved article of manufacture, the twisted wire-blank, Fig. 3, constructed substantially as described and specified.

117,273.—Pencil-Case. — Francis Robert Goulding, Boswell, Ga.

Claim.—The cone *e*, projecting from movable tube D, combined with swiveled tube F and wheel *d*, as and for the purpose specified.

117,274.—Barrel-Head.—Solomon S. Gray, Boston, Mass.

Claim.—A head for a barrel or cask, having a grooved perimeter in which a packing is laid and held while said head is being secured in an ordinary croze of a barrel, as and for the purpose described.

117,275. — Machine for Making Wire-Fencing.—Benjamin Greening, Hamilton, Canada, assignor to Samuel Owen Greening, same place.

Claim.—1. The arrangement and combination of the movable frame *a*, placed on a track with the mesh-regulating roller *j* and warp-drum *k*, arranged substantially as described.

2. The arrangement of the head-stocks and wrappers *d g* with bobbins *e* and friction-rollers, as described.

3. The arrangement and combination of the outer wrappers producing the turn-over motion, operated by the cams *s* and levers *t*, as shown.

4. The arrangement of the driving-gear crank *m*, endless chain *o*, bevel-gears *r r*, cog-wheels *n*, regulating-worm and gear r^4, all combined and operated substantially in the manner and for the purpose described.

117,276.—Fire-Place. — Joseph Hackett, Louisville, Ky.

Claim.—1. The ears *c c* formed at the front top corners of the fire-back for defining the width of flue and holding the tile in place, as set forth.

2. The hollow fire-back A provided with the concave inner corners, whereby air-passages *b* are formed between said corners and the masonry B, as shown and described.

117,277.—Camp-Stool.—Albert Hallowell, Edmund Elliott, and Charles A. Blodgett, Lowell, Mass.; said Elliott assigns his right to Charles A. Blodgett.

Claim.—1. The cleat H, slotted endwise on its

upper side to receive the legs A, B, and C, as and for the purpose set forth.

2. The combination of the seat G, the steps D, E, and F, the legs A, B, and C, and the cleat H, all constructed substantially as and for the purpose herein set forth.

117,278.—CORK-SCREW, CORK-PULLER, AND CAN-OPENER COMBINED.—John Harrigan, Fort Wadsworth, N. Y.

Claim.—The combination of the cork-screw, can-opener, and cork-drawer or cork-puller, substantially as set forth and described.

117,279.—CULTIVATOR.—Newton J. Harris, Meredosia, Ill.

Claim.—The frame D, constructed as described and having plow-beams O attached thereto, in combination with lever E and perforated bar H, as and for the purpose specified.

117,280.—METHOD OF CONVERTING RECTILINEAR INTO ROTARY MOTION.—Jacob G. Harroun, Sag Harbor, N. Y.

Claim.—The peculiar mechanism herein described, by which the pins *d* and *d'* are made to engage first with one side and then with the other side of the double rack A, substantially as and for the purpose specified.

117,281, antedated July 21, 1871.—INCENSE-BURNER.—E. Warren Hastings, Boston, Mass.

Claim.—A combined illuminator and incense-burner, constructed with the moveble lamp *h*, slide *k*, fuse *f*, covers *b* and *c*, guides *g* and *e*, and the portable lamp *n*, in a manner and for the purpose as set forth and described.

117,282. — ADJUSTABLE REFLECTOR FOR LAMPS, &c.—Augustus Hayo, New York, N. Y.

Claim.—The wall-plate A, rotary bar D, rack F, pawl H, bracket G, and reflector N, all arranged and operating substantially as and for the purposes described and set forth.

117,283.—MACHINE FOR POLISHING BOOT AND SHOE-HEELS.—Charles H. Helms, Poughkeepsie, N. Y.

Claim.—1. The semi-oval concave-faced curvilinear reciprocating heel-polishers, substantially as described, and for the purposes hereinbefore set forth.

2. The combination of the heel-polishers, as set forth, with the slide F, box Q, and springs S, all arranged and operating in the manner substantially as hereinbefore set forth.

3. In combination with the reciprocating polishers P and slide F, the tension-spring D, substantially as described.

4. In combination with the standard B and polishers P, the self-adjustable heel-rests N, all arranged and operating substantially as described.

117,284.—SWINGING CLOCK.—George Herrmann, Newport, R. I.

Claim.—1. The arm *l* on the hour-spindle, combined with the arms *n* on the arbor *m* for setting the striking apparatus, substantially as herein shown and described.

2. The adjustable fork or plate G, arranged on a vibrating clock, for the purpose of regulating the operation of the hammer F, as set forth.

3. The rotary date-disk I, arranged within the pendulum-ball of a clock and connected with the upper works, as specified.

117,285.—HYDRAULIC AIR-COMPRESSOR.—Michael Hey, Philadelphia, Pa.

Claim.—1. The communicating hydraulic cylinders A and B, in combination with their respective floats a^1 b^1, vertically-moving bars C C', and connecting-lever D, water-valves 7 7, and air-valves 6 6, all constructed and arranged to operate in relation to each other, substantially as and for the purpose hereinbefore set forth.

2. The water-cylinder c'', in combination with its vertically-moving bar C and pressure-cylinder A, arranged to operate together, substantially as and for the purpose hereinbefore set forth.

3. The sliding stem a^2, in combination with the float-lever a^1 and valve-way tube a^3, and the spring-catch 10, in combination with the vertically-moving bar *c* and water-vessel c'' in communication with the cylinder A through the flexible tubes 8 8, all constructed and arranged to operate substantially as and for the purpose hereinbefore set forth.

4. The sliding stem b^2, in combination with the float-lever b^1 and valve-way tube b^3, and the spring-catch 10, in combination with the vertically-moving bar C', piston 12, cylinder b^2, and air-passage way 13 in communication with cylinder B, all constructed and arranged to operate substantially as and for the purpose hereinbefore set forth.

117,286. — PAVEMENT. — Isaac H. Hobbs, Philadelphia, Pa.

Claim.—The construction of a wooden pavement by placing concrete moldings between each row of blocks of a size and shape corresponding thereto, and of any desired thickness, in combination with the cobble-stone, slag, or rock foundation, and the cement or concrete filling or layer thereupon, substantially in the manner and for the purpose hereinbefore set forth.

117,287. — MACHINE FOR TRIMMING AND BURNISHING SOLES.—Samuel H. Hodges, Lynn, Mass., assignor to himself, George A. Fullerton, O. B. Cooledge, and B. F. Larrabee, same place.

Claim.—1. The combination, in a machine for trimming or burnishing, or both trimming or burnishing boots and shoes, with a jack or support for the shoe, of a flexible or jointed tool-carrying frame, operating substantially as shown and described, and a trimming, burnishing, or other suitable tool mounted thereon, and actuated substantially in the manner herein set forth.

2. The combination, in a trimming or burnishing machine for boots and shoes, with the boot-jack or holder, of the sliding carriage, spring, and treadle or lever for adjusting the position of the same, substantially as shown and set forth.

3. The combination, with trimming or other tool, mechanism for imparting motion to the same, and the flexible or jointed tool-carrying frame, operating as described, of the boot-jack or support, and the adjustable or sliding carriage upon which the same is mounted, under the arrangement, substantially as herein shown and set forth.

4. The cutter herein shown and described, consisting of the cutting-sections adjustably connected with their supporting-flange, and combined with the shaft from which they receive motion by means of a sleeve and clutch *e*, substantially as specified.

5. The shoe-holding disk T, hinged to the pivoted plates S R, substantially as herein shown and described.

117,288. — BOOT-CRIMPER'S RUB-STICK.—Alonzo J. F. Howard, Milford, Mass.

Claim.—A boot-crimper's rub-stick, in which a metallic bar, D, provided with leaves E, is fitted to each of the rubbers, substantially as shown and set forth.

117,289. — RAILROAD-CAR VENTILATOR.—James L. Howard, Hartford, Conn.

Claim.—The ventilator, constructed, as before described, with a receiving-aperture at one side, two deflectors inclined vertically in opposite directions, a discharge-aperture between the ends of said deflectors, a directing guard for the discharge-aperture, and the outer plate.

117,290. — APPARATUS FOR EVAPORATING, CONCENTRATING, AND SUPERHEATING SALT-BRINE. — John Howarth, Salem, Mass.

Claim.—1. The arrangement of steam-coils B B', in combination with the partitions *m m m m*, for the purposes herein described.

2. The combination of injector S' with coils B B', partitions *m m m m*, and cylinders A A', substantially as shown and described.

117,291, antedated July 14, 1871.—CLOTHES-WRINGER. — Charles H. Hudson, New York, N. Y.

Claim.—1. The bars O and O', in which the bearings for the movable rollers of a clothes-wringer are formed, in combination with the slides P P' and the adjusting-bolts S and S', arranged and operating substantially as hereinabove set forth.

2. The auxiliary adjusting-wedges or blocks W W, applied to the opening T in the frame of a clothes-wringer, substantially as and for the purpose set forth.

3. The combination with the auxiliary adjusting-wedges W W of the wedges U U, substantially as set forth.

117,292. — BASE-BURNING STOVE.—George G. Hunt, Chicago, Ill.

Claim.—The plate P, when made substantially in the manner and for the purposes hereinbefore specified.

117,293. — KNITTING-MACHINE. — Leander B. Hunt, Hyde Park, Mass., assignor to himself and Roswell W. Turner, same place.

Claim.—The combination of an additional groove, *a*, with the main groove or grooves of a knitting-machine by means of oblique grooves and switches for the purpose of setting and throwing down the needles into operating positions, and of raising them out of said positions without dropping the stitches, substantially as herein set forth.

117,294.—MANTEL AND FRONT FOR FIRE-PLACES. — David K. Innes and Wesley W. Magill, Cincinnati, Ohio.

Claim.—1. Providing a cast-iron mantel with a shelf composed of slate, marble, or other suitable mineral, as and for the purpose explained.

2. The provision in a mantel of the separable cast-iron key C, for the object stated.

3. The combination of the mantel A *a*, separable cast-iron key C, screw-threaded shank D, and nut *d*, for the purpose set forth.

4. The detached and shiftable wall-plates E E', when arranged as herein described, and for the object explained.

117,295.—SEED AND PLASTER-SOWER.—Gilbert Jessup, Shortsville, and Dennis P. Sharp, Ithaca, assignors to "Ithica Agricultural Works," Ithaca, N. Y.

Claim.—1. The combination of slotted cars with the end of the seeder-box, so that, by means of bolts, the position of the box may be fixed and adjusted upon the axle, as set forth.

2. The combination of rod *p* with cam-lever W and stirrer-lever Z, as and for the purpose set forth.

117,296. — HAND CORN-HUSKER. — James Guthrie Johnson, Carthage, Ill.

Claim.—The hand corn-husker herein shown, consisting of the handle A, husking-horn B, finger-guard and rest C, recesses E F G, and the band H, constructed and arranged substantially as described.

117,297.—POST-HOLE DIGGER AND DITCHER.—Rollin L. Jones, Cleveland, Ohio.

Claim.—The machine for digging post-holes, transplanting, &c., when constructed and arranged in the form and manner substantially as specified.

117,298.—SUBMARINE EXCAVATOR.—Thomas Jones, Washington, D. C.

Claim.—1. The plow D, constructed as described—that is, of double mold-board form, having air-tight chambers G arranged between them, for the purposes described.

2. The movable portions of the mold-board, in combination with the main portions thereof and the rear planking I', as and for the purposes specified.

3. The chains J and J', rings J'', and windlass K, arranged to operate slides I, as set forth.

4. Chains N and N' and windlass M, arranged to raise and lower the plow, as and for the purposes set forth.

5. Rollers L and springs L', in combination with standard C, as and for the purposes specified.

6. Draft-chain O, roller O', and windlass O'', combined with the plow and the deck A, for the purposes described.

7. The air-tight cylinder Q, when arranged upon the draft-chain O and having united with it the chains R and R', as and for the purposes set forth.

8. The standards S' S'' and T, all arranged and operating as for the purposes specified.

9. The windlass M, chains N and N', chains *y*, chain Z, chains W, valve-rod W', and steam-chest X with its piston *x'*, all arranged to operate, in combination with the standard S' S'' and T, to raise the plow automatically, as herein set forth.

10. The windlass 1, roller 2, and chains 3, in combination with standard S' S'' and T, for restoring said standards to vertical position, as described.

11. The springs 5 on lower ends of the above standards, and the heavy bumper-spring 6 on the under side of the deck, as illustrated in Fig. 1, for the purposes described.

117,299, antedated July 21, 1871.—BUR FOR KNITTING-MACHINES.—Luke Kavanaugh, Waterford, N. Y.

Claim.—A knitting-bur having a series of wings, each formed with an inwardly-projecting dovetail or flaring shank at one end, and all secured by a follower and clamping device in an obliquely-slotted hub having at one end a shank-receiving recess, *h*, surrounded by an endwise-projecting slotted rim, *i*, substantially as herein set forth.

117,300. — WAGON-WHEEL. — Henry D. Keith and John T. Keith, Mansfield, Ohio.

Claim.—A wheel for vehicles, consisting of the fellies A, nuts B B', double-threaded screws C, spokes D, ferrules E, and nuts G, all constructed and arranged as described.

117,301.—PAINT.—Moses W. Kidder, Lowell, Mass.

Claim.—A paint compound, consisting of the ingredients in about the proportions herein mentioned, mixed together in the manner specified, and for the purpose set forth.

117,302. — TUMBLER FOR PERMUTATION LOCKS.—William Kock, Cincinnati, Ohio.

Claim.—The tumblers J, constructed with a series of concentric holes, *l'*, and concentric slots L, combined with a movable dog provided with nipple *j'* and set-screws, so that it may be adjusted without removing its holding-screw.

117,303. — FORGE. — Wladyslaw Theodore Kosinski, Philadelphia, Pa.

Claim.—The combination of the hot-air channel E contiguous to the bottom of the hearth, leading

to the blast-chamber, and the draught-tubes F connecting the blast-chamber with the hood, substantially as described.

117,304. — CRIMPING-CLAMP. — John Kunstler, Collinsville, Conn.

Claim.—A crimping-clamp, composed of the fork *a*, hand-screw *b*, springs *c c*, forming teeth *c' c'* over the ends of the fork, and compressed by thumb-nuts *e e* on the screw-pins *f f*, the whole arranged, constructed, and operated substantially as and for the purposes set forth.

117,305.—REGULATOR FOR GAS-BURNERS.—Edward Lawler, Hartford, Conn.

Claim.—The valve *e*, when constructed in the form shown, and nicked, as described, upon its upper and lower edges, in combination with the cap *b* and body *c*, all arranged and operating as and for the purpose described.

117,306.—DEVICE FOR DETACHING HORSES FROM VEHICLES.—George B. Lumpkin, Lexington, Ga.

Claim.—1. The ball-and-socket-joint connection between the single-tree L and the block U, including its pulleys X X, the openings *d*, the socket V', the ball V, and bar T, when constructed and operated substantially as and for the purposes specified.

2. The combination of the clips M M having the parts N N *f f*, open spaces *e e*, pins O P Q, spiral springs S S, card R, and the described block U having the ball-and-socket joint V and V', when constructed and arranged substantially in the manner and for the purpose specified.

117,307.—STEAM-CARRIAGE FOR PLOWS.—Mirabeau N. Lynn, New Albany, Ind., assignor to himself and Edward H. Mann, same place.

Claim.—1. The removable hollow section A^1 of the hollow frame, substantially as and for the purpose described.

2. The oscillating cylinders S with piston-rods *r*, when the rods are furnished with a coupling at each end, in combination with the steam-carriage, substantially as described, and for transmitting power from each end of cylinders, as described and set forth.

3. The pushing-legs, attached to the carriage by means of laterally and longitudinally-articulating joints, substantially as described.

4. The combination of jointed packing-legs with the jointed pushing-legs, substantially as described.

5. The combination of the described elevating and depressing devices with the jointed legs, substantially as described.

117,308.—LOCOMOTIVE.—Israel P. Magoon, St. Johnsbury, Vt.

Claim.—1. In combination with the insulator H, the coil F, the pipes I K, the smoke-box A, and chimney B, arranged as set forth, the pipe L arranged to lead from the upper part of the insulator down into the smoke-box, as shown, so as to discharge the waste steam from the heater directly into the said smoke-box or the chimney, in order to facilitate the draught of the latter.

2. The arrangement of the curved guides O O with the insulator, the main and auxiliary chimneys, and the openings P P, as described.

3. The coil, made in manner as described, whereby the water to be heated is caused to pass up in one and down in another helix thereof.

117,309. — HARNESS SADDLE-TREE. — John H. Martin, Columbus, Ohio.

Claim.—1. The guard-loop *d*, formed with the frame A or T, substantially as and for the purpose described.

2. The combination of the terret D, the plates C E, and the T-shaped pivotal heads *J*, substantially as described.

117,310.—STEAM-HEATER.—John McConn, Philadelphia, Pa.

Claim.—1. The construction of the sections E F G so that when placed edgewise the diaphragm A divides the sections into upper and lower chambers, in combination with the lateral joints T for the passage of the steam, as herein shown and described.

2. The construction of the joints T T^1 by the ring *v* on one face fitting into the rabbet formed between the rings v^1 and v^2 upon the opposite face, for the purpose herein described.

117,311.—SECTIONAL STEAM-BOILER.—John McConn, Philadelphia, Pa.

Claim.—The outside columns C, with communicating-apertures to the main sections, by which the ends of the main sections may be left whole, substantially as and for the purpose herein set forth.

117,312.—CRANK-GEARING. — Theodore J. McGowan, Cincinnati, Ohio, assignor to McGowan Brothers Pump and Machine Company, same place.

Claim.—The operating-gear, connected by cogs or endless chain, which communicate motion from the crank-shaft to the balance-wheel shaft when the diameters of said gear are so proportioned relatively that the counter-balance will always aid in carrying the crank past its dead-center, substantially as described.

117,313.—PRINTERS' INK. — Charles McIlvaine, Philadelphia, Pa.

Claim.—An improved black copyable printers' ink, composed of the ingredients, i. e., a black coloring matter in connection with glycerine, together with soluble gums, acid, and saccharine matter, substantially as specified.

117,314, antedated July 12, 1871.—COPYING INK FOR RULING AND PRINTING.—Charles McIlvaine, Philadelphia, Pa.

Claim.—A copying-ink for printers' and rulers' use, composed of the ingredients, i. e., a soluble coloring matter in solution in glycerine, alcohol, and water, together with soluble gums, an acid, and saccharine matter, substantially as specified.

117,315. — FOLDING SETTEE. — Henry T. Morse, Athol, Mass., assignor to Laban Morse and Leander B. Morse, same place.

Claim.—1. In a folding seat, the tie-brace E hinged to one leg at two or more points, in combination with hook-pins *c c* inserted in an opposite leg, substantially as described.

2. In combination with the tie-braces E hinged to one leg at two or more points, and hooking onto the hook-pins *c c* inserted in an opposite leg, one or more diagonal braces, F, applied and operating substantially as described, for the purpose specified.

3. In combination with a seat, the back of which is arranged to fold down upon the seat, a folding arm-brace, consisting of the parts G and G^1, and provided with the arm-rest G^2, when said parts are coupled together by means of a stop-joint and secured by the locking-pin H, all constructed and arranged substantially as herein described, for the purposes specified.

117,316.—PAVEMENT-WASHER.—Alfred C. Neall, Philadelphia, Pa.

Claim.—The folding water-pipe A B, in combination with the supply-pipe C and a box or case, D, constructed and arranged to operate substantially as and for the purpose hereinbefore set forth.

117,317.—FENDER FOR PLOWS.—Benjamin F. Neely, Yorktown, Ind.

Claim.—A plow-fender, having a series of elastic teeth, B, combined with a perforated bar, D, movable thereon, to adjust their distance apart and thus graduate the quantity of soil that passes therethrough.

117,318.—COVER FOR THE LENSES OF PHOTOGRAPHIC CAMERAS.—Oscar W. Noble, Darlington, Wis., assignor to himself and Luke Agur, same place.

Claim.—The arrangement of arm *a*, arbor *b*, cars *c*, crank *d*, rod *e*, crank *f*, and handle D, as described and for the purpose of operating cap C.

117,319. — FURNACE-GRATE. — Calvin M. Northrup, New York, N. Y.

Claim.—A furnace-grate, composed of alternating straight or plain bars and corrugated bars, as described, for the objects described, the same being tie-bolted together, whereby the buckling in degree and direction of the plain and corrugated bars is prevented, and the two kinds of bars restrain each other whether the alternation of the two styles of bars are one to one in succession or otherwise, as set forth.

117,320.—CHIMNEY.—Samuel Oakman, Boston, Mass.

Claim.—The arrangement of a separating-chamber, L, with proper flues, in connection with a furnace, for the purpose set forth.

117,321.—BOOT-RACK.—James K. Otis, East Cambridge, Mass.

Claim.—The cross-bars B C, with their friction-rollers *c c* and elastic cushions *d d*, substantially as and for the purpose described.

117,322. — LOADING AND DUMPING-MACHINE.—Moreau Phillips, Springfield, Ill., assignor to himself and Thomas Handy, same place.

Claim.—1. The lever E and its catch or hook, pulleys C C, and rod *e*, in combination with the chains *b b'*, scraper B, and frame A, substantially as described, and for the purpose hereinbefore set forth.

2. The plate L, trap-doors D D, rods *f f*, levers H H, in combination with the frame A and scraper B, substantially as specified.

117,323.—NEEDLE-WRAPPER.—James Pitzler, New York, N. Y.

Claim.—1. The outer case or wrapper of a needle-package, made by cutting and folding a sheet of paper, tin foil, or other material, substantially in the manner herein shown and set forth.

2. In combination with the above, the needle-holder B, made to slide in and out of the wrapper through the hole G of said wrapper, substantially as described and shown.

117,324.—NEEDLE-WRAPPER.—James Pitzler, New York, N. Y.

Claim.—The needle-holder A, having the cloth or other fabrics B secured thereto by said cloth being passed through slits cut crosswise to the length of the needles, which are stuck upon said cloth, substantially as set forth.

117,325.—FENCE.—Samuel S. Porter, Broad Ford, Pa.

Claim.—A fence composed of the panels A, bed-pieces D, braces E, and bolt F, arranged substantially as shown and described.

117,326. — SAP-SPOUT. — Charles C. Post, Hinesburg, Vt.

Claim.—1. A metallic sap-spout, provided with lips or catches, as shown, for the purpose of holding firmly into the tree, substantially as specified.

2. The combination of the hinged cover E with the hook C and spout A, as above specified.

3. The detachable bucket-hanger C, in combination with a metallic sap-spout, as described.

117,327, antedated July 13, 1871.—ROOF.—James Martin Price, Nether Providence, Pa.

Claim.—A roof, consisting of a cellular foundation, constructed as described, to which is applied a coating, *c*, of the ingredients specified, and an outer coating, *d*, of hydraulic cement.

117,328.—THILL-COUPLING. — Franklin B. Prindle, Southington, Conn.

Claim.—The bolt F, provided with the head *f* and nuts *f'*, and the friction-block G, (with or without the rubber H,) in combination with an ordinary carriage-shackle, substantially as and for the purpose specified.

117,329.—PARLOR-SKATE.—Chris Raitz, San Francisco, Cal.

Claim.—The combination of the plate B with its shoulder *c*, and standard D with shoulder *d*, and bar E with the spring F, the parts B E being provided with bearing-surfaces *a a'* for the purpose of relieving the rivet-pin *a*, as described.

117,330.—SULKY-HARROW. — Frederick P. L. Reimers and Hans Asbahr, Davenport, Iowa.

Claim.—The arrangement, with the rising and falling harrow G H connected with the axle by the bars Q Q, of the reversely-reciprocating toothed bars I I, operated by the rods J, crank-rods K L, and wheels N O, as shown and described, for the purpose specified.

117,331. — GAS HAND-LAMP. — Henry J. Rice, Cincinnati, Ohio, assignor to himself, John K. Love, James S. Smith, and William B. Smith.

Claim.—In combination with an air-tight reservoir and wick-tube B rising above it, and constructed as described, the adjustable copper tube E, surrounded by a lava burner and copper wings or bonnet F F, and provided with air-inlets and passages for descending currents, all as shown and described.

117,332. — DOVETAILING-MACHINE. — John B. Ritchey, Pomeroy, Ohio.

Claim.—1. The adjustable spacing blocks D, having a groove, L, in one side, and a spacing wedge, F fitted therein for holding said blocks against being raised, substantially as specified.

2. The spring-bar I, arranged for lateral adjustment at its connections with the table, and provided with the wedge-shaped stop-block K, and the adjustable spacing-blocks D having the studs N thereof arranged for operation in conjunction with the said wedge-shaped block K, all substantially as specified.

117,333. — SAFETY-COUPLING.—Francis W. Robinson, Richmond, Ind.

Claim.—Constructing a safety-coupling with the hub in halves, so that the pins E E may be inserted in the holes F F from the inside of the ring B, thereby having a smooth surface at the periphery, the whole being constructed as above described, and for the purposes specified.

117,334.—MACHINE FOR LAYING OUT MORTISES.—Jacob M. Rodkey, Indiana, Pa.

Claim.—The arrangement of the horizontal bars A and A', the adjustable marking-bits B and B', the frame D, treadle E, and shaft F, when constructed and operating together as described.

117,335. — PLOW. — Montgomery P. Rose, Napa, Cal.

Claim.—1. The lever D adapted to swing upon the arc F and thus change the relative position of the beam and share, as described.

2. The combination of the beam A and the share

with the lever D and its connections, and the projection C swinging on bolt B, as described.

117,336. — Carrousel. — Wilhelm Schneider, Davenport, Iowa.

Claim.—1. The carrousel, made in two stories, E and F, the lower embracing the upper, as specified.

2. The staircase H, applied to the stationary frame of the two-story carrousel, substantially as and for the purpose herein shown and described.

3. The post A, provided with the platforms *c d* and staircase H, to constitute the support of a carrousel, in the manner described.

117,337.—Truck for Moving Mounted Car-Axles.—Charles F. Scoville, Chicago, Ill.

Claim.—The single axle-supporting head F or double one G, rotating on the standard E of a two-wheeled truck, substantially as herein described, for the purpose specified.

117,338.—Medical Compound for Liver and other Diseases.—Cicero A. Simmons, Waldo, Fla.

Claim.—The above medical compound, substantially as described.

117,339. — Lifting-Machine. — Cicero A. Simmons, Waldo, Fla.

Claim.—The lifting-frame A, stand C, and cylinder F, combined and arranged substantially as specified.

117,340. — Sawing-Machine. — Aaron E. Smith, Libertyville, Ill.

Claim.—In combination, the shaft B, balance-wheel K, driving-wheel F, belt *d*, pulley G, shaft G′, saw H, platform J J′, crank-wheel C, connecting-rod D, treadle E, and brake L, the whole arranged to operate together, substantially as and for the purpose described.

117,341, antedated July 12, 1871.—Lamp-Chimney.—Daniel E. Somes, Washington, D. C.

Claim.—1. A vertical section of a lamp-chimney, hinged at its bottom, substantially as described.

2. A vertical section of a lamp-chimney, hinged at its top, substantially as described.

3. A vertical section of a lamp-chimney, hinged as shown in Fig. 3.

4. A vertical section of a lamp-chimney, hinged as shown in Fig. 3, and provided with a spring, *b*′ to hold it in position.

117,342. — Flax-Brake. — Mass. Branch Southwick, Mont St. Hillaire, Canada.

Claim.—The rolls A A, having rigid cogs B with angular denticulated surfaces, combined as described, for the purpose specified.

117,343. — Mold.—Daniel M. Sprogle, Annapolis, Md.

Claim.—The molds herein described, consisting of the hinged sides G, the top and bottom sections *a b*, constructed with tongues and grooves, all arranged and operating substantially as and for the purpose set forth.

117,344.—Braid-Guiding Attachment for Sewing-Machines.—Eleanor C. Sproul, Green Point, N. Y.

Claim.—The slotted and adjustable plates A *a*′ B *b*′ and spring C, when all are constructed and arranged as and for the purpose specified.

117,345. — Ship-Building. — Edward M. Strange, New York, N. Y.

Claim.—The hull a b C, when constructed and proportioned as described, and for the purpose specified.

117,346. — Automatic Fan. — Edward D. Swartwout, Chicago, Ill.

Claim. — In combination with a bedstead, the bearing-shaft B, supported at the head and the foot of the bedstead, and to which are attached blowers K, constructed and arranged to operate with the clock-work, substantially as shown, whereby the blowers are caused to revolve or to vibrate and agitate the air immediately over the bed, all constructed and arranged relatively to each other, substantially as shown and for the purpose set forth.

117,347. — Buckle and Loop.—Samuel C. Talcott, Ashtabula, Ohio.

Claim.—The bent plate J having prongs E attached to buckle A by the loop B, when constructed and arranged as set forth, to be attached to curtain or top K by prongs E and plate I, substantially as shown and described.

117,348.—Machine for Turning Keys.—James Terry, Jr., and Swift McG. Hunter, Terrysville, Conn., assignors to Eagle Lock Company, same place.

Claim.—1. The combination of the bed A, head B, sliding mandrel *a*, chuck D, lever *b*, weight *d*, socket C, frame F, chisels *k k*, rod G, collars *n n*′, treadle H, and springs *o p*, whereby a single movement of the treadle H causes the key to be first held by the chisels *k k*, next made to revolve by engaging with the chuck D, after which a further movement of the treadle causes the chisels to cut and turn the key, as set forth.

2. The combination of the bed A, adjustable post E, socket C, jointed frame F, chisels *k k*, with the head B and sliding mandrel and chuck *a* D, substantially as described, and for the purposes set forth.

3. The pointed center *e* and arm h of the chuck D, arranged on the end of the sliding and revolving mandrel *a*, in combination with the dies or chisels *k k* and their connecting mechanism, substantially as and for the purpose described.

117,349. — Pasteboard Packing-Box.—John W. Tuttle, Newton, Mass.

Claim.—The improved pasteboard packing-box, as provided with slots arranged through the sides or ends of its cover, as described, and with corresponding projections to enter such, arranged and formed on or from the body, as set forth.

117,350.—Paper Packing-Box.—John W. Tuttle, Newton, Mass.

Claim.—The box, as made with the slots in the ends or sides of its cover, and with the flexile metallic tongues or clasps fixed to the body of the box so as to extend into or through the slots, or be extended into or through them, and bent or turned downward relatively to them, substantially as represented and described.

117,351.—Reclining-Chair.—Luther Van Orden, Cincinnati, Ohio.

Claim.—1. A foot-piece, M, whether made in rocker-form or straight, when provided with guide N, in combination with the intersecting legs K and C, irrespective of the formation of that portion of the leg C which is above the seat of said chair, substantially as and for the purposes set forth.

2. The combination of ratchet *c*, wheel *b*, shaft Z, seat A, and legs *c c*′, irrespective of their formation above the seat, the whole as a device, in combination with an adjustable chair, substantially as and for the purposes set forth.

3. In combination with the seat of an adjustable reclining chair, the foot-piece E and the device for adjusting the said foot-piece, consisting of levers P and R, links Q and S, and stop W, or the equivalent of said device.

4. In combination with the back B of an adjustable reclining-chair, such as described, the legs C C′ when hinged at *c c*, and when the back is suspended between them.

117,352.—Machine for Cutting Cloth.—Ephraim B. Wells, New York, N. Y.

Claim.—The pivoted frame *c d*, rod F, spring *h*, frame B C, endless band-cutter D *f*, adjustable guide-plates *i i*, stationary table G, and movable table H, all combined, arranged, and operating as and for the purpose described.

117,353. — Washing-Machine. — Decatur Werst, South Bend, Ind.

Claim.—The cylinder B, having alternate loose rollers and radially-arranged bars or strips *b b*, in combination with the auxiliary cylinder C and case or receptacle A, constructed and arranged to operate substantially as shown, and for the purpose described.

117,354, antedated July 7, 1871.—Needle and Tool-Holder for Work-Tables.—Henry H. Wescott, Portland, Me.

Claim.—The arrangement of the drawer *a*, pins *n n*, and hole *m*, box *e* containing the needle-receptacles *f* and *i*, compartment *g*, compartment *h*, and circular holes *l l*, as herein set forth.

117,355, antedated July 20, 1871.—Wrapping-Paper. — Seth Wheeler, Albany, N. Y.

Claim.—The roll of wrapping-paper perforated as set forth, as a new article of manufacture.

117,356. — Culinary Boiler. — Ralph C. Whitehouse, Hodgdon's Mills, Me.

Claim.—A boiler, A *b b*, combined with an internal vessel, B *a a*, having the perforated bottom C, through which steam is admitted, and the side perforations *d* just below the cover for the exit thereof, in order to adapt the same culinary vessel either to the boiling or steaming of vegetables.

117,357.—Set-Screw for Sewing-Machine Attachments.—Elihu Wilder, Springfield, Mass.

Claim.—The thumb-screw A, provided with the screw-shank C having a neck, *a*′, and the washer B, constructed substantially as and for the purpose described.

117,358.—Sewing-Machine Cover.—Francis R. Wolfinger, Chicago, Ill.

Claim.—The solid front I, combined with the hinges *d f*, when the wings *f* are secured to the top E and are provided with joints or eyes coming even with the tops of the ends D D, when folded so that the said front I will fold flat on the said ends, as described.

117,359.—Sewing-Machine Table.—Francis R. Wolfinger, Chicago, Ill.

Claim.—The bed-pieces K L hinged to and combined with the case for swinging a sewing-machine below the top of case, as described.

117,360.—Furnace for Roasting Ores.—Stephen F. Ambler, Monitor, Cal.

Claim.—1. In combination with the furnace A having the carbonizing-chamber E and hot-air chamber F, the blast-pipes h and *i*, substantially as and for the purpose above described.

2. The reducing-tube K, connecting the hot-air chamber F and revolving roasting-cylinder M, substantially as and for the purpose above described.

3. The above-described process of feeding the wood into a closed chamber, where it will be subjected to a heat without air, and fed to the fire in the manner and for the purpose above described.

117,361.—Combined Seeder and Cultivator.—Michael Baer, Logansport, Ind.

Claim.—1. The arrangement of the pedal R and hinged door P for opening and closing the seed-box J, substantially as herein set forth.

2. The arrangement of frame A, standards G G, and cross-bar H with the crank-wheel I, pawl *g*, cord *e*, bar E, chains *b b*, arm *h*, rock-shaft E, and catch K, for the purpose of adjusting the cultivator beams C C, substantially as set forth.

117,362.—Steam-Engine.—George H. Bailey and Harvey H. Burritt, Newark, N. J.

Claim.—1. The piston-valve F, as described, with four pistons and cover F″ and F‴.

2. The combination of the rotating valve A with the piston-valve F, as described.

3. The valve-chest E, constructed with steam-induction port G, passages V Q Q′, and eduction-ports Z and Z′, arranged substantially as shown and described.

4. The regulating-valve T, as shown and described, for controlling the movement of valve F.

5. The combination of the piston-valve F, rotary valve A, and regulating-valve T, with the connections to the steam-piston Y, so that the latter cushions upon steam at each end of the stroke to a degree controlled by valve T.

117,363.—Desulphurizing and Treating Ores.—John W. Bailey, Hamilton, Nev.

Claim.—1. The process described of roasting ores, by exposing them to the action of a series of furnaces of gradually-increasing temperature, substantially as described.

2. The process described of treating ores, consisting in the employment of series of blasts, in connection with a series of furnaces of varying temperature, the ore being caused to come into contact with the products of combustion at the point of strongest blast, substantially as described.

3. The process described of treating ores, consisting in uniting in a fan-chamber an ore-laden current of air with a blast from the furnace, the combined elements being conveyed away to the receiving-chamber, substantially as described.

4. The arrangement of the fan-chamber and the furnace, the former being provided with central openings for receiving the ore-laden current and the products of combustion, as described.

5. The ore-chamber I, provided with the pipes H J and discharge-spout, constructed as described.

6. The arrangement of the pipe G, fans F F, and furnaces E E, pipes H H, chamber I, pipe J, and tank K, as described.

117,364. — Button-Holing Attachment for Sewing Machines.-Samuel J. Baird, Waynesborough, Va.

Claim.—1. The combination of the shaft *o* and the wheel D geared with said shaft, and consisting of two sections, each having an odd number of teeth and arranged with its teeth opposite the spaces between the teeth of the opposite sections, the whole being operated from a toothed slide, A, substantially as specified.

2. The shaft *o*, provided with a nut, P, and adapted to bearings so as to be detachable therefrom, for the purpose set forth.

3. The clamp adapted for attachment to the fabric, in combination with the sliding and vibrating bar H, and with the cam or its equivalent, for securing the clamp to the said bar, as specified, and secured to the operating-slide and lever so as to be detachable, substantially as and for the purpose described.

4. The combination, with the plate W, of the pins *f f*, arranged as and for the purpose described.

5. The combination, with the shaft *o*, its cam *s*, and the lever M, of the box K operated by the cam, and in which the lever is adjustable, as described.

6. The combination of the shaft *o*, nut P, and sliding bar H, carried by but vibrating independently of the nut, as described.

7. The combination, with the vibrating carrier, of a fulcrum-pin, *e'*, adjustable as described.

8. The arrangement described of the case T', containing the within-described devices, with its vertical portion below the horizontal portion, for the purpose set forth, and as illustrated in Fig. 10.

9. The combination, with the box K and lever M, of the plate L, its diagonal slot receiving a pin on the lever, and the lever N, or its equivalent, for operating the plate, as specified.

10. The combination of the lever M, adjustable laterally, the slide G, or its equivalent, adjusting the wheel D, and the lever N, connected to the lever M and slide G so as to adjust them simultaneously, substantially as set forth.

11. The combination of the lower and upper plates of the clamp and devices described, or their equivalents, for raising and depressing the upper plate while maintaining it parallel to the lower, as set forth.

117,365.—Machine for Cutting Tobacco.
John Gulick Baker, Philadelphia, Pa.

Claim.—1. In a machine for cutting tobacco, &c., an eccentric pinion, G, adapted to an inclined rack in the guided cross-head which carries the knife, and arranged so that the leverage increases as the knife descends, as and for the purpose set forth.

2. The base-plate, having a recess curved at the bottom and adapted for the reception of a strip, *n*, curved at the lower edge, and self-adjusting in the said recess, as and for the purpose described.

117,366.—Meter.—William Ball, New Vienna, Ohio.

Claim.—1. The combination and arrangement of the flanges I' I, plate K, ring F, rim B, floats H, tube D, opening L, and funnel A, as and for the purpose specified.

2. In a water-meter, the combination of the rectangular hinged floats or valves H with the annular channel-way, provided with the inclined plane I', and the swelling or packing M' on the inner side of the outer wall B, substantially as specified.

117,367.—Cap-Gun.—Jacob Christ Bandle and Engelbert P. Christner, Cincinnati, Ohio.

Claim.—The combination of plunger F, arm G, link H, spring J, catch K *k*, hinged trigger-guard I, and trigger L, M, the whole being connected and operating as and for the purpose described.

117,368.—Car-Coupling.—Peleg C. Barlow, Beverly, W. Va.

Claim.—In combination with the draw-heads constructed as described, and with the springs arranged as shown, the slotted and pivoted coupling-irons C, when provided on their under side with the recess or gain, *s*, so arranged that its front shoulder hooks over the casting *a* while its rear shoulder projects beyond the face of the draw-heads and operates as a buffer, substantially as described.

117,369.—Combined Corn-Planter and Fertilizer-Distributer.—Charles W. Barrick, Walkersville, Md.

Claim.—The adjustable frame A, in combination with the longitudinal semi-rotary cylinder *l*, operated by shaft *j* having universal joint, whereby the dropping mechanism is not affected by the adjustment of the frame, substantially as set forth.

117,370.—Mosquito Canopy-Holder.—Lyman M. Bates, Wooster, Ohio, assignor to himself, Edward P. Bates, and Ira H. Bates, same place.

Claim.—The combination of holders D D, sockets or cups A A, braces B B, and rods *g g*, all constructed and arranged substantially as and for the purpose described.

117,371.—Sucker-Rod Joint or Coupling.—James H. Beatty, Franklin, Pa., assignor to Sarah J. Beatty, Josiah B. Poor, and William McKee.

Claim.—The straps B, provided with projections C, in combination with rivets D and recesses in the rod E, constructed and arranged as herein described, and for the purpose set forth.

117,372.—Steam-Trap.—Robert Berryman, Hartford, Conn.

Claim.—In a steam-trap, the combination of the closed case A, the bell-float or bucket C open at bottom, induct *a*, and educt *b*, provided with stem *g* and double puppet-valves *e f*, arranged in the cylinder B, substantially as set forth and described.

117,373.—Base-Burning Stove.—William T. Black, Erie, Pa.

Claim.—1. The flue E, one or more passing through the combustion-chamber, as and for the purposes set forth.

2. The diaphragm F, registered or not, in combination with the flue E.

3. The heating-chamber G, as arranged above the combustion-chamber, and separated therefrom by the diaphragm F, and the same in combination with the deflection-plate L and register H.

4. The chamber G, plate L, flue E, diaphragm F, and register H, arranged and combined as and for the purposes set forth.

117,374.—Fanning-Mill.—Franklin E. Bowen, Knightstown, Ind.

Claim.—In combination with the shoes C and F and fan-shaft H, the knocker-shaft E, slotted arms J, spring-support G, and lugs *c*, all constructed and arranged to operate substantially as and for the purpose described.

117,375.—Box for Chalk-Lines.—Ephraim Braley, Carmel, assignor to himself and Luther C. Hastings, Ellsworth, Me.

Claim.—The arrangement of the chalk-clasps *d* slot *a* with its stop or check *e*, and box *a* having the reel *h* and coiled spring *f* contained therein, all constructed as herein set forth, for the purpose specified.

117,376.—Process for Producing Signs in Paint.—Alexander Brandon, New York, N. Y.

Claim.—The within-described mode of operation for producing signs on hard material, the same consisting of the employment of soft types with thick paint, and holding the hard-surfaced sign in a fixed position on the platen or analogous surface of a suitable press, and subjecting it to repeated impressions upon the elastic type, the latter being rolled or resupplied with paint between each impression, all substantially in the manner herein specified.

117,377.—Machine for Pressing and Molding Cigar-Bunches.—William D. Brewer, Charlestown, Mass.

Claim.—1. The within-described die or mold, the female portion of which is divided longitudinally into two parts, in combination with a mechanism for opening and closing the same, substantially as and for the purpose described.

2. The weights K, cord A, and plate I, connected and arranged substantially as and for the purpose set forth.

3. The plate I, projecting from one part, 7, of the female portion of the mold or die, in combination with the groove *k* in the opposite part 6, substantially as and for the purpose set forth.

117,378.—Transplanting Device.—James W. Brook, Lynchburg, Va.

Claim.—1. A transplanting device, consisting of a detachable bottom to be forced into the earth under the plant, and one or more detachable sides to be forced downward into the earth around the plant and rest upon the detachable bottom, substantially as described, for the purpose specified.

2. The transplanting device, consisting of the detachable bottom and sides A B and the sliding sides C C C, all constructed to operate substantially as described, for the purpose specified.

117,379.—Insect-Guard.—James William Brook, Lynchburg, Va.

Claim.—The case A, provided with a partition, *a'*, reservoir B, and the leg C *c*, constructed and arranged substantially as shown and described.

117,380, antedated July 20, 1871.—Sewing-Machine.—William H. Buker, Johnstown, N. Y.

Claim.—1. The combination, with the reciprocating shuttle-driver, of the pivoted arm or bar, the spring, and pad, when constructed and operated by a stationary pin, substantially as and for the purposes herein set forth.

2. In combination with the guide E, spring G, and pad *b*, the pins *e* and *f*, or their equivalents, arranged to operate substantially as and for the purposes herein set forth.

117,381.—Farm-Gate.—William D. Carlton, Morrisville, N. C.

Claim.—1. The arrangement of the slotted revolving post or bearing E, connecting-piece F, gate-post B, parallel slats C C and their end pieces, the slotted guide-bar K, and the knob and latch H, constructed substantially as set forth.

2. The loose pin or wedge *f*, revolving slotted post E, connecting-strap F, bars C C, slotted transverse guide-bar K, and latch H, constructed, arranged, and operating substantially as set forth.

117,382.—Furnace for Heating Metal Plates, Calcining Ores, and for other Purposes.—Henry Chess, Pittsburg, Pa.

Claim.—1. A furnace for heating metal plates and calcining ores, constructed and arranged substantially as herein described.

2. The central fire-place C and bridge-wall D, in combination with the vertical flues *t* and the inclined converging flues *n*, when constructed with reference to a furnace for heating metal plates and calcining ores, substantially as described.

3. The doors or openings *f f f* of a furnace for heating metal plates, arranged in a circular, elliptical, or polygonal form, in combination with a central fire-place, C, substantially as and for the purpose set forth.

4. The openings or doors *f f f*, in combination with the upright flues *t*, inclined converging flues *n*, and the central fire-place C, constructed and arranged substantially as and for the purpose set forth.

117,383.—Clamp for Entering Blind-Slats.—James Church, St. Louis, Mo.

Claim.—The clamp, composed of a number of holders, E H, upon a rod, D, substantially as and for the purpose set forth.

117,384.—Fire-Proof Roofing.—John B. Cornell, New York, N. Y.

Claim.—1. A fire-proof roof, formed of slate C and corrugated metal sheet A', applied to a building in the manner specified.

2. The slate C, sheet A, and plastering E, combined and applied as and for the purpose specified.

117,385.—Steam-Generator.—George H. Corliss, Providence, R. I.

Claim.—1. The within-described construction of the furnace for the purpose of protecting the outer portion of the tube-sheet from the heat thereof, substantially as set forth.

2. The combination of the cylinders F and G with the protected portion of the lower tube-sheet, the cylinder being so arranged as to deposit the earthy matter held in suspension in the water upon said protected portion, substantially in the manner shown and described.

3. The combination of a vertical steam-generator, having within it the cylinders F and G arranged as described, and a furnace constructed to protect the outer portion of the lower tube-sheet of such generator, substantially as and for the purpose set forth.

117,386.—Journal-Box.—George H. Corliss, Providence, R. I.

Claim.—A journal-box, the lower surface of lower section of which is semicircular or nearly so, when combined with an upper section, the upper surface of which is flat or of an equivalent form, and set-screws for preventing the lower section from turning in its seat, the parts being constructed and arranged in suitable pillow-block, substantially as and for the purpose set forth.

117,387.—Raft-Clip.—Isaac Corwin, Defiance, Ohio.

Claim.—The raft-clip A, constructed with tang C and shoulders *a a*, substantially as and for the purpose set forth.

117,388.—Metallic Cartridge.—John S. Crary, Salem, N. Y.

Claim.—A cartridge, composed of two separate charge-chambers, each filled with powder or its equivalent, and provided with fulminate or a cap, whereby it can be exploded in the ordinary breech-loading arms, substantially as set forth.

117,389.—Machine for Manufacturing Loom-Harness.—John H. Crowell, Providence, R. I., assignor to John Kendrick, same place.

Claim.—In machines for making weavers' harness, the combination of the stationary fingers *a* for gauging the length of the heddles, the side bands A to which the heddles are knotted, and the supplemental movable fingers *b* operating, as described, to temporarily hold the twine upon one side of the heddle while the knot is being drawn to the band for the purpose of increasing the length of the heddle-twine upon one side, substantially as herein set forth.

117,390.—Axle-Box.—David Dalzell, South Egremont, Mass.

Claim.—The combination of the tubular axle-box *a* and end piece *b* by means of a perfectly-fitting joint between the two, and a tapped hole made through both, and a threaded wire, *d*, screwed thereinto, as specified.

117,391.—Method and Apparatus for Molding Match-Plates.—John R. Davies, Racine, Wis.

Claim.—1. The process herein described for matching patterns for molding permanent match-plates, consisting, essentially, of the following steps: first, one part of the pattern is molded in plaster and removed therefrom; secondly, a plaster cast of that mold or impression is taken, which forms a temporary match-plate for the said part of the pattern; thirdly, the pattern is returned to the plaster mold, and with it forms the temporary match-plate for the other part of the pattern, from which temporary match-plates permanent match-plates may be molded, substantially as described.

2. The combination of the match-plate B, frame C, and removable cover B², substantially as described, for the purpose specified.

3. The pins O and clasps P, adapted for adjustment substantially as described, for the purpose specified.

4. The combination of the keys *d*, posts D, guides

E, and frame F, substantially as described, for the purpose specified.

117,392.—SPRING-SEAT FOR WHEELED VEHICLES.—Elijah F. Dunaway, Cincinnati, Ohio.

Claim.—In combination with the seat composed of the parts A B C D D' and feet E E', connected substantially as described, the rubber springs F F, as and for the purpose specified.

117,393. — PREPARED-WOOD SOUNDING-BOARD FOR PIANOS.—John B. Dunham, East Chester, N. Y.

Claim.—A hydrocarbonated sounding-board, made substantially as herein described.

117,394. — PRESSURE-GAUGE. — James B. Eads and Henry Flad, St. Louis, Mo.

Claim.—1. The provision in a pressure-gauge of a rod or tube, C, operating substantially as and for the purpose set forth.

2. In connection with the rod or tube C, the rod D, finger G *g*, guide or track F, and spring I, substantially as and for the purpose set forth.

117,395.—FLOUR-BOLT.—Elbridge V. Easley, Johnson City, Tenn.

Claim.—1. The rod *f* arranged within the hollow shaft A, and carrying a series of conical wedges, D D, in combination with the radiating arms B B and ribs C C of the bolting-reel, whereby the bolting-cloth is expanded or contracted as the conical wedges are operated, substantially as and for the purpose set forth.

2. The conical wedges D D, rod *f*, hollow shaft A, and arms B B, in combination with the ribs or bars C and cross-bars *c c*, and the bolting-cloth, substantially as described.

3. The flour-boards C C overlapping each other arranged concentrically within the flour-bolt, and having their bearings on the head F, and perforated board H, substantially as and for the purpose set forth.

117,396.—SHIELD FOR NAPHTHA-GAS BURNERS.—Henry H. Edgerton, Fort Wayne, Ind.

Claim.—A shield for naphtha-gas burners, made of glass, metal, or other material, with a neck to fit closely around or upon the burner so as to exclude air from below, and a broad or flaring upper air-deflecting portion following the general shape of the flame, and extending to or below the line between the illuminant and non-illuminant parts of the flame, as herein shown and set forth.

117,397. — CASTING CAR-WHEELS.—Josiah W. Ella, Pittsburg, Pa.

Claim.—Making cast-metal car-wheels by pouring a requisite quantity of molten metal into the lower open half of a properly-constructed mold, and then, before said molten metal has had time to set, bringing the upper half of the mold suddenly down upon it so as to drive the molten or semi-fluid mass with equal instantaneous force into the proper shape, substantially in the manner as heretofore set forth.

117,398, antedated July 13, 1871.—BREECH-LOADING FIRE-ARM.—Valentine Fogerty, Boston, Mass.

Claim.—1. The projections or shoulders *e e*, extending inward from the walls of the receiver for the purpose of locking the breech-bolt within the receiver, as set forth.

2. The combination, with the slot in the bottom of the receiver, of the lever for throwing out the cartridge and the cam on the sleeve C, as and for the purpose set forth.

3. The combination of parts herein described, whereby the lever L is caused to guide the cartridge into the barrel of the gun and to throw the shell from the receiver, as specified.

4. The combination herein described of the breech-bolt B and sleeve C, the parts being constructed and arranged in relation with each other as shown, and for the purpose specified.

5. The combination of the retractor D and the sleeve C when the same are connected together in the manner shown.

6. The long lands or projections on the breech-bolt for locking the bolt within the receiver, giving it a support against the wall of the chamber through the whole length of the chamber, guiding the breech-bolt as it is drawn back and pushed forward, and for preventing the operation of the lock to cock the gun when the breech-bolt is not locked in its place.

7. The sear-spring when combined with the breech-bolt B, as shown, so as to operate on the sear only when the breech-bolt is locked.

8. The combination of the lock-bolt, provided with the angular slot *t t'*, with the firing-pin and breech-bolt, when connected together for operation, in the manner and for the purpose described.

9. The slots *r* and *t* in the breech-bolt and lock-sleeve for allowing the lock-bolt to be drawn back independently of the breech-bolt to cock the gun.

10. The shoulder and projections on the lock-sleeve for closing the end of the receiver and preventing the rotation of the lock-sleeve.

11. The combination of the sear and the lock-sleeve.

12. The cap in the hand-piece for protecting the sear.

13. The safety-notch *w''* cut in the lock-bolt, when arranged, in the manner described, in relation to the branch slot *t'* of the lock-sleeve and the screw *s*, so as to catch the sear when the screw passes out of the branch-slot.

117,399.—LANTERN.—Frank M. Ford, Sebec, assignor to himself and Charles S. Pearl, Bangor, Me.

Claim.—The combination of the globe B and attached disks *b c* with the springs *f f'*, having stops *j j'* and slotted plate *i* or their equivalents, substantially as specified, for the purposes set forth.

117,400. — WASHING-MACHINE. — Charles Fortin, Poultney, Vt.

Claim.—1. The crank-shaft C, constructed as described, in combination with the shafts D D¹ D², beater E, and rubbers F F', arranged to operate substantially as shown and for the purpose described.

2. The receptacle A, cover B with the slot *g'* and bar or guide *g*, crank-shaft C, slotted shafts D D¹ D², beater E, rubbers F F', guides G G, springs A A, pinions *i i'*, and crank H, all combined and arranged to operate substantially as and for the purpose set forth.

117,401.—GATE-LATCH.—Charles H. Freitag, Springfield, Ill.

Claim.—The latch A, pivotal rod B, and knobs B', cast in one piece, and combined with the cap-plate D and keeper E, in the manner and for the purpose specified.

117,402.—WASTE-WAY STOPPER. — Joshua R. Gibson and James Powell, Cincinnati, Ohio, assignor to James Powell.

Claim.—1. A waste-way plug, composed wholly or in part of rubber, in combination with the seat or socket K, substantially as and for the purpose explained.

2. The elastic packing F, mole G, washers H I, and stem J, combined and arranged substantially as and for the purposes set forth.

117,403.—GATE. — Robert Gidley, Moore's Mill, N. Y.

Claim.—The combination of the gate K L, hinged post G, bracket C, bar A, sliding bar B, locking-bars N N, and the bars M M, all constructed and arranged to operate substantially as and for the purposes herein set forth.

117,404.—GANG-PLOW. — James H. Glass, McGregor, Iowa, assignor, by mesne assignment, to Louisa J. Glass.

Claim.—1. The box C, operated as described, and serving as a protection for the screw and studs *d'*, in combination with the flanged plate D, constructed and arranged substantially as specified.

2. The dog O, in combination with the chain M, shackle N, hinged beam E, axle A, and beam G, substantially as and for the purpose set forth.

117,405.—STILL FOR OIL. — John Gracie, Pittsburg, Pa.

Claim.—The still A, provided with a series of horizontal return-flues, B, communicating with fire-chambers and a smoke-flue or flues, substantially as herein described, and for the purpose set forth.

117,406.—STILL FOR OIL. — John Gracie, Pittsburg, Pa.

Claim.—A still, constructed with a series of flues arranged horizontally, or nearly so, a little above the bottom, and converging to a common center, so that its bottom shall be free from the direct application of a distilling or decomposing heat, substantially as herein described.

117,407.—CORPSE-PRESERVING CASE.—John Gravenstino, Philadelphia, Pa.

Claim.—1. The combination, with the detachable lid B having an opening *x*, of a detachable casing, D, detachable closed ice-box, perforated casing or partition F, and the cover H adapted to both the casing D and the opening *x*, as set forth.

2. The combination of the above, the case A with its shoulder *c* and gasket, and the plate J having a packing at its upper side, and constructed as specified.

117,408. — REFRIGERATING APPARATUS. — John Gravenstin, Philadelphia, Pa.

Claim.—1. A refrigerating apparatus, consisting of an ice-box, D, casings C and B, and passages F and F', all arranged substantially as set forth.

2. An ice-box, D, closed so as to retain the drippings in contact with the ice, arranged within a casket or chest, and having air-passages extending round the same, as set forth.

117,409, antedated July 14, 1871.—PITMAN-CONNECTION FOR HARVESTERS.—Squire J. Green, Syracuse, N. Y., assignor to himself and Dyer Williams, same place.

Claim.—The combination of the spring *g* with the conical bearing C, having the hollow A shouldered at S, the conical bearing D, pin P, and washer W, all arranged and operating substantially as and for the purpose herein specified.

117,410. — CONCAVE FOR THRASHING-MACHINES.—Charles S. Hall, Rochester, N. Y.

Claim.—A concave for thrashing-machines, constructed as herein described, consisting of the section or sections B, having the depressed longitudinal bars forming the grating *c*, and ledges D D' corrugated upon their upper surfaces, as shown, and provided with apertures *a b* for the insertion of removable teeth *d*, substantially as and for the purpose specified and set forth.

117,411.—CHEESE-VAT FASTENER.—Samuel P. Halleck, Oriskany, N. Y.

Claim.—The combination of the slotted plate D, bolt E, spring I, and slotted swinging standard F, the whole constructed and operating substantially as and for the purpose herein set forth.

117,412.—LAMP-BURNER.—Thomas F. Halley and John F. Livingston, Washington, D. C.

Claim.—As a new and improved article of manufacture, the burner herein described, provided with the water-tank *b*, which is of conoidal form, and divided by tube *c* and partitions *e e* into two compartments, *i i*, of like size and shape, having discharge and filling-orifices *d d*, as and for the purpose specified.

117,413. — DEVICE FOR CLIMBING TELEGRAPH-POLES, &c. — Jacob A. Hanger and George C. Hanger, Churchville, Va.

Claim.—1. The combination of two jaws embracing the opposite sides of the pole, for the purpose herein set forth.

2. The sandal *a*, provided with the jaw *b*, in combination with the serrated jaw *c*, connecting-rod *d*, and guide-bars *f h*, as specified.

3. The combination of the sandal, the rigid jaw *b*, and the movable jaw *c*, as specified.

117,414.—CLOTHES-DRIER.—Orrin H. Harding and Daniel G. Williams, Quincy, Mich.

Claim.—The clothes-drier herein described, consisting of the hollow post C with its windlass, the rope H, and removable sliding post B having the pulley D in its foot and supporting the reel A, substantially as shown and described.

117,415, antedated July 20, 1871.—POTATO-DIGGER.—Robert A. Haw, Bucksport, Cal.

Claim.—1. In a potato-digging machine, the combination of the fixed frame C with the supplemental frame E arranged above the fixed frame, as described, and hinged thereto at its rear end behind the axle, for the purpose of supporting at its forward end the shovel, cutters, and front end of the separator, substantially as herein set forth.

2. A separator adapted to be used in a potato-digging machine, when formed with a series of parallel rods, *e e e*, supported in whole or in part by having their points turned down and fastened to transverse bars *e e*, substantially as described, and for the purposes set forth.

3. The rods *e' e'*, when prolonged beyond the rods *e e* at the rear end of the machine, and bent around so as to discharge the vines at the side of the track, substantially as described.

4. The arrangement of the gear *n o r s v w*, in connection with the shafts B M, clutch and treadle *l V*, pitman *k k*, lever *j*, and longitudinally-vibrating separator J, substantially as described, and for the purposes set forth.

5. The arrangement of the cutters I I, shovel H, separator J, fixed frame C, movable hinged frame E, lever G, treadle *l*, and apparatus for vibrating the separator, substantially as described, and for the purposes set forth.

117,416.—WATER-HEATER.—Joseph Head, Andover, N. Y.

Claim.—The heating-vessel A provided with the air-chamber B, and the flame-passage C with its helical series of crossed pipes *d'*, substantially as specified.

117,417.—COOKING-STOVE.—Levi Hermance, Lansingburg, N. Y.

Claim.—Attaching a sheet-metal reservoir or water-tank to the rear of a cooking-stove by means of the detachable frame, when constructed and arranged to operate substantially as and for the purpose as herein set forth.

117,418.—GATE.—Edmund Higgins, Sacramento, Cal.

Claim.—1. The extended bed-timber C provided with the track *e*, and the gate D with its rollers *f*, in combination with the quadrants N N, chains *p p*, triple carrying-shaft I, bevel-wheel K, and pinion *l*, all constructed and arranged substantially as and for the purpose described.

2. The triple shaft I, with its bevel-wheel *k* for operating the pinion *l*, and vertical-toothed wheel *m*, in combination with the rack *s* on the under edge of the gate, substantially as above described.

3. The hollow quadrant N, connected with the shaft I by chains *p*, in combination with the arm *t*, substantially as and for the purpose described.

4. The spring R and chain *q*, in combination with the triple carrying-shaft I, constructed and arranged substantially as and for the purpose set forth.

5. The arm *t*, rigidly secured to the shaft *o*, in combination with the connecting-wire *u* and lever-bar *v*, substantially as and for the purpose above described.

117,419. — CANAL-BOAT. — Robert Hooper, Baltimore, Md.

Claim.—A boat, A, provided with the recess *a*, with a rounding and sloping upper side in its bow, and the chamber *b* leading into the same, as herein shown and described.

117,420. — SPIKE-EXTRACTOR.—William S. Hough, Johnstown, Pa.

Claim.—1. The clamps D having the lugs *d'*, in combination with the bar A slotted at *c*, and bolt E, as and for the purpose specified.

2. The claw G, as described, in combination with the bar A and clamp D.

117,421. — RAZOR-STROP.—Oliver B. Howard, Westbrook, Me.

Claim. — The arrangement and combination of the handle *d*, strap *a* composed of leather, and the metal band *b*, as described, plates *b* and *c*, rod *e*, shoulder *h*, screw *f*, and piece *i* with its threaded hole, as herein set forth.

117,422.—ELASTIC TIRE FOR TRACTION-ENGINES.—Oliver Hyde, Oakland, Cal.

Claim.—The wedge or stay-blocks *f* with their side plates *g*, provided with a lug or projection, *i*, in combination with the flange *e* or equivalent device, substantially as and for the purpose above described.

117,423.—PAPER BOX.—Gustav L. Jaeger, New York, N. Y.

Claim.—1. The herein-described paper box, the sides of which are provided with flaps *a*, so that when folded they interlock with each other and form self-closing heads, substantially as and for the purpose specified.

2. The paper box A, when the flaps *a* are so cut as to produce the aperture *c* in one or both ends of the box, in combination with the hinged lid *d*, substantially as and for the purpose set forth.

117,424.—BEDSTEAD.—Lawrence J. Johnson, Cleveland, Ohio.

Claim.—The arrangement of the extension and adjustable bedstead A with its lever P, hinges M, pulleys J and K, cords R R, and spring-bottom D, when combined as herein described, and for the purposes set forth.

117,425, antedated July 13, 1871.—APPARATUS FOR DISTILLING HYDROCARBONS. James J. Johnston, Allegheny, Pa.

Claim.—1. A still with a corrugated heating-surface, in which is a series of oil-chambers elevated one above the other, and so arranged with relation to each other that the oil shall flow from the upper chamber in a broad thin sheet over a convexed surface into the chamber next below it, and thus flow down from one chamber to the other through the whole series, substantially as herein described, and for the purpose set forth.

2. The still A, as described, combined with the still C, and a tank, E, provided with pipes *g*, and communicating with still C through the medium of pipe A, and still C communicating with still A by means of pipe *i*, substantially as and for the purpose set forth.

117,426, antedated July 13, 1871.—PROCESS AND APPARATUS FOR TREATING HYDROCARBON OILS.—James J. Johnston, Allegheny, Pa.

Claim.—The combination of the pipes C, D, and *e*, constructed and arranged with relation to each other and a condenser, substantially as herein described, and for the purpose set forth.

117,427.—BOILER FOR PREPARATION OF PAPER-STOCK FROM WOOD.—Morris L. Keen, Jersey City, N. J., assignor to Samuel A. Walsh, New York city.

Claim.—1. The elongated boiler A, capable of being revolved on its short axis, and provided with the double set of connections D^1 D^2 H^1 H^2, and the proper controlling means for admitting and discharging fluids through the trunnions in the manner specified.

2. In such boiler so operated, the annular sprinkler C, arranged as shown relative to the man-head F.

3. In such boiler so operated, the drain-pipe or discharge-pipe T and its controlling means, when the same leads out in line with the long axis of the boiler from the concave interior surface of the strainer B, as specified.

117,428.—BUTTER-WORKER.—Luke L. Kellogg, Leon, N. Y.

Claim.—1. The combination of the vibratory tray *a* and corrugated roller *k*, mounted in stationary boxes, as specified.

2. The combination of the tray *a*, supporting-frame *b c d*, shaft *e*, roller *f*, and frame A, as described.

117,429. — WASHING-MACHINE.—Ebenezar D. Kitchen, Pineville, Pa.

Claim.—1. The revolving barrel A provided with interior ribs *a a* running longitudinally in the barrel, and the barrel supported upon the hinged support or stand C, substantially as herein set forth.

2. The combination of the revolving barrel A with hinged lid D, strap E, latch G, vent *i*, and cover *b*, with the hinged supports C, provided with latch H and staple *d* on the head of the barrel, all substantially as set forth.

117,430, antedated July 5, 1871.—FURNACE FOR ROASTING ORES.—Richard F. Knox and Joseph Osborn, San Francisco, Cal.

Claim.—1. The ore-chamber B having the vertical arches *a b d e*, with the passages *c* at the base of each, when constructed to recede from each other, substantially as and for the purpose herein described.

2. The feeding device, consisting of the trough *g* suspended by the rods *i*, when constructed and operated substantially as herein described.

117,431.—GATE.—William H. Koaht, Ashland, Ohio.

Claim.—1. The hinge-arm O P P' P, provided with the two branches P P and the tang P', for the purpose of securing said arm to both the adjacent faces of the gate-post, and of supporting the inner corners of said branches to avoid lateral strain, substantially as herein specified.

2. The gate B A C D E F, having the notches *h* and *h* cut in the rails D and F, in combination with the gate-post K provided with the hinges Q Q N O P P' P and S T, the distances between the rails A, C, D, and F being made to correspond with the relative positions of the parts of the hinges, in the manner and for the purpose herein specified.

117,432.—TRIP-HAMMER.—John Krehbiel, Williamsville, N. Y.

Claim.—The spring D, cam or eccentric roller E', plate F', and pawl-lever F, when the same are so combined as to operate substantially as described.

117,433.—TABLET INDEX-BOOK.—James B. Bake, Jr., Baltimore, Md.

Claim.—As a new article of manufacture, an index-book made with leaves partly of common paper for permanent writing, and partly of erasive material for the reception of page-figures which may be readily expunged, as herein described.

117,434.—WINDMILL.—Leander Leach, Wilmington, Ill.

Claim.—1. The hinges *e'*, in combination with the wings E', rods F, ring E, rods *c*, collar F', sleeve G', lever I, and weight J, substantially as described.

2. The combination and arrangement of the rods G F', sleeve G', collar F', rods F, wings E', and hinges *e'*, substantially as set forth.

117,435. — PROTECTING SAFE. — S. Morris Lillie, Elizabeth, N. J.

Claim.—1. A safe or vault containing, in suitable pipes, chambers, or recesses, a quantity of highly-compressed or liquefied poisonous gas, such as ammonia or the like, substantially as and for the purpose set forth.

2. In a safe or vault constructed with pipes, chambers, or recesses for the reception of poisonous gas, as described, the branch pipes sealed with fusible plugs, substantially as and for the purpose set forth.

117,436.—PEG-WOOD.—William N. Linnell, Cambridge, assignor to Asa B. Keith, Braintree, Mass.

Claim.—As a new article of manufacture, a peg-wood ribbon or band, formed with one or both sides serrated, denticulated, or corrugated, substantially as described.

117,437.—PROPULSION OF CANAL-BOATS.—Frank M. Mahan, Memphis, Tenn., assignor of one-half his right to Primus Emerson.

Claim.—1. In a canal-boat, a funnel-shaped bow, as herein described, in combination with a central passage, C, for collecting and carrying backward both air and water, substantially as herein specified.

2. In a canal-boat, a self-adjusting smoother arranged in a channel extending from the wheel backward, substantially as and for the purposes herein set forth.

117,438. — STOP-COCK. — Peter E. Malmström and Paul Dummer, New York, N. Y.

Claim.—1. A stop-cock, composed of a shell, A, loose valve B, screw-spindle C, spout D, nipple F, and plug E, all combined and arranged substantially in the manner herein shown and described.

2. The collar *d* of the screw-spindle C, arranged within the seat *c*, combined and operating in connection with the packing-disks *f g*, plug E, and shell A, substantially as and for the purpose set forth.

3. The recess *i* in the inner end of the nipple F to operate in combination with the loose valve B, as described.

117,439.—HAIR-CURLER. — Charles Markley, New York, N. Y.

Claim.—1. The case B hinged to the handle A, substantially as described.

2. The stud D and spring E, in combination with the hinged case B and handle A, as and for the purpose described.

117,440.—INVALID BEDSTEAD.—Thomas A. McFarland, Erie, Pa.

Claim.—The side pieces B B, in combination with the sliding pieces *o o* and bed-frame *b a h* hinged at *c* and *d*, whereby the bedstead may be used as such, or converted into a chair with an adjustable back, substantially in the manner and for the purpose set forth.

117,441. — COMBINED DITCHER AND PIPE-LAYER.—James I. Mettler, Mendota, Ill.

Claim.—The mole A and stem A^1, constructed with a tubular duct, A^2, passing through both and opening at the rear of the mole, by means of which tile may be deposited in the hole made by the mole and immediately in the rear thereof, substantially as set forth.

117,442.—WATCHMAN'S TIME-CHECK.—Anton Meyer, Stuttgart, Germany.

Claim.—The stationary marking-die or dies, situated beneath a cam-shaped bridge, in combination with a suitable key or keys, and with a dial passing through between the marking-die or dies and the bridge, substantially as herein shown and described.

117,443. — CLOTH-MEASURING MACHINE.—Isaac Mills, Hamilton, Canada.

Claim.—The perforated basket K, measure-roller D, tension-rollers H I, and reel-board C having adjustable pins *s s*, when the same are combined and arranged so as to operate in connection with suitable measuring-dials substantially as described.

117,444.—BURGLAR-ALARM.—John Morgan, Jr., Wheeling, W. Va.

Claim.—The arrangement, herein shown, of the pendulum S, connected by wire 17 to the ground, clock-points T and U, wires 18 and 19, keys A B and C D, arm C, wires 22 and 23, relays L M and J K, battery Z, wires 24 and 25, magnets F F and M N, wires 26 and 30, local batteries A, wires 28 and 31, and pendulum G H, substantially as and for the purposes herein set forth.

117,445.—SPIRIT-STILL. — John E. Morris, Baltimore, Md.

Claim.—The combination, in each cup *a* of the columnar still-cap, of the doubling tubes *d e*, overflow-tube *g*, the perforated plate *f*, and a quantity of charcoal or other suitable material placed above it, as specified.

117,446.—CHURN-DASHER.—Henry Mulholland, Union Mills, Pa., assignor to himself and John Mulholland.

Claim.—The above-described dasher, provided with the series of fingers having broad faces on one side and narrow edges on the other for giving two different strokes to the cream, substantially as set forth.

117,447.—MANUFACTURE OF VULCANIZED RUBBER AND COMBINATION HOSE AND TUBING.—John Murphy, New York, N. Y.

Claim.—1. The improved method herein described of manufacturing vulcanized hose and tubing, the same consisting in inclosing it in a mold while subjected to the heat for vulcanizing.

2. The improved smooth-finish hose and tubing, produced by confining it in a mold and vulcanizing, substantially as set forth.

117,448.—BOILER FOR HEATING BUILDINGS. Thomas J. Myers, Philadelphia, Pa.

Claim.—A boiler, having its tubes constructed in a wide, oblong, flat form, and arranged diagonally parallel and lapping each other, as described, and for the purpose specified.

117,449.—RAILWAY TIE.—Willard A. Nichols, Mattawamkeag, Me.

Claim.—A railway tie, in which the bearing for the rail is formed by a piece of harder wood inserted therein, when the said piece is of rectangular section and set in an inclined recess, in the manner shown and described.

117,450.—SIPHON STEAM-PUMP. — Thomas O'Rorke, Pittsburg, Pa.

Claim.—A siphon steam-pump having a detach-

able and adjustable tube around the steam-pipe C extending forward and aft of its outlet, and arranged concentric to it and the outlet of the chamber B, substantially as herein described and for the purpose set forth.

117,451.—WATER-WHEEL.—Charles Watkins Parker, Genesee Forks, Pa.

Claim.—The water-wheel herein described, having the plane bucket B tangentially placed with reference to the shaft A, the curved end buckets C C, and the intermediate inclined planes *a a* tapering from the central portion of the wheel each way toward the shaft, substantially as specified.

117,452.—LAMP-CHIMNEY CLEANER.—Richard Pearson, Allegheny City, Pa.

Claim.—A new article of manufacture, viz., a cleaner for lamp-chimneys, constructed of strips B and C held together at the point where they cross each other by means of a thin metallic center-piece, D, and their ends secured in the handle A, said cleaner being expanded by the forward pressure of the handle, as herein described, and for the purpose set forth.

117,453.—CAR-COUPLING.—William Voorhees Perry, Beaver Dam, Wis.

Claim.—1. The stirrup D, constructed as described, and arranged within a draw-head, substantially as and for the purposes herein set forth.

2. The trip H, slide *e*, and iron *f*, operating in connection with the spiral spring *a*, link B, and pin C, substantially as and for the purposes herein set forth.

117,454.—APPARATUS FOR ACCUMULATING POWER.—Alfred C. Platt, Sandusky, Ohio.

Claim.—1. A machine for accumulating power, in which a series of springs, weights, or other equivalent devices is connected and disconnected with a shaft or other device for transmitting that power, substantially for the purposes herein set forth.

2. The disk A, provided with the arbor C, projection *a*, and pin or stop *b*, substantially as and for the purposes herein set forth.

3. The wheel H, working upon the shaft B, and provided with arms or spurs, substantially as and for the purposes herein set forth.

4. The beveled point *b* in combination with the beveled arms or spurs of the wheel H, substantially as and for the purposes herein set forth.

5. The lever I for operating the wheel H, substantially as and for the purposes herein set forth.

6. The wheel-catch *d*, upon the lever I, for the purposes herein set forth.

7. The spring *m*, arranged to act upon the lever I, substantially as and for the purposes herein set forth.

8. The wheel E, held in place by the spring *p*, and provided with the point *e* and toothed spurs *h h*, substantially as and for the purposes herein set forth.

9. The lever J, connected with the wheel E to operate the lever I, substantially as and for the purposes herein set forth.

10. The spring-brace *f*, arranged to operate upon the pin *e* on the wheel E, substantially as and for the purposes herein set forth.

11. The wheel G, provided with the point or pin *n* and placed upon the shaft N, substantially as and for the purposes herein set forth.

12. The lever K, operated by the pin *n* on the wheel G for connecting the next spring or weight, substantially as herein set forth.

13. The lever J', operated by the pin *n* on the last wheel G on one shaft for connecting the first power on the next shaft, as herein set forth.

14. The shafts N N, sustaining the wheels G G and geared together by the gear-wheels R R, substantially as and for the purposes herein set forth.

15. The spring-crank O to operate the shafts N N, substantially as herein set forth.

16. The index P, provided with catches for holding the shafts N N in position, substantially as herein set forth.

17. The keys S and T, arranged and operating substantially as and for the purposes herein set forth.

18. The main shafts B B, connected by gear-wheels W W for transmitting the power, substantially as herein set forth.

19. The application of weights, substantially in the manner and for the purposes herein set forth.

20. Disconnecting the spring D from the power winding it by its own action, substantially as and for the purposes herein set forth.

21. In a machine for accumulating power, constructed substantially as herein set forth, applying and releasing the power—*i. e.*, connecting and disconnecting each of the springs D D or other equivalent appliance with the shaft B either by its own action or that of some other in the system—as and for the purposes described.

117,455.—PROCESS OF SEPARATING TANNIN FROM SOLUTIONS.—Nathan C. Platt, Salisbury, N. Y.

Claim.—The process of obtaining tannic acid from leached liquors, infusions, or solutions of vegetable substances by the use of saline baths or solutions, substantially as described.

117,456.—DUSTING-BRUSH.—Thomas G. Porter, Louisville, Ky.

Claim.—The dusting-brush, composed of the handle F, the cap or socket B C, the wire D, the screw-loop *d*, and the brush material H H, in combination with each other and with the described composition, when constructed and arranged substantially as set forth and described, as a new article of manufacture.

117,457.—SAP-SPOUT.—Charles C. Post, Hinesburg, Vt.

Claim.—A notch or opening, *f*, on the top of the stem-flange *d* for the sap to flow over into the spout B, so that the tap or bore will be kept full and moist, as herein described.

117,458.—STEAM-ENGINE.—Elting Post, Boston, Mass.

Claim.—1. In combination with the cylinder A, its piston, and the main balanced valve B and its chest C, the auxiliary duplex-balanced valve E, its chest D, and the lateral ducts *q q*, the said main and auxiliary balanced valves and their chests being made and arranged with ports and passages of communication, and the valve-stem G being furnished with the collars to operate with the arm *t*, all being substantially as described.

2. The combination of the auxiliary valve-stem *v'* and its collars *w' x'* with the main balanced valve B, the chest C, the piston P, cylinder A, arm *t*, the auxiliary balanced valve and chest, the rod G, and its collars *r s*, all arranged and combined or applied together in manner and to operate as set forth.

117,459.—SEWING-MACHINE.—Jonathan Ramsay, Jr., Middletown, Conn.

Claim.—The arrangement of the cam *b*, strap *c*, lever *d*, rock-shaft *f*, rod *h*, adjustable link *k*, oscillating lever *l*, sleeve *v*, levers *t w*, cam *x*, spring *u*, and the feed-bar and driving-shaft, as herein shown and described, for the purpose specified.

117,460.—HARVESTER.—Solomon Rawson and Isaac Rawson, Almond, N. Y.

Claim.—The socket *d* provided with two or more orifices, the spring *f h*, and standard *b* rigidly connected with the shoe *a*, all arranged as shown and described.

117,461.—REVOLVING FIRE-ARM.—Charles B. Richards, Hartford, Conn., assignor to "The Colt's Patent Fire-Arm Manufacturing Company," same place.

Claim.—1. The flange *s* of the ejector-case when shaped and adapted, substantially as described, to fill the recesses in the barrel made for the rammer and its lever.

2. The outlet *s* in the ejector-case when located, as herein described, so as to prevent the removal of the ejector-rod head while the ejector-case is in place, substantially as and for the purpose set forth.

3. The projection *p* on the breech-plate, in combination with the firing-pin and the recess in the pistol-frame for the hammer, as set forth.

4. The removable bit *t* applied to and forming part of the pawl *h*, when operating substantially as and for the purpose specified.

117,462.—COMPOUND FOR PREVENTING INCRUSTATIONS IN STEAM-BOILERS.—William T. Rickard, New Monitor, Cal.

Claim.—An anti-incrustator for steam-boilers, prepared from the ingredients specified, in about the manner and proportions above given.

117,463.—PUMP.—William F. Robinson, Bellaire, Ohio.

Claim.—The combination and arrangement of the pump-stock or barrel, the plungers D and E both working in contact with the inner surface of the barrel—the former operated by the rod C and the latter by the rods C^2 C^2—cross-head, rod C^1, and lever B to which the rods are connected on each side of the fulcrum, all substantially as and for the purpose set forth.

117,464.—PORTABLE OVEN.—William S. Robinson, Oskaloosa, Iowa, assignor to himself and Martin Morris, same place.

Claim.—The within-described cooking-oven, having the fire-box D, dampers *a a b d*, escape-pipe G, smoke-pipe E, and slides *f f*, all arranged substantially in the manner and for the purpose set forth.

117,465.—PILE-DRIVER.—Henry Roehrs, Washington, D. C.

Claim.—1. The shifting-rod L provided with the stationary arm N and the movable arm O, operating as described, in combination with the sliding head D or its equivalent, said shifting-rod being connected to the winding mechanism substantially as described, whereby the latter is automatically thrown in and out of gear by the rising and falling of the weight at different heights, as set forth.

2. The drum F with its gear-wheel *i*, and shaft G with its sliding pinion *h*, in combination with the rock-shaft K having one arm connected with the pinion and the other arm connected to the rod L, all constructed and arranged for joint operation, substantially as set forth.

117,466.—STOP-VALVE.—Robert P. Ross, Bethlehem, Pa.

Claim.—1. A valve-chest, having a longitudinal passage and two vertical and parallel valve-seats, in combination with a yoke sliding vertically and carrying independent flat valves adapted to the said seats, and forced apart by an intervening spring, *m*, all as described.

2. The combination of the valve-chest, its seats, the yoke carrying the valves *f f'*, connected to the yoke so that they may be turned, as described.

117,467.—SCHOOL-DESK.—James Russel, Plymouth, Ind.

Claim.—The combination of the end pieces A B, back C, bisected seat D, box E, lids G, strip H, rubber blocks *b b'*, and straps *d*, all constructed and arranged substantially as and for the purposes herein set forth.

117,468.—SCREW-PRESS.—Mark Safford, Melrose, assignor to Jonathan Holbrook, Sherburne, Mass.

Claim.—The improved arrangement, herein shown, of the bar D, the two reversed screws E E, the nuts thereof, the worm-gears F F, the worm H' and its shaft I, the press-box A, the bar C, and the nut-supporter or plate H, all constructed and operating as and for the purpose set forth.

117,469.—WATER-WHEEL.—Daniel Sandoe, Orangeville, Ill.

Claim.—1. The ring R provided with teeth *s'*, working in connection with the pinions S and toothed slides U, substantially as and for the purpose specified.

2. In combination with the windlass D, the penstock A, shaft K, wheel K'', chutes V, ring R, pinions S, and the toothed slides U, as and for the purpose specified.

117,470.—STREET-LAMP.—William G. Schmidlin, Hoboken, N. J., and Jeremiah W. Driscoll, New York, N. Y.

Claim.—The inclined back *h* and frame for the plate *g*, applied above an opening in the portion *f* of the lamp-frame, as and for the purposes set forth.

117,471, antedated July 24, 1871.—MACHINE FOR MAKING BLIND-SLATS.—Paul Schumacher, San Francisco, Cal.

Claim.—1. The box A, provided with the rails *a*, in combination with the sliding box or frame C and knives *f* and *i*, substantially as and for the purpose above described.

2. The horizontal double-edged knife *f*, in combination with the double row of vertical knives *i*, for cutting the slats to the proper width and thickness at each movement of the block, substantially as above specified.

3. The revolving box *p*, with its ratchet-wheel *r*, arms *s*, and pawls *t*, in combination with the screw-rods I for feeding the presser-blocks downward, as described.

4. The slides *u*, arranged to be operated by the sliding box C, in combination with the arms *s*, pawls *t*, and ratchet-wheel *r*, substantially as and for the purpose above described.

117,472, antedated July 18, 1871.—WASHING-MACHINE.—Charles T. Shadbolt, Attica, N. Y.

Claim.—The arrangement of the vertically-ribbed inner surface B B of the tub, the actuating mechanism J M N O Q, the revolving bearings D D', and independently rotating rollers C C, as hereinbefore set forth.

117,473.—DEVICE FOR PULVERIZING THE SOIL.—Gillum Shelton, Normal, Ill.

Claim.—The triangular drag A, provided with holes *a a* and grooves *b b*, and used with the auxiliary drag C and chain B, substantially as and for the purposes herein set forth.

117,474.—MACHINE FOR SHEETING DOUGH.—John H. Shrote, Baltimore, Md.

Claim.—1. The combination of the receiver *a*, follower *c*, plate *b* provided with the slot *e*, and adjustable angle-bar *f*, as shown and described, whereby the dough is pressed out in sheets and their thickness simultaneously regulated, as specified.

2. The brush o^1, arranged on the shaft *o* to operate in combination with the sieve *q* and the other devices of the fifth clause of the claim, substantially as specified.

3. The combination of the plate *b*, knife m^4, arms m^3, rod m^1, and levers *m* m^2 with the carriage D, as set forth.

4. The combination of the arms *i* i^2, rock-shaft i^3, and clutch *j* with the carriage, as explained.

5. The sieves *q q'*, shaft *o*, pitman o^2, rods *p* p^2, links p^1 p^3, connecting-bar p^4, and stationary bar p^5, combined, as specified.

117,475, antedated July 13, 1871.—CAR-COUPLING.—Theodore Warren Sparks, Rochester, N. Y.

Claim.—1. The notched, pivoted, and grooved

block E and stop G, in combination with the coupling-pin C and bumper-head A, substantially as herein shown and described, and for the purposes set forth.

2. The swinging bar H *h'*, step I, pivoted, weighted, and jointed lever J L, and arm or trigger K, in combination with the coupling-pin C and bumper A, substantially as herein shown and described, and for the purpose set forth.

3. An improved car-coupling, formed by the combination of the coupling-pin C, block E, stop-block G, swinging bar H *h'*, step G', weighted and jointed lever J L, and arm or trigger K with each other and with the bumper A, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

117,476.—Cooking Apparatus.—Ebenezer Sperry, Chicago, Ill.

Claim.—1. The non-conducting chamber A, provided with a glass covering, D, and the dark sheet-metal plate C for absorbing and concentrating the sun's radiant heat and utilizing the same for culinary and other purposes, substantially as described.

2. The construction and arrangement, with relation to the heat-concentrating chamber A, of the re-heating chamber G, provided with a glass covering, H, and containing an oven, F, said oven being connected with the chamber A by the hot-air pipe E, and to the channel *b* in the bottom thereof by the condense-pipe K, as and for the purpose set forth.

3. The arrangement, within the oven F, of shelves I J, diaphragm *e*, exhaust-pipe M, provided with sleeves *g g'* and valve *f* at its several openings, and the exit-flue M', as and for the purpose set forth.

4. The boiler N, arranged in the upward flue of chamber A, as and for the purposes herein specified.

5. The door L', in a stove-oven, when provided with a collar, as herein described, for the purpose of connecting a pipe so as to convert any ordinary stove-oven into an air-furnace.

6. In combination with the air-heating chamber G, the inclined reflecting sides herein described, for the purpose of concentrating a greater amount of heat on the oven F.

7. The corrugated sash, when constructed as herein described, for the reception of a greater or lesser number of thicknesses of glass, for the purposes set forth.

117,477.—Machine for Turning Spiral Moldings.—Edward A. Stockton, San Francisco, Cal.

Claim.—The wheel F having its journal *q* provided with a square hole, in combination with the hollow auger A, nut C, and gouge *f*, all constructed and operated substantially as and for the purpose set forth.

117,478.—Permutation Lock.—Emory Stockwell, Stamford, Conn.

Claim.—1. The bell-crank lever C H, turning on a pivot at *s*, in combination with the fence-lever D pivoted at *t* to the lever C, and the bolt B having a diagonal slot, H, all arranged and operating substantially as herein described, whereby, in an attempt to force the bolt, the strain is thrown upon the lever C and the pivot upon which it turns, as set forth.

2. In a combination-lock, a fence with one or more eccentric rollers revolving thereon in contact with the peripheries of the tumblers, substantially as described.

3. The lever D, having the hooked end *h*, and provided with the eccentric rollers D' on the fence P and the roller E on the part K, in combination with the tumblers *g g* and the cam F, having the angular recess h which receives the roller E, and by which the fence is raised, all arranged and operating substantially as described.

4. The curved rib R, in combination with the lock-case and with the fence-lever D *h*, fence P, eccentric rollers D', roller E, tumblers *g*, and cam F with angular recess *h*, all arranged and operating substantially as described.

5. The part I with conical and fitting an enlarged socket of similar form, in combination with the part S' having the enlarged head *w* secured within the door, as shown.

6. The combination of the angular slotted bolt B, bell-crank lever C H *s*, pivoted fence-lever D *h*, fence P, eccentric rollers D' E, tumblers *g*, cam F, and rib R with a casing, *c*, and a spindle, all arranged and operating substantially as herein described.

117,479.—Churn-Dasher.—Benjamin F. Stover, Ladoga, and Isaac W. Warner, Crawfordsville, Ind.

Claim.—The improved churn-dasher herein described, composed of the socket A, perforated conic frustum B, and imperforate flaring rim C, combined and arranged substantially as shown, for the purpose set forth.

117,480.—Hand-Hole Stopper for Steam-Boilers.—Daniel Sullivan, Bangor, Me.

Claim.—A hand-hole stopper, composed of the four parts *a a' a'' a'''*, expansible by means of the wedge-shaped bolt *f* and nut A, and having the cup *g* and packing-rings *c* and *i*, substantially as and for the purposes set forth.

117,481.—Blacking-Box Holder.—Nathaniel H. Talbot, North Easton, Mass.

Claim.—The blacking-box holder made as described, viz., of a wire, W, bent in the form as shown and explained, and provided with cars C C' fixed to and arranged with its jaws, in manner substantially as specified.

117,482.—Cigar-Machine.—George W. Tanner, Providence, R. I.

Claim.—The gauge-rod E, provided with a disked head, a knob, and a frictional device, in combination with the main shaft and the several rollers of a cigar-machine, substantially as described, for the purposes specified.

117,483.—Saw-Filer's Vise.—Theodore Terrell, Yonkers, N. Y.

Claim.—1. The combination of the pivots *a a* on the jaw B with the bearings *c c* on the jaw A, and the interposed spring G, when said spring is arranged relatively to said pivots and bearings and to the screw S, substantially as and for the purpose herein described.

2. The combination, with the circular base-plate P and holding-down screw E, of the clamp C, constructed with a slot and a series of step-like notches, *g g*, substantially as and for the purpose herein set forth.

117,484.—Ventilator for Ships.—William Fitz James Thiers, New York, N. Y., assignor to Universal Ship-Ventilator, Alarm, and Bilge-Pump Manufacturing Company, New York city.

Claim.—1. The method and apparatus herein described for ventilating vessels, by means of chambers B B^1 B^2 B^3 communicating at their lower parts with the water in which the vessel floats, and at their upper parts with air-pipes controlled by valves, substantially as explained.

2. The air-chamber G, in the described combination with the water-chamber B, employed in connection with the valve *g* to prevent the reflux of air into the said water-chamber, or for use, in connection with a horn, F, to sound a continuous alarm.

117,485.—Garden-Tool for Trimming Sods.—Adolphe Tournier, Barnville, N. Y.

Claim.—The gardener's tool, composed of frame A with box H attached, shaft B with cutter F and guide-roller O, and provided with the auxiliary rollers I I on arms K K, the whole to be used by hand for the purpose of trimming the outside edges of sod or of the lawn, as specified.

117,486.—Globe for Gas-Lights.—Toussaint Trudeau, Ottawa, Canada.

Claim.—A shade or globe for gas-burners, having its bottom opening or throat at its narrowest part about two-thirds the diameter of its top opening, and so arranged as to bring the narrowest part of its lower opening on or nearly on a level with the tip of the burner for regulating the in-flowing currents of air and preventing the flickering of the flame, substantially as described.

117,487.—Fluting-Machine.—Theodore M. Tucker, Newark, N. J.

Claim.—The cam *a*, constructed and operating as described, and in combination with the frame B and lever *w* operating as described, and for the purposes set forth.

117,488.—Windmill.—Thomas S. Van Devort, Ypsilanti, Mich.

Claim.—1. The sails D D, rods *h* A, wheel K, and thimble *m*, with spiral slot therein, all combined substantially as and for the purpose set forth.

2. The thimble *m*, with slot *s* and pin *s'*, in combination with the rods *n n*, wheel I, and lever H, substantially as and for the purposes herein set forth.

117,489.—Fly-Trap.—Edward Victor, Fort Branch, Ind., assignor to himself and Jacob D. Skelton, same place.

Claim.—The combination of the cylindrical vessel *a*, notches *b*, flat glass cover *c* laid horizontally upon the top of the cylinder, and the truncated cone *d* having the opening *f* at its top, and so placed that its bottom is above the notches *b* and its top below the cover *c*, and the reservoir *e* is formed between it and the vessel *a*, as specified.

117,490.—Tournure.—Adolph Waldmann, Philadelphia, Pa.

Claim.—The combination of the curved double rib B, constructed substantially as described, with the bows C and waistband A, substantially in the manner and for the purpose set forth.

117,491.—Cotton and Hay-Press.—George P. Webster, Jr., Cross Bridge, Tenn.

Claim.—The combination of the double ratchet-bars H, head-block E, castings I I', pawls *b*, links *d d'*, and levers L, all constructed and arranged substantially as and for the purposes herein set forth.

117,492.—Spark-Arrester.—William A. West, Bellefontaine, Ohio.

Claim.—In combination with the chimney A, the cylindrical screen C, cap or chamber F, screen S, conducting-pipe K P, and tank T, constructed and arranged substantially as described, for the purpose specified.

117,493.—Cut-off for Rain-Water Pipes.—Cyrus Avery and Jerome W. Wetmore, Erie, Pa.

Claim.—1. The combination of the box, the inlet-pipe, and the outlet-pipes, arranged as described, the vibrating chute formed as described, and the partition with its sides inclined in opposite directions, forming a fulcrum as well as a stop to limit the vibration of the chute, these parts being constructed for joint operation, substantially as and for the purpose specified.

2. The combination of the partition with the vibrating chute fulcrumed thereon, and forked to embrace both sides of the partition, as set forth, so that the partition limits the movement of the chute in either direction.

117,494.—Mode of Reducing the Diameters of Tubings.—Elbridge Wheeler, Philadelphia, Pa.

Claim.—The process of reducing hollow objects of metal by the use of soap-stone, asbestus, or plumbago, as described.

117,495.—Bolt-Cutter.—John Whittaker, Sandusky, N. Y.

Claim.—1. In combination with the bar A, provided with opening *b*, the double-edged cutter B arranged to act in either direction, substantially as described.

2. In combination with the bar A, provided with an opening, *b*, the knife B and lever C, pivoted to the former and connected by the link D, arranged to operate substantially as set forth, whereby a compound-lever movement is imparted to the cutter.

117,496.—Mode of Transporting Eggs.—Henderson Willard, Grand Rapids, Mich.

Claim.—The vessel herein described, or its equivalent, when filled with water and eggs, for the purpose of transporting eggs without mechanical injury.

117,497.—Land-Roller.—William Wimer, Freeport, Ill.

Claim.—The within-described land-roller and corn-marker, consisting of the bar A, frames B and C C, rollers D D with bands *a a*, bars *b b* with cords and weights *c c*, and the tongue G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

117,498.—Elastic Car-Wheel.—James A. Woodbury, Boston, Mass.

Claim.—A car-wheel made in two or more parts, with two or more elastic cushions between each two of said parts, said cushions being arranged between inclined surfaces, as at *b* and *c*, placed at opposite angles to the axis of the wheel, substantially as described.

REISSUES.

4,479.—Division A.—Process for Treating Coffee.—John Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.—Patent No. 113,832, dated April 18, 1871.

Claim.—1. The process of maturing and browning coffee, to increase its commercial and other value, by subjecting it to the direct action of steam.

2. The process of maturing and browning coffee, to increase its commercial and other value, by subjecting it to the sweating and expanding action of steam and the drying action of heat.

3. In the process of producing a yellow, brown, or golden color, to increase the commercial and other value of coffee, subjecting it both to the action of steam and heat while in sacks, and thus greatly lessening the labor and expense of the process, and increasing the rich aroma of the coffee.

4. In the process of maturing and coloring raw coffee, to increase its commercial and other value, the method of subjecting a series of sacks to the action of sweating steam and drying heat by arranging sacks in tiers, one above another, and having free communication one tier with another, so that the sweating steam will pass into said tiers of sacks so arranged, by means of coils of pipe or otherwise, as described.

4,480.—Division B.—Treating Coffee.—John Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.—Patent No. 113,832, dated April 18, 1871.

Claim.—1. In apparatus for coloring and matur

ing coffee, to increase its commercial and other value, a perforated sweating-box or a series of such boxes, in combination with an inclosing-chamber or oven and inlet steam-pipes, as described.

2. In combination with closed sweating-boxes in which steam is admitted directly upon coffee, the external drying-chamber into which steam or other heat is admitted to heat the ovens of the sweating-boxes, as described.

3. In apparatus for coloring and maturing coffee, the perforated sweating-boxes having a surrounding steam-chamber, and an inclosing oven having a surrounding heating-chamber, as described.

4,481.—Boot and Shoe-Heel Trimming-Machine.—Eben J. Beane, Providence, R. I.—Patent No. 43,082, dated June 14, 1864.

Claim.—1. The combination of a cutter, substantially as described, with a ridged or gauging-roller, d, and a yielding center-stud, g, substantially as described, for the purpose specified.

2. The combination of the rotating cutter G with the gauging-roller d and the movable pattern-plate I, substantially as and for the purpose herein set forth.

3. The combination of the rotating cutter with the gauging-roller d, the pattern-plate I, the center-stud g, and the centering-pin p, substantially as and for the purpose herein set forth.

4,482.—Hat-Lining and Tip.—Thomas W. Bracher, New York, N. Y.—Patent No. 110,891, dated January 10, 1871.

Claim.—1. A hat-lining, A, provided with a backing of paper, cloth, or woven material where the embossing is to be applied, with size interposed between said backing and lining, substantially as and for the purpose described.

2. The face of the hat-lining A, provided with metallic foil, as set forth, when the same is subjected to pressure between embossing-dies, as and for the purpose herein shown and described.

3. A hat-lining, provided with impressions illuminated with two or more colors by placing leaves of different colors upon the lining where the different impressions are to be produced.

4,483.—Revolving Fire-Arm. — William C. Dodge, Washington, D. C., assignor to Horace Smith and D. B. Wesson, Springfield, Mass.—Patent No. 45,912, dated January 17, 1865.

Claim.—1. The combination of the chambered cylinder, connected with the frame of the fire-arm by means of the journal, or its equivalent, that permits said cylinder to be revolved on its axis, and the retractor with its stem, adapted to withdraw several cartridge-cases simultaneously from said cylinder, the whole constructed and arranged substantially as described.

2. The combination of a single barrel, a revolving-chambered cylinder connected to the frame by a journal or its equivalent, and a retractor with its stem adapted to operate upon the exterior of the cartridge-cases and withdraw them from said cylinder, the whole constructed and arranged substantially as set forth.

3. The combination of the revolving-chambered cylinder-retractor, retractor-stem, and retractor-spring, the whole constructed and arranged substantially as before set forth.

4. The combination of the revolving-chambered cylinder and retractor with a retractor-stem extending through said cylinder and projecting therefrom so as to be operated from the end of the cylinder opposite that at which the retractor is arranged, the whole constructed and arranged substantially as before set forth.

5. The combination of the revolving-chambered cylinder, retractor, lock-frame, and hinge-pivot, whereby the end of the cylinder may be uncovered to permit the cartridge-cases to be retracted from the revolving cylinder without disconnecting it from the lock-frame, the whole constructed and arranged substantially as set forth.

4,484.—Harvester.—Ketchum Harvesting-Machine Company, Buffalo, N. Y., assignee, by mesne assignments, of William F. Ketchum, deceased.—Patent No. 20,719, dated June 29, 1858.

Claim.—1. The combination, substantially as described, of the driving-wheel A with the frame for supporting the finger-bar and the mechanism for operating the cutters, said frame being suspended from the axle in the position described, substantially as and for the purpose set forth.

2. The combination of a driving-wheel, A, frame D, draft-pole E, and finger-bar F with the mechanism for operating the cutters, the whole arranged substantially as and for the purpose specified.

4,485.—Corn-Cultivator. — Alonzo Kinyon, Amboy, Ill.—Patent No. 45,503, dated December 20, 1864.

Claim.—1. The rounded standard J, having a shovel, L, attached thereto, and secured to the frame or beam of a cultivator by means of an eye-bolt, substantially as described, whereby the shovel may be adjusted, as set forth.

2. In combination with the foregoing, the brace-rod K, arranged to operate as set forth.

3. The tubular shaft G, provided with the lever U, and connected, by the straps T, to the beams I, whereby the shovels may be elevated at will, as set forth.

4. The sliding rod R, provided with the rigid arms p and H, the latter being connected loosely to the beams I, and the former, by straps q, to a pulley, V, having a foot-lever, I*, attached, all arranged to operate as set forth, whereby the beams, with their standards and shovels, may be moved laterally at will, as set forth.

4,486.—Melodeon.—El Dora Louis, New York, N. Y., administratrix of La Fayette Louis, deceased.—Patent No. 16,094, dated November 18, 1856; reissue No. 2,493, dated February 26, 1867; reissue No. 2,944, dated May 26, 1868; extended seven years.

Claim.—1. In combination with the reeds of a melodeon, (or that class of instruments in which the air is drawn through the reeds by the exhaust-action of a bellows,) a tremolo-valve, fan, or beater, substantially as specified.

2. A tremolo-beater, actuated by independent mechanical devices, substantially as specified.

3. A tremolo-beater or fan, arranged to vary the length or sharpness of the pulsations by means of a stop, while playing.

4. A wind-wheel or equivalent motor for actuating tremolo mechanism, substantially as specified.

5. Pulsating mechanism, adapted, without cutting off the continuous flow of air past the pulsator, to produce in bellows instruments the tremulous note.

4,487.—Building for Preserving Fruits and other Substances. — Benjamin Markley Nyce, Cleveland, Ohio.—Patent No. 31,734, dated March 19, 1861; reissue No. 3,252, dated January 5, 1869.

Claim.—1. A metallic floor, supported by blocks or narrow edges of metal in an insulated house, with ice above and a preserving chamber below, substantially as described.

2. The use of a vestibule or anteroom, in combination with an insulated house, substantially as described.

3. The metallic floor, as in the first claim, in combination with absorbents, applied and operating substantially as described.

4,488.—Permutation Lock.—George Rosner, Rochester, N. Y., assignor to Halbert S. Greenleaf, same place.—Patent No. 30,092, dated September 18, 1860.

Claim.—1. In a permutation lock, in combination with a set of wheels consisting each of an outer ring or rim and a central disk or hub, a set of fastening devices or bolts, r r, which is made to fasten or unfasten said parts composing the wheels by the insertion of a key through each or all of the wheels, whereby the combination of the lock may be changed, substantially as herein specified.

2. In connection with the fixed stud K, the annular bearings M M, provided with horizontal bearings m and vertical flanges n n, which are slipped upon said stud to hold the wheels, as described.

3. The combination of the disk U and lever V with the lock-bolt and case of the lock for the purpose of covering the key-hole when the bolt is protruded, as herein described.

4. The disk E attached to the spindle C, when combined with the dog F and the wheels N N N, so as to support said dog from said wheels when the spindle is engaged with the wheels, and to allow said dog to fall when disengaged, substantially as specified.

4,489.—Cultivator.—William S. Weir, Jr., Monmouth, Ill.—Patent No. 46,285, dated February 7, 1865.

Claim.—1. The cross-bar F, when pivoted to the draft-pole of a walking straddle-row cultivator in rear of the axle or truck-frame, and connected with the draft in manner substantially as and for the purpose set forth.

2. The plates h h secured to the forward ends of the plow-beams, and blocks g g and journals f, constructed and operating substantially as described, for the purpose of hinging or pivoting the plow-beams to the axle by brackets I or their equivalent, as set forth.

3. The pivoted rods M having the hooked ends k, in combination with the bars d d, levers O, and draft-pole C, substantially as and for the purpose set forth.

DESIGNS.

5,133.—Hand-Stamp.—Robert B. Carsley, Chelsea, Mass.

Claim.—The design for an embossing hand-stamp, substantially as described and shown.

5,134.—Paper-Box Cover.—John W. Carter, South Orange, N. J.

Claim.—The design for the covers of paper boxes, as shown.

5,135. — Hand-Stamp. — Simon P. Cooper, Cincinnati, Ohio.

Claim.—The design for a printing-stamp, as shown.

5,136. — Cattle-Horn Knob. — Henry J. Frantz, Metamora, Ill., assignor of one-half his right to William B. Whiffen, same place.

Claim.—The design for cattle-horn knobs, substantially as shown and specified.

5,137.—Hand-Stamp.—William B. Gorham, Boston, Mass.

Claim.—The design for a hand-stamp, as shown.

5,138. — Garment-Measure. — Emma F. Harmon, Conneaut, Ohio.

Claim.—The design for garment-measure, as shown.

5,139. — Carpet-Pattern.—William Kerr Philadelphia, Pa., assignor to John Gay, same place.

Claim.—The design for a carpet, as shown.

5,140.—Hollow Tile.—Balthasar Kreischer, New York, N. Y.

Claim.—The design for a hollow tile, as herein shown and described.

5,141.—Cooking-Range or Stove.—Apollos Richmond, Brooklyn, and Sampson G. Richmond, Norwich, Conn.

Claim.—1. The design for a cooking-range, as shown.

2. The general form and construction of hot closet and connection.

3. The corner of range, the leg, and the ornamentation of the doors and panels, substantially as set forth.

5,142.—Group of Statuary.—John Rogers, New York, N. Y.

Claim.—The design for a group of statuary, as shown in the above specification.

5,143.—Group of Statuary.—John Rogers, New York, N. Y.

Claim.—The design for a group of statuary, as shown in the above specification.

5,144.—Spider-Grate.—Nathaniel H. Talbot, North Easton, Mass.

Claim.—The design for spider-grate, as represented and hereinbefore described.

5,145.—Car Basket-Rack.—Morton Tower, Boston, Mass.

Claim.—The herein-described design for brackets of car basket-racks.

TRADE-MARKS.

387.—Medicine.—Henry M. Billings, New York, N. Y.

388.—Ink.—Carter Brothers & Co., Boston, Mass.

389.—Whisky.—Julius Dorn, Louisville, Ky.

390.—Candle.—Charles Harkness, Cincinnati, Ohio.

391.—Nets and Lace Goods.—Abraham G. Jennings, New York, N. Y.

392.—Nets and Lace Goods.—Abraham G. Jennings, New York, N. Y.

393.—Nets and Lace Goods.—Abraham G. Jennings, New York, N. Y.

394.—Nets and Lace Goods.—Abraham G. Jennings, New York, N. Y.

395.—Nets and Lace Goods.—Abraham G. Jennings, New York, N. Y.

396.—Medicine.—John Q. Kellogg, Brooklyn, N. Y.

397.—Shawl.—F. Steffan & Co., Philadelphia, Pa.

398. — Mineral Water. — The Congress and Empire Spring Company, Saratoga Springs and City of New York, N. Y.

399.—Sewing-Machine.—James H. Whitney, Paterson, N. J.

400.—Tobacco.—Thomas C. Williams and James Thomas, Jr., Richmond, Va.

401.—Beverage.—Edward J. Williamson, St. Louis, Mo.

402.—Tobacco.—Winfree & Loyd, Lynchburg, Va.

ISSUE OF AUGUST 1.

PATENTS.

117,499. — Washing-Machine. — Isaac H. Adams, Montana, Iowa.

Claim.—1. The combination, with the movable rubbing-board I, of the board C D, the latter being made in two parts, one of which is permanently attached to the tub and the other hinged to the first, and arranged to work in conjunction with the board I, all substantially as specified.

2. The part D of the lower board connected to the bars H of the board I by the curved slotted arms F and studs M, all substantially as specified.

3. The board I, having the studs M arranged in the curved grooves N in the ends of the tubs, all substantially as specified.

117,500.—Lamp-Chimney.—Edward David Ashe, Brompton, England.

Claim.—A section, D E, formed of radiating metal, and horizontally studded or annularly flanged at H, combined with the converging neck C of the glass section A, for the purpose specified.

117,501.—Awl. — Samuel Babbitt, Braxil, Ind.

Claim.—In awls that open and close the eye for the thread automatically, the arrangement, in relation to the slide, of the hollow ferrule K, spiral spring I, and lug H, for the purpose specified.

117,502.—Seed-Planter.—Barney Baker, Hopkinton, Iowa.

Claim.—1. The combination of the swinging frame A, which carries the furrow-openers M, with the yoke-axle E, rope *d*, and lever H, all arranged to operate substantially as herein shown and described.

2. The hopper L, provided with the grate-bars or rods *m* in the bottom, for the purpose of protecting the seed, in the manner specified.

3. The combination of the valve *p* with the chamber *n*, seed-slide *l*, and hopper L, all arranged to operate substantially as herein shown and described.

117,503.—Apparatus for Transmitting Motion.—Edward H. Bancroft, Syracuse, N. Y.

Claim.—1. The connection of the cranked wind-wheel shaft to the reciprocating and transmitting-rods G H, substantially as described, said rods being arranged in the axis of rotation of the wind-wheel support, substantially as specified.

2. The arrangement of one of the said transmitting-rods within the other, and the driving-shaft L relatively thereto, substantially as specified.

3. A mechanism for transmitting rotary motion from one crank-shaft to another, consisting of reciprocating and transmitting-rods G H and the connecting-rods M, when the shaft to which motion is imparted, and the connecting-rods therefor, are arranged or geared back relatively to said sliding rods, all substantially as specified.

117,504.—Hydraulic Motor.—Arthur Barbarin and Joseph Albrecht, New Orleans, La.

Claim.—1. An injector, in which there is combined with the surrounding water-conduit a steam-passage, which, at the point where the steam is discharged upon the water, has the form of an elongated parallelogram, so that the continuous broad and thin flat sheet of steam may be projected against the water, substantially as and for the purposes herein shown and described.

2. The water jacket or box C, provided with the narrowing passage or throat *b*, and a two-way opening or channel, *b'* and *b''*, in combination with the steam-injector, as and for the purposes herein described.

3. The feed-pipes B and B', when connected with the water-jacket C and with the channel A, as described, for the purposes set forth.

4. In an apparatus organized and operating as herein described, the arrangement of the self-acting gates 1 and 6, and shoulders *g* and *g'*, or their equivalents, secured and operating in the manner described, for the purposes herein stated.

5. The reversible interior gate *d*, in connection with the exterior lever *d'*, when the same is applied in the center of the two-way opening or channel *b'* and *b''*, immediately under the narrow or contracted passage *b* of the box C, for the purpose of changing the flow or current of water, as described.

6. The hydraulic motor, as a whole, constructed and arranged to operate as herein described.

117,505.—Hydraulic Motor.—Arthur Barbarin and Joseph Albrecht, New Orleans, La.

Claim.—1. The compound or double-acting steam-injector, provided with the elongated steam-discharge slits, and otherwise constructed and arranged to operate as herein described, for the purposes set forth.

2. The combination, with the compound or double-acting steam-injector, of the channel surrounding the same, provided with narrow throats J J', and arranged to operate as herein stated, for the purposes described.

3. The combination, with the double-acting injector and narrow-throated channel surrounding the same, of the gradually-expanding sectional channels B^2 B^3, with or without water-tight gates, when the same are constructed and applied as herein described, for the purposes set forth.

4. The combination of the stop-cock for regulating the supply of steam with the compound injector and the steam feed-pipe, as and for the purposes herein mentioned.

5. The hydraulic motor, as a whole, constructed and applied to operate as herein stated.

117,506.—Hat-Ventilator.—Samuel Beatty, Norwalk, Conn.

Claim.—1. The within-described hat-ventilator, consisting of a plain strip or band of thin metal or other suitable material, to determine the head-size, combined with flexible attaching-pieces projecting from the band and forming part thereof, substantially as and for the purpose described.

2. The sweat, combined with and attached to the ventilator above described, so as to form a ventilator-sweat ready for sale and use by hatters.

3. The ventilator, consisting of the flat band and projecting attaching-pieces, substantially as described, in combination with the hat and sweat, so as to make a ventilated hat capable of being accurately adjusted to the head size.

117,507.—Process and Apparatus for the Treatment of Crude or Pig-Irons.—Henry Bessemer, London, England.

Claim.—1. The carburation or further carburation of molten pig-iron after it leaves the blast-furnace and prior to its solidification, by subjecting such iron in close vessels or chambers to the action of incandescent carbon or carbonaceous matters, the combustion of which is not kept up by a supply of oxygen.

2. The carburation or further carburation of remelted pig-iron, and of molten malleable iron and steel, and of refined or finery iron, by subjecting such iron in close vessels or chambers to the action of incandescent carbon or carbonaceous matters, the combustion of which is not kept up by a supply of oxygen.

3. The combined process of further carburating molten carburets of iron, by subjecting such iron in close vessels or chambers to the action of incandescent carbon or carbonaceous matters, the combustion of which is not kept up by a supply of oxygen, and the conversion of such carburized iron into malleable iron or into steel by the action thereon of atmospheric air, as in the Bessemer process.

4. The simultaneous carburation and partial purification of molten iron, by the means and in the manner substantially as herein described.

5. The general form and arrangement of apparatus for carburizing or further carburizing molten iron, substantially as herein described.

117,508, antedated July 29, 1871.—Machine for Turning Calks of Horseshoes.—Alonzo T. Boon, David M. Orsborn, and George Geer, Galesburg, Ill.

Claim.—1. The combination of the adjustable head P and vibrating arm L, arranged to operate in conjunction with holding-dies, substantially as set forth.

2. The combination of oscillating arm L, adjustable head P, jaw D, and die C, operated as and for the purpose substantially as set forth.

3. The arrangement of frame A, constructed as described, calk-die C, jaws G, arm L, and actuating devices K J H and O M N, as and for the purpose set forth.

117,509, antedated July 26, 1871.—Folding Chair.—Henry E. Braunfeld, Philadelphia, Pa.

Claim.—1. The supplemental legs D, in combination with the folding seat C and the legs B of the chair, substantially as described, for the purpose specified.

2. The folding chair, constructed, as described, of the back A, legs B, adjustable seat C and its supplemental legs D, the extension G and its adjustable legs H, and the hinged and pivoted legs and arms E F, as herein shown and described, for the purpose specified.

117,510. — Powder-Box. — Benjamin F. Brown, Boston, Mass.

Claim.—As a new article of manufacture, a package or case for bluing-powder, &c., constructed of a can or box, A, and head-plate C, adapted to fit over box A, when said head-plate C is made of rigid material and has perforations *a* closed by paper sheet *b*, all as herein described, for the purpose specified.

117,511.—Music-Leaf Turner. — Arthur W. Bush and Marshall McComb, St. Cloud, Minn.

Claim.—1. The arms C, cords G, springs I, frame L, lever M, and bell-crank P, arranged to operate substantially as and for the purposes described.

2. The slide-plate T, substantially as and for the purposes described.

3. The slots *y*, in combination with the frame L, substantially as described.

4. The detachable plate D and slide E, substantially as and for the purposes described.

117,512.—Marbleized Oil-Cloth.—Thomas Carson, Brooklyn, N. Y.

Claim.—As an improved article of manufacture, oil-cloths for tables, &c., having marbleized surfaces applied, substantially as specified.

117,513. — Universal Slide-Rest for Lathes.—Ernest George Chormann, Philadelphia, Pa.

Claim.—A rest for lathes and similar machines, formed of the base A, composed of the parallel connected plates B B, the screws C, the bearing D, the shoulder E, the stationary disk F, the movable disk F', the shear G, the screw H, the slide proper I, the screw K, the feed-screw L, and the slide M, consisting of the angle-plates 1 2, the screw N, the movable cap O, the guide P, the bearing Q, the set-screw R, the slot S, the temple-plate T, the semicircular slots U U', the adjusting-screw V, the adjustable screw W, the temple or tool-holder X, and the tool Y, or their equivalents, arranged, constructed, and operating in the manner and for the purposes substantially as described.

117,514, antedated July 21, 1871.—Harvester.—Charles Clapp, Trumansburg, N. Y., assignor to Erastus C. Gregg and Chauncey P. Gregg, same place.

Claim.—The brace-chain O, attached to the frame or tubular projection F and to the pole T, and supporting the flange E of the sleeve D by means of the loop *p*, substantially as and for the purpose herein specified.

117,515, antedated July 29, 1871.—Composition Sad-Iron Holder.—William Baily Coates, Philadelphia, Pa.

Claim.—1. The Manila paper *e* or its equivalent, put through the fire-proofing preparation, as described, for the construction of an iron-holder.

2. The hickory-strips B or their equivalent, with holes near the ends and one in the middle, as described, put through the fire-proofing preparation, as described, for the purpose of covering, in whole or in part, the under side of an iron-holder.

3. The sad-iron-holder body A, as described, the hickory-strips B, as described, or their equivalent, put through the fire-proofing preparation, as described, in combination.

117,516.—Horse-Power.—John F. Collins, Lodi, Miss.

Claim.—1. A horse-power wheel, having its levers relatively arranged, substantially as described.

2. The wheel described, with its levers, stanchions, and brace-rods arranged as described, for the purpose set forth.

117,517.—Nut-Lock. — James M. Connel, Newark, assignor to himself and William Sturgeon, Delaware county, Ohio.

Claim.—1. The washer-plate E perforated at *h* for the passage of the bolt, lipped at *e* so as to be turned up or against the nut, and slitted as at *g* to prepare it for being readily depressed, and made to form a split tenon for entering a longitudinal groove in the fish-bar, substantially as shown and described.

2. The combination of the fish-bar B, longitudinal V-shaped groove *b* of the fish-bar, perforated washer-plate E and *h*, split tenon at *g* of the washer-plate, which enters the groove *b*, and the turned-over lip e^1, nut G, and screw-bolt C, all in the manner substantially as described.

3. The within-described nut and bolt-fastenings *c e E h g e*, in combination with the pair of longitudinally-grooved fish-bars B *b* B *b*, as and for the purpose set forth.

4. The washer-plate E, with lips *e*, splits *g*, and legs e^2, substantially as described.

117,518.—Battledoor. — Mickail Cregen, Chicago, Ill., assignor to himself and Andrew Damedion, same place.

Claim.—The band or hoop C, provided with a bent-wire handle, E C F, in combination with the frame A and leather D, as described and shown.

117,519.—Steam-Generator.—Edwin Day, Rockford, Ill.

Claim.—1. The generator described, consisting of the top plate *a*, bottom plate *b*, inner shell *c*, and outer shell D, the parts being constructed substantially as described.

2. The outer shell D with its flanges *d'*, in combination with the top and bottom plates with flanges a' b^1, as described.

3. The combination of the bottom plate, having its depressed chamber b^2, with the tube f^4, as described.

117,520.—SIZING FOR WINDOW-SHADES.—William Devine, Philadelphia, Pa.

Claim.—The introduction of alum as one of the component parts of the sizing to be applied to window-shades, which causes the sizing to set and congeal readily and properly at the highest natural temperature or in a damp atmosphere, and also when dried by artificial heat, whereby the manufacture of window-shades can be carried on at all times of the year and in all temperatures.

117,521. — FEED-CUTTER.—Carles R. Donner, Sonora, Cal.

Claim.—1. The rock-shaft *f*, with its arms *g g'* and curved springs *j*, in combination with the bar *l* and adjustable clamping-bar *m*, substantially as and for the purpose above described.

2. The wheels 5, secured to the front legs by a crank-axle, and connected with the pivoted rear legs 1, at some point above the bolt 2, by a connecting-rod 4, substantially as and for the purpose above described.

117,522.—WATER-WHEEL.—Frank C. Doran and Benjamin F. Sortman, Knightstown, Ind.

Claim.—1. The water-wheel B, consisting of the parts B, C, C^1, and C^2, all being constructed and arranged substantially as and for the purpose set forth.

2. The combination of the gates or valves A^1 and E^2, they being arranged with reference to each other and to the wheel, substantially as and for the purpose set forth.

3. The combination and arrangement of the trunk or chute A, the wheel B, and the guide D, substantially as and for the purpose set forth.

117,523.—SHUTTLE DROP-BOX MECHANISM.—John Dyson, Philadelphia, Pa.

Claim.—1. The series of levers B B' B'' B''', operated at one end by the eccentric C, and connected at the other end to the attachments of the box-motion, in combination with the rod D' and the drop-box chain A, the parts being constructed and arranged to operate in the manner and for the purpose set forth.

2. The rod D', as arranged with the auxiliary levers B' B''', in combination with the principal levers B B'', the box chain A, and the attachments of the box-motion, the parts being constructed and operating substantially in the manner and for the purpose set forth.

3. The pieces E F and set-screws *a a*, in combination with the levers B B' B'' B''' and with the box-chain A, rod D', and the attachments of the box-motion, substantially as and for the purpose described.

117,524. —CULTIVATOR.—Daniel Edelman, Madison, Ind.

Claim.—The interchangeable side hoes *c c*, provided with teats or projections, as described, for adjusting the angle of their position, and with reversible blades or shears, when arranged in combination with the harrow-teeth *a a' a''*, in the manner and for the purpose herein set forth.

117,525. — PRUNING-SHEARS.—Charles H. Eggleston, Marshall, Mich.

Claim.—The pruning-shears, composed of the two pivoted disks A and B, indented, recessed, or cut away to form the cutting-blades *b b'*, and resisting guide-sections *c* and *c*, substantially as and for the purpose set forth.

117,526. — SEWING-MACHINE.—John V. D. Eldredge, Detroit, Mich.

Claim.—1. The combination of the presser-bar D provided with globular head I, and the hollow thumb-screw J provided with a corresponding socket, when each part is constructed and arranged substantially as described and shown, for the purpose of permitting movement of the presser-foot away from the needle.

2. The combination of the hinged presser-bar D provided with inclined surface *e*, and the needle-bar C provided with hook N, when each part is constructed, arranged, and operated as described and shown, for the purpose of bringing the presser-foot back to the needle.

3. The combination of the presser-bar D provided with foot G and inclined face *e*, the needle-bar C and its hook N, and the feed F, when each part is constructed and arranged as described and shown, for the purpose of moving the material being sewn to said presser-foot, as set forth.

117,527.—MACHINE FOR HEADING BOLTS.—Philip Eley, New York, N. Y., assignor of one-half his right to Thomas W. Bartholomew, same place.

Claim.—The combination of the two dies A A, plunger B, griping-dies *g g'*, and mechanism for forcing the dies A forward against the blank twice alternately with the movement of the plunger, and combination being substantially as described and shown.

117,528.—CARPET-STRETCHER.—Samuel Elliott, Sonora, Cal.

Claim.—An improved carpet-stretcher, consisting of the bar A, box B, shaft C, crank D, ratchet-wheel E, spring-pawl F G H, rope I, guide-pulleys J K M, sliding toothed bar L N, and extension bar O, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

117,529.—DEVICE FOR HANGING PICTURES, MIRRORS, &c.—Albert A. Fielding, Boston, Mass.

Claim.—The combination of the rod B with the grooved sockets A A and the cord D, as and for the purpose specified.

117,530. — GLOVE-FASTENER. — Monroe B. Foote, Northampton, Mass.

Claim.—A fastening for gloves and other articles, consisting of the disk C and studs E, said disk having the eccentric slots F arranged as described, and the studs being attached to the glove or other article, all substantially as specified.

117,531. — GRAIN-SPOUT.—John O. Frost, Candor, N. Y.

Claim.—In combination with a grain-spout, the sliding sleeve B, the eccentric *c* or its equivalent, and collar F, substantially as and for the purpose described.

117,532.—HEATING-STOVE AND FURNACE.—Stephen J. Gold, Cornwall, Conn.

Claim.—1. The combination of the open side flues or pockets A, constructed substantially as described, with the openings *f f* in the base-plate, substantially as hereinbefore set forth.

2. In combination with the open side flues or pockets A and the openings *f f* in the base-plate, the arrangement of the fire-pot within the combustion-chamber, substantially as hereinbefore set forth.

3. The combination of the open side flues or pockets A, the openings *f f*, and the plate J, substantially as hereinbefore set forth.

117,533.—LOOM.—Robert Burns Goodyear, Wilmington, Del.

Claim.—The shuttle-boxes, when constructed in a series of two or more, in combination with the single picker *d* and the picker-spindles *e* and *f*, which have a free motion in their bearings, all to prevent breakage of the shuttle-boxes when the picker is left accidentally in their way, substantially as set forth.

117,534.—COAL-HOISTER AND CONVEYER.—Joseph Green, New York, N. Y., assignor to himself and George Stancliff, same place.

Claim.—1. The combination of the spear-head *s*, funnel-plate *t u*, slotted movable plate *v* having pin *x*, springs *y*, pivoted hook *w*, weighted lever G, lever H, and strap *z*, all constructed and arranged as and for the purpose described.

2. The hook *w* connected with the weighted lever G and operating so as to draw and hold the plate *v* back, as set forth.

3. The bolt s^2 having leg s^3, combined with lever I having lip s^4 to unlock the plate *v* at the time specified.

4. The buckle swiveled to the strap *h*, and provided with the locking-sleeve *i*, to be dumped in either direction, as specified.

117,535.—ROLLING-STOCK OF RAILWAYS.—John William Grover, Westminster, England.

Claim.—1. Railway carriages, each provided with two swiveling bogie-trucks, whereby they are supported at or near their ends only, such trucks being coupled by diagonal rods or chains, and having appliances independently of the carriage-framing above for closely and rigidly connecting them to the contiguous truck of the next carriage, in such manner as practically to form one single truck, substantially as and for the purposes set forth.

2. Bogie-trucks, arranged as set forth in the first claim, with a central close coupling, in combination with lateral buffers, all arranged on the bogie-trucks, substantially as and for the purposes set forth.

117,536.—BARREL-HEAD.—Alexander Harvey, Steubenville, Ohio.

Claim.—A barrel-head, provided with sectional metallic circles, when constructed in the manner and for the purpose substantially as herein set forth.

117,537.—MEDICAL COMPOUND FOR KIDNEY DISEASES.—Robert Hawkins and Albert Addison Hill, Beallsville, Pa.

Claim.—The above-described medical compound, substantially as set forth.

117,538.—MITER-BOX.—George E. Hedges, Ashland, Neb.

Claim.—1. The saw-back H, having arms I J from which the saw is suspended between its guides, as and for the purpose specified.

2. A saw sliding with its guides G G, when suspended by springs, as and for the purpose specified.

117,539.—BEE-HIVE.—William M. Henry, Leo, Ind.

Claim.—The arrangement of the frames B, or dropping down the upper rail of each alternate frame, substantially as and for the purposes shown and described.

117,540, antedated July 18, 1871.—MORTAR-MACHINE.—Samuel H. Hinsdell, Camillus, N. Y.

Claim.—1. The mortar-mill, composed of the screen S, conveyer D, cylindrical box B, and cylinder C, constructed, arranged, and operating as described, and provided with feeding, connecting, and discharging devices, as set forth.

2. The process of making mortar by machinery, substantially in the manner above set forth.

117,541.—HORSE HAY-FORK.—Jacob Huy, Bakerstown, Pa.

Claim.—1. The combination of tube A, rod C, springs L, and shouldered prongs B b', when arranged for joint operation, substantially as specified.

2. An improved hay-fork, consisting of the pointed tube A, pivoted prongs B b', rod C, loop or ring D, pivoted lock and trip-arms G H, spring-catch J K, and springs L, said parts being combined and operating in connection with each other, substantially as herein shown and described.

117,542. — EARTH-BORING AUGER. — William Wheeten Jilz, Hamilton, Mo.

Claim.—A semicircular auger, flattened at B to admit air, combined with bit C having the horizontal lip D to support the core of earth, as and for the purpose specified.

117,543. — CARPET-BEATING MACHINE.—Thomas Jordan, Brooklyn, and Waldo H. Jordan, New York, N. Y.

Claim.—Arranging the sections of rope *e e e e* so that the several ends thereof will be secured to the center of the short sections of chains 1 2 3 4 $4'$, in combination with the separate parts A A and B B, rollers R R', and head-ropes *r r*, secured with grommets, for the ostensible purpose substantially as above set forth and shown in the drawing.

117,544.—OIL-CAN.—Michael S. Kavanagh, Detroit, Mich.

Claim.—The combination of the can A, spout B, seat C, valve D, rod E, tube F, spring H, valve J, and bell-crank K, when the several parts are constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

117,545.—GRAIN-SEPARATOR.—Ebenezer L. Kelly, Reading, Mich.

Claim.—The improved construction and arrangement of the head H, fingers G, slide E, rocking bar I, rods R, K, O, and L, shoe D, bell-crank M, crank N, and saddle P provided with lateral bars *d*, substantially as described and shown, for the purposes set forth.

117,546.—COMBINED RUBBER AND COPPER-WIRE JOINT FOR PIPE-COUPLINGS.—Frederick Kibler, Baltimore, Md.

Claim.—The rubber plate D, whether single or double, and the copper wire E, arranged in connection with each other to form a joint, substantially as herein shown and described, and for the purpose set forth.

117,547.—CULTIVATOR.—Henry P. Kynett, Lisbon, Iowa.

Claim.—1. In a cultivator, the devices for attaching the front of the beams to the frame, consisting of plates A, with hinges B, screw-bolt *c*, and support swivel-standard B, substantially as described.

2. The devices for raising and lowering the cultivators and allowing them to have the required lateral movements, consisting of the bar D, lever F *e*, and catch *h*, all constructed and arranged substantially as described.

117,548, antedated July 18, 1871.—GOVERNOR FOR STEAM-ENGINES. — Clark M. Langley, Lowell, Mass.

Claim.—The combination and arrangement of the rods M and *h* with the wheels *f* and *g*, substantially as herein set forth.

117,549.—APPARATUS FOR DISTILLING TURPENTINE.—Archibald K. Lee, Galveston, Tex.

Claim.—1. The still H, divided into the compartments, as stated, and the pipe *i*, so combined and arranged that the latter shall act both in the vaporizing-chamber *g* and the bleaching and purifying-chamber D, substantially as described.

2. The receiver and charger A and still H, each constructed as stated, and the pipes *i* and *j*, the

same combined and arranged so as to operate substantially as described.

2. The receiver A, still H, and vessel h, each constructed as stated, and so connected with each other and the condenser by pipes *j i* as to operate substantially as described.

117,550.—TREMOLO FOR ORGANS AND MELODEONS.—John R. Lomas, New Haven, Conn., assignor to B. Shoninger, same place.

Claim.—The tremolo-wings C D, connected with the opposite cranks of the wind-wheel shaft so that they balance each other, substantially as herein shown and described.

117,551. — BRICK-MACHINE. — William H. Machen and Henry P. L. Machen, Jr., Toledo, Ohio.

Claim.—1. In rotary brick-machines, the levers D h h', spring-pawl m'', in combination with the wheels J, ratchet-wheel *j*, axle A', and hollow cylinder B', when the parts are constructed, arranged, and operated substantially in the manner and for the purposes set forth.

2. In combination with the foregoing-named parts, the arms s' and press-bar t', when arranged to operate substantially as and for the purposes herein set forth.

117,552. — BREECH-LOADING FIRE-ARM.—Joseph Manton, Montreal, Canada.

Claim.—1. In combination with cock B and recessed breech-block C, the lever H and tumbler-cam F, arranged as described, between them, so that the descent of the breech-block raises the hammer, in the manner specified.

2. The arrangement of the breech-block, lever H, cam F, and hammer, whereby the hammer, being operated by them, is yet capable of working independently of the breech-block for putting it at half-cock, or full-cock, or falling, at option, and whereby said breech-block may be worked independently of the hammer when cocked, all substantially as specified.

3. The combination, with the frame, of the lever-guard D, constructed as described, whereby the mortise through the frame is closed and all dirt excluded, substantially as set forth.

117,553. — RAILWAY-CAR SEAT.—Mark M. Martin, Cochran, Ind.

Claim.—1. The combination, substantially as described, of the base A, seat B, pivoted body C *c*, bars E *e*, spring-bolts F F, and operating devices *f* h i J or their equivalents, for the purpose set forth.

2. The combination of the rails M, beam N *n*, casters O *o* P, springs R, bolt S *s*, slotted plate T *t t'*, lever U, cam *u*, rack Q, and pins *n' n''*, for the object stated.

117,554. — WASHING-MACHINE. — Joseph Matthias, New York, N. Y.

Claim.—A metallic border, provided with bearings B¹ and B², crank C, and faucet *f*, constructed and arranged substantially as and for the purpose set forth.

117,555.—CHIMNEY.—Samuel M. McCord, Springfield, Ohio.

Claim.—The combination of the piping B with a chimney-flue A, ventilator C, and air-ducts *a a*, in the manner and for the purpose herein set forth.

117,556.—SPINDLE FOR LOOM-SHUTTLES.—Albert Morton, Salmon Falls, N. H.

Claim.—The flat lever B pivoted at C in a long slot, A, of the spindle, and having one arm, E, heavier than the other, D, when applied as and for the purpose specified.

117,557. — ATTACHMENT FOR SEWING-MACHINES. — Herman Moschcowitz, New York, N. Y.

Claim.—A sewing-machine attachment, formed and shaped as shown, with the opening or entrance upon the side, having a solid or closed channel, D, as shown, in combination with the lip or lips *c*, for the purpose set forth.

117,558, antedated July 21, 1871.—BEARING AND PACKING.—Eliza D. Murfey, New York, N. Y.

Claim.—A material for bearings and packings, consisting of animal skin, retaining the fleece or hair, and impregnated with plumbago or its equivalent.

117,559.—TOY.—Samuel Patterson, Newark, N. J.

Claim.—1. An improved toy, consisting of the uprights A B, inclined grooved boards D *d'*, grooved cap F *f'*, and grooved and hinged receiving-block G *g'*, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

2. The combination of one or more spirally-grooved conical pieces, I *i'*, with the grooved cap F *f'*, inclined grooved board D *d'*, uprights A B, and grooved and hinged receiving-block G *g'*, substantially as herein shown and described, and for the purpose set forth.

117,560.—DEVICE FOR POINTING HORSE-SHOE-NAILS.—Charles H. Perkins, Providence, R. I., assignor to The American Horse-Nail Company, same place.

Claim.—In combination with the die-plates and the angular punch, mechanism to reciprocate said punch rectilinearly, mechanism to adjust the gauge, and a blast-tube or blow-pipe, substantially as and for the purpose specified.

117,561.—HAY-TEDDER. — John G. Perry, Kingston, R. I.

Claim.—1. The combination of the fork-stocks *c* and jointed connecting-pieces *l l* with two parallel crank-shafts, *v y*, substantially as described, and for the purpose set forth.

2. The combination of the double-toothed rings with the pinions *r r'*, crank-shafts *v y*, and arms *n* on the axle, substantially as and for the purpose set forth.

117,562.—HAY-TEDDER. — John G. Perry, Kingston, R. I.

Claim.—1. The screw or threaded pin *c* for holding the tines, substantially as herein set forth.

2. The combination of the band or ring *a* with the stock A, tine *c*, and holding-pin *c*, with or without a screw-thread, as and for the purpose stated.

117,563.—HOSE-CLASP.—Thomas J. Pettit, Brooklyn, N. Y., assignor to himself and Thomas H. Combs, same place.

Claim.—The combination of two frames, A, and a circular spring, B, substantially as and for the purpose hereinbefore set forth.

117,564. — BUTTON. — George W. Phillips, Fresh Pond, N. Y.

Claim.—The front piece A having a recess, B, gradually enlarged toward the bottom, the shank D having diverging prongs upon its head, and the flanged nut E, all combined, constructed, and arranged, as described, to form an improved detachable button.

117,565. — COMBINED CHAIR AND BED.—Jonathan E. Pitcher, Louisville, Ky.

Claim.—The combination of the folding bed, susceptible of being converted into a chair by folding up from the ends, as herein described, consisting of the chair-frame A, back fold B, front fold or chair-seat C, the arms and back E, the cushion D, upholstery F, and hinges G G, when arranged, constructed, and operated substantially as and for the purpose herein before set forth.

117,566.—GRIPER FOR PRINTING-PRESSES.—Thomas J. Plunket, New York, N. Y., assignor to Victor E. Mauger, same place.

Claim.—The adjustable gripers, applied to the printing-cylinder, substantially as herein shown and described.

117,567, antedated July 27, 1871.—BORING-MACHINE.—William Penn Powers, North La Crosse, Wis.

Claim.—1. The traversing chain or belt F, for the clearing of a hollow auger.

2. The stationary tube U, in combination with the chain F and cutting device B, substantially as and for the purposes described.

3. The forked clamping and turning stand, operating as and for the purpose, substantially as described, in combination with a boring-auger.

117,568.—DISH-WASHING MACHINE.—Harriet C. Robertson, East Saginaw, Mich.

Claim.—The box or vessel A, washing-wheel B, racks F, and trays H, constructed and arranged substantially as and for the purposes described.

117,569.—STEAM-GENERATOR. — Henry M. Rulon and Jesse F. Rulon, Monmouth, Ill., assignors to themselves and William C. Clark, same place.

Claim.—The cylinder A, spiral B, and casing D when constructed substantially as described, and arranged to operate with the pipes C, I, and J, and with the tank H, substantially as described and for the purpose set forth.

117,570. — VALVE-GEAR OF PUMPING-ENGINES.—Horace See, Pottsville, Pa.

Claim.—1. The combination of the tappet-arm, rock-shaft, and valve-rod, substantially as and for the purpose hereinbefore set forth.

2. The combination of the tappet-arm, quadrant, and dash-pot arm, substantially as set forth.

3. The combination of the quadrant and dash-pot arm, substantially as set forth.

117,571.—BLOW-OFF PIPE FOR STEAM-BOILERS. — Nehemiah Sherman, Cincinnati, Ohio.

Claim.—The arrangement of blow-off pipes for steam-boilers, herein made known.

117,572.—REFRIGERATING AND VENTILATING APPARATUS. — Benjamin F. Smith, New Orleans, La., assignor of one-half his right to G. L. Langhland, same place.

Claim.—The receptacle A with stop-cock D, when placed within the vessel B which is provided with a siphon, C, in combination with the diaphragm F having openings *g g'*, when said diaphragm is so placed as to leave an air-space between it and the receptacle A, as and for the purposes described.

117,573. — JAR MOVEMENT FOR ROCK-DRILLS.—Hugo Sontag, Osnabrück, Germany.

Claim.—1. The drill-shank A, sleeve B, and slotted tubular shell C, combined to operate in the manner described.

2. A drill-shell, C, having elastic prongs, combined with a sliding ring, *c*, which rests upon a shoulder, *d*, to lock the shank and shell together, and is moved up therefrom to allow them to be separated.

3. The wings *a a* on a sliding and swiveled sleeve, B, combined with the incline and recess on upper end of slotted shell, and the projection *h* to lock the shank and shell, as described.

4. The sliding plate E and rods having inclined cams *i j*, combined with the ears *b* on the wings of swiveled sleeve B to form a tripping device for unlocking the shank and shell, as described.

117,574.—PLOW. — Patrick Henry Starke, Richmond, Va.

Claim.—The plow-standard A, having projection *a'* overlapping the top of the beam, and the arc-slotted projection F, combined with a beam, E, having the studs G H, to enable the said beam to be turned on a center at G, and thereby regulate the depth of the plow.

117,575.—TOOL FOR ROUNDING LEATHER.—Le Roy A. Sweatt, San Francisco, Cal.

Claim.—As a new article of manufacture, the tool described, consisting of the handle A, curving rod B terminating in the semi-cylinder C, and cutting-blade, all constructed and arranged as described, for the purpose set forth.

117,576, antedated July 21, 1871.—MANUFACTURE OF IRON.—Francis Daniel Taylor, Brady's Bend township, Pa.

Claim.—The combination, with the belly-pipe of the tuyere of a blast-furnace, of a supply-pipe opening into the belly-pipe, and of such height as that the pressure of the column of oxide shall prevent the blowing out of the contents of the pipe otherwise than through the tuyere into the furnace, substantially as described.

117,577. — CAN FOR NITRO-GLYCERINE.—Jacob Taylor, Petroleum Centre, Pa.

Claim.—The nitro-glycerine can, balanced by two rows of elastic straps or springs within the case or shell B, substantially as herein shown and described.

117,578. — FLUTING-MACHINE. — Charles Wesley Thompson, Chicago, Ill.

Claim.—1. The open-ribbed and lantern-gear-shaped roller B, to work upon a corrugated bed-plate A, substantially as and for the purpose described.

2. The combination of the roller B, when constructed as described, with the corrugated bed-plate A, substantially as and for the purpose described

3. The forked frame D, provided with the hook F and projection G, in combination with the roller B provided with its pivots C, substantially as and for the purpose described.

117,579.—TELLURIAN.—Joseph Troll, Belleville, Ill.

Claim.—1. The earth-globe T, arranged to rotate upon the axis-rod, jointed so as to incline as shown in Fig. 7, for the purpose specified.

2. The improved tellurian herein described, composed of the several parts, all constructed, combined, and arranged as shown and described.

3. The pulley F and collar *z*, in combination with the shaft *e*, lunar globe L, wheel H, and intermediate connecting parts, as specified.

117,580.—MOVEMENT-CURE APPARATUS.—David Wark, Montreal, Canada.

Claim.—1. The combination, in the movement apparatus, of seat *a* with arm or leg-receptacle *c*, pivoted at its upper end, to which motion is given by the disk *f* and hinged arm *e*, substantially in the manner and for the purpose described.

2. The combination, in the frictional movement-cure apparatus, of frame *g*, disk *f*, shaft f^1, connecting-rod *e*, crank-pin e^1, pin f^2, lever f^3, rock-shaft *h*, arms h^1, extension h^2, rubbers h^3, and elastic band h^4, as applied horizontally or vertically to the arm or leg.

117,581. — AXLE-LUBRICATOR. — Henry S. Weaver, Irwin Station, Pa.

Claim.—In axle-lubricators, the diaphragm C, concaved on top and centrally perforated, when combined as described with the oil-tube B that rises above the oil in reservoir A, so that at each revolution of the wheel a small portion of oil will be thrown upon the concavity of the diaphragm and transferred by gravity through the tube to the axle.

117,582.—TRIMMING-JACK FOR SHOES AND BOOTS.—James Webb, Jr., Portland, Me.

Claim.—1. The combination of the last L, standards G and H, spindles I and K, and the plate A, as herein set forth, for the purpose described.

2. The arrangement of the last L, the standards G and H with their spindles I and K, the plates A and B, thumb-screws E and F, and hinge D, as described, for the purposes set forth.

117,583.—HAIR-DYE AND COSMETIC.—John J. Wild, Bay City, Mich.

Claim.—1. The combination of fatty substances with nitrate of silver and ammonia as a hair-dye and cosmetic.

2. A hair-dye and cosmetic, composed of the ingredients and substantially in the proportion as set forth.

117,584.—MACHINE FOR POINTING HORSE-SHOE-NAILS.—Harry A. Wills, Vergennes, Vt.

Claim.—1. The notched intermitting rotating disk A, guards D and E, and the hammer-dies, arranged and operating substantially in the manner described.

2. The notched intermittingly-rotating disks A and N, guards D and E, the hammer-dies, stationary disk O, anvil P, die T, and punches Q and S, arranged and operating substantially in the manner specified.

117,585. — BASE-BURNING FIRE-PLACE HEATER.—William E. Wood, Baltimore, Md.

Claim.—1. The rotary or oscillatory top plate F, perforated or slotted on one side of its diameter, as described, and pivoted to the heater so as to be readily operated in relation to the fire-board *x y*, substantially as and for the purposes hereinbefore set forth and described.

2. The arrangement of appropriate water-evaporating vessels E E, in positions, respectively, on the top of the horizontal side-flues B B and between and in contact with the sides of the ash-pit C and the down-draught flues D D, substantially as and for the purpose hereinbefore set forth and described.

117,586. — MOLDING-MACHINE.—James A. Woodbury, Boston, Mass.

Claim.—The rotary cutter-heads B D E F G, frame A, and bed X, and the adjusting devices specified, or their equivalents, when arranged and operating in the manner and for the purpose substantially as shown and described.

117,587. — ORGAN.—George W. Woodruff, Hartford, Conn., assignor to John Farris, same place.

Claim.—1. The connecting-cords 1′ 2′, arranged as herein described, for communicating motion from the key-board to the valves.

2. The combination of one set of valves, *c c* sharp, &c., with two sets of keys, C C sharp, &c., and C′ C′ sharp, &c., on the same key-board by means of the cords 1′ 2′, &c., and the levers 1 1, &c., substantially as herein described.

117,588.—RIPPING-TOOL.—Justus O. Woods, New York, N. Y.

Claim.—1. The combination of the cutter *a*, guide *b*, and guard *c*, so arranged that the line of cutting may be kept on the cutter and out of the eye or apex between the cutter and guard *c*, all substantially as specified.

2. The eye *d*, arranged with the cutter and guard *c*, substantially as specified.

3. The extension-guide *b*, arranged with the cutter, substantially as specified.

4. The above-described ripping instrument, provided with the wrench *f*, hook or point *g*, and the niche *h*, all substantially as specified.

5. The ripping-tool, constructed and operating as above described, as a new article of manufacture.

117,589.—MACHINE FOR SLICING CANDY, &c. — John Price Anderson, Philadelphia, Pa.

Claim.—1. The combination of a cross-head, J, arranged to reciprocate in guides, with a knife attached to but arranged to slide on the said cross-head, and controlled by a stationary inclined plane, all substantially as set forth.

2. The combination of the cross-head J, knife K, and its projection *i*, guided in a recess of the cross-head, and the spring *q* or its equivalent.

3. The combination of the cross-head and knife, arranged to operate in the manner described, with the sliding bed M, and the devices herein described, or their equivalents, for causing the cross-head to feed the bed forward.

117,590. — PRUNING-SHEARS. — George W. Ansley, Marengo township, assignor to himself and Samuel P. Wormley, Marshall, Mich.

Claim.—The jaw-hook B, constructed with the retaining-spur *e*, constituting a continuation of the cutting-edge of the hook, as shown, in combination with the cutting-jaw A pivoted at *i*, in line with said spur *e*, whereby the latter becomes a bearing-guide for the blade A, and also enables said blade, by means of a sharpened edge, *n*, to prune by the opening movement of the handles, as herein described.

117,591.—PEAT-WRINGER.—Aimé Nicholas Napoleon Aubin, Portland, Conn., assignor to Aubin Peat-Fuel and Machine Company of Connecticut, assignor to American Peat-Fuel Company of New York.

Claim.—An apparatus to separate from freshly-dug peat a portion of its water, and which I call a peat-wringer, consisting in a box or cylinder, A, with a hopper, B, piston C, compressors F, and strainers G, the whole constructed and operating substantially as set forth.

117,592. — FLAT-IRON. — Amos Bachelder, Pelham, N. H.

Claim.—1. The two spring-bolts D D and their operative bar E, arranged together and with the handle and its mortises, as set forth.

2. The movable body A and its tenons *a a*, in combination with the mortised handle B, as described, and the spring-bolts D D and their operative bar E, arranged with the handle A, as shown.

3. The mortised wooden handle B, the spring-bolts D D, the operative bar E, the guard C, and the tenoned body A, all constructed and arranged substantially in manner and to operate as explained.

117,593. — HAND-STAMP.—Everett H. Barney, Springfield, Mass.

Claim.—1. The arrangement, in a hand-stamp, of a number of carriers, C, each containing a series of punches, *a*, guide-plates *d*, and counter-punches or dies *e*, the punches to be acted on by a plunger which extends transversely across said carriers, substantially as herein shown and described.

2. The end punches *b*, in combination with the carriers C, punches *a*, and plungers D, all constructed and operating substantially as described.

3. The carrier-bars, provided with gauge-racks G and scales F, as described, in combination with the punches *a*, guides *d*, and plunger D, substantially as set forth.

4. The side punches *b*, with their dies *t* and clearers *t′*, when said dies and clearers are made in one piece, and the clearers *t′* form a stop for the plunger D, substantially as described.

5. The plates *e*, provided with chambers *m*, each having an opening, *n*, at the bottom, the same operating to free the machine from the minute pieces punched out, substantially as described.

117,594.—DEVICE FOR RESETTING OLD AUGER-BITS. — Charles W. Beals, Greig, N. Y.

Claim.—For the purpose of renewing auger-bits, in the manner herein described, the straight three-cornered punch with a perfectly smooth face, as herein described and substantially set forth.

117,595, antedated July 28, 1871.—HARROW.—John Benson, Belle Plains, Iowa.

Claim.—The harrow-frame herein described, having beams A, A^1, and A^2, bars B and B′, braces *c*, draw-bar C, cross-bars Y, and nuts and screw-threads Z, constructed and arranged substantially as and for the purpose specified.

117,596. — SEWING-MACHINE FOR BOOTS AND SHOES. — Lyman R. Blake, Fort Wayne, Ind.

Claim.—1. The reciprocating bender and griper, having a forward motion, governed partially by a spring, in combination with an unyielding hook-gauge.

2. The bender and hook-gauge, moving in the arc of a circle in the vertical plane of the needle and seam or line of feed.

3. The frame p^2, rocking on a shaft or pivotal axis right-angular to the vertical plane of the feed.

4. In combination with a hook-gauge and bender, the channel-foot, made adjustable as to its extent of positive movement relatively to the hook-gauge shank, between which and said foot the work is held for the passage of the needle.

5. A channel-foot, b^1, and hook-gauge *m*, moving together vertically, substantially as described.

117,597.—BEARING FOR VERTICAL SHAFTS. Martin Briggs, Rochester, N. Y.

Claim.—The capped supported oil-box C, formed with the hub *d* and bottom *f*, and inclosing the rollers G G, journaled between the rings *h i*, all constructed and arranged as described, so that the said step will be relieved from the weight of the shaft, substantially as set forth.

117,598, antedated July 20, 1871.—AUTOMATIC SIGNALING APPARATUS FOR RAILWAYS.—Daniel W. Brown and Charles A. Campbell, Woodbridge, N. J.

Claim.—The combination and arrangement of the obliquely-set crank or arm *c* or *c′* with its bumper *b* or *b′*, the vertical shaft *d* or *d′*, the upper crank or arm *f* or *f′*, the slotted wire or rod *g* or *g′*, and the spring *h* or *h′*, relatively with the track and floor of the cars, as described, whereby the gong may be sounded or the flag waved by each car in the train in succession, substantially as specified.

117,599.—ADJUSTABLE SEAT FOR RAILWAY CARS.—Chauncey S. Buck and James Lovett, St. Louis, Mo.

Claim.—The combination of the reversible link or shackle E, seat-back F, arms H *i* i^2 i^3, and studs J K, arranged substantially as set forth.

117,600. — RAILWAY CATTLE-GUARD.—Charles Caton, Boyd's Mills, Ohio.

Claim.—The cattle-guard described, consisting of the frame A A′, beam B, bars *c c* resting in pairs in the sockets of beam B, and stay-bar *d*, all constructed and arranged specifically as and for the purpose set forth.

117,601.—FIRE AND WATER-PROOF ROOFING.—Charles W. Chaffee, Des Moines, Iowa.

Claim.—1. The roofing composition, prepared in the manner described, and of the materials and proportions specified.

2. As a new article of manufacture and commerce, the flexible artificial shingle or slate, as set forth.

117,602.—SEALING DIP-PIPE OF GAS APPARATUS.—Rufus B. Chapman, Waltham, Mass., assignor to John C. Chapman, same place.

Claim.—The within-described combined valve and dip-pipe, the valve being provided with one or more passages, *c*, through which the gas may pass without pressure from the retort to the hydraulic main when the valve is open, and a plug, D, having an aperture, *b*, which opens a communication between the retort and the hydraulic main through the dip-pipe C when the valve is closed, substantially as and for the purpose described.

117,603.—WASHING-MACHINE. — James M. Clark, Lancaster, assignor to Franklin L. Clark, Clarksville, Pa.

Claim.—1. The series of wheels M, as arranged on the one shaft L, and so constructed as to press down, or raise and let drop, the beaters A A, when required, at each revolution of the wheels, and when combined and operating with the beaters A and rollers V, as set forth.

2. The revolving flanged platform D, with its revolving tub, and combined with the upright shaft H and bevel-wheels J and K, when operated by the gearing G underneath the platform, as described.

3. The series of hinged catches R R, for locking one or more of the beaters A, when arranged and attached to the cross-tie *j* of the frame S, as set forth.

117,604.—HEMMER FOR SEWING-MACHINES. Asa F. Colby, Bath, Me.

Claim.—The hemmer attachment for sewing-machines, constructed substantially as herein described—that is to say, having the two slotted vertical plates A A′, the two horizontal plates I N, and the folding plate M, all constructed, arranged, and operating as herein set forth.

117,605.—METALLIC ROOFING. — Harry D. Cook, Normal, Ill.

Claim.—1. The shingle L provided with its overlapping flange and lugs, constructed and applied to the roof in the manner described.

2. The series of shingles provided with lugs and flanges, the lugs being perforated, as shown, and attached by the headless nails, all as set forth.

117,606.—SUPPLY AND WASTE-COCK.—William Samuel Cooper, Philadelphia, Pa., assignor to Cooper, Jones & Cadbury, same place.

Claim.—1. The combination, in a supply and waste-cock, of a rotating nut, E, having at the lower end an annular recess, *n*, and open rings *i i*, the waste-pipe *m* arranged as described, and a vertically-moving valve, *d*, between the stem of which and the casing is an annular passage through which, when the valve is closed, the water can flow directly from and through the casing around and above the valve, as specified.

2. The combination of the above and the loose ring or disk *n′* and the packing arranged between the same and the nut.

117,607. — CORN-SHELLER. — Harmon W. Cornell, Owego, N. Y.

Claim.—1. The combination of the spring-bar H,

the vertically-operating toothed cylinder C, and the beveled wheel B having shelling-ribs on its periphery as described, all constructed and arranged to operate substantially as set forth.

2. The within-described corn-sheller, consisting of the toothed cylinder C, ribbed and beveled wheel B, spring-bar H, driving-wheel A, pinions *e e*, bevel-gears *e g*, and shafts E F, all mounted upon a suitable frame, and arranged to operate substantially as and for the purposes herein set forth.

117,608.—PLOW.—Simon A. Cummins, Vienna, N. J.

Claim.—1. The arrangement of the slotted frame B, adjustable plows A A, adjustable colters D D, bars *c c*, guards M M, and bars *e e*, substantially as and for the purpose set forth.

2. The adjustable bars *c c* and curved guards M M, in combination with the slotted main frame B and plows A A, combined and operating substantially as set forth.

3. The tongue E, cross-bar F, and thill-irons *f*, in combination with the plows A A, frame B, and adjusting-bars K K, substantially as and for the purpose set forth.

4. The tongue E, cross-bar F, coupling *f*, and braces h h, in combination with the plows A A, main frame B, and adjustable bars K K, substantially as and for the purpose specified.

117,609.—MALLET.—John B. Davids, New York, N. Y.

Claim.—The rings or nuts D and shells or case C C, when made in two or more parts and applied to mallets, for the purpose as herein specified.

117,610.—GAS-RETORT. — Darius Davison, New York, N. Y.

Claim.—1. The elongated dome-shaped extension E of the return-pipe C at the rear end thereof, in open communication throughout the whole length of its base with the top of the retort A, substantially as described.

2. The horizontal opening for the passage of the gas and vapor from the dome-shaped extension E into the return-pipe C, essentially as specified.

3. In a horizontal gas-retort, the arrangement of the outlet-passage of the gas and vapor from the front half of the coal in the retort into the return-pipe C at or near the middle of the retort, substantially as described.

4. The combination of the dome-shaped extension E, the return-pipe C having a horizontal communication therewith, the retort A, and the stand-pipe D, when the whole is arranged substantially as herein described.

117,611.—COMBINED CIRCULAR AND ELLIPTICAL CUTTER.—William S. Deeds, Baltimore, Md., and John P. Bradway, Philadelphia, Pa.

Claim.—1. The combination of the adjustable standard F, tramway E, pivots K K′, with clamps J J′, oscillatory clamp-holder H, and guide G, substantially as described.

2. In combination with the subject-matter of the above, the shears C C, substantially as described.

3. The combined elliptical and circular cutting-machine, constructed substantially as described.

117,612.—QUILL FOR SILK.—Ira Dimock, Boston, assignor to The Nonotuck Silk Company, Northampton, Mass.

Claim.—The method herein described of putting up silk or other thread by winding it on a quill and then passing its loose or outer end through slits in its opposite ends of and on opposite sides of and directly across the quill, and longitudinally over the latter, substantially as specified.

117,613.—STEAM-GENERATOR.—Samuel W. Emery and Erasmus P. Doyen, Portland, Me.

Claim.—The arrangement of the boiler A, fire-box B, and U-shaped heating-tubes D extending below the surface of the fuel, substantially as specified.

117,614.—BRUSH FOR CLEANING TUMBLERS.—Adolph Fischer, New York, N. Y.

Claim.—1. The flanges *i*, of rubber or other suitable flexible and elastic material, in combination with the annular brush A, substantially as described.

2. The annular brush A, when made in two or more sections, substantially as and for the purpose set forth.

3. The central brush B, when made in sections and applied in combination with the annular brush A, substantially as described.

4. The extension arms *j* on the frame C, supporting the annular brush A, substantially as set forth.

117,615.—REAMER FOR OIL-WELLS.—William Forker, Rockland, Pa.

Claim.—1. The guide C, provided with pivoted arms *f f* having projections *g g* on their outer face, and made operative through the medium of the springs *i i*, as herein described.

2. In combination with the above, the case A, provided with the spiral grooves *e* for projections *g g* of the pivoted arms *f f*, and openings D D for the drilling-points *m m* of the drill B, as herein described, and for the purpose set forth.

117,616.—LOOM. — Jacob G. Frick, Pottsville, Pa.

Claim.—1. The plates D provided with apertures as shown, and adapted to retain the warp wires, substantially as and for the purpose set forth.

2. The combination, in a loom for weaving wire cloth, of a lathe and a reed having in it plates or dice in which are formed apertures adapted for the reception of square wires, said apertures being so arranged as to cause the wires to be held in such a position that one of the corners shall be upon the top thereof and one upon the bottom, substantially as and for the purpose set forth.

117,617.—TEA-KETTLE AND OTHER VESSELS.—John Gibson, Jr., Albany, N. Y.

Claim.—1. In tea-kettles, stove-pots, and other hollow-ware vessels, the "resting-face" *a*, or its equivalent, when made on the pit of such kettle or other vessel, substantially as and for the purpose set forth.

2. In tea-kettles, stove-pots, and other hollow-ware vessels, the "resting-face" *a′*, constructed substantially as shown, or equivalent projecting horns, points, or bearings, substantially as described, for the purpose set forth.

117,618.—OX-BOW PIN.—Ives Glover, Newtown, Conn.

Claim.—The segmental plate A having pivoted thereon the pin B, combined with the spring C, covering-plate D, and thumb-piece E, as and for the purpose specified.

117,619. — DASH-BOARD FOR VEHICLES.—Henry L. Godwin, Windsor, N. C.

Claim.—A dash-frame for carriages, consisting of the frame A, and the frame B made to fit therein whereby the body C is held in place and has its edge covered, substantially as described.

117,620.—COMPOUND FOR DYEING.—Frank Graupner, Evansville, Ind.

Claim.—1. The combination of the sulphate of copper, muriatic acid, and zinc, by the process and for the purpose substantially as specified.

2. The dyeing compound herein described, formed of the materials and in the proportions substantially as specified.

3. The process, herein described, of dyeing fabrics by the means substantially as specified.

117,621.—RAZOR-STROP.—William Martin Green, Gallatin, Tenn.

Claim.—A razor-strop, having a series of straps attached permanently at one end of the body A, and arranged to be attached separately at their opposite end to the adjustable block B, substantially as described, whereby either strap may be adjusted for use at will, as set forth.

117,622. — HEDGE-PLANTER. — Nathan L. Griffith, South Plymouth, Ohio.

Claim.—The plow G, in combination with plates H H, wedge I, beam A, and side beams J J, substantially as described, and for the purpose set forth.

117,623, antedated July 21, 1871.—SCYTHE-FASTENING. — Cornelius Hamler, Newton, N. J., assignor to Andrew Shiner, same place.

Claim.—The plate B having circular ratcheted projection C, the apertured plate D having ratcheted projection E, and the bolt G, combined, as described, with the sneath A and scythe E, for the purpose specified.

117,624. — ROOFING-BRACKET. — William Hancock, Gosport, Ind.

Claim.—The post D pivoted to the clamp B, and provided with the studs J and thumb-screw K, in combination with the bench G, thumb-screw I I′, and bed-piece A, substantially as specified.

117,625.—TRUNK.—Thomas Hanvey, Elma, assignor to The Hanvey Barrel Manufacturing Company, Rochester, N. Y.

Claim.—As a new article of manufacture, a cylindrical trunk, formed by bending two or more thin strips of wood around a mandrel so that the joints of each will break with each other, and then clinching the parts together by rivets, and providing the ends with heads of two or more thicknesses of wood, with the grain crossing each other, and then sawing across the whole to form the body and the cover of the trunk, and uniting them together by hinges, as and for the purpose herein shown and described.

117,626. — SUPPLYING WATER TO AIR-PUMPS. — John F. Haskins, Fitchburg, Mass.

Claim.—The process herein described of injecting water into the cylinders of air-pumps, by using a part of the air compressed on the up-stroke as a motive power to the injector, so that the supply of water will be in direct ratio to the pressure generated, substantially as described.

117,627.—APPARATUS FOR CRIMPING THE STIFFENINGS OF BOOTS AND SHOES.—Jesse W. Hatch, Rochester, N. Y.

Claim.—1. In an apparatus for crimping the stiffenings of boot and shoe-heels, the heel-form B made adjustable in position, and provided with the rubber or equivalent springs *d d* for producing the necessary elasticity, as herein described.

2. In combination with the heel-form B, the clamping-strap D, operated by the toggle-arms E F and cross-head G or equivalent, in the manner and for the purpose specified.

3. In combination with the heel-form B and clamping-strap D or its equivalent, the crimping-jaws I I, operating in the manner and for the purpose specified.

4. The arrangement of the heel-form B, clamping-strap D or its equivalent, jaws E E, and gauge-plate M, substantially as and for the purpose set forth.

5. The combination as a whole, consisting of the heel-form B, clamping-strap D, and crimping-jaws I I, operating conjointly in the manner and for the purpose specified.

117,628. — FLUID-METER. — Henry B. Hebert, New York, N. Y.

Claim.—The fluid-meter, consisting of the annular cylinder A, the tappet *g*, and the double concave pistons B, hung upon the circular wire C, and formed with sharpened edges and with exterior grooves *e*, as herein set forth and shown, for the purpose specified.

117,629. — CHURN. — Henry Hensel, Moon township, Pa.

Claim.—The arrangement of the pedestal B C, churns A A, dasher-staffs *l l*, walking-beam D, ball-weights J J J mounted on rods *h i*, and pivoted operating-handle *k*, the whole constructed and arranged as herein described, and for the purpose set forth.

117,630.—CLOTH-BEAM FOR LOOMS.—James P. Hillard, Fall River, Mass.

Claim.—The longitudinal slot or groove formed in the roller A, with the hinged tongue B, the whole being constructed and arranged to operate as herein shown and described.

117,631.—SECURING LIDS TO GAS-RETORTS.—Stephen Holman, London, England.

Claim.—1. The lids or covers of gas-retorts attached to the cross-bars, the whole being hinged to the mouth-pieces, substantially as hereinbefore described and illustrated by the drawing annexed.

2. The eccentric adjusting and hinge-pins *b* and *c*, in combination with the cross-bars B, substantially as and for the purpose hereinbefore described.

3. The mode of lifting the cross-bar B out of its catch by means of a cam or eccentric, *d*, on the hinge-pin *c*, acting upon an anti-friction roller or stud, *e*, carried upon the under side of the cross-bar, substantially as hereinbefore described and illustrated by my drawing.

117,632. — DESK AND BED COMBINED.—Fredrich Hopf, Chicago, Ill.

Claim.—In a combined desk and bed, the combination of the parts A A′, partition B, frame E, spiral spring *d*, bed or folding mattress G, cover H, and door J, all arranged to operate substantially as specified.

117,633.—SCHOOL-DESK.—A. Ogden Huffman, Springfield, Ohio.

Claim.—The school-desk herein described, having frame A, leaf C, arm D, slot E, pin *a*, and book-case G, constructed and arranged substantially as specified.

117,634.—PEAT-ELEVATOR.—Edwin James Hulbert and Aimé Nicholas Napoleon Aubin, Portland, Conn., assignors to The Aubin Peat-Fuel and Machine Company of Connecticut, assignor to American Peat-Fuel Company of New York.

Claim.—The instrument for elevating crude peat herein described, consisting of a series of propelling screw-blades, b^1 b^2, in combination with the reciprocating combs C D, the whole constructed and operating substantially as described.

117,635.—SLOP-HOPPER.—John G. Ils, San Francisco, Cal.

Claim.—The combination of the hinged strainer A, trap-chamber B, and pipe D, as herein recited, as and for the purpose set forth.

117,636. — WASHING-MACHINE. — Edmund Jennings, Sherman, N. Y.

Claim.—1. The combination and relative arrangement of the frame A, rollers B C C and their spring mechanism, cross-beam A′, stirrup-clamp E, wedge H, and fastening F, all constructed and op-

erating substantially as and for the purpose set forth.

2. In combination with the above, the recessed side clamp I, arranged substantially as and for the purpose set forth.

117,637. — STANDARD FOR WAGONS.—Jens Jensen, Racine, Wis.

Claim.—A standard or strap for securing the side boards of a wagon-bed to the bottom of the same, constructed substantially as herein described, the part B being either swaged to the part A or made of a separate piece, so that the width of the fork can be adjusted to side boards of varying thicknesses.

117,638. — VELOCIPEDE.—Sidney Johnson, West Croydon, England.

Claim.—1. The crank-foot axle P carrying the pulley-wheel N, arranged in front of the operator's seat upon brackets *a a*, as set forth, in combination with the pulley-wheel M of the axle O, and the belt Q, the several parts arranged and operating in relation to each other and to the frame and driving-wheels, substantially as and for the purpose set forth.

2. The steering mechanism, consisting of the wheel B, pivoted fork I, piece D, lever K and its reacting spring and steering-reins, the several parts constructed and operating as herein shown and described.

3. The velocipede herein shown and described, when the several parts constituting the same are arranged and operate substantially as and for the purpose set forth.

117,639. — HARVESTER. — William Nevins Johnson, Oxford, Wis., assignor to C. H. McCormick & Bro., Chicago, Ill.

Claim.—1. The combination of the rake-post, the radius-bar oscillating thereon, the guide, the tension-pulley, and the adjustable extension rod connecting the pulley and main frame, all these members being constructed and operating, substantially as hereinbefore set forth, to adjust the position of the tension-pulley.

2. The combination of the frame, the shoe, the rake-post, the pivoted brace, the radius-bar, the sprocket-wheel and pulley, the driving-chain, the extension rod, and the tension-pulley, all these members being constructed to operate in combination, substantially as hereinbefore set forth, to allow the driver to rock the guard-fingers while reaping without interrupting the working of the reel and rake.

117,640.—SEWING-MACHINE.—John T. Jones, Ilion, N. Y.

Claim.—1. The eccentrically-placed intermediate, between the motor-shaft and the cam, in combination with said cam, roller, and needle-bar or arm, substantially as specified, to communicate a differential movement to the needle, as specified.

2. The thread-tension clamp, made of two parts revolving together but at an inclination to each other, and provided with the notched barrel and fingers, as and for the purposes set forth.

3. The adjustable shoe *v*, in which the feed-bar *u* slides, in combination with the arm *v'*, sleeve and crank *x* acted upon by the cam 21, as and for the purposes set forth.

4. The shaft *w* and arm *y* to the feeding-bar *u*, in combination with the arm *v'* and crank swinging upon said shaft *w* to press the feed-bar up to the cloth, substantially as set forth.

5. The rocking shaft *w*, links 25 and 27, block 26, and lever *z*, with a slide for the said block 26 and the clamping-screw 28, the parts being constructed and arranged as and for the purposes specified.

117,641.—OIL-PRESS.—Agur Judson, Newark, N. J.

Claim.—1. The arrangement of the bolts *g*, bent flanges H, arms *d'*, collar E, and rod F, applied to an oil-press, and constructed substantially as and for the purpose specified.

2. The arrangement of the rack I, weighted pawl I', lever I'', spring K', and rod J' with the bolts *g* and plates B, when constructed substantially as and for the purpose specified.

3. The notched or double-ended dog L' and spring M, arranged as specified, in combination with the rack I and pawl I', as and for the purpose described.

4. The arrangement and application of the latch K, in combination with the rod J', pawl I', rack I, bolts *g*, and plates B, substantially as set forth.

117,642.—STOVE-PIPE CLEANER.—James F. Kellogg, North Bridgewater, Mass.

Claim.—The removable trough B, in combination with the cap D and the funnel A, constructed and applied substantially in the manner and for the purpose set forth.

117,643.—PARLOR-SKATE.—David Kerr and Asa E. Hovey, San Francisco, Cal.

Claim.—The arrangement of the frame, consisting of the perforated plate B having the legs, feet, and fork, as described, with the solid piece, shown by Fig. 3, as and for the purposes herein set forth.

117,644.—TENSION APPARATUS FOR WAX-THREAD SEWING-MACHINES.—John Kimball, Boston, Mass.

Claim.—1. The spool-tension apparatus, as composed of the spring B, the friction-roller *b*, and the adjustable gauge D, its nut *d*, and slotted plate E, constructed, arranged, and combined together and for use with a sewing-machine thread-spool, as set forth.

2. The combination and arrangement of the sponge-supporter or bow F with the roller *b*, and the spring B arranged and provided with the adjustable gauge D, and its nut and slotted plate, as explained.

3. The combination of the sponge *f*, or its equivalent, and the carrier or bow F, with the roller *b* and the spring B provided with the adjustable gauge, all being arranged and for use substantially in the manner as specified.

117,645.—MANUFACTURE OF ILLUMINATING-GAS.—Ferdinand King, Washington, D. C.

Claim.—1. The process of manufacturing illuminating-gas by passing a current of pure hydrogen and steam through a red-hot retort in which heavy carbureted gas is being generated from a liquid hydrocarbon, substantially as herein described and illustrated.

2. The retort A, containing coke or equivalent material, with an induction-pipe for introducing liquid hydrocarbon into the same, and the steam-cylinders D D (one or more) containing iron-turnings or equivalent material, so combined with a furnace that the said retort and steam-cylinders, with their contents, will be kept at a red heat, and so constructed, arranged, and connected that steam from said cylinders, after passing over or through the iron turnings or equivalent material therein, and becoming partially decomposed, shall be conducted into one end of the retort and forced rapidly through the same, while the liquid hydrocarbon is at the same time being introduced into the same retort, substantially as described.

117,646.—CORN-PLANTER.—James A. Knetzer, Fillmore, Ind.

Claim.—The combination of wheel *h*, can *f*, spout *j w*, thimble *k*, and wires *i*, as and for the purpose specified.

117,647.—COMPOSITION FOR COATING SHINGLES.—Thomas J. Langley, East Cambridge, assignor to himself and C. P. Conant, Boston, Mass.

Claim.—The compound herein described, composed of the ingredients set forth.

117,648. — APPARATUS FOR ARRANGING HAIR. — Gustav Lieberknecht, Wismar, North German Confederation.

Claim.—The process herein described for arranging hairs by means of the apparatus substantially as described.

117,649.—BLIND-FASTENING.—Augustus S. Lesuer, Milltown, Me., assignor to himself and G. M. Wentworth, same place.

Claim.—The combination of the bolt D, supported underneath the blind A by staples, and having its rear end bent, as described, and held by a staple F, the catches I K and spring M, when all are constructed and arranged in the manner and for the purpose set forth.

117,650.—PAPER-CUTTING MACHINE.—John Levinees, Brooklyn, N. Y., assignor to Joseph S. Sanborn, New York city.

Claim.—1. The combination, with the knife-bar D, of the links F, boxes D^2, toggle L, lever K, and movable yoke J, constructed and operating substantially as and for the purposes specified.

2. The back gauge P, when combined with the hinged front plate P, set-screws S, and screw W, as and for the purposes set forth.

117,651.—ATOMIZER.—Hamilton D. Lockwood, Charlestown, Mass.

Claim.—1. A liquid-containing cup or bottle for an atomizer, having a recess or cavity in its side, substantially as and for the purpose described.

2. The combination, with the bulb and atomizing-tubes, of a cup or bottle having a recess or cavity in the side, substantially as shown and described.

117,652.—COMPOSITION FOR JOURNALS AND BEARINGS. — Maxime J. Marcotte, St. Louis, Mo.

Claim.—The metallic composition, substantially as described.

117,653.—MARKET-STALL, &c.—James McCandless, New York, N. Y.

Claim.—The iron-framed market-stand A B C D, constructed in the manner substantially as herein set forth.

117,654.—BOOK-HOLDER AND LEAF-TURNER.—Andrew McFall, Yonkers, N. Y.

Claim.—The frame *b*, spring *f*, spring *v*, rod *g*, rod *k*, key *h*, and thumb-bar *e*, when arranged and operating together as herein described.

117,655.—STEAM AND WATER-JET ROTARY ENGINE. — John McGowan, Lebanon Church, Pa.

Claim.—The combination of the wheel *a*, case *b*, steam-pipe *d*, and water-pipe *c*, substantially as herein shown and described, for the purpose specified.

117,656.—ROTARY ENGINE.—John McGowan, Mifflin township, Pa.

Claim.—The inner rings *c' c'*, valve E with radial eduction and induction-ports, and the side pipes *c'' c''*, constructed and arranged as shown and described.

117,657. — DEVICE FOR LOCKING-BOLTS.—Almeron McKenney, Maumee City, Ohio.

Claim.—The combination of the double-headed bolt A with its beveled shoulders, as described, with the slotted or forked spring-washers, through which the head of the bolt is passed and turned to clamp the parts, substantially as shown and described.

117,658. — RAILWAY-RAIL. — Almeron McKenney, Maumee City, Ohio.

Claim.—1. A railroad rail made in two parts, A and B, each in arch form, with perpendicular sides, forming an interior air-passage, and the inner part A having a base inclined on its under side, all substantially in the manner and for the purposes herein set forth.

2. The chair E, constructed as described, with arch *e*, perpendicular sides e^1, horizontal base e^2, and flanges e^3, all substantially as and for the purposes herein set forth.

117,659.—EXTENSION TABLE.—John J. McKnight, Tarrytown, N. Y.

Claim.—As an improved apparatus for operating extension tables, the racks D D^1, pinions E^1 E^2, spring-catch H, switch I, and retracting-flange F, combined and arranged substantially as and for the purposes set forth.

117,660.—PRESERVING ANIMAL SUBSTANCES. Henry Medlock, No. 22 Tavistock Square, and William Bailey, Wolverhampton, Great Britain.

Claim.—1. The use of solution No. 1 for preserving animal substances.

2. The preservation of joints of meat, animals from which the skin or feathers have been removed, fish, and hides, by means of solution No. 2, in manner hereinbefore described.

3. The preservation of animals without removing the skin, by means of solution No. 3, in manner hereinbefore described.

4. The preservation of fish, game, and poultry by means of solution No. 4, in manner hereinbefore described.

5. The preventing and arresting of decomposition in animal substances by means of solution No. 4, in manner hereinbefore described.

117,661.—PUMP-VALVE.—David Metz, Mahanoy, Pa.

Claim.—The combination of the tapering wooden shell A, internal metallic rings B B, valve C, studs *a a*, washers *d* and *i i*, collar *b*, and nuts *e e*, all constructed and arranged substantially as and for the purposes herein set forth.

117,662. — PLOW.—James G. Miner, Nashville, Tenn.

Claim.—1. The mole A, longitudinally arched from front to rear, with its under surface recessed at rear, and having a mortise, a^3 b'', on top and in front of its greatest sectional area to receive and surround the tenoned foot of the colter B, which is secured thereto by the bolt b^3, substantially as represented and described.

2. The combination and arrangement, in a subsoil or mole-plow, of the beam C and colter B, enabling the latter to be shifted forward or backward, and secured by means of the vertical holes *c c c* in said beam, and bolts passing perpendicularly therethrough, so that said plow can be used either as a one-horse or two-hose plow, substantially as specified.

117,663.—WOOD-BENDING MACHINE.—Levi E. Minott, Sheboygan, Wis.

Claim.—1. The combination of the sliding frame B and the eccentric revolving form H, both constructed and arranged substantially as described and shown, and operating to give shape to said wood without lateral compression, as explained and set forth.

2. The combination of the sliding frame B, screw C, rack-bar G, and eccentrically-pivoted pinion E, substantially as specified.

3. The vertical adjustable shaft F for supporting the pinion carried in the sliding frame, consisting of the top and bottom pieces *t u* and the vertical pieces *v v*, arranged in a wood-bending machine, as specified and shown.

117,664.—RETAINING-STRAP FOR BENDING TIMBER. — Levi E. Minott, Sheboygan, Wis.

Claim.—1. The strap A for bending wood, notched

substantially in the manner described, and bent longitudinally at right angles.

2. The combination of two interlaced straps, A with the canvas covering D, substantially as specified.

117,665.—BLACKSMITH'S HARDY.—Charles F. Moore, Snedikerville, Pa.

Claim.—The herein-described blacksmith's hardy, consisting of a base, A^1, vertical arm A^2, helve B^1, spring C, and swedges or cutters which are formed upon the base A^1 and helve B^1, the base portion resting upon the anvil throughout its entire length, except that part which enters a recess formed therein for receiving it thereon, and the spring being made to bear upon the rear end of the helve B^1 and the point or projection *b'*, to prevent its being thrown too far back, the parts being constructed substantially as and for the purpose set forth.

117,666. — TREMOLO ATTACHMENT FOR REED INSTRUMENTS.—Elias P. Needham, New York, N. Y.

Claim.—1. The attachment of the tremolo-valve to a flexible diaphragm arranged to form the valve-seat, and which is free to vibrate in common with the valve, essentially as herein set forth.

2. The combination of the perforated diaphragm F with the valve G, the perforated portion E in the wind-passage A, and passages or openings arranged to conduct the air through the reeds or pipes, substantially as specified.

117,667. — GRINDING-MILL. — Addison H. Nordyke and Daniel W. Marmon, Richmond, Ind.

Claim.—1. The combination of a case or tube having in it a fixed receptacle for the upper end of the spindle, and the oscillating or swinging tube or case B, substantially as and for the purpose set forth.

2. The downwardly-projecting flange upon the cylindrical portion of the case or tube A, in combination with the swinging tube B, substantially as shown.

3. The tube B, when provided with the projections B^1 B^1 and the pockets B^2 B^2, for the purpose set forth.

4. The combination of the case or tubes A and B and the cross-arms D' of the spindle, the parts being constructed and arranged substantially as and for the purpose specified.

117,668. — GRINDING-MILL. — Addison H. Nordyke and Daniel W. Marmon, Richmond, Ind.

Claim.—1. In combination with the stationary or non-revolving stone of a grinding-mill, an oscillating cross-bar and cock-head, whereby the face of such stone may be set and kept parallel with that of the revolving one, substantially as and for the purpose set forth.

2. The combination and arrangement of the cross-bar, the pin or cock-head which passes through its center, the spring which surrounds and holds said pin, and the stationary stone of a grinding-mill, it being substantially as and for the purpose set forth.

3. The cross-bar D, constructed with an aperture for the reception of the oscillating cock-head and with a socket for the spring.

4. The arrangement herein shown of the shaft C, the vertical shaft B, and the shoe A^4, the parts being constructed as and for the purpose set forth.

5. The cock-head pin, the spring which encircles it, the cross-head D, and the nut for regulating the stiffness of the spring, in combination with the stationary or non-revolving stone of a grinding-mill, the parts being constructed and arranged, substantially as and for the purpose set forth.

117,669.—HEMMER FOR SEWING-MACHINES. Thomas K. Ober, Philadelphia, Pa.

Claim.—1. The plate *j* and its rods *k l*, in combination with the plate A, its scroll and pin, and its set-screw *m*, all constructed and arranged substantially as set forth.

2. The combination, with the recessed plate A, of a scroll-plate, B, extending into a recess in the plate A and adjustable therein, as set forth.

3. The adjustable tongue C, made in the form of a set-screw, adapted to a threaded opening in the plate A and arranged in respect to the scroll-plate B, substantially as herein described.

117,670. — HAND CORN-HUSKER.—Charles Melsom O'Hara, Cincinnati, Ohio.

Claim.—The improved husking-pin herein described and shown, consisting of the handle A, point *b*, finger-loops C, and spring thumb-guard D, when said parts are constructed and arranged substantially as and for the purpose specified.

117,671. — DISINFECTING COMPOUND.—Oscar Oldberg, Washington, D. C.

Claim.—1. In a disinfecting compound, boric acid as an agent for arresting decomposition or the generation of noxious gases in the decay of organic matter, as described.

2. In a disinfecting compound, the combination, with boric acid, of carbolic acid, sulphate of iron, and slum, as and for the purpose described.

117,672.—LOOM.—Edwin Oldfield, Norwich, Conn.

Claim.—1. The arrangement of the reciprocating toothed rack of the shuttle-motion, stationary shuttle-race, reciprocating reed-carrier and its actuating mechanism, all constructed and operating as herein shown and described.

2. The yielding fingers *t*, in combination with the bar K, stationary shuttle-race, and the reciprocating reed-carrier, as herein shown and described, for the purpose specified.

3. The combination of the bar K with the yielding fingers *t*, constructed and operating as shown and described.

117,673.—APPARATUS FOR LOADING SHIPS. Francis Paterson, Montreal, Canada.

Claim.—The combination of the cradle *g* A, beam *e*, and sheer-legs *f* or their equivalents, blocks *k*, double line *i*, single line *i'*, friction-drum *l*, weight *m*, break *r*, and tilting-line *q*, all working together substantially in the manner and for the purpose set forth.

117,674. — UPHOLSTERY SPRING. — Charles E. Patric, Springfield, Ohio.

Claim. — In combination with the link D, the yoke E and cap F, or equivalent, substantially as described.

117,675.—STEAM-HEATER.—John L. Peake, New York, N. Y.

Claim.—1. The casting A, made in a single piece with tubes B set therein, adapted to serve in the manner and for the purposes herein specified.

2. In a hollow casing, formed in a single casting with vertical tubes, as specified, the swells or large hollow beads at the top and bottom to allow for expansion and contraction, in combination with the stays *a* cast therewith and connecting across the space between the tubes, as specified.

3. The casting A, tubes B, drain-cock N, and pipe *m*, the latter opening into the steam-space near the top, as specified, the whole adapted to serve as a steam-heater and hot-water reservoir with the advantages herein specified.

4. In combination with a heater-casting, A, and tubes B, constructed and adapted to serve as specified, the sub-casting or pedestal D having registers *e g* controlling the communication with the external air and with the air of the apartment, as specified.

117,676. — SPINNING-RING. — Horatio L. Peirce, Taunton, Mass.

Claim.—1. A spinning-ring, the interior of which is made substantially as herein shown and described—that is to say, by first forming it so that it shall present a smooth unbroken surface from end to end, and then welding on the inner flange of the traveler-rail, as set forth.

2. In combination with the traveler-rail and the bolster-flange, formed and combined with said rail, as specified, the furse-stripper, constructed and applied to the upper face of the said bolster-flange, as herein shown and set forth.

117,677. — FILE-HANDLE. — David Pfouts, Empire Mills, near Wineaburg, Ohio.

Claim.—The application of the spirit-level and the mirror or reflector in combination with the file-handle.

117,678.—ROCK-DRILLING ENGINE.—George Phillips, Alleghany, Cal., assignor to The Burleigh Rock-Drill Company, Fitchburg, Mass.

Claim.—The spring or spring-fork for arresting or preventing irregular movement of the valve, substantially as described.

117,679. — WRENCH. — George B. Phillips, Cleveland, Ohio, assignor to Joshua E. Hall, George J. Levake, William Norville, and A. Ward Fenton, same place.

Claim.—1. The grooves in the bar, made dovetailing or otherwise, to receive the pieces of wood J J to form the handle, substantially as described.

2. In combination with the traversing-jaw, the cam I on the end of the pin A, to lock the jaw in position when required, substantially as described.

117,680. — CLOD-CRUSHER AND PULVERIZER.—John W. Pollock, Bryan, Ohio.

Claim.—The combination of the platform A B C, arms D E, connected by the hooks *b b* and rods *d d*, and the rollers G G', all constructed to operate substantially as set forth.

117,681.—MACHINE FOR CLEANING GRAIN.—Nehemiah Reece, Hemlock township, Pa.

Claim.—The hoppers E and L, revolving screen G, perforated revolving cylinder M, and fans P, when said parts are constructed, combined, and arranged for operation, substantially as and for the purpose described.

117,682. — BEARING FOR MACHINERY. — Charles B. Richards, Hartford, Conn.

Claim.—1. The combination, with the moving parts of machinery, and with the stationary parts on which these rub, of a heat-indicator or thermostat, and an alarm-bell, or its equivalent, substantially as and for the purpose set forth.

2. The combination, with the moving parts of a machine and the adjacent stationary parts thereof, of a heat-indicator and an alarm apparatus in such a manner that the moving parts of the machine will be brought into connection with the alarm apparatus and produce the movements thereof at times determined by the action of the heat-indicator, as described, for the purpose specified.

117,683.—DISINTEGRATING VEGETABLE FIBERS FOR PAPER-PULPS, &c.—William Riddell, London, England.

Claim.—1. The apparatus for reducing the wood to small filaments, shavings, or pieces, constructed and operating substantially as set forth.

2. The extraction of coloring matter and other substances from filaments of wood and vegetable fiber by subjecting the same to the action of steam in a removable cage, A, having a perforated bottom fitted within the closed cylinder B, with packing *c* interposed between the cage A and cylinder B, arranged and operating as herein shown and set forth.

3. The steam-pipe K with its bent arm K', in combination with the dome J, removable cage A, and cylinder B, substantially as and for the purpose set forth.

4. The water-pipe L provided with the arm L', in combination with the dome J, removable cage A, and cylinder B, substantially as and for the purpose set forth.

5. The intermediate spaces between the casing J B and removable cage A, in combination with the pipes L K, dome J, and open central permeating-pipe I, arranged and operating in relation to the inlet and exit-pipes, substantially as and for the purpose set forth.

6. The process of bleaching fiber, by subjecting and passing through the mass a stream of carbonic-acid gas and atmospheric air combined, substantially as and for the purpose set forth.

7. The process of bleaching fiber, by subjecting the same to the action of chlorine gas or salts, in combination with carbonic-acid gas and atmospheric air, substantially as and for the purpose set forth.

117,684. — MANUFACTURE OF MALLEABLE IRON AND STEEL.—James Cartmell Ridley, Newcastle-upon-Tyne, England.

Claim.—The use of metallic lead in the manufacture of malleable iron from molten pig or cast-iron, when the same is applied after the charge of molten or pig-iron in the furnace is completely melted, as herein described.

117,685.—WOOD AND CONCRETE PAVEMENT Edward A. L. Roberts, Titusville, Pa.

Claim.—1. The composition of salt, gypsum, and sand or fine pebbles as a filling for wood pavements, substantially as hereinbefore described.

2. The T-shaped blocks having a rectangular groove, *c*, on each side, and with a head of greater width than the base, in combination with the rectangular T-shaped strips fitting into the grooves of the blocks, substantially as hereinbefore described.

117,686.—MACHINE FOR TENONING SPOKES. Jesse Henry Rook, John S. Rook, and Thomas S. Rook, York, Ill.

Claim.—1. In a machine for tenoning spokes, the guide-bars, constructed with the curved grooves F', when arranged for vertical adjustment at each end, substantially as and for the purpose set forth.

2. The combination of the curved guides F', the frame E^1 and its knife E^2, with the vertically-moving tool-stock, all arranged with reference to one another to operate substantially as and for the purpose set forth.

3. The combination of the sliding frame E^1, knife E^2, and curved grooves or guide-pieces F'.

117,687. — HARVESTER-RAKE. — John M. Rosebrook, Hoosick Falls, N. Y.

Claim.—In combination with the chain and a rake driven thereby, the rake-pin B and arms or shields D hinged thereto and riding on a chain, for the purpose of preventing straw or grass from winding on said rake-pin, substantially as described.

117,688.—PAPER-FILE.—George Rowe, London, England.

Claim.—1. The levers E H, combined and operating in connection with the covers A B, substantially as and for the purpose set forth.

2. The metallic plates C G provided with pins *e* and openings *e* and secured upon the cover A, and operated upon by the pivoted levers D E, as described, in combination with the lever H of the cover B, and the reacting spring *g*, substantially as and for the purpose set forth.

117,689.—STOP-VALVE.—Edmund Russell, Brooklyn, N. Y.

Claim.—1. The within-described stop-valve, having the slip-ring D arranged as represented to guard the soft material C, and stand with its lower edge flush with the working surface thereof under all conditions, so long as the soft material remains.

2. The within-described combination and arrangement of the soft packing C, protecting-ring D, and the ridge *b* on the main body B, arranged to serve relatively to each other and to the seat *a* of a stop-valve, as and for the purposes herein set forth.

117,690.—BEE-HIVE.—William K. Sawyer, Three Oaks, Mich.

Claim.—The construction and arrangement of a hive provided with door B, inclined ledges *c*, bottom board C provided with sector C′, and screen *b*, guide-wires E, and comb-frames D, in the manner and for the purpose set forth.

117,691.—SPRING-HINGE.—Nathaniel Sehner, Hagerstown, Md.

Claim.—The plate A, when constructed with a bar, A^2, the beveled edge a^3 of which forms a throat with the beveled edge a^3 of the plate, and a vertical head, a^4, all substantially as and for the purpose set forth.

117,692.—HARVESTER.—John F. Seiberling, Akron, Ohio.

Claim.—1. The combination of the single reel-post, the lever pivoted behind the post in a bracket projecting from the post, and the bearing for the reel-shaft mounted on the lever in front of the post, all these members being constructed and operating substantially as hereinbefore set forth.

2. The combination of the reel-post, the lever pivoted to the bracket on the post, the reel-shaft mounted on the lever in front of the post, the guide-arm secured to the bearings of the reel-shaft, and the guide mounted on the lower end of the reel-post, all these members being constructed and operating substantially as hereinbefore set forth.

3. The combination of the reel-post, the lever pivoted to the bracket on the post, the reel-shaft mounted on the lever in front of the post, the guide-arm secured to the bearings of the reel-shaft, the guide mounted on the lower end of the reel-post, the tension-pulleys on the guide-arm, and the driving-belt, all these members being constructed and operating substantially as hereinbefore set forth.

4. The combination of the reel-post, the lever pivoted thereon, the reel mounted on the lever, and the cut-off mounted on the reel-bearings, all these members being constructed and operating substantially as hereinbefore set forth.

5. The combination of the lever, the reel mounted thereon, the cut-off pivoted to the reel-bearing, the pivoted arm of the lever linked to the cut-off, the dropping-platform also linked to the pivoted arm, and the mechanism for tilting the platform, all these members being constructed and operating substantially as hereinbefore set forth.

6. The combination of the grain-wheel and the double-cranked rock-shaft pivoted to the arm on the main-axle, all these members being constructed and operating substantially as hereinbefore set forth.

7. The combination of the grain-wheel, its horizontally-swinging arm, the catch on the arm, and the rocking crank-arm fitting therein to lock the grain-wheel when reaping, all these members being constructed and operating as hereinbefore set forth.

8. The combination of the two bevel-pinions on the crank-shaft, the two independent loose bevel-gears, the countershaft sliding endwise through the gears, and the locking-pin on the countershaft, alternately engaging with one or the other of the gears, all these members being constructed, arranged, and operating as set forth.

117,693.—FLUX FOR THE MANUFACTURE OF IRON AND STEEL.—Lorenzo Sibert, Staunton, Va.

Claim.—1. The combination of ammonio-chloride of iron or its equivalent, with the flux heretofore patented by me, as above specified, in the manner and for the purpose set forth.

2. A flux consisting of ammonio-chloride of iron, hydrated peroxide of iron, or perchloride of iron, with or without other flux, and applied during any stage of reduction of the ore or refining of the metal.

117,694.—SLIDE FOR SUSPENDERS.—John E. Smith, Waterbury, Conn.

Claim.—In a slide composed of the two parts A B, each provided, respectively, with slots *c d*, the slots *f f*, and the lugs *b b* extending through the said slots *f f* to secure the two parts together and limit their motion, substantially as described.

117,695. — CLOTHES-DRIER. — Edward E. Stedman, Randolph, Ohio.

Claim.—1. The slotted link D, in combination with the frame-post A and pivoted clothes-reel arm G, the several parts being connected and arranged substantially as and for the purpose specified.

2. The reel-base J and revolving head K, when constructed with the interlocking ratchet-faces *d*, and used in combination with the pivoted reel-arm G and the revolving clothes-reel L L^1 M N, substantially as and for the purpose specified.

117,696.—BASE-BURNING STOVE. — James W. Tefft, Des Moines, Iowa, assignor to himself, Henry Le Bosquet, and Perry C. Rude, same place.

Claim.—1. The draught-chamber P extending into the fire-chamber M and provided with a slot, S′, across its whole end or base, as and for the purposes described and shown.

2. The combination of the draught-chambers P and F, when constructed and arranged substantially as shown and specified.

3. The apertures *t* in the draught-chamber P, arranged relatively to the apertures in the door A, as and for the purposes shown and described.

4. The detachable base of draught-chamber P, as shown at Fig. 7, when provided with a slot across its whole base or end.

5. The reservoir R, filling the entire capacity of the device below the plate A′ and in front of the plane of the front surface of the chamber P, and being of greater depth at its base than at its top, substantially as shown and described.

6. The combination of the chambers P and F, constructed and operating as shown and described, with the reservoir R, substantially as shown and described.

117,697.—BOOK-COVER PROTECTOR.—Mortimer Thomson, New York, N. Y.

Claim.—In a book-cover, consisting of the two envelopes A B, providing the former with a projecting flap, a^3, and the latter with the flap *f*, whose edge extends to and coincides with the joint or hinge h of the book-cover, substantially as and for the purposes specified.

117,698.—WEFT STOP-MOTION.—Frederick O. Tucker, Westerly, R. I., assignor of two-thirds his right to Thomas Isherwood and Amos Mallory, Stoughton, Conn.

Claim.—1. The combination of the weft-fingers E′ and shaft G with the shaft E, the bar H provided with the toothed rack h, and the pinion I, substantially as and for the purpose specified.

2. In combination with the sley A, the barred frame D, the shaft E, the pivoted fingers E′, the shaft G provided with the arms *g* and O, the bar H, the levers L and P, the bar N, the springs K and M, the lug Q, the lever R, and the rod S, substantially as and for the purpose shown and described.

117,699. — FAUCET. — Charles Utter and George E. Bruster, Newark, N. J.

Claim.—The secondary or waste-outlet *e* of the faucet A, in combination with the knob C, coiled spring *a*, rod *b*, and ball-valve *d*, constructed, arranged, and operating as herein shown and described.

117,700.—SAFETY-SHAFT COUPLING.—James Valleley and Franklin A. Wise, Canton, Ohio.

Claim.—1. The coupling-sleeve A L having the angular cavity *d* therein, and the short coupling-shaft E secured in the sleeve A L by the rivet F or its equivalent, and having an eye, H, or hook H′, when used in combination with the shaft B having the angular end D, and the shaft C having an eye, K, or a hook at its end, the several parts being arranged and operating substantially as herein specified.

2. The stop-pin or carrier G, secured in the inside of the sleeve A L, and fitting in the angle formed by the eyes H and K, or equivalent hooks on the coupling-shaft E, and main shaft C, substantially as and for the purpose specified.

3. The combination of the main-shaft B with angular end D, coupling-sleeve L A with angular cavity *d* and carrier G, coupling-shaft E with eye H or hook H′, and main shaft C with eye or hook K, the several parts being arranged and operating substantially as and for the purpose herein specified.

117,701. — STEAM-ENGINE. — Herbert Voeper, Southsea, England.

Claim.—The hollow piston G and its stuffing-box with the piston and rod *d* and *e*, lever H, and rod I, whereby the motion of the main piston is made to operate the valve D, substantially as described.

117,702.—DRILL-BAYONET.—Fredrik Wahlfelt, Stockholm, Sweden.

Claim.—Small arms for drill having the bayonet sliding on the inside or outside the entire length of the gun-barrel, and provided with a spring to operate the bayonet, substantially as described.

117,703.—WATCHMAKER'S CHUCK.—Albion K. P. Walker, Richmond, Me.

Claim.—The centering device for watch-wheels, consisting of the plate A, the follower B, and the friction-springs C C, substantially as specified.

117,704.—VALVE.—John Warren, Weston, assignor to himself and John C. Chapman, Waltham, Mass.

Claim.—1. The valve or stop-cock A, having a perforated metal ball-valve, B, working loosely in its seat, and constructed and operated substantially as and for the purpose set forth.

2. The cock A, having the globular projection A′, in combination with the perforated ball-valve B working loosely in its seat, as described, and having the projection *b*, on which fits the key-rods C, substantially as shown, and for the purpose set forth.

117,705. — MACHINE FOR REMOVING RUNNERS FROM STRAWBERRY VINES.—Samuel H. Warren, Weston, and William H. Defrees, Newtonville, Mass.

Claim.—The combination of the guide-wheels *c d*, the cutting mechanism, the runner-finger *f*, and the leaf-guide *e*, substantially as shown and described.

117,706. — SPHERICAL GEAR.—Theophilus Weaver, Harrisburg, Pa.

Claim.—1. Running-gears, when they are made in spherical form, as a new article of manufacture, substantially as hereinbefore set forth.

2. The combination of one or more ecliptics or ecliptic tablets, either on an oblique or on a right sphere, with one or more trunnions in a matrix, or its equivalent, substantially as and for the purposes hereinbefore set forth.

3. The combination of the sectional mask or cover with spherical gears, substantially as and for the purposes hereinbefore set forth.

4. The relievo cuttings in the matrix, as shown in Fig. 4, plate 1, substantially as and for the purposes hereinbefore set forth.

5. The combination of stud L^2, ring *n*, and groove *f*, shown in Figs. 2 and 3, plate 4, for the purpose set forth.

6. The matrix or circulator, when it is used as a hemispherical socket interiorly and as a pulley or fly-wheel exteriorly, substantially as hereinbefore set forth.

7. The matrix or circulator, when its rim is used as a toothed wheel to increase speed or effect a multiplied radiation of axes, substantially as herein set forth.

8. The combination of a toothed major matrix, K, minor matrix K′, pinion O O′, hemispherical standard X X′, and a channeled hemispherical driver, shown in Fig. 10, plate 3, substantially in the manner as and for the purposes hereinbefore set forth.

9. The arrangement of two or more trunnions in the matrix by which the speed is modified, substantially as hereinbefore set forth.

10. The combination and arrangement of the parts K K′ of the locking-matrix shown in Fig. 2, plate 3, substantially as and for the purposes set forth.

117,707.—GANG-PLOW.—Lewis T. Webster, Northfield, Mass.

Claim.—1. The circular revolving beveled furrow-guide *a*, as herein shown and described, in combination with the adjustable arm *b* and brace *f*, as recited.

2. The arrangement of the draft-rod A in relation to the axle or shaft and beam, as and for the purpose set forth.

3. The arrangement of the adjustable springs *m* and *n* in relation to the plows, as described.

117,708. — SEWING-MACHINE. — Elliott P. West, Jersey City, N. J.

Claim.—1. The combination, with the loose driving-pulley F and main shaft C, of a clutch and disengaging mechanism, constructed and combined with devices connected with the presser-foot, so that on disengaging the shaft from the pulley the presser-foot is simultaneously released from its hold on the cloth, substantially as specified.

2. The arrangement of the disengaging mechanism and the presser-foot lifting devices connected therewith, relatively with the needle or its operating devices, whereby the main shaft is disengaged from the driving-pulley and presser-foot released when the needle is down in the cloth, essentially as described.

3. The disengaging finger-pin J, arranged to project through the cloth-bed or table, in combination with the sliding tripping-bar I and spring *i*, substantially as specified.

4. The combination of the key H, the spring *d*, the clutches G G′, and the tripping-bar I, or nose *h*, essentially as described.

5. The combination of the sliding cam *p*, or sleeve carrying the same, the main shaft C, the lever M, and the tripping-bar I or arm P thereof, substantially as specified.

117,709. — SEWING-MACHINE FOR BOOTS AND SHOES.—William Wickersham, Boston, Mass.

Claim.—1. The needle-plate, with the curved edge and without a hole or slot for the needle to pass through, in combination with a presser, substantially as shown and as described.

2. In combination with the above, the awl A, constructed and operating as described.

3. The plate *a*, having a curved edge, *a′*, without a needle-slot or hole, and with the projection *c d*, as and for the purpose set forth.

117,710.—STOVE-PIPE OVEN.—Roswell D. Wilcox, Buffalo, N. Y.

Claim.—1. In combination with an oven or shelf, having the hooks *c*, a stove-pipe, provided with the movable concentric bands A B, separated by a narrow space, into which the said hooks are inserted, substantially as specified.

2. The stove-pipe oven herein described, having

rails D, stay z, and perforated semicircular recess a, substantially as specified.

117,711.—GANG-PLOW.—Samuel A. Worthen, Thomson, Ill.

Claim.—The curved bar M, axle I, cams L, lever N, and segment R, for the purpose of operating the plow-beams B, in the manner and for the uses and purposes shown and described

117,712. — LIQUOR-COOLER. — Edmund Wright, Philadelphia, Pa.

Claim.—The perforated casing C, adapted for the reception of a bottle, in combination with a dish, A, forming an ice-receptacle which surrounds and incloses the casing, substantially as and for the purpose described.

117,713. — ELECTRO-MAGNETIC SAFE-PROTECTOR.—William Duncan, Lebanon, N. H., assignor to himself and Calvin C. Rowell, same place.

Claim.—1. In combination with a safe, an electric circuit and an alarm apparatus, the safe (or an inclosing-case) being so constructed and connected with the circuit, and the circuit with the alarm, that a break or perforation through the plate or plates of the safe or case, or the opening of the door of such safe or case, breaks the circuit and operates the alarm.

2. In combination with a safe and with an electric circuit and an alarm apparatus, the air-chambers, air-exhaust pipes, and expanding and collapsing disks, arranged and operating substantially as described.

3. The specific construction and arrangement of the circuit-closing and breaking mechanism shown at A and B.

117,714.—MANUFACTURE OF COKE.—Walter McPheeters and Charles Pearce, Harmony, Ind.

Claim.—1. The improved coking-oven, consisting of the vertical brick or stone walls A and wood-flues B C, substantially as specified.

2. In combination with the subject-matter of our first clause of claim, the vertical flues D made in the slack, in the manner and for the purpose described.

3. The improved process for making coke of bituminous slack, consisting in burning the slack packed over wood-flues with vertical flues formed in it, and covered with earth or clay, all substantially as specified.

117,715. — FANNING-MILL. — John Goetz, West Bend, Wis.

Claim. — 1. The combination of the inclined troughs G of the series of sieves 1, 3, and 5, and the vertical adjustable trough H with the series of sieves 2, 4, and 6, and conveying-boards a, the said sieves and conveying-boards having such angular relations one to another as that they will cause cleaned grain to be delivered at both ends of the machine, as herein shown and described.

2. The combination, with the inclined troughs G, of the vertical trough H, when made adjustable to accommodate the change of angle of the sieves and conveying-boards in cleaning different kinds of grain, as herein shown and described.

3. The deflecting-board I, the sieves 1, 2, 3, 4, 5, and 6, each alternate sieve provided with the inclined trough G, the adjustable vertical communicating-trough H, and the conveying-boards a, when said parts are arranged in the manner herein shown and described.

REISSUES.

4,490. — WAGON-TONGUE SUPPORT.—William Beers, Milan, Ohio.—Patent No. 116,016, dated May 23, 1871.

Claim.—1. The slotted segment E, as arranged in relation to and in combination with the tongue D, substantially in the manner as described, and for the purpose set forth.

2. The tongue D, when constructed with lugs K, head I, and neck J, and arranged in combination with the segment G and journal-seats H, in the manner as and for the purpose specified.

4,491.—METALLIC CARTRIDGE.—Hiram Berdan, New York, N. Y., assignor to The Berdan Fire-Arms Manufacturing Company, same place.—Patent No. 82,567, dated September 29, 1868.

Claim.—1. The combination of the drawn brass shell with the patched bullet, substantially as described.

2. The combination of the metallic shell with a paper-patched bullet and a re-enforce cup, all constructed and arranged to operate as set forth.

3. The combination of the metallic shell A with the paper-patched bullet, and a cap or primer applied exteriorly, substantially as described, whereby the same shell may be repeatedly used, as set forth.

4,492.—OIL-TANK AND RESERVOIR.—William J. Brundred, Oil City, assignor of one-half his right to George W. Glass, Pittsburg, Pa.—Patent No. 110,953, dated January 17, 1871.

Claim.—1. The tubular casting K, its opening being greater in diameter than the diameter of the valve D, so that it may be withdrawn from the tank A without the necessity of entering the tank or drawing off the oil, as herein described.

2. The valve-rod or stem F, provided with an adjustable collar, N, as herein described, and for the purpose set forth.

3. The tubular castings K and L arranged on the upper side, and the casting B arranged on the under side of the tank A, with openings of said castings arranged concentric to each other, and combined with the valve D and its stem F, substantially as herein described, and for the purpose set forth.

4,493.—DOUBLE-CIRCUIT INSTRUMENT FOR RAILROAD SIGNALS AND OTHER PURPOSES. — Thomas S. Hall, West Meriden, Conn.—Patent No. 97,505, dated December 7, 1869.

Claim. — 1. The method, substantially as herein described, of continuing the action or effect produced by closing the circuit through an electro-magnet by means of a stop, F, which serves to lock the armature-lever C of such magnet in its closing position after the circuit through its electro-magnet has been opened, substantially in the manner set forth.

2. The combination of a reversing-magnet, E, and armature D with the stop F and armature-lever C, substantially as and for the purpose described.

4,494.—RAILROAD-CAR VENTILATOR.—Marcus T. Hitchcock, Springfield, Mass., assignor to John W. Laberee.—Patent No. 74,534, dated February 18, 1868; reissue No. 4,005, dated May 31, 1870.

Claim.—1. The hub b of the sliding valve, when constructed as described, so that both a sliding and an oscillating motion can be imparted to the valve, as set forth.

2. Providing the case or shell A, in which the sliding valve D moves, with elastic abutments F F, which are so arranged that the valve when striking against one of the abutments will be brought into an inclined position, substantially as and for the purpose herein shown and described.

3. The shell or case A, when provided with elastic abutments F F, in combination with the sliding oscillating valve D and with the channel b, all made so that the lower edge of the valve does not come in contact with the bottom of the shell, and all operating substantially in the manner herein shown and described.

4. The shell or case A, formed substantially as described, in combination with the channel B, and the deflector in front and the deflector in rear of said channel, substantially as described, the whole combination operating to separate the pure air from the impure substances contained therein, and cause the pure air to enter the car, as described.

4,495. — FRUIT-DRIER. — John P. Miller, Somerville, N. J.—Patent No. 109,234, dated November 15, 1870.

Claim.—An improved fruit-drier, consisting of the wooden box or case A, sheet-metal lining B, holes C, sliding plate D, ribs or flanges E, and racks or grates F, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

4,496. — REPEATING FIRE-ARM. — William Hopkins Morris, New York, and Charles Liston Brown, Sing Sing, N. Y., for themselves, and Rollin White, Lowell, Mass., assignees of said Morris and Brown.—Patent No. 26,919, dated January 24, 1860.

Claim.—1. In combination with a many-chambered cylinder, having its chambers extending right through it, a movable breech or its equivalent for the purpose of adjusting and holding the cylinder in its desired position, substantially as herein set forth.

2. The arrangement and combination of the revolving pin I, bolt or breech-piece H, hammer G, and cartridge-shell extractor F, substantially as herein described.

3. The combination, with a single barrel and a circular series of chambers for containing separate charges of powder and ball, of a corresponding series of passages, a a, starting from the said chambers and converging so as to discharge into the barrel, substantially as and for the purpose herein set forth.

4. In combination with a many-chambered cylinder, a, a cartridge-shell ejector to withdraw simultaneously two or more cartridge-shells from the cylinder, substantially as and for the purpose herein set forth.

5. In combination with a many-chambered cylinder, either movable or fixed, a cartridge-shell extractor having a pin or stem entering the cylinder and extending through the same, substantially as herein described.

6. In combination with a many-chambered cylinder and a cartridge-shell extractor fitted thereto with a pin or stem, the fitting of the pin or stem into the cylinder with a flat and spline or their equivalent, substantially as and for the purpose herein set forth.

4,497. — WASHING-MACHINE. — Sidney W. Palmer and Charles Coventry, Auburn, N. Y., assignees of Munson C. Cronk and Sidney W. Palmer.—Patent No. 40,330, dated October 20, 1863.

Claim.—1. The rubbers A and E provided with the radial ribs D, and the standards C and G in combination with each other, the levers H and I, the collar K, and with a common wash-tub, substantially as and for the purpose specified.

2. In combination with the rubber E and with the standards C and G, the lever H, fulcrum-bar I, and collar K, substantially as and for the purpose described.

3. The fulcrum-bar I and i, constructed as described, and combined with the standard C, the lever H, and the collar K, substantially as and for the purpose shown.

4. In combination with the longitudinal channels d cut within the ribs D, the lateral openings d', substantially as and for the purpose specified.

5. In combination with the rubber E and the buttons or guides F, the vertical openings f, substantially as shown and for the purpose described.

6. In combination with the rubbers A and E, the spring L, substantially as and for the purpose shown.

7. In combination with the rubber A and its operating mechanism, the standard C, permanently attached to and extending upward from the center of said rubber, substantially as shown, and for the purpose set forth.

8. In combination with the rubber E and standard C, the stud M and recess m, substantially as shown, and for the purpose described.

4,498.— STOCK-CAR. — Amos Rank, Henry King, and Joel Sharp, Salem, Ohio, assignors to The National Cattle-Car Company, same place.—Patent No. 111,873, dated February 14, 1871.

Claim.—1. In a stock-car, the combination of the reservoir arranged beneath the floor of the car with the watering-troughs arranged above the reservoir, substantially as hereinbefore set forth.

2. In a stock-car, the combination of a water-reservoir and a watering-trough arranged relatively to one another, as above mentioned, and an atmospheric pump for supplying water to the trough in regulated quantities while an excess of pressure is maintained on the surface of the water in the reservoir.

3. In combination, with a stock-car, of troughs arranged on each side of the car, a reservoir located below the troughs, and pipes connecting the troughs and reservoir, substantially as hereinbefore set forth.

4. The combination, with a stock-car, of the reservoir beneath the car, the atmospheric pump, and the pipe issuing from the bottom of the reservoir, as set forth.

4,499. — GRAIN-DRILL. — Lyman Wight, Whitewater, Wis.—Patent No. 112,663, dated March 14, 1871.

Claim. — 1. In a seeding-machine, the seed-box, whose ends are cast with axles for the reception of the driving-wheels, substantially as described, for the purpose specified.

2. The combined broadcast-seeder and coverer, in which all the parts are supported from the driving-wheels by means of axles cast upon the ends of the seed-box, substantially as described, for the purpose specified.

3. The metallic ends of the seed-box, cast with axles for the driving-wheels of the machine, and with grooves in their proximate faces to receive the front, bottom, and rear boards of said box, substantially as described, for the purpose specified.

4. The seed-box, consisting of the grooved ends B cast with axles, the vertical front board, and inclined bottom and rear boards, all the parts being arranged and suitably clamped together, substantially as described, for the purpose specified.

5. The combination of the hollow axles F with the seed-box and rod N, substantially as described, for the purpose specified.

6. The beveled washers R, arranged between and secured to the beams S S so as to clamp the eye of the drag-tooth between them, the whole being held together by the bolt T, substantially as described, for the purposes specified.

7. The arrangement of the cone-pulleys D' E' and endless chain F' with the traction-wheel G and screw-rod N, substantially as described, for the purpose specified.

8. In combination with the chain F' by which motion is communicated from the driving-wheel to the screw-rod, a yielding support and guide, substantially as described, for the purpose specified.

9. In combination with the pivoted spring-lever H', the rod J', and lifting-bar A', and suitable machinery for connecting the spring-lever to the driving-wheel, substantially as described, for the purpose specified.

10. The hollow axles F, cast solid with the ends B of the seed-box A, substantially as herein shown and described, for the purpose specified.

11. The combination of the rock-shaft W and pivoted lever X with the brackets or supports V,

chains Y, cross-bar A′, and beams S, substantially as described for the purposes specified.

12. The spring l′, pivoted lever H′, and pulley-block G′, combined, as described, with the chain F′, for the purpose of holding the latter in sufficient frictional contact with the pulleys to rotate the screw.

13. The rod J′, passing loosely down through bar A′, and collared at K′ above it, combined, as described, with the lever H′ to allow the elevation of said bar A′ to raise the end of the lever, slacken the chain, and stop the rotation of the screw, substantially as set forth.

4,500.—PRESSER AND SWITCH-DIVIDER FOR SEWING-MACHINES. — Alfred S. Woodward, Brooklyn, N. Y. — Patent No. 110,945, dated January 10, 1871.

Claim.—1. The combination, with a sewing-machine, of a stitch-divider, adapted to be automatically forced into the notches between the stitches; as the work passes from the needle, for dividing said stitches, substantially in the manner specified.

2. The stitch-divider combined with the presser, and the latter provided with the groove G in the heel, substantially as specified.

DESIGNS.

5,146. — STEAM-ENGINE.—Chilion M. Farrar, Buffalo, N. Y.

Claim.—The design for a steam-engine, substantially as shown.

5,147. — SETTEE. — Joseph W. Fiske, New York, N. Y.

Claim.—The design for a settee, as shown.

5,148.—CASTER.—James L. Haven, Cincinnati, Ohio.

Claim.—The design for a furniture-caster, as herein represented and specified.

5,149.—FLOOR OIL-CLOTH PATTERN.—Jeremiah Meyer, Newark, N. J., assignor to D. Powers & Sons, Lansingburg, N. Y.

Claim.—The design for floor oil-cloths, as shown on said drawings and herein described.

5,150.—MEDALLION HEAD OF WASHINGTON. James H. Miller, Philadelphia, Pa., assignor to himself and Charles Kripe, same place.

Claim.—The design for a medallion head of Washington, substantially as described, and as represented in and by the accompanying drawing.

5,151. — SHOE-CLASP. — George Oldham, Youngstown, Ohio.

Claim.—The design for a shoe-clasp, as shown.

5,152. — FLOOR OIL-CLOTH PATTERN.—Charles L. Pierpont, Salem, N. J., assignor to Samuel W. Dunn, same place.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

5,153. — FLOOR OIL-CLOTH PATTERN.—Charles L. Pierpont, Salem, N. J., assignor to Samuel W. Dunn, same place.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

5,154. — FLOOR OIL-CLOTH PATTERN.—Charles L. Pierpont, Salem, N. J., assignor to Samuel W. Dunn, same place.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, herein set forth.

5,155.—SEWING-MACHINE LEG.—Jerome B. Secor, Chicago, Ill.

Claim.—The design for sewing-machine legs or supports, as shown.

5,156.—COOKING-STOVE.—Nicholas S. Vedder and Francis Ritchie, Troy, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The compound panel ornament A, shaped and arranged as herein described.

2. The combination of the panel ornament A and corner border ornaments B, shaped and arranged as herein set forth.

3. The compound ornament C, shaped and arranged as herein described.

4. The combination of the panel ornament C and border ornaments B′, arranged together as herein specified.

5. The design for the leg D, as herein described.

6. The design for the ash-pit cover H, as herein described.

7. The design for the front side of the ash-pit, as distinguished by the combined straight and curved portions *m n*, as herein set forth.

5,157.—HEATING-STOVE.—Nicholas S. Vedder and Francis Ritchie, Troy, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The design for the urn N, as herein described.

2. The design for the urn-base Q, as herein described.

3. The design for the cover R, as herein set forth.

4. The design for the top rim U, as herein described.

5. The design for the upper section X, as described.

6. The design for the rim Z, as shown.

7. The design for the door-frames C, as described.

8. The design for the rim-plate F, as shown.

9. The contour of the section I J, as herein described.

10. The ornamental open-work *h* in the part I, as shown.

11. The ornamental open-work *i* in the part J, as shown.

12. The design for the base-rim M, as shown.

13. The design for the base P, as described.

14. The design for the damper-frame S, as set forth.

15. The design for the leg T, as shown.

5,158.—HEATING-STOVE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The design for the foot N, as shown.

2. The design for the columns P P, as herein described.

3. The design for the capitals Q Q, as herein specified.

4. The design for the arch V, as herein set forth.

5. The design for the door A, as described.

5,159.—COOKING-STOVE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The ornament M, shaped and arranged as herein described.

2. The ornament or ornaments N, shaped and arranged as herein set forth.

3. The design for the panel-border O, as herein specified.

4. The design for the plates R, S, and T, as herein described.

5. The design for the leg Y, as described.

5,160.—COOKING-STOVE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The panel ornament J, shaped and arranged as herein described.

2. The panel ornament K, shaped and arranged as herein set forth.

3. The ornament L, shaped and arranged as herein described.

4. The ornament M, shaped and arranged on the corners of moldings, as herein set forth.

5,161.—COOKING-STOVE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, N. Y., assignors to Nicholas S. Vedder.

Claim.—1. The ornamental surface C, composed as herein described.

2. The design for the front plate F, as herein specified.

3. The design for the leg J, as described.

5,162.—COOKING-STOVE.—Nicholas S. Vedder, Troy, and Tobias S. Heister, Lansingburg, assignors to Jasper Van Wormer, and Michael McGarvey, Albany, N. Y.

Claim.—1. The ornament A, shaped and arranged on a door or plate of a stove or range, as herein described.

2. The ornament B, shaped and arranged as herein described.

3. The ornamental border C, shaped and arranged as herein described.

4. The combination of the ornament A and border C, shaped and arranged as described, with or without an intervening molding, d.

5. The combination of the ornament B and border C, shaped and arranged as herein set forth.

6. The combination of the ornamental border C and central ornament E, shaped and arranged together as herein described.

7. The design for the foot or leg F, as described.

5,163.—CARRIAGE-DOOR HANDLE.—Edward Wells, New Haven, Conn., assignor to Wells, Cruttenden & Co., same place.

Claim.—The design for carriage-door handle, as herein described and shown in the accompanying drawing.

TRADE-MARKS.

403.—BLACKING AND LEATHER-DRESSING.—B. F. Brown & Co., Boston, Mass.

404.—BLACKING AND LEATHER-DRESSING.—B. F. Brown & Co., Boston, Mass.

405.—BLACKING AND LEATHER-DRESSING.—B. F. Brown & Co., Boston, Mass.

406.—UMBRELLAS AND PARASOLS.—Elwell, Fiske & Worth, New York, N. Y.

407.—UMBRELLAS AND PARASOLS.—Elwell, Fiske & Worth, New York, N. Y.

408.—MEDICINE.—John L. S. Hall, Wheeling, W. Va.

409.—TEA.—Kwong On Cheong, San Francisco, Cal.

410.—WHISKY.—J. A. Monks & Sons, St. Louis, Mo.

411.—WHISKY.—J. A. Monks & Sons, St. Louis, Mo.

412.—WHISKY.—Thomas E. Moore, Shawhan, Ky.

413.—PICTURE-FRAMES, BRACKETS, &c.—Matthias Joslyn Rice, Boston, Mass.

414.—SEWING-MACHINES. — The Domestic Sewing-Machine Company, Norwalk, Ohio.

415.—JEWELRY.—John P. Turner, Birmingham, England.

EXTENSIONS.

WILLIAM M. FERRY, of Grand Haven, Mich. Letters Patent No. 17,829, dated July 21, 1857; reissue No. 542, dated April 6, 1858.

"Improved Sawing-Mill."

Claim.—1. The particular means and their arrangement, as described, for accomplishing that end.

2. Effecting, by means of an eccentric, the combination of the log-carriage and automatic reversing mechanism, thereby rendering the saw-mill capable of self-feeding and self-gigging, as set forth.

3. So adjusting the ganging-incline d^3 that its hinge or pivoted joint, and its opposite end or terminus, shall always be at the same and equal distances from the set-shaft F, as described.

4. The application, in the manner described, of the adjustable self-fastening trip *z* to a saw-mill, which operates with a continuous rapid motion back and forth, in combination with the vibrating reversing stop w^2, substantially as and for the purpose set forth.

JAMES R. FLOYD, of New York, N. Y.—Letters Patent No. 17,854, dated July 21, 1857.

"Improvement in Retort-Covers."

Claim.—The constructing gas-retort covers of malleable iron, in the manner and for the purposes set forth.

G. HENRY HULSKAMP, of New York, N. Y.—Letters Patent No. 17,838, dated July 21, 1857.

"Metallic Bridge for Piano-Fortes."

Claim.—1. The sounding-board bridge cast of metal, with two bearings above the strings, one on each side of the bottom supports, substantially as and for the purposes specified.

2. The rod or wire *k*, or its equivalent, inserted in the bridge to form its bearing-surface, for the uses and purposes above set forth.

3. The construction and arrangement of the cast-metal bridge *i i* in such form that it may be detached and yet firmly held in its place, in the mode above set forth, or other form substantially the same.

JOSHUA B. PROUTY, of Cincinnati, Ohio, administrator of LUCIAN FAY, deceased. Letters Patent No. 17,874, dated July 28, 1857; reissue No. 889, dated January 24, 1860.

"Improved Machine for Seaming Sheet-Metal Roofs."

Claim.—1. A suit of seaming-rollers, mounted in a carriage and operating by the described continuous movement to produce a standing seam of even height on stationary sheets of metal.

2. Adapting a seaming-carriage, substantially in the manner set forth, to produce a standing seam without other guide than the upturned edges upon which it operates.

3. In the described combination with the seaming mechanism, the "pioneer" rollers *a a′*, operating in the manner and for the purposes set forth.

4. The described arrangement and application of a folding roller, C, operating to turn or fold the edge of the metal from a right to an acute angle

preparatory to the action of seaming or closing rollers, as set forth.

5. The burring, folding, and seaming-rollers, constructed, arranged, and operating substantially as set forth, to complete a single or double standing seam at one operation.

6. Arranging the seaming-rollers against yielding bearings, substantially as and for the purpose set forth.

7. Making the operative mechanism of a seaming-carriage adjustable in height for the successive operations of a single and double seaming, as set forth.

8. The operator's seat, applied to a seaming-carriage, substantially as and for the purposes set forth.

9. The stirrup *t*, constructed and applied substantially as and for the purposes set forth.

CHARLES PERLEY, of New York, N. Y.—Letters Patent No. 17,940, dated August 4, 1857; reissue No. 1,345, dated October 7, 1862.

"*Improvement in Compound Capstans for Ships.*"

Claim.—1. A removable heaver on a vertical shaft, sustained and rotated from below said heaver, in combination with a second shaft and capstan or capstan-head, and with gearing between the said shafts, substantially as and for the purposes specified.

2. A capstan on a vertical shaft that can be connected or disconnected from the shaft, in combination with a chain-wheel or heaver on a separate vertical shaft, the two shafts being connected by gearing, substantially as set forth, whereby the capstan can be used separately from the heaver, or both heaver and capstan can be rotated in either direction to take in or give out chain-cable, as set forth.

3. The adjustable bearing-block *o*, in combination with the chain-heaver *m*, to relieve the vertical shaft from strain and friction that would result from the weight of the chain, or the strain on the same while the vessel is lying at anchor, as set forth.

4. The combination of the power capstan *n*, coupling *g*, and heaver *m*, for the purposes and as specified.

WILLIAM M. WELLING, of New York, N. Y. Letters Patent No. 17,949, dated August 4, 1857.

"*Improvement in Factitious Ivory.*"

Claim.—Forming artificial ivory by thoroughly mixing and combining the articles specified, or others having equivalent properties, while under the operation of heat, substantially as specified.

ISSUE OF AUGUST 8.

PATENTS.

117,716.—ATTACHMENT FOR SEWING-MACHINES.—Jacob S. Alter, Leavenworth, Kan.

Claim.—The plate M having upward hook N, and the plate O having lugs P, combined with and applied to plates A, K, E, and G, as and for the purpose specified.

117,717.—FOG-HORN.—John R. Anderson, Brooklyn, N. Y.

Claim.—1. The combination of the curved and plain leaves *a* and *b*, whereby a compound double reed and air-pipe is provided, substantially as and for the purposes described.

2. The compound reed and air-pipe, in combination with the hollow screw-nut, substantially as set forth.

3. The combination of the compound reed and air-pipe, hollow screw-nut, and conical trumpet, substantially as set forth.

117,718.—FEEDER FOR ORE-ROASTING FURNACES.—John P. Arey, Georgetown, Col. Ter.

Claim.—1. A feeder for an ore-roasting furnace, which is composed of grated plates which have a shearing feeding operation, substantially as described.

2. The hopper B, provided with a subdivided bottom and arranged over grated distributers, substantially as described.

3. The combination of a hopper, B, and a circulating cooling-tank, *b*, substantially in the manner described.

117,719.—FISH-HOOK HOLDER.—Levi Arnold, Belchertown, Mass.

Claim.—The sliding ring C, in combination with the tapered stem B provided with a groove or grooves, as shown and described, for the purpose of holding one or more fish-hooks, as specified.

117,720.—WASH-BOILER.—Isaac Atyeo, North Fairfield, Ohio.

Claim.—The gutters D and perforated bottom A, in combination with the conduits F, arranged in relation to each other, substantially as shown and described, for the purpose set forth.

117,721.—PORTABLE BUILDING.—Francis M. Bain, Delaware, Ohio.

Claim.—1. Hook-bolts *h*, substantially as and for the purpose hereinbefore set forth.

2. Hook-bolts *h*, in combination with holes *e* or grooves *e'*, strip W, washer *e*, and nut *n* or its equivalent, substantially as and for the purpose hereinbefore set forth.

117,722.—SOAP.—George Baker and Isaac Bullock, Lima, Pa.

Claim.—The within-described soap, compounded of the ingredients in the manner and about the proportions set forth.

117,723.—LADLE FOR CANNING FRUITS.—Rush D. Baker, Syracuse, N. Y.

Claim.—The dipper or ladle A, having one open side or dipping-lip, *a*, with a tunnel or guide, BC, and handle D, as constructed.

117,724.—BEDSTEAD.—Thomas B. Baldwin, Marshall, Tex.

Claim.—1. The links H attached to the bedstead, chains D, and centrally placed rope M, combined with the elevating-frame K placed across the top of the bed, as set forth.

2. In combination with the chains D of a pendent bed, the spring F arranged on the ceiling E to give elasticity to said bed.

3. In combination with chains D, the elastic connections Q to take up the slack therein as the bed rises, and to fold them inwardly in the bed.

117,725, antedated July 26, 1871.—SAD-IRON AND RUFFLER.—William Banzett, Williamsburg, N. Y.

Claim.—1. The combination of a sad-iron with fluting-rolls, as specified.

2. The combination of the iron *a*, standard *b d*, handle *c*, rolls *f f*, and lug *h*, as described.

117,726.—HARVESTER-DROPPER.—J. J. Barnhill and D. N. Barnhill, Vincennes, Ind.

Claim.—1. The combination of the angle-irons E, sliding bar F, slotted bent lever G, and connecting-rod or bar H, with the pivoted slats D, pivoted bar B, guard-bar A, and lever C, all arranged and operating substantially as herein shown and described, and for the purpose set forth.

2. The combination of the stay-rods I with the pivoted slats D and angle-irons E, substantially as herein shown and described, and for the purpose set forth.

117,727.—RANGE-SETTING.—Andrew F. Barry, New York, N. Y.

Claim.—A cast-metal plate adapted for setting up kitchen-ranges, substantially as herein described.

117,728.—SHOULDER-BRACE.—Aurelia W. Beaman, Boston, Mass.

Claim.—The independent braces A B, provided with the elastic straps *b c* and front and back straps *f f* and *k k*, all arranged and constructed substantially as and for the purpose set forth.

117,729.—RAFTER-HOOK.—John Newton Bebout, Oberlin, Ohio.

Claim.—In combination with a long-shanked pole-hook, A, and a short-shanked clutch-hook, B, which rests on top of the beam, the lever D, bifurcated to straddle the shank of the former, pivoted to the shank of the latter at *e*, and having pulley-hook *f* on the outer end thereof, as and for the purpose specified.

117,730.—CARRIAGE-AXLE AND BOXING.—Joseph W. Beer and Absalom W. Beer, Rural Valley, Pa.

Claim.—The axle, made up of ordinary shaft A having square stem A', and the sleeve B having collar *i*, all constructed as and for the purposes set forth.

117,731.—SPRING-VENT FOR CASKS.—Edmund James Bennett, Port Huron, Mich.

Claim.—The vent herein described, composed of the cylinders A, B, and C, the valve D, spring E, and rod *k*, all constructed, arranged, and operated substantially as described and shown.

117,732.—DENTAL DRILL.—Greene V. Black, Jacksonville, Ill.

Claim.—1. The arrangement of the horizontal shaft H upon a rigid arm, K, thereunder, and both in the same swivel-sleeve I, resting upon standard A, to sustain the shaft-and-gear mechanism firmly at the altitude required.

2. The double and reversed coil spring described and shown in Fig. 6 of drawing, when constructed and applied as and for the purpose specified.

117,733.—UNIVERSAL JOINT FOR SHAFT-COUPLINGS.—Greene V. Black, Jacksonville, Ill.

Claim.—1. A universal joint for revolving shafts, composed of coiled springs G H arranged one within the other, and with the shafts, and coiled in opposite directions, all substantially as specified.

2. A universal joint for revolving shafts, composed of coiled springs G H and the forked and jointed connection E, all arranged substantially as specified.

117,734.—WHEEL-PLOW.—Andrew J. Borland, Charlestown, Iowa.

Claim.—1. The slotted bar A and bar J, combined, as described, with the beam E to adjust the plow laterally at the point for taking more or less land.

2. The combination of the axle A, wheel B, tongue C, and brace D, forming one part, with the rock-shaft G, seat I, and rod A, forming the second part, and with the plow-beam E and lever H of the third part, all arranged substantially as herein shown and described.

117,735.—CARPET-STRETCHER AND TACK-HAMMER COMBINED.—William Brown, New York, N. Y., assignor to William M. Evans, same place.

Claim.—1. Combination of the swinging-hammer E E, fulcrum-arm or projection G, handle A A, with a carpet-stretcher, substantially as and for the purpose hereinbefore set forth.

2. A compound pivoted, lever-expansive, and gravitation-closing tack-holder, substantially as and for the purpose hereinbefore set forth.

3. Combination of tack-conductor C with the tack-feeder and cut-off D, substantially as and for the purpose hereinbefore set forth.

4. Combination of the fulcrum-arm G, the fulcrum-axle G^2, the hammer E E, the tack-conductor C, tack-holder I I, connecting-line B B, handle A A, base H, guard J, teeth J^2, to form a compound carpet-stretcher, tack-conductor, tack-holder, and tack-driver, substantially as and for the purpose hereinbefore set forth.

5. Combination of handle A A, conductor C, feeder and cut-off D, base H, teeth J^2, guard J, tack-holder I I, hammer E E, fulcrum-arm G, fulcrum-axle G^2, and connecting-line B B, to form a compound carpet-stretcher, tack-conductor, tack-feeder, tack-holder, and tack-driver, substantially as and for the purpose hereinbefore set forth.

117,736.—GRAIN-THRASHER AND STRAW-CARRIER.—Richard Bryan, Penn Yan, N. Y.

Claim.—1. The straw-carrier G supported upon the pivoted standard H I, arranged to operate in connection with the thrasher A provided with the cross-piece E, windlass F, and rope Q, when said parts are constructed and arranged as and for the purpose set forth.

2. The arrangement of the shafts B and C with their bevel-gearing, pulley X, guide-rollers D D, belt R, and pulley Y, as and for the purpose herein described.

3. The combination, in the thrashing-machine A, of the crank-wheel L, adjustable connecting-rod M and O, with the hinged screens N and P, all constructed and arranged as herein shown and described, for the purpose set forth.

117,737.—IRONING-TABLE.—Frank A. Byram, Germantown, Pa.

Claim.—The combination of the board A, hinged legs E E', brace F with the stand B, drawer C, and board D, all made and operated substantially as described.

117,738.—PHARMACEUTICAL STILL, STEAM, AND WATER-BATH.—Ralph P. Buckland, Jr., and Gustavus A. Gessner, Fremont, Ohio.

Claim.—1. The combination of the heater, the steam or water-bath, and the still, with their connecting pipes, substantially as set forth.

2. The circular pipe i^2, whereby the hot-water or steam is made to enter the bath at from four to eight or more different points simultaneously.

3. The joints d^1 e^1 and d^2 e^2.

4. The arrangement of pipes *f*, f^1, and f^2, with the vessel J, substantially as set forth.

5. The corrugated cap with surrounding vessel, in combination with the small condenser.

117,739.—DUMPING-CAR.—Norman W. Camp and Charles William Camp, Saratoga Springs, N. Y., and Norman H. Camp, Wilkesbarre, Pa.

Claim.—1. The combination of the catches or hooks C and C, and spring A operated by a lever, with the frame and body of a dumping-car, substantially as and for the purposes set forth.

2. The guides F F, in combination with the tilting or rocker-frame G and the body or box E of a dumping-car, substantially as and for the purposes set forth.

3. The rocker or tilting-frame G, as described, constructed and arranged in relation to the dumping-car, in combination with the guides F F, and the frame *c* and box E, substantially as and for the purposes set forth.

4. A dumping-car, arranged and constructed

throughout substantially as shown and described and for the purpose set forth.

117,740.—WASHING-MACHINE.—William Clack, Prairie du Chien, Wis.

Claim.—1. The cylindrical box D with its mechanism, constructed as herein shown and described, to adapt it for attachment to the frame of a cart, substantially as and for the purpose set forth.

2. The combination of the box D, rollers G I, uprights H, and gear-wheels F E, with each other and with the wheels C, axle B, and thills or frame A a' of a cart, substantially as herein shown and described, and for the purpose set forth.

3. The double netting J and guide-rollers K, in combination with the box D, rollers G I, uprights H, gear-wheels F E, wheels C, axle B, and thills or frame A a', substantially as herein shown and described, and for the purpose set forth.

117,741.—LAMP-CHIMNEY CLEANER.—Cullen B. Clark, Armada, Mich.

Claim.—The cleaning-pads, springs, or plates e e and springs f f, attached to the outer end of the spindle B so as to project toward the post A, as specified.

117,742.—TRACE-BUCKLE.—Isaac Clark, Dryden, Mich.

Claim.—The trace-buckle described and shown, consisting of the loops A, B, C, and D, rigid tongue K, hooked studs L, and cam-latch E, when the several parts are constructed and arranged substantially as set forth.

117,743.—INKSTAND.—Stuart D. Clark, Minneapolis, Minn.

Claim.—The well A, supplied with transverse socket F and smooth rim-surface B, in combination with the curved lever D, lid E, and pin G, so that by turning the lever a center pressure will be given to the lid by the knuckle H and the well be closed tightly, on the principle of the wedge, all substantially as and for the purpose described.

117,744.—TUYERE.—Thomas S. Clark, Chicago, Ill.

Claim.—The combination of the blast-pipe, the blast-chamber, the detachable ring, and the ball, all these members being constructed and operating in combination, as hereinbefore set forth.

117,745.—WHEEL-PIT FOR SPOKING CARRIAGE-WHEELS.—James Collins, Crawfordsville, Ind.

Claim.—1. The guide-staff or bar E, constructed and operating in connection with the standards F, pin G, and end of the hub, substantially as herein shown and described, and for the purpose set forth.

2. The adjustable supporting and gauge-pin H, nuts I, lever J, and spring K, constructed and operating in connection with the adjustable guide-staff or bar E and outer ends of the spokes, substantially as herein shown and described, and for the purposes set forth.

117,746.—CORN-STALK CUTTER.—John W. Cornell, Lawn Ridge, Ill.

Claim.—The upright frame D, constructed as described, with hinged levers E E for carrying the rotary cutter, screw *i*, and spring *k*, connected by rods F F with the said levers, the said frame being attached to the axle of a wagon, substantially as set forth.

117,747.—VARIABLE CUT-OFF FOR STEAM-ENGINES.—William B. Cross, Sacramento, Cal.

Claim.—A right-and-left screw K, sliding blocks J J, and levers D D, arranged together, as and for the purpose specified.

117,748.—PENCIL.—Henry T. Cushman, North Bennington, Vt.

Claim.—As an article of manufacture, a lead-pencil covered with flock, as herein shown and described, for the purpose specified.

117,749.—PORTABLE FIRE-SHIELD.—Aaron Dean, Ann Arbor, Mich.

Claim.—The construction of a portable fire-shield, wherein the frame A, axle B, bounds C, circle-plate D, traction-wheels E G, guys F, draft-pole I, sockets J, and metallic chamber or chambers K, provided with filling-tunnels L, are arranged to operate in the manner and for the purpose set forth.

117,750.—SUCTION-SIPHON.—Edouard de Lagillardaie, Lorient, France.

Claim.—The combination, with a siphon-pipe, *c*, of a small reservoir, *a*, and pipe *b*, provided with a cock for the regulation of the admission of air, the reservoir and siphon-pipe communicating by an air-tube, *e*, in the manner and for the purposes herein set forth.

117,751.—ANIMAL-POKE.—Nicholas Denny, Saranac, Mich.

Claim.—The arrangement of the bow A, roller B, bar C, pivoted, curved, and pronged plate D *d'*, spring E, stop F, and key G, in connection with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

117,752.—RAFTING-DOG.—George E. Dowling and Salmon F. Cone, Montague, Mich.

Claim.—The wedge-shaped dog A, having a hole, *b*, through it, in combination with a rope, C, or its equivalent, substantially as and for the purposes set forth.

117,753.—RAILWAY JOURNAL-BOX.—Isaac Dripps, Altoona, Pa.

Claim.—1. The plate E, constructed with recess c^1, flanges c^2, and groove c^3, combined with brass D, constructed with projections d^1 d^2, as and for the purpose specified.

2. In combination with the journal-box, the flap K concaved on its upper edge, and the bolts I I passing therethrough to prevent the sediment or coarser particles from working between the inner annular flange of the box and the journal.

117,754.—ICE-PICK.—William T. Eames, New York, N. Y., assignor to Leonard J. Hans, same place.

Claim.—As an improved article of manufacture, an ice-pick, composed of the hammer A, steel point C, socketed handle B, and the steel instrument E, all combined and arranged substantially as specified.

117,755, antedated July 20, 1871.—FLEXIBLE HAND-CARD.—George F. Ells, Douglas, N. Y., assignor to M. G. Goodwin, Saginaw, Mich.

Claim.—A curry-comb or hand-card having staple-like metallic teeth T set in and through a body, B, of leather, and retained therein by a backing, C, of leather, fastened to the body and furnished with a hand-strap, S, all as shown and described.

117,756, antedated July 25, 1871.—COAL-SHOVEL.—John H. Farmer, Detroit, Mich.

Claim.—The construction of a small shovel, having for its bottom a combination of parallel bars with intervening slots, and a central strengthening cross-bar, and also a retaining cross-bar at the front, the shovel to be made either of cast or pressed iron, or other metal, and to be used, in connection with the burning of coal, for the purpose of easily and conveniently saving the coal and coke, in the manner substantially as described.

117,757.—FIRE-KINDLER.—John E. Finley, George H. Hurd, and Benjamin F. Tatem, Memphis, Tenn.

Claim.—A fire-kindler, composed of fire-clay, pumice-stone, sawdust, and corn-meal, as and for the purpose described.

117,758.—CLUTCH-GEARING.—Lemuel Scudder Fithian, Brooklyn, N. Y.

Claim.—The ratchet-disks A A A, made fast upon the carrying-wheels, in combination with the cupped, slotted, and sleeved disks B B B, (with dog C with spring and shoulder in slot,) and made fast upon the axle-tree, with sleeved disk D D D sliding upon the sleeve of B, and operated by any convenient device.

117,759, antedated August 2, 1871.—STEERING APPARATUS FOR ROAD-STEAMERS.—George W. Fitts, Oberlin, Ohio.

Claim.—The steering apparatus, consisting of the concave circle attached to the frame, combined with the geared convex circle, the latter revolving within the former and having its axle attached thereto, substantially as described.

117,760.—RUBBER-BLOCK TIRE FOR TRACTION-WHEELS.—George W. Fitts, Oberlin, Ohio.

Claim.—1. The combination of the spokes C with the rims A B, nuts 1 2, and hub D, all arranged and acting as and for the purpose set forth and described.

2. The outer rim of a wheel perforated with slots or pockets for the reception of rubber blocks and metal caps, as and for the purpose described.

3. Separate blocks of rubber inserted into slots or pockets in the rim of a wheel, as and for the purpose described.

4. The metal cap for covering separate blocks of rubber inserted into the rim of a wheel, as and for the purpose described and set forth.

117,761.—DRAWING-BOARD.—John B. Franklin, New York, N. Y.

Claim.—1. The metallic strips C C, applied to a drawing-board between the edge-pieces B B and the body of the same, substantially as herein shown and described.

2. The hard-wood cross-piece D, let into the grooved face of the drawing-board and combined with the metallic strips E, substantially as herein shown and described.

117,762.—STOVE-PIPE DAMPER.—Bridget French, Rochester, N. Y.

Claim.—The damper A, provided with the projecting conical nipples *a a*, distributed over the surface, arranged as described, and operating in the manner and for the purpose specified.

117,763.—HOLDER FOR WAX CANDLES OR TAPERS.—Josef Fritsch, Carlstadt, N. J.

Claim.—The construction of holders for wax candles or tapers, substantially as herein described.

117,764.—LOCK FOR RAILROAD CARS.—Charles T. Gibson, Baltimore, Md.

Claim.—The slide E, constructed and arranged as described, the inwardly-hooked dogs F F pivoted to the plate D at *g g* and to the slide E at *f f*, and the tumblers *e* arranged as described, and the bolt C operating by direct pressure upon the slide, substantially as set forth.

117,765.—TABLE-CASTER.—John Gibson, Jr., Albany, N. Y.

Claim.—1. Forming the bases of bottles or cruets for table-casters with a more extensive diameter than the contracted portion of the same at their shoulder-bearings *b*, substantially in the manner set forth, for the purpose specified.

2. In table-casters, the combination of the projection *f* or its equivalent with the recesses *c*, substantially as and for the purpose set forth.

3. In table-casters, holding and retaining in place the cruets or bottles D by means of the projections *f* or *f'*, or by their equivalents, substantially in the manner set forth.

4. In table-casters, the combination of wheels *g* with the base A, substantially as described, for the purpose set forth.

117,766.—SAUCER, DISH, &c.—John Gibson, Jr., Albany, N. Y.

Claim.—In saucers and other vessels for containing an upper vessel, the recesses or pockets B B, cavities C' or equivalent depressions, when sunken below the central or supporting plane *a*, substantially in the manner set forth, for the purpose specified.

117,767.—SAP-SPOUT.—Weller S. Gilmore, Chester, Ohio.

Claim.—The herein-described sap-spout, consisting of the two tapering sections, A B, connected to each other at the base, in the manner as set forth.

117,768.—LET-OFF MECHANISM FOR LOOMS.—Frederick W. Graichen, Olneyville, R. I., assignor to Edward Barrows and Joseph Clayton, Dracut, Mass.

Claim.—My new yarn-beam friction or tension apparatus, as composed of instrumentalities as described, arranged, and combined as set forth, such instrumentalities consisting of the crutch O, the bent lever P, spring L, the lever K, the pawl I, the ratchet-wheel H, the wheel G, frame E, the shaft F, the bands M N, guide-wheels O O, levers D D, and friction-bands C C, all being applied together and to the yarn-beam and loom-frame, substantially in the manner and to operate as described.

117,769.—SAW-FRAME.—John H. Graham, Brooklyn, N. Y.

Claim.—The combination of two side bars, B and C, of a saw-frame with a tightening-rod placed exterior to and at the end of the saw-frame, substantially as shown and described.

117,770.—SOLDERING APPARATUS.—Jacob Gulden, Key Port, N. J.

Claim.—The combination of the box F and hinged bar G with the spring *h* and adjustable standard *g*, all arranged to operate substantially as herein specified and described.

117,771.—TELEGRAPH APPARATUS.—Isaac Hall, New York, N. Y., assignor to himself and George B. Walter, same place.

Claim.—1. The metallic cylinder d^1, slotted at equal intervals and in parallel lines on its periphery, having metallic strips d^2, hard rubber (or non-conductor) d^3, and stops d^4 d^5, all arranged thereon, as and for the respective purposes specified.

2. The combination of the adjustable lever H, spring I, and gearing E F G, or equivalent gearing, for imparting a reciprocating movement to the contact-drum or roller D, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the spring-pawl J K, ratchet wheel L, and stop Z' with the contact-roller or drum D and shaft C, for the purpose of operating the feed-roller I' from the said contact-roller D, substantially as herein shown and described.

4. The combination and arrangement of the springs M' N' O' with the lever Y, frame or bar K', tension-roller J', and set-screw P', substantially as herein shown and described, and for the purposes set forth.

5. The adjustable screw Z and armed bar F', whether provided with an adjustable screw, G', or

not, in combination with the lever Y, guide-bracket C', and punch D', for the purpose of operating the punch by the movements of said lever Y, substantially as herein shown and described.

6. The magnet Q', applied through an insulated platinum-pointed screw-cup, V', and an oppositely-arranged platinum-pointed arm W', to assist in raising the lever Y', in the manner described.

7. The key-levers Q q^1 q^2 S s^1 s^2, constructed and arranged in connection with each other and with the contact-roller D, substantially as herein shown and described, and for the purpose set forth.

117,772.—APPARATUS FOR REMOVING SAND-BARS FROM RIVERS. — John Halliday, New Orleans, La.

Claim.—The boays A A, ropes *b b*, chain or rope *c*, and diggers or agitators *d e*, so combined and arranged as to operate substantially as described.

117,773.—FIRE-ESCAPE.—John C. Hancock, Charlestown, and Edward P. Richardson, Somerville, Mass.

Claim.—1. The two cranes A A' provided with connecting-bars G I, pivoted to one and detachably fastened by pins H K to the other, to admit of their being separated, carried, and applied easily and conveniently, as specified.

2. The combination, with the carriage and the suspending-ropes, of the tubes Q, clamping-levers, and a button or other fastening device, U, substantially as specified.

117,774.—CLIPPING-SHEARS. — Charles F. Harlow, Boston, Mass.

Claim.—1. The bolt D' having square seat H', and arm H having correspondingly-shaped socket, in combination with the cutter-head consisting of plates A B C, substantially as and for the purpose set forth.

2. The combination of the shafts L S having grooves *N l* and slot U, with pivoted plate P having lugs R R, and shaft W having eccentric portion X, substantially as described.

3. The reciprocating shaft L, operated as described, and provided with arm M in combination with bolt D', arms H G, and serrated plate A, substantially as described.

4. The tubes I K journaled on the angular tube J, in combination with shaft L S W and plate P, substantially as described.

117,775.—EXTENSION LOUNGE. — Volkert O. Hart and John Benjamin, Naples, N. Y.

Claim.—The extensible lounge or settee, with boxed ends D D open on the front to receive the extensible sliding ends C C, and provided with grooves *l l* on the inside to receive the end slats S' S', the whole constructed and arranged in the manner and for the purpose as herein shown and set forth.

117,776.—BLOWER.—Samuel H. Hartman, Allegheny, Pa.

Claim.—In combination with the valves of a blowing-cylinder that are closed by a spring or other similar acting device, a mechanism for alternately opening said valves independent of the pressure that may be upon them, substantially as described.

117,777.—BOOT-STRETCHER.—James Hoffman, Belvidere, N. J.

Claim.—As an article of manufacture, the boot-stretcher, constructed as described, when composed of caps D, H, and J, and levers E, I, and K, all applied as and for the purpose specified.

117,778.—HOISTING APPARATUS. — Joseph Hoffmann, Tewksbury, N. J., assignor of one-half his right to S. H. Sweetland, Washington, D. C.

Claim.—1. In hoisting apparatus, having trunk B for such apparatus to move upon, so that the same apparatus or mechanism can be used to raise any weight or body, and also to carry or move such body, when raised, in different directions.

2. The elevating-pulley and the weight-ropes *n e*, the hooks *m m* or their equivalent, in combination with the lever *o s* and incline *r* for disengaging the pulley, substantially as and for the purposes set forth.

3. The arrangement of the hook or lever catch *f* and movable block *k*, in combination with the catch-rods *m m*, lever *o s*, and frame A, as and for the purposes described.

117,779.—LIFT-OFF MECHANISM.—William H. Howard, Philadelphia, Pa.

Claim.—The arrangement of the shaft *c*, arm A, strap *e*, pulley *f*, and weighted lever *g*, when combined as herein described, with the beam *s*.

117,780. — COMBINATION APPARATUS FOR GAMES.—Charles N. Hoyt, Providence, R. I.

Claim.—1. The inclined frame D and its adjustable props H, in combination with the bed B, as and for the purpose specified.

2. The removable pockets, as shown in Fig. 3, adapted for the recess *m*, in combination with the frame and balls, substantially as described.

3. The adjustable frame D with its swinging ball I or its equivalent for driving the ball *e*, substantially in the manner specified.

117,781. — WATER-GATE. — William Penn Hubbard, Farmland, Ind., assignor to himself and James H. Fegans, same place.

Claim.—The flood-gate or fence, pivoted in sections to the down-stream side of a sill, A, and provided with the pivoted bars C, which serve as levers for holding the sections upright and as floats on the water, as set forth.

117,782.—STEM-WINDING WATCH.—Samuel Jaccard and Justin Jaccard Jaques, St. Croix, Switzerland, assignors to D. Constant Jaccard, St. Louis, Mo.

Claim.—The combination of the lever E with the catch *c* and spring-lever D, to operate by the action of the sliding stem, substantially as herein shown and described.

117,783.—BELLOWS.—Alfred F. Jones, New York, N. Y.

Claim.—The bellows or air-pumps, constructed with metallic sheets *a* turned over at the edges, and the similar metallic sheets *b* reversely turned over on their opposite edges, and together forming a projecting flange, *c*, when combined with and applied between the wooden parts A B and flexible parts C, as and for the purpose specified.

117,784. — HOLLOW AUGER. — Silas Katz, Bossardsville, Pa.

Claim. — The rotary tube A having notched scroll-collar B D N, the series of cutter-slides E, cutters F, guides G, obliquely-slotted plates H, and pivoted spring-dog K L *m*, and the piston R and rod P, all combined, arranged, and operating together as and for the purpose specified.

117,785. — GLASS-MOLDER'S PRESS.—Frederick Klinck, Philadelphia, Pa., assignor to John Weidig and Charles Yockel, same place.

Claim.—1. In a glass-molder's press, the combination consisting of the solid disk-shaped end 3 of the arm *d'*, the slot 2 in the stem of the cross-head, and the sliding bearing-block *b''* in the said slot, the said parts being arranged to operate together, substantially as and for the purpose hereinbefore set forth.

2. In a glass-molder's press, the combination of the two arms *d'' d'''*, having their respective disk-like ends made with the slots or grooves 4 4, as described, with the respective studs 5 5 on the outer sides of the slotted stem *b'* of the cross-head B, the said parts being arranged to operate together, substantially as and for the purpose hereinbefore set forth.

117,786, antedated July 24, 1871.—PLUG-CUTTER FOR WOOD-WORKERS.—Daniel S. Kniffen, West Camden, N. Y.

Claim.—The tool for cutting plugs, herein described, consisting of the body A, center B, spring C, screw *d*, and cutters D D', when all the parts are constructed and arranged as and for the purpose specified.

117,787. — APPARATUS FOR DEFECATING AND BLEACHING CANE-JUICE, &c.—Marcelin Landry, Iberville Parish, La.

Claim.—The combination of receptacle A, conduit *a*, and trough B with the receivers or defecators F and D, and shaft *d* with one or more spiral plate-screws C, openings *e*, and guard *g*, arranged, as described, and for the purpose set forth.

117,788. — TREMOLO FOR REED-ORGANS, &c.—John R. Lomas, New Haven, Conn., assignor to B. Shoninger, same place.

Claim.—The rotary prism A, applied to an organ or melodeon as a tremolo attatchment, as specified.

117,789. — ELEVATOR. — Gilbert B. Lowe, Jamesville, N. Y.

Claim.—In connection with the elevating-buckets D D, the chain-belt C, driving-wheels B *b*, guide-rollers E E, and ribs or tracks F *f*, all constructed and operating substantially as and for the purpose described.

117,790. — METHOD OF CONSTRUCTING SIEVES.—Robert J. Mann, Burlington, Iowa.

Claim. — The process of securing the wire or sieve-cloth to a metallic sieve, substantially as above described.

117,791.—DIGITORIUM.—Myer Marks, London, England, assignor to William A. Pond, New York city.

Claim.—The series of pivoted and spring-keys arranged within box A, the wrist-support G H, the rounded forefinger-plates I I, and the intermediate finger-plate J, when all are constructed and combined in one digitorium, as and for the purpose specified.

117,792.—WASHING-MACHINE.—Thomas A. Massie, Plattsburg, Mo.

Claim.—The beater H, dovetailed arm I, lever L, operating-lever M, socket or plates N, pivoted socket-plates P, pawl or tongue Q, lever O, and rake R S, constructed and arranged in connection with each other and with the stationary rack G, angular ribs J, ribs or ways K, and box A, substantially as herein shown and described, and for the purposes set forth.

117,793. — HORSESHOE-NAIL CLINCHER.—Daniel Mater, Jr., Bellmore, Ind., assignor to himself and Ira Mater, same place.

Claim.—The lever-jaw A, the curved jaw B, curved lever F, fulcrum G, and connecting-bar I I, combined and arranged to operate substantially as and for the purposes described.

118,794. — COTTON AND HAY-PRESS. — Alexander McGowen, Houston, Tex.

Claim.—1. The combination, with the screw D, of the elongated nut E provided with chilled flange F and sleeve G, and sleeve J provided with chilled flange K, all constructed and arranged to operate with anti-friction balls L L, as and for the purpose herein set forth.

2. In the press herein described, the arrangement of the nut E and sleeve J with the screw D, follower C, cross-beams M, and levers N, all constructed and operating as and for the purposes specified.

117,795, antedated July 28, 1871.—ENVELOPE. — Charles E. McMahan, Elizabeth, N. J., assignor to Albert G. Crane, same place.

Claim.—The extra pocket-piece C with the folding edges *d d d*, when used in connection with an envelope constructed substantially as shown and described, and for the objects herein set forth.

117,796.—APPARATUS FOR BLEACHING FABRICS. — Leopold Mendelson, New York, N. Y.

Claim. — The arrangement and application of chlorine-generator A, purifier B, and fabric-steep E with pipe B and cocked pipe D *e*, as and for the purpose specified.

117,797. — SEWING-MACHINE. — Nicholas Meyers, Buffalo, N. Y.

Claim.—1. The appliances made use of for imparting a vibratory movement to the arm H, consisting of the spherical eccentric C on shaft A, annular strap D, connecting-plate E, and shaft F, when arranged and operating together, as described.

2. The combination of the rock-shaft I, vibrating slotted arm H, connecting-rod, clamp-screws, and ball-and-socket joint, all constructed and operating together, as and for the purpose described.

3. The combination of the vibrating slotted arm H, vibrating lever K, connecting-rod P, and shuttle carrier L, as herein set forth.

4. The arrangement and combination of the rock-shaft I, connecting-rod *a*, crank Z, adjustable cylinder X, disk Y, and looper W, when operating together, as described.

5. The looper-hook W pivoted to the bottom of the adjustable cylinder X, in combination with the disk Y, when operating as and for the purposes described.

6. In combination with the bed-plate, the rotary cylinder X provided with the pin *d*, as herein described.

7. The shuttle-race, shuttle-carrier, and adjustable cylinder, so arranged as to form an opening in the race-face, or leave it continuous to admit of the reciprocation of the looper or shuttle.

117,798. — JOIST-HOOK. — James S. Miller, Terre Haute, Ind.

Claim.—The standard A, lever B, hook C, and arm D *e'*, said parts being constructed and arranged in connection with each other, substantially as herein shown and described, and for the purpose set forth.

117,799.—SOCKET FOR CONNECTING SPOKES AND FELLIES.—Samuel Mitchell, Lima, N. Y., assignor to himself and Stephen B. Tidd, same place.

Claim. — The socket C, when formed with the slits *f f* for the insertion of a wedge, whereby the double effect of expanding the spoke in the socket and the socket in the felly is produced, substantially as herein shown and described.

117,800, antedated August 2, 1871.—BURIAL-CASKET.—J. Owen Moore, Albany, N. Y.

Claim.—The ends C and C', sides B B, covers B D, and bottom A, connected and arranged to form an improved coffin, in the manner herein shown and described.

117,801.—PLOW.—Samuel D. Morrison, Dennis A. Morrison, and Joseph B. Morrison, Fort Madison, Iowa.

Claim.—The arrangement of beam C and handles D D' with slotted plate H, standards G G', bolts I I, rod E, and nuts J J J, constructed and operating substantially as and for the purpose specified.

117,802.—DEVICE FOR CONNECTING BLOCKS OF WOOD PAVEMENTS.—David H. Mulford, Saratoga Springs, N. Y.

Claim.—The hook shown in Fig. 2, when applied to the blocks, as shown in the upturned point F, fitting in the groove C in the bottom of the blocks, as set forth.

117,803.—CULTIVATOR. — Anthony H. Myers, Hermon, Ill.

Claim.—The plates L, chain N, and pulley P, when arranged to operate with the double-tree K and draft-pole A, as and for the purpose specified.

117,804. — ICE-ELEVATOR. — John J. Neuman, Middletown, Ohio.

Claim.—The arrangement of hinged frames A, B, C, and I, in combination with an endless carrier having the projections H thereon, as and for the purpose specified.

117,805.—APPARATUS FOR GENERATING CARBONIC-ACID GAS.—James D. O'Donnell, Washington, D. C.

Claim.—1. The stationary acid-chamber, molded of lead or any other suitable material, and of any desirable shape, with opening in bottom of lugs on outside at top, and securely affixed to under side of top of generator, with an intervening space for the equalization of pressure on generator and chamber, constructed and affixed substantially in the manner hereinbefore described.

2. The horizontally-working acid-valve, operated by handle turning it half-round and back in its seat without raising it from same, the valve-seat secured in position by nut working on end of stem to same, which forms a perfectly tight joint by compression of bottom of acid-chamber, all constructed, arranged, and operating substantially in the manner before described.

3. The leaden pipe, with funnel-shaped termination, permanently attached to end of stem of valve-seat, and extending nearly to bottom of generator, and operating substantially as herein described.

4. The discharge-valve on inside of generator at bottom of same, constructed, affixed, and operating substantially in the manner and for the purpose before described.

117,806.—TRUNK-LOCK.—James H. Oliver, Baltimore, Md.

Claim.—The bolt A, having long and short beveled projections *a* and *a'*, in combination with the tube D, spring *m*, plates E and F, and hasp B, all constructed substantially as and for the purpose set forth.

117,807.—POULTRY FOUNTAIN. — John S. Orndorff, Virginia City, Nev.

Claim.—1. The covered water-vessel B for young chickens, having one or more apertures, b^3, through which they may drink without wetting themselves, as described.

2. The drinking-vessel B b^2 b^3, provided with perpendicular neck b^1, as and for the purpose specified.

117,808. — BALANCE-VALVE FOR STEAM-PUMPS.—James V. Pangburn, Galesburg, Ill., assignor to himself and James T. Clark, same place.

Claim.—The rods M M and valves G and L, constructed substantially as described, and arranged to operate in combination with the ports N N', substantially as and for the purpose specified.

117,809.—CRADLE. — David Otho Parker, Liverpool, Nova Scotia.

Claim.—The construction of a cradle, having the parts A B and A B, composing its sides, and the parts C C composing its bottom, each and all combined as indicated in Fig. 2 of the drawing, substantially as described, and for the purposes set forth.

117,810.—COMBINED CHAIR AND CANE.—David Otho Parker, Liverpool, Nova Scotia.

Claim.—A combined chair and cane, consisting of the detachable staff A, three detachable hinged pieces, B *b'*, and three pivoted strips, C, said parts A B *b'* C being constructed and arranged substantially as herein shown and described.

117,811. — MANUFACTURE OF SEAMLESS SHOES.—Charles W. Peeler, Chicago, Ill., and Norman C. Johnson, Springfield, Mass.

Claim.—1. The former or mold A, having the groove or channel C therein, in combination with the clamps F hinged at *i*, and secured together in said groove by the lever *f*, substantially as and for the purpose described.

2. As a new article of manufacture, a seamless shoe upper made from a woven or textile fabric, substantially in the manner and by the process herein described.

117,812.—THRASHING-MACHINE. — William M. Pratt, Chicago, Ill.

Claim.—1. The combination of the fan-beater B and tight casing A, constructed with teeth *e*, as and for the purpose described.

2. The combination of the fan-beater B, tight casing A, air-chamber M, tube or tubes N, and supply-openings H, as and for the purpose described.

3. In combination with the fan-beater B and tight casing A, the valve and feed-rollers C C', constructed as and for the purpose described.

4. In combination with the fan-beater B and tight casing A, the straw-discharge tube D provided with perforated false bottom, as and for the purpose described

5. In combination with the fan-beater B, tight casing A, and sieve E, the hood G, as and for the purpose described.

6. In combination with the straw-discharge tube D, the stacker-tube, as and for the purpose described.

7. The fluted roller R, when employed in the connection and for the purpose specified and set forth.

117,813.—DITCHING-PLOW.—Robert M. Primner, Vinton, Iowa.

Claim.—The mold-boards K K and plates Q Q, combined, constructed, and relatively arranged as and for the purpose specified.

117,814.—HOT-AIR FURNACE.—Henry Randall, Quincy, Ill.

Claim.—The arrangement of the flue-pipes 4, in combination with the construction of flues 1 in the body of the furnace and the opening 2 in rear of furnace, with rear shaft 3, side flues 4', and damm 5, as a combination to generate heat, substantially as and for the purposes hereinbefore set forth.

117,815, antedated August 3, 1871.—BEE-HIVE.—Oliver P. Reeve and Christopher C. Parker, Central City, Mo.

Claim.—A bee-hive, consisting of the casing A, partitions *a*, a^1, and a^2, doors B B and a^2 a^3, honey-boxes D D, supports *d d'*, moth-traps C C, feeding apparatus F, surplus honey-boxes D' D', and comb-frames E E, all constructed and arranged substantially as described.

117,816.—CORNER-POST FOR WAGON AND CARRIAGE-SEATS.—Joseph Roberts, Worcester, Mass.

Claim.—1. A metallic corner-post for wagon and carriage-seats, provided with a supporting-foot and a socketed head to receive the extremities of the back and end rails.

2. The upright metallic corner-post A, provided with the rectangular sockets D F, substantially as and for the purpose set forth.

117,817.—LIFE-BOAT.—Robert I. Robeson, Oskaloosa, Iowa.

Claim.—The hollow buoys C, provided with partitions D and valves F, in combination with the boat A, when the said buoys are made attachable and detachable, in the manner shown and described, substantially as specified.

117,818.—CARD-ENVELOPE.—Charles Rowland, Washington, D. C., assignor to James A. McCrea, Augustus L. McCrea, and Harry Cox, same place.

Claim.—The combination and arrangement of a stiff or rigid back, A, with a flexible flap, B, substantially as herein described and shown.

117,819.—SPRING FOR VEHICLES.—Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. Elliptic springs, when applied to vehicles, and so arranged and operating as to leave the one end jointed together and the other end unjointed, and the said dislocated ends operating independently of each other, substantially as shown and described.

2. The upper half of the spring A or its equivalent, in combination with the body-loop E (or bottom of the body F) and stirrup B, substantially as and for the purpose shown and described.

3. In combination with the devices in the second claim, the main brace E', as and for the purpose set forth.

4. The stirrup B, in combination with the end of elliptic springs and the body F, substantially as and for the purpose set forth.

5. Broadly securing and operating the front springs of vehicles to the thills or pole of the same, in the manner and for the purpose substantially as shown and described.

117,820. — HEATING-DRUM. — Charles W. Servoss, Chicago, Ill.

Claim.—1. The arrangement, within the tubular radiator A, of the stationary diaphragm D and movable diaphragm E with relation to the inlet and exit-flues B C, as and for the purpose set forth.

2. In tubular radiators, the scrapers G, arranged and operating substantially as described.

117,821. — CHURN. — Jacob Shaver, Lawrence, Ill.

Claim.—The combination of the cogged rod D F, dashers G H, lever E, and box A B K J, as and for the purpose set forth.

117,822. — PADDLE-WHEEL.—Nathaniel P. Sheldon, San Francisco, Cal.

Claim.—1. The combination, in a paddle-wheel, of the radial arms C forming ways H, and paddle-blades N with the circular ways F, substantially as and for the purposes herein described.

2. The combination of the ways F, paddle-blades N, ways W, and screw H, as herein described.

117,823. — SHAFT-COUPLING. — Edward G. Shortt, Carthage, N. Y., assignor to himself, Levi Wood, Minor Guyot, A. Irving Sternberg, and George Gilbert, same place.

Claim.—1. The wedge *a* provided with the slot *b*, as specified.

2. The wedge *a* provided with the groove *c*, as described.

117,824.—APPARATUS FOR DISINTEGRATING SUBSTANCES.—Charles Graham Chappell Simpson, Montreal, Canada.

Claim.—1. The novel disks *a*, each in one piece, and attached to the shafts *b* or *i*, substantially in the manner and for the purpose described.

2. The novel saddles b^2, sub-bed b^3, projections b^4, and screws *c*, substantially as and for the purposes set forth.

3. The novel openings *f*, casing f^1, semi-pyramidical pieces f^2, plate *g*, feed-spout *h*, and guards f^3, substantially as and for the purpose set forth.

4. The novel hollow shafts *i*, spindle i^2, screw i^3, hopper i^3, pulley *l*, and socket *k*, substantially as and for the purpose set forth.

5. The novel bar *p* with disk *a*, substantially as and for the purpose set forth.

117,825.—COMPRESSED-AIR ENGINE.—Amos M. Smith, Chicago, Ill.

Claim.—The main tank A, the governor or regulator E, the auxiliary tank D, and engine C, when all are arranged on wheels and combined so as to operate substantially as described.

117,826, antedated July 25, 1871. — DIE-MOLD FOR COMPOSITION ARTICLES.—Isaac Smith, New York, N. Y., assignor of one-half his right to William Sanderson, same place.

Claim.—The combination, with the parts of the die, of a securing-collar, the whole so constructed and operating as to permit the keying together of the parts of the die while in the press, substantially as described.

117,827. — SAW-SHARPENING MACHINE.—Zealous Sperry, Midland, Mich.

Claim.—1. The curvilinear frame A, secured to a bench or other suitable support at one end, and supplied with the top and bottom pieces *a a'* having perforations cut through them, and curvilinear toothed bar C attached to the table D of the machine, which is supplied with grooves for the reception of the side rails of frame A, and gearing or engaging with a pinion on the shaft *b* having its bearings in an upright, *b'*, of cap-piece *a'*, secured to the frame, and operated by crank *b*, combined, arranged, and operating as and for the purpose described.

2. The employment of the pivoted arm F, in combination with the revolving vertical post E, acting both as a lever and a pawl in rotating and holding in place the said post, its projection *f* entering depressions or recesses cut in the semicircular stationary leaf *d* secured to table D, constructed and arranged as and for the purpose described.

3. In combination with the post E, arm *h'*, the lever H, shaft *g*, knee-joint *h*, and pivoted frame G, all constructed, arranged, and operating, as and for the purpose described.

4. The pivoted frame G, constructed as shown, and supplied with the operating-screw *i* and support *i'*, in combination with the vertical sliding support I, having its lower end so recessed or grooved as to receive the top rails of said frame G, constructed and operating as and for the purpose set forth.

117,828.—MACHINE FOR TURNING LOGS.—Edward H. Stearns, Erie, Pa.

Claim.—1. The toothed bar or arc E, operated by rack or spur-gearing *e* and G, substantially as and for the purpose described.

2. The rocking-guide *g*, either with or without the anti-friction rollers *g'*, in combination with the toothed arc or bar E, constructed and arranged substantially as in the manner and for the purpose described.

3. The stirrup *c*, in combination with the bar E provided with slot *a*, constructed substantially as and for the purpose described.

4. The elastic buffer W, in combination with the

are or bar E, constructed substantially as and for the purpose described.

5. The spring-cog e'', in combination with the arc or bar E and pinion G, constructed substantially as and for the purpose described.

6. The combination of the brake N having the shoulder Z', the spring-tooth Z, and the brake P^1, constructed and arranged substantially as and for the purpose described.

7. The rocking frame H^2 having the arms H^1 H^1, the friction-wheel I with its shaft I', friction-wheel K with its shaft Z'', the pinion G, and the toothed bar E, in combination, each constructed and all operated substantially as set forth.

117,829.—DRAFT DEVICE FOR VEHICLES.—Jonathan S. Tibbets, Brazil, Ind.

Claim.—1. The whiffletrees, provided with the hooked projections E, and mounted in the angle-ears B B' of the plates C, the latter being pivoted to the evener, all substantially as specified.

2. The revolving whiffletrees, provided with an arm, F, and combined with the revolving shaft I, having the yokes G and the strap K, all substantially as specified.

3. The tongue, having the adjustable arms L, and bar P, for adapting it to connect with clips at different distances apart, all substantially as specified.

4. The notched guard-plates, and the bolts Q with elongated and weighted heads Q', in combination with the clip-irons and adjustable serrated arms L L of the tongue, as shown and described.

117,830. — SPRING BED-BOTTOM.—Charles Henry Triphagen, Pewamo, Mich.

Claim.—The combination of the clips B, clamps F and F', the elastic loops E, and the slats A of a bed-bottom, all constructed and arranged substantially as described and shown, for the purposes set forth.

117,831. — CORNER-SOCKET FOR SHOW-CASES, BOXES, &c.—John W. Truby, Chicago, Ill., assignor to Matthias Terhune, same place.

Claim.—The corner-sockets A, for show cases, boxes, and frames, having cavities C molded to fit the molding which connects said sockets, as shown and described.

117,832, antedated July 27, 1871.—HAND-STAMP.—Sidney S. Turner, Westborough, and Collins Stevens and George M. Stevens, Boston, Mass., assignors to themselves and Edward B. Pendleton, Westerly, R. I.

Claim.—The printing-wheels B and C, carrying upon their peripheries characters indicating time, when the same are connected to and operated by clock-work, as and for the purpose set forth.

117,833, antedated August 3, 1871.—BASE-BURNING STOVE.—Henry B. Van Benthuysen, Lockhaven, Pa.

Claim.—1. A rotary or alternating magazine-stove, having an improved fire-chamber composed of the wall B, staves K, ring a, cap Q, wings L, one or more, and grate M, arranged and combined substantially as and for the purposes set forth.

2. A convex rotary or alternating grate, having its outer ring outside the interior diameter of the fire-pot, in combination with a fire-chamber wall or lining composed of narrow cast staves, arranged substantially as and for the purposes set forth.

3. Elevating a part of the grate-bars or alternate radial bars above the principal bars, in combination with one or more projections on the inner wall of the fire-chamber.

4. The grate-bangor 2, dumping-bar 4, fins 3 3, and pinion A, as arranged for dumping the grate, substantially as set forth.

117,834.—POT AND KETTLE-COVERS.—Sumner Van Horn, Chicopee, assignor of two-thirds his right to Vallette W. Van Horn and Edw. A. Van Horn, Springfield, Mass.

Claim.—A pot or kettle-cover, composed of two or more plates or disks, A and B, connected substantially as described, in combination with pipe F G H, as specified.

117,835. — SEED-PLANTER. — Thomas G. Smith Vaniz, Canton, Miss.

Claim.—1. The distributing-wheel G, having a channeled or grooved periphery and made adjustable, substantially as described.

2. The combination of the hopper F and adjustable casing J with the spiral spring M and leather linings f.

3. A seed-planter, composed essentially of the hopper F A, distributing-wheel G s, adjustable casing J, the spring M, and cord L, or their equivalents, and a frame, A, with drill and covering-shares, a wheel, B, and driving-gearing, all operating substantially as herein described.

117,836. — APPARATUS FOR RECTIFYING SPIRITS.—William Harrison Ware, Philadelphia, Pa.

Claim.—1. The combination and arrangement of a rectifying-vessel or vessels, F, arranged in a basement room, a reservoir, K, arranged in a room above said vessel, a pipe, J, communicating with the reservoir and with the rectifying-vessel, and a pump, G, or its equivalent, by which the liquor after being refined is elevated through the pipe to the reservoir above, all as set forth and shown.

2. The combination, with the rectifying-vessel, of a pipe, J, extending to a reservoir, K, and communicating with the lower part of the latter through a pipe, J', the said pipes J and J' being provided with cocks j^2, j^3, and q, and the whole being arranged and operating as set forth.

3. The rectifying-vessel, consisting of the tank F, perforated partition b and partition g, and chambers f f^1, communicating with each other, as specified.

4. The combination, with the rectifying-vessel of a gauge operated by a float, g^2, through the medium of a cord, g^1, substantially as described.

5. The combination, with the said rectifying-vessel, of a close-fitting hinged cover g, consisting of canvas or other fabric stretched upon a frame, as specified.

117,837.—SHUTTLE FOR WEAVING WIRE-CLOTH.—Charles H. Waters, Groton, and William Ott, Jr., Clinton, assignors to Clinton Wire-Cloth Company, Clinton, Mass.

Claim.—The revolving friction-finger, constructed and operating as described, in combination with the wire-carrying bobbin, for the purpose of holding the running thread of wire under restraint as it is drawn through the delivery-rolls, substantially as described.

117,838. — CONSTRUCTION OF DIES FOR FORMING THE LIPS OF AUGER-BITS.—Richard N. Watrous, Elmira, N. Y., assignor to himself and W. W. Kellogg, same place.

Claim.—As an improvement in dies for swaging and forming auger-bits, the projection d on pintle B, made separate from the other parts of the die and inserted in the die-block in the tapering socket, and made removable therefrom in virtue of the holes b, as and for the purpose specified.

117,839.—PEG-CUTTER.—William M. Watt, Como, Miss.

Claim.—A shoemaker's tool, consisting of handle E, scraper A, slotted chisels B B, and set-screws D

D all constructed, arranged, and operated as herein described, and for the purposes set forth.

117,840.—HOISTING APPARATUS.—Alexander Weide, Chicago, Ill.

Claim.—1. The combination of the screws B B, platform A, and half-nuts F F, and the bearings C C', substantially as specified.

2. The combination of the subject of the last-above claim with the horizontal shaft I, miter-gear wheels H H G G, loose pulleys J J', and clutch K, substantially as specified.

117,841. — STEAM-POWER AIR-BRAKE DEVICE.—George Westinghouse, Jr., Pittsburg, Pa.

Claim.—1. A bent-lever, receiving power, by its shorter arm, from the piston-stem, and communicating the same from its longer arm to the brake-lever, arranged and combined substantially as described.

2. A spiral or other suitable form of spring, arranged, in connection with the longer arm of a bent lever, in a power car-brake apparatus, so that the spring will act with a continually-increasing power in causing the brake-shoes to clear the wheels, substantially as described.

3. In a power car-brake apparatus, the diagonally-opposite arrangement of the male and female couplings on the branching air-pipe, substantially as described.

117,842. — BRICK-MACHINE. — William G. White, Bedford, Ohio.

Claim.—The triangular-shaped lever E, in combination with the cam D, lever F, arm G, and follower or frame H H, arranged and operating substantially as and for the purpose described.

117,843. — BREECH-LOADING FIRE-ARM.—Andrew E. Whitmore, Ilion, N. Y.

Claim.—1. A bolt, H, in combination with slotted and recessed lugs I K formed on the under side of the barrel or barrels, and operating substantially in the manner and for the purpose described.

2. A hammer-guard and lifter, L, operated by the guard-lever E, substantially in the manner and for the purpose set forth.

3. The guard-lever E, bolt H, one or more slotted and recessed lugs, I K, and the hammer-guard and lifter L, all combined and operating substantially as described, for the purpose set forth.

117,844.—BROOM.—Addison Willis, Chicago, Ill.

Claim.—As a new article of manufacture, a broom, formed of wood-splints and broom-corn, when arranged and constructed in the manner described, and secured upon the handle A by the fastenings C C, as herein shown and described.

117,845.—OILING JOURNALS.—William G. Winne, Albany, N. Y.

Claim.—The journal A having spiral groove a', and the fixed bearing B, removable bearing C having close oil-reservoir D and channels d^1 d^2, and the end-grooved rod E, all constructed and arranged together as and for the purpose specified.

117,846.—WASHING-MACHINE.—George L. Witsil, Philadelphia, Pa.

Claim.—1. The combination of a tub for holding clothes to be cleansed, a corrugated cylinder suspended within such tub, and an oscillating corrugated rubber, substantially as and for the purpose set forth.

2. The combination and arrangement of the tub A, shaft C, spring C^1, cylinder or roller C^2, and rubber D, substantially as and for the purpose set forth.

117,847. — CLOTHES-DRIER. — Malcolm H. Wood, Carlisle, Ohio.

Claim.—The combination of the lever B and ratchet e with the rack C, post A, cross-bar D, when the same are constructed and arranged to operate as described.

117,848.—DITCHING-MACHINE.—Stephen S. Wood, Brooklyn, N. Y.

Claim.—1. The rotary feeding-wheel, consisting of a drum or shaft and the spiral blades, constructed and arranged substantially as specified.

2. The said feeding-wheel, mounted in the vertically-oscillating frame F, and the latter arranged between the guides H, all substantially as specified.

3. A carrier, M, and lateral carrier T, combined with the plate R, endless belt S, and apron W, when arranged intermediately, as and for the purpose specified.

4. The power-wheel, consisting of a drum and two or more rows of points with a plane surface between the said rows of points, substantially as specified.

5. The combination, with the power-wheel constructed as described, of the scraper D', substantially as specified.

117,849.—WHEEL-HUB.—Johnston V. Woolsey, Sandusky, Ohio.

Claim.—1. The combination of the wood central portion C grooved at g all round, the metal collars G G' with rectangular partitions c and with rivets b, and the spokes A with tapered surfaces a a^1 and a^2 a^3, the latter bearing against one another and the former against the rectangular partitions, all arranged substantially in the manner and for the purpose described.

2. The shoulders s s formed on the grooved wooden hub C, in combination with the shoulders s' s' formed in the metal clamping-collars G G', one of which has rectangular partitions c, substantially as described.

3. The partitions c formed on the collar G, and having their ends beveled, as at Y, as shown, for the purpose set forth.

117,850. — CUTTER-HEAD. — Johnston V. Woolsey, Sandusky, Ohio.

Claim.—1. The cutter-head A B, one plate of which is obliquely and tangentially grooved to receive the cutters, in combination with the set-screws c, substantially as described.

2. The spacing-pieces b and cutters a, combined with a cutter-head which is constructed substantially as described.

117,851.—PENCIL-SHEATH.—Charles E. Abbott, Malden, and Rufus S. Merrill, Hyde Park, Mass.

Claim.—1. A pencil-holder and point-guard, composed of a metallic barrel with a drawn-down and closed end to receive and protect the point of the pencil, and a metallic cylinder formed with spring-fingers to hold the pencil, both the cylinder and barrel being formed with lugs, whereby they may be secured to the flap of a diary, memorandum, or other book.

2. The combination, with the flap of a diary, memorandum, or other book, of a pencil-holder and point-guard, constructed and secured to said flap, as herein shown and set forth.

117,852.—PROCESS OF OBTAINING VEGETABLE FIBERS. — William Adamson and Charles F. A. Simonin, Philadelphia, Pa., assignors to William Adamson.

Claim.—The mode, substantially as herein described, of obtaining vegetable fibers by the application of hydrocarbon vapors.

117,853. — HOSE-PIPE VALVE. — Albert F. Allen, Providence, R. I.

Claim.—1. In combination with a valve or supply-chamber, the inverted conical valve-seat, with conical exterior, extending into the chamber toward the immediate source of supply, and the hol-

low rotary valve, the two being provided with corresponding elongated triangular ports, substantially as described, for the purposes specified.

2. The inverted conical valve-seat D with a conical exterior, the valve-chamber A, and the hollow rotary valve E, the two being provided with corresponding elongated triangular ports, combined substantially as described, and operated peripherically, as and for the purposes specified.

117,854. — Tap for Oil-Cans. — Matthew Andrew, Melbourne, Victoria.

Claim.—The tap for oil-cans, consisting of the exterior socket B upon the plate *f*, which is soldered to the can, the plug C within the socket, and the capsule D inclosing both the tube and socket, as herein described, for the purpose specified.

117,855.—Metallic Roofing.—William S. Belt, Cincinnati, Ohio.

Claim.—In a metallic roof, the arrangement of the V-crimped sheets B C, as shown and described, the novelty consisting in placing the crimp with the perforated flange D over the crimp of the adjacent sheet, so that each sheet will be fastened at each side of the sheathing of the roof.

117,856.—Machine for Channeling the Soles of Boots and Shoes.—Lyman R. Blake, Fort Wayne, Ind.

Claim.—1. In combination with the lower feed-wheel and shaft journaled in stationary bearings, and the pivoted arm or lever *f* that carries the upper feed-wheel shaft, a stationary edge-guide, *j*, attached to the front stand, substantially as shown and described.

2. An edge-guide attached to the front stand *b* and made adjustable from said stand, substantially as shown and described.

3. In combination with the movable arm or lever and the cutters attached thereto, the adjustable journal-box *g* for raising and lowering the wheel *i*, substantially as described.

4. In combination with the wheel *i*, made adjustable, as described, the presser-foot *s*, attached to and moving with the adjustable journal-box.

117,857.—Air-Pressure Tap.—Charles T. Bonsall and Theodore Bergner, Philadelphia, Pa.

Claim.—The body A, formed with the air-chamber *c* and ducts *a*, and the plug or valve *g* for closing the air and liquid-passages, in combination with tapping-tube B and the suspended packing C, constructed and operating in the manner described.

117,858.—Mode of Securing Pockets to Traveling-Bag Partitions. — Henry Braunhold, New York, N. Y.

Claim.—The within-described fastening for pockets of partitions for traveling-bags or other articles of a similar nature, composed of strips of muslin or other tough and flexible material passed through slits *a b* in the partition and secured to said partition and to the parts of the pocket, substantially as set forth.

117,859, antedated August 5, 1871.—Organ. Riley Burdett and Benjamin O. Church, Chicago, Ill.

Claim.—1. In combination with the bellows of an organ, the cut-off valve K, or its equivalent, connected with said bellows by suitable mechanism to make said valve automatic, to prevent the flow of wind to the pipes except when under bellows pressure sufficient to produce a proper tone, as set forth.

2. The independent blow-pedal U, in connection with the pedals S T and an independent pressure-bellows for the organ-pipes.

3. The adjusting-screw *g* and rod *f* connected as described, and combined with the lever *d* and spring *e*, substantially as set forth.

4. The temperature-index A, in combination with the adjustable pressure-lever *d* and adjustor of two-*g*, or their equivalents, to operate as and for the purposes set forth.

5. The pressure or cut-off valve K, in combination with the lever P and studs Q and R attached to the upper and lower parts of the bellows of a pipe-organ, for the purpose set forth.

117,860. — Device for Forming Spiral Bed-Springs. — Edwin L. Bushnell, Poughkeepsie, N. Y.

Claim.—1. The combination of the stud *a*, clamp B, and jaws E, with the mechanism to operate said clamp and jaws, constructed and arranged to operate substantially as described.

2. In combination with the above-named device, the adjustable gauge L for regulating the distance apart of the eyes or loops, as set forth.

3. In combination with the stud *a* and clamping or bending-jaws E, the rest G, constructed and arranged to operate as set forth.

4. The vise O, having the guide or holding-bar *s* applied to one of its jaws, when constructed and arranged to operate as and for the purpose herein described.

117,861.—Fog-Alarm.—Samuel G. Cabell, Quincy, Ill., assignor to himself and George P. Este, Washington, D. C.

Claim.—1. The combination herein shown, in a fog-alarm, of one or more air-cylinders, a reed, horn, and a piston-head working in the cylinder or cylinders, substantially as and for the purposes set forth.

2. The combination of the two cylinders A and G, piston-rod B, and piston L, and an air-valve, *b*, arranged in the head of the cylinder, substantially as and for the purposes set forth.

3. In combination with the air-cylinder in a fog-alarm provided with a reed operated upon by a piston, the cone E under the arrangement shown, for protecting the mouth-piece and bracing the cylinder, substantially as herein set forth.

4. In combination with the air-cylinder A^1 provided with its exterior tubes A, cone E or its equivalent, and reed D, the piston-rod B^1, piston L, and guide-rods *f*, all substantially as and for the purposes herein set forth.

5. The combination of the outer cylinder A^2, provided with reed D and cone E or its equivalent, the interior working cylinder G^2 having a piston-head and air-passage, b^2, on its inner end, and the piston-rod B^2 with piston L, all substantially as and for the purposes herein set forth.

6. In combination with the cylinders A and G, constructed substantially as described, the hollow piston-rod B provided with openings *c*, and piston L, substantially as and for the purposes herein set forth.

7. The combination, in a fog-signal, of an air-cylinder, A^3, piston-rod B^3, piston L, flexible air-bulb J, regulating-cock I, and a chamber inclosing a reed, D, connected with a horn, all substantially as and for the purposes herein set forth.

117,862.—Harvester. — James A. Cauldwell, Watkins, N. Y., assignor to Frank L. Johnson, George Johnson, Orlando Hurd, Bradford C. Hurd, and Samuel M. Barker, same place.

Claim.—1. The semi-spherical case or shell C, provided with the tubular arm G and central sleeve mounted upon and vibrating about the main axle, in combination with the independently vibrating tongue, substantially as described.

2. The semi-spherical shell or case C, provided with the sleeve C', having a bearing thereon for the inner end of the countershaft O, and with a bearing for the outer end of said shaft, substantially as set forth.

3. In combination with the shell C, gear-wheel D, countershaft O, and main axle B, the collar or stop c^2, whereby a proper relation between the shell C, wheel D, clutch L, and cam M is maintained.

4. The toothed segment-lever S, mounted on the vibrating tubular arm or sleeve G, in combination with the coupling-sleeve and toothed segment, also mounted on sleeve G, as described.

117,863.—Fire-Screen. — Augustus Chestnutwood, Davidsville, Pa.

Claim.—The herein-described automatically-adjustable screen, consisting of the tubular stand A, spring B, rods C, fan or screen D, and set-screw F, substantially as specified.

117,864. — Mowing-Machine. — Levi S. Clark, Bethel, Conn.

Claim.—1. The arrangement, relatively with the sickle G and lever H, of the pitman J and reciprocating sleeve M for operation of the sickle, substantially as specified.

2. The spring-borne pawls *f f*, arranged within the boxes *g* and provided with horns *h* and rings *i*, for operation substantially as shown and described.

3. The crutched pendent bar I, in combination with the lever H, pitman J, and the axle C of the main frame, substantially as specified.

4. The combination, with the sickle G, of the reciprocating sleeve M, the strap or clip N, the connecting-rod O, the lever P, and the link Q, essentially as herein set forth.

117,865.—Croquet-Arch. — Frederick M. Clarke, Washington, D. C.

Claim.—A croquet-arch, provided with a projecting shoulder, spur, or equivalent device for adapting it to be driven or forced into the ground, as set forth.

117,866.—Faucet.—William Cleveland, Orange, N. J.

Claim.—The shank of the faucet formed with the slot *x*, in combination with the bent spring *a* and annular groove of the key *b*, the whole constructed and operating as described.

117,867.—Machine for Sewing Hat-Tips to Linings.—Jacob L. Coles, Newark, N. J.

Claim.—1. The carriage A, the oval turning mechanism, and the screw for adjusting the same in relation to the stitching and cutting mechanism, when combined with and made movable laterally on ways parallel to the line of the feed-motion of the sewing-machine, as described.

2. The carriage A, sustaining the oval turning mechanism, mounted on railways and controlled by latches, in combination with stitching and cutting mechanism, as described.

3. The combination of the turn-table slotted as described, the main stud, and the auxiliary stud, the table being partially controlled in its movement with relation to the stitching mechanism by the stud *i*, as and for the purposes specified.

4. The adjustable lever for controlling the auxiliary stud, in combination with the turn-table slotted as described, the central stud, and the auxiliary stud, as and for the purposes specified.

5. The combination of the stop-latch and the turn-table face-plate, substantially as described.

117,868.—Journal-Bearing. — Sydney P. Cook and Hiram Burt Cook, San Francisco, Cal.

Claim.—Ivory or any analogous bone as a bearing for journals, substantially as and for the purpose above described.

117,869.—Propulsion of Canal-Boats.—Michael N. Cummiskey, Paterson, N. J.

Claim.—1. The jaws *m n*, suspended from the eccentrics *i* upon the shaft *b*, and provided with rollers 2 or guides for the chain *f*, in combination with the chain-wheel *e*, substantially as and for the purposes set forth.

2. The hinged jaw *n* and cams *k* and *i*, in combination with the jaw *n*, eccentrics *i*, and chain-wheel *e*, for the purposes and as set forth.

117,870, antedated July 20, 1871.—Medical Compound for Treating Rheumatism, &c.—William Curless, Truckee, Cal.

Claim.—A medical compound composed of the ingredients above enumerated, mixed together in about the quantities above given, for the purpose specified.

117,871.—Call-Bell.—Henry A. Dierkes, New York, N. Y.

Claim.—The arrangement of the hammer E, coupling D, and rod *f*, in which the weighted side of the coupling is in a right line with the hammer, axis, and rod, whereby a slight motion of the latter imparts a quick and extended movement to the hammer, producing an effective blow upon the gong and a rapid subsidence to a position of rest, substantially as set forth.

117,872. — Safety-Valve. — Jarvis B. Edson, Brooklyn, N. Y.

Claim.—1. The construction and combination of pairs of corrugated diaphragm springs, in which the springs have their convex surfaces turned inward, as S S, Fig. 3.

2. The adaptation and combination of corrugated diaphragm steel springs, constructed as described, so as to impinge against a safety-valve lever at any certain pressure, and by which action the steam or other fluid under pressure will blow off.

117,873. — Condenser for Oil-Stills.—Hiram W. Faucet, Titusville, and Thomson McGowan, Meredith, Pa.

Claim.—The longitudinal cylindrical perforated pipe R, arranged within the condensing-cylinder C and communicating with the feed-pipe W, as described, in combination with the vapor-pipes V V surrounded by water in the water-box B, and operating with reference to the still S, substantially as and for the purpose set forth.

117,874, antedated August 4, 1871.—Wagon-Seat Fastening.—James H. Fellows, Alba, Pa.

Claim.—In a wagon-seat fastening, the combination, with the lock-plate A having socket B and perforated recess G, of the sliding bolt C, slotted at Z to receive the rivet *v*, and operating automatically by the spiral spring E and the tongue D, the whole being placed under the seat, as shown, to secure it firmly and prevent it from tipping, substantially as specified.

117,875.—Shingling and Slating Bracket.—Levi W. Fifield, Worcester, Mass., assignor to himself and William H. Hathorne, same place.

Claim.—The within-described adjustable shingling and slating-bracket, consisting of the toothed jaw A, head B, foot D, hoop-iron E, bar G, with yoke *b*, and the notched bar H, when all of said parts are constructed and arranged substantially as and for the purposes herein set forth.

117,876. — Shoe-Fastening.—Franklin D. Ford, New Bedford, Mass., and Elmer D. McIntosh, Washington, D. C.

Claim.—1. A boot or shoe, provided with the eyes *c c* and eyelet-openings or eyes C D, substantially as specified.

2. In a shoe, the button-hook placed under the leather with its loop projecting up through the leather to form the eye *c*, substantially as specified.

117,877.—Machine for Finishing Leather.—John P. Friend, Peabody, Mass.

Claim.—1. A machine for finishing leather, in which the bed-plate is supported by the levers C E and *g*, in the manner and for the purpose specified and shown.

2. A machine for finishing leather, in which the bed-plate is supported by levers, in combination with the spring *g*, by which the elasticity of the bed is adjusted, substantially as set forth.

3. The device for carrying the tool in a machine for finishing the leather, the same consisting of the foot O, which is attached to the pendulum by means of the links N and P, substantially as described and shown.

117,878.—WAGON-HUB.—John Henry Gaines, Durhamville, Tenn.

Claim.—1. The construction of the center piece or ring, having in its opposite faces double dovetailed recesses and screw-threaded projections, substantially as and for the purpose set forth.

2. The combination of the double dovetailed center piece or ring, and the spokes when made to fit the recesses in said center piece or ring, substantially as and for the purpose set forth.

3. The combination and arrangement of the center piece or ring A, having the dovetailed recesses in its opposite sides, the collars or flanges B B′, the pipe-box C, and nut C′, substantially as and for the purpose set forth.

117,879. — MILL FOR GRINDING COFFEE, SPICES, &c.—Joel Garfield, Ayer, Mass.

Claim.—1. In combination with the rotary and stationary grinding-surfaces, the spring o located between the end of the grinding-cone and the end *q* of the bearing i, and also operating to keep the grinding-surfaces apart, all as shown and described.

2. In combination with the shaft and the rotary and stationary grinding-surfaces or plates, the adjustable bearing k having holes therein larger than their screws r, and having its hole through which the shaft passes also made larger than the shaft, as and for the purpose described.

117,880. — SEALING AND UNSEALING DIP-PIPES IN HYDRAULIC MAINS.—William Earl Grenelle, New York, N. Y.

Claim.—1. The within-described arrangement and method of sealing the dip-pipe C upon the opening of the retort-lid H, thereby releasing the arm F and the weight E, depressing the lever G, causing the cut D to be elevated, in the manner and for the purpose herein set forth.

2. The combination of the arm A, weighted lever B, with the cup or saucer attachment D D, in the manner and for the purpose herein described.

3. The combination of the spindle J, stuffing-box K, cup D, with the lever G and arm F, in the manner and for the purpose herein described.

117,881.—LOCK-NUT. — Robert W. Hamilton, New York, N. Y., assignor to William L. Williams, same place.

Claim.—1. The screw-bolt, with a split end and tapering recess, combined with the nut and clamping-bolt, substantially as described.

2. A cylindrical nut, receiving the ends of the main and clamping-bolts, so that the nut is prevented from turning by screwing the clamping-bolt against the end of the main bolt, as set forth.

117,882.—BUCKLE.—George Havell, Newark, N. J.

Claim.—The center or tongue B, stamped or otherwise formed of one piece of metal, with a slot, *a*, and alternate semi-tubular depressions and projections *b d*, with the rod *c* and frame A, all arranged substantially as and for the purposes herein set forth.

117,883.—DEVICE TO PREVENT HOGS FROM ROOTING.—Daniel P. Heflebower, Champaign county, Ohio.

Claim.—The device for preventing hogs from rooting and raising gates, &c., consisting of a shank provided with a barbed and pointed head at each end, each head being bent forward to form an angle with the shank, and the lower head being slightly turned up at the point, substantially as specified.

117,884.—PRESERVING FRUITS AND VEGETABLES.—Francis C. Hooton, West Chester, Pa.

Claim.—The process of applying air-slaked or felled lime to all organic substances perishable in their nature, in combination with or without chloride of sodium, so as to absorb the oxygen of the surrounding atmosphere and the gases of decomposition, and thus arrest decay, substantially as described.

117,885.—DRAWER.—Irving A. Howe, Boston, Mass.

Claim.—The described improvement in drawers, consisting in forming them with the full unscarfed piece or gusset e inserted and located as shown and set forth, the point of the gusset being protected by the fly-pieces *f g* lapping thereon.

117,886. — KNITTING-MACHINE. — John M. Howe, Rochester, N. Y.

Claim.—1. The friction-clutch or dog d, applied and operating substantially as described, to adjust the V-cams of a knitting-machine by the reversal of the movement of the sliding frame in either direction, at any point in the stroke of the latter, for the purposes set forth.

2. The supporting-bars E E′ of the V-cams, hinged upon a common fixed center, in combination with the adjusting clamp-bar I, operating substantially in the manner set forth.

3. The V-cams D D′, provided with the supporting-bars E E′, when said bars are rigidly attached thereto and hinged to the sliding frame, substantially as and for the purposes set forth.

4. The frictional clutch-bar d, slotted plate F, and V-cams D D′, in combination with the carrier-plate *f*, arranged to operate substantially as set forth.

5. In combination with the frictional clutch-bar *d* and sliding cam-plate F, the locking latch *g* and stops h, substantially as and for the purposes set forth.

6. The wing-cams J J′, provided with graduations upon their faces, which are exposed through the openings in the lock-plates, substantially as and for the purposes set forth.

7. In combination, with the clamping-screw *o* and slot *p*, the wing-cam J provided with a slot, *n*, and the guiding pin *o* upon the lock-plate, arranged to operate conjointly, for the purposes set forth.

117,887. — STAVE-JOINTER. — Amyntus J. Howell and James Murphey, Spruce Hill, Pa.

Claim.—1. The table-carriage, pivoted on a longitudinal guide-rod, C, in connection with holding devices *a* N for supporting the respective edges of the tables at different distances from the saw, the whole arranged and co-operating substantially as represented and described, for the purpose set forth.

2. In the table-carriage of a stave-jointing machine of the form herein specified, head-blocks F and followers I, constructed with grooves *b* and knives *b′* for holding the ends of the staves, as represented and described.

3. The combination, with the followers I, of the handles J with the screw-stems *g* and nuts h, and the springs K L (either or both) for operating the same, as set forth.

117,888. — PRUNING-SHEARS. — Homer H. Ingalsbe, South Hartford, and Gustavus A. Prescott, Sandy Hill, N. Y.

Claim.—1. The lever E, constructed as set forth, in combination with the rod C, staff D, and jaws A B, all constructed and arranged to operate substantially as set forth.

2. The lever E, for operating the cutting jaw, when said lever is provided with two fulcrums and so constructed as to change fulcrums in the middle of the stroke, substantially as herein set forth.

117,889.—DIETETIC COMPOUND FROM MILK. Victor Appolinaris Jagielski, London, England.

Claim.—The manufacture of a dietetic remedy or artificial koumiss of the various modifications herein described from milk by the addition of a ferment, and other materials, according to the process, substantially as herein described.

117,890.—STILL FOR BEER, &c.—Charles B. Jarvis and James W. Goff, Cincinnati, Ohio.

Claim.—In a beer-heater or still, constructed substantially as described, the combination of the casing A, plates F, and openings *f* upon alternate ends of the plates for the upward passage of the steam and downward passage of the beer simultaneously, in the manner and for the purpose set forth.

117,891.—FIRE-EXTINGUISHER.—Samuel B. Johnson, Philadelphia, Pa.

Claim.—1. The mode of extinguishing fire by means of a vessel containing an extinguishing medium, to be thrown or projected into the fire, and by breaking to liberate said medium in order to act on the fire, substantially in the manner set forth.

2. A vessel to be thrown with the extinguishing medium into the fire, and operate substantially as and for the purpose described.

117,892. — PEACH-STONE EXTRACTOR.—Thomas E. Johnson, Indianapolis, Ind.

Claim.—1. The knife A having shank *a*, in combination with handle B, socket *b*, and set-screw *d*, either with or without the automatic and adjustable guard C, substantially as shown, and for the purpose set forth.

2. The construction and arrangement of the automatic and adjustable guard C, spring *e*, socket *b* with metallic band or ring *c* of handle B, shank *a*, and knife A, all as shown and described.

117,893. — SELF-ACTING JACK FOR SPINNING.—Patrick Keane, Cohoes, N. Y., assignor to himself and Samuel Bilbrough, same place.

Claim.—1. In a self-acting spinning-machine, the combination and arrangement of the shaft *i* with its pulleys *o q* and tripper *p*, the weight *r*, trip-catch *h*, and swiveled bearing *k*, constructed substantially as and for the purpose specified.

2. In combination with the bell-crank *l*, the shaft *i*, pulleys *o q*, weight *r*, trip-catch *h*, tripper *p*, and spring, as described, constructed, and arranged, substantially as and for the purpose specified.

117,894. — DOOR-HANGER.—Trumble Kent and James S. Barker, Waukegan, Ill.

Claim.—A door-hanger, consisting of the arm A and pintle B cast in one piece, and the pulley D thereon, with wrought-iron pin C in the end of said pintle, provided with washer E and nut F, all constructed and arranged as specified.

117,895, antedated August 2, 1871.—ROTARY MEASURING-FAUCET. — William H. Laubach, Philadelphia, Pa.

Claim.—1. The curved pistons C C, with their pallets D D, in combination with the inner cylinder B and outer or fixed cylinder A, constructed and operating substantially as described, and for the purposes set forth.

2. The curved pistons C C, in combination with the pallets D, their stops *d* and *e*, slide F, and cam G, constructed and operating substantially as described.

3. The combination of the curved pistons C C, pallets D D, slide F, and cam G with the inner cylinder B, outer cylinder A, inlet-port H, outlet-port I, and handle N, constructed substantially as described, and for the purpose intended.

117,896.—DRILLING-MACHINE.—John Lemman, Cincinnati, assignor to Hamilton Bates and Daniel L. Bates, Dayton, Ohio.

Claim.—In combination with the solid grooved spindle B *b′* and loose wheels M N, which gear into and are driven by the differential wheels T U, the adjustable feather L *a*, set-screw R *s*, and slotted collar P, the parts being constructed and arranged substantially in the manner and for the purpose set forth.

117,897.—RUBBER SHOE.—Johnson Letson, New Brunswick, N. J.

Claim.—1. A vulcanized India-rubber gore, made in imitation of corrugated goods.

2. As a new manufacture, shoes or gaiters, whether of India rubber or not, provided with gores made of vulcanized India rubber in imitation of corrugated goods, substantially as herein shown and set forth.

3. The method herein described of inserting gores in and uniting the same with the body of the shoe or gaiter by cementation and vulcanization, as herein set forth.

117,898. — CIDER-MILL. — Henry Lightner, Neff's Mills, Pa.

Claim.—In the cider-mill herein described, the arrangement of the toothed crushing-roller B, comb *a*, mashing-rollers C C, partitions *n n*, endless belt D, squeezing-rollers *s s* having spring bearings, when said parts are constructed and arranged substantially as specified.

117,899. — BURGLAR-PROOF SAFE. — Lewis Lillie, Newark, N. J.

Claim.—A safe, containing in its walls, near the exterior surface, a series of tubular spaces, which are independent of one another, and separately filled with explosives, substantially in the manner and for the purposes set forth.

117,900. — FIRE-EXTINGUISHER. — Samuel Morris Lillie, Elizabeth, N. J.

Claim.—1. The application of a stationary reservoir or reservoirs with or without compartments connected with the various rooms of a building, as and for the purpose specified.

2. The application of fusible-metal plugs, or of devices depending on the fusing of such a metal, for the release of the gas or of any device charged with explosives to any pipe or reservoir of mephitic gas, excepting safes, for the purpose specified.

3. The application of a holder of combustibles and of fuses and electricity, as and for the purposes specified.

117,901.—GATE.—Matthew E. Livingston, Manchester, Ill.

Claim.—1. A sliding gate, when operated by means of a roller, G, playing between standards *f* on the sliding gate and held in crank *g* of shaft H, which latter is operated by crank-arms A, all arranged to operate substantially as herein described.

2. The combination of the stationary and sliding parts D D′ of the gate, the latter provided with standards *f* and rollers *b d′* moving on ways *a e*, with the crank-shaft H *g h*, handles *i*, and posts A C C′ I, all arranged to operate substantially as herein described.

117,902. — CARRIAGE-WHEEL. — James H. Loughridge, Key West, Fla.

Claim.—A wagon-wheel, constructed as herein described, the spokes C of which are screwed into elongated screw-threaded sockets in the hub, and are constructed with tenons *c* for securing them to the solid continuous rim B, in the manner set forth.

117,903.—GOVERNOR FOR STEAM-ENGINES. John D. Lynde, Philadelphia, Pa.

Claim.—1. The balance-disk *g*, in combination

with the regulating-disks *e* and *f*, constructed and arranged substantially as herein set forth.

2. The arrangement of the valve M with the seats *a b c d*, constructed and operating substantially as herein set forth.

3. The volute spring B, in combination with the valve-rod C, when constructed and arranged substantially as herein set forth.

117,904.—DENTAL INSTRUMENT. — Charles H. Mack, Portland, Oreg.

Claim.—As a dental instrument, the combined socket and wrench with the opening or recess at the end of the shank to receive and hold a pin or screw, as described.

117,905. — DRYING-GLUE. — John J. Manning, Rockport, assignor to himself, William N. Manning, and F. Tarr, Jr., same place, and F. W. Homans, and Friend & Smith, Gloucester, Mass.

Claim.—A drying apparatus, consisting of the main air-tube *a*, supplied with air under pressure by any suitable blast apparatus, the horizontal tubes *b* extending from and opening out of said cylinder, and having air-outlet orifices *c* through which the air is impelled upon the material placed in pans under the tubes, all substantially as shown and described.

117,906. — BREECH-LOADING FIRE-ARM.—James M. Mason, Washington, D. C.

Claim.—1. The combination, with a solid breech-block having a thumb-piece by which it is swung backward and downward to uncover the rear end of a breech-loading fire-arm, and with a hammer and brace behind the same, of a solid fixed recoil-bearing, whereby, when the breech-block is swung up into place to close the breech, the same shall be securely locked and held in place, substantially as herein set forth.

2. The combination, with a breech-block swinging backward and downward, of a rocking-block, substantially as described, whereby the vertical movement of the breech-block is reduced to the minimum, as set forth.

3. A curved slot or pivot-bearing in a solid breech-block having a backward and downward motion to uncover the rear end of the barrel of a breech-loading fire-arm, in combination with the pivot passing through said slot, when said pivot and slot are so arranged with relation to each other that when the breech-block is closed there will be a small space between the pivot and lower end of the slot, whereby the shock will have a tendency to move the block bodily toward the rear instead of turning it upon its pivot, substantially as herein set forth.

4. A solid breech-block, having a thumb-piece by which it is swung backward and downward, and a hammer and brace behind the same, and provided with an elongated slot or pivot-bearing, whereby a reciprocating vertical, as well as backward and downward, movement may be imparted thereto in opening and closing the same, substantially as herein set forth.

5. The combination of a breech-block provided with a slot or elongated pivot-hole and a projecting or angular bearing with a spring, whereby the block is forced and held upward in position when closed, and forced and held backward when opened, as set forth.

6. A thumb-piece, extending from the top of a swinging breech-block to operate the same, and provided with a hole or opening to aim through, substantially as herein set forth.

7. The combination of a solid breech-block having a backward and downward movement to uncover the rear end of the barrel of a breech-loading fire-arm, a fixed recoil-bearing, and a hammer and locking-brace, arranged centrally behind the breech-block, substantially as herein set forth.

117,907.—GAUGE-COCK.—Patrick McGrath, Plattsburg, N. Y.

Claim.—1. The combination of a spring-lever with an independent steam-passage, as described.

2. The combination of the cylinder A, lever C, and spring *d*, as set forth.

3. The gauge-cock described, consisting of the cylinder A, valve B, with rod *b* and arm b^2, lever C, and spring *d*, constructed and arranged as described.

117,908.—SELF-CLOSING COCK.—James Metier Meharg, Montreal, Canada.

Claim.—A cock of the described construction, provided with a spindle moving vertically through the guide *h*, said spindle having a collar, *l*, bearing against the rubber tubing *n*, the slot *r* for the purpose of causing the spindle to be moved vertically by revolving the handle, and notch *s'* for holding the same down, when desired.

117,909.—RAILWAY-CAR COUPLING.—George H. Merriam, Portland, Me., assignor to himself and Cyrus S. Clark, same place.

Claim.—In combination with the arm D and the coupling-pin C, the draw-head, constructed as herein described, whereby the pin is allowed to swing back as it rises, substantially as and for the purpose set forth.

117,910.—CORN-PLANTER.—Charles T. Merry and Marlin A. Dunton, Norwalk, Ohio.

Claim.—In a corn-planter, the construction and arrangement of the slotted wheel D, cams E, bar F, spring *e*, lever S, openers K', cam *r'*, and markers L, substantially as specified.

117,911.—HARVESTER-REEL.—John Miller, Swan, Ind.

Claim.—1. The combination of the reel-post, the bracket attached thereto, the lifting-lever pivoted to the bracket, the connecting-link, and the reel-bearing, all these parts being constructed and operating substantially as set forth.

2. In combination with the above, the adjustable bar C with its friction-rollers and adjustable guide I, these parts being constructed and operating substantially as described.

117,912. — COMBINATION LOCK. — Samuel Miller, Gratis, Ohio.

Claim.—1. The gravitating toothed tumbler L, constructed with a long cog, *l*, in combination with the bolt G, substantially as set forth.

2. The toothed tumbler L, having an elongated cog, *l*, in combination with an adjustable weight, L', substantially as set forth.

3. In combination with the tumbler L and weight L', the feather l^2, on the stud l^1, and corresponding groove in the weight, substantially as and for the purpose set forth.

4. The combination of the bolt G, sliding bar I, cam E, and gravitating-tumbler L, substantially as set forth.

117,913. — POTATO-DIGGER. — Henry J. Moore, Topeka, Kan.

Claim.—1. The hinged or pivoted buckets I I, provided with curved rods or hooks *i i*, substantially as and for the purposes herein set forth.

2. In combination with the buckets I I and curved rods or hooks *i i*, the rods *h h* and endless chains *f f* passing around the grooved wheels or pulleys *d e* of unequal diameter, all substantially as and for the purposes herein set forth.

3. The arrangement of the main frame A supported upon the two wheels B B, the swinging frame D, scoop E, screen H, elevator *f* I, and adjustable wheels G G, all constructed substantially as and for the purposes herein set forth.

117,914.—BEE-HIVE.—Samuel Christopher Moore, Pattonsburg, Mo.

Claim.—The receptacles or chambers E E, and tubes *c c*, with their recessed valves c^1 c^1, constructed, arranged, and operating substantially as herein shown and described.

117,915.—CHAIR.—Jacob Morrison, Indianapolis, Ind., assignor to himself and Calvin A. Elliott, same place.

Claim.—1. The adjustable back of a chair, arranged to move in the arc of a circle through sockets in the seat thereof by means of pivotal arms C and springs D, substantially as shown and for the purpose set forth.

2. The construction and arrangement of the adjustable back B, rail *d*, seat A provided with metallic sockets *a*, arms C, and springs D, all substantially as shown and described.

117,916.—BUTTON OR STUD.—Charles A. Newton, Providence, R. I.

Claim.—The button or stud herein described, consisting of the head C provided with a nail-slot in the rim, and the spring H, slide F having the pear-shaped slot *f*, and of the back A provided with the grooved stem B, combined, arranged, and operated substantially as specified.

117,917. — HAY-RAKE. — George Notman, Deerfield, Ohio.

Claim.—The bearing-plate B' formed with the shank *d*, prong *f*, and opening *e*, in combination with the rake-tooth, constructed as described, and for the purpose set forth.

117,918.—STOPPER FOR LADLES.—Francis A. Ostrander, Troy, N. Y.

Claim.—1. The stopper A, in which is formed the orifice or hole *a* having one or more grooves, *b*, and one or more recesses, *c*, substantially as and for the purpose shown and described.

2. The manner of attaching the stopper A to the lifting-rod or bar B that by grouting the space in the orifice or hole *a* the stopper A is prevented from becoming detached therefrom while in use, substantially as herein set forth.

117,919.—LEVER-PRESS.—Josiah Outland, Barnesville, Ohio.

Claim.—1. The arrangement of the pivoted lever B, loops *a a*, ratchets C^1 C^2, and wedge D provided with head *b*, all substantially as shown and described, and for the purposes herein set forth.

2. The combination of the lever B, ratchets C^1 C^2, wedge D, windlasses G^1 G^2, ropes d^1 d^2, and weights H^1 H^2, all constructed and arranged substantially as and for the purposes herein set forth.

117,920.—STAVE-JOINTER.—Lemuel R. Palmer, Belfast, Me.

Claim.—1. The swinging guide-plate D, in combination with the carriage, when constructed and operating substantially as and for the purpose specified.

2. The carriage C provided with the clamping-handle *c*, and the laterally-adjustable platform *e*, substantially as and for the purpose set forth.

3. The combination of the lever L, swinging guide-plate D, and the carriage and saw, substantially as and for the purpose described.

117,921. — MACHINE FOR SCOURING AND STRETCHING LEATHER.—James C. Parmerlee, Bean Blossom, Ind.

Claim.—1. In a machine for scouring and stretching hides, a revolving cylinder, B, provided with a series of projections or pressure-scrapers, *a a*, arranged diagonally from the center to the ends of the cylinder, in combination with the apron C, substantially as and for the purpose set forth.

2. In a machine for scouring and stretching hides, a series of brushes, *b b*, arranged diagonally from the center to the ends of the surface of the cylinder, in combination with a series of similarly-arranged projections or pressure-scrapers, *a a*, substantially as and for the purpose set forth.

3. In a machine for scouring and stretching hides, the inclined apron C, formed with elastic legs *f* arranged below the rotary scouring-cylinder B, as and for the purpose set forth.

4. In a machine for scouring and stretching hides, the inclined elastic apron C, in combination with the foot-lever A, spring-bars f^3 f^3, bars *d d*, and roller D, substantially as and for the purpose specified.

5. In a machine for scouring and stretching hides, the water-tank F arranged above the elastic and adjustable apron C, in combination with the cylinder E, brushes *b b*, and pressure-scrapers *a a*, substantially as described.

6. In a machine for scouring and stretching hides, the inclined table G, in combination with the inclined elastic legs *f* of the apron C, roller D, and tank F, substantially as described.

7. In a machine for scouring and stretching hides, the rotary cylinder B, brushes *b b*, and projections or pressure-scrapers *a a*, in combination with the inclined apron C, foot-lever A, roller D, and adjusting-bars *d d*, and the driving mechanism, substantially as set forth.

117,922.—ANIMAL POWER.—William Patterson, Oneonta, N. Y.

Claim.—1. The pivoted spindle-box H, provided with lugs *a a* to support it, and allow the inclination of the spindle to be easily changed.

2. The cross-support G, provided with holes or sockets to hold the foot of the spindle C in position.

3. The spindle C, provided with projecting hooks *c c* at its upper end to secure it to the plate E, the whole arranged and operating substantially as described, as and for the purpose herein set forth.

117,923.—TRACE-BUCKLE.—Daniel K. Peacock, Little Valley, N. Y., assignor to himself and Joseph F. Thompson, same place.

Claim.—A buckle, composed of the frame B *b* and the hame-tug lever C *c* and tongue D, the said tongue projecting rigidly from the fulcrum-bar *c* of the said lever, and the parts being constructed and arranged to operate together, as herein set forth.

117,924.—VEGETABLE GRATER.—Charles R. Peirce, Philadelphia, Pa., assignor to George J. Naylor, same place.

Claim.—As an article of manufacture, the vegetable grater hereinbefore set forth and described.

117,925.—GAS-PUMP.—William H. Pollard, Seneca Falls, N. Y., assignor to The Goulds Manufacturing Company, same place.

Claim.—1. The chamber E, provided with the longitudinal partition *a*, forming distinct and separate passages *b b*, which have side ports *c c* for the attachment of the induction and eduction-pipes, and ports *d d* at top and bottom opening outward into the valve-casings, as herein described.

2. The duplex valve-casings F, with the ports d^1 d^1 d^2 opening respectively to the passages in the side chamber and to the cylinder, and provided with the seats *g g* so arranged as to admit the gas or other fluid over one valve and under the other, as herein described.

3. The combination and arrangement, with the cylinder B, of the outside chamber E, provided with the seats *f f* of the valve-casings F F bolted thereon, in the manner and for the purpose specified.

117,926. — FLAX-PULLER. — Benjamin M. Reeves, Franklin, Pa.

Claim.—The combination of the lever P', loop Q, roller O, and frame A, constructed and arranged substantially as and for the purpose specified.

117,927.—STUFFING-BOX.—Phillip W. Richards, Boston Highlands, Mass.

Claim.—1. The series of sectional rings E E E and D D D, each constructed with a rib and groove, as described, in combination with the bearing-blocks G G and their springs *f f*, all constructed substantially as and for the purpose set forth.

2. The disk H and bearing-spring I in combination with the series of sectional rings D D D and E E E, and the blocks G G G, with their springs *f f*, all arranged and operating substantially as set forth.

117,928. — Stuffing-Box and Stuffing-Box Packing. — Phillip W. Richards, Boston Highlands, Mass.

Claim.—A stuffing-box, constructed with ring series D and E in section, in combination with springs *d*, adapted to hold said rings D and E against and about the rod, moving in the core or opening of the stuffing-box, substantially as and for the purpose specified.

117,929.—Steering Apparatus.—Nathan Richardson, Gloucester, Mass.

Claim.—A steering apparatus in which the tiller-arms *f g* on each side of the rudder-head are connected to the screw-shafts and operated by nuts *h*, each nut having a swiveled runner, *k*, both over it and under it, (said runners working in grooves in the tiller-arms,) and having also a lateral sleeve, *n*, sliding in the rod *m*, substantially as shown and described.

117,930.—Medical Compound for Coughs, Colds, &c.—John D. Richmond, Jr., New Liberty, Ky.

Claim.—The medical compound, prepared of the ingredients, in the proportions, and for the purposes set forth.

117,931. — Knitting-Machine, &c. — Sylvester H. Roper, Roxbury, Mass.

Claim.—1. The sinker-cam, formed substantially as shown and described, and operating, when in action, to depress the sinkers previous to the outward movement of the needles acting in conjunction with them, as set forth.

2. As a means for bringing into action reserve needles, an automatically-traveling and rocking-bar.

3. A pattern-wheel, constructed substantially as shown and described, to control and vary the widening mechanism.

4. The combination of a pattern-wheel with the pivoted cam-piece 60 and the described shifting-mechanism, for automatically stopping the machine.

5. The novel seam at the widened parts of the fabric, hereinabove described.

6. The needle-bed, formed with grooves, enlarged laterally at their forward ends, as described, so as to leave the necks between such grooves wider above than at such enlarged part, for the purpose set forth.

117,932. — Die for Making Covers of Sheet-Metal Boxes.—Charles E. Russ, Boston, Mass.

Claim.—The combination of the die A, having slots *a* in its sides and at right angles to its recess B, with the die or follower D, for the purpose of forming up sheet-metal covers for boxes, as described.

117,933.—Railway Rail.—Rufus S. Sanborn, Rockford, Ill.

Claim.—1. A railroad rail, constructed of steel, tubular in form, and having the configuration described and represented, for the purpose of securing a limited and definite amount of elasticity sufficient to relieve the shocks to which the rails and rolling-stock of railroads are usually subjected, all as set forth.

2. The elastic cylindrical joint or connecting-tube J, constructed as described, for the purpose specified.

117,934.—Fastening for Spinning Rings. Jacob H. Sawyer, Lowell, Mass.

Claim.—The retainer, flanged or constructed with the ring-race socket, as described, and split so as to be sprung upon or over the lower race of the ring, all being substantially as explained.

117,935. — Satchel, &c. — Ferdinand C. Schmidt, Newark, N. J.

Claim.—1. The staples E, arranged upon a traveling-bag lengthwise of the frame, in combination with handles or handle-caps arranged loosely on said staples, substantially as described.

2. The staples E, arranged horizontally on both jaws of the frame lengthwise thereof, with the caps C D hung loosely upon said staples, as herein described, for the purpose specified.

117,936. — Saw-Mill Carriage. — George Selden, Erie, Pa.

Claim.—1. In combination with the head-blocks C C, the T-girt H, pockets J, and rack I, substantially as set forth.

2. In combination with the head-block C, rack and stringer H, and set-shaft L, the dummies F, substantially as set forth.

117,937.—Thill-Coupling.—Simon Slack, Lebanon Centre, N. H.

Claim.—1. The head C of the thill-iron D, provided with a segmental slot, *e*, in combination with the socket A and pin *d* of the clip A, substantially as described.

2. The head C of the thill-iron D, provided with the radial slot *a* and segmental slot *e*, in combination with the pins *b d* of the socket A of the clip B, substantially as described.

117,938. — Flour-Bolt. — John Crawford Smith, Zanesfield, Ohio, assignor to himself, Samuel Bradford Smith, and Nathaniel Stuart Crew, same place.

Claim.—1. The arrangement of the spring-hammers F with the lugs or arms B formed on or applied to the ribs, as herein described, to deliver their strokes longitudinally upon said lugs or arms.

2. The combination of the twisted-wire cords I, triggers J, and spring-hammers F, substantially as and for the purposes set forth.

3. The arrangement of the bolting-cloth D, conveyer-box M M^1 M^2 M^3 Q Q', coat-board P, and return-trough N, constructed and operating substantially as and for the purposes set forth.

117,939.—Packing for Doors and Windows.—Samuel Stroock, New York, N. Y.

Claim.—A felt-packing for doors and windows, constructed and applied substantially as described.

117,940. — Washing-Machine.—Alfred T. Sullivan, San José, Cal.

Claim.—1. The corrugated convex wash-board B, connected with the cranks *i* by means of the loosely-attached connecting-rods *h* and *n*, for the purpose of giving free play to the board as above specified, in combination with the endless slat-band D, substantially as described.

2. The shaft *j* provided with the operating-crank *k*, said crank having a supplementary crank, *l*, which is connected with the crank *n* of the drum C by the rod or pitman in the manner and for the purpose specified, and by which an oscillating motion is produced.

117,941. — Railroad-Car Ventilator.—Orrin W. Swift, New Haven, Conn.

Claim.—As an article of manufacture, the herein-described device for ventilator, consisting of the two parts A B pivoted together at *a*, as specified, one part provided with the notch *f* and the other with the notch *n* so as to be extended and set in the car-window, as herein set forth.

117,942.—Medicinal Beverage.—Asher S. Taylor, San Francisco, Cal.

Claim.—A medicinal beverage, compounded substantially as herein described.

117,943. — Mop-Head. — Luke W. Taylor, Upper Falls Post-Office, Vt.

Claim.—1. The binder D, formed at one end into the spiral *f* embracing the handle C, in combination with the collar *b* having lugs *e e* and ears *d d*, substantially as set forth, for the purposes specified.

2. The combination of the collar *b*, formed with lugs *e e* and ears *d d*, with the binder D having a spiral, *f*, when arranged to operate in connection with the cross-head and handle, substantially as and for the purpose set forth.

117,944.—Saw.—Patrick Thompson, Pittsburg, Pa.

Claim.—The saw-tooth B, provided with tang C for securing it in the blade A, constructed as herein shown and described.

117,945. — Ice-Creeper. — Edmund Malcolm Turner, Pittsburg, Pa.

Claim.—The metal plate C, constructed with a raised edge, C^2, and flanges C^1 or their equivalents upon the under side, adapted to be placed in a cavity in a detachable or permanent rubber-heel of a boot, shoe, or overshoe, substantially in the manner and for the purpose set forth.

117,946.—Composition for Paving and Roofing. — Archibald B. Vandemark, Jersey City, N. J.

Claim.—1. Combining asphaltum, paraffine oil, and pulverized calcareous rock in the proportions and manner substantially as described.

2. The paving and roofing composition, substantially as described.

117,947.—Tuyere.—Peter L. Weimer, Lebanon, Pa.

Claim.—1. The split and grooved cast-iron tuyere-shell A, substantially as described.

2. The combination, with such shell, of the coiled pipe B, substantially as set forth.

117,948. — Hoisting Apparatus.—Jerome Wheelock, Worcester, Mass.

Claim.—1. In combination with the cross-beam of a cable-hoisting apparatus, the catch-bolts E and E' connected together at their inner ends, the hoisting-hook F, and the operating-springs, as and for the purposes specified.

2. The catch-bolts E and E' and the elastic cushions H, in combination with the cross-beam of a cable-hoisting apparatus, substantially as and for the purposes specified.

3. The adjustable deflecting-springs, in combination with the catch-bolts of a hoisting apparatus, as and for the purposes specified.

117,949. — Process of Manufacturing Cast-Steel Tools, &c. — David Wihl, Brooklyn, N. Y., assignor of one-fourth his right to Henry Wehle, New York city.

Claim.—1. The process of converting wrought-iron forged in wares or articles retaining the original form of the articles, by first purifying the iron of its foreign deleterious substances and then impregnating the same with carbon, silicon, and nitrogen.

2. The compound of carburet of iron, black ivory, charcoal, yellow cyanide of potassium, saltpeter, common salt, and cast-iron filings, or ingredients containing substantially the same elements in substantially the same proportions as herein described, used for converting wrought-iron into steel, substantially as herein described, and for the purpose mentioned.

117,950. — Process of Manufacturing Cast-Steel Tools, &c. — David Wihl, Brooklyn, N. Y., assignor of one-fourth his right to Henry Wehle, New York city.

Claim.—1. The process of converting white (malleable) iron cast in wares or articles, retaining the original form of the articles, by first purifying the iron of its foreign deleterious substances and then impregnating the same with carbon, silicon, and nitrogen, substantially as herein described, and for the purpose mentioned.

2. The compound of wrought-iron filings, oxide of iron, peroxide of iron, silicon, magnesia, and common salt, or ingredients containing substantially the same elements in substantially the proportion as herein described, used for converting white cast-iron into steel, substantially as herein described, and for the purpose mentioned.

117,951.—Wood-Splitting Machine.—William L. Williams, New York, N. Y.

Claim.—The knives *e f*, extending across the feeding-trough at an inclination to each other, and made with the bevel of the cutting-edges toward the delivery end of the feeding-trough, in combination with the feeding-trough *a b* and rollers *c d*, as and for the purposes set forth.

117,952.—Machine for Splitting Kindling-Wood.—William L. Williams, New York, N. Y.

Claim.—1. The shield *s*, in combination with the feeding-rollers *t t'* and trough *a* of the wood-splitting machine, as and for the purposes set forth.

2. The pawl 18 upon the yielding slide 10, in combination with the feeding-rollers *t t'*, knives *e e*, and feeding-trough *a*, as and for the purposes set forth.

3. The knives *e e*, sharpened at their vertical edges as well as their under edges, and introduced in a wood-splitting machine, substantially as and for the purposes set forth.

4. The V-shaped knives with the cutting-edges nearly on a line with the inner surfaces of such knives, for the purposes set forth.

117,953.—Die for Manufacturing Followers for Draw-Bars of Railroad Couplings.—John T. Wilson, Pittsburg, Pa.

Claim.—The drop and counter-die, substantially such as described for punching out a follower or spring-plate for the draw-bars of railroad couplings, of the shape and form herein described and represented, and stamped out at one operation of said drop and counter-die, as herein set forth.

117,954.—Die for Manufacturing Draw-Head Face-Plates for Railroad Couplings.—John T. Wilson, Pittsburg, Pa.

Claim.—The drop and counter-die, substantially as herein described, for cutting out, punching, and bending draw-head face-plate for railroad-car couplings, as and for the purposes described and represented.

117,955. — Heel-Burnishing Machine.—Richard C. Lambert, Quincy, Mass.

Claim.—1. In combination with a reciprocating boot or shoe-holding jack, a burnishing-tool attached to a hand-operated lever pivoted by a universal joint, substantially as described.

2. The heel-plate *c* against which the heel-tread or face is clamped, such plate projecting beyond the tread and the burnishing-tool being made at its inner corner to fit into the angle formed between the heel and plate to polish and condense the heel-edge up to and against the plate, substantially as described.

117,956, antedated August 1, 1871.—Barrel-Pitching Machine. — Arthur De Witzleben, Washington, D. C.

Claim.—1. The combination and arrangement of the casing A, pipes *f* and *h*, and lid F, with flange G, substantially as shown and described.

2. In a pitching device, an adjustable grate, constructed and arranged substantially in the manner shown and described.

3. The combination and arrangement of the casing A, pipes *f* and h, and grating M N, substantially in the manner shown and described.

REISSUES.

4,501.—Fire-Plate for Stoves.—Etienne Boileau, St. Louis, Mo.—Patent No. 92,253, dated July 6, 1869.

Claim.—1. A fire-plate, consisting of triangular bars B joined together at their upper and lower ends and separated by narrow slots I, all substantially as set forth.

2. In combination with the V-shaped slots I, the opening *c* at the upper part of the fire-plate, as and for the purpose set forth.

4,502.—Self-Regulating Journal-Box.—James Duff, Peoria, Ill., assignor to himself and E. B. Pierce, same place.—Patent No. 90,937, dated June 8, 1869.

Claim.—1. A journal-box, combined with an oil-box and a wick, so that the latter lies in a groove at the side of the journal-box, substantially as described.

2. The journal-box E, provided with the channel *b*, orifices *n*, projections *q*, ribs *m* and *k*, and combined with the oil-box B and wick *a*, as specified.

4,503.—Division A.—Clothes-Frame.—John E. Earle, New Haven, Conn., assignor, by mesne assignments, to Peter R. Carll, same place.—Patent No. 36,994, dated November 25, 1862.

Claim.—1. A clothes-frame or bars, in which the bars are arranged one above another upon a vertical rod or pintle, and so as to swing freely therein, the said pintle supported in a bracket, and the said bracket constructed with a slot or slots to set over a headed device to secure the said bracket in position, substantially as specified.

2. The sockets F, more or less in number, arranged upon a vertical rod or pintle supported in a bracket, when the said sockets are constructed substantially as described, for the insertion and support of the bars.

4,504.—Division B.—Clothes-Frame.—John E. Earle, New Haven, Conn., assignor, by mesne assignments, to Peter R. Carll, same place.—Patent No. 36,994, dated November 25, 1862.

Claim.—A clothes-frame or bar, consisting of two or more bars arranged upon a vertical rod or pintle supported in a bracket, when the connection of the said bar to the pintle is made in the manner substantially as described, so that when the said bars are parallel to each other they are not in the same vertical plane.

4,505.—Clothes-Rack.—Vilas M. Heath, Morristown, Vt.—Patent No. 94,598, dated September 7, 1869.

Claim.—1. In a clothes-rack, the series of folding extension arms, each pivoted to and supported by the preceding arm, the outer frame being supported by braces *a*, substantially as specified.

2. In a clothes-rack, the slotted suspension brackets A, in combination with the series of independent folding extension arms and braces *a*, constructed and arranged substantially as specified.

3. The combination of the slotted supports A, bars C and H, arms D, G, and K, and stops *a*, substantially as specified.

4,506.—Iron Spoon.—Garry I. Mix, Yalesville, Conn.—Patent No. 18,513, dated October 27, 1857.

Claim.—A metal spoon, having the rivet which unites the handle and bowl made or formed of the same piece of metal with and forming part of the handle or bowl, substantially as herein described.

4,507.—Refining and Tempering Iron and Steel.—Alexander H. Siegfried, South Bend, Ind., assignor to himself and George B. Garman.—Patent No. 113,583, dated April 11, 1871.

Claim.—1. The mode of purifying steel in the process of forging by applying in their powdered state sulphate of copper and sal-soda, substantially in the manner set forth.

2. The use of a powder applied during the process of forging steel, compounded of substantially the ingredients set forth, or their equivalents.

3. A bath for tempering steel, compounded of the ingredients substantially as set forth, or their equivalents.

4. The process of purifying and tempering steel by the use of the powder and bath, respectively, compounded substantially as set forth.

4,508.—Process of Extracting Fatty Substances.—Charles F. A. Simonin, Philadelphia, Pa., and Edward W. Coffin, Glendale, N. J., assignors, by mesne assignments, to William Adamson, Philadelphia, Pa.—Patent No. 102,166, dated April 19, 1870; reissue No. 4,067, dated July 12, 1870.

Claim.—1. The extraction, substantially as herein set forth, of fatty and oily matter by the application of hydrocarbon vapors, in a closed vessel.

2. Simultaneously cleansing and extracting oily and fatty matters by the application of hydrocarbon vapors, generated in the same vessel which contains the wool or other material to be operated on.

3. Extracting oily and fatty matters by means of hydrocarbon vapors, which are condensed, revaporized, and roused, substantially in the manner described.

4,509.—Division A.—Machine for Making Loom-Harness.—Joseph Sladdin, Lawrence, Mass.—Patent No. 80,774, dated August 4, 1868.

Claim.—1. The stationary needle E, constructed with a groove, Q, along its upper face, and with two eyes, *e*, leading outward from said groove, one on each side, substantially as described, for the purpose specified.

2. The twister W, for seizing one of the yarns employed and carrying it around and depositing it on a holder or former in the form of a heddle-eye, substantially as described, for the purpose specified.

3. The pusher L^2, constructed, arranged, and operating in connection with the heddle-eye former, substantially as and for the purpose described.

4. The combination of the needle R, twister W, former G^3, and pusher L^2, arranged with regard to each other, and operating substantially as described, and for the purpose set forth.

5. The carriers P^2 and fingers C^3, combined, arranged, connected, and operating together as described, for the purpose described.

6. The fork-shaped lever *g*, provided with a link-connection, c^4, arranged to act on the lever *g*, substantially as and for the purpose described.

7. The presser H^3, for holding the needle R, in combination with the forked-shaped lever *g*, substantially as described.

8. The rods A^6 A^7, combined and arranged to rise and fall, substantially as described, for the purpose specified.

4,510.—Division B.—Machine for Making Loom-Harness.—Joseph Sladdin, Lawrence, Mass.—Patent No. 80,774, dated August 4, 1868.

Claim.—1. The combination, with the twister W, of the means substantially as described for operating the same, as and for the purpose specified.

2. The combination of the yarn-holders G^3 with the yarn-carriers P^2 and barbed needles M^2, substantially as and for the purposes described.

3. The combination of the lapper-cylinders K^2, having guide-eyes, as described, with the yarn-holders G^3 and needles M^2, substantially as and for the purpose specified.

4. The combination, with the needle-guide and support S^2, of the presser-wheels U^2, when arranged and operating as and for the purpose described.

5. The combination, with the devices for forming heddle-eyes, substantially as described, of the devices for knitting the heddle-yarns to the rig-bands, substantially as and for the purpose described.

4,511.—Grate-Bar.—John R. Smith, Salem, Mass.—Patent No. 70,638, dated November 5, 1867.

Claim.—1. A grate, constructed of the double-curved ribs A, substantially as and for the purpose specified.

2. The double-curved ribs A, in combination with the flanges B B and connections *a*, substantially as and for the purposes set forth.

3. The combination, with the double-curved ribs A, of one or more projections, *b*, flanges B B, and connections *a*, as and for the purposes set forth.

4. The combination, with the side of the bar, of the peculiarly-constructed filling-piece, composed of the parts lettered B' B', C D, and E, for the purpose stated.

DESIGNS.

5,164.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,165.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,166.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,167.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,168.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,169.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,170.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,171.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,172.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,173.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,174.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,175.—Carpet-Pattern.—Albert Cowell, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

5,176.—Molding.—Joseph H. Ferreira, Newark, N. J.

Claim.—The design for moldings, as shown.

5,177.—Stair-Rod.—William B. Gould, New York, N. Y.

Claim.—The design for a four-sided twisted stair-rod, as shown.

5,178.—Stair-Rod.—William B. Gould, New York, N. Y.

Claim.—The design for a six-sided twisted stair-rod, as shown.

5,179.—Oil-Cloth.—Henry Kagy, Philadelphia, Pa., assignor to Thomas Potter, Son & Co., same place.

Claim.—The design for an oil-cloth, as shown.

5,180.—OIL-CLOTH. — Henry Kagy, Philadelphia, Pa., assignor to Thomas Potter, Son & Co., same place.

Claim.—The design for an oil-cloth, as shown.

5,181.—OIL-CLOTH. — Henry Kagy, Philadelphia, Pa., assignor to Thomas Potter, Son & Co., same place.

Claim.—The design for an oil-cloth, as shown.

5,182. — OIL-CLOTH.—Henry Kagy, Philadelphia, Pa., assignor to Thomas Potter, Son & Co., same place.

Claim.—The design for an oil-cloth, as shown.

5,183.—SLATE-PENCIL SHARPENER.—Charles Kennedy, Philadelphia, Pa.

Claim.—The design for the particular shape of the pencil-sharpener, as shown.

5,184. — CARPET-PATTERN.—William Kerr, Philadelphia, Pa., assignor to John Gay, same place.

Claim.—The design for a carpet, as shown.

5,185. — DRAWER-PULL. — Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—1. The design for the base-piece to which the drop-handle is connected, substantially as shown.

2. The design for the drop-handle, substantially as shown.

5,186.—FILLING-IN TILE.—Balthasar Kreischer, New York, N. Y.

Claim.—The design for a filling-in tile, as herein shown and described.

5,187.—CARPET-PATTERN.—Charles S. Lilley, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,188.—CARPET.—John Neil, Clinton, Mass., assignor to "Bigelow Carpet Company," same place.

Claim.—The design for a carpet, as shown.

5,189.—CARPET.—John Neil, Clinton, Mass., assignor to "Bigelow Carpet Company," same place.

Claim.—The design for a carpet, as shown.

5,190. — CAKE-DISH. — William Parkin, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The design, as above explained and represented.

5,191.—ORNAMENT ON HARNESS-SADDLES.—Louis Rommeiks, Newark, N. J.

Claim.—The design E F G, as shown and described, for an ornament on harness-saddles.

5,192.—DRAWER-PULL.—Joseph B. Sargent, New Haven, Conn.

Claim.—The design for a drawer-pull, as herein described and shown.

5,193.—BASE OF CARRIAGE-BODIES.—Rufus M. Stivers, New York, N. Y.

Claim.—The ornamental design for the base of a carriage-body, as shown and described.

5,194.—DENTIST'S UPPER-IMPRESSION TRAY. Eli T. Starr, Philadelphia, Pa., assignor to Samuel S. White, same place.

Claim.—The design for a dentist's upper-impression tray, as shown.

5,195. — CALL-BELL. — Horace C. Wilcox, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The design for call-bell, as shown in the accompanying photographic illustration, and as herein described.

5,196. — TEA-BELL. — Horace C. Wilcox, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The design for tea-bell, as shown in the accompanying photographic illustration, and as herein described.

TRADE-MARKS.

416.—MEDICINE.—Perry Davis & Son, Providence, R. I.

417.—MEDICINE.—J. N. Harris & Co., Cincinnati, Ohio.

418. — COTTON SHIRTING. — B. B. & R. Knight, Providence, R. I.

419.—JEWELRY AND WATCHES. — Silvius Landsberg, New York, N. Y.

420.—WOOLEN FABRICS. — San Francisco Pioneer Woolen Factory, San Francisco, Cal.

421.—MEDICINE.—Tilden & Co., New Lebanon, N. Y.

EXTENSIONS.

ISAAC HAYDEN, of Boston, Mass.—Letters Patent No. 17,929, dated August 4, 1857.

"Improvement in Bobbins for Roving and Slubbing."

Claim.—Making that portion of the barrel of the bobbin which receives and takes up the second layer of roving larger than that part of the barrel which receives and takes up the first layer, substantially as described, to compensate for the thickness of the said first layer and make the draft on the roving or slubbing uniform.

ALFRED MONNIER, of Philadelphia, Pa.—Letters Patent No. 17,976, dated August 11, 1857; reissue No. 502, dated October 6, 1857; reissue No. 603, dated September 21, 1858.

"Improvement in Sulphuric Acid."

Claim.—The process of treating native metallic sulphurets or arsenio-sulphurets in connection with the substances above described, in order to expel all or part of the sulphur and arsenic for the purpose of obtaining therefrom sulphuric acid, and the metals as sulphates or oxides.

ISSUE OF AUGUST 15.

PATENTS.

117,957.—FISHING-NET.—Levi H. Alexander, Gloucester, Mass.

Claim.—1. An improved bottom seine, as constructed in manner, and provided with pursing lines, as hereinbefore described, and as represented in the accompanying drawing.

2. As a new or improved manufacture, and my invention, a fish-seine as made with netted sides and a bottom, and as closed at one end and open at the other, and having the open end provided with pursing-lines or devices, and the upper edge of the seine with floats, all being substantially as described.

117,958, antedated August 3, 1871.—METHOD OF ATTACHING WHEELS TO AXLES.—Francis Alger, Boston, Mass.

Claim.—The combination of the axle A, the tube B, disk B', disk A', and D D', or their mechanical equivalents, substantially as described and for the purpose set forth.

117,959.—BROOM.—Edward Americus Anderson, Danville, Tex.

Claim.—The combination of the conical or oval-tapered sheet-metal ferrules A B and the correspondingly-shaped handles C D in a broom, substantially as specified.

117,960.—PIPE-COUPLING.—Joseph F. Andrews, Nashua, N. H.

Claim.—The groove C, the tongue F, the recesses D and G, and the orifice E, in forming a joint in pipes, substantially as shown and described.

117,961.—CULTIVATOR.—William J. Arrington, Louisville, Ga.

Claim.—The circular perforated plates E and F, the two sets of pivoted perforated bars H, I, J, and K, the side beams B C, and plows, all constructed and arranged in the manner shown and described, whereby said side beams may be adjusted simultaneously or independently of each other without changing the relation of parallelism between the plows and the central or fixed beam A, as specified.

117,962.—BALING-PRESS. — William J. Arrington, Louisville, Ga.

Claim.—1. The combination of the boxes B' E, doors *l o*, corner-irons *j*, and offsets *k*, as specified.

2. The combination of the hinged nut *d*, arms *e e'*, cross-bars *f f'*, frame B, lugs *g*, bolt *h*, screw *c*, and follower D, as described.

117,963. — FENCE-POST. — Charles Ayers, Farmington Centre, Wis.

Claim.—A cast-metal fence-post, spear-shaped at the lower end, and provided with the flange *a* and rib *c*, as set forth.

117,964.—SLATE.—William F. Baade, Buffalo, N. Y.

Claim.—The combination of the slate B with the rule C, arranged within grooves, substantially as and for the purposes described.

117,965.—EPERGNES FOR FRUITS AND FLOWERS. — Samuel S. Barrie, Green Point, N. Y.

Claim.—As an article of manufacture, an epergne, consisting of hollow stands A B, the metal ferrule F, bowl D having boss E, bouquet-holder G, and screw-bolt C, all detachably applied together, as and for the purpose specified.

117,966.—FRUIT-GATHERER.—James S. Barry and Alfred M. Barry, Sheridan township, Mich.

Claim.—The arrangement and combination, with each other and with the handles A A' and fruit-receiving bag C, of the bag-bows B B', rigid clamping-bow D, and spring clamping-bow D', substantially in the manner and for the purpose set forth.

117,967.—PAPER WRAPPER FOR NEEDLES.—Mary Emma Baylis, Redditch, England, assignor to Henry Baylis, New York city.

Claim.—The improvements in needle-cases or wrappers hereinbefore described and illustrated in the accompanying drawing—that is to say, making the needle-case or wrapper of a flat tube of paper or other flexible material, folded at its middle so as to form a double wrapper, in one or both of the flaps or sides of which double wrapper the needles are introduced, the inner side of the flat tube being cut away at its middle and at its ends, so as to exhibit both the heads and points of the needles, substantially as described and illustrated.

117,968.—MACHINERY AND BUILDING FOR MANUFACTURE OF IRON AND STEEL.—Henry Bessemer, London, England.

Claim.—1. Placing two or more converting-vessels with their respective axes in a line, when used in combination with melting-furnaces to which the mouths of the converters approach when turned down to receive the molten iron.

2. Raising and lowering the casting-ladle vertically in front of the converting-vessel by the direct action of a hydraulic plunger, or by screw or rack, as described.

3. Employing, in combination with such raising-and-lowering apparatus, a turn-table mounted on a vertical axis, for bringing the molds in succession under the casting-ladle, as herein described.

4. The movement of converting-vessels on their axes by means of a worm and worm-wheel and bevel-gearing, as herein described.

5. The employment of a ladle or receiver for weighing molten cast-iron, so placed as to receive a charge of metal from two or more melting-furnaces, and provided with a movable gutter for the conveyance of the metal therefrom into two or more converting-vessels.

6. The mode herein described of receiving in a truck on rails and conveying away the waste fuel and slags or other matters from the converting-vessels.

7. The general arrangement and grouping together of the several implements or apparatus employed in the manufacture of Bessemer steel, as shown in the drawing hereunto annexed.

117,969, antedated July 31, 1871. — MOSQUITO-FAN.—John M. Beverley, Chicago, Ill.

Claim.—The combination of the pallet B, shaft C, supplemental lever D, pitman E, arm F, rock-shaft G, pendulum-rod H, fan-shaft J, frame A, arm M, and standard N, the whole arranged to operate together, substantially in the manner and for the purpose described.

117,970.—GANG-PLOW. — John Blackwood, Madison township, Ohio.

Claim.—1. The reversible clevis-blocks J, in combination with the axle B, plow-beams G, and clevis or straps K, substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the wheel [illegible] double crank-axle B, lever C, catch-bar *c'*, [illegible]d frame D, tongue E, adjustable slotted gau[illegible]-plate F, plows G H, inclined and cross-braces or bolts I, reversible clevis-blocks J, clevises or straps K, rear frame L, caster-wheel M, chain N, pulley O, brackets P, capstan Q, bracket R, hand-wheel S, ratchet-wheel T, spring-pawl U, and driver's seat V W, with each other, substantially as herein shown and described, and for the purposes set forth.

117,971.—HOISTING-MACHINE. — Daniel A. Bolt, Harrisburg, Pa.

Claim.—A series of friction chain-sheath pulleys, driven by gearing, in combination with the worm W, worm-wheel C, chain E, and driving-pulley P, substantially as described, and for the purposes already specified.

117,972.—OMNIBUS-BRAKE.—Henry Bothe, St. Louis, Mo.

Claim.—The arrangement of lever A, rod G, bar E, coil spring H, rod M, brake levers J J, and shoes L L, all constructed, as described, to form an improved omnibus-brake.

117,973.—CLAY-PULVERIZER. — George C. Bovey, Cincinnati, Ohio.

Claim.—1. The combination of the smooth cylinders B B', gear-wheels C C', shaft F, blades G, arms I, discharge-nozzle L *l*, and adjustable scrapers P P', for the object stated.

2. In combination with the cylinders B B', wheels C C', trough E, shaft F, blades G, and nozzle L, the conical head K *k*, or its equivalent, substantially as described, for the purpose set forth.

117,974. — CHEESE-FRAME. — Thomas M. Brintnall, Medina, Ohio.

Claim.—1. The shelves, provided with the guide-band D and guide-pin *b*, in combination with the jointed levers E and guide-post B, substantially as and for the purpose specified.

2. The combination of the shelves, the jointed levers E, and the slotted guide-post B with the axis and washer *a*, substantially as described.

3. The combination of the flanged shelves, the jointed levers E, slotted guide-post B, axis and washer *a*, uprights A, and the compressing device G *g*, substantially as and for the purpose specified.

117,975.—WATER-METER. — John Broughton, Brooklyn, N. Y.

Claim.—1. The combination and arrangement of the upper stationary tube *e* and outer case A with the enlarged upper tubular portion *g* of the wheel and body-tube *d* thereof, substantially as and for the purpose herein set forth.

2. The flange *h* at the lower end of the stationary tube *e*, in combination with the enlarged upper tubular portion *g* of the wheel, body-tube *d* thereof, and outer case A, essentially as described.

3. The spiral blades or vanes *b* of the wheel, bevcled off at top on their under or advance sides so as to retard the volume of water entering by contracting the orifice and presenting an impinging surface to the water at right angles or thereabout to its course, substantially as and for the purpose specified.

4. The wheel, constructed of a central hollow metal shaft, *m*, an annular body, *s*, of rubber, wood, or other suitable material, hollow metal end caps *r r'*, a screw-plug or bearing-block, *n*, and spiral vanes *b*, essentially as described.

5. The bearing-bush *k* for the lower pivot, constructed with a passage up through it in communication with a chamber or space above the bearing-point of the pivot and within the bush, substantially as shown and described.

117,976. — SPRING BED-BOTTOM. — George Brownlee, Princeton, Ind.

Claim.—The springs C C', or their equivalents, cord D, bearers G, and slats B, in combination with a bedstead, when arranged to operate substantially as and for the purposes described.

117,977.—COMBINED LIFE-BOAT AND BED-BOTTOM.—Charles Bütgenbach, Louisville, Ky.

Claim.—1. The combination of the lower portion A, hinged boxed sides B B, and ends C C having hinged boxes, all constructed and arranged substantially as described, and forming a folding boat and bed-bottom, for the purpose set forth.

2. In combination with the folding boat and bed-bottom herein described, the mattress J provided with springs projecting from its under side, for the purpose specified.

3. The hinged keel G, pawl H, and stop I, in combination with a folding life-boat, substantially as described.

117,978.—CARVING-MACHINE. — James W. Campbell, New York, N. Y.

Claim.—1. The cutter-head D, having a threefold motion, as described, namely, a revolving one over the stuff or strip to be worked, a reciprocating lateral one relatively to said strip, and a reciprocating up-and-down motion in relation thereto, when constructed substantially as specified.

2. The combination of the sliding or laterally-moving bearing-box G and its cam H with the rocking bearing *s*, the revolving cutter-head shaft E, the rising-and-falling front bearing Q, and the cam P, essentially as and for the purposes herein set forth.

3. The pendent revolving cutter-heads R R, in combination with one or more intermediate cam or cams, A', the driving-belt *m'*, and the pulleys *l' r'* and *r¹ r²*, when the whole are arranged for operation substantially as specified.

117,979. — ELECTRO-MAGNETIC ANNUNCIATOR.—Jacob Capron, New York, N. Y.

Claim.—1. The combination of a lever having the armature of an electro-magnet attached thereto with the dog or tumbler A, substantially as described.

2. The combination of a swinging or dropping-dog connected directly or indirectly to the gong with a spring-bar or arm connected with one of the room-wires, the dog and bar being relatively so arranged that the falling of the former forms a new connection with the latter, substantially as described.

3. A dog or tumbler adapted to fall and break the circuit which has operated the electro-magnet that caused its fall, and further adapted, also, to form a new circuit with the gong.

4. The metallic frame supporting the insulated electro-magnet which operates the dog, and connected to the gong by means substantially as described.

5. The plate E with its sliding shaft, constructed as described.

6. The combination of the plate E and its shaft with the standard G or G', the parts being relatively arranged as described.

7. The insulated bar H, in combination with the spring-armature and a wire adapted to conduct a current through the bar H, as described.

117,980.—PACKING FOR OIL-WELLS.—Henry S. Cate, Deerfield, Pa.

Claim.—In combination with oil-tube A and casing B having collar G, the rubber disk D, metallic rings E F, and clamps H H, all arranged as and for the purpose specified.

117,981. — CORN-PLANTER. — William B. Chambers, Decatur, Ill.

Claim.—The catch G, constructed and operating substantially as described, and for the purpose hereinbefore set forth.

117,982. — EGG-BEATER.—Daniel B. Clayton, Columbia, S. C.

Claim.—As an improved article of manufacture, an egg-beater, comprising the vessel or trough A, the horizontal shaft C, disks or arms E, thin flat beaters F, cover G, and the driving-gear, all constructed and arranged substantially as specified.

117,983, antedated August 11, 1871.—TILE-MACHINE.—George Clayton, Cleveland, Ohio.

Claim.—1. The combination of the tub A, dome A', extension F, and auxiliary plunger h with the pitman *i*, crank *j*, shaft *k*, and gear-wheels *l* m provided with open spaces and the projections *l'*, substantially as and for the purpose set forth.

2. The combination of the tub A, dome A', extension F, auxiliary plunger h, the throat, the base B, and the main plunger C provided with the gate *g*, all substantially as set forth.

3. The double die, Fig. 5, provided with the annular flange *r* and the centers *q q*, having the arms bent as shown, as and for the purpose described.

117,984.—VENTILATING DECANTING APPARATUS FOR OIL-CANS.—William Cleveland, Orange, N. J.

Claim.—A can or vessel provided with a tube for the admission of air, formed by striking up a groove in the head or top of said vessel and cementing thereto a strip to form the other side of said tube, which tube projects into the nozzle of the can at the side uppermost in decanting, substantially as and for the purpose set forth.

117,985.—COMPOSITION ROLL FOR DRESSING-FRAMES.—Ralph Collier, Laurel, Md.

Claim.—The use of a composition of block-tin, lead, and antimony in the construction of a roller, substantially in the manner and for the purpose herein described.

117,986.—BROOM.—Robert E. Copson, Hamburg, Iowa.

Claim.—The extra braided wires E, in combination with the outer or circumference-wires C and with the handle B, substantially as herein shown and described, and for the purpose set forth.

117,987. — SCROLL-SAW. — Thomas L. Cornell and Sturges Whitlock, Derby, Conn., assignors to Thomas L. Cornell.

Claim.—1. The overhanging goose-neck B B', saw *s*, belt *o*, belt-pulleys *g g¹ g²*, head and tail-blocks *c c'*, and the bracket D, in combination with the adjustable foot-piece G carrying belt-pulley *g²*, substantially as described.

2. The arrangement of the lathe E, E', W, and F', saw-table A, crank-shaft R, saw *s*, pitman *p*, pulleys P^1 P^2, and belt *r*, as and for the purpose described.

117,988. — EGG AND FRUIT-CARRIER.—Joseph Taylor Cornforth, Kansas City, Mo.

Claim.—The series of cells B, formed of flexible and corrugated material C arranged in a case, A, as and for the purpose specified.

117,989.—COMBINED CULTIVATOR, MARKER, AND COVERER.—Hugh J. Coyle, Buffalo, N. Y.

Claim.—The central beam A, combined with the wing-beams E F, adjustably arranged with respect to the former, as described, for the purpose of being readily adapted to serve the purpose of a coverer, marker, or cultivator-frame.

117,990.—BRAN-DUSTER.—John Damp, Ashland, Ohio.

Claim.—In combination with the wire-gauze cylinder A, shaft H having adjustable arms K, and brushes G, the suction-fan M, constructed and arranged as and for the purpose specified.

117,991.—PADDLE-WHEEL.—Daniel S. Darling, Brooklyn, N. Y.

Claim.—The castings A A flanged at E E, the compartments D F, and the buckets B, arranged together in a paddle-wheel, as and for the purpose specified.

117,992.—CAR-COUPLING.—Perry W. Davis, Portland, Oreg.

Claim.—The draw-head A, provided with the cam H, spring E, and link F, in combination with draw-head B provided with piece G, lever K, and pin C, substantially as described.

117,993. — EXCAVATING-MACHINE.—Robert W. Davis, Sonora, assignor to The Davis Excavator Company, Bath, N. Y.

Claim.—1. The shovel, hung eccentrically in relation to the elevators, and so that, when rising, it frees obstacles getting in between it and the elevators, substantially as specified.

2. The shovel hung eccentrically from two points, *l l*, in relation to the elevators, essentially as described.

3. The foot-board I, in combination with the rising-and-falling shovel G, essentially as described.

4. The combination of the self-locking and self-unlocking pawl K with the rising-and-falling shovel, substantially as specified.

5. The combination, with the axle D and dirt-receptacle E secured thereto, of a friction clamp for holding in a yielding manner said receptacle from turning, and allowing of its free rotation when required, substantially as specified.

6. The gearing and ungearing device or plate *k*, with its rods *i i* arranged on back of one or more of the elevators for operation with the wheels C C of the machine, essentially as herein set forth.

7. The dumping-button M, arranged on back of one or more of the elevators F, in combination with the dirt-receptacle E hung so as to be capable of rotation when required, substantially as specified.

117,994.—HAME-TUG FOR HARNESS.—Paul R. Dawson, Brenham, Tex.

Claim.—1. An improved metallic hame-tug, consisting of the body A, detachable jointed eye B, and lock-plate D, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The pivoted guard E, rod F, and lugs G, arranged as described, and applied to the rear end of tug A, as and for the purpose specified.

117,995.—BILLIARD-CUSHION.—Mathew Delaney, New York, N. Y.

Claim.—1. The arrangement of the spindle B within the wood-work of the table, and projecting vertically below the same, to enable the wire to be readily and conveniently tightened without removing any part.

2. The arrangement at the pocket of a billiard-table of a block of hard rubber, E, which shall not possess the elasticity of the ordinary cushion A, the rigidity of metal or wood, and which will yet yield to a small extent, thereby saving the rapid wear on the cloth.

117,996.—BASE-BURNING STOVE.—William Doyle, Albany, N. Y.

Claim.—1. Revolving valve A, in combination with reservoir B of a base-burning stove or furnace, when constructed in the manner and for the purpose herein shown and set forth.

2. The combination and arrangement of oven D, air-chamber C, and reservoir B within the combustion-chamber of a base-burning stove, as herein set forth.

3. The oven D within the combustion-chamber of a base-burning stove, combined with and arranged with reference to top plate G, reservoir B, descending-flues E E and F F, and extension flue K, and air-chamber C, in the manner and for the purpose herein shown and set forth.

117,997.—SCRUBBER AND MOP-HEAD.—William H. Earnest, Parkersburg, W. Va., assignor to Robert P. Steed, same place.

Claim.—The combination of the cylinder A with holes *a a* under tube B, bent rubber C, handle-tube D, and mop-holding rod E, all as shown and described.

117,998. — METHOD AND APPARATUS FOR SEPARATING CERTAIN HYDROCARBON VAPORS FROM ILLUMINATING-GASES.—Henry H. Edgerton, Fort Wayne, Ind.

Claim.—1. As an improvement in the manufacture of naphtha, petroleum, or other rich illuminating-gases, the forcing the same through or over petroleum or other hydrocarbon liquids denuded of their more volatile constituents, for the purpose of

absorbing any hydrocarbon vapors that may be present.

2. The herein-described apparatus, arranged for operation substantially in the manner and for the purposes set forth.

117,999.—MEAT-CHOPPER.—Martin L. Edwards, Salem, Ohio.

Claim.—1. The intermittently-rotating cutting-block B, centered and held within an annular opening, *b*, in the table by means of an annular rim, *a*, and by which the cutting-block and hopper are also rendered removable at pleasure, as described.

2. The metallic cellular web C, constructed with interior division-ribs *j* and an inclosing confining-rim, *i*, for holding and confining a sectional cutting-block for meat and vegetable-cutters, as described.

3. A cutting-block for meat and vegetable cutters, made in sections *m*, secured in separate cells *l*, and locked in position by wooden wedges *n*, as and for the purpose described.

4. The slotted or adjustable crank *g*, in combination with the feed-rod P, the ratchet-pawl R, and the ratchet-wheel E, for producing an adjustable or variable feed to the cutting-block, as described.

5. In a meat-and-vegetable-cutting apparatus, the combination of the cutting-block B, constructed as described, the metallic cellular web C, the annular centering-rim *a*, the cutter-stock G *c*, the vibrating carrying-arm H, and the variable feed devices, the several parts being constructed, arranged, and operating as described.

118,000.—CULTIVATOR.—Thomas J. Ellis, Decatur, Ill.

Claim.—The shaft F, knee H, handles A A, standards I I', rods K K K' K', braces D D E E, and hinges *b b b' b'*, in combination with the standards C C C' C' and forked pole A, substantially as and for the purpose hereinbefore set forth.

118,001.—ROOF-BRACKET.—David Fisher, Mansfield, Mass.

Claim.—The within-described roof-bracket, consisting essentially of the strip A, staple B, and one or more hooks, C, for the purpose set forth.

118,002.—MACHINE FOR DRESSING HIDES.—Edward Fitzhenry, Boston, Mass., assignor to Hide and Leather Machine Company, same place.

Claim.—The arrangement and combination of the two carriages B F, the base-frame A, the rotary table N, and the mechanisms, substantially as described, viz., the racks, gears, and shafts, for actuating such carriages, all being applied together substantially in manner and so as to operate as specified.

118,003.—MACHINE FOR DRESSING LEATHER.—Edward Fitzhenry, Boston, Mass., assignor to Hide and Leather Machine Company, same place.

Claim.—1. The leather-dressing-machine table, provided with the trough arranged with it, as described.

2. The combination of the table provided with the trough, arranged as described, and having castors to its legs, as set forth, with the platform furnished with the raised ledge and the educt, substantially as set forth.

118,004.—OIL-PROOF RUBBER FOR STEAM-PACKING, &c.—James M. Flagg, Providence, R. I.

Claim.—The combination of clay with vulcanized rubber, in the manner and for the purpose specified.

118,005, antedated August 11, 1871.—DEVICE FOR RAISING LETTERS ON METAL PLATES.—Richard R. Foote, Chicago, Ill.

Claim.—The plate A, provided with the raised letters I I, &c., fastened to it temporarily, in combination with the elastic bed B, for raising letters on metal plate by clamping said plate between the said letters and bed, as set forth.

118,006. — PHOTOGRAPHY. — Eliphalet J. Foss, Boston, Mass.

Claim.—1. A clear-glass negative, having a series of fine lines engraved, ruled, or printed upon it, and used for the purpose of producing the backgrounds of photographic pictures, substantially in the manner described.

2. As a new article, a photographic picture, card, or print, having a lined or reticulated background, when the same is produced in the manner herein described, or by other equivalent process.

118,007. — TOY STEAM-ENGINE. — Russel Frisbie, Cromwell, Conn.

Claim.—1. The rod G for communicating the lateral motion of the connecting-rod C to the valve F, substantially as herein described.

2. The combination of the connecting-rod C, the valve F, and the rod G, substantially for the purpose herein set forth.

118,008.—APPARATUS FOR AUTOMATICALLY OPERATING GAS-COCKS.—Samuel Gardiner, Jr., New York, N. Y.

Claim.—1. The lock-bar P, with its hook *f*, spring *s'*, and curved hook *r*, in combination with the wheel A, having four or more holes upon its face, and the stop-cock, as and for the purpose set forth.

2. The arrangement of the lock-bar P, stop *r*, fly *q*, screw-pinion *f*, as and for the purpose set forth.

3. The arrangement of the electro-magnet K, pushing-bar *d*, and stop-bar *p*, as and for the purpose set forth.

4. The combination of the bent plate F with the wheel *n*, as and for the purpose set forth.

118,009. — THILL-COUPLING.—Marcellus C. Graves, Tuscola, Mich., and Byron D. Graves, Waterloo, Iowa.

Claim. — The bolt A having the transverse grooves *a a*, in combination with the nut B and spring *b*, substantially as and for the purpose described.

118,010. — TUNNELING-MACHINE. — Chalkley Griscom, John P. Griscom, and Lewis Griscom, Port Carbon, and John Fritz, Mahanoy Top, Pa.

Claim. — 1. The combination, operating as described, of the extensible column and the extensible spar which supports the boring-tool, and which is adjustable both vertically upon the column and also about the axis thereof.

2. The combination, with the collar H, pulleys I I, and rope, or equivalent devices, of the drums T mounted on the hub K, and operating to raise or lower the spar.

118,011.—RACE-COURSE TOY-BANK.—John Hall, Watertown, Mass.

Claim.—1. The combination and arrangement of either or both the race-levers *m n*, the trigger-lever *s*, the spring *y*, and the wheel *a* provided with the teeth *w* and stud *a'*, all being applied to a box, A, or base, so as to operate substantially as set forth.

2. The combination of the disk or ground-plate *e* and its arches or supporters *g g*, as described, with the box or base A and one or more race-levers *m n*, applied thereto and having operative mechanism, substantially as specified.

3. The race-course toy-bank, composed of instrumentalities as described, constructed and arranged in manner and so as to operate substantially as and for the purpose as set forth.

118,012. — SELF-CLOSING FAUCET. — Joel Hayden, Jr., Haydenville, Mass.

Claim.—A self-closing faucet, in which are combined the case E having the grooves A A, the valve A with its wings *a a*, the spindle L provided with screw-thread *b* and stop *d*, the spring *m*, the parts being constructed and arranged substantially as and for the purpose set forth, and forming a faucet in which the steam has no rise or fall in operating the valve.

118,013.—MODE OF ATTACHING PLOWS TO TRACTION-ENGINES.—William R. H. Heydrick, Chestnut Hills, Pa.

Claim.—1. The drawing-frame, having beam I and the plow-beams, combined with ribbed plate K and slotted and grooved plate L M, as and for the purpose specified.

2. In combination with beam I and plates K L, the bolts and nuts provided with springs O, arranged as and for the purpose specified.

118,014.—WASHING-MACHINE.—Harvey C. Horsey, Romo, Iowa.

Claim.—In combination with box A, the frames B B' and rollers *b b'*, uprights C, blocks D, springs E, and levers F, constructed and operating substantially as and for the purpose specified.

118,015.—BLACKING-BRUSH.—John R. Howard, Boston, Mass.

Claim.—The combination and arrangement of the receptacle *d*, the elastic material *c*, and the parts *e f g*, inclosed by the rim *a*, with the follower A and the screw *i*, whereby the blacking in the receptacle *d* is raised and lowered, all of the parts being applied to the applying-brush B, and operating substantially as described.

118,016.—MECHANICAL MOVEMENT.—Charles W. Hurd, Comstock's Landing, N. Y.

Claim.—1. An improved mechanical movement, formed by the combination of the horizontally-vibrating driving-lever F and vertically-vibrating levers D, four, more or less, with each other, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the weights I and springs J, either or both, with the levers D and F, substantially as herein shown and described, and for the purpose set forth.

118,017.—TABLE FOR EMERY-GRINDERS.—James L. Jackson, New York, N. Y.

Claim.—1. The intervening carriage-frame K, movable in a transverse direction on inclined planes or ways, as described, in combination with the lower frame D running on the shears and the bed E, movable transversely on the intervening frame K, substantially as specified.

2. The combination, with the carriage or its lower frame D, of the roller-truck C, composed of a series of rollers united by a frame at their axles, and arranged to run on lower rails *d d* of the shears and to project above the top surfaces of the latter, substantially as herein set forth.

3. The revolving supplementary bed S, composed of a face-plate, *s*, and stationary ring or box-part *r*, in combination with the transversely-movable main bed E and its lower frame or frames running on or along the shears, essentially as described.

118,018. — SPRING-BED. — John Johnson, Hartford, Conn.

Claim.—1. The rocking end piece, designed for attachment to the canvas stretcher, pivoted at its ends, and provided with arms *e'* at either or both ends, overhanging and bearing upon the springs *f*, substantially as described, and for the purpose set forth.

2. The combination of the arms *e'* with the springs *f* by means of the adjustable cap *i*, substantially as and for the purpose set forth.

118,019.—METAL CARPET-BINDING.—Reuel P. Johnston, Steubenville, Ohio.

Claim.—The tube A, having slits E therein and oblique toothed lips B thereon, combined with hooks D, arranged and applied as and for the purpose specified.

118,020.—LIFTING-JACK.—Stephen D. Jones, Blue Island, Ill.

Claim.—The combination of the standard A having grooved D, the fulcrum C, clasps *d*, bail-shaped pawl E, ratchet F, lever G, pawl H, and ratchet I, all constructed and arranged substantially as described and shown.

118,021.—METALLIC COLUMN.—John A. Kay, St. Charles, Mo.

Claim.—A compound column, composed of a group of metallic tubes connected by metallic bands, which serve both to bind together the parallel tubes and to connect the sections of the separate tubes, substantially as shown and described.

118,022.—FLY-WHEEL. — John W. Keely, Philadelphia, Pa., assignor to Nathan Middleton and Allen Middleton, Jr., same place.

Claim.—The fly-wheel C, in combination with the gear-wheels E F H I, all arranged and operating in relation to shaft D, substantially as set forth.

118,023.—BLIND-SLAT MACHINE.—Kendrick Kendal and Lewis Henry Stark, Goffstown, assignors to Samuel C. Forsaith, Manchester, N. H.

Claim.—The combination of the dies G G operated by the cams C C, with the adjusting screw-shafts M M, substantially as and for the purpose set forth and specified.

118,024, antedated August 4, 1871.—WASH-BOILER. — William E. Kinnear, Upper Sandusky, Ohio.

Claim.—The shallow steam-tight boiler or chamber A with pipes C and D, in combination with the tub B, plate G, pipe E, chamber F, and tubes *f*, all constructed and arranged as herein shown and described.

118,025. — COMPOSITION ROOFING. — William Kinsey, Cincinnati, Ohio.

Claim.—As an article of roofing, the combination of tar-paper and textile fabric, coated with the preparation of animal-tar, drying oil, and clay described.

118,026.—WASH-BOWL.—Collins Knowles, Boston, Mass.

Claim.—1. The combination and arrangement of the disk and tubular valves D E with the slotted valve-case C and its perforated partition *d*, the valves being connected as described.

2. In combination therewith, the forked lever F, the oblique-slotted sleeve G, and the spindle or shaft H, all constructed and applied together in manner and so as to operate substantially as explained.

3. The combination of the valve apparatus, substantially as described, with a wash-bowl or vessel and the vent thereof, as set forth.

4. The arrangement and combination of the ajutage *g* with the disk and tubular valves, and the slotted valve-case and its partition, all combined and arranged in manner as specified.

118,027.—CAKE AND FRUIT-BASKET.—Cyrus H. Latham, Lowell, Mass., assignor to himself, Edward P. Woods, and Daniel Sherwood, same place.

Claim.—The basket A and base B, made of wire and united together, substantially as described and for the purposes specified.

118,028, antedated August 3, 1871.—Gas-Engine.—Charles P. Leavitt, New York, N. Y.

Claim.—1. The arrangement here shown for the introduction and gradual combustion of the gas, consisting of the pipe *y*, the gasometer O, and the burner A, combined, arranged, and operated substantially as described.

2. The hollow ring *a'*, in combination with the cylinder A, substantially as described and for the purpose set forth.

3. The cylinder A, the pump E, and the valve *d*, combined, arranged, and operated substantially as described.

118,029.—Mechanism for Adjusting the Rollers of Carding-Machines.—Edward Lord, Todmorden, England.

Claim.—The slotted bearing *c c'*, ribbed plate *b b'*, right-and-left-hand screw *f*, bolt *d*, and bend *a a' a² a³*, all constructed and arranged as shown and described.

118,030. — Steam-Boiler. — Thomas J. Lovegrove, Philadelphia, Pa., assignor to himself and George H. Meyers, same place.

Claim.—1. In combination with bent connecting-tubes between a steam and mud-drum, the series of chains C, passed back and forth therethrough, as and for the purpose specified.

2. A series of tubes, C, pipes D D having the same capacity as all the tubes, steam-drum A, and mud-drum B, when combined as and for the purpose specified.

118,031.—Hydraulic Hoisting Apparatus.—Albert Lucius, New York, N. Y.

Claim.—The combination of the cylinder A, piston B, rack C, pinion D, drum E, and guide-roller F with each other, all arranged to operate substantially as herein shown and described.

118,032.—Coating for Iron, &c.—George Albert Mariner and Folsom Dorsett, Chicago, Ill., assignors to The United States Pipe-Protecting Company, same place.

Claim.—Oleaginous, resinous, and mineral substances combined in about the proportions set forth.

118,033.—Electro-Magnetic Fire-Alarm Telegraph.—John W. Martin, St. Joseph, Mo.

Claim.—The combination of the numbered swinging lever H and supporting-armature G with the wire *d* and disk D of the alarm apparatus, all arranged as described.

118,034.—Apparatus for Tanning in Vacuo.—Wenzel Maeck, Nashville, Tenn.

Claim.—A vat, P, containing the tanning liquor, agitating rack D E, and vacuum-chamber A, combined and arranged with sprinklers O, as and for the purpose specified.

118,035, antedated August 3, 1871.—Vegetable Cutter.—Gideon B. Massey, New York, N. Y.

Claim.—One or more horizontal slicers, F G, and vertical slitters H, arranged on and projecting through the revolving disk B combined, as described, with the hopper I, placed obliquely to the plane of said disk, as and for the purpose specified.

118,036.—Machine for Bottling Liquids.—Jean Victor Mathivet, Cleveland, Ohio.

Claim.—The combination, with the filling-head and corking-plunger, of the interposed hinged gauge E, arranged to control the descent of said plunger relatively to the filling-head and to admit of its being turned aside to allow the latter to rise while the plunger remains down, substantially as and for the purpose or purposes herein set forth.

118,037.—Refrigerator.—John Matthews, Jr., New York, N. Y.

Claim.—The revolving ice-well D, of corrugated form, whereby the vessels placed on the shelves in the recesses E are partially surrounded by the refrigerating agent contained in said well, substantially as shown and described.

118,038. — Sash-Holder. — Thomas Jennings McCarver, Oregon City, Oreg.

Claim.—The sash-fastener herein described, consisting of the plate *f*, pawl or catch *a* pivoted thereon and provided with nib *d*, a spring, *c*, encircling an arm or bar, *i*, working in a slotted guide-plate *e*, and ratchet-bar *b*, all constructed and arranged in the manner specified.

118,039.—Bit-Stock.—William H. McCoy, Erving, Mass., assignor to Miller's Falls Manufacturing Company, same place.

Claim.—The handle of a bit-stock with metal tubes or hoops forced into grooves in the ends of the wooden handle, thereby preventing splitting or shrinking, substantially as and for the purposes set forth and specified.

118,040.—Gunpowder. — Angelo Molfino, New York, N. Y., assignor to The United States Cartridge Company, Lowell, Mass.

Claim.—A new and useful gunpowder composed of the following ingredients, viz., chlorate of potash, wheat-starch, and charcoal, combined substantially in the proportions specified.

118,041. — Jig-Saw. — Charles D. Moore, Lawrence, Mass.

Claim.—The combination of the pedals *e' e²*, the rods *d' f'*, the pawls *i' h'*, the ratchets *a' b'*, and the springs *g' h'*, or their mechanical equivalent, with the hand-wheel shaft *p*, the gears *n o*, the prismatic shaft *s*, the pulleys *s f a b*, the endless chains *g h*, applied to the saw and its carrier C and to the table or frame of the machine, all being substantially as described, whether such shaft *p* be provided or not with a hand-wheel, as set forth.

118,042.—Device for Suspending Window-Sash.—Thomas Morton, New York, N. Y.

Claim.—The hook E, constructed with the peculiarly-recessed slot described, and applicable to a link-chain in the manner specified.

118,043.—Process for Ornamenting Sewing-Machines, &c.—Charles Ferdinand Mueller, Hamilton, Canada.

Claim.—The improved art or process of ornamenting sewing-machines or other articles of manufacture of wood, metal, or glass, with gold, silver, and metal leaf, by means of pattern-plates of sheet metal or other suitable material, substantially as, in the manner, and for the purpose specified.

118,044. — Billiard-Marker. — William Henry Newell, Hudson City, N. J.

Claim.—1. A marking-plate, A B C, combined with two sliding pointers, E E, arranged opposite to each other but directed to the same line of notations, as and for the purpose specified.

2. As an improved article of manufacture, a billiard-marker, formed of a double-faced plate having three longitudinal divisions, A B C, and three sets of transverse divisions, *a' b' c'*, on each face thereof, combined with two bifurcated pointers, E E, arranged to slide on rods D D, as described.

118,045, antedated August 10, 1871.—Reel for Harvesters.—D. Chaplin Nutting and Joseph D. Allen, Bowling Green, Ky.

Claim.—The reel H I, having pulley J operated from the pulley B, combined as described, with the block and pinion D E traveling over a rack, C, which is the arc of a circle struck off from the pulley B as a center, for the purpose specified.

118,046. — Loop for Harness. — Addison M. Osborn, Girard, Pa.

Claim.—The triple metallic loop A B C, constructed substantially as herein shown and described, and for the purpose set forth.

118,047, antedated August 9, 1871.—Lounge-Bedstead.—Frederick C. Payne, New York, N. Y.

Claim.—The lier formed in two sections, A and B, the one hinged to the head of the lounge and the other rigidly secured to the upper slat-frame C, substantially as and for the purpose herein set forth.

118,048.—Smut-Mill.—Dan Pease, Floyd, N. Y.

Claim.—1. The spreader-plates *l l*, arranged in the grain-passage between the scouring-cylinder and separator, as set forth.

2. The adjustable springs *o o*, provided above the inclines *i*, and in combination with the plates *l l*, as specified.

3. The combination of the gate *m* with the spreaders *l* and inclines *i j*, substantially as herein shown and described.

4. The conduit E, constructed in two longitudinal sections, *i j*, and provided with upright edge K, as and for the purpose specified.

118,049.—Reversible Side-Hill Plow.—Charles B. Pettengill, Hebron, Me.

Claim.—1. In combination with two hinged wings, G G, attached to a reversible mold-board, the jointed rod passing behind the mold-board, the effect being to compel each wing to move inward as the other moves outward.

2. In combination with hinged wings, G G, on the mold-board, the pivoted catch K curved on its outer surface, the effect being to move out and support the wings.

3. The combination of a mold-board, E, having projection Q, and a pair of wings, G G, all constructed and arranged as described, the effect being to enable the same plow to work on level ground as well as on a hill side.

4. The rod M, toothed bar N, pinion O, and lever P combined with a catch, K K', to operate it in the manner and for the purpose described.

118,050.—Clevis.—Samuel W. Pope, Louisville, Ky.

Claim.—The clevis-rod C, bent substantially as described, in combination with the side plates B, or their equivalents, as set forth.

118,051. — Funnel. — Norman L. Price, Lynchburg, Va.

Claim.—The funnel A, provided with a cover, B, having holes adapted for receiving and holding the measures D and used therewith, all substantially in the manner specified.

118,052. — Medicine or Powder for Treating Cattle and Hogs.—Balzar H. Pullin, McDowell, Va.

Claim.—The recipe or composition of the ingredients above named, in the quantities substantially as and for the purposes above set forth.

118,053.—Cultivator.—Edwin Reese, Eutaw, Ala., assignor to C. M. Reese, same place.

Claim.—The arrangement of the shovel-frame *a*, bar or bow *c*, lever *f*, rock-shaft E, chains *g g*, and whiffletree *h* with the frame A and tongue F, as shown and described, to operate as specified.

118,054.—Rain-Water Cut-Off.—Bernard Rein, Marietta, Ohio.

Claim.—The case A, with pipes *a a' a²*, chamber *a²*, flange B, guide-plate C, and guard D, constructed and arranged as described, for the purpose set forth.

118,055.—Suspender.—Thomas Rich, South Seekonk, Mass.

Claim.—The combination of the button-straps C C, the connecting-spring B, with the shoulder-straps A A drawing from the center of the spring, substantially as described.

118,056, antedated August 2, 1871.—Horse-Power.—Titus H. Russell, Lebanon, N. H., assignor to himself, Henry C. Mahurin, New York city, and Frederick A. Hatch, Manchester, N. H.

Claim.—1. The construction and arrangement of the bottom platform A with rail *a* and adjusting-screws *e e*, the six-armed wheel or carriage B with rollers *b b*, the bisected and hinged platform C with circular rack-bar *f*, and the center journal *d*, all as herein shown and described.

2. The folding horse-stall, consisting of the posts G G, bars *h h' h²*, and rods *k k'*, constructed and arranged substantially as and for the purposes herein set forth.

118,057. — Letter-Box. — John A. Ryan, Cleveland, Ohio.

Claim.—The rod F, in combination with the door G, hook E, indicator D, constructed and arranged to operate in combination with the box A, substantially in the manner as described, and for the purpose set forth.

118,058. — Bit-Stock. — Samuel Sawyer, Erving, Mass., assignor to Miller's Falls Manufacturing Company, same place.

Claim.—The sleeve B, constructed with a flange, *b*, in addition to the screw, and securing it to the head A, substantially as and for the purposes described and specified.

118,059. — Hydrant.—Nickulas Schleffer, Chicago, Ill.

Claim.—The combination of valve D, stem F, connecting-rod H, spring L, lever J, and hook N, the whole arranged to operate together, substantially as and for the purpose described.

118,060. — Cotton-Press. — John Schley, Savannah, Ga.

Claim.—The arrangement, in the cotton-press herein described, of the two pairs of followers C C and guides D D, the four pairs of toggle-arms H H, and nuts F I, double nut E, guides *b b*, and the right-and-left screw G, as and for the purpose shown and described.

118,061.—Gutter-Strap.—Albert B. Schulz, Baltimore, Md.

Claim.—The combination of the screw *d*, which has a thread extending from end to end, the straps *f f* lapping over the top of the gutter, the under and upper nuts *g* and *g'*, *e* and *f*, and the brackets *c c*, all in the manner shown and described, whereby the gutter can be adjusted both at *g g'* and also at *f* and *e*, and the gutter, or a strap thereof, may be removed without disturbing the screws, as set forth.

118,062. — Drop-Grate for Furnaces.—William Shepherd, New York, N. Y.

Claim.—1. The grate-bars C, provided with the cars *d* secured to the cross-bars of the pivot-frame B by means of pins *e*, substantially as herein shown and described.

2. The air and draught-chamber F, formed around a grate by a cover, D, as set forth.

3. The base-plate A, receiving the pivoted grate and combined with the cover D, substantially as herein shown and described.

118,063.—Door-Check.—Don Carlos Smart, Cambridgeport, Mass.

Claim.—My said improved door-check, as composed of the flanged elastic cushion A, the tubular knob B having openings at its opposite ends of different diameters, and the plug or base part C containing the screw D, and serving to retain the cushion in its normal position, the whole being constructed and arranged substantially as shown and described.

118,064, antedated August 3, 1871.—Valve for Steam-Pumps and Engines.—William B. Snow, Brooklyn, N. Y.

Claim.—1. The combination, with the main slide-valve, of its attached cylinders *k k'* and smaller cylinder *l*, together with their respective stationary pistons *m* and *m'* and exhaust-piston *n*, substantially as specified.

2. The combination of the exhaust-piston *n* with the exhaust branch *o* in the valve, essentially as specified.

3. The exhaust branch *o* in the valve, in combination with the bridge *i* between the exhaust and steam-ports of the engine or pump, and with the cylinders *k k'* and *l* and stationary pistons *m m'* and *n*, essentially as and for the purpose herein set forth.

4. The valve B formed with two D-cavities *g g'*, in combination with the exhaust branch *o*, the cylinders *k k'* and *l*, and the stationary pistons *m m'* and *n*, substantially as shown and described.

118,065.—Adjustable-Gauge Car-Wheel.—William B. Snow, Brooklyn, N. Y.

Claim.—The combination, with the fixed notched key or feather C on the axle, of the spring-bolt D, arranged within the wheel for automatic action, as described.

118,066.—Paper-Trimming Machine.—Orlando L. Starkey and Elisha W. Pouton, Fort Wayne, Ind., assignors to Orlando L. Starkey, same place.

Claim.—The cylinders A and B, provided with cutters *c c'* and *d d'*, flange *e*, and groove *g*, spiral springs *i* and *k*, nut and screw adjustment *h* and *j*, all combined and operating in the manner and for the purposes substantially as described.

118,067.—Sewing-Machine.—Carlos Stebbins, Pike, N. Y.

Claim.—1. The combination, with the slotted cam-plate E and the thread take-up A, of the bar *b*, all being arranged substantially in the manner described.

2. The improved oscillating joint, consisting of the socketed support *h*, bolts *g*, cap *i*, and jam-nuts *j*, all combined and arranged substantially as specified.

118,068.—Farmer's Boiler.—George Stevenson, Zionsville, Ind.

Claim.—The within-described apparatus, consisting of the cylinder A, boiler B, fire-box C, connecting-pipes D E G, tub F, double vessel K, supply-pipe N with waste-pipe O, and the smoke-pipe P, all of said parts being constructed and arranged substantially as and for the purposes herein set forth.

118,069. — Machine for Bottling Gas-Charged Liquids. — Esau D. Taylor, Hornellsville, N. Y., assignor to firm of John Matthews, New York city.

Claim.—1. The arrangement of a corking-magazine relatively to the filling-head and to the pipe, by which the gas and liquid are supplied to the latter, substantially as herein specified.

2. The combination of the compressible and elastic plunger M, having an independent action, as described, with the corking-magazine L, the valve or cock *d* that controls the supply of gas and liquid through the pipe *b* and the filling-head B, substantially as specified.

3. The combination, with the filling-head and corking-plunger, of a wiring apparatus, consisting of a cross-head, O, connected with the filling-head by means of springs and latches, essentially as described.

4. The sleeve *o* and lip *p* of the wiring apparatus, in combination with the cross-head O, the springs *k k*, and latches P P, substantially as specified.

5. The hand or guiding device *q*, in combination with the guides *s s*, the sleeve *o*, the lip *p*, the spring *r*, and the cross-head O, essentially as described.

118,070. — Ice-Pick. — Thomas A. Taylor, Bangor, Me.

Claim.—The improved ice-pick, as herein described, having the flat pick *a* inserted in the metallic head *b*, substantially in the manner and for the purposes set forth.

118,071, antedated August 11, 1871.—Washing-Machine. — James M. Thompson, Dowagiac, Mich., assignor to himself, Justus Coney, and Charles Merwin, same place.

Claim.—1. The frame A, consisting of the wringer-board B, legs *d d d d*, bracing-handle C, and bars D D, substantially as and for the purposes hereinbefore set forth.

2. In combination with the first-named parts, the tub E, lovers H and I, beaters G, abutting-boards F, rubbing-board *j*, and covers L and *k*, all constructed and combined substantially as and for the purposes hereinbefore set forth.

118,072.—Dumping-Carriage. — Jeremiah R. True, Richmond, Me.

Claim.—1. The single restorer B and the two shutters *c c*, arranged together and with the body of the carriage, and applied so as to operate substantially as specified.

2. The arrangement of the tripper or trippers D with the shutters *c c*, their latches C C, and the carriage-body, all being applied as set forth.

3. The improved dumping-carriage A as made or provided with the opening *a* in its bottom, the shutters *c c*, the restorer B, the latches C C, and the trippers D D, all arranged substantially in the manner and to operate as explained.

118,073.—Uterine Supporter. — William S. Van Cleve, Centralia, Ill.

Claim.—The tube K, extended above the bottom of the cup of a pessary, and provided with a detachable nozzle, L, for entering the uterus, substantially as specified.

118,074. — Agitator for Washing-Machines.—Van Vanderburgh, Bacon Hill, assignor to Horatio Graves, Warsaw, N. Y.

Claim.—In combination with perforated disk and perforated hollow arms, the upwardly-projecting rim *e*, arranged around the circumference of the disk, as and for the purpose specified.

118,075. — Device for Locking-Bolts.—Samuel Vanstone, North Providence, R. I., assignor to George Chatterton and James Chatterton, same place.

Claim.—The fastening of rail or other similar joints by means of the tapering plates, or the equivalent straight plates with the tapering slots, and bolts running into key-hole slots, in combination with the single-slot bolt and cotter, substantially as described.

118,076.—Elevator-Cup.—Alfred A. Vitt, Union, Mo.

Claim.—The hook-shaped extension B of the rear side of an elevator-cup A, to adapt it for attachment to an elevator-belt, C, by means of a cross-strap, D, substantially as herein shown and described, and for the purposes set forth.

118,077. — Bushes for Mill-Spindles.—Herman W. Vitt, Union, Mo.

Claim.—1. The screw-tube C *c'* and tapering tube B, in combination with the case A and tapering followers E, to move said followers simultaneously toward or from the spindle, substantially as herein shown and described.

2. The flanges *e'* and projections *e²* formed upon the tapering followers E to adapt them for use with the case A and tapering tube B, substantially as herein shown and described, and for the purpose set forth.

118,078. — Lubricating Apparatus for Steam-Engines.—Moses N. Ward, Somerville, Mass., assignor to himself and Franklin Friend, same place.

Claim.—1. The improved lubricator, or combination and arrangement of the vessels A B, the valve-stem C, the valves *a b*, the valve-seats *c d*, the passage *e*, the shoulder *f*, and the spring *g*, all being to operate as described.

2. The combination of the steam-space or heating-chamber *m* with the valve-stem C, the two vessels A B, the two valves *a b*, and their seats *c d*, arranged as described.

3. The chamber *m*, arranged to extend from the lower part of the valve-stem up into the two vessels A B, as set forth, such chamber being combined with the said vessels, the valve-stem C, and its valves *a b*, and their seats *c d*, arranged as explained.

118,079.—Chair-Seat. — Gardner A. Watkins, Cavendish, Proctorsville Post-Office, Vt., assignor to The American Chair-Seat Company, Gardner, Mass.

Claim.—Securing the bottom fabrics of chairs to the seat-frames thereof by means of a groove or channel, B, and a continuous strip or spline, C, fitting therein, substantially as herein shown and described.

118,080.—Curtain-Fixture. — Thomas N. Webb, Baltimore, Md.

Claim.—The fixed plate A provided with triangular openings or projections, in combination with the cord-holding plate B provided with projections or openings, as described, when the said plate B is suspended entirely free from the fixed plate A, all arranged substantially as described.

118,081. — Curtain-Fixture.—Thomas N. Webb, Baltimore, Md.

Claim.—The cord-holding plate D, provided with either slots or projections, in combination with the fixed plate A provided with either slots or projections, when the said plate D is suspended entirely free from the fixed plate A, all arranged substantially as described.

118,082. — Electro-Magnetic Billiard-Game Register.—George A. Webster, Elgin, Ill., assignor to himself and Dean S. Webster, same place.

Claim.—1. In an electro-magnetic billiard-game register, the lever P, arranged to open and close the circuit, substantially as described.

2. In combination with lever D, the pointers C and *f*, arranged to indicate the number of points upon the dials *d* and *d'*, substantially as described.

3. The combination of magnet H, armatures L, pawl-lever O, pawl P, ratchet-wheel N, shaft K, and pointer A, the whole arranged to operate substantially as and for the purpose described.

118,083.—Handle for Carriage-Doors.—Edward Wells, New Haven, Conn.

Claim.—The arrangement of the crank *a b c* between the body and inner lining of the door, with its knob *f* projecting through and working in an arc slot formed in the said lining, said crank operated, also, by the spindle upon the outside, for the purpose specified.

118,084. — Dust-Pan.—William Westlake, Chicago, Ill.

Claim.—The combination of the handle B with the border C and bottom A of a dust-pan, when constructed and operating substantially as specified.

118,085.—Carriage-Washing Machine.—Oliver P. Weston, Shattuckville, Mass.

Claim.—1. The combination of the washing-boxes and the lifting-jack, substantially as specified.

2. The combination, with the boxes and jack, of the sliding covers and a system of levers for working them simultaneously, substantially as specified.

118,086. — Bearing-Surface and Journal of Machinery. — Joseph Wharton, Philadelphia, Pa.

Claim.—The new manufacture above described, namely, journals and bearings, and bearings of shaftings, and wearing-surfaces of machinery, made of nickel or nickel alloy, as specified.

118,087.—Jig-Saw.—Artemus H. Whitney, Essex, assignor of one-half his right to John L. Randall, Albany, N. Y.

Claim.—1. The arms D D', having their trunnions arranged diagonally across them, as herein described, and for the purposes herein set forth.

2. The adjustable bearing C, when arranged in relation to the standard B and arms D D', as and for the purpose herein set forth.

3. The combination of the standard B, adjustable bearing C, arms D D', screws E E, saw F, tightening-screw G, adjustable tightening-connection H, crank-wheel I, wrist-pin J, and pitman K, when constructed and arranged as herein described, and for the purposes specified.

118,088.—Garden Implement.—David S. Wilhoit, Madison Court House, Va.

Claim.—The construction of stock *a* with plate *c* having pin *d*, shoulder *f*, and tongue *g* thereon, and with plate *e* having shoulder *p*, tongue *q*, recess *e*, pin *s*, and shoulder *t* thereon, so as to enable the tools specified to be fastened thereto in the manner set forth.

118,089. — Tanning. — Daniel Woodbury, Peabody, Mass.

Claim.—1. The employment of a bath of metallic tin and acid, as set forth, and water in or about the proportion as stated, on a partially-tanned skin, in manner substantially as specified, to effect the completion of the tanning process or permeation of the skin by the tannin.

2. The employment of a bath of tin and acid, as mentioned, and water, in or about the proportions set forth, and turmeric, or an equivalent coloring matter, on a partially-tanned skin, substantially in manner described, to effect the thorough permeation of the skin by the tannin and the coloring or modification of color of it, all being essentially as specified.

118,090.—Brake for Bending Sheet Metal. — Frederick Yaeschè, Springfield, Mass.

Claim.—The double-acting-levers *a a*, in combination with its clamp *b*, folding bar *c*, brake-beam *d* provided with recess *e*, and spring-cushion *n*, all constructed, arranged, and operating substantially as and for the purpose specified.

118,091. — GRAIN-BINDER. — James Youll, Manchester, Iowa.

Claim.—1. The jointed gathering-arm composed of the blocks I I, constructed and operating substantially as described.

2. In combination with the above-claimed arm, the spring-fingers P and notched arm M, for seizing, holding, and carrying, the band-twine, substantially as described.

3. The arrangement of the stand T, slide V, and lever W for closing the griping-staple on the band and cutting the band-twine, substantially as described

4. In combination with the gathering-arm, the spool R and crank for holding, carrying, and tightening the band-twine, substantially as described.

5. In combination with the gathering-arm, the levers *c* and *d*, constructed substantially as described, for operating and working the gathering-arm, as set forth.

118,092.—BEATING-ENGINE FOR PREPARATION OF PAPER-PULP.—Gustavus Ames, New York, N. Y.

Claim.—1. The combination of the horizontal shaft armed with round pins, in combination with the surrounding case armed with round pins, and provided with a feeding-tube and a discharge-tube, so that the case can be kept full of water and fibers, substantially as and for the purpose specified.

2. In combination with the subject-matter of the first claim, the centrifugal finisher, substantially as and for the purpose set forth.

118,093.—RUNNING-GEAR FOR CARRIAGES.—John C. Anderson and Allen W. Benson, Saginaw, Mich.

Claim.—The segmental bearing-plate F and hook F' secured to the reach C, in the manner and for the purpose set forth.

118,094.—GRAIN-SEPARATOR.—Frederick A. Balch, Hingham, Wis.

Claim.—1. The cylinder A, constructed with cells, as described, formed by perforations in said cylinder, covered by a surrounding jacket or plate, *a*, either with or without depressions or indentations, substantially as set forth.

2. In combination with the cylinder A, the trough or pan C and feed-screw F, substantially as set forth.

118,095. — PORTABLE FURNACE. — Henry Beatty, Massillon, Ohio.

Claim.—The portable furnace herein described, consisting of the body A, with door B and one or more dampers, C D, grate-ring N, grate P, hood-ring M with holes *e* around its upper edge, and smoke-pipe G, united to the body A by hooks K K and braces I I, the ring-base F having one or more kettle-rings, *a*, therein, if required, and the several parts being constructed and arranged as herein specified.

118,096. — CHAIR AND LADDER.—William Bergmann, Philadelphia, Pa., assignor to himself and Adam Keller, same place.

Claim.—A ladder, connected at the top to the back of a chair by a rod or bolt, *f*, and slotted so as to be capable of sliding on the said rod, and provided at the bottom with hooks *a a*, by which it can be attached to the legs of the said chair, all substantially as specified.

118,097. — BARREL AND BOX-ELEVATOR.—Ezekiel Blake and James E. Blake, Chicopee, Mass.

Claim.—The rod A, in combination with the hook D, hook E, chain F, and hook G, all constructed substantially as and for the purposes set forth.

118,098. — MILK-RACK.—William Boswell, Pontiac, Mich.

Claim.—The revolving standard B, the metallic surface C, the annular cups D G, the safe F, with the arms E, when combined to operate as and for the purposes substantially above set forth.

118,099. — TAP-SOLE FOR RUBBER BOOTS AND SHOES.—Augustus O. Bourn, Providence, and Isaac F. Williams, Bristol, R. I.

Claim.—The improved tap-sole for rubber boots and shoes herein described, provided with the extension B, narrower than the main sole at the shank and extending along the center of the shank from the tread to, and connected with, the front line of the heel, as and for the purposes specified.

118,100.—PROCESS OF CONVERTING IRON INTO STEEL.—Thomas Brooks, Minerva, Ohio, assignor to himself, Thomas Jackson, and Frank A. Foster, same place.

Claim.—1. In the process of converting iron into steel, the combination, in the proportions stated, of the ingredients employed to produce a tool-welding steel, as described.

2. In the process of converting iron into steel, calcium-tungstate, in combination with the ingredients stated, to produce a fine quality of steel, as described.

3. In the process of converting iron into steel, bismuth, in combination with the ingredients used to produce a fine quality of file-steel, as described.

4. In the process of converting iron into steel, fluor-spar or chlorophane, in combination with the ingredients used to produce file-steel, as described.

118,101.—MILLSTONE-BUSH.—James Brown, Fonda, N. Y.

Claim.—The arrangement of beveled blocks B loosely in relation both to the beveled sides of case A and to gauge-screws E, as and for the purpose specified.

118,102.—MACHINE FOR CRIMPING BLIND-SLATS.—Martin Buck, Lebanon, N. H.

Claim.—1. The dies L L, adjusted for the varying lengths of slats by the movable cams C C and screws G G on the shaft B, and held in proper relative position during adjustment by pins *e*, or equivalent device, constructed, arranged, and operating substantially as described and specified.

2. The hopper composed of the racks N N, arranged for adjustment simultaneously with and relatively to the dies L L by the ledges O O, substantially as described and specified.

3. The combination, with the racks N, of the clearers A A, and adjusting them simultaneously with and relatively to the dies L L, so as to automatically discharge the compressed slats, substantially as described and specified.

118,103.—SAFETY-WHIFFLETREE. — Isaiah Byrd and Turner Byrd, Jr., Calvin township, Mich.

Claim.—In connection with the double-tree A and whiffletrees B, provided with irons C, the arrangement of the locking-rods D, the connecting-rods F, and the plate E, provided with lever G, all constructed and operated as and for the purpose set forth.

118,104.—CHARGER FOR POWDER-FLASKS.—George A. Capewell, George D. Capewell, and Joseph T. Capewell, Woodbury, Conn.

Claim.—1. The neck of the charger, consisting of the plates B C, the said plate C provided with a neck, D, and flange *d*, and with a projecting edge, as described, combined with the spring S and cut-off H, all constructed and united in the manner specified.

2. In an adjustable charger, the inner tube N, constructed with the slit *n*, in the manner and for the purpose substantially as set forth.

118,105.—FLOUR. — Thomas Carr, Bristol, Great Britain.

Claim.—1. The flour produced by the within-described process, and having the granular character and other qualities herein set forth.

2. The within-described process of producing the said flour.

118,106.—PIPE AND TUBE FOR WATER, GAS, &c.—Frederic Chase, Philadelphia, Pa.

Claim.—1. As a new article of manufacture, a metal pipe having an enameled inner surface.

2. A pipe having an enameled inner surface and coated exteriorly with zinc or its equivalent.

118,107. — FRICTION-BRAKE FOR MACHINERY.—John C. Clapp, Boston, Mass.

Claim.—1. The application of friction to that portion of the fly-wheel of a printing-press hereinbefore described, for the purpose as set forth, by means of arms A A, or other arms acting upon the wheel in the manner of a vise.

2. The combination of the fixed frame B B B B, the movable frame C C C C, and the rod R, acting in the manner and for the purpose described.

118,108.—ARROW-SPRING.—John B. Cleaveland, Indianapolis, Ind.

Claim.—The body of the bow *a*, when constructed to fit the backs of the fingers, substantially as set forth.

118,109. — ATTACHMENT FOR SEWING-MACHINES.—George A. Colton and Sylvester P. Babcock, Adrian, Mich.

Claim.—1. In combination with the plate A, having loop *h* and cap *k*, the removable presser-plate G provided with a slot or catch, *s*, for the purpose specified.

2. The corder, constructed substantially as described, and provided with a set-screw having a collar, *c'*, in combination with the bed-plate having the flanch *b* and notched bearing *b'*.

3. In combination with the bed-plate A having the bearings *b b'*, the combined tongues and corder herein described, provided with the adjusting-screw *a* with its collar *c'*, substantially as and for the purpose specified.

118,110. — ATTACHMENT FOR SEWING-MACHINES.—George A. Colton and Sylvester P. Babcock, Adrian, Mich.

Claim.—1. The angular cord-plate E, pivoted to the tongue D, provided with the oblique cord-way *a*, and rendered adjustable by means of the set-screw *s* bearing against the gauge of the bed-plate, as specified.

2. In combination with the sheet-metal bed-plate having the slot *e* and spring-hook *d*, the detachable presser-plate B provided with the depressed catch K, when constructed and arranged to operate as shown and described.

118,111.—BINDER FOR SEWING-MACHINES.—George A. Colton and Sylvester P. Babcock, Adrian, Mich.

Claim.—The combination, with the bed-plate A having the bearings *c c*, of the variable binder herein described having the stationary upper guide H, and the adjustable lower guide L provided with the adjusting devices *z h*, substantially as herein specified.

118,112.—METER.—David P. Davis, Jersey City, N. J.

Claim.—1. The valves *t*, made of hollow cylinders closed at the ends and having ports 6, 7, and 8 in the sides, and introduced in the open cylinders provided with ports 9 and 10 and pipe *e*, in combination with the cylinders *g*, pistons *h*, shaft *k*, and connections, substantially as and for the purposes set forth.

2. The removable sleeve v^2, carrying the shaft v^1, packing, and worm-pinion, constructed as specified, and inserted into the case of the water-meter, as and for the purposes set forth.

118,113.—MILLSTONE-BALANCE.—Zedekiah Dawson, Cole Creek, Ind.

Claim.—In combination with a millstone, *a*, the weights *b b b*, when constructed, applied, and arranged for operation in the manner described and shown, and for the purpose set forth.

118,114, antedated August 11, 1871.—LOOM. John Detweiler, West Liberty, Ohio.

Claim.—1. The perpendicular shafts C, with their arms *e* and *f*, rods *e'* and *f'*, slides *d*, and parallel bars *c*, and coiled springs *h*, constructed and operating in combination with the picker-staffs D and triggers *i*, substantially in the manner and for the purposes set forth.

2. The ratchet and flange-wheels F and G, ratchet-hooks H, and springs *n*, in combination with the triggers *i* and springs *m*, and picker-staffs D and spring E, when constructed and operating substantially in the manner and for the purposes described.

3. Pulley N, coiled spring S, and collar T, in combination with collar M and shaft O, when constructed and operating substantially in the manner and for the purposes set forth.

118,115. — DOUBLE PERCH AND FIFTH-WHEEL FOR CARRIAGES.—David C. Doran, Mount Healthy, Ohio.

Claim.—A double perch and fifth-wheel, formed by two bent wooden sides, C C', and bifurcated metallic facing D, connected substantially in the manner and for the purpose specified.

118,116.—HYDRANT.—William H. Duffett, Rochester, N. Y.

Claim.—1. The movable head E, provided with a series of nozzles, G, each having its own water-way *g g* and cut-off valves L L, arranged and operating in connection with the barrel A, rod M, valve N, stop *s*, and trip-valve P, substantially as and for the purpose set forth.

2. In combination with the above, the elbow B, connected with the barrel A and provided with the cylinder C, in combination with the stem *b* and valve D, as set forth.

3. The barrel A, casing R, nozzles G G, valves L L, rod M, valve N, stop *s*, valve P, and cut-off valve D, all arranged as described, and operating in the manner and for the purpose specified.

118,117.—CASTER FOR SEWING-MACHINES. Frank Harper Duncan, Evansville, Ind.

Claim.—A caster, arranged for attachment to the foot of a sewing-machine stand, or other article of furniture, by means of two or more set-screws having heads which overlap and bind upon projecting portions of the said foot, all substantially as specified.

118,118.—CAISSON FOR SINKING PIERS.—James B. Eads, St, Louis, Mo.

Claim.—1. In connection or combination with a caisson for sinking piers of masonry or other material, the air-lock K placed at or near the bottom of the air-shaft G and partially or wholly within the air-chamber of said caisson, substantially as herein set forth.

2. The extensions A' of the caissons, substantially as and for the purpose set forth.

118,119. — PLOW.—Thomas Edmunds, Talcott, Va.

Claim.—The combination of the share A with guide or box *a*, and the point B with shank C and

rib *b*, all substantially as and for the purposes herein set forth.

118,120.—WASHING-MACHINE.—Robert E. Ferguson, Chicago, Ill.

Claim.—1. The tub A, provided with inside cleats or beaters, and hung in the hinged frame *ss* to be revolved therein with its axis of revolution inclined, substantially as and for the purposes described.

2. The folding frame, in combination with the inclined beater-tub, substantially as described, for the purpose specified.

3. In combination with the tub, the hollow chute or beater C, the plug D, and cover E, substantially as described, for the purpose specified.

4. The adjustable frame of the machine, consisting essentially of the upright portion B, hinged portion B^1, pivoted arms B^2, and bearing-pieces J P^1, as herein shown and described, for the purposes specified.

118,121.—FORK FOR HAY-ELEVATORS.—Benjamin G. Fox, Princetown, Pa.

Claim.—The combination of the retaining and releasing-lever D, hung to one of the jaws or bars of a fork for a hay-elevator, with a link, B, adapted to a pin, *i*, on the same bar, and attached to a rope, X, connected to the opposite bar, all substantially as specified.

118,122.—PRINTING-TELEGRAPH INSTRUMENT.—Robert H. Gallaher, New York, N. Y., assignor to "Gallaher Gold and Stock Telegraph Company," same place.

Claim.—1. In a printing-telegraph instrument, the method of operating the type-wheel and the printing-pad by means of an armature placed beneath the poles of an electro-magnet and of a connecting-rod or rods, moved upward thereby in line parallel or nearly parallel with the axes of the magnet, substantially as and for the purpose herein set forth.

2. The arrangement, within tubular electro-magnet cores, of longitudinally-vibrating armature-arms or connecting-rods, substantially as and for the purpose set forth.

118,123.—TABLE-SLIDE.—Mortimer Griffin, New York, N. Y.

Claim.—The square metallic disks C beveled on two of the corners and diagonally secured to the guides B B of the slides A A, substantially as and for the purpose set forth.

118,124.—WINDMILL.—James Hall, Ligonier, Ind.

Claim.—1. The combination of the pivoted wind-sail D *d*, adjusting-rod E, governor-weight F, pivoted lever G H, link *l*, and sail-spring P, the several parts being arranged and operating substantially as herein specified.

2. The combination of the sail-spring P, combined head-pieces *m n m*, links *l l*, bent levers G H G H, adjusting-rods E E, governor-weights F F, and sails D *d* D *d*, the several parts being arranged as shown, so that one sail-spring serves as part of the governing mechanism for two sails, substantially as herein specified.

3. The combination of the circular head Q on the slides *b b* with the wind-wheel A C D, having three or more pivoted sails, D *d*, each controlled by means of an adjusting-rod, governor-weight, pivoted bent lever, link, and sail-spring, the several parts being connected and arranged and operating substantially as and for the purpose herein specified.

4. The combination of the shipping-lever O, rod *r*, bent lever *q*, and links *s* with the slides *b b* and circular head Q, said head serving as a means of simultaneously operating the governing mechanism for the pivoted sails of a wind-wheel, and the several parts being arranged substantially as and for the purpose herein specified.

118,125.—HOUSEHOLD UTENSIL.—Herrick R. Halsey, La Fayette, Ill.

Claim.—An opaque vessel, A, adapted to household use, provided with a mouth, *a*, wide enough to permit a free view of the interior, and internal projections or flanges *b* to mark gradations of quantity, as set forth.

118,126.—ILLUMINATING INCENSE-BURNER.—E. Warren Hastings, Boston, Mass.

Claim.—1. A combined illuminator and incense-burner, as constructed with the lamp *i*, movable around the fulcrum *y* and over the inclined rail *o* inside the arm *a*, said lamp operated by the projecting pin *m'* moving through the curved slot *n* in a manner as set forth.

2. In combination with an illuminator and incense-burner, the protecting-shield *p*, cover *d* with its cup *f*, hole *g*, and fuse *h*, in a manner and for the purpose as herein fully shown and described.

118,127.—MARINE PROPULSION.—Benjamin S. Heath, Philadelphia, Pa.

Claim.—1. The paddles D and crank-shafts A, arranged and operated in connection with the stern of the boat or vessel, substantially as set forth.

2. In combination with the adjustable paddle D, the adjustable braces H G, substantially as set forth.

118,128.—ADJUSTABLE SCAFFOLDING.—Andrew J. Heavner, Pittsfield, Ill.

Claim.—1. The platform A, constructed as described, and combined with the posts B by means of the slides C and braces D, substantially as and for the purpose specified.

2. In combination with the platform A and posts B, constructed as described, the cords E and I, the shives *b* and F, the roller G, and the pulley H, substantially as and for the purpose shown.

3. In combination with the platform A, the posts B, and the elevating devices above named, the pawl K pivoted within said platform, and engaging with the ratchet-teeth *h* of the pulley H, substantially as and for the purpose set forth.

4. In combination with the platform A, the posts B, and the cords E, the studs E' (provided upon their peripheries with ratchet-teeth) and the spring-pawl L, substantially as and for the purpose shown and described.

5. The sections M, provided with the pivoted braces N, and combined with the platform and with the braces D, substantially as and for the purpose specified.

118,129.—HYDROCARBON STOVE.—Charles Hitchcock, Chicago, Ill.

Claim.—The combination, with the stove-body A having the side perforations D D' and the level water-bottom C, of the circular combustion-plates E', surrounded by the neatly-fitting cylinder-shields G, substantially as specified.

118,130.—HORSE HAY-RAKE.—Miron S. Holman and Cyrus S. Farrar, Armada, Mich.

Claim.—The ring G provided with projections *b c*, the spring-stops E F, and the lug H, all arranged relatively to each other, and in combination with a rake-head, A, handle D, and strap, by means of which the knee is secured to the rake-head, substantially as and for the purposes set forth.

118,131.—TOOL FOR PACKING VALVES.—James Edwin Hooper, Boston, Mass.

Claim.—In combination with a stop-valve, the ring *b*, having a slit or opening on one side, acting conjointly with the spindle and hand-wheel of the valve, as a device for packing valves, in a manner as shown and described.

118,132.—HYDROCARBON TORCH.—William K. Horner, Ypsilanti, Mich.

Claim.—The construction and arrangement of the extinguisher-case F F' and ball D with the supply-pipe E, cock C, and feunt A, as described.

118,133.—STEAM-ENGINE.—Amariah W. Jackson, Napoleon, Ohio.

Claim.—1. The sleeve C, open at both ends, fitted within a steam-engine cylinder, A, and operated by means of the friction of the piston D, all constructed substantially as and for the purposes herein set forth.

2. The combination of the sleeve C, open at both ends, and with openings A' A' with the cylinder A, provided with grooves *a a*, chamber *b*, bearings *d d*, and its passages and ports, and the piston D, all constructed and arranged to operate substantially as herein set forth.

118,134.—CORN-PLANTER.—John Jackson, Jr., Chatsworth, Ill.

Claim.—1. The screw *k*, arranged underneath the hopper, with an opening in the hopper bottom extending to its front, and of such a width as to permit the kernels to move singly along said opening or slot, substantially as described.

2. The hoppers F, pivoted at their front end and arranged to swing inward for the purpose of throwing the driving mechanism in and out of gear, substantially as set forth.

3. The combination of the screw *k* and the adjustable pinion *l* with the series of driving-cog-wheels G for regulating the feed, as set forth.

4. The hinged runners E, having the inclined tubes *b* attached to their rear ends, and all arranged to operate as set forth.

5. The tubes *b*, provided with the valves *p* having the rod *r* attached thereto, in combination with the movable pinion *u* provided with the pin or arm *w* and the driving-wheel *t*, all arranged to operate as set forth.

6. The runners E, hinged at their front ends to the frame and having their rear ends connected by the cross rod *d*, provided with the arm *f*, in combination with the standard *g*, arranged as described, whereby the runners can be raised and suspended independently of the hoppers, as set forth.

7. The marker *z*, having the arm *y* attached, with the pivoted lever *z*, arranged and operating as herein set forth.

118,135.—FENCE.—Lyman P. Judson, Rose, N. Y.

Claim.—A fence made with hoop or band-iron, in which the edges of the lengths are cut and formed into projecting spurs or barbs, as and for the purpose specified.

118,136.—GRIST-MILL.—Ernst C. L. Kunnecke, Dayton, Ohio.

Claim.—1. The combination and relative arrangement of the runner A, the crackers H and I, the pivoted lever F, and the regulating-screw G, substantially as and for the purpose specified.

2. The lever K pivoted within the standard E, and adjusted vertically by means of the screw L and the hopper M, in combination with the runner A and crackers H and I, substantially as and for the purpose shown and described.

118,137.—HARNESS-SADDLE.—William Leonard and William E. Leonard, Chelsea, Mass.

Claim.—The back-strap holding-piece D, with its slotted upper portion *d* and rivet *d'* at its lower portion, and the stiffening-plate C, when arranged as described and shown, to hold all the parts together by means of the turret E and screw-nut F at the upper end by means of rivet *d'* at the lower end, without other fastening, substantially as described.

118,138.—RUBBER BOOT.—Charles E. Line, Ashland, Pa.

Claim.—The arrangement, in a rubber boot, of vertical air-tubes A A' at front and rear having their external openings at or near the top of the leg, duplicate insoles B and sub-lining C provided with longitudinal and transverse air-passages *b b'* D D', and a lining having longitudinal and vertical corrugations, as and for the purpose specified.

118,139.—MACHINE FOR SHELLING CORN.—Henry Lippold, Silver Creek, N. Y., assignor to himself, Leroy Andrus, and George Haman, same place.

Claim.—1. The combination, in a corn-sheller, of the beater D and the elliptical shelling-case E, arranged as described.

2. The arrangement, with the beater D, of the elliptical case E, provided with polygonal interior surface and toothed plates *e* and intervening spaces *e'*, as hereinbefore set forth.

3. The combination and arrangement of the beater D and inclosing-case E, constructed as described, with the shaker H, sieve I, and pan K, as hereinbefore set forth.

118,140.—LADLE FOR POURING WAX.—Peter Loeb, Dayton, Ohio.

Claim.—The wax-ladle herein described, having two or more spouts, B, arranged as shown, and provided with the arched or dome-like caps D, having arched recesses *a'* extending upward and rearward from each spout, substantially as specified.

118,141.—WRENCH.—Allen P. Lord, Friendship, N. Y., assignor to himself and James E. Wisner, same place.

Claim.—In combination with the adjustable bar E, the jaw D, when connected to said bar by the slot *l* and pivot *k*, and the spring M when connected to the bar E, as described, to hold the slotted jaw either open or closed, as herein shown and described, for the purpose specified.

118,142.—COTTON-PRESS.—Ransom Mauldin, Marietta, Miss.

Claim.—1. The combination and arrangement of the shaft *m*, pawls *n'* and *n''*, ratchet *n*, pinion-wheel *o*, drum *p*, clutch-collars *q* and *q'*, and cog-rail E, all constructed substantially as and for the purpose set forth.

2. In combination with the subject-matter of the first claim, a follower-block, consisting of side frame-piece *l* and F, rollers K' and K'', and block K, for the purpose specified.

118,143.—STEAM-PLOW.—Herman Miller, Bellville, Tex.

Claim.—In a steam plowing apparatus, the arrangement of the chain-wheel *j*, sheaves *l* and *m*, spur-gear *h*, pinion *g*, crank-shaft *e*, sliding pinions *b*, and internally-toothed wheels B *a*, as shown and described, whereby they are adapted to operate in connection with the chain fastened at each end outside the machine, as set forth.

118,144.—WINE AND CIDER-PRESS.—Thomas M. Millett, Jr., Savannah, Ga.

Claim.—The combination, in a wine and cider-press, of the perforated hollow false sides B C D and bottom E with the press-board F and shaft G, when all are constructed and operate substantially in the manner and for the purpose specified.

118,145.—RUFFLING AND CORDING ATTACHMENT FOR SEWING-MACHINES.—Milton J. Palmer, Syracuse, N. Y.

Claim.—1. The ruffling-plate E, constructed as described, hinged to the bed-plate A having a guiding-edge, and arranged and operating as and for the purposes set forth.

2. The corder *w*, having one or more cord-channels *c c'*, *c c''*, or *c c'''*, in combination with the double tongue C C', for the purposes set forth and described.

3. The combination of the spring-fingers B D, intermediate tongue, and cording device with the bed-plate A provided with the guide H.

118,146. — MACHINE FOR BRUSHING AND FINISHING LEATHER.—George H. Parker, Detroit, Mich.

Claim.—In a leather-finishing machine, the construction and arrangement of the frame A, sliding table D, roller E, and journal-boxes a, for the reception of the brush-roll B or cloth-covered finishing-roll C, as and for the purpose set forth.

118,147.—EXTRACTING MERCURY FROM ITS ORES.—Adolph Patera, Vienna, Austria.

Claim.—1. Employing, for the extraction of mercury from mercurial ores, a muffle or pipe heated from the exterior and having one end open for the access of air, while the other end is connected with means for condensing the vapors evolved, the whole constructed essentially as described, and essentially for the purpose of excluding the mercurial ores and vapors from contact with the fuel and products of combustion, and of preserving a regulated temperature.

2. Employing, in connection with a muffle or pipe constructed substantially as described and for the purpose aforesaid, any kind of device for producing a draught of air through said pipe and condensing devices, essentially as described.

3. Employing, in the extraction of mercury from mercurial ores by the process and means described, a temperature slightly exceeding 360° centigrade, but not exceeding 500° centigrade, substantially as and for the purpose described.

4. Employing, in the extraction of mercury from mercurial ores by the process and means described, the ore in the form of coarse powder to enable the distillation to take place at the lowest possible temperature.

118,148. — SPOKE-LATHE. — Josiah Pierce and Augustin B. Curtis, New Haven, Conn.

Claim.—1. In combination with the transverse table F and its mechanism for supporting and revolving the spoke, and the cutters, the longitudinal table W, to which a longitudinal movement is imparted by connecting the said table W with the cam T^3, substantially in the manner specified.

2. In combination with the cam T^3 and its coupling mechanism, and the tables F and W, the lever L, connected both to the table F and coupling mechanism, whereby the operator is enabled to impart both a longitudinal and transverse movement to the table F.

118,149.—ICE-CREAM FREEZER.—Albert L. Platt and Isaiah White Wilmeth, Bloomington, Ill.

Claim.—1. In combination with a cylinder, H, and boxing A, the movable head J beveled on its circumference, as described, cross-bar M, and screw-sleeve *f*, all constructed substantially as and for the purposes set forth.

2. The combination, with the box A, of the horizontally-revolving cylinder H, stationary shaft *e* with beaters and scrapers K, movable head J, bar M, and screw-sleeve *f*, all constructed, arranged, and operating substantially as set forth.

118,150.—SLATE-WASHER. — Frederick W. Porter, Winona, Minn.

Claim.—The blackboard-cleaner, having the conical cup A with projecting flange *b* and perforated bottom B, sponge *b'*, cap D, rod E, and valve F, arranged substantially as and for the purpose specified.

118,151. — PROPELLING MECHANISM FOR VESSELS.—Ebenezer Raynale, Birmingham, Mich.

Claim.—In an engine for propelling canal-boats and other vessels, the combination of a water-cylinder, C, open at both ends, a steam-cylinder, B, open at one end, and the mechanism for aiding the steam in forcing the piston in the proper direction for propelling the boat, the parts being constructed and arranged substantially as set forth.

118,152. — MAGAZINE FIRE-ARM. —Joseph Rider, Newark, Ohio.

Claim.—1. In combination, a magazine, a carrier for transferring the cartridge from the magazine to the barrel, and a breech-piece and hammer arranged to operate at one movement by means of a thumb-piece, substantially as set forth.

2. In combination with a magazine and breech-piece and hammer arranged to operate at one movement by means of a thumb-piece, a carrier, which transfers a cartridge from the magazine to the barrel, and at the same time expels the shell of the discharged cartridge, substantially as set forth.

3. A breech-piece, constructed with a slot or recess, combined with and arranged to receive the carrier, and also the hammer, substantially as set forth.

4. A breech-piece which has both a vertically-reciprocating and oscillatory motion, and provided with a thumb-piece, by which it is operated from above, in combination, in a magazine arm, with the carrier, substantially as set forth.

5. In combination with a recessed breech-piece, a thin carrier, arranged to be received in the recess in and operated by the breech-piece, substantially as set forth.

6. In combination, the breech-piece and a carrier, constructed with two beveled surfaces for throwing up the carrier with the backward movement of the breech-piece, and throwing it down with the forward movement of the same, substantially as set forth.

7. A carrier, constructed with a recess to receive the cartridge from the magazine, and an arm or spring to bear against the base of the cartridge remaining in the magazine when the carrier is thrown up, and also to permit the charges to be inserted through the receiver and hold them in position in the magazine after they are thus inserted, substantially as set forth.

8. In combination with the retractor, a breech-piece having a recess to receive a pin on the retractor and admit of two movements of the breech-piece, substantially as set forth.

9. A breech-piece, constructed with a beveled surface, acting in combination with the stirrup-lever and spring to raise the breech-piece, substantially as set forth.

10. In combination with the breech-piece C and hammer, a spring, which is arranged to perform the double function of raising the breech-piece and bringing down the hammer, substantially as set forth.

11. The combination of the spring-stirrup and stirrup-lever with the tumbler, pivoted in relation to each other, substantially as set forth.

12. The arrangement of the projections upon the trigger and breech-piece in such relation to each other that the breech-piece may be raised by the positive action of the trigger, substantially as set forth.

13. The breech-piece, trigger, and sear, arranged as shown in relation to each other, so that the former cannot act upon the latter until the breech-piece has been raised to its proper position for the explosion of the cartridge, substantially as set forth.

14. The arrangement of the exploding-pin or point on the face of the hammer in such relation to the hole in the head of the vertically-reciprocating and oscillating breech-piece, through which the former so acts on the fulminate that the pin or point cannot be brought in contact with the cartridge unless the breech-piece is raised to its proper position, substantially as set forth.

15. A trigger, constructed with a recess to receive the carrier, and in combination therewith, substantially as set forth.

16. A web, A', constructed substantially as described, to support the plates of the handle and the carrier, and at the same time so as not to interfere with the action of the breech-piece and hammer, and used in combination therewith, substantially as set forth.

17. In combination with a magazine fire-arm, the carrier G, the upper surface of the lower arm of which, or of the arm which is next to the spring, has a convex or double-beveled surface for allowing the charge to assume a horizontal position when brought opposite to the aperture in the barrel, substantially as shown.

118,153, antedated August 4, 1871.—TOBACCO-ELEVATOR.—Reps. O. Robertson, Barnesville, Va.

Claim.—The combination and arrangement of the frame A, windlass B B, frame C E, adjustable legs D D, ropes h h, frame G, pulleys *k k*, connecting-chain n, clamps m m, and stick I, all as shown and described, and for the purposes herein set forth.

118,154.—NOZZLE FOR LIQUID-PACKAGES.—Henry H. Rogers, Brooklyn, N. Y., assignor to "Charles Pratt Manufacturing Company," New York city.

Claim.—1. A nozzle or top for liquid-packages having within it a fixed discharge-spout, substantially as described, for the purpose specified.

2. A nozzle or top for liquid-packages provided with an interior discharge-spout composed of fixed and detachable sections, substantially as described, for the purpose specified.

118,155.—SCREW-NOZZLE FOR LIQUID-PACKAGES.—Henry H. Rogers and George F. Walter, Brooklyn, N. Y., assignors to "Charles Pratt Manufacturing Company," New York city.

Claim.—The metallic nozzle provided with the screw-valve, the discharge-spout, and an air-vent, in combination with the exterior sealed cap M, substantially as described, for the purposes specified.

118,156. — FENCE. — John Rohrer, Springfield, Ohio.

Claim.—The rails a a and posts *b* and *b'*, constructed of angle-shaped rolled iron of uniform size, and secured together by splitting and turning back a portion of the rails, as shown, and then bolting them to the posts, substantially as and for the purpose set forth.

118,157, antedated August 4, 1871.—DEVICE FOR FASTENING NECK-YOKES TO POLES. Titus H. Russell, Lebanon, N. H., assignor to himself and Henry C. Mahurin, New York city.

Claim.—The slotted casting B, tongue C, lever D, and pin *b*, all constructed and arranged as shown and described, in combination with the recessed and mortised pole A and the ring E, substantially as and for the purposes herein set forth.

118,158. — MACHINE FOR BURRING AND CLEANING WOOL, &c.—Charles G. Sargent, Graniteville, Mass.

Claim.—1. The feed-rolls B B, constructed and operated as described, so that one shall revolve faster than the other, as set forth.

2. The removable screen L, arranged over the picker-cylinder, in combination with a slide or register, by which the draught of air through said screen may be regulated, substantially as described.

3. In combination with a burr-cylinder, the two guards F F' and the shield V, arranged to operate substantially as described.

4. The pivoted finger-rack or support W, constructed and arranged for operation substantially as and for the purposes set forth.

5. The supply-roller Z located in an oil-reservoir, in combination with the scraper *a* and rotating brush *b*, all arranged to operate substantially as described.

118,159.—CULTIVATOR.—Samuel B. Shank, Millersville, Pa.

Claim.—The cultivating devices K and P, shown in Fig. 3, in combination with the frame, consisting of the outer side pieces A A and inner beams B B, all pivoted to the front bar F, and made obliquely adjustable by means of the curved slots in the bar E, and fitted to receive either set of cultivating devices, as shown.

118,160.—SPEED-RECORDING APPARATUS.—Edward F. Sheltman, Christiansburg, Va.

Claim.—1. A record-paper or strip, A, mounted upon reels *a a'*, in combination with clock-work B to move it continuously forward, clock-work C to regulate its movement to correspond with the time of day, and a marker or markers to indicate upon it the speed, movements, or stoppages of the car or other vehicle or machine, substantially as described.

2. A record-paper or strip, A, in combination with actuating mechanism B, regulating chronometer mechanism C, and a shifting-guide, G, for adjusting the paper laterally, substantially as herein described.

3. The combination of a marker, D, to indicate by a peculiar mark the forward movement of the car or machine with another marker, D', to indicate by a different mark the backward movement of the car or machine, when connected by any suitable apparatus, W W', *p*, p^1, &c., with the axle-wheels or other running-gear of the vehicle or machine, so as to operate substantially as herein set forth.

4. The pulleys and belts *p*, p^1, p^2 &c., which connect the car-axle and the shaft T, as herein set forth, in combination with said shaft T, and with the pulley *t*, the wheels W W', the ratchet and pawls or friction-clutch, the spring or cams *s s'*, and the markers D D', substantially as herein described.

118,161. — SCHOOL-DESK. — James Smith, Richmond, Ind.

Claim.—1. An adjustable-backed desk, combining in its construction a stationary part and adjustable part, springs, and adjusting-studs or screws, substantially as and for the purpose set forth.

2. In a school desk, the combination of the connected frames A A, the bar D for rigidly connecting two or more desks, and the folding seats C C, which turn at one end in the frames A A, respectively, and at the other ends upon studs C' C' secured to the bar D, substantially as set forth.

118,162. — WASHING-MACHINE. — Samuel Smith, Bourbon, Ind.

Claim.—The adjusting-lever C, in combination with the sliding standards K K, swinging corrugated rubber-board A, and stationary rubbing-board B of the tank E, constructed as described, for the purpose set forth.

118,163.—TOILET-BOTTLE FOR TOOTH-POWDERS.—Warren A. Spalding, Waterbury, Conn.

Claim.—As a new and improved article of manufacture, a toilet-bottle constructed with a cup or cavity, B, for a brush, upon which the powder is distributed for use, substantially as and for the purposes set forth and specified.

118,164.—HAY-PRESS.—Adam Spanier, St. John, Ind.

Claim.—1. The follower M, with beveled guides *b b*, sliding upon the plate L, substantially as and for the purposes herein set forth.

2. The combination of the levers P P', connecting-bar R, pawls *c c'*, ratchet or toothed bar K, and follower M, all constructed and arranged to operate substantially as and for the purposes herein set forth.

118,165.—DEVICE FOR DRAWING IRON FROM HEATING-FURNACES.—William Stephens, New Albany, Ind.

Claim.—The device herein described for drawing

iron from heating-furnaces, consisting of the shaft D with drum c, clutch b, lever d, chain e, pulleys f f, swivel-pulley h, and tongs G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

118,166.—LIGHTNING-ROD.—George A. Stephenson and Oliver L. Sutliff, Wooster, Ohio.

Claim.—The within-described joint for lightning-rods, consisting of the right-and-left-hand screw B, ferrule C, and pin D, constructed and arranged substantially as and for the purposes herein set forth.

118,167.—SAFETY-BRIDGE FOR RAILWAY-CARS.—Eli Sturgeon, Columbiana, Ohio.

Claim.—In a safety-bridge, the railings E, consisting of the slide-bars a a, vertically pivoted, and the heel-posts F F, horizontally pivoted, all substantially as herein shown and described.

118,168.—LIFE-PRESERVER.—James E. Thomson, Buffalo, N. Y., and Elijah Clark, Louisville, Ky.

Claim.—The cork C C C, when impregnated or saturated with asphaltum, constructed and arranged substantially as described and for the uses and purposes set forth.

118,169.—MOLD FOR FINGER-RINGS.—George W. Tinsley and Ebenezer W. Storer, Minneapolis, Minn.

Claim.—The yielding core B, made of metal or other suitable material, in combination with a flask or mold, A A', for finger-rings, all constructed and arranged substantially as and for the purposes herein set forth.

118,170.—CHANGEABLE-GAUGE CAR-WHEEL AND AXLE.—Charles D. Tisdale, Boston, Mass.

Claim.—The combination of the sliding wheel b, the chock f, the chock-operating key or shaft k, bit i, and the axle-slots d e, when the key is located in the hub or hub-sleeve c, and is wholly inclosed by such hub or sleeve, except at its head, as shown and described.

118,171.—BREECH-LOADING FIRE-ARM.—Joseph B. Wayne, Birmingham, England.

Claim.—1. The spirally-grooved rotary cam E and retractor F, arranged substantially as described, the said cam being operated by the opening of the breech-block D, as and for the purpose set forth.

2. The arrangement of the latch-bolt d, spring e, latch-socket f, the boss b on the rearmost bracket B, constructed and operating substantially as and for the purpose set forth.

118,172.—FIRE-ESCAPE.—Edwin Robert Wethered, London, England.

Claim.—The combination, with the frame a and its system of pulleys, of the brake-lever f, arranged, as described and shown in Figs. 1 and 2, so as to gripe the cord by force of the weight of the person or body suspended therefrom.

118,173.—MACHINE FOR THROATING SPOKES.—Jacob Woodburn, Indianapolis, Ind., assignor to "Woodburn 'Sawen' Wheel Company," same place.

Claim.—1. In combination with the carriage for carrying and cutter for dressing spokes, the rocking-table L, made to operate substantially in the manner and for the purpose specified.

2. In combination with the rocking device for the support of the spoke on the carriage, the lever E upon the post S, as and for the purpose specified.

118,174.—PROCESS FOR CASTING BRASS INGOTS.—Letsome T. Wooster, Ansonia, Conn.

Claim.—The method herein described for casting ingots by means of a flask constructed in the manner herein set forth.

118,175.—STALK-CUTTER.—Edgar Alfred Wright, Fort Madison, Iowa.

Claim.—The frame E F N, carrying the cutter K I' I hinged directly to the short arms of the arched axle B C by suitable connections so that the stalk-cutter apparatus may be readily removed and walking-cultivators attached, substantially as described.

118,176.—STEERING APPARATUS.—Emanuel S. Drew, New Orleans, La.

Claim.—1. The drum C and tiller-disk H of uniform diameters, and so connected by tiller-ropes as to act substantially as described.

2. The drum C, lever D, either with or without its spring-pawl attachment, ropes F F, tiller-plate H, and rudder L, when the same are so combined and arranged as to operate substantially as described.

3. The drum C, lever D, spring-lever pawl D^1 D^2 E^1, and ratchet-segment b, when the same are so connected with the tiller-ropes of a steering apparatus as to operate the same, substantially as described.

REISSUES.

4,512.—STEAM-GENERATOR.—George H. Babcock and Stephen Wilcox, New York, N. Y., assignors to George H. Babcock and Joseph P. Manton.—Patent No. 65,042, dated May 28, 1867.

Claim.—1. The within-described safety-boiler, composed of cylindrical vessels connected at the ends substantially as represented, so that the water and steam shall separate in the upper cylindrical vessels or top connection, the dense water descend and pass thence in inclined pipes through the furnace and ascend again in suitable connections at the other end, to repeat the round of circulation indefinitely, in combination with the bridge L', as represented, for compelling the hot products of combustion to traverse upward and again downward through the interstices between the inclined pipes B, all substantially as and for the purposes herein set forth.

2. A steam-generator made up of sections of pipes, each of the several sections being composed of a series of inclined pipes, B, and a series of horizontal pipes, D, united at the ends by distinct side pipes appropriate to each section, the several sections, when arranged side by side and connected, forming an intermediate combustion-chamber, A, and operating to cause a constant circulation of the water through the pipes in one direction, substantially as described.

3. In combination with the series of horizontal pipes D, the series of upright connecting-pipes D', for the purpose of allowing the steam, as formed, to separate from the water and rise to the discharge-aperture, arranged substantially as described.

4. The flanges L', fixed crosswise to the axes of the water-pipes B, and matched together to form partitions crossing the same, as specified.

4,513.—AUTOMATIC SIGNAL-BOX FOR FIRE-ALARM TELEGRAPHS.—Moses G. Crane, Newton, and Edwin Rogers, Boston, Mass., assignors, by mesne assignments, to Gamewell & Co., New York city.—Patent No. 92,275, dated July 6, 1869.

Claim.—1. The combination of the circuit-wheel d, shaft e, pinion f, vibrating gear-sector i, driving-

shaft l, mechanical motor n, and winding-lever m, said gear-sector meshing directly into the pinion f, substantially as and for the purpose specified.

2. Limiting the rotation of the main driving-shaft of an automatic fire-alarm apparatus in either or both directions by means of fixed stops acting in combination with the gear-sector on said shaft for the purpose of limiting the length of the fire-alarm given by such apparatus.

3. In combination with the weighted lever and the gear-train, operated by the lever, a spring or series of springs interposed between the weight and the rotating gears, substantially as described.

4. In combination with the gear-train and an escapement and pallet connected thereto, a reciprocating fly, placed directly on the pallet-shaft, substantially as described.

5. In combination with the setting-lever a^2 and the slot through which the finger-piece of the lever traverses, the stationary guard-plate g, substantially as described.

6. In combination with the lever a^2, the swinging or spring-lifter c^3, substantially as shown and described.

7. In combination with the weighted lever, the slide-pin b^2, so arranged that while it may be actuated by the lifter whenever the signal is not being transmitted, it cannot be operated while the signal is in course of transmission.

4,514.—RAILWAY STOCK-CAR.—John S. Kendall, St. Louis, Mo., assignor, by mesne assignments, to The National Cattle-Car Company, Salem, Ohio.—Patent No. 90,851, dated June 1, 1869.

Claim.—1. The troughs hinged to the side of the car so that they can be turned down out of the way when not in use, substantially as herein described.

2. The combination, in a railway stock-car, of a trough with a supply-pipe arranged outside of the car so as to be out of reach of the stock, substantially as hereinbefore set forth.

3. The combination, with a railway stock-car, of troughs divided by the door-ways, and supply-pipes passing around the door-ways, substantially as hereinbefore set forth, to supply the troughs without obstructing the door-ways.

4. The combination, with a railway stock-car, of the staples, the rings sliding on the staples, and the fastening-chains, these members being constructed and operating substantially as hereinbefore set forth, to prevent the cattle from rearing or lying down, while leaving them free to move comfortably.

4,515.—STILL FOR HYDROCARBONS.—Charles Lockhart and John Gracie, Pittsburg, Pa.—Patent No. 80,294, dated July 28, 1868.

Claim.—1. In combination with an upright still, a series of fire-chambers radially arranged around and under the still, such chambers converging to a central smoke-chamber connecting with a flue or chimney, substantially as described.

2. The combination of a series of fire-chambers arranged radially around and under the still, with a central flue or chimney passing up the center of the still, substantially as hereinbefore described.

3. The arrangement of the scraper-wheel 7 with the central smoke-flue of the still, so that the latter may form the journal or bearing of the former, substantially as hereinbefore described.

4. The arrangement of the pipe e opening into the still, the pipe g extending below the pipe e into the still and furnished with a valve, g^2, and an exit-pipe, f^2, substantially as and for the purposes described.

4,516.—MACHINE FOR MANUFACTURING AUGER-BITS.—James Swan, Seymour, Conn. Patent No. 78,769, dated June 9, 1868.

Claim.—1. The combination of the clamping-jaws B and the stationary or female dies formed therein—the die J to operate in conjunction with said stationary dies to bend, compress, and draw the lips of the blank; mechanism to impart to die J reciprocating rotary movements upon its axis; mechanism to force said die J gradually and rectilinearly up to and against the auger-bit, and the spring or its equivalent to suddenly force said die away from said bit—the combination being such as to effect the operations here ascribed to it in the manner substantially as hereinbefore described.

2. The combination of the arbor H and supporting and guiding-frame; mechanism to impart to said arbor a rectilinear and also a rotary movement; the spring I arranged as described to impart to said arbor reciprocal rectilinear and rotary movements in opposite directions; the die J, the clamping-jaws B, and the stationary or female-bit swaging-dies upon or within said jaws B.

3. The combination of cam N, rotating-wheel K having vertical pin d, arbor H having horizontal pin e, the hub d' having pin f, and the hollow standard G having pin g, all arranged substantially as described to turn the stock d' exactly one quadrant of a circle and no more.

4,517.—MACHINE FOR BENDING THE LIPS OF AUGER-BITS.—James Swan, Seymour, Conn.—Patent No. 100,816, dated March 15, 1870.

Claim.—1. The combination, with jaws for holding the blank, of an operating former consisting of a pair of rolls, each suitably molded in the face and edge, and mechanism to rotate said rolls separately, to partially revolve them together around a common axis, to impart to them rectilinear movements toward and from the holding-jaws, and movements of approach and recession toward and from one another, substantially as described.

2. The combination, with the holding-jaws r, of the rotary forming-rolls C and mechanism to impart to said forming-rolls rectilinearly reciprocating movements toward and from the jaws, substantially as specified.

3. The combination, with the holding-jaws s, of the rotating forming-rolls C and mechanism to impart to said forming-rolls rectilinearly reciprocating and oscillating movements, substantially as described.

4. The combination, with the holding-jaws s, of the rotary forming-rolls C, the yielding bearings and supports of said rolls, mechanism to impart to said rolls rectilinear reciprocating movements toward and from the jaws, and the guide-yoke R, as specified.

5. The combination, with the holding-dies s, of the rotary forming-rolls C, movable platform S, cam T, and springs W, as specified.

6. The combination, with the holding-jaws s, of the right-and-left-handed screw to equally and simultaneously move said jaws to clamp and unclamp the blank and the rotary forming-rolls C, as specified.

7. The combination, with the holding-jaws s, of the horn-like projections s, of the form described and shown, attached to and projecting from said jaws, as specified.

DESIGNS.

5,197.—BARN-DOOR HANGER.—Pascal P. Child, St. Louis, Mo.

Claim.—The design for barn-door hanger, substantially as shown and described.

5,198.—CARPET.—George Crompton, Worcester, Mass., assignor to Crompton Carpet Company, same place.

Claim.—The design for a carpet, as shown.

5,199.—CARPET.—George Crompton, Worcester, Mass., assignor to Crompton Carpet Company, same place.

Claim.—The design for a carpet, as shown.

5,200.—CORNER-PIECE FOR ROOMS.—Charles A. Durgin, East Andover, N. H.

Claim.—The design for a corner-piece for rooms,

stairs, &c., of corrugated sheet metal, substantially as shown in the accompanying drawing.

5,201.—HOE.—Cyrus Fisher, Canton, Mass., assignor to himself and Tobias Kohn, Hartford, Conn.

Claim.—The design for a hoe, as shown.

5,202.—PAPER-WEIGHT.—George B. Garrett, Philadelphia, Pa.

Claim.—The design for a paper-weight, as shown.

5,203.—STAIR-ROD FASTENING.—William B. Gould, New York, N. Y.

Claim.—The design for a stair-rod fastening, consisting of a barrel, A, provided with a conical end and perforated ears, as shown.

5,204.—TONGUE-SUPPORT.—Joseph Keller, Laury's Station, Pa.

Claim.—1. The design for a support for tongues of harvesters, &c., as herein set forth and shown.

2. The shape or conformation of the clevis D, as and for the purpose set forth.

3. The shape or conformation of the bearing C with the piece or support *c*, as and for the purpose set forth.

4. The shape or conformation of the clevis D, formed with the journal *d*, as and for the purpose set forth.

5. The shape or conformation of the bearing C, as and for the purpose set forth.

5,205.—CARPET PATTERN.—Hugh S. Kerr, Philadelphia, Pa., assignor to Israel Foster, same place.

Claim.—1. The design for the member A, as described and illustrated.

2. The design for the member B, as shown and described.

3. The design for the members C, as described and represented.

4. The design for the whole pattern, including the members A B, and C, and minor ornamentation.

5,206.—JELLY-GLASS.—William M. Kirchner, Pittsburg, Pa.

Claim.—A design for jelly-glasses, as described and shown.

5,207.—REED-ORGAN PIPES.—Charles Edwin Snell, Chatham, Canada.

Claim.—The design for resonant pipes or tubes, as described and shown.

5,208.—SADDLE-HOOK FOR HARNESS.—Oscar Wiener, Newark, N. J.

Claim.—The design for saddle-hook, consisting of the portion A and arm B, as herein shown and described.

TRADE-MARKS.

422.—CURTAIN-FIXTURE.—Silas S. Putnam, Boston, Mass., assignor to S. S. Putnam & Co.

423.—MEDICINE.—Edwd. S. Sharp, Salem, N. J.

ISSUE OF AUGUST 22.

PATENTS.

118,177.—MANUFACTURE OF PAPER AND PAPER-PULP.—John M. Allen, Marion, Mass.

Claim.—1. Pulp or paper made of the bark of coniferous trees from which the resin has been wholly or almost wholly extracted.

2. Extracting the resin from the bark of coniferous trees by the process above described.

118,178.—TWIST-DRILL.—Benjamin Arnold, East Greenwich, R. I.

Claim.—A twist-drill, with slots or grooves made in its shank, substantially as herein set forth, as a new article of manufacture.

118,179.—MACHINE FOR SLOTTING THE SHANKS OF TWIST-DRILLS.—Benjamin Arnold, East Greenwich, R. I.

Claim.—1. The combination of the cutters *c c c*, arbors *g g g*, bevel-gear wheels S S S S, with the carriages V V and plate B, substantially as specified, and for the purpose herein set forth.

2. The combination of the worm-wheel *y* with the plates D B and the carriages V V and *c c c*, and arbors *g* with gear-wheels S' S', all being arranged and operating substantially as and for the purpose set forth.

3. The combination of the carriages *c c* and V V with the plate B and movable plate D, the latter being provided with slots *r r*, substantially as described, and for the purpose set forth.

118,180.—READING AND DRAWING-CASE.—William F. Baade, Buffalo, N. Y.

Claim.—1. The case D, having a slide-way, Q, for the rule, and opening and slide-way formed, as shown at O and P, for receiving the slate and cards, so that said cards may be easily reached or withdrawn, substantially as described.

2. The sliding screens M, arranged substantially as and for the purposes described.

118,181.—TILT-HAMMER.—Hugh Baines, Toronto, Canada.

Claim.—1. The combination of the hammer-helve B, shaft 2, cam C, the vertically-adjustable bearings E E, guides F F, links N N, and weighted levers L M, with any suitable mechanism for catching and holding the bearings at different vertical points, substantially as and for the purpose specified.

2. The combination of the hammer-helve B, shaft 2, cam C, vertically-adjustable bearings E E, guides F F, hinged upright bars G G, friction-wheels D D, links N N, weighted levers L M, and any suitable mechanism for forcing the bars G G against the friction-wheels, substantially as and for the purpose specified.

118,182, antedated August 18, 1871.—PRINTING-PRESS.—William L. Balch, Boston, assignor to William H. Golding and Edward H. Dennison, Chelsea, Mass.

Claim.—Actuating both the platen and the ink-roller frame from lever M by means of links I G, combined substantially in the manner described.

118,183.—ARRANGING STEAM AND WATER-PIPES IN AN EXHAUST-CHAMBER.—John Becker, Chickies, Pa.

Claim.—The arrangement of the steam and water-pipes S W within a trunk or elongated exhaust-chamber T, substantially in the manner and for the purpose described.

118,184.—CAR-COUPLING.—William C. Bibb, Morgan county, Ga.

Claim.—The trigger T, constructed as shown and described, having the opening S and lip C pivoted in front of the pin-hole, and operating substantially as and for the purpose hereinbefore set forth.

118,185.—MACHINE FOR SHAPING THE SOLES OF SHOES.—Elias Blaney, Marblehead, Mass.

Claim.—1. In a machine for shaping the soles of shoes, the devices shown and set forth, by which the last is reciprocated alternately under the former and out toward the front of the machine, substantially in the manner and for the purpose described.

2. The combination of the screw-shaft F with the clutch L and pulleys I I, operating in the manner substantially as and for the purpose specified.

3. In a machine for shaping the soles of shoes, the sliding piece *e*, for the purpose of guiding the traversing-fork *e*, substantially as set forth.

4. The sliding socket C, made adjustable by means of the movable piece *n*, for the purpose set forth.

118,186, antedated August 8, 1871.—CULTIVATOR.—Bengt C. Blomsten, Wanpaca, Wis.

Claim.—The cultivator described, provided with the elastic side beams formed of a single metallic bar bent as described, and central beam united to the side beams by the connections described, each beam having standards provided with a longitudinally-adjusting brace-rod, the parts being combined and arranged as and for the purpose set forth.

118,187.—SCHOOL-DESK AND SEAT.—Alrick M. Bodwell, Ann Arbor, Mich.

Claim.—1. In a school-seat and desk, the construction and arrangement of the braces F and links G with relation to the brackets D and standards A, as and for the purpose set forth.

2. The arrangement of the rubber cushions H in the brackets D with relation to the braces E, as described, for the purpose specified.

118,188.—MACHINE FOR CRUSHING CORN.—Aaron Bolander, Akron, Ohio.

Claim.—1. The combination of the revolving knives F with the roller G and the plate I, substantially as described.

2. The combination of the rollers B P with the knives F, the roller G, and plate I, all arranged and operated substantially as above described.

118,189.—MOLE-TRAP.—Daniel Boswell, Greencastle, Ind.

Claim.—The combination of the sills A with tapering sides, standards B, cross-beams C and D, the latter serving to guide the spikes of the drop-beam E, standards E', trigger *a* with its connecting-wire, trigger *b*, and trigger *c* with bar-plate *d*, all constructed and arranged as described.

118,190.—SHUTTER-WORKER.—Charles M. Brown, Chicago, Ill.

Claim.—1. The cam *d*, in combination with the case B C, universal joints H H, &c., and shutter F, when made as and for the purposes hereinbefore specified.

2. A case made of two parts, B and C, in combination with a series of universal joints or their equivalent, and cam *d*, when made in the manner and for the purposes hereinbefore specified.

118,191.—COMBINED FIRE AND BURGLAR-ALARM.—Henry Lewis Brower, New York, N. Y., assignor to Charles D. Fredericks, Summit, N. J.

Claim.—The combination, in one portable instrument, of the sound-generator with its actuating mechanism, the detent constructed to be actuated by a thread, and the thermometric indicator, substantially as before set forth, the whole constituting a compound fire and burglar-alarm.

118,192, antedated August 21, 1871.—VAPOR-BURNER.—Coolidge B. Brown, Placerville, Cal.

Claim.—The regulating-screw *g*, in combination with the hollow conical plug *d* with its communicating-hole *e*, substantially as and for the purpose set forth.

118,193.—LAMP-BURNER.—George E. Brush, Danbury, Conn.

Claim.—The wick-tubes I I, arranged in a line with and inclined toward each other, and having their upper portion flattened and the lower portion bent into a horseshoe-form, in combination with the plate D provided with the cones C C, and plate F provided with air-chambers N N, all arranged as described and shown.

118,194.—OIL-CAN.—James Burson, Yates City, Ill., assignor of one-half his right to Henry Whitall.

Claim.—1. The improved oil-cup for machinery, consisting of the inverted oil-can H, the sponge-regulator S, and the adjuster S', all combined and arranged substantially as specified.

2. The sponge-holder, constructed and connected to the adjuster S', substantially as specified.

118,195.—HOT-AIR FURNACE.—Ferdinand E. Chatard, Jr., Baltimore, Md.

Claim.—1. The series of flues C, one side of which is formed by the outside surface of the fire-pot and dome, when constructed and arranged to operate substantially as shown and described.

2. The arrangement of water-tank within the cast-iron jacket, with space between the water-tank and cast-iron for the passage of the products of combustion.

3. The outer jacket of thin metal or other material, which directs the current of air and keeps it in contact with the heating-surfaces and forces it over the water-tank.

4. The combination of center-supporting or shaker-bar for the grate with the lateral supporting-bars, substantially as and for the purposes hereinbefore set forth.

118,196.—POST-HOLE AUGER.—Alfred R. Clark, Albia, Iowa.

Claim.—As a new article of manufacture, the semi-cylindrical blade C contracted at its lower end into a pod-shape, having the shank B and handle A attached, as described.

118,197.—STEAM-GENERATOR.—Orlando Clarke, Rockford, Ill.

Claim.—1. The upright cylindrical fuel-magazine C, having air-tubes or flues *h*, in combination with the conical or flaring section C', in the manner and for the purpose shown and described.

2. The conical or flaring section C', made in halves or two upright parts and joined together in the manner and for the purpose described.

3. The revolving cap B, having opening *a''*, hinged door *a'*, or sliding plate and fuel-chute *e*, in combination with the magazine C and section C', in the manner and for the purpose described.

4. The revolving cap B, having opening *e'* and hinged door *e*, in combination with the fire-flues *d* in top or section A^4 of the steam-generator, in the manner and for the purpose described.

5. The steam-generator herein described, composed of the several sections A', A'', A^3 and A^4 with their fire-flues *d* and water and steam-spaces *c*, in combination with the revolving cap B, with fuel-chute *e*, magazine C, and section C', in the manner described.

118,198.—CROSSCUT-SAW.—William Clemson, Middletown, N. Y.

Claim.—A saw, having the scoring-teeth *a* and *a'*, and pairs of clearing or ripping-teeth *b* and *b'*, constructed and arranged with relation to each other as herein described and shown.

118,199.—ELECTRO-MAGNETIC BURGLAR-ALARM.—George E. Cock and John H. Guest, New York, N. Y.

Claim.—1. The adjustable spring *b*, applied to the alarm apparatus above the arm or spring *a* of the armature, as specified.

2. The beam H, pivoted between the plates E and F, and weighted at one end to operate substantially in the manner herein shown and described.

3. The spring-plates L M, combined with the spring N, and applied to the window-frame, substantially as specified.

118,200.—Machine for Milling Heads of Governor-Valves. — William A. Cogswell, Rochester, N. Y., assignor to Junius Judson, same place.

Claim.—1. In a milling-machine, the combination of the lever A, cutters B B', gears C C', rotary shaft D, and adjustable bearing K K, arranged and operating substantially as described, for the purpose specified.

2. In a milling-machine, the combination of the lever A, cutters B B', gears C C', shaft D, bearings K K, and friction-rollers *h h*, arranged and operating substantially as and for the purpose set forth.

3. In a milling-machine, the combination of the lever A and adjusting mechanism I I' A, cutters B B', gears C C', rotary shaft D, and adjustable bearings K K, substantially as and for the purpose specified.

4. In a milling-machine, the combination of the circular stay-bar H, lever A, cutters B B', gears C C', rotary shaft D, and adjustable bearings K K, arranged and operating substantially as and for the purpose specified.

118,201.—Shield for Boots and Shoes.—Orrin Collier, Sacramento, Cal., assignor to Robert M. Funkhouser, New York, N. Y.

Claim.—A projecting plate or shield secured to the heel of a boot or shoe, substantially as and for the purpose specified.

118,202.—Sled-Brake.—John E. Contant, Rondout, N. Y.

Claim.—The plate I, clip-hinge J, and circular rod or brace K, relatively constructed and connected with tenon *g* and rods L, as shown and described, and for the purpose specified.

118,203.—Heel for Boots and Shoes.—Albert O. Crane, Boston, Mass.

Claim.—1. The heel-seat described, constructed substantially as and for the purposes hereinbefore set forth.

2. The mode of attaching to the heel-seat and revolving the tread part of a rotary heel by means of a stud or button within the heel-seat, which receives the screw by which the two parts of the heel are fastened together, and is so confined to the tread part that it revolves with it, substantially as described.

3. The combination of the heel-seat described and the stud or button within it with the tread part of a rotary heel, attached and revolving substantially as set forth.

118,204.—Mode of Preventing and Detecting the Alteration of Bank-Checks, &c.—Seymour Crane, Dalton, Mass., assignor to Samuel W. Hoffman, New York city.

Claim.—The embossing, indentation, or perforation of bank-checks, drafts, bills of exchange, or other papers, in a manner substantially as herein described, after the manuscript portions have been inscribed.

118,205. — Machine for Cutting Lath-Bolts.—Thomas Crispin, Bay City, Mich.

Claim.—1 The combination of pulley H, crank I, connections J K, roller R, and friction-plates M, attached to the carriage, all constructed as and for the purpose specified.

2. The lever Q, fulcrum P, rod N, and lever F, in combination with the friction-pulleys C B and saw-mandrel, as and for the purpose hereinbefore set forth.

118,206.—Pump.—Everard S. Crowell, Augusta, Me.

Claim.—The three induction-valves P P P and eduction-valves R R R, receiving-chamber K and eduction-chamber S, cylinder A, and pistons B B, constructed and arranged as shown and described.

118,207.—Corn-Harvester. — Thomas E. Curtiss, Titusville, Pa.

Claim.—The cutters C C formed with slots T T and adjusted by the clamp-screws H H, in combination with the guides D, fixed cutters B B, frame A, and wheels W, all constructed and arranged as herein shown and described.

118,208.—Cultivator-Teeth.—Lewis Daley, Minnaville, N. Y.

Claim.—The steel bottom facings A A and overlapping wrought-iron stock C, constructed and applied to the standard D, as and for the purpose specified.

118,209.—Apparatus for the Manufacture of Chlorine. — Henry Deacon, Widnes, England.

Claim.—1. The application and use of a vertical column or tower, or of a number of vertical columns or towers, connected together in a series filled with some active reagent, or with tiles, bricks, or pieces of burned clay or other suitable material soaked with a solution of such reagent, substantially as and for the purpose hereinbefore described.

2. The surrounding the herein-described column or tower, or columns or towers, with suitable coverings, or air-spaces, or flues, for the purpose of preventing loss of heat, or of imparting or regulating the heat, as the circumstances of the manufacture require.

3. The use of the hereinbefore-referred-to saturated bricks, or pieces of burned clay, or other suitable material, arranged with vertical spaces, or the use of vertical pipes saturated as described, supported over a vacant space or chamber below, so that the dust-like substance formed or deposited from the gases may fall through the vertical openings and descend into and remain in the vacant space below them until withdrawn therefrom.

4. The application and use of a heat-regulator, as and for the purpose hereinbefore described.

118,210. — Manufacture of Bleaching-Powders. — Henry Deacon, Widnes, England.

Claim.—1. The use, in the manufacture of bleaching-powder, of an apparatus wherein a series of surfaces of slaked lime is subjected to the action of passing currents of chlorine, mixed with other but inert gases, the series of surfaces or the series of members of the apparatus, which may each contain one or more such surfaces, being so connected together that each surface or each member of the series can become the first one of the series in rotation, and be isolated in turn for the purpose of being filled or emptied, as hereinbefore described, the entrance and exit of the current of gases being such that the first gases containing most chlorine are always presented first to the lime containing most chlorine, and the gases which are weakest in chlorine are presented to the freshest lime, so that both the lime and gases at any moment in the series shall contain chlorine in gradually-lessening proportions from the first to the last of the series, for the purpose specified.

2. The use alone, or in combination with the aforesaid series of surfaces, of apparatus wherein layers of slaked lime are exposed on perforated shelves or gratings to the action of currents of chlorine mixed with other but inert gases which pass through such layers of slaked lime in the same way that coal-gas is passed through layers of slaked lime in the ordinary dry-lime coal-gas purifiers, for the purpose specified.

3. The use of layers of slaked lime on perforated shelves or gratings, through which layers the currents of gases pass when arranged in series similar to that herein described for use with surfaces—that is to say, so arranged that each shelf or grating, or member containing one or more shelves or gratings, shall become the first one of the series in rotation, and be isolated in turn for filling and emptying, for the purpose specified.

4. The application and use of either one or of both of the aforesaid apparatus in combination with the methods of producing chlorine, for which Letters Patent for the United States were granted to me bearing date the 29th day of December, 1868, or in combination with the improved apparatus for the manufacture of chlorine described in the specification of an invention for which I am now applying for Letters Patent of the United States.

118,211. — Apparatus for Producing Chlorine. — Henry Deacon, Widnes, England.

Claim. — The cleansing of apparatus wherein chlorine is generated in the manner hereinbefore described, by means of powerful blasts of air, reversible at pleasure, substantially as hereinbefore described.

118,212.—Treating Mixed Gases Containing Chlorine for the Production of Bleaching-Powders, &c.—Henry Deacon, Widnes, England.

Claim.—The drying of the mixed gases, produced as herein described, when employed for the manufacture of bleaching-powder, or otherwise, by means of chloride of calcium or by means of sulphuric acid, substantially as hereinbefore described.

118,213.—Cover for Cones of Hat-Body Formers.—Francis Degen and Edwin R. Parsil, Newark, N. J.

Claim.—1. The arrangement of a sieve, *a*, on the top of the cone-cover A, substantially as described.

2. The arrangement of a cup, C, with a perforated bottom, *a*, on the top of the cone-cover A, substantially as set forth.

118,214.—Carpet-Stretcher.—James H. de Poe, Booneton, N. J., assignor to himself and Richard Mansell, same place.

Claim.—The improved carpet-stretcher, consisting of the stock A B, fixed jaw C, and swinging jaw G, combined and arranged substantially as specified.

118,215. — Stave-Jointer. — Frederic P. Deuel, Tecumseh, Mich.

Claim.—1. The combination of the face-plates D provided with slots E and semicircular notches *h*, the knives G, shafts B, and frames A, the supports I provided with the slots *b*, and the bed or rest H pivoted thereto at *a*, and provided with set-screws *d* and gauge J, all constructed, arranged, and operated as described and shown.

2. The arrangement of the frame A, shafts B, pulley C, face-plates D, lugs F, knives G, bed H, supports I, and cradle K, when each part is constructed, combined, and operates substantially as and for the purposes set forth.

118,216.—Wooden Pavement. — Charles Deutsch, New York, N. Y.

Claim.—The corner-grooved blocks A, having steps *a* and shoulders *b*, combined with strips *c*, arranged as and for the purpose specified.

118,217.—Combined Corn-Harvester and Husker.—Leonard Devore, Victor, Iowa, assignor of one-third his right to D. J. Hussey, and one-third to B. F. Booth, same place.

Claim.—1. The combination of the combs L, horns L', and rotating fingers J provided with grooves *s*, as specified.

2. The combination of the foregoing with the box M, chute M', and elevator-case M², as described.

3. The case M², provided with the rollers *d* and slots *e f*, constructed with a slanting bottom opposite said slots, and combined with the cutters *g*, as set forth.

4. The case M², provided with the blades *i*, as explained.

5. The combination of the box N', rods *n'*, roller N², rail N³, and cover *o* and flap *o'*, as specified.

118,218.—Miniature Steam Fire-Engine. Albert L. Dewey, Westfield, Mass.

Claim.—1. The construction, combination, and peculiar arrangement of parts A Z Y, composing the steam-pipe, smoke-stack, and boiler, together with its supporting-jacket B, composing the fire-box, substantially as and for the purpose hereinbefore set forth.

2. The peculiar construction, arrangement, and combination of the frame common to the steam and force-pump cylinders H I, connecting the two valve-seats T and h and forming one piece of casting, G, together with the separate pieces composing the steam-cylinder H, oscillating force-pump I, and air-chamber M, substantially as and for the purpose hereinbefore set forth.

3. The construction and arrangement of the main frame D of the machine with its supporting-wheels E E, and in combination with the parts composing the boiler A, furnace B B, supporting-screw P, and steam-pump or engine-frame G, of a miniature portable steam-pumping engine, substantially as hereinbefore described and set forth.

118,219.—Washing-Machine. — Loyal M. Doddridge, Union City, Ind.

Claim.—The combination of rotary dasher-shaft C, having arms *b* and stationary wash-boards *d*, with the series of rollers *e*, arranged as and for the purpose specified.

118,220.—Fire-Proof Floor.—James Dunseith, New York, N. Y.

Claim.—The combination of the flanged flat bars A, arched bars C, narrow transverse strips D and J, or wood pieces E, all arranged substantially as specified.

118,221. — Register for Gas-Meters.—Henry H. Edgerton, Fort Wayne, Ind.

Claim. — In a gas-meter registering the value of the gas consumed in dollars and cents, the combination, with the registering-train proper and the wheel on the spindle receiving motion from the diaphragms, of the means, substantially as herein shown and described, whereby registrations varying according to different values may be obtained without change or alteration in the registering-train.

118,222, antedated August 18, 1871.—Pump. Jacob Edson, Boston, and Person Noyes, Lowell, Mass., assignors to Person Noyes.

Claim.—1. A self-charging pump, substantially as described, consisting of an outer pump-tube, an inner tube, *f*, valve-seat *d*, and valve *h*, and provided with a connection or inlet, *m*, having a side port, *i*, a cap, *g*, a draught-pipe, D, an upper box, *e*, and an operating-lever, all combined, arranged, and operating substantially in the manner and for the purpose set forth.

2. The combination of all the parts, viz., the pump and the cabinet B, the fountain C, return-tube *a*, the gauge *k*, faucet *p*, sink H, flexible tube E or N, bed-plate L, and tank A, all arranged to effect the objects herein set forth.

118,223.—Automatic Railway Signal.—Henry S. Evans, West Chester, Pa.

Claim.—1. The improved automatic-signaling apparatus, formed by the combination of the posts C

D, pulleys E F, signals G H, endless chain or wire I, chains J K, levers L M, levers N O, stirrup P, springs Q, lever R, and weight S with each other, substantially as herein shown and described, and for the purposes set forth.

2. The stirrup P, constructed substantially as herein shown and described, in combination with the levers N O and lever L, to cause the signals to be operated by a train passing in one direction, and prevent them from being operated by a train passing in the other, as set forth.

118,224. — NAIL-PLATE FEEDER.—James Ferguson and John Turner, Bridgewater, Mass.

Claim.—1. The nipper-rod A and sleeve B combined with a holder, D E F, and mechanism for operating said holder, as and for the purpose specified.

2. The combination of holder D E F, tube G pivoted in plate H, and mechanism to cause the holder to vibrate and reciprocate vertically, as set forth.

3. The combination of reciprocating rack S and lever J with holder D E F, sleeve B, and nipper-rod A, universal joint T, and wheel U, substantially as set forth.

4. The combination of bar c, arranged at the angle of bell-crank V and having a screen in each end, with mechanism to vibrate said bar, the arms a a, and cams Z to open and close the jaw F, as described.

5. The reversing-wheel U and feeding and lifting holder D E F, combined with the nipper-rod A, sleeve B, and universal joint T, substantially as described.

118,225.—RULER.—Louis Feusier, Jr., Virginia City, Nev.

Claim.—The ruler A, having the pad *c* secured by the clasp B, substantially as shown and described.

118,226.—RULER.—Louis Feusier, Jr., Virginia City, Nev.

Claim.—A blotting-ruler, provided with the channels *b*, in combination with the blotting-pad *c*, substantially as and for the purpose above described.

118,227. — BALANCING-PISTON. — Leonard Finlay, St. Louis, Mo.

Claim.—The cavities A in the bottom of the piston-packing, having passages admitting the steam thereto for counteracting the weight of the piston, substantially as specified.

118,228. — SIDE-ARM SHEATH. — Joseph J. M. Frey, Sacramento, Cal.

Claim.—The holster or scabbard-clasp A, provided with a hook, *e*, and slot *f*, substantially as and for the purpose above described.

118,229.—COMBINED SOLDERING-LAMP AND BLOW-PIPE.—Albert C. Frieseke, Owasso, Mich.

Claim.—The soldering-lamp and blow-pipe described, wherein the lamp is divided into two compartments, *a* and *c*, the former being provided with wick-tube *b* and the latter with tubes B and *d*, in connection with the pipes C and D, the several parts being constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

118,230. — BRICK-KNIFE. — James Garity, Brewer, Me., assignor of one-half his right to Edwin D. Gould and one-half to Albert H. Barnes, same place.

Claim.—The knife, constructed as herein shown, for cutting brick from a stream of clay, in combination with the revolving disk *d*, substantially as set forth.

118,231. — ELECTRO-MAGNETIC ANNUNCIATOR.—Elisha Gray, Chicago, Ill.

Claim.—1. The arrangement of circuits for operating the needle or armature *e* either forward or backward by the electrical current, substantially as and for the purpose set forth.

2. The commutator J of an electro-magnetic annunciator, constructed and arranged to operate substantially as and for the purpose specified.

3. The springs G G' H H' and wires R S T, in combination with rings I and I' of the commutator J, the whole arranged substantially as and for the purpose described.

4. The spring A, in combination with points L, M, and N, arranged as described, whereby the electrical current is reversed, substantially as and for the purpose specified.

118,232. — STAKING HORSE-POWERS.—William Gregg, Dansville, Mich., assignor to himself and Charles Newkirk, same place.

Claim.—The combination and arrangement, with the frame A of a horse-power, of the braces B B provided with the yokes *b b*, as described, the stakes C C, brace-stays D D, keys E E, and nuts F F, as and for the purpose set forth.

118,233. — BUCK-SAW FRAME. — William Hankin, Hawley, Pa.

Claim.—The buck-saw frame, provided with the angle-braces E E, which pass through the cross-bar C and bear against the side pieces A, substantially as herein shown and described.

118,234. — MACHINE FOR CUTTING AND GRINDING CORN-FODDER, &c.—Benjamin Harnish, Lancaster, and David H. Harnish, Pequea, Pa.

Claim.—In combination with the conical mill, composed of the shell E and grinding-shaft R, the cutting-disk D, feed-box N, winged feed-roller V, and gearing, all arranged and operating substantially as herein set forth.

118,235.—VEGETABLE-CUTTER.—Benjamin Harnish, Lancaster, and David H. Harnish, Pequea, Pa.

Claim.—The arrangement, in a vegetable cutter, of the parallel, united and hinged bars Q Q, tripper P, springs T, guide R, connecting-arm *g*, with the rear end of the box V, in combination with the combined disks L X, bill-hooked cutters Y, combined drums and clutch G H I K, and cord-connection W, all jointly operated by a crank-handle, substantially in the manner and for the purpose specified.

118,236.—HARVESTER-DROPPER.—Orrel M. Harrison, Glasgow, Mo.

Claim.—A weighted lever, J, when pivoted to the rod I entering a notch upon the under side of a brace, H, and passing over the reel-box, in front of the reel-post, as specified.

118,237.—DENTAL DRILL.—Alexander Hartman, Murfreesborough, Tenn.

Claim.—1. The rattan D applied in a dental drill as the flexible rod or connection by which the bur-holding mandrel is revolved.

2. The double-threaded nut C applied to holder B B' and rattan D, within a tube, as and for the purpose specified.

118,238. — LOCK-NUT. — Joseph Harvey, Painesville, Ohio.

Claim.—The nut B, composed of the part C, having its screw-thread cut on its inner surface of equal diameter through its thickness, and the part D slotted, and the screw-thread of less diameter at its outer end than at its junction with part C, as shown and described.

118,239.—MEANS FOR EXTINGUISHING GAS-LIGHTS.—Charles H. Harwood, Salem, Mass.

Claim.—The combination of the cock E, lever D, and cord C with the pulley B, when attached to the alarm-shaft of the clock, substantially as set forth.

118,240. — INFANT'S CHAIR.—John Hayes, Philadelphia, Pa.

Claim.—1. The combination, with the frame A of the folding or hinged floors E and G H, and the top K L, all arranged substantially as specified.

2. The combination, with the frame A, folding floors G H, and top K L, of the extensible ends and bottoms, all substantially as specified.

3. The combination, with the elements of the above claims, of the rockers C, detachably connected to the frame A, as shown and described.

118,241. — STOVE-PIPE CLOTHES-DRIER.—Cassius M. Herreman, Mankato, Minn.

Claim.—The band K, to encircle the pipe, with eyes T T, in combination with bar Y, hooks P P, and braces U U, as shown and described.

118,242.—DENTIST'S ARTICULATOR.—Louis Hoffstadt, Philadelphia, Pa.

Claim.—1. The construction and arrangement of the pivots *a' a'* as parts of the bracket-plate A, the bearing-hole in the upright *d''*, and the bearing-hole *e'* and inclined plane or groove *e''* in the spring C, substantially as and for the purpose hereinbefore set forth.

2. The broad flat upright plate *c'* of the lower jaw E, the corresponding upright flat plate D, the uprights *d' d''* of the bracket, and the thumb-screw F, the said parts being constructed and combined to operate substantially as and for the purposes hereinbefore set forth.

118,243.—CAKE-MIXER.—Thomas Holmes, Williamsburg, N. Y.

Claim.—The box A a^1, plate a^2, cover B C *c'*, wire loops D, disks E, journals F G, sockets H J, screws I L N, cap K, and crank M, all combined, constructed, and arranged, as and for the purpose specified.

118,244.—PROPELLING CANAL AND OTHER VESSELS.—John Jochum, Brooklyn, N. Y.

Claim.—The arrangement of propeller A within a fixed hood, B, and on the deck, as and for the purpose specified.

118,245. — PRESERVING WOOD. — Joseph Jones, New Orleans, La., assignor to himself and Peter Welch, St. Louis, Mo.

Claim.—A solution of solid asphalt in turpentine, combined with a varying proportion of carbolic acid, applied, in the manner substantially as described, to the treatment and preservation of timber for the purposes stated.

118,246.—STEAM-BOILER. — George Keen, North McGregor, Iowa.

Claim.—The smoke-consuming chamber B having damper E to admit air from the outside, and conical flues C to bring up the products of combustion thereinto from a fire-box beneath, when arranged in a boiler, as and for the purpose specified.

118,247.—WASHING-MACHINE.—Hamlin F. Keeney, West Salem, Ohio.

Claim.—In combination with the wash-board M and standards A, the plates B provided with the apertures C and notches D, when constructed, arranged, and operating together as described.

118,248.—WASHING-MACHINE. — John Joseph Kenyon, Boston, and Hazen Prescott Huntoon, Cambridge, Mass., assignors to John J. Kenyon.

Claim.—A washing-machine, consisting of a coiled spring, A, of any suitable material, in combination with rod or stem B, lever C, standard I, socket F with its lugs H, and receptacle E, substantially as described.

118,249.—GAME-BOARD.—George W. Kintz, Rochester, N. Y.

Claim.—The rotary board A on pedestal D, provided with the annular chamber M, race-way *e*, depressions n, and table C, used in combination with the indicator F and a ball, and furnished with the letters, figures, and signs for playing games of amusement, substantially as described.

118,250. — MACHINE FOR DISTRIBUTING NAILS.—Albion Knowlton, Boston, Mass.

Claim.—1. In nail-distributers, the combination of the hopper C and reservoir B, the movable slotted frame D, the plate E, the stationary slotted frame F, with plunger J and bisected conductor H, substantially as and for the purpose set forth.

2. The combination of the plunger J, the slide D with slotted plate *e* attached, and the plate F, as and for the purpose described.

118,251.—RICE-HULLING AND POLISHING-MACHINE.—Leroy E. Lee, New Orleans, La., assignor of one-half his right to Louis Gerties, same place.

Claim.—The arrangement herein shown of the burs A A' A'', each provided with brushes *a a*, and the burs B B' B'', provided with furrows, in combination with the shafts C, levers D, and spouts F F' F'', all constructed and operating as shown and described, for the purpose set forth.

118,252.—METAL-HOOP.—Sylvester Lewis, Rochester, N. Y., assignor to himself and Henry Churchill, same place.

Claim.—In a hoop-lock substantially as herein described, the angular seats *y* at the base of the interlocking tongue, for the purpose set forth.

118,253.—SHADE-RACK.—Harvey Lull, Hoboken, N. J.

Claim.—The dog B and spring C, formed in one piece and in substantially the manner herein shown and described, to adapt them to fit and work upon the turned-out toothed edges of the body A, as and for the purpose set forth.

118,254.—COTTON-TIE STRETCHER.—Samuel Mather, New Braunfels, Tex.

Claim.—The improved cotton-tie stretcher herein described, consisting of the bent bar A having hook *a'* at one end and slot at the other, the lever B having jaw *b'*, in combination with the adjustable arm C with jaw *c'*, all constructed and operating substantially as and for the purpose set forth.

118,255. — STREET-CARRIAGE. — George S. McHenry, Kansas City, Mo.

Claim.—The recesses *e'* formed in the double walls of the sides of the carriage-body C to receive the large wheels A, substantially as herein shown and described.

118,256. — DEVICE FOR LOCKING NUTS.—Almeron McKenney, Maumee, Ohio.

Claim.—The within-described nut-lock, consisting of the angular plate E, through which the bolt passes, and placed edgewise, with its lower edge resting on a base, B, and secured on the outer face and on one or two sides of the nut C by the nut F on the end of the bolt D, all substantially as and for the purposes herein set forth.

118,257.—WAGON.—Michael Miller, Waterloo, Ind.

Claim.—The combination of the swiveling head Z and the reach with the fifth-wheel, having upon its lower-plate a V-shaped annular ridge, and in its

upper plate a groove to fit therein, all as shown and described, and for the purpose set forth.

118,258. — BRIDGE. — George C. Morgan, Chicago, Ill.

Claim.—1. The mode of tightening the vertical braces D by means of the plate *b* and screws *c*, substantially as specified.

2. The cranes or stays F and *f* when made continuous and applied, by means of eyes *e*, so as to make the strain uniform, substantially as specified.

3. The wire cords E when made enlarged at the middle and gradually tapered each way and applied to a truss-bridge, substantially as described.

118,259. — TOBACCO-STRIPPER. — Charles Müller, Albany, N. Y.

Claim.—1. The grooved guide and cutting-roller F, in combination with knives *f f* and car S, the said knives and car being inclined, as herein shown and described.

2. Rollers M and N, constructed with or without grooves *g*, in combination with bands C' C' and G G and cords H H, or their equivalents, and weights I I, or other equivalents therefor, as and for the purpose herein shown and described.

3. Elastic table C C, in combination with bands G G and C' C', weights I, and rollers *e* and *e*, substantially as herein shown and described.

118,260. — BEARING-PLATE FOR RAILWAY RAILS.—Elijah Myrick, Ayer, Mass.

Claim.—The plate A, having lugs on the under side thereof, applied as and for the purpose specified.

118,261. — CURB-ROOF. — Dudley Newton, Newport, R. I.

Claim.—1. The improvement in curb-roofs, which consists in projecting the base ends of the wall-rafters beyond the front face of the plate, and in combining therewith a *fascia* extending from the abutting end of the rafters downward, parallel with the front face of the plate, and an inclined bed-molding extending from near the outer edge of the abutting ends of the wall-rafters inward to the *fascia*, substantially as described, for the purposes specified.

2. The wall-rafters B, with their abutting base ends projecting beyond the front face of the plate, the plate, *fascia*, bed-mold, and gutter, all combined, substantially as described, for the purpose specified.

118,262. — COMBINED LATHE AND GEAR-CUTTER.— Ulrich Oppermann, Washington, D. C.

Claim.—1. In combination with the pulleys H and Q and suitable cords or belts, the standards A', connected together by means of the brace C', the shaft B'', the standard H', the pulleys D', F', I', and K', the shive L', and the weight M', substantially as and for the purpose shown.

2. The cutter-head N provided with the lugs *n*, the spindles O and P provided with the pinions *o* and *p*, the pulley Q, the way R provided with the lug *r* and collar U, the screw S, the handle T, the stud V, the nut *v*, and the bar W provided with the head *w*, when constructed substantially as described, and combined with the tool-post M, in the manner and for the purpose substantially as set forth.

118,263. — MACHINE FOR RANDING BOOT AND SHOE-HEELS.—Henry F. Packard, North Bridgewater, assignor to Azra B. Keith, Braintree, Mass.

Claim.—1. In combination with a nailing or pegging mechanism and a heel-supporting rest or post, a rand-guide for guiding the rand-strip into position to be nailed upon the heel and relatively to the edge of the heel, substantially as described.

2. In a nailing or pegging-machine, the combination of an adjustable edge-guide and adjustable rand-guide, substantially as described.

3. The process of randing heels successively and continuously by employing, in connection with the nailing and feeding mechanism, heel-supporting post, and rand and edge-guides, the rand-coil or ribbon, and placing the heels breast to breast, so as to feed from one to the other, substantially as shown and described.

118,264. — METHOD OF MANUFACTURING AXES.—George Palmer and Charles W. Hubbard, Pittsburg, Pa.

Claim.—1. The method herein described and represented of manufacturing axes and hatchets.

2. The pair of dies *a a*, for roughly swaging and welding the poll of the ax or hatchet, substantially as described.

3. The swaging-dies *d d*, having swaging faces of suitable form for shaping, by a percussive blow, the ends of an ax, in combination with a pair of eye-pins, *e*, constructed substantially as described.

4. The series of dies *a a*, *d d*, and *g g*, of a construction substantially as described.

118,265.—WASH-BOILER.—Nathaniel Parks and George A. Hynds, Rome, N. Y.

Claim.—1. The water-reservoir G affixed to a wash-boiler, in conjunction with the valve A, substantially as and for the purpose herein shown and described.

2. The pipes D D, perforated throughout their entire length, and held in place by the continuous band E, as specified.

3. The false cover F, arranged within a wash-boiler, in combination with the main cover B, false bottom C, and pipes D, all arranged as herein shown and described.

118,266, antedated August 5, 1871.—AX.—Washburn Peabody, Orono, Me.

Claim.—The improved ax as herein described, and for the purposes set forth.

118,267.—CLOD-FENDER.—George L. Perry, Berlin, Wis.

Claim.—An improved corn-shield, consisting of the bracket B, bolt C, bar D, and plate E, said parts B C D E being constructed and operating in connection with each other, substantially as herein shown and described, and for the purpose set forth.

118,268.—DENTAL DRILL.—Chandler Poor, Dubuque, Iowa.

Claim.—1. In combination with a bur-carrying mandrel, K, and rotating spindle F, the intermediate cat-gut J, applied as and for the purpose specified.

2. A swinging frame, E, to support the pulley mechanism, journaled in uprights, and counter-balanced by weighted cord M, as and for the purpose specified.

118,269. — CORK-CUTTING MACHINE.—George Purves, New York, N. Y.

Claim.—1. The adjustable spindle-head stock D, tail-stock E made adjustable thereon, sliding bar Q, levers R and T, and spring S, combined substantially as and for the purpose specified.

2. The cutter oscillating bar W, arm Y, vertical slide Z, slotted lever W', and stops U', combined and arranged substantially as and for the purpose specified.

3. The combination, with the elements of the first and second claims, of the oscillating cutter M, the sliding frame F, and the operating-cord and pulleys, as and for the purpose specified.

4. The combination of the carriage, clamping-dogs *a b*, belt H, and the spindle D, substantially as specified.

118,270. — HAY-ELEVATOR. — Herman H. Quint, Brookfield, Me.

Claim.—The device, as a hay-elevator, embodying the construction contemplated and set forth in the accompanying drawing and description.

118,271. — STAIR-ROD. — Emil Rath, New York, N. Y., assignor to Moritz Krickl, New York city.

Claim.—The fastening for stair-rods, formed by the depressions *a* in the rod A in which the eye-bolts *b* are held by the tension of the stair-carpet, as herein set forth and shown, for the purpose specified.

118,272, antedated August 10, 1871.—CLOTHES-DRIER.—James W. Reed and Hugh A. Jones, Pittsburg, Pa.

Claim.—The within-described clothes-drier, consisting of a skeleton frame made larger at its top than at its bottom, and composed of the inclined bars E E, disk D, and circular bars *a a* with a central shaft, C, all arranged within the frame A and operated by the shaft H and wheels G G', as set forth.

118,273.—TREADLE-POWER.—William Reed, Allentown, Pa.

Claim.—The arrangement of the inclines *c'*, treadle-levers C, and cranks a^1 a^2 of the driving-shaft A with each other, substantially as herein shown and described, and for the purpose set forth.

118,274. — SAW-GUMMER. — William Reed, Allentown, Pa.

Claim.—The arrangement of the lever E, provided with the cams e^1 e^2, and link F with the punch C and the recessed, slotted, and grooved top of the stock A, substantially as herein shown and described, and for the purpose set forth.

118,275.—COTTON-PRESS.—Samuel S. Rembert, Memphis, Tenn.

Claim.—1. A press-case, made in two sections, and arranged for separating to expose the bale when pressed, in combination with two followers, arranged for simultaneously pressing on two opposite sides of the mass, substantially as specified.

2. The combination of the right-and-left-threaded screw, toggle-jointed arms F I, blocks C, followers E L, movable cross-heads K N, and rods M, substantially as specified.

3. The arrangement of the rods O with the cross-head K and section C of the case, substantially as specified.

4. The combination of the lever Q with the section D of the case and the cross-head N, substantially as specified.

118,276. — OIL-CUP. — William Rider, Almont, Mich.

Claim.—The construction and arrangement of the cup A, stem A', cap B, receptacle B', valve-seats *a b*, spindle C C', spring E, pin D, lever H, valves F G, and openings or passages *a'*, *b'*, *c*, *d*, *e*, and *f*, as and for the purpose set forth.

118,277. — ICE-HOUSE FOR PACKING AND CURING MEATS.—Henry A. Roberts, Boston, Mass.

Claim.—1. A chill-room, G, and a curing or packing-room, H, when separated by a partition, and constructed with the flues and air passages, as herein shown and described.

2. The ceiling of an ice-chamber, E, composed of an absorbing and evaporating material, in combination with a continuous flue for creating a draught over and upon it, substantially as and for the purpose set forth.

118,278. — SIGNAL-LANTERN.—William S. Roberts and Egbert H. Flake, East Greenwich, R. I.

Claim.—1. The combination of the two globes *a* and guards S with the swinging lamp B, substantially as and for the purpose specified.

2. The combination of the ball C and slotted brackets *d d* with the reversible lantern, substantially as herein set forth, and for the purpose stated.

118,279.—FURNACE FOR THE MANUFACTURE OF IRON AND STEEL.—Henderson Ross and John H. Clemens, Pittsburg, Pa.

Claim.—A furnace used for the manufacture of iron or steel provided with a water-box, as herein-before described, and for the purpose set forth.

118,280. — LAMP-EXTINGUISHER.—William G. Ruge, Holstein, Mo.

Claim.—The spring-jaws C C, combined with the pivoted fork D, hook E, lug *g*, and notched arm *e*, all arranged to constitute a lamp-extinguisher, as set forth.

118,281.—TRUSS-HOOP.—Elmina C. Ryding, Tully, N. Y.

Claim.—A cooperage or truss-hoop, when the lap of its joint is made perpendicularly to the plane of the hoop, substantially as specified.

118,282.—SPINDLE-BEARING FOR SPINNING-MACHINES.—Jacob H. Sawyer, Lowell, Mass.

Claim.—In a spinning-machine, having the spindle-whirl arranged or to be arranged between the two supporting-rails, as set forth, a spindle-bearing and its holding-socket constructed larger in size or diameter than the whirl, so as to enable the spindle, the whirl, and such bearing (whether the bolster or the step) to be inserted or withdrawn together through the rail and the spindle, to be inserted into or drawn out of the other bearing, substantially in manner as described, and as occasion may require.

118,283.—APPARATUS FOR CRIMPING WIRES. Charles P. Seitzinger, Scranton, Pa.

Claim.—The combination of the two (2) iron blocks A, the movable iron teeth or slats C and D, and the grooved plates G, fastened with screws H or otherwise, substantially as and for the purpose hereinbefore set forth.

118,284, antedated August 11, 1871.—MOWING-MACHINE.—Moses R. Shalters and Samuel Ray, Alliance, Ohio.

Claim.—1. The ratchet-wheel M, disks O N, in combination with the drag-bar I, these parts being constructed substantially as described, and for the purpose set forth.

2. The combination of the spring-catch lever P, ratchet-wheel M, disks O and N, drag-bar I, and shoe R with the pitman V having the swivel-joint *h*, the cutter-bar X, and finger-bar U, these parts being constructed and arranged in the manner and for the purpose described.

118,285, antedated August 17, 1871.—SAFETY-FROG FOR RAILWAYS.—Warren M. Shawen, Bellaire, Ohio.

Claim.—1. The lateral shifting-bar G, having the ellipsoid device I located between its pivoted ends, in combination with the movable winged rails E of the frog, the several parts being arranged to operate as described.

2. The pivoted shifting-bar G united to the wing-rails E of the frog by a yoke or coupling-arm, H, as described.

3. The coupling-arm or yoke of the curved wing-rails E, made of two sections, *b c*, and locked together and to the wing-rails, as described.

118,286.—BALE-TIE. — John L. Sheppard, Charleston, S. C.

Claim.—The bale-tie herein described, having the curved lips A and B, rectangular slot C, and transverse slit *d e*, constructed and arranged substantially as and for the purpose set forth.

118,287. — Globe and Check-Valve.—George W. Shields, Louisville, Ky., assignor to himself, Michael L. Mitchell, and John A. Melcher, same place

Claim.—The arrangement of the valve *c*, provided with the stem *d* and disk *e*, with the skeleton frame, threaded stem *l*, and plug *m*, as specified.

118,288.—Billiard-Table.—George Smith, Detroit, Mich.

Claim.—Rubber billiard-cushions cut from the top to the table in wedge-shape, or in a rectangular, semicircular, curved, or other form, substantially as shown and described, and having the points or projections connected at the edge by a whalebone strip, hoop-skirt spring, or other similar device, in the manner set forth.

118,289.—Machine for Making "Excelsior."—George H. Smith, Guilford, Me.

Claim.—1. The combination of parts constructed specifically and to operate as and for the purpose described, such being the frame A, the bed *e* with the two plane-irons *a b* and throats *d c*, and the two sets *f g* of stripping-knives, the main and auxiliary carriages B E, and toothed feed-rollers C D, the gears and ratchets *k k l l m n* of the feed-rollers, the rocker-lever G, and its two pawls, *n' p*, and the cammed bar H, all being applied as explained, the auxiliary feed-roller carriage E being provided with means as described for moving it and retaining it in position.

2. The mechanism or combination as described for effecting the intermittent revolutions of the two feed-rollers, such consisting of the cammed bar H, the rocker-lever G, the two pawls *n' p*, the ratchet-wheels *n n*, and the gears *k k l l*, all being arranged and applied to the reciprocating carriage and its bed in manner and so as to operate as set forth.

118,290.—Hand Garden-Plow.—William D. Smith, Homerville, Ga.

Claim.—A garden-plow, consisting of two acute-angled blades, B C, an upwardly-rising shank, A, and a fender, D E F, when all are constructed so that the plow may be operated by hand, as described.

118,291. — Dummy-Engine. — Christian George Spengler, Hoboken, N. J.

Claim.—The reach D, secured to and extending forward of the burden division B, and the coupling-socket affixed to the center of the truck supporting the traction division when the forward end of the reach and the plate A of the socket are beveled as described, in combination with the rests *F*, as herein set forth and shown, for the purposes specified.

118,292. — Horse-Power. — Isaac Starr, Wooster, Ohio.

Claim.—1. The crown-wheels B and E, when overlapping one the other, and operating the two pinions I J, one fixed and the other adjustable, as and for the purposes specified.

2. The line-shaft H, when provided with fixed pinion I and adjustable pinion J, and arranged to be inclining, as specified and set forth.

118,293. — Wire-Stretcher. — Ebenezer Burnet Stephens, Brownsville, Neb.

Claim.—1. The adjustable pins D, in combination with the wires B and stay or bar C, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the wire-rope E, pulleys F, one or more, and weight H, whether the lever I be used or not, with the posts G, stay or bar C, and wires B, substantially as herein shown and described, and for the purpose set forth.

118,294.—Neck-Chain.—George D. Stevens, New York, N. Y.

Claim.—1. The arrangement on a chain of two slides, one being fastened to each end of the chain, and each being provided with an aperture through which the chain slides, in combination with an intermediate slide forming a guide for the chain, substantially as herein shown and described.

2. The arrangement of a hook or other fastening on the center side of the neck-chain A, in combination with an additional chain, provided with a device to engage with said fastening, substantially as set forth.

118,295. — Packing for Machinery and Lining for Journal-Boxes and Bearing-Surfaces.—Chase A. Stevens and Cyrus Butler, New York, N. Y.

Claim.—1. The process and method of making, preparing, and using the within-described compound or mixture for journal-boxes and bearing-surfaces, when composed of prepared asbestus flock, and prepared pulverized plumbago, combined in the manner and for the purpose herein specified.

2. A lining for journal-boxes, bearing-surfaces, and as a packing for machinery, being a compound or mixture composed of prepared asbestus flock, prepared pulverized plumbago, glycerine, oil, or other oleaginous or fluid substance, in the manner and for the purpose herein set forth.

118,296.—Composition for Roofing, Paving, &c.—William M. Stuart, Port Huron, assignor to himself and Alexander Chisholm, Smith's Creek, Mich.

Claim.—The above-described composition, composed of the ingredients, in or about the proportions, and applied substantially as herein specified, for the purposes set forth.

118,297. — Anti-Friction Bearing for Shafts.—John Switzer, Lynn, Mass.

Claim.—1. As an anti-friction bearing for the ends of heavy shafts, the employment of the frusto-conical roller K in combination with the plate A and disk H, or the equivalent, the said plate A being stationary and loosely receiving the shaft, while the disk H is fixed to and travels with the shaft, the whole being in manner as described.

2. In combination with the rollers K, plate A, disk H, and shaft C, the ring or support *d*, or its equivalent, for insuring the proper relative position of each roller.

118,298.—Manure-Cart.—Benjamin Teague, Moscow, Tenn.

Claim.—The wheels C, axle A, puller D, hopper B having sliding door H, and lever I, all arranged relatively one to the other, as and for the purpose hereinbefore set forth.

118,299.—Hot-Air Furnace.—George G. Thomas, St. Louis, Mo.

Claim.—1. The series of open tubes G, arranged in the hot-air chamber about the radiator F, and held by the securing-band, as described.

2. The furnace described, consisting of the base A, constructed as described, plate C, bricks E, radiator F, removable tubes G G, and cylinder H, the parts being constructed and arranged as described.

118,300.—Elevator.—Gustavus C. Timpe, New Orleans, La.

Claim.—1. The arrangement of the internally-toothed gear-wheel F, pinion-wheels E M, and gear-wheels K L with the drum G and shaft A H J, substantially as herein shown and described, and for the purposes set forth.

2. The arrangement of the sliding bar P and levers N O with the pinion-wheels E M of the gearing E F K M L, substantially as herein shown and described, and for the purposes set forth.

3. The combination of the balance-weight U and balance-rope S with its guide-pulleys T with the drum G, substantially as herein shown and described, and for the purpose set forth.

118,301.—Elevator.—Gustavus C. Timpe, New Orleans, La.

Claim.—1. The slack weight J and its continuous rope D, swiveled pulley I, idler H, and drum G, all combined and arranged with the cage B, as and for the purpose specified.

2. In combination with pivoted brake-strap R, arranged on shoulder Q of wheel O, the lever T *t'*, pawl X, ropes U V Y, and weight W, as and for the purpose specified.

118,302. — Apparatus for Carbureting Air and Gas.—Oakes Tirrill, Brooklyn, N. Y.

Claim.—1. An apparatus for carbureting air or gases, so constructed that it may be literally buried up in the earth without vault or gas-house to inclose it, incapable of being seen, touched, or visited without being unearthed, requiring no repairs, or periodical adjustment, or attention except occasional filling, and receiving the necessary current of air from some distant air-forcing apparatus, substantially as shown and described.

2. In carbureting apparatus, the combination, with the generator and carbureting devices proper, of a fluid-holding tank or vessel surrounding the generator and supplying the latter with fluid, substantially in the manner shown and described.

3. The combination, with the generator and carbureting devices proper, of the fluid-holding tank, surrounding and communicating with the generator, as specified, and provided with air and gas-service connections, and with devices for filling the tank and indicating the level of the liquid therein, as described, all of said parts being so arranged that the apparatus may be buried in the ground or water without inclosing the same in a gas-house or vault.

4. The combination, substantially as herein shown and described, of a floating carburetor with a generator, capable of being buried beneath the earth, the necessary current of air being obtained from some distant air-forcing apparatus, as described.

118,303.—Lap-Board.—Charles Trefethen, Manchester, N. H.

Claim.—1. The combination of the board and the hooks, arranged and connected together, substantially as described.

2. The combination of the board and the hooks and the legs arranged and connected with such board, essentially as specified.

118,304.—Soap-Cutting and Beading-Machine. — John B. Ultsch, Cambridge, Mass., assignor to himself and Curtis Davis, same place.

Claim.—The combination, in a soap-cutting machine, of the templets *c*, *c*, *c'*, &c., with the cutting-frames E and F, substantially as described, and for the purpose set forth.

118,305.—Apparatus for Distilling Turpentine.—Adrian H. Van Bokkelen, Wilmington, N. C.

Claim.—1. A condensing-chamber, H, having two discharge-pipes, L J, and surrounded by a water-chamber, I, in which a cold current is constantly being received at the bottom and discharged over the top, for the purpose of condensing the less volatile vapor and passing it through the pipe J, while the more volatile products of distillation pass through the upper pipe L, as described.

2. In combination with a steam and fire-still, A B E, the condenser H, pipes H L, coil K, resin-receptacle P, and coil R, all combined and arranged as and for the purpose specified.

3. The resin-receptacle P, combined with the coil of steam-pipe R placed within it, as and for the purpose specified.

118,306.—Filter.—Johann P. A. Vollmar, Bingen, Germany.

Claim.—1. The frames B B, composed of the parts *a b* and *c* and pipes *d*, substantially as herein set forth and described.

2. The combination of the filtering-vessel A, having the perforated pipe C D, with the frames B, all arranged as set forth.

118,307.—Water-Wheel and Gate.—Philip H. Wait, Sandy Hill, N. Y.

Claim.—1. In water-wheels, a gate formed of the annular plate C and flanged plate D F, both having apertures curved on their edges *a b* and radially lined on their sides, as and for the purpose specified.

2. The said gate *a b* C D F, spider E having rim E^1 and seat *d*, and guide having flange *e*, all combined in a water-wheel, as and for the purpose specified.

118,308. — Paper-Cutting Machine.—George A. Walker, Boston, Mass.

Claim.—The cutter-frame, guided as shown and described, and having the cutter-stock adjustable by means of the adjusting-screws u v or their equivalent, substantially as shown and described.

118,309.—Animal-Trap.—George S. Walker, Erie, Pa.

Claim.—The metallic body A A, constructed as described, in combination with the tines *q q*, head D, spring *t t*, standard G, and rods I, J, and R.

118,310.—Hame for Harness.—Peter B. Watson, Belvidere, N. J., assignor to himself and Moses A. Dewitt, same place.

Claim.—The grooved and toothed plate B, the toothed adjustable hook C, and the recessed cap-plate D, in combination with each other and with the recessed hame A, substantially as herein shown and described, and for the purpose set forth.

118,311. — Sad-Iron. — Peter W. Weida, Philadelphia, Pa.

Claim.—The combination and arrangement of the lever C, provided with the spring D and catch *h*, with the reversible handle B and lip-mortise *d* of the iron A, substantially in the manner and for the purpose above set forth.

118,312. — Washing-Machine.—Calvin J. Weld, Brattleborough, Vt.

Claim.—1. The combination of the bed F and rollers G with the vertically-adjustable yokes H and springs, substantially as herein shown and described.

2. The combination of the yokes H with the posts C, when the latter are used as guides, substantially as herein shown and described.

3. The mode of fastening the machine within the tub by means of the spring-plug *f*, substantially as herein shown and described.

4. The corrugated bars *a* when connected at their ends, substantially as described.

5. The flat loops *b'*, in combination with the links *b* and the bars *a*, substantially as described.

118,313. — Wringer-Roller. — Joseph Whitehead, Trenton, N. J.

Claim.—The improved wringer-roller, comprising the shaft, disk, plates, the India-rubber sheet *a*, and the strips F, all combined and arranged substantially as specified, the said plates being covered with canvas coated with India rubber, as described.

118,314. — Vapor-Burner.—Isaac Whitehouse, New York, N. Y., assignor to Charles Royle, same place.

Claim.—The ring-tube F, in combination with the burner-tube C and tip D, substantially as here-

in shown and described, and for the purpose set forth.

118,315.—HARVESTER.—William N. Whiteley and Salem T. Lamb, Springfield, Ohio, assignors to Salem T. Lamb.

Claim.—1. The reversible latch-segment H, in combination with frames A F, as set forth.

2. In combination with the wheel B', provided with ratchet-teeth, the detent C' mounted upon a yielding arm, D', substantially as set forth.

3. The combination of the rakes u and I' and shaft S with the cranks B' and t and pitman K', arranged as described.

4. In combination with the rake I' and crank-pin k', the slotted pitman K', flange-plate F', and pins p' p'', as and for the purpose set forth.

5. In combination with the rake I', crank k', and slotted pitman K', the spring P', as and for the purpose set forth.

118,316. — MACHINE FOR LIFTING DROP-WEIGHTS. — Lewis L. Whitlock, New York, N. Y.

Claim.—1. The combination and arrangement relative to one another, substantially as herein described, of the cam-shaft T, cam B, friction-roller I, and the bar or other device to which said friction-roller and the drop or weight to be lifted are connected.

2. In combination with the cam-shaft T, cam B, and friction-roller I, arranged relative to one another, as described, the cross-head H and the guide-rods E.

3. In combination with the cam-shaft T, cam B, and friction-roller I, arranged relative to one another, as described, the V-grooved gear-wheel A and driving gear-wheel J, the shaft D, and the movable journal-bearings F.

4. The combination, with the V-grooved friction-gearing A and J, of the V-grooved and eccentrically-pivoted frictional brake O.

5. The combination of the eccentrically-pivoted brake O with its arm P, the spring t or its equivalent, the lever u, and cord S, substantially as and for the purpose set forth.

6. The combination of the cam-wheel A with cross-head H, guide-rods E, roller I, and brake O with the rocker-shaft D, V-pinion J, pulley N, and balance-wheel M with spring L and lever K, or their equivalents, operating substantially as described.

118,317.—DROP-PRESS AND TRIP-HAMMER. Lewis L. Whitlock, New York, assignor to Maria Whitlock, Brooklyn, N. Y.

Claim.—1. The combination of the knee-lever r, pivoted arm e, spring-bolts s and s, with hammer-shaft B and arm S, substantially as described, and for the purpose specified.

2. The combination and arrangement of the friction-gear V, rocker-shaft H, rod w, foot-lever h, and cam-wheel D, when constructed and operating substantially as herein set forth.

3. The combination, with the bar B, of a cam for elevating the same, V-grooved friction-gear wheels for communicating motion to said cam, mechanism for making and breaking at will contact of said gear-wheels with one another, and a balance-wheel to graduate the velocities of the driving-gear and to accumulate power during the intervals when contact of gearing is broken, substantially as described.

118,318.—MACHINE FOR MAKING WIRE FOR BOOT-AND-SHOE PEGS.—William Wickersham, Boston, Mass.

Claim.—As an improvement for the purpose named, the combination of grooved rollers, convergent, to form an aperture, as described, the striation of the walls of said grooves as set forth.

118,319.—PROCESS FOR LASTING BOOTS AND SHOES.—William Wickersham, Boston, Mass.

Claim.—A process of lasting a boot or shoe, which consists, first, in applying a sole which has been split in the edge and opened to the bottom of the last; second, in gathering or fulling the edge of the upper by means of stitches in the same, thereby drawing it close to the open split edge of the sole preparatory to the attachment of said sole to the upper, as shown and for the purpose set forth.

118,320.—CHURN.—Eli Willcox, Hamburg, Iowa.

Claim.—1. An improved churning apparatus, consisting of the arms L, bar K, sliding bars N, toothed rack O, gear-wheel P, dasher-shaft F, dasher G H, and ribbed case or body A J, whether the inner case C I be used or not, said parts being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

2. The combination of the arms L, bar K, sliding bars N, toothed rack O, gear-wheel P, dasher-shaft F, dasher G H, inner ribbed case C I, and outer ribbed case A J with each other, substantially as herein shown and described, and for the purpose set forth.

118,321, antedated August 9, 1871.—WATER-TUYERE.—Samuel Williamson, Cincinnati, Ohio.

Claim.—The combination of water-box A B, nozzle C D, slotted bolts E H, perforated lugs F, and cotters G, for the objects stated.

118,322.—METHOD OF MAKING DRAW-BARS OR BUFFERS. — John T. Wilson, Pittsburg, Pa., assignor to Coleman, Rahm & Co., same place.

Claim.—Jointly, the particular form or shape of the blank for draw-bars or buffers described and shown, and the manner of producing the same—that is to say, molding a bar by means of rolls so that it shall constitute a number of connected or undivided blanks, and subsequently severing the blanks from the bar and from one another.

118,323.—MACHINE FOR DRESSING STONE.—Thomas Woods, Nicholasville, Ky.

Claim.—1. The cylinder, composed of the disks L, divided into pairs by the blocks d and held together by the nuts b upon the shaft E, substantially as and for the purpose described.

2. The cutters H, pivoted, constructed, and operated substantially in the manner and for the purpose described.

118,324.—WATER-WHEEL. — Daniel Woodsum and Frank M. Woodsum, Harrison, Me.

Claim.—1. The combination of the two sets of oppositely-revolving wheels c d, in combination with the surrounding casing f, collar b, and gearing e, p, and s, whereby the power of all the wheels is centered upon a single shaft, substantially as shown and described.

2. The shaft n, gears m k, valves h, and segments I, when all are arranged to operate substantially as described.

3. The combination of the shaft a, the collar b, oppositely-revolving wheels c d, casing f, shaft n, gears m, k, o, p, and s, valves h, segments i, and friction-rollers E, when all are united to form a water-wheel, substantially as described.

118,325.—SCREW-PROPELLER.—Henry Zahn, San Francisco, Cal.

Claim.—1. In a screw-propeller arranged to cut two threads in the water, the blades b d c e arranged in opposite directions alternately, substantially as shown, and for the purpose above described.

2. The blades b d c e, when each alternate blade is arranged with an opposite twist, substantially as and for the purpose described.

118,326.—HARNESS-TUG BUCKLE.—Charles S. Abeel, Marshalltown, Iowa.

Claim.—The tug-fastening apparatus herein described, consisting of the frame D, bars a e f h, sliding tongue B, and eyelet C, constructed and arranged substantially as specified.

118,327.—PAPER-CUTTING MACHINE.—James Arkell, Canajoharie, N. Y., assignor to himself, Benjamin Smith, and Adam Smith, same place.

Claim.—In combination with a feed mechanism, a knife or cutter which moves at a greater velocity than the material fed to it, and a suitable presser-roll, the whole operating in substantially the manner and for the purpose set forth.

118,328. — RIVETING APPARATUS. — James Berry, Buffalo, N. Y., assignor to himself and Henry Berry, same place.

Claim.—1. The arrangement of the rivet-inserting device B, table A, and the adjustable clamp F, all constructed as described, for the purpose set forth.

2. The combination of the punching device, consisting essentially of the clamp-gauge L and die-plate M, with the table A and rivet-inserting device B, as and for the purpose set forth.

3. The combination, with a riveting-table, A, of the rivet-inserting device B, connected by the dovetail s or equivalent means, whereby the rivet-inserting device can be slid longitudinally, for the purpose specified.

118,329.—PROPULSION OF CANAL-BOATS.—William C. Bibb, Madison, Ga.

Claim.—1. The combination of the V-grooved pulleys d d with the wire-rope c, each arranged in relation to the other substantially as and for the purpose hereinbefore set forth.

2. The guide b, substantially as and for the purpose hereinbefore set forth.

3. The flap attachment h, for sustaining the wire rope, substantially as and for the purpose hereinbefore set forth.

118,330. — RAILWAY. — William C. Bibb, Madison, Ga.

Claim.—1. The driving-wheels c c, having grooved peripheries acting upon fixed rope or band, being in relation substantially as described to the track and locomotive of a railway, as set forth.

2. The rope or band suspended by flaps to a beam, or an equivalent, the flange of one or both wheels, outwardly, being turned down to permit the flap to pass between, substantially as and for the purpose set forth.

3. The driving-wheels c c, acting on the suspended rope or band, and having cogged wheels fixed upon them, as shown, substantially as and for the purposes set forth.

118,331.—HARVESTER-DROPPER.—Christian Bickel and Jacob F. Leibold, Delaware, Ohio.

Claim.—The graveling devices herein described, consisting of the center dropping-racks C C with their cranks E E', the concave waste-rack G with its crank, the connecting-rods E'' E''' G^2, and the elbow-lever F, substantially as specified.

118,332. — SPEED-INDICATOR. — Hugo Bilgram, Philadelphia, Pa.

Claim.—A speed-indicator, in which a sleeve, G', operated by the revolving weighted arms E E' and spring S P, is arranged to both revolve and slide on a stationary spindle, C, all as and for the purpose described.

118,333.—CLUTCH FOR HARVESTERS.—Frank Bramer, Little Falls, N. Y.

Claim.—The arrangement, upon the axle A, of the clutch N, ring O with projections, as shown, shifting-arm R having double-inclined planes, and sleeve or hub Q, they being combined for joint operation, as shown and described.

118,334.—ASH-SIFTER. — John Brady and Charles Lafayette Wall, Philadelphia, Pa.

Claim.—An ash-sifter, consisting of the box A, screen B X, chute E contracted to form the side spaces y y, and detachable hopper D having a flexible flap, the whole being constructed and arranged as described.

118,335. — METALLIC HEEL. — Edward P. Bray, Elizabeth, N. J.

Claim.—The plate C, when formed with an annular rim, d, and recess D, as stated, and attached to the sole of the boot and to the metallic heel, substantially as described.

118,336.—HOMOGENEOUS METAL FOR CASTING GIRDERS, BEAMS, &c.—William F. Brooks, New York, N. Y., assignor to William Brooks Jones, same place.

Claim.—A composition of steel and cast-iron, fused together, for casting beams, girders, and for other architectural purposes, substantially as set forth.

118,337. — BUNG-FUNNEL. — James Buck, Baltimore, Md.

Claim.—In combination with the funnel A, the air-pipe in two sections, B and C, whereby a supply of air may be furnished to the interior of the barrel during the emptying operation, and by the removal of the section C air may be allowed to escape during the filling operation, substantially as herein shown and described.

118,338.—WEAVING BRUSSELS AND OTHER PILE CARPETS.—John P. Buzzell, Clinton, Mass., assignor to "Bigelow Carpet Company," same place.

Claim.—1. The herein-described improvement in the method of weaving pile fabrics, consisting in separating the ground-warp shed from the worsted or figure-yarns after the under shoot of filling is introduced, and beating it up during such separation.

2. An organization of mechanism, substantially such as herein described, by which the worsted or figure-yarns are retained in position after the under shoot of filling is introduced and while the ground-warp shed is closed or separated from the worsted or figure-yarns and the filling beat up.

118,339.—GRAIN-DOOR FOR RAILWAY CARS. Miles H. Card, Freeport, and Levi Saffod, Chicago, Ill.

Claim.—The grain-door D, provided with the flap L, curved groove or dovetailed slot F, offset g, and hinge d, in combination with the dovetailed curved guide-piece E, abutment G, and detent K, all constructed and arranged substantially as described and shown, for the purposes set forth.

118,340.—CUT-OFF VALVE FOR STEAM-ENGINES.—Samuel M. Carter, Norristown, Pa.

Claim.—The combined valve V P P with self-adjustable face, provided with flanges l l' or their equivalent, for the purpose of allowing the valve to shorten and lengthen itself at each end alternately while in operation, substantially and for the purpose hereinbefore set forth.

118,341.—WASH-STAND BRACKET.—Albert Cary, Norwich, N. Y., assignor to B. F. Little and R. B. Prindle, same place.

Claim.—As an article of manufacture, the herein-before-described bracket, constructed of metal, in the form shown and for the purpose specified.

118,342.—Combined Planter and Roller. John A. Comstock, Bowling Green, Mo.

Claim.—The roller B *b b*, lever C, bar C^1 provided with the slide c^3, seed-box C^2 having brush c^4, and the lifting device, consisting of the lever D^3 standard *d*, loop *d'* and seed-drill D, all constructed and arranged to operate substantially as shown, and for the purpose set forth.

118,343.—Dust-Pan.—Walter M. Conger, Newark, N. J.

Claim.—The removable spring-clamp or holder B, constructed as described, for holding the brush by pressure, in combination with the dust-pan A, when the spring-clamp or holder is secured upon the rear-wall of the pan, in the manner and for the purpose herein shown and set forth.

118,344.—Trace-Carrier for Harness.—Edward A. Cooper, Lancaster, assignor to himself and Josiah Letchworth, Buffalo, N. Y.

Claim.—The arrangement, with the frame A, of the bridge-bars *b b* and pendent tongues *c c*, forming a trace-carrier, substantially as hereinbefore set forth.

118,345.—Burglar-Alarm.—Thomas P. Coulston, Philadelphia, Pa.

Claim.—1. The within-described burglar-alarm, arranged for attachment to a door-frame by means of flanges *b* and *b'* and set-screw *d*, substantially as herein set forth.

2. The detachable pin *m*, adapted to the operating-lever K of the alarm, and arranged to be struck and turned by the door, substantially as herein described.

118,346.—Corpse-Preserver.—James Edwards Cox, Baltimore, Md.

Claim.—The outer casing A, composed of layers of wood, paint, paper, sawdust, and zinc, substantially as and for the purpose specified.

118,347.—Fifth-Wheel for Vehicles.—Patrick H. Cummins, Adams, N. Y., assignor to himself and Edgar Kenyon, same place.

Claim.—1. The within-described fifth-wheel, with its lower part formed rounding and its upper part constructed with a rounding groove, the sides thereof extending below the center of part A to a line almost in contact with each other, thus effectually preventing a separation of the two parts when in use, and serving also to keep out the dirt, &c., substantially as set forth.

2. In combination with the above, caps D D, substantially as and for the purpose described.

118,348.—Grape-Trellis.—Isaac D. Custer, Davenport, Iowa.

Claim.—The combination of the fixed posts *b* with the wires *f* attached, and the loose supporting-bars *h* with the transverse wires *g* secured to the top thereof, all arranged substantially as shown and described.

118,349.—Sustaining Device for Center-Drop Lights of Gasoliers.—Charles Deavs, New York, N. Y., assignor to Archer and Pancoast Manufacturing Company, same place.

Claim.—The combination, with the box or cap C secured to the end of the outer tube, of the two reversed sets or series of conical clamps E E and F F, and the set-screws G G, substantially as and for the purpose herein set forth.

118,350.—Breech-Loading Fire-Arm.—William C. Dodge and Philip Tell Dodge, Washington, D. C.; said P. T. Dodge assignor to Wm. C. Dodge.

Claim.—1. The swinging lever C, provided with the hook *r*, arranged to lock over the pin *c*, or its equivalent, said pin being arranged in relation to the pivot of the lever substantially as described, whereby the barrels are locked to the frame, and the lever held in place without the use of other devices, as herein set forth.

2. The combination, in a breech-loading gun, of the lever C with its locking-hook and front-projecting arm, and the tipping barrel or barrels with the lug B and extractor *c*, arranged to operate substantially as described, whereby the swinging of the lever forward and backward serves to unlock the barrels, tip them up at the rear, shove out the extractor, bring the barrels and extractor back into position, and lock the barrels securely in place, as herein set forth.

3. The lug B provided with the curved slot or groove, in combination with the lever C provided with its locking hook, whereby the lever is permitted to move far enough to unlock the barrels before it begins to tip the same, substantially as described.

118,351.—Bedstead-Spring.—Elijah F. Dunaway, Cincinnati, Ohio.

Claim.—1. The combination of the slats C D E and rubber springs G, arranged and operating in the manner described.

2. In combination with the rails A A' and slat D, the hangers F, as described and for the purpose specified.

118,352.—Bedstead-Spring.—Elijah F. Dunaway, Cincinnati, Ohio.

Claim.—1. The combination of the slats D E, props F, and bolts G, to form an improved bedstead-spring, substantially as described.

2. In combination with the bed-rails and slat D, the vibrating supports C, as described, and for the purpose specified.

118,353.—Piano.—Anthony Faas, Philadelphia, Pa.

Claim.—The combination, with the wires, tuning-pins, and bridge A of a piano, of clamps or washers F, capable of vertical adjustment only, and operated by screws H, in the manner described.

118,354.—Tuning-Pin for Pianos.—Anthony Joseph Faas, Jr., Philadelphia, Pa.

Claim.—The combination, with two or more tuning-pins, of a yoke D, resting upon shoulders *h* of the said pins, and confined to the latter by nuts B, all substantially as specified.

118,355.—Cut-Nail Machine.—David J. Farmer, Wheeling, W. Va.

Claim.—1. The combination of the two or more sets of cutters arranged obliquely to each other, two or more sets of griping dies, two or more headers, the intermittently-rotating head or table E, the series of feeders or conductors F non-rotating relatively to the said table, and any suitable means for advancing the nail-plates through or between said feeders or conductors, substantially as herein set forth.

2. The combination of the feed-table or head E with the pivoted frame R, and the screw and nut S *s* for adjusting the said table to or from the cutters, substantially as set forth.

3. The combination of the intermittently-rotating head or table E, the continuously-rotating shaft A', the transmitting mechanism G^2 G^4, and stopping and releasing mechanism G^1 G^3 g^6, substantially as set forth.

4. The automatic griping device N, constructed and applied substantially as described, in combination with the cutters C and any suitable device for feeding the nail-plates to said cutters, for the purposes set forth.

5. The arrangement of the sectional feeders or conductors F, grooved at their edges, on the periphery of the revolving head or table E, to which they are permanently attached, substantially as and for the purposes herein set forth.

6. The lever e^1, slide e^3, pawl e^4, and cam-wheel *e*, in combination with the notched feed-rod F', substantially as and for the purposes set forth.

118,356.—Cut-Nail Machine.—David J. Farmer, Wheeling, W. Va.

Claim.—1. The combination of the oscillating frame A and stationary frame C with one or more nail-plate feeders or conductors of suitable form and the cutters, substantially as herein set forth.

2. The box E, springs *e e*, and stops O, in combination with the oscillating frame A, stationary frame C, and one or more nail-plate conductors and pairs of cutters, substantially as set forth.

118,357.—Nail and Tack Machine.—David J. Farmer, Wheeling, W. Va.

Claim.—1. The endless-chain feeder-carrier E, in combination with the cutters, griping-dies, heading-tools, and feeders of a cut-nail or tack-machine, substantially as herein described.

2. The combination of the oblique and yielding feed-bar K and the notched nipper-rods J, as herein described.

118,358.—Coal-Oil Stove.—John A. Frey, Washington, D. C., assignor to himself, S. A. H. Marks, and John F. Walker.

Claim.—1. The cement-chamber *c*, inclosing the wick-elevators, in combination with the water-chamber *b* and fuel-chamber *a*, when arranged in relation to the wick-tubes and perforated plate *i*, as herein recited.

2. The arrangement of the cones *k* and *l*, having the disseminator *r*, and surrounded by the chimney *j*, as set forth.

3. The combination of the oil, water, and cement-chambers, and the cones *k* and *l*, disseminator, *r*, chimney *j*, and perforated plate *i* with the part *m*, as described.

118,359.—Process for Deodorizing Hydrocarbon Oils.—Richard Gaggin, Erie, Pa.

Claim.—Pure dry chlorine gas, either with or without atmospheric air, as a deodorizer of paraffine, kerosene, and other like oils.

118,360.—Garden-Hoe.—Charles R. Gilbert, High Point, N. C.

Claim.—As a new article of manufacture herein described, a garden-hoe having a curved, triangular, tapering blade, and a shank so as to be attached to a handle, substantially in the manner set forth and described.

118,361.—Combined Line-Holder and Wardrobe-Hook.—Curtis Goddard, Alliance, Ohio.

Claim.—The combined line-holder and wardrobe-hook, consisting of the socketed bed-plate A and the journaled vibrating hook B, with the aperture H and the inclined surface I for holding the line, all cast in two parts, as shown and described, and for the purpose set forth.

118,362.—Cultivator and Shovel-Plow.—Thomas F. Hamilton, Genesco, Ill.

Claim.—1. In a cultivator or shovel-plow, an adjustable shovel-block or attachment, when provided with a ball-and-socket bearing and combined with the standard and shovel, substantially as and for the purpose specified.

2. The plate B provided with the semi-spherical socket, and the block E provided with the curved slots *e* and boss E', in combination with each other, the standard A, the shovel D, and the bolts F, substantially as and for the purpose shown and described.

118,363.—Propulsion of Vessels.—Willard M. Harding, Chelsea, Mass.

Claim.—In combination with the piston and jet-pipe of a propeller such as described, the inlet-pipe B opening downward through the bottom of the vessel, and closed at its upper end by a valve, C, as described, in connection with a similar valve, D, in said piston, the whole to operate as set forth.

118,364.—Brick-Kiln.—Benjamin R. Hawley, Normal, Ill.

Claim.—1. The combination of the two parallel arched structures A B, four furnaces, E, and the stack F, all constructed and arranged as and for the purpose herein shown and described.

2. The arrangement of the rabbet-joint connecting the roof and sides of the kiln with the superimposed charge of sand, as and for the purpose described.

3. The arrangement of the open floor, composed of bricks O and spaces P, with arched walls L and their intervening spaces, as and for the purpose set forth.

4. The arrangement of the arched walls L, open floor O, superimposed course of bricks, and combustible filling W, as and for the purpose set forth.

5. The arrangement of air-passages *y*, *f*, and *s'*, as and for the purpose set forth.

6. The arrangement in the adjoining burning-chambers, as herein shown and described, of the adjacent furnaces, the flues *f*, passages *f'*, *a'*, *b'*, and C', and their governing dampers, for the purpose of reversing the current of heated air, after the completion of the burning in one compartment, backward from such compartment through its furnace into any other compartment, as herein set forth.

7. The arrangement of air-passages *y*, *f*, and *h'*, as herein shown and described, for the purpose of admitting hot air to the furnace above the grates, as set forth.

118,365.—Cutter-Head.—Eli B. Hayes, Vergennes, Vt.

Claim.—The knives A A, secured to the head B by means of the grooved plate C fitting in the beveled grooves on the knives, and fastened to the head by bolts D D, substantially as herein set forth.

118,366.—Rotary Steam-Engine.—Constantine Alexander Hege, Forsyth county, N. C.

Claim.—The arrangement, in the rotary engine herein described, of the heart-shaped steam-chambers A A', partition C, shaft D, piston E, ports H H, and slide-valve F, all constructed and operating substantially as shown and described, for the purposes set forth.

118,367.—Pen-Holder.—John Holland, Cincinnati, Ohio.

Claim.—1. The double tube-holder A B, when the inner tube B is formed with side crimps *b b'*, as and for the purpose described.

2. In combination with an ordinary pen-holder, the eye D *d'*, inserted in the end of the handle, substantially as and for the purposes set forth.

118,368.—Sofa-Bedstead.—David B. Hubbard, Wheeling, W. Va.

Claim.—The combination of the hinged seat A, the box B, the mattress and its frame, with removable head-piece and folding legs, all constructed and arranged substantially as described.

118,369.—Hub for Wheels of Vehicles.—Ellsworth D. Ives, Philadelphia, Pa.

Claim.—The box A having the part B cast with it, in combination with the part C held in place by a set-screw, D, the socket *a b*, and rubber band G, when all are combined as set forth to form a metallic hub.

118,370. — SAW. — Mortimer W. Jefforda, Muskegon, Mich.

Claim.—A reciprocating or up-and-down saw, constructed with teeth of equal length, so spaced as to increase in number from the center regularly toward both ends of the saw, substantially as described and shown, and for the purpose specified.

118,371, antedated August 11, 1871.—COTTON-CULTIVATOR.—Mireybeau B. Lamar, Atlanta, Ga.

Claim.—1. The shifting-wing 16, arms 17, and cranked levers 36, constructed and arranged as described, in combination with plows 15 and angular frame 14, for the purpose set forth.

2. Cuff 22, rod 21, angle-knee 20, curved lever 19, angular frame 14, and curved rack 6, all constructed as described, and arranged relatively one to the other, as set forth.

3. Wheel 2 provided with an annular row of teeth 44, pulleys 26 and 27, shaft and pinion 25, carrying also wheel 31, arranged relatively one to the other, as and for the purpose specified.

4. Curved rack 6, pinion 8, pawl 10, ratchet 9, handle-wheel 11, and slider 7, arranged relatively to each other and to lever 12 and pinion 8, as and for the purposes set forth.

118,372.—ALLOY OF COPPER AND TIN.—Alexandre Etienne Lavroff, St. Petersburg, Russia.

Claim.—The alloy herein described.

118,373.—FLY-TRAP.—Benjamin J. Leslie, Irvine, Ky.

Claim.—The combination of the trap-box B with its water-gutters *b b*, glass top, and apertures at its lower edges, with the bottom A provided with the bait-groove *a*, all substantially as and for the purposes set forth.

118,374. — WASHING-MACHINE. — Tristram S. Lewis, Buxton, Me.

Claim.—The combination of the box *a*, the cover *b*, the standard *c*, the brake *d*, the dasher-rods *e e*, the dashers *f f*, and rims *g g*, as herein described, for the purposes set forth.

118,375. — SAD-IRON HEATER. — Matthew Little, East Saginaw, Mich., assignor to Amanda M. Starker, same place.

Claim.—The flat-iron heater herein described, consisting essentially of the horizontal plate A, provided with the covered chambers C C above and the corresponding chambers D D below, constructed substantially as shown, for the purposes herein set forth.

118,376.—DEVICE FOR EXTRACTING PENS FROM HOLDERS.—Frederick W. Mattern, Chicago, Ill.

Claim.—In combination with a paper-weight, A, having hollow shank B, knob C, and horizontal aperture in said shank, the screw D, with or without the bar *a*, and spring *b*, substantially as and for the purposes herein set forth.

118,377.—AXLE-SKEIN.—Lorenzo Mayhew, Greenfield, N. Y.

Claim.—In combination with the axle-skein and linch-pin, the flanched washer E, having the rim-opening F and the radial stop F', substantially as specified.

118,378. — UTERINE SUPPORTER. — Lyman D. McIntosh, Waseca, Minn.

Claim.—1. The combination of the soft rubber stem *a*, nut *b*, screw *c*, cup *d* of hard-rubber tube *e*, and knob *f*, as specified.

2. The combination of the cup *d* of hard-rubber ring A and extension *i*, both of soft rubber, as described.

118,379, antedated August 16, 1871.—SEPARATOR FOR GOLD ORES.—Helem Merrill, Brooklyn, N. Y.

Claim.—The combination of a taper separating-vessel with a receptacle and a flow-pipe and overflow, substantially as described.

118,380.—SAMPLE-FRAME FOR MERCHANTS.—John S. Monroe, Mitchell, Ind.

Claim.—1. A merchant's sample-frame, consisting of the members A, B, B', C, D, E, F, and J, all arranged and adapted to be employed substantially as herein explained.

2. In combination with the devices A *a*, B B', *b b'*, E F, and J, the removable top C and sliding back board D, for the purpose set forth.

118,381.—THILL-COUPLING.—Jehu C. Moore, Madison, Ind.

Claim.—The cam-shaped shackle D, provided with a lug, *a*, when combined and arranged to operate with the long jaw C and short jaw C' of the clip B, and the elastic backing *c*, in the manner shown and for the purposes specified.

118,382.—CONSTRUCTION OF BUILDINGS.—Thomas W. H. Moseley, Hyde Park, Mass.

Claim.—1. The combination of the boards B, interposed blocks C, and joists D, the said boards being of width decreasing upward in the successive stories, and the blocks C being arranged beneath, or in the plane of the joists, all as herein represented and described, for the purposes set forth.

2. The combination of the joists D, strips *d*, and boards B, as and for the purpose specified.

3. The combination of the flooring L, joists D, and boards B, all connected together as and for the purpose specified.

4. The open crib-work or framing F G of the cornice and gutter, constructed as described, and adapted for securing the composition or grouting, applied by means of a suitable mold, to complete said cornice and gutter.

5. The girder E, in combination with the wall-plate P, ridge-pole M, and gable H, substantially as described.

118,383.—THILL-COUPLING.—Alexander O. Nelson, Boston, Mass.

Claim.—In a thill-coupling, the combination, with the eccentric *a* having the opening *a'* rounded out toward the rubber and flat on the opposite side, of the bolt *b* having its opposite sides made, respectively, rounded and plane to correspond with the form of said opening, substantially as specified.

118,384.—TOPICAL HEATER FOR OIL-WELLS.—Elizur Newberry, Titusville, Pa.

Claim.—The heated bar A, in combination with the graduated chain C, for the purposes above set forth.

118,385.—SPRING-SEAT FOR WAGONS.—Ambrose S. Newman, Plymouth, Ill.

Claim.—1. One or more sets of springs, each composed of two boards, A A, connected in the center, with or without the cross-bar B between them, and provided with movable fulcrums C C, substantially as and for the purposes herein set forth.

2. The spring-bars H H, foot-bar I, and fulcrums D' D', constructed and arranged substantially as and for the purposes herein set forth.

3. A wagon or car-seat, composed of boards A A, fulcrums C C, top board E, spring foot-board H I, and fulcrums D' D', all constructed, combined, and arranged substantially as and for the purposes herein set forth.

118,386.—DENTAL TONGUE-HOLDER.—Francis M. Osborn, Port Chester, N. Y.

Claim.—1. The tongue-holder A constructed with the flat portions a^2, substantially as and for the purpose set forth

2. The cup or tongue-holder A constructed with the flat portion a^1 and recess or indentation a^1, substantially as set forth.

3. In combination with the cup or tongue-holder, a hinged or jointed frame for attaching the same, substantially in the manner set forth.

4. In combination with parts last aforesaid, the stirrup and ratchet, or its equivalent, for confining and retaining the frame and cup, substantially as set forth.

5. In combination with the cup and hinged frame, the adjusting and confining-screw and pad or button, substantially as set forth.

6. In combination, the cup, hinged frame, stirrup, and screw, substantially as set forth.

118,387.—STAVE-JOINTER.—Lemuel R. Palmer, Belfast, Me,

Claim.—1. In a machine for jointing staves at different tapers, a track, so constructed as to move laterally at and near its center, but not in the same direction at its ends, substantially as described, for the purposes specified.

2. The combination of a track laterally adjustable at its center, but not in the same direction at its ends, with a movable saw, guided in varying curves by said track, substantially as described.

3. The combination of two tracks simultaneously adjustable in opposite directions at the center, with two movable saws arranged alongside of each other, and guided in varying curves by said tracks, for the purpose of jointing both edges of a stave at one movement, substantially as described.

4. The combination of the double-acting lever C, constructed as described, with the two adjustable guide-tracks, substantially as and for the purposes specified.

5. The combination of the adjustable guides with the swinging saw-standards, the bar G, and the belts *d* and pulleys *m n*, all arranged to operate as and for the purposes set forth.

118,388.—THILL-HOLDER FOR HARNESS.—Joseph A. Putt, Marlborough, Ohio.

Claim.—The metal ring A, provided with recesses *a a* and pin *b*, and used in combination with the loops B B and covering C, substantially as and for the purposes herein set forth.

118,389. — PIANO-KEY.—William A. Reed, Deep River, Conn.

Claim.—The two parts A and B of the covering for keys of musical instruments, when united by a rabbet formed on one part, the other part constructed to set on the said rabbet, substantially as described, and with or without a veneer upon the under surface.

118,390.—HAY-KNIFE.—George Reiber, Dover, Pa., assignor to himself, Lewis Raffensperger, and Samuel Reiber, same place.

Claim.—A heart-shaped hay-knife, having convex cutting-wings *e* and receding sides *f*, as described.

118,391.—THIMBLE-SKEIN FOR WAGONS.—Hezekiah H. Richards, Fond du Lac, Wis.

Claim.—The axle-skein herein described, provided with an extension in the rear of the shoulder B, whose wall extends downward to form the bracing-flanges D' D', between which and at or about the shoulder B the downwardly and outwardly-inclined lug C is formed, substantially as specified.

118,392. — PISTON-VALVE FOR FLUID-METERS AND MOTORS.—Alexander K. Rider, New York, N. Y., assignor to himself and Cornelius H. Delamater, same place.

Claim.—1. The combination, with two cylinders which are set in transverse relation with each other and with axes in different planes, of two reciprocating pistons, constructed substantially as herein described, whereby each one operates as its own valve, but is turned on its axis by the other to reverse its alternate and intermittent reciprocating motion.

2. The arrangement, in combination with a pair of fixed outlet-ports *c c* or *c' c'* and intermediate fixed inlet *d* or *d'*, of the grooves or passages *e e* or *e' e'* in the pistons C or D, said passages leading to opposite ends of either piston, which is arranged to turn on its axis as well as to reciprocate in direction of its length, essentially as herein set forth.

3. The pistons C D, arranged to intersect each other at their peripheries, and constructed with recesses at their intersecting portions, having keys *g k*, cross-ways or passages *h h m m*, and heels or projections, by which either one piston at the end of its stroke is made to turn the other, substantially as specified.

118,393. — GATE. — Hezekiah Root, Union City, Ind.

Claim.—The combination, with the posts *b b*, of the notched loose rails *a a'* and the fixed pins *p p*, substantially and for the purpose herein specified.

118,394.—PACKING FOR PISTONS, CYLINDERS, VALVES, &c.—Junius Schenck, Brooklyn, N. Y.

Claim.—A packing for stuffing-boxes, pistons, and the like, composed of asbestus cloth and a vulcanizable gum, combined and united so as to form a material substantially such as herein specified.

118,395.—MACHINE FOR ROLLING AND RAMMING ROADS.—Abbott Q. Ross, Cincinnati, Ohio.

Claim.—1. A self-propelling road-constructing machine, embodying in its construction a roller, B, and series of rammers K L, combined, connected, and operating substantially in the manner and for the purpose specified.

2. In the described combination with the rammers K, the steam-cushion P *p'* connected to the boiler, and operating substantially as and for the purpose specified.

3. The hollow roller B, in combination with the steam-heating device G J, as and for the purpose specified.

4. The diagonal overlapping arrangement of the rammer-weights *k*, as and for the purpose described.

5. In combination with the rammers K and cushions P *p*, the springs S, as and for the purpose specified.

6. In combination with the rammers K *k k' k''* and cushions P *p p'*, the straddling-lifter L', as and for the purpose specified.

7. In combination with the lifter-shaft M and the propelling mechanism of the machine, the sliding sleeve W *w w'*, as and for the purpose described.

8. In combination with the ramming device K *k k' k''* L M, the shoes N, as and for the purpose specified.

118,396.—EXTRACT OF HOPS. — Charles A. Seely, New York, N. Y.

Claim.—1. The separation of extract of hops into two portions, in the manner and for the purpose described.

2. The hop-bitter herein described, as a new product and a new article of manufacture.

3. The process of using, in the manufacture of beer, the separated constituents of hop-extract, as herein described.

118,397.—COMPOUND FOR COATING IRON.—Joseph A. Sewall, Normal, Ill.

Claim.—The within-described compound, consisting of coal-tar, sulphur, plumbago, and carbonate of lime, and used for the purposes set forth.

118,398. — FENCE. — Alexander H. Smith, Elkhorn, Wis.

Claim.—A fence, when made with slats A projecting only half-way over the posts B, end pieces C and D, block E on post B, under which slat A passes to prevent the panel from being raised, and wires F fastened to stakes driven into the ground, all arranged in the manner described and shown.

118,399.—MACHINE FOR MAKING HORSE-SHOES.—John H. Snyder, Richmond, Va.

Claim.—1. In combination with the dies for rolling out the blank, and the rests or supporting-surfaces, arranged as specified, the automatic nipper-carrier for taking the rolled blank and depositing it in proper position to receive the action of the device which moves it off to the benders, the whole constructed and operating in the manner described.

2. In combination with the surfaces or supports for holding the blanks brought from the rolls, the reciprocating carriage and guides, by means of which the blanks are fed to the benders, the whole constructed and operating in the manner and for the purpose set forth.

3. The curved spring-guides, in combination with a bending mechanism arranged below the point from which the blank is fed to it, and a suitable device for pushing the blank along so that it may be turned and presented edgewise to the bender, substantially as described.

118,400.—KNOB FOR PICTURE-NAILS.—William E. Sparks, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—A knob, consisting of the parts A B C, constructed as described, so that each part forms a support for the other to retain it in position, and so as to be secured together by a screw or nail which passes through the parts, substantially as herein described.

118,401. — STEAM-ENGINE. — William M. Starr, Washington, D. C.

Claim.—The above-described combination of three or more steam-cylinders provided with valves, arranged to admit the steam and force the pistons only in the direction of travel, the pistons acting successively and entirely upon the upper part of the driving-wheel and in the same direction, and the steam being admitted wholly at one end of the cylinder when traveling one direction, and wholly at the opposite end and when traveling in the opposite direction, substantially as set forth.

118,402.—RUB-IRON FOR VEHICLES.—David D. Stelle, New Brunswick, N. J.

Claim.—An improved rub-iron for vehicles, consisting of the plate A and roller B, arranged substantially as set forth, the plate A being angular to fit the lower edge of the wagon-body, and having bearings for the roller.

118,403. — DEVICE FOR GUMMING AND SHARPENING SAWS.—Jerome B. Sweetland, Pontiac, Mich.

Claim.—1. The adjustable standard C provided with stop *n*, gauge *r*, and set-screws *p s t*, in combination with the yoke D provided with bearings *e e* and a shaft or axle, *b*, the latter passing through the adjustable standard, substantially as and for the purposes herein set forth.

2. The adjustable counter-balance E attached to the yoke D, substantially as and for the purpose herein set forth.

3. In combination with the adjustable standard C and yoke D, constructed as shown and described, the hinged, pivoted, or swinging lever G, provided with arbor *d* and crotched or forked bearings *f f*, substantially as and for the purposes herein set forth.

4. The movable dust-pan M, substantially for the purposes herein set forth.

5. The combination of the adjustable standard C, yoke D, swinging lever G, standard K, spring *m*, and adjustable counter-balance E, all constructed and arranged substantially as and for the purposes herein set forth.

118,404. — QUILTING-MACHINE. — William John Tate, Philadelphia, Pa.

Claim.—1. In a quilting-machine, a reservoir for holding shoddy or other filling and rotating beaters, or their equivalents, for introducing the filling from the reservoir between two fabrics where they converge to the feed-rolls.

2. The combination of the rotating beater P within the reservoir M with the adjustable door q^1 of the latter and its roller q^4, the whole being arranged substantially as described, for the purpose of regulating the supply of shoddy or other filling into the converging space between the two fabrics.

3. In combination with the double row of needles, arranged substantially as described, the carriage and feed-rollers, and the devices described, or their equivalents, for imparting differential movements to the rollers and carriage, for the purpose set forth.

4. The combination, with the feed-levers and with cams for operating the same, of pattern-bars, arranged and operating substantially as specified.

5. The combination and arrangement, substantially as herein described, of the elongated cam *s* on the driving-shaft, the pattern-bar T secured to the fixed frame, and the feed-lever s^1 hung to the traversing-carriage D.

6. The combination and arrangement, substantially as described, of the sliding pattern-bar U, deriving its movement from the carriage D, and the feed-lever s^1 and the cam *s* hung to the fixed frame.

7. The combination and arrangement, substantially as described, of the feed-lever s^1, friction gear s^2, spindle s^4, heart-cam *t*, lever R, and rod t^2, for connecting the latter to the carriage D.

8. The combination of a series of needles, arranged in two rows, one behind and alternating with the other, and devices for feeding the work beneath the needles, substantially as described.

9. The combination of the bar H or H^1, operating a series of needle-arms, the bar H^2 operating a series of shuttles and springs or cams or their equivalents, whereby the needle-arms are depressed and the shuttles moved forward by the action of the springs, as and for the purpose set forth.

10. The carrier sliding on a guiding-rod or rods, and having a projection, *k*, in combination with the adjustable lever *l*, and with the spring *m* or equivalent device for retaining the lever after adjustment.

118,405. — LOOM-SHUTTLE. — Frederic O. Tucker, Stonington, Conn.

Claim.—1. The guard *a*, arranged within the shuttle-body, between its spindle and eduction-tube, for operation with reference to the weft-thread, in combination with the pawl *d* and the trigger *g*, operated by the interlock of the warp-thread, arranged and operating substantially as and for the purpose specified.

2. The guard *a*, secured upon the rotating shaft *b*, carrying the coiled spring *i*, in combination with the pawl *d*, spring *f*, and trigger *g*, arranged and operating substantially as set forth.

118,406.—DEVICE FOR SECURING THE BOXINGS IN HUBS.—Marshall Turly, Council Bluffs, Iowa.

Claim.—The pipe-box A, provided with screw-threads around each end, and screwed into the hub by means of the sleeve C, shaft B, and pin *a*, all constructed and arranged substantially as and for the purposes herein set forth.

118,407. — PIANO-FORTE.—William F. Ulman, Boston, Mass.

Claim.—1. The sound-board-supporting projections *i*, formed by recessing the frame, substantially as shown and described.

2. The filling *m* in the recesses *h*, formed between the supports *i*, substantially as shown and described.

3. The bridges *g i*, formed as one continuous or endless bridge, substantially as described.

4. The bridge *h*, having its end extending over the string-plate *c* and setting in a recess, *i*, in said plate, substantially as shown and described.

118,408.—MACHINERY FOR MAKING CORDS OR BANDS.—Thomas Unsworth and Edward Whalley, Preston, England, assignors to Thomas Unsworth.

Claim.—The combination of the rollers *e* and *f*, around which the threads are led from the cops a^6 to the fliers f^2, thence to the bobbins f^1, with spindle *e* upon the opposite side of the machine to receive said bobbins when wound, and the grooved rolls s' s'', having a differential movement, around both of which the threads from said bobbins pass to the fliers f^2, substantially as and for the purpose specified.

118,409. — WAGON AND CART-BRAKE.—Joshua Veasey, Highland, Me.

Claim.—The combination of the bar *b*, bracket *c*, blocks *d*, lever *f*, and springs *e* with chain *g*, substantially as and for the purpose set forth.

118,410.—COMBINED HAY AND MANURE-FORK.—Friedrich Villard, Mount Eaton, Ohio.

Claim.—1. The adjustable latch H, as and for the purpose set forth.

2. The removable runner or support M, applied to the tine-head by the described means, for the purposes specified.

118,411.—APPARATUS FOR MAKING ICE.—Elwyn C. Weld, New York, N. Y.

Claim.—1. An air-condensing engine, in which the water injected into the cylinder is supplied through the piston of the engine by any suitable pumping mechanism, substantially as and for the purpose set forth.

2. In a refrigerating-machine, in combination with a chamber adapted to contain the ice formed, a rotary case, or its equivalent, between the bottom of which and the surface of the ice the refrigerant passes, and from which the water is distributed over the surface to be frozen, substantially as set forth.

3. In a refrigerating-machine, in combination with a suitable chamber on the bottom of which the ice is formed, a traveling surface, between which and the bottom of said chamber a space is formed, and from which the water and the refrigerant are both supplied, substantially as and for the purpose set forth.

4. A refrigerating-machine, in which the surface on which the ice is formed is wetted in advance of the supply of cold air which is discharged onto said surface, substantially in the manner set forth.

118,412.—ATTACHMENT FOR SEWING-MACHINES. — William A. Wells, Adrian, Mich.

Claim.—The main or attaching-plate A, constructed at a^1 a^1 with grooves, and supplied with guides a^4 a^4, notch a^3, lever or arm a^2, and opening *a*, substantially as and for the purpose described.

118,413. — RAIL-LIFTER. — Alexander Wilson, Oxford, Pa.

Claim.—The construction of the above-described lifting-jack, consisting of the frame, its projection *e*, screw-rod, foot *f*, and nut D, as set forth.

118,414.—SHOEMAKER'S FOOT-MEASURE.—William Wilson, Boston, Mass.

Claim.—1. The sole-scale *a*, lateral scales *b c d e*, with their fastenings, and the sole-plate *f*, relatively arranged, substantially as shown and described.

2. In combination with either of the straps, the locater *l*, substantially as described.

118,415.—STEM-WINDING WATCH.—Charles V. Woerd, Waltham, Mass.

Claim.—A stem-winding and setting watch, in which the teeth of the time-changing gear-wheels are constantly in gear, the connection of the same with the stem being made by a sliding friction-clutch sleeve, substantially as shown and described.

118,416.—CLOTHES-RACK.—Charles H. Wolcott, Jamestown, N. Y.

Claim.—1. The combination of the shelf A and cone B cast in one piece, and provided with the openings *a* and *c c* and slots *b b*, with the adjustable bars C C having screws or knobs *d d*, all substantially as and for the purposes set forth.

2. In combination with the shelf A and cone B cast in one piece, and with slots and openings for the adjustable bars C C, the under hanging wire *f*, for the purposes set forth.

118,417, antedated August 11, 1871.—CLIPPING-SHEARS.—Robert Wyatt, New York, N. Y.

Claim.—The top or sliding cutter C formed with a bent rear edge, *b*, and provided with guiding-projections *c c*, in combination with the slots *d d* in the lower cutting-plate A, essentially as described.

118,418.—WEATHER-STRIP.—David Young, Kingston, Mo.

Claim.—The combination of the slotted sliding plate B and the hinged plate C, having its inner edge turned upward, all constructed and arranged substantially as and for the purposes herein set forth.

118,419. — CUTTING-SHEARS.—Rosto Orrin Wood, Niagara Falls, N. Y.

Claim.—1. The combination with the slotted bed-piece A having the combined wire and plate-shears *m*, the gauge B' having the extension C' and the oblique bar C, substantially as specified.

2. The combination with the bed-piece A, provided with a fixed blade F having cutter-hole *m* and curved edge *v*, of the pivoted blade G provided with the concave edge *n*, substantially as specified.

REISSUES.

4,518. — Division A.—BIT-BRACE. — Harry S. Bartholomew, Bristol, Conn.—Patent No. 32,347, dated May 21, 1861; reissue No. 1,351, dated November 4, 1862.

Claim.—The ball-brace A', provided with an undivided hand-block, B, fitted upon its bow-shaped portion, substantially as and for the purposes described.

4,519. — Division B.—BIT-BRACE. — Harry S. Bartholomew, Bristol, Conn.—Patent No. 32,347, dated May 21, 1861; reissue No. 1,351, dated November 4, 1862.

Claim.—A bit-brace, the main portion or bow-shaped part of which is formed of wire, in the manner substantially as shown and described.

4,520.—WHIP-HANGER.—Pindar F. Cooley, Pittsfield, Mass.—Patent No. 81,754, dated September 1, 1868.

Claim.—1. The arrangement of the sloping or down-curving upper surface-line *c* with the V-shaped notch *a*, whereby the said notch is rendered capable of readily drawing the snapper of the whip toward the lowest point *a'* of the said notch when the whip is drawn down, and discharging the same from the notch when the whip is thrown up, substantially in the manner set forth.

2. The arrangement of the notched rim A, constructed as described, and the supporting-rods *e e*

e with the swivel C, whereby the said notched rim will be rendered capable of being revolved, substantially as and for the purpose set forth.

4,521.—Boiler and Washing-Machine.—Daniel H. Hull and J. B. Savage, Plantsville, Conn., assignees of Daniel H. Hull. Patent No. 101,622, dated April 5, 1870.

Claim.—1. A sheet-metal wash or clothes-boiler, which, while adapted to be set or placed upon a stove or range like an ordinary wash-boiler, is so constructed as to receive a wringer, substantially as shown and set forth.

2. A sheet-metal wash-boiler, provided with means to receive a wringer, in combination with a trough or conduit for catching and returning to the boiler the water squeezed from the clothes passing through the wringer.

3. A combined clothes-boiler and washing-machine, constructed substantially as herein described, so that all the moving parts of the washing apparatus proper shall be carried by and removable with the cover of the boiler.

4. The combination, in one apparatus, of a sheet-metal clothes-boiler, adapted to be placed upon a stove or range, and used like an ordinary wash-boiler, a washing mechanism and means or devices to receive a wringer, substantially as shown and described.

5. The washing mechanism, constructed and applied to the boiler-cover, substantially as herein shown and set forth.

4,522.—Loom-Shuttle.—Thomas Isherwood, Stonington, Conn.—Patent No. 115,614, dated June 6, 1871.

Claim.—1. The combination, with a loom-shuttle, of mechanism constructed, arranged, and operating substantially as described, for the purpose specified, viz., to sever the weft-thread to prevent floats.

2. The knife E, arranged to act within the eduction-tube D of the loom-shuttle, as set forth.

3. The knife or clamp E having operating-spring *a* and shoulder *b*, lever or latch *d*, bent wire *f* having spring *h*, in combination with the eduction-tube D of a loom-shuttle, substantially as and for the purpose described.

4,523.—Machine for Graduating Squares and Rules.—Norman Millington, Shaftsbury, Vt., assignor to The Eagle Square Company.—Patent No. 11,489, dated August 8, 1854; extended seven years.

Claim.—1. The arrangement in a single frame, substantially as set forth, of as many gravers as there are units to be divided, in combination with the wheel or movable former W, so operated as successively to trace, of the proper length, each set of division and fractional lines.

2. The balance-frame V with its appendages to equalize the pressure of the spiral springs on the graver-handle H, so as to give the same depth of mark on the thin as on the thick end of the taper square.

3. The inclined plane *i*, with suitable operating and connecting means, acting wedgewise, as shown, for moving the square longitudinally, and dividing the inch into any desirable number of equal parts.

4. The square-holder C and graver-carriage G, arranged to press the squares and the points of the gravers into contact by a cam or its equivalent, and allow them to separate at the proper time.

5. The slide A, worked by the carriage C, operating with the pawl X and detent *d*, or their equivalents, and suitable connecting mechanism, as shown, so as to automatically release and return the graduator-piece A *i*, which lays off the spaces to be marked, or repeats the action indefinitely, substantially as specified.

6. The universal joints or swivels *u*, arranged to serve as represented, relatively to the gravers *g* and graver-stocks or handles H, to allow of both vertical and horizontal adjustment, as set forth.

4,524.—Manufacture of Paper-Stock from Certain Plants.—John Pickles, Wigan, England, assignor to James S. Sturgis and Thomas Keech, New York city.—Patent No. 91,480, dated June 15, 1869.

Claim.—The manufacture of paper-pulp from material or article, substantially as herein described.

4,525.—Ice-Machine.—Charles Plagge, New York, N. Y., assignor to himself and Theodore C. Glazier.—Patent No. 106,722, dated August 23, 1870.

Claim.—1. The combination of the differential gearing, or its equivalent, with a condensing-pump or engine, for the purpose of applying the greatest power or an increased power at the point of the greatest resistance in the stroke of the compressing-piston, substantially as set forth.

2. The combination of a differential gearing, or its equivalent, with an expansion-engine, substantially as set forth.

3. An adjustable cut-off, in combination with an air-expansion engine, substantially as set forth.

4. The rod K, the crank I, or their equivalents, by means of which the air-expanding engine is connected with the driving-shaft and differential gearing, or its equivalent, to work the air-compressing pump or engine, substantially as set forth.

5. The above-described arrangement for regulating the air expanding engine and its adjustable cut-off in order to equalize the power required for compressing the air as far as possible and to obtain the greatest effect of the power reproduced by the expanding air, substantially as set forth.

4,526.—Cooking-Range.—Watson Sanford, Brooklyn, N. Y.—Patent No. 115,644, dated June 6, 1871.

Claim.—A warming-closet in a fire-place range, when said closet is arranged directly beneath either the baking-ovens or ash-pit, or both, and at the base of the range, substantially as described.

4,527.—Sewing-Machine Table and Cover.—John J. Wheat, Wheeling, W. Va., assignor of one-eighth interest to Abraham Lash, Bridgeport, Ohio.—Patent No. 108,074, dated October 4, 1870.

Claim.—1. That part of the table marked A, in combination with the back side of the box or cover marked F, and operated as herein described.

2. The sewing-machine table, composed of the top with sinking part A and the box C, all arranged to fold up and throw back, as shown in Fig. 3, and constructed substantially as herein described.

DESIGNS.

5,209.—Coffin End.—William G. Algoo, Rochester, Pa.

Claim.—The design for a coffin end, substantially as described and shown.

5,210.—Horse Sun-Bonnet.—John Anderson, Brooklyn, N. Y.

Claim.—The design for a horse's sun-bonnet, as shown and described.

5,211.—Oblong Center-Piece.—Henry Berger, New York, N. Y.

Claim.—1. In a center-piece, the oblong rim B with broken corners, triangular ends, and segmental sides, as shown and described.

2. The wreath *c*, in combination with the oblong rim B, as shown and described.

3. The ornaments *f g* surrounding the central button C, as shown and described.

5,212.—Star Center-Piece.—Henry Berger, New York, N. Y.

Claim.—1. In a center-piece, the star-shaped rim B, as shown and described.

2. The combination of leaves C with the star-shaped rim B, as shown and described.

3. The combination of the diamonds *d* with the star-shaped rim B, as shown and described.

4. The rim or rams' horns and spear-heads surrounding the central button D, as shown and described.

5,213.—Escutcheon Center-Piece.—Henry Berger, New York, N. Y.

Claim.—1. In a center-piece, the oval center B, ornamented by radiating twists *a* and surrounded by a string of pearls, *d*, as shown and described.

2. The design of the two-cornered escutcheon C, as shown and described.

3. The combination of the oval center B and two-cornered escutcheon C, as shown and described.

5,214.—Advertising-Desk.—Lester W. Burton, Rochester, N. Y.

Claim.—The design for the advertising writing-table, as herein shown.

5,215.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,216.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,217.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,218.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,219.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,220.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,221.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,222.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,223.—Carpet.—Jonathan Crabtree, Philadelphia, Pa., assignor to Leedom, Shaw & Stewart, same place.

Claim.—The design for a carpet, as shown.

5,224.—Flour-Safe.—George Davis, Cincinnati, Ohio.

Claim.—The design for a flour-safe, as shown.

5,225.—Garment-Supporting Hook.—Cathrine A. Griswold, Willimantic, Conn.

Claim.—The design for garment-supporting hook, substantially as shown in the drawing and herein described.

5,226.—Saw.—Henry S. Miller, Philadelphia, Pa., assignor to himself and Samuel H. Davis, Jr., same place.

Claim.—The design for saw, as herein represented and described.

5,227.—Sign.—James B. Moore and John P. Robitzer, Pittsburg, Pa.

Claim.—The suspending-bar or frame, eagle, and folding or winding sign-ribbon, of the form and arrangement described and shown.

5,228.—Stocking-Fabric.—Henry Pye, Philadelphia, Pa., assignor to Fleming Brothers, same place.

Claim.—The design for stocking, as shown and described.

5,229.—Post-Office Bulletin-Board.—Benjamin F. Rogers, Cambridge, Mass.

Claim.—The design for a post-office bulletin-board, substantially as shown.

5,230.—Cigar-Box.—Charles Schmidlapp, Memphis, Tenn.

Claim.—The design for a cigar-box, as shown.

5,231.—Treadle for Sewing-Machine.—Jerome B. Secor, Chicago, Ill.

Claim.—The design for treadles for sewing-machines, as shown.

5,232.—Ladies' Satchel.—August Senne, Newark, N. J.

Claim.—The design of the oval satchel, as shown.

5,233.—Hat-Rack and Mirror.—William Vanscoyoc, Oxford, Ohio.

Claim.—The design, substantially as herein described and shown, for a combined hat-rack and mirror.

TRADE-MARKS.

424.—Newspaper.—Ford C. Barksdale, New York, N. Y.

425.—Essence of Coffee.—Butler, Earhart & Co., Columbus, Ohio.

426.—Gaiters.—Thomas R. Evans, Philadelphia, Pa.

427.—Unions, Lastings, and Serge-de-Berries.—William & Henry Foster, Denholme near Bingley, England.

428.—Harvesters.—Harris Manufacturing Company, Janesville, Wis.

429.—Brandy.—Ives, Beecher & Co., New York, N. Y.

430.—Surgeons' Instruments, &c.—S. Maw, Son & Thompson, London, England.

431.—Soaps.—Rappleye & Knight, Philadelphia, Pa.

432.—Pump.—Hiram Smith, Hilledale, N. Y.

433.—Hydraulic Cement.—Utica Cement Company, Chicago, Ill.

434.—PIPIFAX BITTERS.—Walter & Shaeffer, San Francisco, Cal.

435. — WORKING-BARRELS OR PUMPS FOR PETROLEUM-WELLS.—Woodbury, Booth & Co., Rochester, N. Y.

EXTENSIONS.

WILLIAM R. FEE, of Cincinnati, Ohio.—Letters Patent No. 17,961, dated August 11, 1857.

"Improvement in Machines for Hulling Cotton-Seed."

Claim.—A series of cutting-edges with deep intervening furrows, for the purpose of hulling cotton-seed by a cutting action, which renders both the screening process and the expression of the oil easy and complete, as set forth.

BENAIAH FITTS, of Worcester, Mass.—Letters Patent No. 17,963, dated August 11, 1857.

"Improved Arrangement of Feed-Rollers for Planing-Machines."

Claim.—The internal gear F and the external gear G, in combination with the pinion H and connecting-arms I and J, when constructed and operated as set forth and described.

JOSEPH W. BUDD, of Midland City, Mich., administrator of ISRAEL DODENHOFF, deceased. — Letters Patent No. 18,009, dated August 18, 1857.

"Improved Raking Apparatus for Harvesters."

Claim.—1. The rake H, in combination with the platform A and stationary and elastic guides, the whole being constructed and operated substantially as described.

2. The gate K, in combination with a rake, H, traveling in a horizontal endless track, the whole being constructed and operated in the manner substantially as and for the purposes set forth.

JOHN TOULMIN, Worcester, Mass.—Letters Patent No. 18,065, dated August 25, 1857.

"Improvement in Vibrating Shears."

Claim.—Hanging the movable blade of a pair of shears by two adjustable center pivots upon an adjustable pillar-block, substantially in the manner described, and for the purpose of adjusting the movable blade of said shears as to give it the most effectual shearing position in relation to the stationary blade, as set forth.

ISSUE OF AUGUST 29.

PATENTS.

118,420.—TREATING FORMS OF TYPE, ENGRAVED BLOCKS, &c.—Joseph A. Adams, Brooklyn, N. Y.

Claim.—The herein-described process of coating forms of type, engraved blocks, plates, &c., with glycerine and alcohol, substantially as described and specified.

118,421.—LAMP.—Lewis J. Atwood, Waterbury, Conn., assignor to The Plume & Atwood Manufacturing Company, same place.

Claim.—1. The barrel A, containing the screw *l*, and supported by the ring-flange *i* around the wick-tube *c*, substantially as set forth.

2. The corrugated chimney-rest surrounding the barrel A, but removable therefrom, in combination with the wick-raising wheels *d*, screw *l*, and barrel A, substantially as set forth.

3. The screw *l* made of the triangular wire coiled and soldered within the barrel A, as set forth.

118,422.—SPINDLE AND BEARING FOR SPINNING-FRAMES.—Clark L. Austin, Lawrence, Mass.

Claim.—The hollow spindle A, open at its top, and provided with the apertures H, H^1, and H^2, the bolster D, oil-cup C, and step B, all constructed, arranged, and operating as and for the purposes described.

118,423. — PAPER-TRIMMING MACHINE. — William G. Ayres and Seth L. Cole, Brooklyn, N. Y., assignors to Henry A. Snowden, same place.

Claim.—1. The arrangement and combination of one movable cutter, K, with a straight-edged steel plate, K', both being secured to one end of the movable strip or bed N, that will horizontally adjust the knife K and plate K' to suit the width of the strip or margin of wall-paper to be cut, and not the paper to suit the knife, substantially in the manner and for the purpose set forth.

2. The frame A to hold the wall-paper on a line with the cutting-edge of the movable knife K and plate K', in combination with the hinged rod R or without the same, all arranged and operating in the manner and for the purpose specified.

118,424. — BEDSTEAD-FASTENING. — Elisha T. Barlow, San Francisco, Cal.

Claim.—The rail B, with its upward-projecting hook-plate *f*, in combination with the recessed post A and under binding hook-plate *e* and button *g*, substantially as and for the purpose above described.

118,425.—PRINTER'S FURNITURE. — Benjamin B. Blackwell, Jamaica, N. Y.

Claim.—The combination of a flanged holding-plate with an ordinary column-rule, a loose stereotype or electrotype plate, and its block or bed, substantially as and for the purposes herein specified.

118,426.—MACHINE FOR MAKING CORD.—Sarah A. Boardman, Lancaster township, Pa., administratrix of Harris Boardman, deceased.

Claim.—1. The curved hook-ended levers D, held by a central pivot, *d*, on a bracket, G, upon a headpiece, C, with its bearings for the upper ends of the spindles, substantially in the manner shown, and for the purpose specified.

2. The arrangement of the disk L cast with a sectional pending flange, P, for a belt, *o*, nipples *n* for the tripper-wire M, in combination with the stops N and wire-tripper, all constructed as shown, for the purpose mentioned.

3. The combination with spindle B and disk T, with its double lugs *t t* to prevent lateral motion, and the perforated lug *u* forming a hinge for the end of the stem on the guard or guide-rings U, in the manner set forth.

4. In combination with the spindle B, the arrangement of the tension-pulleys H I, which have their bearings in a pair of plates, J, which plates are attached centrally between the pulleys by a bolt with a screw end and nut, K, for regulating the pressure of the plates on the pulleys, substantially in the manner shown and for the purpose mentioned.

118,427. — DEFECATING AND BLEACHING SACCHARINE MATTER.—Howard B. Bond, Terrebonne parish, assignor to himself and James B. Price, New Orleans, La.

Claim.—The process of defecating or bleaching saccharine liquids, substances, or matter with bisulphide or bisulphuret of carbon, either in a gaseous or liquid form, substantially as described.

118,428.—RETAINER FOR HOLDING PRESSED AND MOLDED CIGAR-BUNCHES.—William D. Brewer, Charlestown, Mass.

Claim.—A cigar-mold or retainer, provided with a helmet, *c*, substantially as and for the purpose described.

118,429.—SPIKE-MACHINE.—Frederick Bruso, Buffalo, N. Y.

Claim.—1. The inclined ways g^2 g^2 and wedge-shaped stop or guide-pieces A^3 A^3, or equivalent mechanism, in combination with the ways G G, cross-head H, cutting and swaging-tool I, and griping-dies B B', as hereinbefore set forth.

2. The arrangement of the springs *j j* with the grooves g^1, inclined ways g^2, and guides and tongues h^3 h^4 of the cross-head H, as hereinbefore set forth.

3. The recess *f'* of the bar F, constructed and arranged with head-unsetting die D and movable griping-die B' *b*, and stationary die B, as hereinbefore set forth.

4. The arrangement of the guide-plate Y with the movable die B' b^3 and bar F provided with recess *f'*, as hereinbefore set forth.

5. The arrangement of the upper die-plate W with the inclined ledge b^3 of the stationary die B and the rabbet-die *b*, and beveled surface b^4 of the movable griping-die B', as hereinbefore set forth.

6. The combination of the lever E, cam N, and reacting-spring T with the cross-head H, connecting-rod K, and heading-die and stock D D', as hereinbefore set forth.

118,430. — GLEANER-RAKE FOR REAPING-MACHINES.—James V. Bryson, Greenupsburg, Ky.

Claim.—1. The rake *i*, constructed with a joint composed of a hinge, *t*, with pintle in rear and a wooden locking-pin, *u*, to adapt it to fold to compact the machine, and to yield so as to pass obstructions.

2. The frame *g*, as represented and described, having a pivot at each end, and affording a support for the intermediate frame *l* and rake *i*.

3. The secondary frame or vertical support *l*, adjustable vertically on the face of the main frame *g*, as means for varying the depth of the rake.

4. The combination of the hinge-lugs *c*, guide-lugs *d*, pivoted main frame *g* with stems *o* and springs *p*, depth-adjusting frame *l* with slots *q* and draw-bars *s*, and hinges *m*, as means for attaching a gleaning-rake, the same being constructed and arranged substantially as represented and described.

118,431, antedated August 19, 1871. — CLOTHES-WRINGER.—Elisha P. H. Capron, Hudson, N. Y., assignor to Oscar B. Gray and Andrew Foster, New York city.

Claim.—1. The construction and arrangement of the corrugated endless web or band *a*, and corrugated shafts or rollers *b b'*, as herein shown and described, for the purposes specified.

2. Making the rubber cylinder or covering *f* of a roller, E, detachable and free from liability to become twisted by means of the corrugations on the inner surface of the said cylinder, which fit into corresponding corrugations provided on the inner roller or shaft *g*, as herein shown and described, and for the purposes specified.

3. The roller A, in combination with the roller E, both being constructed substantially as described, for the purposes specified.

4. The eccentric disks K K, provided with arms *m m*, in combination with the plate *o*, set-screw N, and frame B of the wringer, substantially as shown and described, and for the purposes set forth.

118,432.—STEAM-HEATER. — Edward Caulfield, Oswego, N. Y.

Claim.—1. The hollow-cone joints as a means of connecting the sections of radiators together, substantially as shown and described and for the purposes set forth.

2. The hollow section of a radiator whose parallel surface-plates have concavo-convex protuberances, the protuberances being placed opposite to the concavities, as described, and for the purposes indicated.

118,433. — BRACKET. — James E. Chesley, Boston, Mass., assignor to Jefferson J. Gray, same place.

Claim.—As a new article of manufacture, a bracket with dovetailed grooves and tenons, combined with back piece A, shelf B, and support C, when constructed substantially in the manner as and for the purposes hereinbefore set forth.

118,434.—PEN-AND-PENCIL CASE. — James M. Clark, Jersey City, N. J., assignor to Ephraim S. Johnson, same place.

Claim.—The pen-and-pencil case made with the tube *b* and case *a*, between which are the longitudinal strips *s* separating the space into a magazine for leads and a receptacle for the pen-slide, as set forth.

118,435.—CREEPING-DOLLS.—George Pemberton Clarke, New York, N. Y.

Claim.—1. The arm G, pins H H, the wire E, staples P *p*, and spring D, as herein combined, with the moving head B, substantially as and for the purpose shown.

2. The hooked tooth-wheel 4, in connection with the pinion J, substantially as and for the purpose herein shown.

3. The construction and application of the improved lever U with the side T, for the purpose herein specified.

118,436.—CAR-COUPLING.—Calvin M. Colby, Corinth, Vt., assignor to himself, T. A. Chase, William Standlick, Alvin H. Little, A. W. Paine, O. W. Brown, Ransom Darling, R. H. Childs, Benjamin Willis, E. S. Carpenter, and Richard Robil.

Claim.—The coupling-pin C, located within the upright B, and operated by means of the levers E E and rods H H, in combination with the buffer A, lever K, and end of the car, substantially as herein shown and described, and for the purposes set forth.

118,437.—APPARATUS FOR DRESSING ORES. Charles Frederick Collom, Calstock, Great Britain.

Claim.—1. The machine for cleansing and dressing ores, constructed and arranged to operate substantially as herein shown and described.

2. The combination of the inclined table *f*, perforated circular pipe *l* with stops l^1 l^2, connecting-pipes *m m*, perforated pipes l^3 l^4, receivers S S', brushes *g g*, and receivers *p* p^1, constructed and operating substantially as set forth.

118,438. — BARREL, TANK, AND CASK FOR TRANSPORTING ACIDS AND PETROLEUM.—James B. Davenport, New York, N. Y.

Claim.—The lining B, having its edges united together, and provided with arms or supporting-pieces C C arranged inside of a barrel or cask and secured in position, in the manner and for the purpose specified.

118,439.—PRINTER'S COLUMN-RULE. — Augustine J. H. Duganne, New York, N. Y.

Claim.—The combination of a grooved column-rule (one or more) with an electrotype or stereotype plate, and a block or bed upon which to rest such plate, substantially as and for the purposes herein specified.

118,440.—COMPOSITION FOR SOAP.—Robert Eastman, Media, Pa.

Claim.—A soap, composed of the ingredients and in about the proportions given

118,441.—Toy-Toad.—James Fallows, Philadelphia, Pa.

Claim.—1. In combination with the upright *a''*, the two projecting plates 10 11 connected together at their sides and left separate in front, substantially as and for the purpose hereinbefore set forth and described.

2. In combination with the mouth of the toad B, the springs C C, arranged to operate in relation to the penny 12 and its supporting-plates 10 11, substantially as and for the purpose hereinbefore set forth.

3. In combination with the case A and toad B, the gum-elastic strip or ring 7, cross-bar 8, and stem *b'''*, arranged to operate substantially as and for the purpose hereinbefore described and set forth.

118,442.—Wash-Boiler.—Barnard T. Fellows, Lancaster, Pa.

Claim.—The false bottom A in steam wash-boilers, when the same is centrally elevated, and corrugations D C radiate from the orifice of a pipe, G, under a deflecting-cap, H, in combination with the water-channels E under the perforations D, all arranged in the manner and for the purpose specified.

118,443.—Car-Brake.—Amos W. Filer and Llewellyn T. Hatfield, Danby, Ill.; said Hatfield assignor to said Filer.

Claim.—The combination of the double ratchet-wheel R, racks Q, sliding frame K, lever J, shaft M, pinions S T, elbow-lever G, slotted frame W Y, spring-catch H, bar I, and weighted lever D, as and for the purpose set forth.

118,444.—Rubber Boot.—Clement S. Foster, Ashland, and Oliver Saylor, Philadelphia, Pa., assignors to themselves, Walter F. Shultz, and T. C. Else, same place.

Claim.—1. The within-described method of fastening a leather outsole to the sole of a gum boot, by means of nails driven through the said sole and boot, and through an insole, B, and clinched or riveted upon the inside of the latter, substantially as herein described.

2. The within-described method of fastening a leather heel to a gum boot by means of nails passed through the said heel, through the soles D, C, and B, and clinched or riveted upon the insole, substantially as herein described.

3. A gum boot, having a leather outsole studded with clinched nails, as described, and secured to the boot at the edge of the sole by nails *h* driven through and clinched.

118,445. — Reed Musical Instrument.—Joseph Foster, Keene, N. H., assignor to himself and Ephraim Foster, same place.

Claim.—1. The reed-board or boards M, let into the wall of the wind-chest and nearly inclosed thereby, substantially as specified.

2. The valve H, having the attached lever K, made and operating substantially as described.

3. The combination of the bent lever-valve H with the tracker L and reed-board M in the wind-chest, substantially as described.

118,446.—Picking Mechanism for Looms.—Henry R. Fry, Wabash, Ind.

Claim.—The rock-shafts H H', cams E E', pulleys F F', arms G G K K', spring P, and straps J, in combination with the picker-staves I I' pivoted at or near their centers, and a spring or springs, L, attached to the upper parts of said picker-staves and secured underneath the lay, all arranged substantially as herein described.

118,447. — Hoisting Apparatus.—Emery R. Gard, Chicago, Ill.

Claim.—1. The ratchet-wheel D, constructed with the two endless ratchets *a a* upon its faces, substantially as and for the purposes herein specified.

2. In combination with the double ratchet-wheel D, the pawls E E and double lever G, arranged and operating substantially as and for the purpose herein specified.

3. The shifting-weights H H, in combination with the pawls E E, operating substantially as and for the purposes herein specified.

4. The springs or elastic blocks *f f* between the pawls E E and lever D, substantially as and for the purpose herein specified.

5. The arrangement of the pawls E E upon the lever G in relation to the ratchet-wheel D so that the vibrations of the lever will reverse the movement of the wheel and lower the weight.

118,448.—Feeding Device for Sawing-Machines.—Luther W. Green, Williamsport, Pa.

Claim.—1. The slides N N, rolls C C, links *e e*, levers G G, and cross-head L, as and for the purposes set forth.

2. The grooved plate B, slides N N, rolls C C with their connected weighted levers G G, cross-head L, and sliding plate T and adjusting mechanism, when combined as and for the purposes described.

118,449. — Apparatus for Grooming Horses.—John James Greenough, Syracuse, N. Y.

Claim.—1. The combination of the cleaning-tool with the jointed flexible driving-arm, constructed and arranged substantially as and for the purpose set forth.

2. The joint near the cleaning-tool, constructed with ring *d* and handle *e* so that it may be attached to the fore arm of the operator, substantially as described, and for the purpose set forth.

3. The jointed arm which incloses the driving-gear, provided with the globe-gears A A, journal-boxes G G, with semicircular cogged projections *m m* and links *n n*, constructed and arranged as herein shown and described.

118,450. — Sewing-Machine.—William O. Grover, Boston, Mass.

Claim.—1. The combination of the rocking feeder with an adjustable tappet for causing the feeding surface to advance and for varying the extent of movement, the said devices being constructed to operate substantially as before set forth.

2. The combination of the rocking feeding instrument with a tappet for imparting a positive backward movement to it, substantially as before set forth.

3. The combination of the reciprocating feeding instrument of a sewing-machine with a stop to limit the extent of its backward movement and the spring-tappet to impart a positive but yielding backward movement to the feeding instrument, substantially as before set forth.

4. The combination of a shuttle, constructed with a groove in one of its ends, with a hook-formed catch pivoted in the interior of the shuttle-cavity, and controlled by a spring in such manner as to hook over the outer side of the spool-journal and hold it in said groove, as before set forth.

5. The combination of the tension-adjusting spring of the shuttle with an adjusting-screw, having its head constructed and arranged, as described, so as to bear in a corresponding hole formed in the wall of the shuttle, and bearing outward therein, as before set forth.

6. The combination of the shuttle, constructed with tension-holes, with an adjustable-bar tension-spring, constructed with notches opposite said tension-holes, and connected at both ends with the shuttle, as before set forth.

118,451.—Stand for Brooms.—Edward A. Harris, Chicago, Ill.

Claim.—The revolving broom-receptacle, consisting of the platform A supporting the central shaft B, upon which revolve the disks C C', connected together by rods D, the upper disk being furnished with the springs E, and the lower disk arranged to retain the ends of the broom-handles, substantially as described and shown.

118,452. — Seat-Spring for Vehicles.—Benjamin Hershey, Erie, Pa., assignor to himself, E. Geer, Richard Dudley, and Richard F. Gaggin.

Claim.—1. The rocking-shafts D D, when constructed as stated, and so secured as to act in connection with a torsional spring, substantially as described.

2. The torsion-spring rods B B and rocking-shafts D D, when the same are so combined and arranged as to operate substantially as described.

118,453. — Bottle and Box-Opener.—George Jay Hill, Buffalo, N. Y., assignor to himself and Charles Frederick Nagel, same place.

Claim.—1. The combination and arrangement of the whole device, consisting of the handle A with recess *i*, cork-screw E, opening-knife G with claw *f*, hammer-head H, forked rod B, flanges D D', piece *n* with hook *a*, and jointed cutter *b*, operating in the manner and for the purpose specified.

2. The piece *n* with hook *a*, jointed cutter *b*, spring *d*, and flanges D D', in combination with the forked rod B C', handle A, and cork-screw E, arranged in the manner and for the purpose specified.

118,454.—Window-Blind.—Isaac H. Hobbs, Philadelphia, Pa.

Claim.—The combination of the bar F, lever I, pivot P, and plates E and J, blinds Q and Q' Q'', spring L, bolt or lock G, substantially as described, as and for the purpose hereinbefore set forth.

118,455, antedated August 18, 1871.—Rotary Pump.—Charles Emery Hutson, St. Louis, Mo.

Claim.—1. The cylinders A A', heads *a a*^{1}, packing *a*^{2} *a*^{3}, slots *g*^{1} *g*^{2}, piston C, arranged substantially as described.

2. The reverse-operating valves E E^1 E^2 E^3, valve-rest D, when arranged in pump-barrel B and discharge-chamber B' of cylinders A A', substantially as and for the purpose set forth.

3. The arrangement of cylinders A A', heads *a a*^{1} having packing *a*^{2} *a*^{3}, slots *g g*^{1}, semi-annular piston C, valve-rest D, reverse-operating valves E E^1 E^2 E^3, suction and discharge-pipes F F', when said parts are constructed and combined to operate substantially as and for the purpose set forth.

118,456. — Combined Watch-Key and Cork-Screw.—Louis J. Jenner, Chicopee Falls, Mass.

Claim.—1. The cork-screw *c*, provided with case or shell *d* and ring or handle *b*, in combination with the key *a*, substantially as specified.

2. The cork-screw *c*, provided with ring or handle *b* and case or shell *d*, in combination with opener *e*, substantially as specified.

118,457, antedated August 21, 1871.—Steam-Boiler.—William R. Jones, Cambridge, Mass.

Claim.—The combination of the tanks A, A^1, A^2, &c., with the plates B, B^1, B^2, &c., when arranged to operate substantially as described, and for the purpose set forth.

118,458.—Construction of Ships.—Henry Jordan, Liverpool, England, assignor to Fred. W. Fuller, St. Augustine, Fla.

Claim.—1. The combination, herein described, of the longitudinal frames and double planking, substantially as and for the purpose set forth.

2. The combination, in the hull of a vessel, of the longitudinal frames with the internal floor L and vertical T-iron frames C, as shown and described.

3. The combination, with the longitudinal frames herein described, of the internal vertical iron straps M, the upper ends of which form knees for supporting the main deck, as herein set forth.

4. The combination of L-irons set back to back with the bulkheads, whereby said bulkheads are made water-tight, substantially as set forth.

5. The combination, herein described, of iron bulwarks, with a wooden vessel, when secured substantially as set forth.

118,459.—Apparatus for Manufacture of Hydrocarbon Gases.—Joshua Kidd, New York, N. Y.

Claim.—1. The combination of a downward-inducing jet with a retort, into which gasoline is admitted sparingly.

2. The combination of inducing-jet B with conical needle-valve F, working through stuffing-box S, and method of operating same, as described.

3. Placing the mixing-tube P below the jet B, also the method set forth for regulating the air and vapor.

4. The combination of the spring G or its equivalent, conical needle-valve F, air-regulator D, and stuffing-box S, also the construction and mode of attaching the inducing-jet B.

118,460.—Log-Cart.—Alexander Kirkwood, Jackson county, Miss.

Claim.—The combination of the several parts of the log-cart, as shown and described.

118,461.—Fence.—Henry H. Landis, Lancaster, Pa.

Claim.—The construction of a cast-iron post-seat or chair, D, with its side supports A B C, in the manner and for the purpose specified and shown.

118,462. — Culinary Vessel. — Samuel Lee, Taunton, Mass.

Claim.—The culinary utensil, consisting of the frame A, boiler B, fry-pan C, and pivoted griddle D, constructed as herein shown and described.

118,463.—Steam-Engine.—Charles Lovey, Toronto, Canada.

Claim.—1. Constructing the steam-cylinder A A', bed-plate B, steam-jacket, steam-chest, and cylinder-face or valve-seat in two parts; the bed-plate C, lower half of cylinder A, and steam-jacket *d*, steam-ports and exhaust *a b*, and cylinder-face or valve-seat B in one part; the upper half of cylinder A', and upper half of steam-jacket *d'*, and the steam-chest D in the other part, as hereinbefore set forth, and for the purpose specified.

2. The method of constructing the bed-plate, upper and lower halves of steam-cylinder, cylinder-face or valve-seat, guide-bearings, pillow-block bearings, and steam-chest in such a manner that the whole of the parts above named, together with the top of the bed-plate, can be planed or finished at one "chucking," and thus be perfectly in line.

3. The steam-cylinder A A' divided in the direction of its length, and planing or finishing the same in that direction, as hereinbefore specified.

118,464.—Manufacture of Ornamental Articles in Wood in Imitation of Carving.—George William Ley, St. John's Road, Croydon, England.

Claim.—1. The formation of ornamental articles in wood by pressing into a mold a block of wood cut endwise of the grain, and that has been saturated with glue and dried before being subjected to the pressing operation.

2. The formation of ornamental articles in wood by pressing into a mold a block of wood cut endwise of the grain, and which has been saturated with glue or like cementing material and dried,

and also veneered on the surface to be molded or impressed.

3. The formation of ornamental articles of wood by pressing into molds veneered blocks impregnated with glue, and having the outer face of the veneer covered with parchment, which is subsequently removed, substantially as before set forth.

4. The formation of ornamental articles of wood in high-relief by pressing into molds veneered blocks impregnated with glue, and having an additional layer of veneer at the more protuberent parts of the design, substantially as before set forth.

118,465.—BRAKE FOR VEHICLES.—George W. Loomis, Torrington, Conn.

Claim.—The combination of the compound-lever mechanism, consisting of the snaffle-hook *a*, swivel *c*, rod B, buckle-joint *m*, lever *e*, bar *g*, jointed lever A A, link-bar *i i*, and brakes *k k*, when the said mechanism is so arranged as to operate the brakes on the front sides of the wheels E E, and admit of the free action of the cart-body for tilting and dumping, as herein shown and described.

118,466.—MACHINE FOR SMOOTHING MOLDINGS.—John S. Loomis, Brooklyn, N. Y.

Claim.—The gauge-bars E E, having slots *n n' n''* and adjustable heads F F, in combination with the reciprocating table A, all constructed, arranged, and operating substantially as and for the purpose specified.

118,467. — THREAD-CUTTER FOR SEWING-MACHINES. — Joseph A. Lord, Sanford, Me.

Claim.—The combination of the piece *c*, constructed as described, and having the plate *b*, spring coil *i*, the handle or pad *l*, and the rod *g* having the knife *o*, and the extensible devices, consisting of the screw *k* and the pin *m*, applied and operated as herein set forth.

118,468.—ELEVATOR.—John Macomb, Chicago, Ill.

Claim.—1. The platforms F F', hung centrally to the rope or chains E E', in combination with guide-ropes, rods, or chains J J, constructed and arranged as and for the purpose specified.

2. One or more guide-ropes, rods, or chains, J J, when employed for the purpose specified, and arranged substantially as shown.

3. The guide-ways K K, arranged and operating with the platforms F F', for the purpose specified.

4. The elevator-platform, provided with a guide-way, *f*, having an opening, *f'*, for the purpose specified.

5. The construction of the platforms F F' with the central cross-beam A, to which the platform-floor *f''* is hung by means of braces *g g* and vertical support *h*, arranged substantially as and for the purpose herein set forth.

6. The threaded rods *j j* and nuts *t t*, in combination with the platforms F F', guide-ropes, chains, or rods J J, constructed and arranged for the purpose described.

7. The anti-friction rollers or pulleys *m m*, in combination with the pulleys D D G G^1 G^2, arranged as shown and described, and for the purpose set forth.

8. The arrangement of the pulleys G G^1 G^2 so as to admit of the horse's pulling in both directions, as herein described, in combination with the rope or chain E', for the purpose specified.

9. The anti-friction rollers or pulleys *p p*, arranged upon the platforms F F', in combination with the guides J J, for the purpose set forth.

10. The elevating device as a whole, consisting of the platforms F F', the guides J J, the arrangement of the cords E E, pulleys D D G G^1 G^2, and guide-boxes K K, all substantially in the manner described and shown.

118,469, antedated August 24, 1871.—STUD FOR SUSPENDING DRIVING-WHEELS FOR SEWING-MACHINES.—Robert H. McCann, Zanesville, Ohio.

Claim.—The combination of the stud D, nuts E E, and washer *g* with the wheel B and leg A of a sewing-machine, substantially as and for the purpose set forth.

118,470.—HORSESHOE-CALK.—John J. Mervesp, New York, N. Y.

Claim.—1. In horseshoes, the U-shaped fastening, Figs. 10 and 11, in combination with a calk having a tapering shank grooved on its opposite sides to receive said fastening, as herein described and shown.

2. The solid toe-calk *p*, Figs. 13 and 14, formed with tapering holes, in combination with tapering rivets *r r*, the shoe *s* with tapering holes and fastenings for securing the rivets *r*, all constructed and arranged substantially as herein described.

118,471.—WOODEN PAVEMENT.—David H. Mulford, Saratoga Springs, N. Y.

Claim.—The clamp or hook shown in Fig. 3, one end of which is inserted in the block of one row and the other end projecting under the block of the adjoining row and thereby supporting the same, as shown and described.

118,472.—APPARATUS FOR EXHAUSTING AND PURIFYING GASES. — Peter Munzinger, Philadelphia, Pa.

Claim.—The tank or vessel A, the induction-pipe C, with or without the pump G, and the annular or other distributing-chamber E, for the purpose shown and described.

118,473, antedated August 23, 1871.—PADLOCK.—Hermon Nelsen, Jerome, N. Y.

Claim.—The circular cover *g*, with a stud, *i*, projecting from the inner side of the shackle *f* and entering a recess in the case, in combination with the circular case *a b*, that is made with openings for the shackle and with a recess for receiving the edges of the cover *g* and securing the same, as set forth.

118,474.—SHAFT-COUPLING.—Joseph Ochsner, New Brighton, Pa.

Claim.—The keys A, with their bronzed bearing-faces arranged at an obtuse angle to a line radiating from the axis of shaft B and hub C, inserted and extending through the entire hub, substantially as herein described, and for the purpose set forth.

118,475.—AEROSTATIC JACK.—Anthony V. Ojeda, San Francisco, Cal.

Claim.—The machine described, provided with the discharge-cock 2, valve L, and safety-passage P, as set forth.

118,476.—CAR-COUPLING. — James H. Oliver, Baltimore, Md.

Claim.—The pin C having projections *c* and *d*, adapted to the draw-head in the manner shown and described, and in combination with the link B provided with inclined heads A, all substantially as and for the purposes hereinbefore set forth.

118,477. — MANUFACTURE OF ARTIFICIAL STONE.—Adolph Ott, New York, N. Y., assignor of one-half his right to Thomas F. Welle.

Claim.—The process of making artificial stone from hydrate of lime, together with the ingredients herein specified, as and for the purposes set forth.

118,478.—FOLDING WASH-STAND. — David Otho Parker, Liverpool, Canada.

Claim.—A wash-stand, consisting of the three detachable hinged pieces A *a'* and the shelf B *b'*, said parts A *a'* B *b'* being constructed and arranged substantially as herein shown and described.

118,479.—CHILD'S HIGH CHAIR AND WORK-STAND COMBINED.—David Otho Parker, Liverpool, Nova Scotia.

Claim.—A combined child's high chair and work-stand, consisting of the three legs A, seat B *b'*, and the stand-top C, said parts A B *b'* C being constructed and arranged substantially as herein shown and described.

118,480.—EXCURSION-CHAIR.—David Otho Parker, Liverpool, Canada.

Claim.—An excursion-chair, consisting of the detachable hinged legs A *a'*, the top or seat B B', the button E, and the metallic hooks *f*, said parts A *a'*, B B', and *f* being constructed and arranged substantially as herein shown and described.

118,481.—MACHINERY FOR FEEDING WIRE TO MACHINES.—Edward G. Parkhurst, Hartford, Conn., assignor to The Pratt & Whitney Company, same place.

Claim.—1. The combination of the device *h i* or its equivalent with the releasing mechanism *d e f g*, the advancing mechanism L I, and the interior parts of I, so that the wire is unclasped before it is moved and clasped before the rack is pushed back, substantially as described.

2. The construction and arrangement of the sliding box I and its interior parts, as shown in Figs. 5, 6, and 7, and described herein.

3. The combination of the levers *e e'*, the collar *f*, the plunger *d*, and the jaws *c*, substantially as described.

4. The adjustable block *j*, in combination with the levers *e e'* and the plunger *d*, for the purpose of altering the position of the levers *e e'*, substantially as described.

5. The reciprocating rack L, in combination with the sliding block I and its interior mechanism, constructed and arranged substantially as described.

118,482.—MACHINE FOR GRINDING CIRCULAR SAWS. — John Pedder and George Abel, Temperanceville, Pa.

Claim.—1. One or more pairs of grinding or polishing-wheels or disks, each pair having its grinding or operative points opposite, and susceptible of motion to or from each other at pleasure, in combination with a blank-holder or mandrel so arranged as to be capable of a horizontal motion at right angles to the plane of the revolving wheels, substantially as described.

2. The blank-holder, so made as to be rotated while the grinding is being done, in combination with one or more pairs of grinding-wheels or disks, arranged and operated substantially as described.

3. The double-acting cams or eccentrics *n n*, arranged with suitable connections so as to be simultaneously operative, in combination with the grinding-wheels, substantially as described.

4. The cams *n n* and grinding-wheels of the last preceding claim, in combination with suitable pressing devices for keeping the wheels up to their work, arranged substantially as described.

118,483. — HERNIAL PAD.—William Pomeroy, New York, N. Y.

Claim.—1. The wire *w*, turning in the clasp of the plates C and C', and forming the support of the rim A, substantially as described.

2. The combination of the wire *w* and plates C and C' with the rim A, the finger-pad B, and the screw S, with or without the bar H, to form a compound hernial pad, substantially as described.

3. The combination of wire *w* and plates C and C' with the rim A, the finger-pad B, the bar H, and the screws S and S', to form a compound hernial pad, substantially as described.

4. A hernial pad, either covered or uncovered, made of rubber sponge.

118,484.—DENTAL PLATE.—Smiley Purvine and Harrison Smith, Salem, Oreg.

Claim.—In a dental plate, as a connection between the plate proper and the vacuum-chamber, the bar or bars with open spaces, as shown and described.

118,485.—DEODORIZING AND PURIFYING SEWAGE, &c. — Christopher Rawson, London, Philip Ovenden, Surrey county, James Wylde, Leamington, William McCree, Leyton, and Henry Hill, Hastings, England.

Claim.—1. The use of albuminous and albuminoid substances, in addition to the substances named in this specification or in the specifications of United States patents Nos. 91,373 and 103,664, hereinbefore referred to, or in substitution for the blood mentioned in these specifications in the treatment of sewage, urine, and refuse matters and liquids.

2. The improved mode hereinbefore described of using the substances by means of which the precipitation of the impurities contained in sewage, urine, and refuse matters and liquids is effected—that is to say, making two separate mixtures, the one hereinbefore termed the "A B C mixture," and the other the "alkaline mixture," essentially as hereinbefore described, and adding both mixtures simultaneously and separately to the sewage, urine, or refuse matters or liquids to be purified, so that the said A B C mixture and the said alkaline mixture shall simultaneously meet and mix in and with the said sewage, urine, or refuse matters or liquids.

3. The method hereinbefore described of aiding the precipitation of the impurities contained in the sewage by means of an electric current generated by voltaic, electric-magnetic, or magneto-electric action.

4. The method hereinbefore described of destroying wholly or partially the offensive gases accompanying the sewage, or given off from it during its treatment, or arising from sewage mud during its treatment—that is to say, mixing such gases with chlorine or sulphurous acid in a gaseous form.

5. The purification of the effluent water by aerating it with atmospheric air, essentially as hereinbefore described.

6. The improved apparatus hereinbefore described, and illustrated in Figs. 3, 4, and 5 of the accompanying drawing, for letting off the effluent water from the surface—that is to say, a hinged pen-stock working between wing-plates and furnished with flexible flanges and fittings, the whole constructed and arranged essentially as described.

7. The modification of the aforesaid apparatus hereinbefore described, and illustrated in Figs. 6 and 7 of the accompanying drawing—that is to say, a hinged pen-stock furnished with wing-plates working between flexible flanges affixed to the sides of the outlet-passage, the whole constructed and arranged essentially as described.

8. The improved method hereinbefore described, and illustrated in Figs. 8, 9, 10, and 11 of the accompanying drawing, of drying sewage-mud—that is to say, by the use of steam heat underneath a drying-floor, and a current of hot air above the mud spread on the said floor, essentially as described.

118,486. — BOUQUET-HOLDER. — James C. Reed, Boston, Mass.

Claim.— The button-hole-bouquet holder shown, having a button or portable head, A, and a spring, C, which latter is adapted to be inserted through a button-hole from the back, and to retain one or more flowers in the front by an elastic hold, substantially as and so as to serve the purposes herein set forth.

118,487. — WASHING-MACHINE.—John W. Ricker, Chelsea, Mass.

Claim.—The application of one or more guards or clearers, I, to the rolls H of a washing-machine, substantially as and for the purpose set forth.

118,488.—STAMP-HOLDER.—John G. Rogers, Van Buren county, Mich., assignor to himself and James C. Crandall.

Claim.—A stamp-holder, constructed as described, provided with the staple D, passing through the outer case A' and attached to the inner flexible

jaw A", substantially as and for the purpose set forth.

118,489.—DEVICE FOR CUTTING CONCAVES. Henry C. Rosin, Chicago, Ill.

Claim.—1. The non-rotating swinging arm D provided with a cutter-head, E', and mounted upon *r*, supporting-frame, so as to swing in the arc of a circle, substantially as described.

2. The swinging cutter-head E having the cutting-bit *b* and the smoothing-bit *a* arranged on opposite sides of the central radial line of the arm D, as herein described.

118,490.—STOP FOR SEWING-MACHINES.—James Billings Safford, Poughkeepsie, N. Y.

Claim.—The jointed lever B, provided with the swinging arm C, by the variable weight of which the opposite or effective end of the lever may be elevated or depressed and thereby kept free from or in contact with the periphery of the balance or driving-wheel, substantially as described.

118,491.—MECHANICAL TYPOGRAPHER.—C. Latham Sholes, Milwaukee, Wis.

Claim.—1. The combination of a cylindrical platen, C, with a slotted type-disk, T, as described.

2. The combination of a cylindrical platen, C, with an inking-ribbon, P, as described.

3. The combination of a sliding cylindrical platen, C, with a revolving axle, B, as described.

4. The combination of a cylindrical platen, C, with a bail, F, as described.

5. The combination of a cylindrical platen, C, with a wide-notched ratchet-wheel, H, as described.

6. The combination of a cylindrical platen, C, with a screw-cam, L, and with a series of pins or cog-teeth, M, as described.

7. The combination of a cylindrical platen, C, with two ratchet-wheels, G H, on the same axle B, as described.

8. The combination of a twofold vibratory ratchet, K, pivoted to the ratchet-bar I, with a onefold vibratory ratchet, J, as described.

9. The combination of a twofold vibratory ratchet, K, with a wide-notched ratchet-wheel, H, as described.

10. The combination of two vibratory ratchets, J K, with two ratchet-wheels, G H, as described.

11. The combination of two pulleys, R, on the axles of two ribbon-spools, Q, with a cord or chain, N, attached to a ratchet-wheel axle, B, as described.

118,492. — PRUNING-SHEARS.—Frank Smiley, Batavia, N. Y.

Claim.—The reversible knife C of pruning-shears, constructed with two cutting-edges, *c c*, and bearing-surfaces *e e*, in combination with the jaw A, substantially as hereinbefore set forth.

118,493. — BROOM-HEAD. — Gad Smith, Woodstown, N. J., assignor to himself and Dickinson & Bros., same place.

Claim.—In a broom-head, the combination of the leaves A and B, sides *d* and *d'*, hinges *f f'*, and the ferrule-fastening, all constructed and operating as described.

118,494, antedated August 16, 1871.—COOP FOR FOWLS.—J. Boardman Smith, North Haven, assignor to G. Edward Cleeton, New Haven, Conn.

Claim.—1. A coop constructed in separate and detached parts, as described, having its ends and sides united by rabbeted joints held by pins and sockets, and a flanged cover, substantially as set forth.

2. The specific construction described, consisting of the floor A, ends B B', front and back C C', and cover D', constructed and arranged relatively as described, for the purpose set forth.

118,495.—MANUFACTURE OF YEAST.—Henry Sommer and Albert Weiss, Massillon, Ohio, assignors to Henry Sommer & Co., same place.

Claim.—The herein-described process of manufacturing yeast.

118,496.—PETROLEUM-PUMP.—John Sparks, Rouseville, assignor of one-half his right to Allen B. Kingsland and William H. Eddy, Titusville, Pa.

Claim.—1. The cylinder H and clutch F, in combination with the barrel A, packing R, and plunger B, as and for the purpose herein shown and described.

2. The cylinder H, clutch F, and packing R, in combination with the cylinder A, plunger B, and valves D G, as and for the purpose herein shown and described.

118,497. — COFFEE-ROASTER. — Nelson S. Thompson, Richmond, Ind.

Claim.—1. The combination of the cylinder L, the break-rods *a a a*, the blower J, and the casing A, provided with slots *x* and *x'*, substantially as set forth.

2. The arrangement and combination of the blower J, cylinder L, and hot-air chamber C', in the manner and for the purpose substantially as herein described.

118,498.—SCROLL-SAW.—Benjamin D. Wallace, Boston, Mass.

Claim.—1. The combination of the arm D D with the adjustable ends B, as described.

2. The combination of the arm D D, platform G, spindle L, rest M, and lathe-heads F, as set forth.

118,499.—BOOT AND SHOE-HEEL GAUGE.—Sylvanus Ward, Westfield, N. Y.

Claim.—The oval plate B, provided with the stud C and scale D, in combination with the oval plate A, formed with a series of openings, *b b*, flange *d*, and scale D, all constructed and arranged as and for the purpose set forth.

118,500.—FOLDING CHAIR.—Edward Watkins and Andrew McConnell, Philadelphia, Pa.

Claim.—1. The spring C and lever E, operating in connection with the seat B, substantially as and for the purpose described.

2. The journals of the seat, extended to form connections with the parts *b* of the arm-rest D, substantially as and for the purpose set forth.

3. The combination, with a folding seat, of the hinged lever E, bracing at both ends, and operating in the manner and for the purpose described.

4. The catch F, having pivotal and longitudinal motions, and operating, in combination with the seat B, in the manner and for the purpose described.

118,501. — MACHINE FOR UNDERMINING COAL.—George D. Whitcomb, Chicago, Ill.

Claim.—A coal-mining machine adapted to move on ways back and forth, and having adjustable cutters arranged to plane and under-cut the coal, substantially as set forth.

118,502.—MACHINE FOR MAKING MATCHES. McClintock Young, Frederick, Md.

Claim.—1. The arrangement of a series of spaced cutters in a receding line for cutting off match-splints from a block of wood in steps, as and for the purpose herein described and represented.

2. In combination with a series of receding cutters and guides for cutting, receiving, and carrying match-splints, a traveling, clamping, or holding-bar that continues to hold the splints in the guides while it moves with said cutters and guides, substantially as described.

3. In combination with a series of cutters and receiving and carrying-guides arranged in a receding line, and with splints firmly supported in said guides, a bored strip or back for receiving and holding said splints in an oblique line without moving either block, splints, cutters, guide, or bored back in a lateral direction, substantially as described and represented.

4. In combination with a series of knives for cutting off match-splints from a block or strip of wood, a series of points or projections on the plate *i* for entering the cutters and holding the splints therein and preventing them from being carried beyond the block from which they are cut, substantially as described.

5. In combination with the top and bottom stationary guides, an adjustable frame for carrying the feeding-wheels and presser-foot, as herein set forth, so that pressure may be applied to the block to firmly hold it against the action of the cutters and then removed when the block is to be fed along for the next cut, substantially as described.

6. In combination with the series of receding cutters and guides or carriers herein described, the top and bottom receding bearing-plates *i* and I, substantially as described.

7. The cutters, constructed as herein described—that is to say, made of short rods or bars with a square transverse opening through them near one end, and with two cutting-edges filed or ground thereon, as shown and described.

8. In combination with a match-machine in which a bored back is used to receive the splints cut off by it, a feeding-pawl that acts directly against the splints stuck therein or the holes therefor, and thus feeds the back along without the use of real ratchets, frames, or guides, substantially as described.

9. Block-matches, made of separate splints stuck in a previously-bored strip, back, or frame, from which they may be drawn or broken off as used, substantially as described.

118,503.—REVOLVING-CYLINDER ENGINE.—Joseph Allonas and William Bauman, Mansfield, Ohio.

Claim.—1. In combination with the drum, the cylinder E, arranged centrally within the drum and secured thereto by means of plate G and hub or boss *g*, substantially as described.

2. The combination of the revolving drum, the shafts B B', cylinder E, crank-arm *b*, and connecting devices, substantially as described.

3. In combination with the drum and cylinder, the circular valve H, collar I provided with ports *i' i'*, and the bracket L, substantially as described.

118,504.—BRICK-MACHINE. — Frank Alsip, North McGregor, Iowa.

Claim.—1. The force-paddles D, when loosely fitted to the angular lower ends of shaft B, as and for the purpose specified.

2. The series of straight rows of parallel pins *f*, arranged at intervals upon the shaft B, in combination with stops E placed in a corner of the box, as and for the purpose specified.

3. The arrangement of the stops E upon the same upright pin *g*, but with a spring for each stop, as described, substantially as and for the purpose set forth.

4. The sweep P, constructed as described, pivoted between the flanges of plate R, substantially as and for the purpose specified.

118,505.—COMPRESSION-COCK.—Oakley N. Ames, Haydenville, Mass.

Claim.—1. In combination with the case A, plug H, and nut C, the valve D, constructed and operated substantially in the manner shown and described.

2. The combination of the plug H with rim *x* with the nut C and valve D, forming the packing-box, and having its wear taken up by the pressure of the valve, substantially as shown and described.

118,506. — PRESSURE-GAUGE FOR WATER-BACKS OF STOVES, RANGES, &c.—James Anderson, Allegheny, Pa.

Claim.—A pressure-gauge for water-back of a stove, range, or other heating apparatus, said gauge consisting of coupling-pipe *k*, valve *e*, spring *j*, adjustable pressure-disk *i*, and cap *f*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

118,507.—CHEESE-VAT.—Augustus B. Armstrong, Dorset, Vt.

Claim.—1. The mulching-plate or plates G, arranged within the heating apparatus of a cheese-vat, as set forth.

2. The water-vat D, placed in an inclined position, and provided with supports *a*, so that it will hold the cheese-vat level, substantially as and for the purpose herein shown and described.

118,508.—FLOUR-BOLT. — William Bashor, Johnson City, Tenn.

Claim.—1. The arrangement of the loose collars *a a¹ a²*, rods N N, shaft A with hollowed end section, pivoted arms *d d*, bars *c c*, plates *g g*, and screw *h*, all constructed and operating substantially as set forth, for the purpose specified.

2. The heads D D' provided with guide-grooves *o o*, in combination with the plates *p* of the reel-bars or ribs *c c*, substantially as and for the purpose set forth.

3. The shaft A with hollowed end section, gear *g g'*, screw *h*, loose wings *a a¹ a²*, and connecting-rods N N, in combination with the pivoted arms *d d*, reel-bars *c c*, and guide-grooves *o o* of the reel-heads, for the purpose of expanding the bolting-cloth, substantially as described.

118,509. — PRINTING-MACHINE. — Marcus Bebro, Manchester, Great Britain.

Claim.—1. A cylinder, *c*, turning on and traversing a screw, *b*, and having consecutive numbers spirally arranged on its surface, in combination with a printing-wheel, *l*, when they are arranged with their axes of revolution parallel, substantially as and for the purpose set forth.

2. The combination of the subject-matter of the first claim and the perforating or cutting-wheel *d*, as set forth.

118,510.—COMMODE AND WASH-STAND COMBINED.—Sampson P. Boone, Americus, Ga.

Claim.—The case C, sliding in and out of the chamber B of wash-stand A, when combined with the vessel D having spring-cover E F, as and for the purpose specified.

118,511.—MACHINE FOR CANCELING AND SEVERING REVENUE-STAMPS, &c.—Patrick Wilke Brown and Joseph Delarue, Richmond, Va.

Claim.—The combination, with the shaft D, of the arms E F and one or more ink-rollers *d*, when operating, in connection with the ink-plate H and knife G, for the purpose of inking the type attached to the knife, substantially as herein shown and described.

118,512.—FASTENING FOR WINDOW-SASHES. Jacob K. Butler, Yarmouth, Canada.

Claim.—The hook G, slide J, and plate I, in combination with the piece or strip D, substantially for the purposes described.

118,513.—COAL AND ASH-SIFTER.—Edmund G. Cady, Warwick, R. I.

Claim.—1. The combination of the gears B and C, the rod G, the hopper E, the lever N, the screen F, the lever P, and the conductor I, substantially as and for the purposes hereinbefore set forth.

2. In combination with the devices above describ-

ed, the rod L attached to the arm *m* of a double crank resting and turning on the cross-piece M for the purpose of elevating the lower end of the screen F, substantially as described and specified.

118,514. — Door for Railway Freight-Cars.—Horace L. Clark, Rahway, N. J.

Claim.—1. The combination, with door A, apertured at D and provided with flexible spout E, of the slide F and bar I, to enable said aperture D to be closed and the spout to be folded in the same plane with the door.

2. The slides B, stationary rods C, and buttons L, combined with and applied to the door A, as described, so as to enable said door to be turned up and supported against the ceiling, as shown and set forth.

3. The stud-pins M on the inner edge of the door, and passing into holes N in the car-floor, combined with the guides B and pawls X, bearing against the upper edges of the door to hold it firmly in position.

118,515. — Rairway-Car Truck. — John Clark, London, England.

Claim.—The central axle *a*, boxes *b*, links *e e'*, crank-levers *f f'*, connecting-rods *g g'*, end axle-boxes *h h'*, and guard-plates *i i'*, combined and arranged substantially as shown and described, to operate as specified.

118,516.—Water-Wheel. — David Craik, Church Mills, Chateaugay, N. Y.

Claim.—1. The arrangement of the buckets C in regard to the opening I, substantially as shown and described.

2. The arrangement of the chutes J with regard to each other and to the wheel, substantially as shown and described.

3. The mode of opening and closing the chutes of a water-wheel, substantially as shown and described.

4. The combination of the wheel B, upper and lower plates D and E, chutes J, rods O, and collar M, when constructed and arranged substantially as and for the purposes described.

118,517. — Insect-Destroyer. — Samuel Creighton, Lithopolis, Ohio.

Claim.—The bug-trap A B, constructed and arranged substantially as herein shown and described, and for the purpose set forth.

118,518, antedated August 17, 1871.—Car-Truck.—Frederic Dorsey Dellinger and Samuel H. Hunt, Waynesborough, Va.

Claim.—In a car-truck, the combination with the grooved axle B of the intercalated bearing-rollers E, journal-boxes *d f*, stress-blocks *h h*, packing-box I, housing D, and the braced adjustable arm G with its terminal collar *a*, substantially as herein shown and described.

118,519.—Wringing-Machine. — Whitley Denton, Amsterdam, N. Y.

Claim.—1. A spreader, adapted for untwisting and spreading tubular goods as they are drawn in between the rollers of a wringing-machine, substantially as herein specified.

2. The combination, with a wringing-machine, whether having one or more sets of rollers, of a spreader, substantially as herein specified.

118,520.—Bee-Hive.—Eugene W. Diefendorf, Moniteau, Mo.

Claim.—The combination of the post *d* with the frames B B and case C, as described, and for the purpose set forth.

118,521. — Chimney-Stop. — Charles H. Earle, De Pere, Wis.

Claim.—The spring B and bolt C applied to a chimney-stop, substantially as and for the purpose herein shown and described.

118,522.—Cultivator.—Jacob S. Fleming, Island Creek, Ohio.

Claim.—The colter F formed solid upon the forward end of the center beam A of the cultivator by bending the said forward end downward, substantially as herein shown and described, and for the purpose set forth.

118,523.—Preparation of Fermentable Saccharine Matters.—William Garton, Southampton, England.

Claim.—The employment of animal charcoal or other substance containing phosphate of lime, as and for the purpose herein set forth.

118,524.—Manufacture of Inverse Sugars for Brewing, &c.—William Garton, Southampton, England.

Claim.—The manufacture of the saccharine material herein called "saccharum" (and which is a comparatively pure inverse sugar) direct from raw saccharine juices, or from sirups such sirups being juices from which the water has been partially evaporated, or being the fluid portions of concentrated solutions separated from the early-formed crystallized sugar, or being residuary sirups obtained in the process of crystallizing sugar.

118,525.—Envelope-Machine.—Jeremiah C. Gaston, Cincinnati, Ohio.

Claim.—The series of blocks B, in combination with the clamping-box A, substantially as set forth.

118,526.—Harvester.—William F. Goodwin, Metuchen, N. J.

Claim.—The pivoted vibrating platform and cutter-frame, in combination with the adjustable main frame and hinged adjustable pole or tongue, all arranged and operating as described.

118,527. — Shank and Toe-Laster for Boots and Shoes. — Charles Leonard Graves, Osage, Iowa.

Claim.—The levers D D^1 D^2 D^3 D^4, provided with hooks *d* and arms *e*, as specified, and pivoted to the nut B and working in slots in the plate C through the medium of the screw A, as shown and described.

118,528. — Wood Pavement. — James F. Gyles, Chicago, Ill.

Claim.—1. In a wooden pavement, the combination of two or more rows of blocks, *f*, ribs *g*, and nails or spikes, as specified, and a cement applied to fill the space formed between said blocks and above the ribs, the corresponding space below the ribs being left open, as herein shown and described, for the purpose set forth.

2. An improved wooden pavement formed by the combination of the following elements, viz., rectangular blocks *f*, ribs *g* attached to said blanks by nails or spikes, a cement applied to fill the space above the ribs, and the strips or planks *b* laid transversely of the street with spaces between them, and each forming a support for one side or edge of a row of blocks, all arranged as shown and described.

118,529.—Churn-Power.—Levi A. Haight, Cairo, N. Y.

Claim.—A churn-actuating apparatus, comprising the foot-treadle F, hand-lever H, connecting-rod G, crank-shaft A, balance-wheel E, friction-roller O, slotted arm L, and walking-beam I, all arranged together, and with the supports therefor and the churns on a portable platform constituting a portable apparatus, all substantially as specified.

118,530. — Wagon-Brake. — William T. Hamilton, Luthersburg, Pa.

Claim.—In combination with the rack F, the ratchet-teeth I, pawl J, and detaching-lever K for holding the brake to the wheels and releasing the same therefrom, substantially as described.

118,531.—Apparatus for Unloading Hay, &c.—Edmund Harrison, Mountain View, Cal.

Claim.—1. The receiver A a^1 a^2 a^3 a^4 a^5 a^6 and frame B, constructed and operating substantially as herein shown and described, to adapt it to receive the hay or grain and transfer the load bodily, by means of a derrick, to the place where it is to be deposited, as set forth.

2. The jointed bars a^2, jointed bar or rod a^3, provided with bolts and lever a^4, in combination with the parts of the netting or canvas of the receiver A, substantially as herein shown and described, and for the purposes set forth.

3. The derrick formed of the shaft or pole D, bed-plate E, swiveled plate F, guy-ropes G, hinged arms H, supporting and adjusting-ropes I and J, hoisting-rope C, and pulleys K L M, whether the receiver A or fork or forks N be used with said derrick, said parts being arranged and operating substantially as herein shown and described, and for the purposes set forth.

118,532. — Paddle-Wheel. — Joseph C. Hite, Mound City, Ill., assignor to himself and Charles Le R. Moss, St. Louis, Mo.

Claim.—A right-and-left spiral wheel, C C', separated by an opening, E, constructed and arranged as described.

118,533.—Diaper-Pin.—William H. Hockensmith, Bridgeport, Conn.

Claim.—As a new and improved article of manufacture, the diaper-pin herein described, formed of the spiral body C and spiral socket D, connected by wire E and the pin A', all formed from a single wire, as specified.

118,534.—Cooking-Stove.—George E. Hopkin, Philadelphia, Pa.

Claim.—The construction and arrangement of the case A and the water-tank B in relation to each other and to any suitable stove, whereby the escape-flue draught on its way to the chimney passes outside of the tank B and in direct contact with the whole surface of the bottom and one side of the same, substantially as and for the purpose hereinbefore set forth and described.

118,535.—Fence.—Patrick J. Hynes, Stoughton, Wis.

Claim.—The arrangement of the panels A A, girders D E, braces H, hook-stakes J, and band I, either with or without the keys G, substantially as and for the purposes herein shown and described.

118,536.—Machine for Twisting Yarns.—John Henry Jackson and Samuel Leak, Putnam, Conn.

Claim.—1. The tread-guides G and H, combined with the spring I and spindle B, substantially as herein shown and described.

2. The combination of the continuous cord D with the spindle B, disk F, pins *d*, and thread-guides G H, all arranged substantially in the manner set forth.

118,537. — Electro-Motor for Sewing-Machines. — Solomon Jones, New Orleans, La., assignor to himself and E. D. Lawrence.

Claim.—1. The electro-magnets F F, lever D provided with armatures G G, needle-bar C, insulator-bar E', and sliding conductor-bar H, when combined and arranged so as to operate substantially as described.

2. The non-conducting plate E', having conductor-plates I I attached, and the sliding current-breaker bar H, when the same are so constructed and arranged as to act in connection with the battery and magnets, substantially as described.

3. The water-tubes M M, so arranged as to prevent the plates I I being unduly heated and burned by the electrical sparks.

118,538.Armature for Electro-Motors.—Solomon Jones, New Orleans, La., assignor to himself and E. D. Lawrence.

Claim.—1. The hollow armatures C C, constructed as described.

2. The hollow armatures C C, when provided with one or more openings, *c c*, substantially as described.

118,539.—Machine for Making Spikes.—Frederick J. Kimball, Philadelphia, Pa.

Claim.—In rolling-dies for making spikes, the combination of dies N O, when the former has sides *a b*, and the latter has cavity *d* and side *c*, respectively, constructed and arranged as and for the purpose specified.

118,540. — Wagon-Reach.—Thomas Laux, Bucyrus, Ohio.

Claim.—In combination with the axle A, bounds B, and reach E, the plates C D, catch F, clamp G H, and joint I, all constructed and arranged as and for the purpose described.

118,541.—Machine for Examining and Replacing Cigars.—Joseph Levy, Wolcottville, Conn.

Claim.—The combination of the base-plate A, flanged and slotted plates B, adjustable blocks C, adjustable blocks E, and slotted adjustable plates G with each other, substantially as herein shown and described, and for the purposes set forth.

118,542. — Beefsteak-Mangle. — John Locke, Lewisburg, Pa.

Claim.—In a beefsteak-mangle, the toothed cylinders *a a*, when the teeth thereof are serrated on their extremities, as shown and described.

118,543.—Washing-Machine.—William C. Marr, Joseph S. Maughlin, and George A. Davis, Onawa, Iowa.

Claim.—1. As the improvement herein described, the arrangement of the large fluted roller D below the small roller H, the same being connected so as to operate as specified.

2. The standards A A carrying the rollers D and H, and secured to the bottom K of the tub by means of rods B and recessed block C, as specified.

118,544.—Holder for Spinning-Rings.—Thomas Marsh, North Providence, R. I., assignor to himself and Henry F. Jenks, same place.

Claim.—The ring-receiver D D^1 D^2, cut as shown, and made with the springing members D^1 D^2, substantially as described, and for the purpose set forth.

118,545.—Bung-Spout.—John Marvin and William T. Hulse, Port Jefferson, N. Y.

Claim.—The bung-spout, composed of the frame A, hook *f*, pivoted spout B, and screw or binding-lever *g*, and arranged to operate as set forth.

118,546. — Water-Wheel. — Charles M. Miles, Milford, Del., assignor to himself and Solomon Matthews, same place.

Claim.—The combination of wheel A *a*, and guide-chutes B *b* having horizontal partitions *b a*, with the adjustable gate C arranged centrally on the inside of wheel, and constructed with an outward flare at the top, all as and for the purpose specified.

118,547, antedated August 25, 1871.—Harness Saddle-Tree. — Thomas George Moore, Albia, Iowa.

Claim. — The bridge A, provided with the T-shaped tenons *b*, combined with the jockeys B B which carry the sockets *a*, into which the terrets are secured, thus securing the bridge to the jockeys, substantially as herein shown and described.

118,548. —Waste-Pipe for Sinks.—James L. Oliver, Boston, Mass.

Claim.—The perforated extension of the waste-pipe above the sink-bottom and the loose ring C, combined with the said bottom, substantially as specified.

118,549.—Cultivator.—George W. Owens, Fairfield, Iowa.

Claim.—The arrangement of the cultivators A A, coupling device E E F, self-adjusting clod-fenders B C C C, and spring D, as set forth and described.

118,550.—Machine for Preparing Metal for Solder, Printers' Lead, &c.—Reuben Painter, Baltimore, Md.

Claim.—1. In combination with the kettle *a*, the stirring apparatus, consisting of the shaft *b* and spiral blades *d*, as specified.

2. The pipe *g*, provided with the feed-tubes A whose tops are at any suitable distance above the bottom of the pipe, and with the screws *j*, all combined as described.

3. The combination of the grooved wheel *f* with the flanged roller *e z*, as set forth.

4. The wheel *f*, having an inclosed annular box, *m*, in its rim, provided with longitudinal and transverse partitions *o r*, and combined with water-pipes *r r*[1], and hollow shaft *p*, as explained.

5. The combination of the roller *t* having the transverse grooves *u* and longitudinal groove *v* with the roller *t'* having the knife *w*, as specified.

118,551. — Mold-Board for Plows.—George Peacock, Selma, Ala.

Claim.—A mold-board for plows, corrugated and perforated, substantially as herein shown and described, for the purpose specified.

118,552. — Auger.—Hiram Pitcher, Fond du Lac, Wis., assignor to himself and H. & G. O. Trowbridge, same place.

Claim.—1. The cutting-spur *b*[1], constructed and arranged as and for the purpose specified.

2. A double auger, formed of the parts A B, each spirally flanged, arranged one within the other, and provided with cutters, as specified.

118,553.—Scaffold.—John Redick, Butler, Ohio.

Claim.—The loosely-supported cross-bars D, vertical rods *d*, and jointed levers E, when combined with and applied to uprights A, as and for the purpose specified.

118,554. — Apparatus for Transmitting Motion.—Samuel S. Rembert, Memphis, Tenn.

Claim.—1. The cam-groove in the drum B and the pinion F, constructed, arranged, and the pinion and drum combined, substantially as specified.

2. The chain-carriers I of the drum H, made adjustable radially, substantially as specified.

118,555.—Wooden Horse-Collar.—Zenas C. Robbins, Washington, D. C.

Claim.—1. The combination of the top section A with the inwardly-inclined upper ends of the side sections F F, substantially as herein set forth, said combination being such that it enables the said top section to be accurately adjusted to any desired upper or lower position within the inclined upper portions of the side sections, while it enables the ends of said side sections to be so adjusted as to properly proportion the width of my improved horse-collar to all variations in the length of the same, and also enables them to be so adjusted as to adapt the collar to the varying shapes of the necks of the animals that are to wear the same.

2. The longitudinally-slotted top section A, combined with the side sections F F by means of the bolt B, and secured in its proper position between said side sections by means of the set-screw *m*, substantially as described.

3. The combination of the set-screw *m* with the top section A, the screw-bolt B, and the side sections F F, substantially as and for the purpose herein set forth.

4. The inward enlargement, in an obliquely-longitudinal direction, of the bolt-holes in the side sections F F, when the shape of the outer ends of said bolt-holes is such as to cause them to loosely embrace the bolt B, substantially as and for the purpose herein set forth.

5. The combination of the side sections F F with the top section A of the connecting-bolt B, the elastic washers *g*, and the screw-nuts *e*, substantially as herein set forth.

118,556.—Gutter-Fastening.—William L. Rogers, Rochefort, Mo.

Claim.—The saddles B, provided with the loops *a* and fitted upon the bracket C, to constitute a support and fastening for a gutter or eaves-trough, substantially as herein shown and described.

118,557. — Dumping-Car.—Solomon Rousculp, Thornville, and Isaac B. Shambaugh, Scio, Ohio.

Claim.—The improved dumping-car, formed of the hinged bottom boards A A, cords or chains E B F, and belts H H, shaft D and its pulleys, shaft G provided with hand-wheel I, and the ratchets and pawls K L, all arranged as shown and described, whereby the bottom boards may be opened and closed by operation of the shaft G, as specified.

118,558. — Washing-Machine. — John Schermerhorn, Waterford, Pa.

Claim.—The side frames A A, rollers D, standards E E, slot G, stud *f*, spring *h*, axle H, connecting-links J J, handles K K, and corrugated rubbing-board L, all combined, arranged, and operating substantially as and for the purpose specified.

118,559. — Wrench. — Hiram N. Smade, Manistee, Mich.

Claim.—The fixed jaws D D, placed against the inclined edges *a* upon the shoulders *b*, and held in place by the plates E, substantially as herein shown and described.

118,560.—Post-Hole Digger.—Edward R. Sumner, Freeport, Ill.

Claim.—1. A blade, B, of a post-hole digger, formed of a single piece of metal bent into a circular form, and having sharpened teeth, *c*, on its lower edge to enable it to move freely through earth and roots, as specified.

2. A blade, B, having its edges joined together upon an oblique or diagonal line, *d*, to prevent clogging, as specified.

118,561. — Electro-Magnetic Engine.—Jacob P. Tirrel, Charlestown, assignor to Edward Gassett, Boston, Mass.

Claim.—1. The series of electro-magnets D C H, &c., arranged radially in a frame, B, in combination with a series of radial arms, *f g h i k*, placed on one or both sides of the same, the said arms being one less in number than the magnets, and connected with a shaft, I, which operates a circuit-breaker, substantially as and for the purpose set forth.

2. The frame B with its electro-magnets made adjustable, substantially as and for the purpose set forth.

118,562.—Cultivator.—Arnold Tompkins, Paris, Ill.

Claim.—The combination of the axle G, guide-pieces S, plates F, and side pieces, when operating together as described.

118,563. — Sulky-Plow. — James L. Van Gorder, Sidney, Ohio.

Claim.—1. The combination of the cranked axle A A[1], the coupling F F' or its equivalent, lever I, and the plow-beam with plow attached, substantially as described.

2. In combination with the elements of the preceding clause, the pivoted foot-piece I[2], and hinged latch K, which is linked to the foot-piece, substantially as and for the purpose set forth.

3. The combination of the vertical part A[1] of the cranked axle, coupling F F', plow-beam E, and lever G, the short arm of which is linked to the plow-beam for turning it horizontally, substantially as and for the purpose set forth.

118,564.—Corn-Shaving Machine.—Elias Watts, Key Port, N. J.

Claim.—1. The reciprocating plunger *e*, applied in connection with the feed-wheel, for supplying corn to the shaving-tools, substantially as herein shown and described.

2. The grooved feed-wheel F, receiving intermittent rotary motion for depositing the corn in front of the plunger, as set forth.

3. The spring-guides *l l*, knives *i i*, and spring-scrapers *p p*, arranged and operating as specified.

118,565.—Head-Rest for Coffins.—John P. Waugh, South Scriba, N. Y.

Claim.—The head-rest A, provided with the cavity C and with a flange, D, whereby it is secured to the walls of the coffin, as shown and described.

118,566.—Arched Truss for Bridges.—Peter L. Weimer, Lebanon, Pa., assignor to himself, J. A. Weimer, and L. E. Weimer, same place.

Claim.—As an improvement in bow-string bridges, the combination, with an upper chord formed of a central web of cast-iron stiffened laterally by wrought-iron plates, of a lower chord formed of a wide plate of boiler-iron placed horizontally, to give lateral strength to the truss, as described.

118,567. — Sulky-Cultivator. — Nicholas Whitehall, Newtown, Ind.

Claim.—The improved machine formed by the arrangement of the tooth-bars G G and L L and foot-supports or levers, center-beam I, beams J J and N N, cross-pieces H and M, bent axle C, cross-piece D, bar E, and bearing-bars B B, as shown and described, operating as specified.

118,568.—Overshoe.—Peter S. Whitman, Providence, R. I.

Claim.—A vulcanized India-rubber shoe, provided with a heel-strap, one end of which is attached to the heel of the shoe near the bottom, and the other, being carried to the top, is doubled under and fastened, leaving a loop or space between the two points of attachment, and the fastening being effected solely by the adhesion of the rubber as applied in the process of manufacturing the shoe.

118,569. — Breech-Loading Fire-Arm.—John D. Wilkinson, Plattsburg, N. Y.

Claim.—1. The combination of the notched disk, striking-pin, and spindle with the hammer and the barrel, substantially as specified.

2. The combination of ejector G with sliding-spindle C, arranged as and for the purpose specified.

118,570.—Harrow.—Josee L. Willoughby, Bowling Green, Ky.

Claim.—The combination of the harrow A B, toothed roller C D, pivoted bar E, teeth F, and pivoted handles G with each other, substantially in the manner herein shown and described, and for the purpose set forth.

118,571.—Hay-Knife. — James H. Wolfe, Lytle City, Iowa.

Claim.—The hay-knife, constructed as herein recited—*i. e.*, having the handle, stirrup, jog-off, arms, and detachable knives, as set forth.

118,572.—Mechanical Movement. — Edward E. Young's, York, Me.

Claim.—The combination of a guide-pin, *e'*, and gear-wheel G with the slotted and toothed middle part of a working beam E, substantially as herein shown and described, and for the purpose set forth.

118,573.—Blind-Slat Operator. — Quinten M. Young's, Utica, N. Y.

Claim.—1. The combination of the rod D, sliding slotted bar L, ratcheted bell-crank N, and catch-spring P, all substantially as specified.

2. The combination, with the above, of the spring S, substantially as specified.

118,574.—Harvester.—James Hazel Adamson, Auburn, South Australia.

Claim.—1. The combination of the comb I, bar *d*, connecting-rod *i*, and arm *m*, constructed and arranged substantially as and for the purpose herein described.

2. The combination, substantially as described, of the beaters *b b*, the funnel or chute J, and the adjustable rotating cone Q with its annular ribs and longitudinal vanes, as and for the purpose set forth.

3. The combination of the pulleys W and *y* on the shaft X, the supporting-chain V, and the operating-chain Z with the frame G for retaining the cone in the same relative position with the ground when the movable part of the machine is elevated or depressed, all the parts being constructed and operated as described.

118,575. — Apparatus for Generating Gases from Petroleum, &c.—Augustin I. Ambler, Washington, D. C., assignor to Henry F. Gardner, Boston, Mass.

Claim.—1. The process for the double purpose of obtaining an inflammable gas and retaining it uncondensed under pressure for combustion, and also for making a purified oil for lubrication and other purposes, by passing steam at ordinary working temperature, not superheated, through crude petroleum without the use of other heat, retaining the gaseous products under heat and regulated pressure without condensation, and leaving the residuum of a higher specific gravity and purified to be drawn off, substantially as set forth.

2. An apparatus combining in its construction the following elements, viz.: first, a close receiver containing hydrocarbon oil, with a space above the oil for retaining steam and gas under heat and regulated pressure; second, a steam-generator and a tube or tubes for passing steam at ordinary working temperature, and not superheated, through the body of the oil; third, a suitable conduit for conveying without condensation the mingled steam and hydrocarbon vapor or gas evolved from the lighter portions of the oil in regulated quantities to a point where, in combination with oxygen, (either pure or in combination,) it may be burned; fourth, a valve or valves inserted in said exit-conduit for maintaining a regulated pressure in the receiver and for retaining the mingled vapors in contact until the chemical changes may take place; and fifth, a conduit for drawing off the heavier portion of the oil for utilization.

3. The carburetor A, provided with an outer chamber, A', substantially as and for the purpose described.

4. The induction steam-pipes C' C', when used in combination with induction-pipes C C and eduction-pipes G H, as and for the purposes described.

118,576. — LANTERN. — Frederic A. Balch, Hingham, assignor to himself and E. T. Bond, Sheboygan Falls, Wis.

Claim.—1. The sliding band A and globe B of a tubular lantern, in combination with adjustable catches D, or similar devices not depending upon frictional contact for their action to secure said band and globe together, and yet render said globe easily detachable, as set forth.

2. The band A and globe B, in combination with the band C and adjustable catches or hooks D, for the purpose set forth.

3. In combination with a tubular lantern, the globe B secured to the sliding band A by means of adjustable catches, as set forth, and the diaphragm *g* secured to the lower end of the globe B, as described.

118,577. — HINGE. — Samuel W. Barber, Heath, Mass.

Claim.—The improved hinge, having the door-strip A with knuckle B, sill-piece C with lugs *d*, and enlarged knuckle-socket A′ and adjustable bolt *d*′, formed with the shoulder *d*″ and provided with the nut D and washer E or its equivalent, substantially as and for the purpose set forth.

118,578.—HAT-PRESS.—Gustav Bartel, New York, N. Y.

Claim.—1. In a hat-press, the arrangement of the hollow rotating rock-shaft D, serving as an axis for the lever E, and a water communication for the supply-pipe *l* of the water-chamber F, when the several parts operate in connection with the mold B, substantially as and for the purpose specified.

2. The water-chamber F, lever E, and weight G, in combination with the pipe *l*, rotating hollow shaft D, pipe *m*, and pump L, operating substantially as and for the purpose set forth.

3. The hand-wheel O, lever *p*, and pump L, in combination with the hollow rock-shaft D, chamber F, and mold B, as described.

4. The blow-off pipe *r*, stop-cock *s*, and rod *t*, in combination with the hollow rock-shaft D, chamber F, and mold B, as set forth.

5. The bolts *b*, lever H, and treadle K, in combination with the chamber F, mold B, arm E, rock-shaft D, and balance-weight G, substantially as described.

118,579. — MANUFACTURE OF COAL-GAS.—John A. Bassett, Salem, Mass., assignor of one-half his right to Henri L. Stuart, New York city.

Claim.—1. The manufacture of illuminating-gas from coal by the continuous process, substantially as is herein shown and set forth.

2. In carrying the above-named process into effect, an apparatus in which the coal is automatically charged into the retort and the coke is automatically withdrawn, in the manner set forth.

3. In carrying the above-named process into effect, a vertical retort, having a water-seal which communicates with an automatic apparatus for removing the coke.

4. In carrying the above-named process into effect, the combination, with a vertical retort, of a charging apparatus, which is constructed so as to deliver and regulate the coal to the retort, substantially as set forth.

5. In carrying the above-named process into effect, the method of carbonizing and decomposing disintegrated coal by the employment of highly-heated steam in a vertical retort, substantially as described.

6. Purifying illuminating-gas by means of an automatic apparatus in which the purifying material is retained between the perforated screen-plates, which receive a progressive motion in the reverse direction to the current of gas passing through the purifying-chamber.

7. A purifying apparatus, in which the fresh purifying material is retained in a close-chamber communicating with the purifying-chamber by means of valves, so that the apparatus may be charged without stopping the action of the purifier or loss of gas, and in which the spent material is removed in a similar manner.

118,580.—LIFE-BOAT. — Peter R. Beaupré, Metropolis City, Ill.

Claim.—1. In a life-boat, the combination of the end air-chambers H, the side air-chambers G, the bottom air-chambers J, the deck C, and the discharge-pipes E provided with valves, substantially as described and shown, for the purpose of automatically righting the boat and freeing it from water at the same time.

2. In a life-boat, the combination of the air-chambers H and G, both constructed and arranged substantially as described and shown, and operating in aid of each other in righting the boat when capsized.

3. The combination of the floor C, the discharge-pipes E, the valves F provided with an air-chamber, *b*, and the air-chambers J, all constructed and arranged, substantially as described and shown, for the purpose of freeing the boat from water.

4. The life-boat A provided with the air-chambers H, G, and J, the deck C, and the discharge-pipes E with valves F, the several pipes being constructed, arranged, and operating substantially as described and shown.

118,581. — ANIMAL-TRAP.—Joseph Biddle, Edinburgh, Pa.

Claim.—1. The combination of the plate *k*, bar *i*, finger *m*, latch-bar *n*, arm *p*, rock-bar *q*, platform *f*, and door *g*, as specified.

2. The combination of the trap A, loaf *r*, platform *f*, box *t*, and receiver V, as described.

118,582.—HAY-PRESS.—Oscar Bosseé, Millbrae, Cal.

Claim.—1. The rail C provided with lugs *d* and side loops *g* and the rack *e*, in combination with the side chains *f*, the rail *h*, and the rack *i*, all constructed and arranged with reference to a hay-press, substantially as and for the purpose set forth.

2. The rail *h* with its downwardly-projecting plates *k*, the said plates being provided with a hook, *l*, in combination with the racks *i* and *e*, and the rail C having the eyebolts *m*, all constructed and arranged substantially as and for the purpose set forth.

3. The curved bars or locks *j*, in combination with the rails C and *h*, and the plates *k* provided with the hooks *l*, substantially as and for the purpose set forth.

4. The hay-press herein described, and consisting of the frame and box A, door B, side slots *b*, rails C and *h*, racks *e* and *i*, side bars *k*, side chains *f*, the wheel T, and toothed wheels V, all constructed, arranged, and operating substantially as and for the purpose set forth.

118,583. — BRAKE FOR VEHICLES. —John Boyer, Fairfield township, Pa.

Claim.—The combination, with the brake-shoes E and E′ and pivoted braces G H, of the rock-shaft E″, pitman F, and operating-lever F′, substantially as specified.

118,584.—CORN-MARKER.—Austin G. Brassfield, Henry, Ill.

Claim.—The axle B, and laterally-moving reach C with its rib *f* and spring *g*, in combination with the axle A, and platform D provided with notch or recess *e*, substantially as and for the purpose set forth.

118,585.—MACHINE FOR CUTTING POTATO VINES AND DIGGING POTATOES.—Thomas E. C. Brinly, Louisville, Ky.

Claim.—1. The combination of the vine-cutter B B¹ and the frame A, when the latter is mounted upon runners A¹, substantially as and for the purpose set forth.

2. The combination of the sleigh A A¹, revolving cutters A², and handles A³, substantially as and for the purpose set forth.

118,586. — FRUIT-CAN. — Henry Callahan, Dayton, Ohio.

Claim.—The herein-described corrugated cementing-ring, made from strips of metal joined at their ends, in contradistinction to the solid ring, substantially as described, as a new article of manufacture and trade.

118,587. — TIRE-TIGHTENER. — Melvin C. Chamberlin, Wabasha, Minn.

Claim.—The cap E, provided with longitudinal slot *b* at one end and the transverse slot *a* at or near the center, and used in combination with the flanged nuts C C and spreading-bolt D, substantially as and for the purposes herein set forth.

118,588.—PROP FOR HOLDING UP THE LIDS OF BOXES, &c. — Addison Davis and Theodore Parsons, Boston, Mass.

Claim.—1. In combination with a hinged lid or cover, a prop which, upon the lifting of the closed lid, automatically assumes a position to support the lid or cover in inclined elevated position, substantially as described.

2. A prop which, upon lifting the open lid resting on such prop, is automatically thrown into position to permit the lid or cover to close, substantially as described.

3. A prop automatically thrown both into position to support the lid or cover when it is opened, and also thrown into position when the lid which it supports is released, to permit such lid or cover to close, substantially as described.

4. The combination and arrangement of the slotted or recessed prop, pin, stop, and spring with or without the trigger *k*, substantially as shown and described.

118,589. — WHEEL-HUB FOR VEHICLES.—Daniel Davis, New York, N. Y., assignor to The Davis Patent Hub and Wheel Company, same place.

Claim.—The combination of the shells B B′, the clamping-plates A A formed with annular recesses *c c* to receive and support the inner ends of the shells outside of the bolts *d d* that hold the spokes to their places, and the axle-box C arranged to bind as a screw-bolt said shells and clamping-plates together, substantially as specified.

118,590.—WHEEL FOR VEHICLES.—Daniel Davis, New York, N. Y., assignor to The Davis Patent Hub and Wheel Company, same place.

Claim.—1. The combination of the metal splines *b* with the wooden spokes D, substantially as specified.

2. The construction of the metal splines *b* at their outer ends with a wedge-shaped recess, *d*, in combination with the wedges *c* of the spokes, essentially as described.

118,591. — FIBER-CLEANING MACHINE.—Charles A. Dean, Boston, Mass.

Claim.—1. The breaker-rolls *d e*, expressing-rolls *f g*, and compacting or condensing-rolls *h i*, relatively arranged and combined, substantially as shown and described.

2. The wiper or scraper-rolls *o p*, in combination with the breaking, expressing, and condensing-rolls, substantially as shown and described.

118,592.—PAVEMENT FOR STREETS, &c.—William H. De Valin, Sacramento, Cal.

Claim.—1. A street-pavement, composed of blocks of clay molded and baked, coated or saturated with coal-tar or other hydrocarbon, substantially as herein shown and set forth.

2. The combination, with clay blocks coated or saturated with coal-tar or its equivalent, of alternate strips of wood coated or saturated with coal-tar or its equivalent, substantially as shown and described.

3. The combination, with clay blocks coated or saturated with coal-tar, as described, of concrete, substantially in the manner and for the purposes herein set forth.

118,593, antedated August 11, 1871.—CAN-OPENER.—Edward M. Dewey, San Francisco, Cal.

Claim.—A combined tool, as described, consisting of the bar 4 and sliding knife 3, ground only on one side of the blade, and held in position on the bar by the side pressure in cutting, in combination with the pivot-pin 2 and straight knife 1, all constructed and arranged substantially as and for the purpose set forth.

118,594.—STUMP-EXTRACTOR.—Alfred Dickinson, Olean, N. Y.

Claim.—The construction, arrangement, and combination of the levers A A, the tripod B, with the vertical or upright standard or jack E, and one or more sets of pulley-blocks and tackle, G and H, to be operated by men or the power of a team, substantially in the manner as herein shown and described, for the purposes specified.

118,595.—MARQUETRY.—Joseph Dill, Grand Rapids, Mich.

Claim.—A marquetry floor or other substance, when constructed of bottom pieces A, double male dovetail keys B, and sliding pieces C, substantially as herein described.

118,596.—STEAM FLUE-CLEANER.—William Doty, Circleville, Ohio.

Claim.—The water-escape channel *s*.

118,597.—METHOD OF REFINING CAST-IRON AND MAKING CASTINGS.—Zoheth S. Durfee, New York, N. Y.

Claim.—1. The continuous process, substantially as herein described, of treating iron taken directly from blast-furnaces and making castings therefrom.

2. The herein-described modes of treating iron for the manufacture of castings by first melting it in ordinary cupola-furnaces, and then, previously to founding it, tapping it into reverberatory furnaces and refining it, or in otherwise modifying its character.

3. Combining reverberatory or gas-melting furnaces with the blast-furnaces, substantially as and for the purposes specified.

4. Combining reverberatory or gas-melting furnaces and cupola-melting furnaces, substantially as and for the purposes specified.

118,598.—BRAKE FOR VEHICLES.—Franklin Fairbanks, St. Johnsbury, Vt.

Claim.—The combination of the two shafts A B, the brakes C C, the arms *d e k*, the connecting-rod *f*, and the pedal *l*, attached to the arm *k* by a rule-joint or its equivalent, provided or not with the stop *n* or its equivalent, the brakes being connected to the rear shaft A by arms *e e*, and the two shafts A B having their journals supported on hangers *a a b b* extending from the carriage-body, all essentially as shown.

118,599.—BABY-JUMPER.—John P. Faulks, Glasgow, Mo.

Claim.—1. As a support for a baby-jumper, the adjustable upright A A′ secured rigidly to its broad cap and foot, and provided with the clamp-slide *c* and the adjustable screw *c*″, substantially as and for the purpose specified.

2. The combination, with the rectangular uprights A A′, of the adjustable pivot *d*, rotating sleeve *e*′ *e*″, spring G, adjustable swivel-clamp *g*

h', and baby-jumper or belt *k l*, substantially as and for the purpose specified.

118,600. — THILL-COUPLING.—William G. Foster, Dansville, N. Y.

Claim.—The hereinbefore-described thill-coupling provided with the hood C, substantially as and for the purpose specified.

118,601.—CONDENSER FOR RECTIFYING APPARATUS.—Andre Feubert, Buffalo, N. Y.

Claim.—The condenser made of groups of tubes arranged helically, and opening at their ends into the chambers *m* at the bottom parts of such helix, as and for the purposes set forth.

118,602.—APPARATUS FOR DISTILLING AND REFINING OILS.—Andre Feubert, Buffalo, N. Y.

Claim.—1. The pipes *q* and *r*, connecting with the pipes *g*, &c., between the column *d* and the still *a*, for conveying away the liquid from the column and the tarry material, instead of its passing into the still, substantially as set forth.

2. The refrigerator *n* and condenser *k* connected by the pipes *m* and *p*, and the siphon *i* connecting with the column *d*, in combination with said column and still, the parts being arranged as and for the purposes set forth.

118,603. — ATTACHMENT TO GAS-FITTERS' GAUGES.—Henry Getty, Hoboken, N. J., assignor to Lucien Knapp, New York city.

Claim.—An attachment to gas-fitters' gauges, consisting of a body with a screwed neck, C, for the reception of a gauge, G, screw D to fasten to the pipes, ether-cup B, cock A, and coupling E, the whole combined and arranged as shown, for the purposes specified.

118,604.—GRATE AND GRATE-BAR.—John C. Grant, Salem, Mass.

Claim.—1. A grate whose under side is provided with a series of projections, *c*, substantially as and for the purpose set forth.

2. A frame provided with projections on its upper or lower side, or both, in combination with a grate, substantially as and for the purpose described.

118,605.—CORN-SHELLER.—David C. Guttridge, Pittsburg, Pa., assignor of one-third his right to Charles Ballinger, Wilkesbarre, and one-third to Robert Smiley, South Pittsburg, Pa.

Claim.—The combination of the clamp A, screw B, stationary circle C, arms D D, cog-wheel E, revolving circles H I, and the shelling mechanism, all constructed and arranged substantially as and for the purposes herein set forth.

118,606.—ELECTRO-MAGNETIC SIGNAL APPARATUS FOR RAILROADS.—Thomas S. Hall, West Meriden, Conn.

Claim.—1. The combination of visible or audible signals with raising and reversing-keys actuated by a locomotive or car, and with two electro-magnets, one for closing and the other for opening the circuit through the signal-magnet, said signals being displayed or started automatically by the action of the train on the raising-keys, and kept displayed or in action till the train has passed the point of danger, and then taken off or stopped automatically by the action of the train on the reversing-keys, substantially as described.

2. The arrangement, with a railroad track, of a series of pairs of signal-houses, the signal-houses forming each pair being placed at suitable distances apart and connected by wires 14 and 15, and operated by the action of the trains on raising and reversing-keys, substantially in the manner herein shown and described.

3. The arrangement of line-wires 11 12 13, raising and reversing-keys *a* a^1 a^2 a^3, and signal-house C^1, all constructed and operating substantially as herein set forth.

4. The combination of the line-wires 11 and 12 with the battery D^2, line-magnet *u*, and signal-magnet *o*, substantially as described.

5. The combination of the line-wires 11 and 12 with the battery D^2, line-magnet *u*, signal-magnet *o*, and alarm-bell magnet *w*, substantially as set forth.

6. The catch or latch f^2, in combination with line-magnet *u*, line-wires 11 and 12, key *r*, abutments *q* *q'*, and signal-magnet *o*, whereby the circuit through the signal-magnet is kept closed after the train has passed the raising-key of the line-magnet, substantially as described.

7. The line-wires 12 13, taking-off magnet *h*, and reversing-key to be acted on by a passing train, in combination with the catch or latch f^2, key *r*, and signal-magnet *o*, substantially as set forth.

8. The line-magnet *u*, key f^2, and battery D^1 in the signal-house C^1, in combination with wires 14 15, and with a magnet, o^x, in the signal-house C, substantially as described.

9. The combination, with a single-track road, of a signal-house F, wires 11, 12, and 13 extending therefrom in two directions and parallel to the track, or nearly so, and keys *a*, a^1, a^2, a^3, and a^4, substantially as set forth.

10. The combination, with a double-track road, of a signal-house, F^x, wires 25, 26, 27, and 28, and keys *a* a^1 a^2 a^3, substantially as described.

11. The method, substantially as herein described, of keeping the signal displayed or in action when two trains approach a crossing in opposite directions nearly at the same time, consisting of two double-circuit instruments connected to the signal or signals and to the keys *a* a^1 a^2 a^3, substantially in the manner set forth.

12. The hand-keys I, constructed substantially as described and shown in Figs. 10 and 11.

118,607.—PROPULSION OF VESSELS.—Edgar Harriott, Plainfield, N. J.

Claim.—In combination with the double set of pumps B B' placed opposite to each other, and the supply-tank C placed beneath the pumps, the branched nozzle *c c'* arranged in two sets occupying different horizontal planes, the suction-pipes *d d'*, and the steam-pipes *a a'* connecting the boiler with the two sets of pumps, all arranged as herein shown and described, for the purpose specified.

118,608.—SEAL FOR DIP-PIPES IN GAS APPARATUS.—Alonzo F. Havens, Brooklyn, N. Y.

Claim.—1. The double-acting seal interposed between the retort and the gas-main, substantially as and for the purposes set forth.

2. The water-seal connected with the cover or movable portion of the retort, substantially as set forth, so that the seal is opened automatically in opening and closing the retort.

3. The method herein specified of opening and closing the connection between the retort and main by automatic mechanism that is operated simultaneously with the closing and opening of the retort, substantially as set forth.

118,609.—APPARATUS FOR PURIFYING GASES.—Alonzo F. Havens, Brooklyn, N. Y.

Claim.—1. The purifying apparatus, made with nests of trays with purifying material, and removable from said purifying apparatus when the cover is taken off, for the purposes and as specified.

2. The nests of trays, provided with the sleeve *r* that passes over the stand-pipe *m* and guides the nest to its place, substantially as specified.

118,610.—GIRT.—William Clark Hays and John C. Pancake, Sharonville, Ohio.

Claim.—The combination of the girt A, composed of alternate layers of rubber and cloth, leather straps B B, and buckles C C, the straps being riveted to the girt, substantially as and for the purposes herein set forth.

118,611.—SNAP-HOOK.—William L. Heberling, Mt. Pleasant, and John U. Fiester, Winchester, Ohio; said Fiester assignor to said Heberling.

Claim.—A snap-hook, formed of wire or other suitable spring metal, when provided with a curved or bulged look end, *a*, and the part B with the catch-loop *b'*, and with or without the tongue C, all constructed and arranged substantially as and for the purposes herein set forth.

118,612. — CLOTHES-DRIER. — A. Harleigh Hill, Johnsbury, Vt.

Claim.—The rod *g*, when provided with the adjustable staple *j* and rigid pin *h*, and combined with the socket *e* provided with the hole *i*, as described.

118,613.—TUBULAR STEAM-BOILER.—Oliver Hyde, Oakland, Cal.

Claim.—In steam-boilers having vertical flues or heat-passages C, the surrounding shells or tubes D provided with ribs *e*, said ribs being extended so as to form legs at each end, all as and for the purpose above described.

118,614. — DRILL-REST FOR CHUCKING-LATHES.—George E. Johnson and William Boston, Biddeford, Me.

Claim.—1. The combination, with the supporting-rod A, flanges B B, the two jaws E arranged thereon at right angles to the rod A, and the right-and-left-hand screw K, as described and shown.

2. The combination of the jaws of the angular form herein described and shown, and with legs F, and combining with the same the set-screw H, substantially as set forth.

118,615.—HOSE-CARRIAGE.—Asahel A. Justin, Buffalo, N. Y.

Claim.—1. The combination, with the reel and rear-wheel of a hose-carriage, of the pulleys I I' and endless chain *i*, or equivalent motion-transmitting device, substantially as and for the purpose hereinbefore set forth.

2. The combination and arrangement, with the reel E F and shaft G, of the spindle K, clutch *k*, and notched ring L, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the self-winding reel E F and rear axle B, of the frame C, side springs D, and equalizing-spring D', arranged substantially as hereinbefore set forth.

118,616.—FIELD-ROLLER.—James M. Kelly, Ellison, Ohio.

Claim.—The within-described field-roller, composed of the frame A, provided with the loosely-journaled rollers B B, one set being arranged in front of the other, as shown, and the scrapers E E' operated by the levers G G', all substantially as and for the purposes shown and set forth.

118,617.—COMBINED BUSH AND WRENCH FOR BUNGS.—John Lacey and George B. Cornell, Chicago, Ill.; said Lacey assigns his right to said Cornell.

Claim.—The combination, with the notched bung-bushing *a*, of the wrench, consisting of the bar E having the slotted plate *e* and angular projection *i*, and the removable core F, substantially as specified.

118,618.—WASHING-MACHINE.—John Lawson, Humboldt, Kansas.

Claim.—The combination of the tub *a*, flanges *i* *j*, top *b*, wash-board *c*, rubber *f*, sides *e*, shaft *d*, arms *g*, and handle *h*, as specified.

118,619. — WRENCH. — James W. Mahlon, New York, N. Y.

Claim.—The combination of the screw I, nut N, handle F G, yoke D, bar A, and jaws B and C, when the whole are arranged substantially as herein set forth.

118,620.—SHOULDER-TOOL FOR SHOEMAKERS.—Charles Malhoit, Sutton, Mass.

Claim.—A shoulder-tool for use upon boots and shoes, constructed with an iron handle part A, metallic tongues and shoulders F, C, and E, and stone shoulders B D, substantially in the manner shown and described.

118,621. — GRAIN-DRILL. — Solomon Markham, Flat Rock, Kan.

Claim.—The combination of the swinging frame D with the truck-frame A with chain *k*, and raising and locking device J and lever *h*, whereby the operator can raise the swinging frame and shut off the flow of seed, substantially as and for the purpose set forth.

118,622.—SUPPORTER FOR SPINNING-RINGS. Thomas Marsh, North Providence, R. I.

Claim.—The cut or kerfed and rabbeted ring-supporter B, when the rabbet is cut under or dovetailed, as described, and engages a corresponding part on the ring which it is intended to hold, substantially as described.

118,623.—SAD-IRON.—John C. Maxcy and Thomas Lewis, Springfield, Ill.

Claim.—A sad-iron or tailor's goose having a groove in its base, substantially as and for the purpose set forth.

118,624. — PAPER-MACHINE DECKEL.—Charles McBurney and Lyman Hollingsworth, Boston, Mass., assignors to Charles McBurney.

Claim.—1. A deckel-strap, provided with a groove, *b*, on its under or "working" side, substantially as and for the purpose described.

2. The within-described method of splicing deckel-straps before vulcanization, for the purpose set forth.

118,625.—HAIR-BLOWING ATTACHMENT FOR SHEARS.—William C. McIntire, Washington, D. C.

Claim.—The combination and arrangement, with a pair of shears, of a blowing apparatus, substantially as shown and described, for the purpose set forth.

118,626. — PACKING-BAG.—Edward Annis Merrill, New York, N. Y.

Claim.—1. A packing-bag constructed with impervious lining B and rigid ring or casing D, to form an orifice, C, substantially as and for the purpose described.

2. In combination with an outer cloth bag provided with an impervious lining, B, orifice C, and ring or casing D, the flap E provided with stopper F, substantially as described and shown.

118,627, antedated August 24, 1871.—MATCH-BOX.—L. Otto P. Meyer, Newtown, Conn.

Claim.—The combination of the box *a*, the strips *b b*, and the lid *c* with its flange *d*, substantially as and for the purpose hereinbefore set forth.

118,628, antedated August 25, 1871.—MATCH-HOLDER. — L. Otto P. Meyer, Newtown, Conn.

Claim.—The combination of the front plate *b*, grooves *c c*, box *d*, and spring *e*, substantially as and for the purpose hereinbefore set forth.

118,629.—HEATING-STOVE.—Hiram C. Miles, St. Joseph, Mich.

Claim.—1. A fire-pot and fire-chamber combined,

both of which are surrounded by hot-air pipes *b*, in combination with an air-chamber at the lower ends of said pipes and with a cooking-chamber at the upper end of said pipes, and also with an opening, *h*, a diaphragm, *k*, and perforation *e*, all constructed and arranged to form a combined cooking and warm-air heating-stove, substantially as described.

2. The opening *h* leading into the air-heating and cooking-chamber G of a stove which is constructed as herein described and shown.

118,630. — Ice-Pitcher. — Friend Miller, Wallingford, Conn., assignor to Simpson, Hall, Miller & Co., same place.

Claim.—1. The arms B B, arranged upon the pitcher and combined with the supports C, so that the bearing upon which the pitcher turns is at the front of the body of the pitcher, substantially as herein described.

2. The pan P, constructed with the projecting mouth S, and arranged in the base of the pitcher, so that the said mouth is open while the pitcher rests thereon, substantially as set forth.

118,631.—Sewing-Machine.—Adam Moltz, New York, N. Y.

Claim.—The elevator and depresser L, in combination with the cams E E, lever F, feed-bar H, and spring K, all constructed and arranged substantially as and for the purpose herein specified.

118,632. — Carriage-Step. — Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—1. A carriage-step in which the shank A is united to the step B, and divided on the step so as to form the ribs *a a*, substantially in the manner described.

2. A carriage-step constructed with the shank A and having transverse slots, two or more, as described.

3. A carriage-step constructed with the shank A and having transverse slots C C, two or more, and with ribs *d d* upon the upper surface, between the said slots, as set forth.

4. In a carriage-step constructed with transverse slots C, two or more, a pad, constructed with the projection or projections E upon the under side corresponding to the said slots and so as to be secured therein, substantially as specified.

118,633.—Manufacture of Cast-Steel.—Robert Forester Mushet and Edward Maxwell Mushet, Cheltenham, England, assignors to themselves and Zoheth S. Durfee, New York city.

Claim.—The introduction of a quantity of oxide of manganese in the manner we have described into melted steel, whether in a reverberatory or open-hearth gas-furnace, or in a Bessemer converter, near the close of the operation, shortly before the metal is tapped or run off, with the view of superseding wholly or in part the employment of spiegeleisen as at present used in the said furnaces for improving the melted steel therein, and likewise for the purpose of effecting an improvement in the quality of the cast-steel produced.

118,634.—Attachment of Band-Cutters and Thrashing-Machines.—Samuel C. Myers and James McCauley, McAllisterville, Pa.

Claim.—1. In combination with the platform B, the adjustable or movable band-cutter and conveyer D, arranged to operate substantially as set forth.

2. The combination of the band-cutter and conveyer D with the semicircular platform B, having the driving-pulley *c* located at the center thereof, as set forth.

118,635.—Stump-Extractor.—Francis M. Nash, Stockton, Minn., assignor to himself and William H. Stevens, same place.

Claim.—A hoisting-machine, consisting of a suitable frame having the inclines M mounted thereon, with the bar D, yoke F, plate G, and dogs H and I, arranged to operate substantially as described.

118,636. — Straw-Cutter. — James W. Neal, Big Lick, Va.

Claim.—The within-described straw-cutter, consisting of the box A, shaft C, disk D, crank E, adjustable cutters G, auger-wheel H, and roller I, when all of said parts are constructed and arranged substantially as and for the purposes herein set forth.

118,637. — Washing-Machine. — John K. Nelson, Mechanicstown, Md.

Claim. — The combination of the box A, adjustable hinged board C, wash-board G, perforated cross-board H, double brace I, and lever J, all constructed and arranged substantially as and for the purposes herein set forth.

118,638.—Shoe-Brush.—George R. Owen, Rome, N. Y.

Claim.—The slide-handle B, when constructed and arranged substantially as shown, as a consequence of which it is made to hold the box in its recess when in position shown in Fig. 1, and to serve as a handle when in position shown in Fig. 2.

118,639.—Water Cut-off.—William Phipps, Milwaukee, Wis., assignor to himself and James D. Pierce, same place.

Claim.—A water cut-off, consisting of body A, changeable pipe B, with cover C so constructed as to hold pipe B up when it is turned out with pivot E, on which the pipe B swings, in combination with pipe G, substantially as and for the purpose described.

118,640.—Eyelet for Attaching Buttons to Textile Fabrics.—Clark M. Platt, Waterbury, Conn.

Claim.—As a new article of manufacture, an eyelet, constructed as described and set forth—that is, of tubular stem and cap united, as specified.

118,641.—Motive Power.—Thomas J. Polson, Kilmichael, Miss.

Claim.—The arrangement of the shaft B, cog-wheels C D, pinion E, crank-wheels G K, pitmen H J, lever I, and shaft L with pulley M, all substantially as shown and described, and for the purposes herein set forth.

118,642.—Changeable-Gauge Car-Wheel and Axle.—Perley Putnam, Laconia, N. H., assignor of one-half his right to James M. Foss, St. Albans, Vt.

Claim.—1. The bearing-projections *f f* cast in one piece with the hub C of the car-wheel, and arranged to receive and securely retain the cam-shaft *g* therein, substantially as herein specified.

2. The combination of the screw *h*, formed substantially as described, and the groove *k* with its enlargement *l* in the periphery of the cam-shaft *g*, for the purpose herein specified.

118,643.—Ironing-Table.—Thomas Reed, Plainwell, Mich.

Claim.—The combination of the board A, bars *a*, loops *b b*, cross-bars B E G, legs D D D', shoulders *h h*, guides *e e*, hook *f*, and one or more staples *i*, all constructed and arranged substantially as and for the purposes herein set forth.

118,644. — Woven-Wire Bed-Bottom.—George Richardson, Milwaukee, Wis.

Claim. — 1. In combination with a woven-wire fabric, constructed substantially as shown and described, the stiffening spiral-spring cords B, when each of the latter is passed through the convolutions of one helix of wire of the fabric without being connected with such helix, in the manner and for the purpose set forth.

2. The combination of the stiffening spiral-spring cords with the woven-wire fabric, frame C, and stretching-roller C', substantially as set forth.

3. The combination of the frame C, stretching-roller C', stay-bar G, and wedge H, substantially as and for the purpose set forth.

118,645. — Abdominal Supporter.—Jennie V. Richardson, Milwaukee, Wis.

Claim.—The combination of the straps F with an abdominal supporter composed of the garment C and adjustable plate or pad A, and leggings C', or equivalent prolongations of the garment C, substantially as and for the purposes set forth.

118,646.—Beer-Cooler.—Charles L. Ridgway, Boston, Mass.

Claim.—1. In beer-coolers, the arrangement of a cooling-reservoir in a receiving-chamber intermediate between the barrel and the mouth of the outlet-pipe, substantially as and for the purpose specified.

2. The arrangement of a transparent chamber intermediate between the barrel and the mouth of the outlet-pipe, for the purpose of displaying the beer, substantially as shown and described.

3. In combination with the chamber E, the three-way cock B, constructed, arranged, and operated substantially as and for the purpose set forth.

4. In combination with the three-way cock B provided with shoulders *d* and *e*, the check-latch T provided with the spring S, all constructed, arranged, and operated substantially as and for the purpose specified.

118,647. — Journal-Box.—Joseph B. Sargent, New Haven, Conn.

Claim.—1. The cap of a journal-box, constructed with a projecting-lip, *d*, to pass through a recess, *a*, in the bed, and by a longitudinal movement of the said cap to be secured to the bed by the lip *d* passing beneath the said bed, substantially as herein described.

2. In combination with the foregoing, the cam D, constructed so as to give to the said cap a longitudinal movement and secure it in position, substantially as specified.

118,648.—Check-Spring for Vehicles.—Christian Scherich, Lisburn, Pa.

Claim.—The forked guides C C and D D, constructed and operating substantially as above described, in combination with the coiled or spiral spring E, when operating, applied, and used for the purpose specified.

118,649.—Apparatus for the Manufacture of Ice.—James E. Sears, Waco, Tex.

Claim.—1. The water-jacket J around the pump A, in combination with the worm-vessel C^2 and pipe e^1, whereby a stream of cold water is supplied to the chamber inclosed by said jacket, and the pump kept cool, substantially as described.

2. The condenser G^2, containing a worm, G^1, which communicates with the chambers in the freezer, and also with the exhaust-pipe B' of the pump, and also with the liquid-receptacle D, substantially as described.

3. The combination of the liquid-receptacle D, the freezer E, and worm-vessel C^2, when there is a communication between these vessels, and also between the worm C^1 and repulsion-pipe B of the pump, by means substantially as described.

4. The blow-off cock *f*, applied to the pipe G, which leads from the worm G^1 to the exhaust-pipe B', substantially as described.

5. The elevated reservoir R and its discharge-cock *v*, in combination with the worm-vessel C^2, pump or pumps A, and liquid-receptacle D, substantially as described.

6. The auxiliary liquid reserve N, communicating with the liquid-vessel D by means of a valve-box, A, and pipe *o*, substantially as described.

7. The combination of a carbonic-acid-gas generator with a vessel, D, an exhausting-pump, and a freezing-box, substantially as described.

8. The treatment of volatile liquids to be used in the manufacture of ice, with carbonic-acid gas, substantially as described.

118,650.—Motor for Sewing-Machines.—David H. Sherman, Waukegan, Ill.

Claim.—1. For communicating motion to sewing-machines, the driving-cone A, adjustable friction-roller D, and cones A', substantially as specified.

2. The combination, with the cones A A', of the friction-roller D, lever L, spring H, and rack O, substantially as specified.

3. The combination, with the cones A A', of the bar F, springs K, arm H, pedal I, and adjustable roller D, substantially as specified.

118,651. — Electro-Magnetic Sewing-Machine.—David M. Smyth, Orange, N. J., assignor to Henry G. Thompson, Milford, Conn.

Claim.—1. An electro-magnet and armature, applied directly to and in combination with the feeding mechanism of a sewing-machine for communicating to such feeding mechanism a direct movement derived from the armature of an electro-magnet, substantially as set forth.

2. A finger-key arranged in the electric circuit of a magnet of a sewing-machine, in combination with such sewing-machine, substantially as and for the purposes specified.

3. A circuit-closing and breaking-arm or spring, combined with the needle-arm or lever in a sewing-machine, for closing or breaking the electric circuits to electro-magnets that actuate the feeding mechanism or shuttle or looper, substantially as set forth.

118,652.—Electro-Magnetic Sewing-Machine.—David M. Smyth, Orange, assignor to Joseph W. Stickler and Theodore C. Elliott, Orange, and William H. Wilson, Montclair, N. J.

Claim.—1. A needle-bar or arm and an armature, in combination with an electro-magnet and a vibrating weight, substantially as and for the purposes specified.

2. A looping instrument connected to the needle-bar or arm by means of a sliding link that allows the needle to penetrate the material before the looper is operated, substantially as set forth, in combination with an electro-magnet and armature to give motion to the needle-bar or arm, as specified.

3. The feeding mechanism connected by a slot with the needle-bar or arm, in combination with the electro-magnet and armature, substantially as set forth.

4. The feeding-slide actuated by a right-angle lever, substantially as set forth, in combination with the adjusting-screw and actuating mechanism, substantially as specified.

118,653, antedated August 18, 1871.—Soldering-Lamp. — William H. Tallman, Amsterdam, N. Y.

Claim.—1. The cap I with small wick A, to be used in combination with the usual wick and wick-tube of a soldering-lamp, substantially as and for the purposes herein set forth.

2. The shell A, partitions *a*, *b*, *c*, and *f*, chambers B C, slate D, lips G, pocket K, and tube H, with or without the lid L, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

118,654.—Mangle.—Henry Tregellas, Calumet, Mich.

Claim.—1. In a mangle, the combination, with

the fixed central roller F'', of the slotted adjustable frame D e D' e', screw H, springs d d', and side rollers F F', substantially as specified.

2. In a mangle, the combination, with the sliding journal-seats f f', of the transverse spring d and the rubber cushions h h'', substantially as and for the purpose described.

118,655.—FOLDING SEWING-MACHINE TABLE.—Ausbert H. Wagner, Chicago, Ill.

Claim.—1. In folding sewing-machine tables, the arrangement of the driving-wheel, pitman, and treadle-shaft, so that the same may be folded together, substantially as described and shown.

2. The combination of the folding stay-rods L and L' provided with nuts g and g' with the standards C and C' provided with slots c and c', constructed and arranged substantially as described and shown, for the purpose of securing the standards in position when unfolded.

3. The folding sewing-machine table, constructed, arranged, and operated substantially as described and shown.

118,656.—CHILD'S CARRIAGE.—Henry Warner, Greenfield, Mass.

Claim.—As an improvement in a child's carriage, the bent frame B secured to the body A, as herein described.

118,657.—STEAM-ENGINE FOR SCREW-PROPELLER VESSELS.—Costantin Wegschaider and Pietro Bonetti, Trieste, Austria.

Claim.—1. The method herein described of utilizing the centrifugal force of the propeller, in the manner and for the purpose herein set forth.

2. The water-channels c c, which pass from the box of the screw outwardly along its blades.

3. The channels b b, cast in the shaft-casing where it passes the stern-tube.

4. The combination of the channels c c, the chamber a a, channels b b, tube S S, and exhauster Z, substantially as and for the purposes hereinbefore set forth.

118,658.—WATER-ELEVATOR.—William P. Wentworth, Seneca Falls, N. Y.

Claim.—1. In combination with the shaft B and ratchet-wheel F, the pivoted crank D, provided with the hooked pawl E, which remains pendent when said crank hangs downward, and follows and engages with said ratchet-wheel when said crank is turned forward, substantially as and for the purpose specified.

2. In combination with the above-named elements, the ratchet-wheel G, the pawl J, and the brake H, substantially as and for the purpose shown.

118,659, antedated August 21, 1871.—PUMP-REGULATOR. — Shepherd H. Wheeler, Dowagiac, Mich.

Claim.—1. The method herein described for regulating the supply of water or liquids to steam-boilers or other reservoirs, substantially as and for the purposes set forth.

2. As a means of applying the above-claimed method to accomplish the purposes set forth, the tube or pump herein described, consisting of the tube D, plungers i and k, rod F, valve L, pipe M, stuffing-box H, seat N, and opening O, substantially as and for the purposes hereinbefore set forth.

118,660. — DIE FOR MAKING METALLIC SHANKS FOR BOOTS AND SHOES.—Hosea F. Whidden, South Abington, Mass.

Claim.—The dies a and b, constructed and operating as shown and described.

118,661. — BRUSH. — John Lake Whiting, Boston, Mass.

Claim.—The butt B, as made separate from the handle and provided with the handle-hole b and one or more projections, a, as set forth, and the handle A made tapering to drive into the butt, as described, such being for use with the bristles D and ferrule C, essentially as explained and represented.

118,662.—BENCH-DOG.—Charles P. Whitman, Charlemont, Mass.

Claim.—The herein-described bench-hook, consisting of the body A, reversible dog B, with the bolt E having the inclined recess, and the pointed screw G, all constructed and arranged to operate as set forth.

118,663.—LAST, &c.—Henry Wight, Malden, Mass.

Claim.—A molded hollow-shell last or boot-tree made of sheet-paper, straw board, paper-pulp, or other suitable plastic or pliable material, as shown and described, and for the purposes named.

118,664.—CHURN.—James M. Yeager, Lanesville, Ind.

Claim.—The cream-box B, suspended upon two swinging-rods, a a, which are closer together at the bottom than at the top, whereby the box obtains a twofold motion, back and forth, and one end rising while the other is falling, substantially as and for the purposes herein set forth.

118,665.—CARRIAGE-CURTAIN FASTENING.—John Zimmerman, Powhatan, Md.

Claim.—1. In a carriage-curtain fastener, the metallic strips or bars D, made of a single piece or of two pieces hinged together, constructed substantially as described.

2. The combination of the holding-strips D, sliding bolts E, staples a, and hooks g, or their equivalents, substantially as described.

118,666.—BED-BOTTOM. — Otis S. Osgood, Mount Pleasant, Iowa.

Claim.—The combination of the frame A B, C-shaped springs C C, and bed-bottom D, when said springs are attached to the top of the frame, then pass downward under the same, and then upward, supporting the bed-bottom, substantially as herein set forth.

118,667.—CONSTRUCTION-TRAIN FOR RAILWAYS.—Hugh Baines, Toronto, Canada.

Claim.—The combination of a double crane, B, engine C, and rollers D, in conjunction with a locomotive and cars, for the purpose of building, economically and expeditiously, railroad tracks, substantially as and for the purpose specified.

REISSUES.

4,528. — EVAPORATING-PAN FOR SACCHARINE LIQUIDS.—Francis G. Butler, Bellows Falls, Vt., assignor to himself and James B. Williams.—Patent No. 112,319, dated March 7, 1871.

Claim.—1. Scum-arresters, applied to evaporating-pans, and operating as described.

2. The combination, with the scum-arresters, of a metal-pan bottom, having partitions, crimps, or corrugations in the metal.

3. An evaporating-pan having corrugations running across the width of the bottom sheet and having flaring sides, in combination with a system of scum-arresters forming elevated compartments upon the flaring sides.

4. The employment of flaring sides, in combination with scum-arresters, in evaporating-pans, substantially as and for the purposes set forth.

5. Flaring metallic sides, in combination with an evaporator having a crimped or corrugated bottom, with a level portion of the bottom between the crimps or corrugations.

4,529. — RUBBER AND BRUSH. — Augustus Charles, Pittsburg, Pa. — Patent No. 113,258, dated April 4, 1871.

Claim.—A rubber or brush constructed with a series of faces, in combination with a handle, to which the same is suitably attached, so as to permit the rubber or brush to be rotated and present its working faces for use in succession, substantially as described.

4,530.—COOKING-STOVE.—Eddy, Corse & Co., Troy, N. Y., assignees, by mesne assignments, of James R. Hyde.—Patent No. 35,564, dated June 10, 1862; reissue No. 2,709, dated July 30, 1867.

Claim.—The arrangement of a water-reservoir upon and against the rear end of a cooking-stove provided with descending and ascending flues, substantially as and for the purpose shown and described.

4,531.—APPARATUS FOR EVAPORATING AND CONCENTRATING BARK EXTRACTS. — Thomas W. Johnson, Jr., and Anthony W. Goodell, Windsor, Nova Scotia.—Patent No. 108,793, dated November 1, 1870.

Claim.—1. The method herein specified of concentrating bark extracts by heated air, within a chamber, acting upon the same while exposed upon revolving disks that are partially immersed in such extract, substantially as specified.

2. The buckets d, applied to and combined with the revolving disks b, substantially as and for the purposes set forth.

3. The arrangement of the heating-stove, casing e, passage-ways, vessel a, revolving disks b, and escape-flue or opening m, substantially as and for the purposes set forth.

4,532.—TELEGRAPH APPARATUS. —George Little, Rutherford Park, N. J.—Patent No. 108,496, dated October 18, 1870.

Claim.—1. A branch circuit connected with the main line and the earth, in which are placed the receiving telegraph and a resistance, substantially as and for the purposes set forth.

2. A branch circuit and resistance, connected from the main line to the earth for clearing the wire of surplus electricity, substantially as set forth.

4,533.—PLOW.—John Casper Pfeil, Arenzville, Ill.—Patent No. 76,343, dated April 7, 1868.

Claim.—1. The combination of the slotted spindle on the arm of the colter, the yoke slotted to receive the spindle, and the locking-pin limiting the vibration of the colter, all these members being constructed and operating as hereinbefore set forth.

2. The combination of the plow-beam, the clamping-bolts, the vertically-slotted arm, its slotted spindle, the yoke slotted to receive the spindle, and the locking-pin, all these members being constructed and operating in combination, as hereinbefore set forth.

3. The combination of the colter, its slotted yoke turning on a fixed spindle, and the spring-pin passing transversely through the spindle and serving to limit the vibration of the colter, as well as to connect the spindle and colter, all these members being constructed and operating in combination, as hereinbefore set forth.

4. The combination, in a plow-colter, of a vertically-adjustable arm, the downward-tapering spindle thereon, and the colter-yoke having an upwardly-flaring hole or socket therein to receive the spindle, all these members being constructed and operating, as hereinbefore set forth, to compensate wear of the spindle or socket to secure a snug joint and to prevent the wabbling of the colter-yoke upon the spindle.

5. The combination of the tapering spindle of the colter-arm with the spring locking-pin passing transversely through it parallel with the face of the arm, these members being constructed and operating as hereinbefore set forth.

4,534.—MACHINE FOR BUFFING, WHITENING, AND POLISHING LEATHER.—Albert W. Pratt, Salem, Mass., assignor, by mesne assignments, to William A. Perkins.—Patent No. 89,789, dated May 4, 1869.

Claim.—1. In a machine for whitening and buffing leather, a pulley or cylinder having one or more blades or tools, in which the cutting-plane is ground concentric with the axis of the cylinder.

2. In a machine for whitening and buffing leather, one or more blades or tools arranged in or upon a pulley or cylinder, the cutting-edge of which is ground parallel to the circle-plane of the pulley or cylinder upon which the knives are placed.

3. The process of whitening and buffing leather by means of knives or tools placed in or upon a cylinder, arranged and operated substantially as set forth and described.

4. In a machine for whitening and buffing leather, one or more knives or tools placed at an angle with the shaft of the cylinder in which the knives are placed.

5. In a machine for whitening and buffing leather, forming the seat to which the knives or tools are fastened at an acute angle, with a tangent of the periphery of the cylinder projecting inward.

4,535.—STEAM-GENERATOR.—Robert E. Rogers and James Black, Philadelphia, Pa. Patent No. 65,281, dated May 28, 1867.

Claim.—1. The combination of the boiler A with the exterior curved tubes B for the circulation of the water, and the flue-tubes C, in the manner and for the purpose substantially as described.

2. The combination of the boiler A, having the beveled enlargement a, with the exterior curved tubes B for the circulation of the water, and the flue-tubes C, in the manner and for the purpose substantially as described.

4,536.—APPARATUS AND PROCESS FOR MIXING SUGAR.—Martin L. Senderling, Jersey City, N. J.—Patent No. 60,797, dated January 1, 1867.

Claim.—1. The compound process of mixing sugars so as to produce sugar of a uniform average grade, by first reducing the sugars to be mixed to a granular state; secondly, distributing the grains in thin sheets; and thirdly, scattering them centrifugally from a common center of motion, substantially as before set forth.

2. The combination of a crushing-mill and a rotating scatterer, substantially as before set forth.

3. The combination of a crushing-mill, a rotating scatterer, and a divided hopper, substantially as before set forth.

4. The combination of the inclined vanes of the scattering-wheel with an upright shaft, so arranged that the vanes incline upward and backward relatively to the direction in which the wheel is rotated, substantially as before set forth.

4,537.—Division A.—CASTING EDGE AND OTHER TOOLS.—The Collins Company, Collinsville, Conn., assignee of Samuel W. Collins, deceased.—Patent No. 30,668, dated November 20, 1860.

Claim.—The process of casting any article partly of iron and partly of steel, or of different qualities of steel, by pouring into a mold, in a melted state, these metals one after another in immediate succession, thereby effecting a union between them by fusion, substantially in the manner and for the purpose set forth.

4,538.—Division B.—Casting Edge and other Tools.—The Collins Company, Collinsville, Conn., assignee of Samuel W. Collins, deceased.—Patent No. 30,668, dated November 20, 1860.

Claim.—The process of making edged, faced, or similar tools, with an edge, face, or similar part of steel, by first casting a blank of steel, or of steel and iron combined, the body of which closely conforms to the shape of the finished article, but with the part which is to form the edge, face, or similar part blunt and thick, and afterward, by hammering or other similar manipulation, working such blunt and thick part into the shape of the completed article, for the purpose set forth.

4,539.—Water-Wheel.—John Tyler, West Lebanon, N. H.—Patent No. 15,309, dated July 8, 1856; reissue No. 3,015, dated June 30, 1868; extended seven years.

Claim.—1. Giving the head *e* of my improved water-wheel an upward curvature from center to circumference, for the purpose substantially as herein set forth.

2. The curved bucket-head *e*, when the said head is combined with the series of segment-shaped buckets *d d*, substantially in the manner herein set forth.

3. The segment-shaped buckets *d d*, when the said buckets are formed with and project from the concave surface of the curved bucket-head *e*, substantially as herein set forth.

4. The combination of the buckets *d d* with the bucket-head *e*, when the said buckets are located in position tangential to the inner guiding-circle *e*, substantially as herein set forth.

5. The combination of the scalloped-edged rim *f* with the lower edges of the series of buckets *d d*, substantially as and for the purpose herein set forth.

6. The combination of the elevated cover D with the curb of my improved water-wheel, when the said cover is so proportioned as to receive and sustain the upper bearing-box of the shaft of the wheel, substantially as herein set forth.

7. The combination of the detachable gate-box B with the mouth of the water-way of the water-wheel, all substantially in the manner and for the purposes herein set forth.

4,540.—Cooking-Stove.—George W. Walker, Malden, Mass.—Patent No. 108,852, dated November 1, 1870.

Claim.—1. In combination with the main stove or stove-body, the removable hot closet, arranged as described, when at the end of such closet, and separated therefrom by a wall, *n*, is an ash-pit space, located under the main ash-pit A, substantially as shown and described.

2. A stove having a hot closet under the oven or oven-flues and an auxiliary ash-pit or sifting-chamber, *x*, in front of said closet and under the main ash-pit, when the bottom plate of the chamber *x* is below the plane of the bottom plate of the hot-air closet, substantially as shown and described.

3. A stove made in detachable horizontal sections, the upper one of which forms a complete stove by removing it from the lower one and placing under it a suitable bottom or base-plate.

DESIGNS.

5,234.—Mucilage-Bottle.—Louis Dovell, Newark, N. J.

Claim.—The shape or conformation of the mucilage-bottle, as herein shown and set forth.

5,235.—Spoke-Socket Rim for Hubs.—Samuel B. Hindman and William N. Matthews, Richmond, Ind., assignors to themselves, Merrick C. Weeks, and Edward R. Matthews, same place.

Claim.—The shape or conformation of the one-part spoke-socket rim, Fig. 1, adapted for staggered wheels, and formed with a cylindrical bore, *a*, tapered radial sockets *b*, and a circumferential chain of marginal flanges, *c*, as and for the purposes shown and set forth.

5,236.—Badge.—Nathan Joseph, San Francisco, Cal.

Claim.—The design for a badge, as shown.

5,237.—Badge.—Nathan Joseph, San Francisco, Cal.

Claim.—The design for a badge, as shown.

5,238.—Cushion for Backs of Chairs, &c.—Jerome Kuhlmann, Cincinnati, Ohio, assignor to himself and Henry Kuhlmann, same place.

Claim.—The design for a back cushion for chairs, sociables, &c., as shown.

5,239.—Bird-Cage.—Otto Lindemann, New York, N. Y.

Claim.—The design for a bird-cage, as shown and described.

5,240.—Carpet.—William Lochhead, Halifax, England, assignor to Firth, Williams & Co.

Claim.—The design for a carpet, as shown.

5,241.—Carpet.—William Lochhead, Halifax, England, assignor to Firth, Williams & Co.

Claim.—The design for a carpet, as shown.

5,242.—Carpet.—William Lochhead, Halifax, England, assignor to Firth, Williams & Co.

Claim.—The design for a carpet, as shown.

5,243.—Oil-Cloth.—John T. Webster, Yonkers, N. Y., assignor to Thomas Potter, Son & Co.

Claim.—The design for an oil-cloth, as shown.

5,244.—Show-Case.—Thomas E. Wood, Chicago, Ill.

Claim.—The design for show-case, as shown.

5,245.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,246.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,247.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,248.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

5,249.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into three-ply or other carpeting in the form similar to the photographic print accompanying this specification.

5,250.—Carpet.—George Curtis Wright, New York, N. Y., assignor to E. S. Higgins & Co., same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into tapestry, Brussels, or other carpeting in the form similar to the photographic print accompanying this specification.

TRADE-MARKS.

436.—Mince-Meat.—Atmore & Son, Philadelphia, Pa.

437.—Paint.—Robert F. Seaman, New, York, N. Y.

438.—Laundry-Bluing.—Platt V. Viele, Rochester, N. Y.

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PATENTS.

118,668.—Apparatus and Process for Treating Animal and Vegetable Fibers.—William Adamson, Philadelphia, Pa.

Claim.—1. The process of treating animal and vegetable fibers and fiber-bearing vegetable substances with hydrocarbon or hydrocarbon vapor, or both, under heat and determinate pressure, substantially as set forth.

2. Treating animal and vegetable fibers and fiber-bearing vegetable substances by causing a circulation through them of hydrocarbons or hydrocarbon vapors, or both, under heat and pressure, substantially in the manner described.

3. A vaporizing-vessel, A, and condenser E, in combination with a pressure-valve in the pipe or passage through which the vapor passes into the condenser.

118,669.—Gas-Illuminator.—Matthew Andrew, New York, N. Y.

Claim.—A gas-illuminator, composed of a semi-annular disk, *a*, concave arm *b*, and pressure-clamp *c d*, all as herein shown and described.

118,670.—Sealing Cans for Preserving Fruits.—H. Mark Anthony, Providence, R. I.

Claim.—A can, provided with a groove or depression, *a*, at or near its top, in combination with a cover fitting closely the top and provided with sides partially overlapping said groove, whereby a space is formed between the groove and the overlapping edges of the cover to receive the wax or other sealing material, which will be thus surrounded and shielded by said overlapping edges, substantially as shown and set forth.

118,671.—Attachment for Sewing-Machines.—Mary E. Autrim, Philadelphia, Pa.

Claim.—A case or box adapted for attachment to a sewing-machine, and provided with a receptacle, *l*, substantially as described.

118,672.—Grain-Mill.—Ephraim H. Austin, Scott's Hill, Tenn.

Claim.—1. The runner *i*, with spiral passages *s s* leading through the same so as to deliver the grain between the stones, as shown and described.

2. In the grain-mill herein described, the hopper *b*, provided with the screen *c* and perforated plate *d*, for the purpose set forth.

3. The hopper *b*, combined with the flap *n*, rod *o*, and screw *p*, as explained.

118,673.—Mowing-Machine.—John C. Baker, Mechanicsburg, Ohio.

Claim.—A lever attached to the divider of a cutter-bar for a mowing-machine, and arranged for automatically lifting the track-cleaner in turning corners and backing the machine, substantially as herein described.

118,674.—Rotary Puddling-Furnace.—William Baynton, Pottsville, Pa.

Claim.—1. A rotary refining or puddling-chamber, constructed with corrugated or waved sides, substantially as herein described.

2. The combination, substantially as herein described, with a rotary refining or puddling-chamber, of any suitable number of internal segmental ribs *c*.

3. The formation of a number of short irregular projections or points *h* in the interior of a rotary refining-chamber, for the purpose of firmly holding the lining of refractory material to the sides of the said chamber.

4. The combination, with a rotary refining-chamber, of a stack, F, so constructed at the bottom as to permit the use of an ordinary puddling-furnace door, H, for obtaining access to the interior of the said refining-chamber.

5. The combination with and arrangement in respect to the stack and rotary refining-chamber, of an ordinary puddling-furnace door H, all substantially as and for the purpose described.

6. The combination, substantially as herein set forth, with the rotary refining-chamber and stack, of open water-vessels *m*.

7. The combination, with the rotary refining-chamber, of a water-pipe, K, and its perforated branches, the whole being arranged substantially as described, so as to discharge water in the form of a spray or jets onto the exterior of the said chamber.

8. The pivoted rocker-bar J arranged at any convenient point adjacent to the door H, for the purpose specified.

118,675.—Handle of Pocket-Knives.—Cicero Beckham, Alexandria, Va.

Claim.—As an improvement in the manufacture of pocket-knives and other instruments of that class, the formation of the spring *c* and handle *a* in one piece, substantially as herein described.

118,676.—Operating Throttle-Valve.—William Bellis, Indianapolis, Ind.

Claim.—A throttle-valve opened by the steam-pressure, and capable of being closed either by screw F or by the supplementary closing device J K L N, in the manner and for the purpose stated.

118,677, antedated August 11, 1871.—Bed-Lounge.—Albert Frederick Benten, San Francisco, Cal., assignor to himself and Farrell Jerome O'Reilley.

Claim.—1. The hinged head-piece D, in combination with the fixed seat C and back, when made adjustable by means of the set-screw E, as described.

2. The combination of the folding head-piece D', having the swinging leg G, with the hinged head-piece D having the slotted leg H, as described.

118,678.—COMBINED CARRIAGE-JACK, BAG-HOLDER, AND WEIGHING-SCALES.—Norborne Berkeley, Aldie, assignor to himself and Charles B. Wildman, Leesburg, Va.

Claim.—1. The combined carriage-jack and bag-holder, constructed and arranged to operate substantially as herein set forth.

2. The arrangement of the beam E, yoke H, toothed ring J, and standards C D with the scales K, all constructed and operated substantially as and for the purposes stated.

118,679. — FEED-WATER REGULATOR FOR STEAM-BOILERS. — Robert Berryman, Hartford, Conn., assignor to "The Berryman Regulator and Alarm Company," same place.

Claim.—The combination of a pump or injector—a series of boilers, each provided with a low-water apparatus, a series of steam-pipes, C, and a series of feed-water pipes D, each communicating with one of the boilers, and all communicating with the pump—and mechanism, substantially as described, whereby the movement of each low-water apparatus will open or close simultaneously a valve in one of the pipes C and a valve in one of the pipes D, as set forth, so that the said pump will automatically supply all the boilers with water as they may require feeding, one or more at a time, as set forth.

118,680.—PROTECTING UNSLAKED LIME AND APPARATUS THEREFOR.—Henry Bisbing, Bridgeton, N. J.

Claim.—1. The protecting of unslaked lime from the injurious effects of heat and moisture by inclosing it within a double casing, between the walls of which is packed plaster of Paris or other equivalent protecting medium.

2. The within-described casing, having one or more compartments and double doors, substantially as set forth.

118,681. — EARTH-CABINET. — William H. Bliss, Newport, R. I.

Claim.—The combination of the case A, seat-box B, receptacle C, dust-plate D, conductor-spout E, partition a^3, sliding plate F, pins b^4, hinged receiver G, plate H, earth-reservoir I, and slide J with each other, substantially as herein shown and described, and for the purpose set forth.

118,682. — SHAFT FOR SLEIGHS. — Charles Bock and Daniel Bock, Drum's, Pa.

Claim.—1. The shafts A B, double cross-bar C, draft-bar J, and curved bar K, constructed and arranged together substantially as and for the purposes described.

2. The short curved bar K, in combination with the shafts of a sleigh or cutter.

118,683. — SPECULUM ATTACHMENT. — Jerome D. Bruce, Newbury, S. C.

Claim.—The elastic tube B applied to the part of a speculum that enters the vagina, as shown and described, so that a chamber may be formed around said speculum within the vagina by injecting air through tube D, as specified.

118,684.—LOCK-NUT.—Aaron Whited Bunnell, Lineville, Pa.

Claim.—The screw-bolt with the key-seat, in combination with the key E, constructed with the arm or catch F, when constructed as described, for the purposes set forth.

118,685.—LOCK-NUT.—Aaron Whited Bunnell, Lineville, Pa.

Claim.—1. A bolt, with two screw-nuts, constructed as described, one with a coarse and the other with a fine thread.

2. The said nuts, in combination with the key D, constructed as described, for the purposes set forth.

118,686. — MEDICAL COMPOUND. — George W. Chambers, Talladega, Ala.

Claim.—A composition of matter, formed of the ingredients and for the purpose above specified.

118,687. — CHURN.—James W. Chapman, Madison, Ind., assignor to himself and Samuel J. Smith, same place.

Claim.—The air-conveyer H, when constructed and arranged as herein specified, so as to be applied on the outside of the churn, and to have mounted upon it the driving-gear of the dasher-shaft, substantially as and for the purpose set forth.

118,688.—JOURNAL-BOX FOR GRINDSTONES. Pascal P. Child, St. Louis, Mo.

Claim.—The grindstone journal-box, consisting of the counterpart reversible and transposable shells A A^2 having side lugs *b* and closely-fitting cap D, all combined and arranged substantially as described.

118,689.—ROTARY ICE-SHAVER.—Clemant C. Clawson, Raleigh, N. C.

Claim.—1. The guide partition K, in combination with the slotted feed-disk H and part A of the body of the machine, substantially as herein shown and described, and for the purpose set forth.

2. The scraper-plate L, in combination with the knife-disk F, shaft D, and body A B of the machine, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the lever I and button J with the movable half *h'* of the nut of the disk H, and with the disk H, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the body A B, swiveled screw-shaft D, crank-wheel E, slotted knife-disk F, knives G, slotted feed-disk H, and partition K with each other, substantially as herein shown and described, and for the purpose set forth.

118,690. — PRUNING-SHEARS.—William F. Clemmer and George H. Clemmer, Alexandria, Ohio.

Claim.—The two grooves H I, the brace-plate or bar J, and the two rivets G, arranged in connection with the hook A and cutting-blade D of a pruning-shears, substantially as herein shown and described, and for the purpose set forth.

118,691.—DEVICE FOR LUBRICATING CAR-AXLE JOURNALS.—Edward Collins, New York, N. Y.

Claim.—1. The roller H, covered with cloth or other lubricant-absorbing material, and suspended in spring bearings, *b*, which are placed in sockets made in the lower ends of curved hangers *a a*, depending upon the bearing G, constructed and arranged and operating in combination with the journal, substantially in the manner and for the purpose shown and described.

2. The curved hangers *a a*, secured to the bearing G by dovetailed joints or otherwise, and serving as bearings for the lubricating roller, substantially in the manner and for the purpose shown and described.

118,692.—STEAM-ENGINE.—John M. Cooper, Pittsburg, Pa.

Claim.—The throttle f and check-valve *w'*, arranged respectively in the secondary ports *e* and *n*, in combination with a cushioning-cylinder and piston, substantially as set forth.

118,693.—CASTING TOOTHED CYLINDERS.—Harmon W. Cornell, Owego, N. Y.

Claim.—The method herein described of casting metal cylinders with an uneven outer surface by means of patterns constructed and arranged substantially as herein set forth.

118,694.—WHEEL-PLOW.—Rudolph Coreth, New Braunfels, Tex.

Claim.—1. In combination with a gang-plow frame, B, pivoted in another, C, the mechanism, consisting of bent levers V, pins W, spring X, toes Y, shaft Z, and levers A', all arranged as and for the purpose described.

2. The frame-work H *h'*, bars I J L, cross-bar K, and catch-lever R, in combination with the frame C, to which the revolving plow-frame B A is pivoted, and crank-axle F, substantially as herein shown and described, and for the purpose set forth.

3. The bent bars M, pivoted cross-bar O *o'*, spring Q, and slotted standard P, in combination with the double crank-axle F, frame C, and the teeth formed upon the lower parts of the forward arms of the frames H, substantially as herein shown and described, and for the purpose set forth.

118,695.—VELOCIPEDE.—Jesse A. Crandall, Brooklyn, N. Y.

Claim.—The propelling and steering apparatus of a velocipede, consisting of the cranks *g* and *h* in connection with the axis *a*, the connecting-rods *k* and *l*, the lever *f*, and the fork *b*; also the foot-rests *m* and *n*, operating as set forth and for the purpose specified.

118,696.—COMBINED HYDRAULIC AND PNEUMATIC ELEVATOR FOR RAILROADS.—Horace H. Day, Bloomingdale, N. J.

Claim.—1. The combination of the main air-pipe containing compressed air with the air-and-water chambers *x*, the water-chambers W, the cylinders and pistons *c c* and *p p*, the platform L, the hollow guide-tubes *k k* with the ropes and pulleys E and *t*, as described.

2. The elevating and lowering persons and merchandise by compressed air applied and operated by the devices and in the manner substantially as described.

118,697.—LOG-BINDER.—Walter L. Dean, Dayton, N. Y.

Claim.—In combination with a movable truck, B, to which the logs or poles are fastened, the spiked roll C and roll F provided with intermediate chain, as described and for the purpose specified.

118,698. — EXTENSION CLOTHES-POLE. — James Denton and Whitley Denton, Amsterdam, N. Y.

Claim.—An improved extension clothes-pole, formed by the combination of the part A, foot B, guide or keeper C, part D, loop or stirrup F, teeth *d'*, guide or keeper E, and elastic bars G with each other, substantially as herein shown and described, and for the purpose set forth.

118,699.—CANAL.—William H. Doane, Cincinnati, Ohio.

Claim.—Lining the sides and bottom of a canal with smooth sheet-metal plates C, whose seams are united by rivets D, and whose upper portions are secured between and protected by the sills E E', as herein described.

118,700. — FIRE-KINDLING. — Levi Dodge, Waterford, N. Y.

Claim.—As a new article of manufacture, fire-kindling, composed of shavings, either alone or in combination with other combustible material, compressed into a compact or solid bale or bundle and bound, substantially as herein specified.

118,701.—CAR-AXLE BOX.—Davis H. Dotterer, Philadelphia, Pa., assignor to himself, M. S. Gilbert, and Melford D. Buchanan, Chicago, Ill.

Claim.—1. The combination of a metallic cage having two rims or heads connected together by cross-bars, whether cast in one piece or otherwise formed, a series of friction-rollers arranged between said bars, and a metallic sleeve extending under and supporting the cage and surrounding an axle, all substantially as and for the purposes set forth.

2. The cage herein described, cast in one-piece, and consisting of the rims C C, with downwardly-projecting flanges bearing on the sleeve B, V-shaped connecting-bars D D, and grooved projections *a a*, forming chambers or pockets for receiving and guiding the rollers E E, with their stationary or loose journals *b b*, substantially as set forth.

3. In combination with the cage C D cast in one piece, the metallic sleeve or thimble B, disconnected, and extending under and supporting the cage, and slipping loosely over the journal, substantially as and for the purposes herein set forth.

4. The combination of the loose thimble B, the cage C D, as described, and the rollers E E, all acting and operating on the journal A and within the case G, with its thrust-plate H and concave I, all constructed and arranged substantially as and for the purposes herein set forth.

118,702.—STEAM-GENERATOR.—Rus W. Dugan, Covington, Ky., and Benjamin F. Clark, Cairo, Ill.

Claim.—The combination of the cylinder A, pipes D E, coils B B' C C', supply-pipe F, and check-valve G, all substantially as specified.

118,703.—DEVICE FOR REDUCING FRICTION ON ROLLERS AND BEARINGS. — Edward Dummer, Newbury, Mass.

Claim.—The rings, constructed, arranged, and combined with the rolls, collars, or rollers, bearings and shafts, substantially as and for the purposes hereinbefore set forth.

118,704.—METALLIC HUB FOR VEHICLES.—Jacob Dump, Kingston, Ohio.

Claim.—The combination of the hub B and screw-threaded thimble A, provided with a projecting rib, *a*, and adapted to be screwed within said hub for the purpose of more firmly securing the spokes, the parts being constructed and arranged substantially as and for the purposes specified.

118,705.—LUBRICATOR FOR VERTICAL SHAFTINGS.—Lewis Fagin, Cincinnati, Ohio.

Claim.—1. The grooves C in the face of the toe B and supporting-disks E, when formed and arranged as shown and described, so as to cause streams of the lubricant to be forced to the center by rotation of the shaft in either direction, as set forth.

2. The central pit or reservoir D, in combination with the said grooves C, as and for the purpose described.

3. An improved shaft or spindle-bearing, consisting of a shaft A *a*, toe B C D, disk E, and step F, as and for the purpose described.

4. The detachable toe B, having a screw-threaded connection, *a*, with its shaft.

118,706.—MEDICAL COMPOUND OR LINIMENT. Gershom H. Fairchild, St. Louis, Mo.

Claim.—The composition above described, to form a liniment.

118,707. — GRADING AND DITCHING-MACHINE.—Joseph W. Fawkes, Maron, Ill.

Claim.—The hinged dumping-carrier K mounted on the wheel L, the stud N, catch-lever M, trip-rod O, and resetting-rod Q, combined and arranged for tripping and resetting the carriers, substantially as specified.

118,708.—WATER-WHEEL.—Daniel A. Flummerfelt, Bridgeville, N. J.

Claim.—1. The discharge-cylinder F, set up within the turbine-wheel, and provided with the chan-

nels *i* and curved bottom, substantially as and for the purpose herein shown and described.

2. The curved partitions *m*, arranged within the channels of the discharge-cylinder and combined with the horizontal partition *l* of the wheel, as specified.

3. The combination of the gate-cylinder E with the chute-cylinder D, wheel A, and discharge-cylinder F, all parts being arranged to operate substantially as herein shown and described.

118,709. — GAS-PUMP. — William Foster, Brooklyn, N. Y.

Claim.—As an improvement in gas-pumps, the cylinder A provided with the pipes *c e*, valves *c' e'*, annular valve-partitions forming valve-seats, and curved pipes *f g*, in combination with the vertical pipes h i, flanged pipes *f b* and *h d*, the annular partitions forming valve-seats for the valves *b' d'* arranged for joint action with the piston B packed with steel rings *a a*, the several parts constructed substantially as set forth.

118,710.—COFFEE AND GRAIN CLEANER AND SEPARATOR.—Richard Frisby, Cleveland, Ohio.

Claim.—The combination and arrangement of the screens C K, aprons L M, spout R S T U, screw N, and the fan-blower, substantially as specified.

118,711. — SPARK-ARRESTER. — Michael A. Glynn, Matanzas, Cuba.

Claim.—The arrangement of a globular spark-arrester B, with the curved chimney A, as and for the purpose specified.

118,712.—CHURN.—Elias Groat, Napa, Cal.

Claim.—The parallel shafts D D', with their peculiarly-arranged dashers *f* and *g*, when constructed to operate substantially as herein described.

118,713.—CHURN.—Elias Groat, Napa, Cal.

Claim.—The vertical racks E and toothed sectors F, in combination with the horizontal shafts G G provided with paddles or beaters which intersect and cross each other's path, substantially as and for the purpose set forth.

118,714.—MEDICAL COMPOUND. — Benigno Gutierrez, Santa Barbara, Cal.

Claim.—An infusion of the within-described and named herb in any vehicle suitable for administering it to the patient, substantially as and for the purpose set forth.

118,715. — STOP-VALVE. — William Haas, New York, N. Y.

Claim.—The nut *e* and guide-tube *d* secured to the hand-wheel D, in combination with the cap E, valve-stem C, cavity *e*, valve B, and shell A, all constructed and operating substantially in the manner herein shown and described.

118,716.—SEED AND FERTILIZER-DROPPER. Edward P. Harnish, Felton, Del.

Claim.—1. A laterally-pivoted handle and lever, D I, connected together and arranged, as described, to reciprocate the dropper-slides horizontally and laterally, in the manner set forth.

2. In combination with a manure hopper, M, and slide N, the limber conical wire coil *o*, arranged to vibrate and scatter broadcast the guano, bone-dust, or other powdered fertilizer.

118,717.—HOLDER FOR GRINDING SCISSORS. John Harwood and F. Le Grand Ames, Albany, N. Y.

Claim.—The arrangement and combination of lever-jaw D with stationary jaw C and thumb-screw *d*, so as to form an improved scissors-holder and guide with roller B, as herein set forth.

118,718.—EVAPORATOR FOR BRINE.—Martin Peter Hayes, Seaforth, Canada.

Claim.—1. In constructing the furnace-block A with air-chambers G and openings F, substantially as and for the purpose set forth.

2. The arrangement of the pipe H and heating-chambers G, or any modifications of the same, substantially as and for the purpose set forth.

118,719. — RECLINING - CHAIR. — William Heath, Bath, Me.

Claim.—1. The back E and the seat A, arranged with and pivoted to the leg-frame C, as set forth, and provided with the cross-bar *a* and the inclined legs D D, or their equivalents, to enable them to operate substantially as specified.

2. In combination with the back E, the seat A and the leg-frame C, the bar F, the cam G, and the arm H, and the leg-rest I, all being arranged and applied together, substantially as specified.

118,720.—VEGETABLE CUTTER. — William L. Heberling, Mt. Pleasant, Ohio, assignor to himself and John Heberling, same place.

Claim.—1. The V-shaped or zigzag cutting-edged knives K, constructed and operating substantially as shown and described.

2. The wheel F, formed with ridges on the inner side, substantially as shown and described.

3. The knives *m* or *o*, as shown and described, when combined with a cutting-wheel, for the purpose specified.

118,721.—MOUSE-TRAP.—Charles A. Hotchkiss, Bridgeport, Conn.

Claim.—The catch d^1, coil d^2, and bait-hook d^3, formed of a single piece of wire, in substantially the manner herein shown and described, in combination with the spring-loop B, catching-loop C, and recessed and perforated block A, as and for the purpose set forth.

118,722.—CONNECTING JOINT AND COCK OF GAS-BRACKETS.—Liverus Hull, Charlestown, Mass.

Claim.—The branch pipe-head A, as provided with the groove *g*, and arranged upon a tubular pivot, C, extended up from the body of the cock and concentric with the plug thereof, all being substantially as described.

118,723.—MECHANICAL MOVEMENT.—John J. Kimball, Naperville, Ill.

Claim.—The slotted slide D provided with the wheels *f f*, which are diagonally opposite each other, and combined with the crank B, substantially as herein shown and described.

118,724.—TRACE-BUCKLE.—William W. Kittleman, Bloomfield, Iowa.

Claim.—The within-described trace-buckle, composed of the frame A, cross-bar B, pin C, and rod D, all constructed and arranged substantially as shown and described, and for the purposes set forth.

118,725. — CURTAIN-FIXTURE. — A. Haydn Knapp, Newton Centre, Mass.

Claim.—1. The spring B, formed of two or more redoublings or layers, *a b c d f*, when the next outer is successively shorter than the adjacent inner layer, as and for the purpose herein specified.

2. The elastic friction-brake C and its adjusting-screw *h*, in combination with the spring B and spindle A, substantially as and for the purpose herein specified.

118,726.—HORSE HAY-RAKE.—Charles Kugler, Barnesville, Ohio.

Claim.—The combination, in a revolving horse-rake, of the trip *f* and stops *k*, constructed and operating substantially as described, for the purpose set forth.

118,727.—EGG-BEATER. — Erastus B. Knukle, Fort Wayne, Ind., assignor to himself and Emanuel Bostwick, same place.

Claim.—The egg-beater, consisting of the perforated disks of the upright plate F and self-acting valves G H, all arranged to operate as specified.

118,728. — SEWING - MACHINE. — Thomas Lamb, Philadelphia, Pa.

Claim.—1. A loop-distender, or loop-distender and bobbin-holder S, having a limited vertical motion only, held in a proper position beneath the work-plate of a sewing-machine in respect to the needle and to a rotating looper, so as to act in conjunction with the said needle and looper in forming a chain or lock-chain stitch, substantially in the manner described.

2. A loop-distender and bobbin-holder, S', having a limited vertical motion only, held in a proper position beneath the work-plate of a sewing-machine in respect to the needle and to a rotating looper, so as to act in conjunction with the said needle and looper in forming a lock-stitch, substantially in the manner described.

3. The plate I and arm J, secured to the bed-plate in respect to the needle, to the looper, and to each other, and arranged for the reception and retention between them of either of the annular plates S or S', substantially as and for the purpose specified.

4. The movable finger L, acted on by a spring or otherwise held in position, and adapted to a hole, *t'*, in either of the annular plates S or S', for the purpose of retaining said plates in position.

5. The said finger L, to which an intermittent reciprocating motion can be imparted, in combination with the projection *x* of the arm J, from which the loop-distending and bobbin-holding plates are suspended, all substantially as and for the purpose specified.

6. The brake *w*, operated by a cam, *v*, of the needle-arm, and acting, in conjunction with a spring, v^2, to retain and release the needle-thread, substantially in the manner described.

118,729. — CARRIAGE-SHACKLE. — Levi M. Lawless, Geneseo, Ill.

Claim.—1. In combination with the ear B attached to the clip A and provided with the vertical opening C and central lug *c*, the pin or axial pivot F provided with the central groove *f* and connected with the ears E and shaft-iron D, substantially as and for the purpose specified.

2. In combination with the ear B, the shaft-iron D, the ears E, and the pin or axial pivot F, the screw G provided with the semi-spherical end, and the boss *b* provided with a corresponding face, substantially as and for the purpose shown.

3. The clip A, the ear B provided with the boss *b*, the opening C, the lug *c*, the shaft-iron D, the ears E, the pin or axial pivot F provided with the groove *f*, the set-screw G, and the jam-nut H, when constructed and combined in the manner and for the purpose substantially as shown and described.

118,730.—WEATHER - STRIP FOR DOORS.—Levi M. Lawless, Geneseo, Ill.

Claim.—1. The levers D and E, constructed as described, and pivoted together and to the casing A, in combination with the lug H, substantially as and for the purpose specified.

2. In combination with a door and its frame, the hereinbefore-described device, consisting of the casing A and C, the pivoted levers D and E, the spring *f*, and the lug H, substantially as and for the purpose shown.

118,731. — WATER-WHEEL.—Alexander C. Leaner, Fonda, N. Y., assignor to himself and Abram V. Davis, New York city.

Claim.—In water-wheels, a series of gates, C, constructed with projecting tenons *b b* that fit loosely in the mortises of rings D E, as and for the purpose specified.

118,732. — MILLING-MACHINE.—William A. N. Long, Worcester, Mass., assignor to himself and George H. Coates, same place.

Claim.—The combination and arrangement of the lathe-arbor C, the puppet-head B, and the bed-frame A with a milling-wheel, *m*, and machinery for supporting an article to be milled and moving to and under the said wheel, as may be required, such machinery, as explained, consisting of the jawed carriage L, the carriages I, H, and E, and the supporting-standard D, arranged, applied together, and provided with operative screws, essentially as set forth.

118,733. — INNER SOLE FOR BOOTS AND SHOES. — Joseph Luttenchlager, New York, N. Y.

Claim.—The arrangement of the hair B and sole A, as and for the purposes hereinbefore set forth.

118,734.—INJECTOR FOR STEAM-BOILERS.—William B. Mack, Manchester, England.

Claim.—1. An injector in which the channels have the within-described taper in contrary directions from the chamber *c*.

2. An injector in which the length of the channel between the points *x x'* is proportioned, as herein described.

3. The rib or lip *n* arranged in the chamber *c* at the flaring mouth of the channel *k*, for the purpose set forth.

118,735.— STEAM-GENERATOR.—John Mann, Tuscola, Ill.

Claim.—1. The combination of the water-box A, shells B B, steam-reservoir C C, pipes *p p* and D D, substantially as and for the purpose hereinbefore set forth.

2. The arrangement of a series of steam-reservoirs inside of the cylindrical shells opening into the water-box, so that the reservoirs shall be surrounded with water, substantially as described, and for the purpose hereinbefore set forth.

3. The pipes D D D in the steam-reservoir B, so that the steam in the reservoir shall generate steam in the pipes, as and for the purpose hereinbefore set forth.

4. The damper H, in combination with a steam-generator, constructed substantially as described, and for the purpose hereinbefore set forth.

118,736.—MACHINE FOR BENDING WOOD.—Augustus F. Marshall, Black River, N. Y.

Claim.—The former A, screw F, spring Q, adjusting-blocks S, screws T, blocks P, push-bars L and K—the latter provided with rollers M—the cross-bar E, and grooved guide-ways C D, arranged and operating as shown and described.

118,737.—LOW-WATER DETECTER.—Gideon B. Massey, New York, N. Y., assignor to Massey Low-Water Detecter Company, same place.

Claim.—In combination with a low-water detecter, the tube G, arranged in relation to the expansion-tubes B B, substantially as and for the purposes described.

118,738.—COMPOSITION FOR COATING ALE-CASKS, &c. — Colin Paget Matthews, Grantham, England.

Claim.—1. The manufacture of a compound or preparation, consisting of shellac dissolved in any suitable spirit and mixed with powdered charcoal, in manner and for the purpose substantially as herein described.

2. The improvement herein described in applying the above preparation or other similar preparations containing spirits by flaming it off, as herein described.

118,739. — METHOD AND APPARATUS FOR MAKING CIGARS.—Edward A. Metz, Cincinnati, Ohio.

Claim.—1. The method of forming cigar-fillers, by means of the removable binders B and headers D, in the manner herein described.

2. The receiver C, applied and used in the manner explained.

3. The method of imparting the final set or shape to the cigar, by means of the removable wrappers F applied on the outside of the permanent wrappers, as explained.

118,740. — LIFTING-MACHINE. — Francis R. O'Connor, New York, N. Y.

Claim. — In combination with an ordinary platform, A, and handles C C, the endless rubber bands B B, arranged as and for the purpose specified.

118,741. — APPARATUS FOR RAISING SUNKEN VESSELS. — Milo Osborn, Cleveland, Ohio.

Claim. — 1. The central tube O, secured to the head of the buoy A by collars Q and plate R, the plate R being provided with the stop S, all substantially as set forth.

2. The clamp A, arresting the hooks G, having side flanges H which form the groove G', rack I, hook J, links K K, and pinion M, as arranged in relation to the buoy A and weight a, as set forth.

3. The sinker, Fig. 10, consisting of cylinder B made to fit over the buoy A, and the weights D fitting over the cylinder and resting on a flange or equivalent on its lower end, all as shown and described.

118,742, antedated August 17, 1871. — SHAFT-COUPLING. — Aurelius V. Pitts, Chicago, Ill.

Claim. — The lubricator C, constructed and arranged to operate in connection with a shaft-coupling, substantially as described.

118,743. — MACHINE FOR ATTACHING BUTTONS. — William S. Platt, Waterbury, and George J. Capewell, Cheshire, assignors to William S. Platt, Waterbury, Conn., and Samuel M. Porter, New York city.

Claim. — 1. A machine for putting buttons with eyelets or rivets onto garments, composed of a base, A, presser-head B, intermediate link d, main lever C, anvil t, springs g g, tongue f, and adjustable die e.

2. A machine for attaching buttons to garments, provided with the tongue f, constructed and operating as herein shown and described.

118,744. — NAIL-MACHINE. — Henry Reese, Baltimore, Md.

Claim. — 1. The reciprocating slide-bars G H, provided with racks b c, and combined with the shaft a, pinions F L, sector E, bar D, cam-groove d, plate C, and shaft B, as specified.

2. The bars G H provided, respectively, with the nail-dies A k, in combination with the block O, toggle-levers M N, lifter m, and shaft B, as shown and described.

3. The combination, with reciprocating bars H and G, of fixed jaw O, movable jaw p, block R, lever P, and the lifter n on shaft B, all arranged to operate with rolling mechanism, as described.

118,745, antedated August 18, 1871. — BED-BOTTOM. — George Richardson, Milwaukee, Wis.

Claim. — 1. The combination of the frame A, windlass B, and wire-cloth D upon which the mattress rests, substantially as and for the purpose set forth.

2. The combination of the frame A, metal strips A', and wire supports D', substantially as and for the purpose set forth.

118,746. — PROCESS OF TREATING AND PRESERVING HIDES. — Adolph Rock, New Orleans, La.

Claim. — 1. The within-described compound or liquid for curing hides, composed of pyroligneous acid, in which are dissolved aloes and alum, or their equivalents, substantially as herein set forth.

2. The method, herein described, of curing hides by means of soaking them in a liquid composed of the ingredients substantially as herein set forth, and packing them in salt for transportation, as described.

3. A curing compound composed of pyroligneous acid mixed with one or more ingredients poisonous to insects, for the purposes herein set forth.

118,747. — AUTOMATIC FLY-TRAP. — Frank L. Rosentreter, Des Moines, Iowa.

Claim. — 1. The trough-like oscillating beam C C, the oscillating bucket F, the tubes a a, made, combined, and operated as described, and for the purposes specified.

2. The automatic fly-trap, substantially as described, as a new article of manufacture.

118,748. — MITER-BOX. — Marvin Owen Royce, East Cambridge, Mass.

Claim. — 1. The guide C, when hinged to the revolving standard B, substantially as set forth.

2. The stops F, in combination with the standard B and swivel-guide C, substantially as set forth.

118,749. — CLOD-CRUSHER. — John Schlosser, Piqua, Ohio.

Claim. — The combination and arrangement, in a clod-crusher, of the frame A, tongue B, hangers C, cutters E E', shafts or axles D D', and arms b b, all as herein shown and described, for the purpose specified.

118,750. — BATHING APPARATUS. — George Scholl, New Philadelphia, Ohio.

Claim. — The combination of the tank B, pipe H, pan G, the folding sides D D E, and exterior door F, constructed and operating substantially as described and represented.

118,751. — TORCH. — Ira W. Shaler, Brooklyn, N. Y.

Claim. — 1. A signal-torch for marine and like purposes, substantially as herein shown and described.

2. The combination of the three following elements, constituting a signal-torch, operating substantially as herein described: first, a vessel holding hydrocarbon fluid in suspension in wicking or other absorbent material; second, a flame-tube projecting from the holder; and third, a blast-tube, all substantially as herein shown and described.

3. The hood and the method of its attachment to the stem, when the apparatus is in use, so as to afford a support to the torch.

118,752. — REVOLVING FIRE-ARM. — Christian Sharps, Philadelphia, Pa.

Claim. — 1. A revolving fire-arm, in which the barrel is hung to the frame and arranged to turn eccentrically upon a vertical axis, substantially as herein described.

2. The vertical eccentric pivot e, so arranged in respect to the centers of the barrel and revolving cylinder that the rear end of the said cylinder can be brought close up to and turned outward from the frame, without risk of striking the latter, and without involving the usual necessity of rounding off its corners.

3. The combination, substantially as herein described, of the eccentric pivot e and its shoulder or shoulders with the cartridge-extractor D.

118,753. — MILL-PICK HOLDER. — James P. Sinclair, Mottville, N. Y.

Claim. — The short, hollow, flattened, and slotted cylindrical head A, provided with a socket, C, to receive a handle, D, and the semi-cylindrical blocks B, whether faced or not, in combination with each other, to adapt them to receive and hold a pick, E, substantially as herein shown and described.

118,754. — PLANING-MACHINE. — Luther T. Smart, Centre Ossipee, assignor to himself and Samuel H. Smith, Wakefield, N. H.

Claim. — 1. The automatic guide-stops E E, arranged and operating in combination with the jointer or plane-stock C, substantially as and for the purpose herein specified.

2. The plane-stock C, moving in ways or guides, as described, when constructed with the separate removable middle part or block g bearing the plane-iron or cutter h, substantially as and for the purpose herein specified.

118,755. — FLUID-METER. — D. Brainard Spooner, Syracuse, N. Y.

Claim. — 1. A device for actuating the valves of liquid and gas-meters, composed of a cylinder or chamber surrounded by a movable or flexible sleeve resting on a coiled wire or other movable support, said sleeve or covering receiving the pressure of the water for shifting or throwing the valve, substantially as described.

2. The flexible or rubber tubing G, combined with the valve of a liquid or gas-meter in such manner that when the diaphragm or piston is moved by the pressure of water from one position in its stroke to another the said tubing is thereby increased or diminished in length or dimensions for actuating the valves, substantially as described.

3. The rubber sleeve G, forming an elastic chamber for throwing the valves of liquid or gas-meters, molded with flanges, as and for the purpose herein described.

118,756. — COTTON-PRESS. — James Templeton, Florence, Ga.

Claim. — The windlass A and bar i, arranged, in connection with the cotton-press, to operate as shown and described.

118,757. — PAPER-FILE. — Edward H. Thompson, Washington, D. C., assignor to William A. Amberg, Chicago, Ill.

Claim. — 1. The case A, with the lid a having the recess a^2, openings a a^1, and the guard or post B, all constructed and arranged to operate substantially as and for the purpose set forth.

2. The case A with the apertures a a^1, lid a, and guard B, in combination with the binding a^3, and an index, all constructed, arranged, and operating substantially as and for the purpose set forth.

118,758, antedated August 21, 1871. — PLOW. Isaac P. Tice, New York, N. Y.

Claim. — 1. A series of parallel disks, b, having a distance of from three to twelve inches from each other and projecting from the face of the roller about the same distance, more or less, according to the nature of the soil and the work to be done, as and for the purpose specified.

2. The scrapers D, when made to fit the spaces between the flanges b, and held in contact with the face of the roller by a spring, d, or equivalent, as specified.

3. The adjustability of the scraper D from c to c', as and for the purpose specified.

118,759. — RUFFLING ATTACHMENT FOR SEWING-MACHINES. — Edwin J. Toof, Fort Madison, Iowa.

Claim. — 1. The combination of the arm A, the feed-plate B, and the lever C, constructed and arranged substantially as herein shown and described, and adapted for attachment to the presser-foot or bar of a sewing-machine, leaving the bed-plate wholly unencumbered, so that the operator may form a ruffle at a distance from the edge of one piece of goods and at the same time attach it to any part of another piece of material, all as set forth.

2. The single feed-plate B, made of one piece of metal, adapted to work directly against the under surface of the presser-foot, and provided with the needle-notch r, the turned-up portions o and n, and the lugs a a, all constructed and arranged as described.

3. The index device E provided with the arm Z, in combination with the lever C, screw v, and the feed-plate B, all constructed substantially as shown, and for the purposes set forth.

118,760, antedated August 19, 1871. — DEVICE FOR PREVENTING RAILWAY AXLES FROM HEATING. — Archibald B. Tripler, New Orleans, La.

Claim. — 1. A railroad-car axle, having a central opening, intersected at or near the middle of its length by a radial receiving-opening, b, in combination with a water-tank and air-valves or gatherers, i, the latter opening and closing automatically to receive the air alone as the cooling agent, or as a motor to drive the water through said central opening, in the manner and for the purpose described.

2. A water or air-receiver, constructed with air-gatherers i and valves n or their equivalent, arranged to receive and conduct air into and through the central opening a of the axle by the motion of the car itself, as described.

3. The central opening a of the axle, sealed or closed at each end thereof, and communicating with a supply-tank centrally located, so as to produce and maintain a continuous circulation of the cooling agent within the axle, in the manner essentially as described.

4. The combination of an axle, A, constructed with longitudinal and radial openings a b, as described, the jacket D, the tank B, and the connecting supply-pipes, substantially as described.

118,761. — PULLEY. — Matthew Ward, Mount Carmel, Pa.

Claim. — The pulley herein described, consisting of the wooden sections A B recessed upon their adjacent sides, the annular rubber disk C, clamping-plates G G, nut F, and collar E or its equivalent, all constructed and arranged as and for the purpose specified.

118,762. — FIRE-GRATE. — Royal F. Weller, Albany, N. Y.

Claim. — 1. The grate B, consisting of sections, constructed as herein described, in combination with the links C C and pins D D, when arranged as and for the purposes herein specified.

2. In combination with the grate B, the perforated plate M_1 as and for the purpose herein set forth.

3. The hinged perforated plate O, in combination with the grate B, as and for the purpose herein described.

4. The drum H, having its body constructed to conform to the shape of the under side of the grate-sections, as herein described, and for the purposes set forth.

5. The combination of the grate B, drum H, and perforated plate M, when constructed and arranged as herein described, and for the purposes specified.

6. In combination with the grate B and links C C, the top plate L of the casing, as and for the purpose herein described.

118,763. — STEP FOR SPINDLES OF SPINNING-MACHINES. — Asa A. Westcott, North Scituate, R. I., assignor to George Draper, Hopedale, Mass.

Claim. — The combination and arrangement of the movable step-post G, constructed and applied to its supporting-rail H and spindle A, as described, and extending up nearly to the bolster-rail, with the said spindle, the whirl, the bolster, and the supporting-rail of the latter all disposed as explained and represented, the said post being provided at its upper end or part with a socket or bearing to receive the foot or pivot of the spindle, essentially as hereinbefore explained.

118,764.—STEAM-ENGINE.—Jerome Wheelock, Worcester, Mass.

Claim.—1. In combination with a steam-cylinder, two semi-rotary, reciprocating, double-acting valves, operated by a valve-stem and controlled by the governor in such a manner that, while the exhaust movement of the valves is even and regular, the induction movement is limited to fulfill the immediate requirement as indicated by the governor, substantially as described.

2. The combination of the valve-crank, the latch mechanism, and the valve-stem I, the three being connected substantially as shown, and arranged with relation to a tripping mechanism controlled by the governor, as and for the purposes specified.

3. The improved rotary double-acting balanced valve described, capable of receiving steam through its axis and discharging it into the cylinder through its periphery, and also capable of receiving the pressure of the exhaust steam on two exterior and opposite peripherical surfaces, substantially as described.

4. The combination of the conical rotary double-acting valve, the stud G, the expansion-spring *g*, and the fixed shaft E, as and for the purposes specified.

5. The combination of the dash-pot, dash-weight, disk, and elastic packing with a double-acting rotary valve, a latch, and tripping mechanism, substantially as described.

6. The combination of the crank-lever of a semi-rotary reciprocating valve, the valve-stem I joined to the valve-crank by a sliding connection, the latch mechanism mounted upon the valve-stem, and the spring *p*, arranged to exert a repelling force between the valve-stem and the crank-lever, as and for the purposes specified.

7. The peculiar construction, location, and arrangement of the cylinder, valves, valve-chambers, and steam-chest with reference to each other, substantially as described, by means of which the steam, after entering the steam-chest, is directed upward through the valves and thence upward into the cylinder, substantially as described.

118,765.—SCHOOL-DESK AND SEAT.—Junius F. Whiting and Elam Fisher, Eaton, Ohio.

Claim.—The within-described combined school desk and seat, consisting of standards Y Y, arms B B, arm-braces A A, top D, semicircular brace X, folding-leaf E, and slides F F, all arranged to operate substantially as and for the purpose set forth.

118,766.—MEDICINE FOR TREATING RHEUMATISM.—Alfred Whitney, Boston, Mass., assignor to himself and Frank. L. Penney, same place.

Claim.—1. The within-described medicine, composed of the ingredients herein named, in about the proportions and for the purpose set forth.

2. The within-described liniment, composed of the ingredients herein named, in about the proportions and for the purpose described.

118,767.—RAG-CUTTING ENGINE.—Edward Wilkinson, Paterson, assignor to himself and William O. Davey & Sons, Jersey City, N. J.

Claim.—1. The tapering box A, fitted into the bed B under the cylinder, and the tapered case D containing the cutters fitted into it, substantially as specified.

2. The cutters E, bars G, and adjusting-screws H, arranged with each other and the case D for adjusting the said cutters, all substantially as specified.

118,768.—PUTTING UP BAKING-POWDER.—George F. Wilson, Providence, R. I.

Claim.—1. The mode of putting up baking powders and other similar preparations, substantially as herein described.

2. A sheet-metal can for putting up baking-powders and other preparations, composed of two or more parts, each closed at the bottom, the one fitting and forming the cover of the one next below, and the top one being provided with a cover, substantially as herein shown and described.

118,769.—PLOW.—Levi S. Wilson, Wabash, Ind.

Claim.—The brace E, constructed as described, and provided with bent end *b*, pin *d*, and hook *h*, substantially as and for the purposes herein set forth.

118,770.—AXLE-BOX.—Sennitt A. Wing and Iauthus G. Johnson, Greenfield Centre, N. Y.

Claim.—The combination, with the pipe-box A, of the center box B having the axle-bearing C arranged eccentrically to its axis, all substantially as specified.

118,771.—BASE-BURNING COOKING-STOVE.—Henry E. Wolcott, Elbridge, N. Y., assignor of one-fourth his right to Nathan Munro, same place.

Claim.—1. The magazine M, situated on the back of the stove behind the griddle-holes, having upper apartments communicating with the smoke-pipe by the adjustable draught-openings *m m*, as and for the purpose set forth.

2. The corrugated or fluted inclined plane S S', in combination with the magazine M and fire-chamber L, as and for the purpose set forth.

3. The flue F, running through the center of stove at right angles to its front, and having the damper R and openings *n*, as and for the purpose set forth.

4. The combination of the magazine M, the chute S, and the fire-pot L, each divided or susceptible of division through the center, in the manner described, so that one-half of the stove may be used independently of the other, as and for the purpose set forth.

5. In a stove constructed as described, the grates G G', supported by the hinged rod *a*, and arranged for use independently of each other, as set forth.

6. The perforated doors D, hinged at *p*, as seen in drawing, to serve when open, against the sides of the stove, as a protection to the mica windows, or when closed, as dampers to the stove.

7. The drop or teat K at the corners and under the bottom plate of stove, as a permanent fixture, to receive the socket Q, as and for the purpose set forth.

118,772.—METALLIC FISHING-LINE.—Harry Camp, Covington, Ga.

Claim.—In a fishing-line, the loops D, placed at suitable distances apart, and constructed as herein specified.

118,773.—JOINT FOR SCHOOL-DESKS.—Thomas A. Galt and George S. Tracy, Sterling, Ill.

Claim.—The hinge or joint for school-seats, constructed with the segmental recess *d'* having a concave face, and with the stop *e*, and provided with the rubber washer *b'*, substantially as and for the purpose described.

118,774.—WASHING-MACHINE.—John Williamson James and Josiah Streit, Centretown, Mo.

Claim.—A rotary ribbed dasher or squeezer for washing-machine, in combination with a curved ribbed suds-box having a semicircular recess at its end, substantially as and for the purpose specified.

118,775.—REIN-HOLDER.—Henry D. Page, Morenci, Mich.

Claim.—The rein-holder herein described, consisting of the plate A having the longitudinally-recessed shoulders *b' b''* and rein-cavity D, and of the straight spring B adapted thereto, all constructed and arranged as specified.

118,776.—APPARATUS FOR FORCING FLUIDS.—Thomas W. Malone, Mason City, W. Va.

Claim.—In combination with an air-pump of the within-described construction, the descending pipe F and ascending and discharge-pipe G, when the turned-up end of the former is of the full diameter of the pipe F, and the lower end of the pipe G, which it enters, is enlarged so as to form a long narrow annular channel between the ends of the pipes F and G, as and for the purpose set forth.

REISSUES.

4,541.—LAMP-BURNER.—Hiram W. Hayden, Waterbury, Conn., assignor to Holmes, Booth & Hayden, same place.—Patent No. 106,363, dated August 16, 1870.

Claim.—1. The wick-holder *i*, with penetrating teeth surrounding and acting to hold the flat wick in a cylindrical form around the central air-tube and above the lateral inlet, and adjust the height of the wick without interfering with the capillary action of said wick, as set forth.

2. The wick-raising mechanism, acting upon the exterior of the flat wick within the tube *a* and above the lateral inlet *f*, in combination with the interior air-tube *c* and exterior tapering tube *a*, substantially as and for the purposes set forth.

3. The wick-holder *i*, with its bar *l* interposed between the flat wick and the tapering tube *a*, in combination with the tapering tube *a*, air-tube *c*, lateral inlet *f*, and the wick-raising mechanism acting upon the said bar *l* through a slot in the said tube *a*, substantially as set forth.

4. The tapering perforated guide *o* and spring chimney-holder *n*, constructed substantially as specified, and combined with the foraminous air-distributer *c* that supports the removable spring chimney-holder and guide when in place, substantially as set forth.

4,542. — PERMUTATION LOCK. — Julius C. Hintz, Jr., Cincinnati, Ohio.—Patent No. 108,481, dated October 18, 1870.

Claim.—1. In combination with wheel C and cam C', the pinion J', wheel J, clamp J'', and bolt J''', when constructed and arranged for operation as herein described.

2. In combination with wheel C and cam C', the yokes D provided with slots S and mounted on pins D' D'', substantially as and for the purpose set forth.

3. The yokes D provided with slots S and arms D', and arranged to move laterally on pins D'' D''', in combination with the projecting pins B' and bolt B.

4. The notched disk G, with its sleeve L, in combination with the swinging bolt B working on the sleeve E, and the link F pivoted to the case M, substantially as described.

5. The swinging bolt B having its front end weighted so as to fall by its gravity when released, in combination with the link F having one of its arms connected thereto, substantially as described, whereby the bolt is held suspended until the link is released, as herein set forth.

6. The combination of the weighted swinging bolt B provided with the arm B', and the sliding yokes D, constructed and arranged to operate substantially as set forth.

4,543.—WATER-TANK FOR RAILWAYS.—John Morton, Sedalia, Mo., assignor to McGowan Brothers' Pump and Machine Company, Cincinnati, Ohio.—Patent No. 63,418, dated April 2, 1867.

Claim.—1. In combination with devices for raising and lowering the supply-pipe, the connection, substantially as described, whereby the conveyer and supply-pipes of the tank may be rotated upon each other without separation.

2. The combination of swivel X and jointed rod E with the supply and conveyer-pipes, when the axes of the connecting-mouths are at right-angles with the axes of the spouts when in position for delivery.

3. The swivel-pin X, located in the axes of the supply and conveyer-pipes—when the latter are in position for delivery—when said swivel is connected by any suitable device with the supply-pipe so as to suspend the supply-pipe and permit its horizontal rotation and vertical elevation or depression.

4. The swivel X, when located on the top of the conveyer-pipe, and connected by any suitable device with the supply-pipe so as to suspend the supply-pipe and permit its horizontal rotation and vertical elevation or depression.

5. In combination with the tank A and stationary pipe B, a horizontally-adjustable connecting-pipe, D, arranged to operate substantially as and for the purpose set forth.

6. The combination of the horizontally-adjustable pipe D and the ropes and weights H and swivel-pulleys I, substantially as and for the purpose set forth.

7. The combination of the cord C², bell-crank C¹, and valve C with its stem and weights G, substantially as set forth.

4,544.—WASH-BOILER.—Charles N. Tyler, Buffalo, N. Y.—Patent No. 84,918, dated December 15, 1868.

Claim.—1. The plate B, provided with the band B', the openings G G, and the flanges F F, as set forth.

2. The plate B, in contact with or attached to the band B', except at the ends where it is provided with the openings G G, as set forth.

3. The combination, in a wash-boiler, of the perforated top D, close plate B having the openings G G, band B', and central tube C, all arranged substantially as described.

DESIGNS.

5,251.—WAGON-SEAT.—Pascal P. Child, St. Louis, Mo.

Claim.—The design for the seat-riser for vehicles, substantialilly as above set forth.

5,252.—PICTURE-NAIL HEAD. — Hubert L. Judd, Brooklyn, N. Y.

Claim.—The design of the metallic rim *a* that receives the head *a*, the same being formed with a scalloped edge, as shown.

5,253.—BURIAL-CASKET.—Wilbur F. Lane, Boston, Mass.

Claim.—As a new design, a burial-case that is octagonal in vertical cross-section.

5,254.—BIRD-CAGE.—George R. Osborn and Benjamin A. Drayton, New York, N. Y.

Claim.—The design for a bird-cage, as shown.

5,255.—BIRD-CAGE.—George R. Osborn and Benjamin A. Drayton, New York, N. Y.

Claim.—The use of crimped wires as a new style of ornamentation for the upper section, dome, or roof of a bird-cage, as herein specified and shown.

ISSUE OF SEPTEMBER 12.

PATENTS.

118,777.—BRICK-MACHINE.—Alban Anderson, Peekskill, N. Y., assignor to Homer Anderson and Euclid Anderson, same place.

Claim.—1. The hook L, in combination with the

pronged arm E, clutch *h'*, and plunger D, substantially as and for the purpose described.

2. The clutch *h'*, in combination with the hook L and cam F, provided upon its face with foot *r*, substantially as and for the purpose set forth.

118,778.—WATER-WHEEL CASE.—William Bayley and Abner P. Crowell, Wilmington, Del.

Claim.—1. The case A B B', with its flange 3, in combination with the gate D, when constructed with a chamber, *i*, communicating with the interior or discharge-chamber of the wheel, substantially as described, and for the purpose set forth.

2. The combination, with a turbine water-wheel case and gate, of a spiral pinion and rack, substantially as and for the purpose set forth.

118,779.—STEAM-HEATER.—Albert G. Bearup and Patrick Carraher, Jr., New York, N. Y.

Claim.—1. The employment of a self-acting valve, H, on the base, for the discharge of atmospheric air and water of condensation, substantially as herein described.

2. The inclined partition E and bottom A, substantially as and for the purpose hereinbefore described.

118,780.—CARRIAGE-CLIP BLANK AND DIE FOR MAKING THE SAME.—Henry M. Beecher, Plantsville, Conn.

Claim.—1. The roller-dies B B, with their peripheries molded to the shape herein shown and described, for the purpose of forming carriage-clip blocks, as set forth.

2. The carriage-clip blank D as formed therein, having its central portion reduced and thrown outward to form the heads *v v*, substantially as and for the purpose described.

118,781.—REVERSIBLE CURTAIN-FASTENER. Henry Binder, St. Louis, Mo.

Claim.—1. The hanger A, cast with bearing part A', having projections *a a'*, and provided with pawls *b b'* and spring C, substantially as and for the purpose set forth.

2. The combination of pulley D cast with cogs *d*, when arranged with hangers A, constructed as described, substantially as and for the purpose set forth.

118,782.—SPRING-SEAT. — John W. Blakeney, New York, N. Y.

Claim.—In a chair or other seat, the springs C coiled at F and G, the several coils being secured to the frame B, as shown, the springs D coiled at their ends, and the springs E coiled at one end, when the said springs C, D, and E are interwoven in the manner and for the purpose specified.

118,783.—BRICK AND MORTAR-ELEVATOR.—William Boswell, Pontiac, Mich.

Claim.—1. The construction and arrangement of the standards B B, hanger C, shaft D D', clutch-boxes *a a'*, clutch-lever R, spring S, cord T, ratchet H, pawl *b*, movable journal-boxes I I, shaft J, chain-wheels K L, endless chain M, platform N, braces O, and chain-guides P, as and for the purpose set forth.

2. The arrangement of the stops V V' in the cord T with relation to the chain-guide P and platform N, in the manner described, for the purpose specified.

118,784. — SNOW-PLOW. — Thomas Spence Brown, Greenfield, Mich.

Claim.—The devices herein named for operating the auxiliary plow C, consisting of the sway-bar *o*, eyebolt *p*, T-shaped bolt *r*, spring *s*, foot-lever *t*, tiller-ropes or chains *w*, tiller *x*, and wheel *v*, all constructed and arranged substantially as and for the purposes set forth.

118,785. — BELT-FASTENING. — George A. Brown, Reading, Mich., assignor to himself and Ebenezer L. Kelley, same place.

Claim.—The herein-described belt-fastening, composed of a buckle-plate, A, formed with a bail, *a*, and hook-studs *b* secured to the belt by rivets *c*, in the manner and for the purpose set forth.

118,786.—STEAM-TRAP.—Nelson H. Bundy, New York, assignor to Charles Gregg, Brooklyn, N. Y.

Claim.—The combination of the float G, the valves E E, the stem F, the valve-box D, the outlet C of the trap, and the cam I, made capable of operation from the exterior of the case, substantially as specified.

118,787.—MANUFACTURE OF ACETATE OF LIME.—Charles J. T. Burcey, Black Rock, Conn.

Claim.—1. In the manufacture of acetate of lime at one operation, the vapors of pyroligneous acid and slaked lime, or their equivalents, introduced into direct contact with each other while in a state of commotion, essentially as described.

2. In the manufacture of acetate of lime, the charging of slaked lime with pyroligneous-acid vapors in an agitator, substantially as described.

3. In the manufacture of acetate of lime, the process of condensing the empyreumaticated vapors formed in the production of the acetate of lime to utilize its fluid and gaseous matter, substantially as described.

4. In combination with the pipe for conducting the pyroligneous acid from the still, the inclosing-case or cylinder K for said pipe, to render the heat uniform and to protect the conveying-pipe, as described.

5. In combination with a boiler for evaporizing pyroligneous acid and a superheating-furnace, an agitator, L T T', substantially as described.

6. In combination with the agitator, a feeding-conveyer, N, substantially as described.

7. In combination with the agitator, the double-bottomed pan S, substantially as described.

8. In combination with the agitator and pan S, the space S', pipe L', condenser U U', reservoir W, and pipes W *x*, substantially as described.

118,788.—MANUFACTURE OF ACETIC ACID.—Charles J. T. Burcey, Black Rock, Conn.

Claim.—The manufacture of acetic acid by means of the combination of acetate of lime and concentrated sulphuric acid in a boiler while under direct agitation, substantially as described.

118,789, antedated September 9, 1871.—WATER-INDICATOR. —William Butterfield, Madison, Wis., assignor to William H. Worden, same place.

Claim.—A water-indicator, when constructed with the shell A in two parts, forming an open interior space, F, for the operation of floats G, when used in combination with the levers *f* and arms *g*, one moving the spindle *g* and the other moving upon it, in the manner substantially as herein set forth.

118,790.—ELASTIC WASHING-MITT. — Marvin Cadwell, Lansing, Mich.

Claim.—A washing-mitt, provided with corrugations *a* upon each side of the palm A, and with straps C and rings B, all constructed, arranged, and operating substantially as and for the purposes set forth.

118,791, antedated August 24, 1871.—DEVICE FOR ELEVATING HAY, &c.—Frank Calvert, Wabash City, Ind.

Claim.—The device herein described, consisting of the hook A, square part B, cleat C, and auxiliary hook E, when constructed as shown, and for the purpose specified.

118,792.—WHEEL-PLOW.—William J. Connor, Benton, Ill.

Claim.—1. The slotted and pivoted plow standard B, in combination with the rod *f* and hand-wheel nut *g* for adjusting the pitch of the plow, substantially as described.

2. The beam A recessed, as described, to receive the standards B of the plows, and furnished with screw-bolts and nuts which allow the plows to be adjusted laterally and serve to firmly sustain them in position, substantially as described.

3. The slotted and vertically-adjustable standards C C', wheel E, beam A, plows B *b*, and swinging-seat D, arranged substantially as described.

118,793, antedated September 11, 1871.—EXCAVATOR.—John P. T. Davis, New Trenton, Ind., assignor to himself and Samuel Davis, same place.

Claim.—1. The shovel D and colters G G connected together by a transverse piece, H, and movable vertically within guides and between uprights I I, in combination with the screw J with gearing and crank, and set-screw *j*, all constructed and operating substantially as and for the purpose described.

2. The screw P, lever M, uprights N, sliding bars L L, and roller K, in combination with the rollers Q Q', arranged and operating substantially as and for the purpose set forth.

3. The screws J and P, in combination with the colters G G, and plow D, lever M, sliding bars L L, and rollers K and Q Q', all operating substantially as and for the purpose set forth.

118,794.—MACHINE FOR WASHING WHITE LEAD. — William Davison, Baltimore, Md.

Claim.—1. The combination and arrangement of water-pipe or pipes F and revolving sweep or sweeps H H, substantially as and for the purpose herein set forth.

2. The combination, with pipes F and sweeps H H, of shaft or shafts L L, gear-wheels 5 5 and 6 6, substantially as and for the purpose set forth.

3. Forcing water, under pressure, into and through the white lead while in process of washing, for the purpose as hereinbefore set forth.

4. Forcing water, under pressure, into and through the white lead while the same is stirred and raked up by the sweeps H H, in combination and in connection with tub or tubs D D, sweep or sweeps H H, shaft or shafts L L, and gear-wheels 5 5 and 6 6, for the purpose herein fully set forth.

118,795.—EARTH-CLOSET.—Merritt E. Doolittle, Hartford, Conn., assignor to Earth-Closet Company, same place.

Claim.—1. A commode or earth-closet, provided with the excrement-chamber and the distributing mechanism, and having its earth receptacle adapted to be raised and lowered, all substantially in the manner and for the purposes set forth.

2. In combination with the box F, an oscillatory distributer, G, provided with suitable actuating mechanism, and operating substantially as herein described, for the purposes set forth.

3. In combination with a distributing mechanism constructed and adapted to throw or scatter the charge of earth, a seat, hinged at its front edge and connected by suitable means with the distributing device, the whole arranged to operate substantially as set forth.

118,796.—SCROLL-SAWING MACHINE.—Nathaniel T. Edson, New Orleans, La.

Claim.—1. Hanger L, in combination with plate B, rod M, and rod X, substantially as and for the purpose hereinbefore set forth.

2. Rubber block 2, in combination with hanger L, rod M, and plate B, substantially as and for the purpose hereinbefore set forth.

3. Set-screws 6 and 7, Fig. 2, in combination with bolt 8, substantially as and for the purposes represented.

118,797.—MACHINE FOR THRASHING AND SEPARATING GRAIN. — Samuel Filby, Lewiston, N. Y.

Claim.—The crank-shafts K K, straw-carriers and shakers B B, riddle D, inclined grain-board N, sieve E, and breaker 44, when said parts are constructed, combined, and arranged to operate substantially as and for the purposes described.

118,798.—PERMUTATION PADLOCK.—Louis H. Gano, New York, N. Y.

Claim.—The release-bolt R, operated upon the outside of the case, provided with a guard, G, which enters the slots of the tumblers, said bolt releasing the connecting-bar or catch C, all arranged as and for the purpose set forth.

118,799.—BOILER FOR HEATING BUILDINGS. Azel Gay, Rochester, N. Y.

Claim.—1. The combination of the outer casing of boiler C with the interior structure thereof, consisting of the top and sides of the combustion-chamber K, the bridges *m n*, water-back *o*, and combustion-flues *d' i''*, connected by the horizontal flanges *f*, in the manner and for the purpose substantially as described.

2. The combination of the bridges *m n* with the sides *j j* of the combustion-chamber K and outer casing of boiler C, substantially as and for the purpose described.

3. The arrangement of the flues *b b'* under the ash-box and around the ledges *a* of the fire-brick, substantially as and for the purpose specified.

4. The construction of the smoke-flues *d' i''* with zigzag upper surfaces and plane lower surfaces, substantially as and for the purposes described.

5. The arrangement of the smoke-flues *d' i''* in relation to each other and to the boiler C and doors H I, whereby the narrow water-spaces *q* are formed and free communication may be had for cleaning out the flues, substantially as and for the purposes specified.

6. The combination of the base D with the interior and outer casing of boiler C, when the parts are constructed, arranged, and used in the manner and for the purpose specified.

118,800.—SAW.—George B. Green, Staffordshire, England.

Claim.—A saw made by roughening or serrating, by any suitable means, the sides of the blade, substantially in the manner and for the purpose herein set forth.

118,801.—HEAD-BLOCK FOR SAW-MILLS.—William A. Greenleaf, Indianapolis, Ind., assignor to himself, John T. Dickson, and Edward Greenleaf, same place.

Claim.—1. An adjustable slide, X, and stop-pin T, moving upon and secured to a movable rod, O, in combination with a gauge-slide, Q, upon the knee A or carriage B, for the purpose of moving said rod by the traverse of the carriage, substantially as and for the purpose herein set forth.

2. In combination with the subject-matter of said first claim, one or more levers, R T, arranged to operate one or more pins, Y, and thereby move a cam-lever, N, on the driving-pulley K, for the purpose of liberating the said pulley from the gearing operating the carriage B and arrest the movement of the carriage, all substantially as herein described.

3. In combination with the lever T, arranged and operated substantially as herein described, a hammer, P, and bell, U, to announce the movements of said lever T, substantially as herein set forth.

118,802.—RUSTIC SEAT.—Albert G. Hawkes, Baltimore, Md., assignor to D. L. Bartlett and H. W. Robbins, same place.

Claim.—The combination of slats B B, fitted with wedge-shaped dovetailed keys *b b*, with end supports A A having dovetailed wedge-shaped recesses formed in the upper edges thereof, substan-

tially in the manner and for the purpose herein set forth.

118,803.—PAPER COLLAR.—Samuel F. Hilton, Providence, R. I.

Claim.—The double-edged collar described, in which the parts which are folded over to form the edges of the collar are cut, substantially as shown, so as to be held in place by having their ends lodge in a fold, and also by the overlapping of one fold upon the ends of another.

118,804. — BED-BOTTOM. — Samuel Hobbs, Wilmot, Ohio.

Claim.—The bed-bottom, composed of the end frames B B, constructed substantially as herein described, in combination with the springs *i i*, washers or plates *m m*, and slats C C, substantially as and for the purposes herein specified.

118,805.—BLACKING-BRUSH AND BOX COMBINED.—Hugh S. Kerr, Philadelphia, Pa.

Claim.—1. The combination and arrangement of the brush A, the blacking-box *e*, the sponge N, and cap *k*, substantially as herein described.

2. The sponge N and holder *g h* combined and operating in connection with the box *e*, as herein described.

3. The cap *k*, having one or more buttons, *m*, for the purpose of saturating the sponge, as herein described.

118,806.—AUGER.—Robert M. Lafferty and Edward P. Smith, Three Rivers, Mich.

Claim.—1. The boring-head F, constructed of one piece of metal, and provided with the bit *e*, radiating from the center of the periphery to the front end thereof, and with one or more short angular bits *e'* extending only a portion of the distance from said periphery toward said center, when each of said parts is constructed as described, shown, and set forth.

2. The guide-tube B, provided with apertures *a* and serrated edge *b*, as described, shown, and set forth.

3. The bracket A, box D, and guide-tube B, provided with apertures *a* and serrated edge *b*, constructed and combined as described and set forth.

4. The combination of the hollow auger C, the pulley E, the box D, and the guide-tube B, when each is constructed as described, and all are arranged to operate as and for the purpose set forth.

118,807.—COAL-SCUTTLE.—Emmett Mather, Chicago, Ill., assignor to Frank Sturges & Co., same place.

Claim.—1. Stamping or "setting down" the bottom and hoop of a coal-hod with the annular flange *a* of one and the same piece of metal, substantially as and for the purpose described.

2. Uniting the body to the bottom and hoop by double seaming, when said bottom and hoop are made from one and the same piece of metal, substantially as specified.

118,808. — SELF-ACTING MULE FOR SPINNING.—Peter McGovern, Lawrence, Mass.

Claim.—1. The combination of the belt K and stop N with the short arm of the lever M, controlled by the fallers, all constructed and arranged substantially as described, so that the resistance of the belt will tighten the hold of the lever upon it.

2. The incline Q, for releasing the hold of the weighted lever M upon the belt when the carriage has run in, substantially as described.

3. The fingers *i* and *d*, in combination with the shipping-rod A and cam *e*, substantially as described.

118,809.—BLACKING APPARATUS AND BOOT-JACK COMBINED.—Joseph M. McMaster, Rochester, N. Y.

Claim.—As an improved article of manufacture the apparatus herein described, consisting of the folding bootjack E, hinged foot-rest plate B, and blacking-box support *d d*, all arranged within and upon the case A, substantially as and for the purposes set forth

118,810, antedated August 24, 1871.—HAY-TEDDER. — William H. Mickle, Utica, N. Y.

Claim.—1. The combination of the tine-shaft A^1, the crank S, roller S^2, and guide E', constructed and operating substantially as and for the purpose described.

2. The combination of the driver O with binder P, pinion K, and shaft A^1, when each is constructed and all are operated substantially in the manner and for the purpose described.

118,811.—VENT-BUNG.—Charles H. Miller and William Ascough, Buffalo, N. Y.

Claim.—In a vent-bung, the recess *g* of the radial hole B', arranged with the orifice *e* or the valve-ping C, as heretofore set forth.

118,812.—MEDICAL COMPOUND OR APPLE-GINGER.—Davis Nixon, Philadelphia, Pa.

Claim.—The manufacture or preparation of a compound which is denominated "Nixon's celebrated apple-ginger," of the ingredients, in the proportions, and for the purposes set forth.

118,813. — SOLUTION OF BALSAMIC GUMS FOR MEDICINAL PURPOSES, COSMETICS, PERFUMERY, &c.—Oscar Oldberg, Washington, D. C.

Claim.—1. A beautifying, healing, and antiseptic preparation, consisting of a solution of one or more balsamic gums in a solution of boric acid.

2. The combination of a solution of boric acid and one or more balsamic gums with glycerine, to produce a smooth consistency and allow the preparation to be renewed, as described.

118,814.—WINDOW-SHADE.—John J. Phares, Whitestown, Ind.

Claim.—The combination of the curtain B, stationary frame D, movable slat E, rubber cords F F L L', drawing-cords O O' P P', guide-bars S, rings K, and knobs J, all constructed and operating substantially as described.

118,815. — WAGON-WHEEL.—Joram Preist, Detroit, Mich.

Claim.—The combination of the sections A and B, each cast in one piece, and provided with concave flanges *b* and *d*, the section B also provided with studs *f*, the wooden hub C provided with groove *g* and the spokes D, the several parts being constructed, arranged, and secured together, substantially as described and shown.

118,816.—SLATE-CUTTING MACHINE.—William H. Rayner, Springfield, Mass.

Claim.—1. The combination of the knife-bar A, springs *f f*, rods D D, and treadles T T, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the knife-bar A, springs *f f*, rods D D, and treadles T T, of the bed-plate H with pins *p p* and depressible pins *t t*, &c., substantially as and for the purpose hereinbefore set forth.

118,817.—STEAM-VALVE.—Mont C. Rerdell, Clinton, Ark.

Claim.—The oscillating balance-valve herein described, consisting of the cylinder F having the eccentric steam-chamber H, steam-port *n*, central rib E, and the exhaust-way G, concentric with the wall of the steam-chamber, arranged substantially as specified.

118,818. — TOOL FOR PLUGGING LEAKY BOILER-TUBES.—James Ritchie, Detroit, Mich., assignor to himself and William J. Walsh, same place.

Claim.—The bar A, provided with two or more spring-clamps, B, for holding a flue-plug while being driven, substantially as shown and described.

118,819. — PUTTING UP POWDERS.—Henry Sawyer, Chelsea, Mass.

Claim.—An improvement in the arrangement of the sealing of the perforated package or box, such consisting either in arranging it on the inner surface of the perforated part and across the perforations, or of so arranging it and also applying a layer of it on the outer surface of the part perforated and across the perforations, all being substantially as set forth.

118,820.—WHIP-SOCKET—Ferdenand Selle, Detroit, Mich.

Claim.—Providing the lower end of a whip-socket with a screw, B, as and for the purpose set forth.

118,821. — SEED-DRILL.—Richard B. Sheldon, Canastota, N. Y.

Claim.—The shells F and inside feed-wheel G, said wheel being made in two sections, one of which is attached rigidly to the shaft B, the other sliding upon the same to admit of the adjustment described by the set-screw I *i*, substantially as set forth.

118,822. — BEE-HIVE. — William P. Shortridge, Easton, Mo.

Claim.—1. The openings *d d'*, leading to the chamber E, when formed by the inclined bottom C, the hive-bottom D, and the spout-cover K, substantially as described.

2. The detachable cover K, provided with a lighting-board, L, in combination with the independent inclined bottom C, to form the several channels of ingress or egress, and arranged to be attached to any common square bee-hive, substantially as described.

3. The arrangement of the inclined bottom C with its steps *c c'*, hive-bottom D, chamber E, tubes F, metal plate G, covers J and K, the latter provided with the lighting-board L, openings *d d'*, and pan O, all arranged to operate substantially as described.

118,823. — INSTRUMENT FOR EXTRACTING PACKINGS FROM STUFFING-BOXES.—Hiram N. Smade, Manistee, Mich.

Claim.—The construction and arrangement of the rod A provided with a hook, *a*, at one end and screw *b* at the other, sliding in the sleeve B provided with the set-screw *c*, and the handle C, substantially as described, for the purpose specified.

118,824.—CAR-COUPLING.—Olney L. Smith and James F. Utton, Providence, R. I.

Claim.—The bunter B and pin P, in combination with toggle G and link, when constructed and operating substantially as described, and for the purpose set forth.

118,825.—Suspended.

118,826. — CHURN. — George Spayd, Alma, Mich.

Claim.—1. The radial arms or dashers C, constructed, arranged, and operating substantially as described and shown, for the purposes set forth.

2. The combination of the body A, shaft B, radial arms C, pinion *b*, spur-wheel *c*, spider *a*, shaft *d*, standards *e f*, crank *g*, and arm D, substantially as and for the uses above set forth.

118,827.—BEE-HIVE.—Silas D. Stearns and George Ellsworth, Weston, Ohio.

Claim.—The construction and arrangement of the hive-section B secured to the extended base A, and provided with the inclined bottom E and clamping-bars C, and the movable hive-sections B' provided with the inclined bottom F and slide F', said section being secured to the other by the keys D, the whole being covered by a suitable cap, I, as and for the purpose set forth.

118,828.—DOOR-LOCK.—Columbus I. Stewart, Baltimore, Md.

Claim.—The sliding stump *g* attached to plate *d*, working in guides C formed on bolt B, in combination with slots *h h'* in the tumblers, substantially as and for the purpose hereinbefore set forth.

118,829.—BUNDLING-PRESS.—Carlo R. Taylor, Ionia, Mich.

Claim.—The construction and arrangement of the frame A, standards A', cross-sills B, levers C provided with plates *a*, treadles D, rods E, bars F, and ratchets *d*, as and for the purpose set forth.

118,830.—SPINDLE FOR SAFE-LOCK.—Miron G. Tousley, Mendota, Ill., assignor to Diebold & Kienzle, Cincinnati, Ohio.

Claim.—1. The combination of key B with its forked end, loose plug O with wedge-shaped end, and spindle D, substantially as herein described.

2. The plug C, provided with cap and fuse *f* and *g* or their equivalent, in combination with the spindle D, substantially as herein described, and for the purpose set forth.

118,831.—BOB-SLED.—Aaron H. Walrath, Pamelia Four Corners, N. Y.

Claim.—1. The combination and arrangement of the herein-described devices for holding the rear bob to the rack or box in the manner shown and set forth.

2. The combination of the front bob, the rack, and devices for coupling the same, and the circular rail and rollers, said parts being constructed and arranged for joint operation in the manner shown and set forth.

118,832.—AUTOMATIC FAN.—Lucius A. Walton, Byhalia, Miss., assignor to himself and Dougle McIntire, same place.

Claim.—The within-described machine, consisting of one or more fans, wheel B, trough C, hopper D, spout E, crank *e*, pitman H, and crank-shaft *f*, all arranged to operate substantially as and for the purpose set forth.

118,833.—FENCE.—Peter Chase Yost, Carthage, Ill.

Claim.—The portable fence and gate, made as set forth, with panels, trestles, and interlocking notches, and with parts sliding in sleeves R S on a portable panel, substantially as set forth.

118,834.—BED-BOTTOM.—Peter Agger, Cincinnati, Ohio.

Claim.—A compound spring, constructed with coils *g* and *h*, and seat *e* in same vertical plane with coil *h*, and operating as and for the purpose herein specified.

118,835. — PRINTING-PRESS. — Franklin L. Bailey, Boston, Mass.

Claim.—1. The yielding or supporting-rails or bearers E E, in combination with the adjustable traveling cylinder C, substantially as described, and for the purpose set forth.

2. The yielding and supporting-rails or bearers and the traveling-cylinder C, in combination with the plates L L and cleats X X, substantially as described, and for the purpose set forth.

118,836.—CAR-COUPLING.—John D. Barnard, Frostburg, Md., assignor to himself, R. C. Paul, and John M. Standish, same place.

Claim.—A draw-head cast in one piece, with an opening, *m*, and an incline, *i*, arranged as described.

118,837. — HARVESTER. — Orson Billings, Elyria, Ohio.

Claim.—The concentric rims of cog-gearing A A' and the loose bevel-pinions C C', placed contiguously upon the shaft, and having annular recesses and

slots *c* and *d* in their adjacent ends, in combination with pin *e*, arranged to slide between the recessed pinions and clutch them to the shaft, substantially as and for the purpose hereinbefore specified.

118,838. — PISTON-PACKING. — George F. Blake, Boston, Mass.

Claim.—As an improvement in pistons for pumps and engines, the combination and arrangement of the packing G, ring E, spring C, set-screw B, rod A, and nut D, all constructed and applied in the manner and for the purpose specified.

118,839.—BOOT AND SHOE-HEEL.—Mellen Bray, Newton, Mass.

Claim.—1. The leather nut *g*, arranged and confined in a recess or cup formed in or secured to the base-plate B to receive the holding-screw A, substantially as and for the purpose described.

2. The strengthening-rib *e*, formed on the under side of the plate A and extending across the same, substantially as described, for the purpose specified.

3. A boot or shoe-heel provided with a base-plate, A, having curved flange or guard *d* formed on the outer edge of its side and rear portions for the purpose of protecting the upper portion of the body of the heel, substantially as described.

118,840.—ROTARY STEAM-ENGINE.—George W. Briggs and Myron H. Denamore, Shickshinny, Pa.

Claim.—In combination, the piston-wheel A, constructed as above described, driving-shaft C, cylinder F, induction-pipe H, floating-gauge G, and wedge-shaped partition I, substantially as and for the purpose hereinbefore described.

118,841.—DUMPING-WAGON.—John Broderick and Michael Broderick, Louisville, Ky.

Claim.—A dumping-wagon, the trucks of which are coupled together by a jointed and elevated frame for supporting and operating the box, substantially as set forth.

118,842.—VARNISH FOR LEATHER.—Charles Brumby, Rochester, N. Y., assignor to himself and John Needham, Jr., same place.

Claim.—A varnish composed of gum-shellac, gum-myrrh, gum-camphor, lamp-black or some equivalent coloring matter, Prussian-blue, and alcohol, in the proportions and prepared in the manner described.

118,843.—PISTON-PACKING. — John Clark, Harrisburg, Pa.

Claim.—The combination of the wedge-ring A, recesses *e*, springs *f*, follower *d*, disk *a*, ring B, ribs *g*, and packing-rings C, all constructed and arranged as shown and described.

118,844.—FLOWER-STAND.—Elisha T. Cobb, Conway, Mass.

Claim.—The combination of the hub *e* and its series of inclined racks D with the troughs E, the rotary stand or frame C, and the standard or spindle A and series of legs B, all being constructed and arranged as and for the purpose specified.

118,845.—BROOM-TYING MACHINE.—James W. Congdon, Marietta, Ohio, assignor to F. A. Wheeler, same place.

Claim.—1. In combination with the frame A, the hollow shaft B and the pool C arranged to slide upon the revolving shaft C^1, substantially as and for the purpose set forth.

2. The combination, with the frame A, of the spool or spools arranged to slide upon their respective revolving shafts and the revolving threaded guide-roller, substantially as and for the purpose set forth.

3. In combination with the frame of a broom-tying or fastening machine, and with its hollow shaft, the arm E E′, substantially as and for the purpose set forth.

118,846.—TIRE FOR WHEELS OF VEHICLES.—William H. Davis, Lexington, Ind.

Claim.—The tire B, provided with curved flanges C C of substantially the form shown, and applied to the felly A in the manner shown, and for the purposes specified.

118,847.—DEVICE FOR BENDING TUBES OF SHEET METAL.—Horatio W. Doe, Springfield, Ohio, assignor to himself and William F. Matthews, same place.

Claim.—The process herein described of bending tubes to form nozzles, coffee-pot spouts, and other similarly-bent articles, viz., between bending-levers without the use of any interior filling or support of any kind, substantially as described.

118,848.—MANUFACTURE OF PLOW LAND-SIDES.—James Duff, Peoria, Ill., Henry Roberts and Gilbert D. Nourse, St. Louis, Mo., assignors to L. G. Pratt & Co., Peoria, Ill.

Claim.—A plate of wrought-steel or wrought-iron of the shape, in cross-section, substantially of that herein described and shown—that is to say, a plate or bar raised or thickened along one edge throughout its length, which raised portion graduates into the thinner and flat portion of the plate by an easy concave curvature commencing at the angle of the plate, said plate to be used in the manufacture of landsides of plows, as set forth.

118,849.—CARTRIDGE-LOADER.—George H. Ferriss, Utica, N. Y.

Claim.—1. The rifled-barrel piece A, in combination with a rifled cartridge or shell, substantially as herein described, and for the purposes set forth.

2. In combination with the rifled-barrel piece A, a cartridge or shell made plain—that is, without rifling—substantially as described, and for the purposes set forth.

118,850.—ROOFING COMPOUND. — Charles L. Fowler, Baltimore, Md.

Claim.—A roofing compound, composed of the foregoing ingredients in about the proportions named and mentioned, and to be called and known by the name and style of "Fowler's Egyptian Roofing."

118,851, antedated August 25, 1871.—SHANK FOR BOOTS AND SHOES.—George Goodyear, New York, N. Y.

Claim.—As an article of manufacture, the herein-described shank-piece, consisting of two or more leaves from one single solid piece of wood or similar material, substantially as set forth.

118,852. — FLY-TRAP. — Louis Grim, Fort Branch, Ind., assignor of one-half his right to Alexander I. Moore, same place.

Claim.—The cone *a* having the notches *b*, guides *c*, and orifice *d*, in combination with the sliding bottom *e*, inverted cone *f* arranged so as to form a channel, *g*, and glass cover *h* resting solely on the upper cone, all arranged as specified.

118,853.—COVERING OR HIDE FOR TOY-ANIMALS.— Henry C. Grube, New York, N. Y.

Claim.—The mode of manufacturing, applying, and using the artificial hide as cover for animal toys, as hereinbefore described, and for the purposes set forth and specified.

118,854, antedated September 9, 1871.—SAD AND FLUTING-IRON.—James K. Gulihur, Montana, Iowa.

Claim.—Providing fluting-irons, having flutes made transversely to the ironing surface, with a compound hinge, G H J K, and stop S, substantially as and for the purpose described.

118,855.—TOY-HOOP.—Albert M. Hill, New Haven, Conn.

Claim.—The arrangement of two or more radial cords or rods in a hoop, having metal disks *d* arranged thereon to fall by their own gravity to and from the center, substantially as and for the purpose described.

118,856. — SPRING-BED BOTTOM. — Porter Hill, Millport, N. Y.

Claim.—The combination of the metal springs D D, the slats or bars B B, and stirrups E E, they being so arranged with reference to each other as to form a stop for the bed-bottom, substantially as and for the purpose set forth.

118,857.—STEAM-ENGINE.—Herbert Thomas Jennings and Thomas Jennings, No. 20 Sydney Street, City Road, England.

Claim.—The combination, in a steam-engine, of the following parts, viz., the steam-cylinder, the two main exhaust-passages (one at each end of said cylinder) and the valves therefor, the two supplemental independent exhaust-passages (one at each end of said cylinder) and the independent supplementary exhaust-valves therefor, all constructed to operate substantially as before set forth.

118,858. — METHOD FOR MANUFACTURING FERRULES.—Silas E. Jeralds, Horace A. Nettleton, and Edwin R. Lawton, West Cheshire, Conn.

Claim.—The method herein described for constructing ferrules.

118,859, antedated September 2, 1871.—PUMP.—Julius Jonson, Baltimore, Md.

Claim.—1. The pump-barrel and strainer *g*, cast in one piece, and provided with the flanges and the grooved bushing *h*, as herein set forth and shown, for the purpose specified.

2. The hollow plunger *j*, with holes *l l* and lugs *k*, together with the bail-rods *m m* and yoke *s*, substantially as and for the purpose herein specified and described.

3. A valve-box, *n*, with grooves *p*, flange *q*, and bosses *r r*, as and for the purpose specified and described.

4. The combination of the pump-barrel *g*, plunger *j*, bail-rods *m m*, and yoke *s*, and the valve box *n* and chamber *u*, the whole connected and operating together substantially as herein specified and described.

118,860.—OIL-CAN. — Lawrence W. Kent, Cleveland, Ohio.

Claim.—The bow-spring E, connected to the side thumb-rod H *f*, that the latter will operate the valve vertically by the lateral action of both spring and thumb-rod, as described.

118,861.—BOY'S STILTS.—Lewis A. Kimberly, New Haven, Conn.

Claim.—1. The metallic strip C, in combination with the adjustable clasps E, substantially as described, for the purpose specified.

2. The clasps E, constructed with overlapping ends to receive the cam-buttons L, whereby said clasps are adjusted and held at any desired point upon the stick, substantially as described, for the purpose specified.

3. In combination with the step A and stick B, the fastening-strip C and adjustable clasps E, substantially as described, for the purpose specified.

118,862.—REVOLVING STEELYARD-BEAM.—Henry Kirkwood, Americus, Miss., assignor to Alexander Kirkwood, same place.

Claim.—The combination of the steelyard-beam A with the detachable cylinder B and the nut C, all arranged to operate with suitable weight, substantially as herein specified.

118,863.—VERTICAL-SCREW WATER-WHEEL.—David K. Kraatz, Ephrata, assignor of one-half his right to A. S. Bare, Bareville, Pa.

Claim.—The combination of the scroll-head C and the vertical casing-tube E with each other and with the spirally-winged water-wheel S, substantially as and for the purpose herein set forth.

118,864.—MACHINE FOR BENDING WOOD.—Edward Lacey, Chicago, Ill., assignor to himself, John Phillips, and Henry Liebenstein, same place.

Claim.—1. Pattern F, in combination with form E and movable platform D, constructed and arranged substantially in the manner and for the purposes herein set forth.

2. Pattern F, in combination with form E, gear-wheels S T, and hooks V, for the purposes herein set forth and described.

3. Bed A, in combination with rails B, grooves or channels C, platform D, form E, pattern F, plate G, posts H, gear-wheels I, L, S, Q, and T, shafts J and M, cranks K U, clutches N N, metallic strap P, endless screw R, hooks V, and upright shaft W, when constructed and operated substantially in the manner and for the purposes herein specified.

118,865. — COMPOSITION FOR STAINING STONE.—Peter B. Laird, St. Johnsbury, Vt.

Claim.—The composition described, for the purpose set forth.

118,866.—MUFF-AND-COLLAR BOX.—Henry Manneck, New York, N. Y.

Claim.—1. In a fur muff-and-collar box, a cylinder whose ends are secured together, and the same attached to the box by means of the metallic fastening having two separated ends, substantially in the manner and for the purpose set forth.

2. A box having a drawer and muff-cylinder, in combination with a shelf or brace, D, one of whose extended sides is turned down and the others turned up to the box-edge, substantially in the manner and for the purpose set forth.

118,867.—LIQUID-METER.—Henry W. Mather, New York, N. Y.

Claim.—1. In combination with the piston C and chamber A, the valve E, constructed as described, and actuated by hydraulic pressure through the auxiliary pipes *m m*, substantially as and for the purpose set forth.

2. In combination with the piston C, the oscillating frame *n n* connecting the auxiliary valves *l l′*, substantially as and for the purpose set forth.

3. The valve C, balanced by the weight *s* on the arm *t*, substantially as and for the purpose set forth.

118,868.—HUB-CLAMP.—James McClelland, Geneva, N. Y.

Claim.—As a new article of manufacture, the clamp A for embracing hubs while driving in the spokes, consisting of a flexible ring, made in a single piece, cleft at one point, and provided with heads *b b* united by a screw-bolt, B, said ring having also extensions or projections *c c* inside the heads and concentric with the ring, and nearly closing the circle, the whole arranged as described, and operating in the manner and for the purpose specified.

118,869.—WAGON-AXLE.—Nathaniel Mead, Oil City, Pa.

Claim.—1. The arm B made in two pieces, or disconnected in the center, and rigidly attached to or forming part of the wheel-hub A, and revolving in boxes *c c'* arranged in the hollow axle C, substantially as hereinbefore set forth.

2. The friction-rollers *d d'* arranged within the hollow boxes D of the hollow axle C, in combination with the revolving axles B and wheel-hub A, substantially as and for the purpose set forth.

3. The collars or flanges *a a'* formed on the inner end of the revolving axle B, as and for the purpose set forth, in combination with the boxes *c c'*, clip *f*, and hollow axle C, substantially as set forth.

4. The series of friction-rollers, arranged within the hollow boxes D and encircling the periphery of the revolving axle B, as and for the purpose set forth.

118,870.—FAN AND FLY-BRUSH COMBINED. Henry Mee, Crown Point, Ind.

Claim.—1. In combination with the crank B of the driving mechanism, the reciprocating rod G, having cross-bars attached, and supported on the frame H, as set forth.

2. The extension frame H, consisting of the supports *k* and the sliding rods *i*, held in place by set-screws, as herein described.

118,871.—BRUSH.—James Minetree, Petersburg, Va.

Claim.—1. The combination of the handle A having the groove *a* and tongue *a'*, with the bristles B and elastic strap C, substantially as and for the purposes set forth.

2. The process of manufacturing brushes, substantially as herein described.

118,872.—MEDICATED PLASTER.—George E. Mitchell, Lowell, Mass.

Claim.—The plaster herein described, when made and coated with the compound of the ingredients, in the proportions, and for the purposes set forth.

118,873.—CUT-OFF VALVE-GEAR FOR STEAM-ENGINES.—James Montfort, Newburg, N. Y.

Claim.—The arrangement of the pinion P, firmly attached to the eccentric K and working in the same plane with the eccentric, the whole situated inside a cam, M, which works the valves, and which is regulated by the action of the governor on the pinion P by means of the rod H and rack *a a*, making the cut-off variable, as specified.

118,874.—STOVE-GRATE.—George R. Moore, Philadelphia, Pa.

Claim.—1. The sliding bottom *b*, in combination with an outlying rim or grate to complete the fire-bed, substantially as and for the purpose herein set forth.

2. The shank *a*, for the double purpose of vibrating the whole fire-bed horizontally and of operating the slide *b* to let down the refuse products of combustion when required, substantially as and for the purpose herein set forth.

3. The construction of the slide *b* with journals or pivots at one side, substantially as and for the purpose herein set forth.

118,875.—REFINING SUGARS.—James A. Morrell, New York, N. Y., assignor to himself, James H. Wheatley, L. P. Williams, and George W. Baxter, same place.

Claim.—In the process of manufacturing sugar, the use of currents of rarefied air impregnated or surcharged with electricity, passed through the cane-juice, liquor, sirup, molasses, or melada while undergoing evaporation.

118,876.—SODA-FOUNTAIN.—Elisha B. Myers, Handsborough, Miss., assignor to himself and Carson Mudge, New Orleans, La.

Claim.—The within-described portable soda-fountain, when provided with a pump, D, coolers C C' having ice-receptacles *b b'* and cooling-chambers *c c'*, when all these are constructed and operated substantially as described, and for the purposes set forth.

118,877.—HALTER FOR HORSES.—Isaiah Preston Osborn and William A. Bayhan, Wilmington, Ohio; said Bayhan assigns his right to said Osborn.

Claim.—1. A "five-ring halter," constructed with the fastening-plates I, with the right cheek and crown-strap in one piece, the left cheek and buckle-strap in one piece, and the nose and chin-straps in one piece, substantially as herein shown and described, for the purpose specified.

2. The fastening-plates I, for the parts of a halter provided with an end loop, J, a central rivet-hole, and the slotted front rib or flange K, as herein shown and described, for the purpose specified.

118,878.—IRONING-TABLE.—Patrick O'Thayne, New York, N. Y.

Claim.—1. The arrangement of the ironing-board F, cord H, and weighted lever I, in combination with the table C, substantially as shown and described.

2. The brace G, in combination with the ironing-board F, cord H, weighted lever I, upright E, and board D, substantially as herein shown and described.

118,879.—DIE FOR FORMING THE HEADS OF SCREW EYEBOLTS.—Ebenezer H. Plant, Plantsville, Conn.

Claim.—As an improvement in dies for forming the heads of eyebolts, the cavities C, D, and F, of the forms substantially as shown in the die-blocks A, B, and E, represented in the drawing.

118,880.—DRAIN-PIPE MACHINE.—George Richardson, Milwaukee, Wis.

Claim.—1. The arrangement of the mold-case D, core E, trunnions G', and adjustable standards G upon a suitable base, in the manner and for the purpose set forth.

2. The combination of mold-case D, core E, and end-inclosing and securing devices, substantially as and for the purpose set forth.

3. The combination, with the mold-piece D, of the shanked core-piece F F' and hollow core E, operating substantially in the manner set forth.

4. The arrangement, upon the sectional mold-case D, of the dovetailed tapering lugs *d d*, clamps D^1, and set-screws D^2, in the manner and for the purpose set forth.

5. The mold-case, constructed with ears *e'*, in combination with the adjustable standards H' and hooks *h'*, substantially as set forth.

6. The combination, with core E, of the cross-head L^2, screw-threaded bolt or bar L, and nut L^1, constructed and arranged to operate substantially as and for the purpose set forth.

7. The combination, with core E, of the standards H' and hooks *h'* for securing the mold-case, the windlass K with rope or chain, frame I, bar L, and cross-head L^2, all arranged to operate substantially as set forth.

8. The ring M with arms *m m'*, in combination with the frame I and core E, substantially as and for the purpose set forth.

118,881.—SORGHUM-STRIPPER.—Frederick Roux, Stryker, Ohio.

Claim.—The plate *e*, having openings as described, in combination with a frame-work, and with springs *f g* extending across the openings at right angles to each other, whereby each pair of springs, in connection with each opening in the plate, forms a plurality of variable tripping orifices, substantially as herein described.

118,882.—HARDENING STEEL.—Elliot Savage, West Meriden, Conn.

Claim.—1. The process of hardening steel or similar metals by first heating to a low red heat, then coating in a suitable bath to prevent oxidation, and subsequently raising the heat sufficiently for hardening in the ordinary manner, essentially as specified.

2. A bath, composed of cyanide of potassium, chloride of sodium, and carbonate of soda, for use in the manner and for the purpose substantially as herein specified.

118,883.—SMOKE-STACK FOR FURNACES.—Benjamin F. Smith, New Orleans, La.

Claim.—1. One or more chambers, D, arranged in such relative position to the smoke-stack that it shall receive all the gases, &c., from the furnace, so that they can be separated therein, by their specific gravity, to be conveyed in different directions, substantially as described.

2. The fans E E', arranged in a smoke-stack in such manner that, through their working, an upward-and-downward draught shall be produced for the purpose stated, substantially as described.

3. The section A of a smoke-stack, provided with flues *a a*, chambers D C^1, flue C^2, and valve F, either with or without the fan E, when the same are combined so as to secure the return to the furnace of the lighter gases, &c., substantially as described.

4. The vertical section B having tubes *b b*, chamber D G H', valves *h h'*, and passage *g'*, either with or without the fan E', when the same are so combined and arranged as to operate substantially as described.

5. The smoke-stack, consisting of the sections A B having tubes *a a b b*, passage C, and chambers D G H', when the same are provided with valves and fans so as to operate substantially as described.

118,884.—FURNACE-GRATE.—Benjamin F. Smith, New Orleans, La.

Claim.—1. The grate-bars B B, having lugs or equivalent bearings C C, and detachable shaker-bar D, when provided with slots *d d' d'* of different dimensions, substantially as described, as and for the purpose specified.

2. The bars B B when the same are arranged in parallel rows and their upper faces so serrated that the ribs of one shall be opposite the recesses of the other, substantially as described.

118,885.—CONDENSING ESCAPE-PIPE.—Benjamin F. Smith, New Orleans, La.

Claim.—1. The arrangement of the exhaust-pipe D and sleeve D' with the pipe F, the vacuum-valve E at the entrance of the pipe *a* or worm A, substantially as shown, and for the purpose set forth.

2. The arrangement of the exhaust-pipe D, valve E, pipe *a* or worm A, tank C, and pipes G, *b*, *c*, and F, when combined and arranged to operate substantially as described.

118,886, antedated August 25, 1871.—AIR-PISTOL.—George H. Snow, New Haven, Conn., and Edwin H. Hawley, Kalamazoo, Mich., assignors to Edwin H. Hawley.

Claim.—1. The sight *f*, formed upon the band L by cutting and turning up the cut portion in the manner described.

2. In combination with the hammer D and trigger E, the pivot *v*, constructed as described, and arranged so as to be operated by the trigger to hold or release the hammer, substantially as set forth.

3. In combination with the cylinder B, with its air-opening *t* and valve *h*, the chambers *b* and *u* around the said opening *t*, as and for the purpose described.

118,887.—MILK-CAN.—Samuel Stroock, New York, N. Y.

Claim.—The herein-described can or vessel, consisting of an inner and an outer case with a layer of felt interposed, as a new article of manufacture.

118,888.—FENCE.—Reuben Martin Weider and Jacob Meals, Carthage, Ill.

Claim.—The combination and arrangement, in one portable fence, of the several parts of panels A B, formed of boards forming trusses, lapped beside each other at the joint, so that one may, when desired, be turned up to serve as a gate or passage, the pivot-bolt K holding all the parts at the joint together, the frames M N at the joint to support the same, and arranged so as to remain in place and support the fence if one panel is raised, as set forth.

118,889.—RICE CLEANING-AND-POLISHING MACHINE.—John N. White, New Orleans, La.

Claim.—The cylinder C, when provided with the independent-revolving rubber or leather rollers E, fans or vanes F, in combination with the open cylinder B composed of slats *d*, and chaff-opening or flue K in a removable cover, when these several parts are constructed, arranged, and operated substantially as and for the purposes set forth.

118,890.—PLOW.—Alexander H. Whittick, Clarksville, Ind.

Claim.—1. The subsoil attachment D, a section of which at *x x* presents the form substantially as shown in Fig. 2.

2. The combination of the subsoil attachment D, a section of which at *x x* presents the form substantially as shown in Fig. 2, with the beam A of an ordinary plow, and the adjustable brace E, arranged in relation to one another as set forth.

118,891.—WRENCH.—Walter S. Wilcox, Hartford, and James A. Wilcox, Rocky Hill, Conn.

Claim.—In a wrench, substantially as herein described, the arrangement of the slide or follower I within the barrel L, the said barrel serving to inclose the spring and form a bearing for the slide, as herein set forth.

118,892.—MACHINE FOR STUFFING MATTRESSES, &c.—Edwin L. Wright, Sterling, Ill., assignor of one-fourth his right to R. A. Crawford, same place.

Claim.—1. The table A provided with hinged sides having flanges *a a*, hooks *b b*, and staples *d d*, or their equivalents, substantially as and for the purposes herein set forth.

2. The tray B, open at one end, and provided with staples *f* and slots *e e* and *h h*, and used in combination with the cover D and rod I, substantially as and for the purposes herein set forth.

3. The sliding end C provided with lever *k*, staple *f'*, and catch *m*, all substantially as and for the purposes herein set forth.

4. The distributer E, constructed, as described, of square sections of equal size, with teeth *p p*, substantially as and for the purposes herein set forth.

5. The combination of the table A, tray B, end C, covers D G, rod I, distributer E, and hopper H, all constructed and arranged substantially as shown and described, to form a machine for stuffing mattresses, cushions, and other similar articles, as set forth.

118,893.—HORSE-POWER.—James M. Albertson, New London, Conn.

Claim.—The pedestal C, forming a vertical shaft or journal for the lever-wheel E and supporting

the beam I, in combination with the pinion F, shaft L, bevel-wheels M and N, and shaft P attached to the beam I, all arranged and operating substantially as herein set forth.

118,894. — BEE-HIVE. — Roberson Arnold, Suffolk, Va., assignor to himself, William B. Wellons, and Exum B. Britt, same place.

Claim.—The combination, with the brood-chamber A, of the false-bottom B with bevels *x x* on its end, passage *b*, and slide D, all constructed and arranged substantially as and for the purposes herein set forth.

118,895.—POTATO-DIGGER.—John B. Baker, Syracuse, N. Y.

Claim.—The frame-work made as described, and the main wheels E, with short axles, working between the parts A *a*, in connection with the lantern-wheel riddles C *c*, driven separately, as shown, and the shovel B, as and for the purpose specified.

118,896. — POT-COVER. — William Henry Barker, Windsor, Canada.

Claim.—A hinged safety-valve or supplemental cover, C, arranged over the perforations in the cover of a culinary vessel, as and for the purpose specified.

118,897. — BAG-HOLDER. — Oscar Barrett and Azzel D. Brooks, Dartford, Wis.

Claim.—The bag-holder herein described, composed of the forked posts B B′ C, and semicircular hoop D, constructed and applied substantially as set forth.

118,898.—CONFECTIONERY-JAR. — Jesse S. Batchelder, Fort Wayne, Ind.

Claim.—The improved cylindrical jar for confectionery, provisions, &c., having the glass front B, sliding partition C with flanges *c d*, and flanged lid D, substantially as and for the purpose described.

118,899.—CONFECTIONER'S AND GROCER'S CAN.—Jesse S. Batchelder, Fort Wayne, Ind.

Claim.—1. The box or can A having the partition D, and glass front C, and narrow space B′, as and for the purpose described.

2. The sliding partition D, with hinged lid *d*, applied to the box A having a hinged lid B, substantially as and for the purpose specified.

118,900.—BRIDLE-BIT. — Smith C. Boughton, Waterford, N. Y.

Claim.—1. The combination of the two jointed bits A B with the loose or sliding cheek-pieces C D, substantially as herein shown and described.

2. The combination of the pivoted looped bars E *e′* F *f* with the two bits A B and sliding cheek-pieces C D, substantially as herein shown and described.

118,901.—PROCESS FOR MAKING BEER, &c. Horace L. Bowker, Boston, Mass.

Claim.—1. The process, as herein described, of mixing any sirup, small-beer, water, &c., with an alkali, and drawing or charging therein carbonic-acid gas mixed with water or otherwise, for the purpose as herein fully set forth and described.

2. The process of mixing beer materials with carbonic-acid gas mixed with water, for the purpose of increasing its healthful properties, in a manner set forth.

118,902.—PANTOGRAPH.—Lucien F. Bruce and Newlan J. Wolcott, Springfield, Mass.

Claim.—1. The combination of the pivot-post *a′* and a series of bars perforated at equal distances each way from the pivot-post *a′* and points *d*, *e*, and *k*, for making temporary connections, all constructed and arranged substantially as and for the purpose described.

2. An improved delineator, wherein the fixed central point *a′*, the tracing-point *d*, and the delineating-point *k* are all in a straight line with reference to each other, and are also located at the angles where the bars are connected together, substantially as described.

118,903.—APPARATUS FOR VAPORIZING HYDROCARBONS. — Joseph Kay Caldwell, Philadelphia, Pa.

Claim.—The pipes A B, each provided with a nozzle, and connected together so as to be adjusted at any angle, and held in position by a set-screw or its equivalent, substantially as and for the purpose set forth.

118,904. — WOOD-INCASED CAN.—Orrin S. Camp, Grand Rapids, Mich.

Claim.—The herein-described wood-incased metal can, consisting of the can A, provided with the external horizontal flange B, and of the case B′, provided with the inwardly-flanged hoop E, covering the upper edge of the case B′ and soldered to the flange B, as specified.

118,905. — BLAST-FURNACE. — Israel B. B. Case, Toledo, Ohio.

Claim.—1. The combination, with the thimble of a blast-furnace, of a water-chamber to enable the thimble better to resist the action of the heat, substantially as hereinbefore set forth.

2. The combination, with the water-chamber of the thimble, of supply and discharge-pipes to promote a circulation of water through the chamber, substantially as hereinbefore set forth.

118,906. — BED-SPRING. — Hull Chandler, Bennington, Vt.

Claim.—The bed-spring A provided with the hook *a*, block *c*, and pin *d* as described.

118,907.—CUTTER-HEAD FOR MOLDING-MACHINES. — Milton W. Clark, Worcester, Mass., assignor to R. Ball & Co., same place.

Claim.—The combination, with the spindle A, provided with separate shoulders for the head B and collar F, of the cutter-head B and loose collar F, said parts being constructed and arranged in relation to each other, substantially as shown and described.

118,908. — BED AND SEAT-BOTTOM. — William F. Clark, Mt. Pleasant, Iowa.

Claim.—An elastic or spring bottom for seats, beds, &c., consisting of bars or plates D B embracing interposed spiral springs, and confined and controlled by means of stay-pins or bolts C C, in combination with transverse slats resting and confined on the upper bar or plate D, all substantially as and for the purpose herein set forth.

118,909.—SPRING-LOCK FOR VENTILATING-SASHES.—Max. Claver, New York, N. Y., assignor to A. Freutal, same place.

Claim.—The improved ventilator spring hook herein shown and set forth, composed of the combination of the frame A, hook B, spring S, and pins *c* and E, constructed substantially as specified.

118,910.—YARN-BEAM FOR LOOMS.—Albert W. Cole, West Killingly, Conn.

Claim.—A yarn-beam constructed as described, with the shaft C, beam A, slots D, adjustable heads B, arms I, hub H, and set-screws S, substantially as and for the purposes hereinbefore set forth.

118,911. — WINE-PRESS. — James H. Crandell, Upper Marlborough, Md.

Claim.—1. The box I having the hopper I′, rollers I″, gear-wheels J, and crank J′ or equivalent devices for grinding the fruit, in combination with the fruit-press having the follower C, standard C′, arm D, dogs *d*, racks C″, and hinged bar E, constructed as described, said box and press mechanism being used interchangeably, as and for the purpose specified.

2. The combination and arrangement of the strainer B′, chamber B″, and press-follower C, as and for the purpose set forth.

3. In combination with the dogs *d*, the detachable spreader, constructed as described and shown, as and for the purpose set forth.

118,912. — MACHINE FOR LEVELING CUTTING-BLOCKS. — Andrew Davis, Oxford, Mass.

Claim.—1. The combination, with the spindle A, of a cutter-supporting arm, provided with bearings F I, carriage J, cutter or cutters K, and feed-screw M, substantially as and for the purposes herein set forth.

2. A machine for leveling cutting-blocks used in cutting leather and for other purposes, consisting of the center spindle A, arm E E, bearings F I G, collars *c d e f*, brace H, carriage J, cutters K, feed-screw M, and handle N, said parts being constructed and combined for operation substantially as shown and described.

118,913.—SEWING-MACHINE.—Frederick E. Decker, Newark, N. J., assignor to Edward Simon & Brothers, New York, N. Y.

Claim.—1. The feeding and holding-rollers A B and rotary cutters E K combined together in an attachment adapted for application to a sewing-machine for operation in connection therewith, substantially as herein shown and described.

2. The roller B arranged for rising or falling relatively to the roller A and the cutter K, substantially as specified.

118,914.—MACHINE FOR FORMING HATS.—Dexter Dennis, Barre, Mass.

Claim.—1. The combination of the levers F, G, H, and K, draw-bar K′, latch I, and hanger J, for operating the block-carriage L, substantially as explained.

2. The combination of the cam-lever J^2, pivoted hanger-supports J^1, and hanger J, as and for the purposes specified.

3. The block-carriage L provided with the block-table L′, reservoir N, and pipe and valve *n n*^{1}, substantially as specified.

4. The hollow hat-block O having interior strips or corrugations o^1, with or without a supporting-spring, *o*, of spiral or other suitable form, substantially as shown and described.

5. An elastic hat-block, O^1, solid, or having its outer shell of sufficient thickness to expand and contract automatically by its own elasticity when forced into or withdrawn from a die of corresponding size and shape, and adjustable as to height above the brim or cushion o^3, substantially as explained.

6. A hat-block, O^2, composed of an elastic exterior covering, o^4, conical frustums o^5 o^6, and spring o^7, substantially as specified.

7. A tank or reservoir N having an interior flexible head n^3 and perforated top n^2, constructed and arranged substantially as described, for the purpose specified.

118,915. — ROTARY STEAM-ENGINE.—Francis Oliver Deschamps, Philadelphia, Pa.

Claim.—1. The combination of the shaft F carrying two pistons, *c c′*, the curved chamber B through which said pistons pass, and slides H H′, and steam-ports arranged as described, so that the said pistons are acted on alternately by the steam introduced between the slide and the adjacent piston, a continuous rotary movement being thus imparted to the shaft.

2. The frame, consisting of the section A with its base *a*, and the detachable section A′ adapted to a recess in the section A, as set forth.

3. The combination of the disk D, its ribs *e e*, and the packing *f f* confined between the inner edges of the sections A A′ of the frames and the said ribs, as described.

4. The said sliding heads, each consisting of two plates arranged to slide one upon the other, and having interposed between them a spring, *w*, for the purpose specified.

5. The piston C or C′, adapted to the steam-chamber B, and confined between arms *i i*, carried by the shaft F.

6. The said piston, when composed of a number of loose disks or rings, *h h*^{1} *h*^{2}, &c., strung upon a rod, *i*, substantially as herein described.

7. The cam or cams P on the shaft F, in combination with the pivoted arms *s* and *s′*, connecting-rods *p p*, and springs *q q*, the whole being arranged for operating the sliding heads H and H′, substantially in the manner described.

8. The cam or cams Q on the shaft F, in combination with the pivoted arms *s* and *s′*, connecting-rods *r r*, and springs *t t*, the whole being arranged for operating the valves L L, substantially in the manner described.

118,916.—CARTRIDGE-MAGAZINE.—William H. Elliot, New York, N. Y.

Claim.—1. The form and arrangement of the circular chambers, whereby the cartridges are held radially in relation to some point in the axis of the magazine, substantially as specified.

2. The arrangement and proportion of the circular chamber in such relation to the form of the cartridges that, as they lie side by side, they shall touch each other at both ends, in the manner shown and described.

3. The jointed arm *e f*, when constructed substantially as described.

4. The arrangement of the axis of the joint *e′*, substantially as and for the purpose set forth.

5. The combination and arrangement of the jointed arm with the double circular partition, substantially as set forth.

6. The double arm *e f*, with its stop *r* and follower *g*, in combination with two or more circular chambers, when operating substantially as and for the purpose specified.

7. The curved follower, in combination with the jointed arm *e f* with its stop *r*, when constructed and operating substantially as specified.

8. The jointed stop-lip, when constructed and operating substantially as and for the purpose described.

9. The combination of the convex plate *a′* and concave plate *a″* with the outer wall *a*, double partition *c* and *c′*, substantially as and for the purpose specified.

118,917. — BOTTLE-WASHING MACHINE.—Conrad Euler, Evansville, Ind.

Claim.—The spindles B, plugs *b b*, sliding plates D D, rods *d d*, and springs *e e*, arranged in the box or vessel A, as shown and described.

118,918.—PORTABLE CRADLE.—William R. Evans, Philadelphia, Pa.

Claim.—1. A portable supporting frame for cradles, consisting of end frames A and A′, connected together by bars B, B^1, and B^2, the whole being constructed and fitted together substantially in the manner described, so that the bars may be disconnected and folded with and against the frame, as specified.

2. The combination of a net-work or other cradle, C, capable of being folded or doubled, with a supporting frame, constructed and fitted together substantially in the manner described.

118,919.—WAGON-SEAT.—James B. Foote, Hamden, N. Y.

Claim.—The seat of a wagon-box having ends H

H, and sliding on two vertical standards, B B, combined with springs D D placed on top of said standards, and from which said seat is suspended in open slots to allow the seat to be raised, lowered, or removed, in the manner described.

118,920.—Bending-Machine.—John Forbes, Halifax, Canada.

Claim.—1. The combination of mandrel J, rest L′, and holding-levers H′ H″ with bending-levers E, operating as and for the purpose specified.

2. The combination of cams a″, rocking frames D, and stationary cams F with the levers E, as and for the purpose specified.

3. The combination of shaft c′, divided nut m m′, carriage L′, stripper N, and shaft K, as and for the purpose specified.

118,921.—Spring-Lock for Ventilating-Sashes. — August Freutal, New York, N. Y.

Claim.—1. The ventilator-sash H, provided with the lock A, in combination with the frame G and hook B, so as to operate substantially in the manner and for the purpose set forth.

2. The lock A, composed of the plate a, bridge c, latch D, and spring S, constructed and arranged substantially as shown and set forth.

3. The lock A′, constructed as shown and set forth, when used for holding closed a ventilator-window out of hand's reach, as herein specified.

118,922.—Window-Screen.—Oscar F. Frost, Monmouth, Me.

Claim.—The screen sides B B, having slots G G and grooved on the edges, mosquito-bar C, tongue E, screws H, and wires I I, all constructed, arranged, and combined, as and for the purpose specified.

118,923. — Steering Apparatus. — John Gardner, New York, N. Y.

Claim.—The counter-shaft I and bevel-gear wheels H G, arranged in connection with the steering-wheel J, shaft F, and bevel-gear wheels E D C, substantially as herein shown and described, and for the purpose set forth.

118,924. — Blacking-Box. — Edward M. Gates, Watertown, N. Y.

Claim.—As an article of manufacture, a blacking-box, in which the box and handle are made from one piece of wood, combined with a swinging cover, also of wood, as and for the purposes herein described.

118,925. — Tree-Box. — John Gibson, Jr., Albany, N. Y.

Claim.—1. An expanding tree-box, consisting of the slats S or equivalents, as described, secured to one or more bands, B B′ B″, and so constructed and arranged as to afford means for the contracting or expanding of its capacity, the said means consisting in the employment of the element of coiling or lapping one part or end of the said bands within or over the other, substantially as and for the purpose herein set forth.

2. In combination with a tree-box, the elastic impinging pieces V, (projecting downward or upward, or in both directions,) substantially as described, for the purpose set forth.

3. In combination with a tree-box, the hitching device, consisting of the rod H with its chain h or its equivalent H′, substantially as described, for the purpose set forth.

4. The twisted feet f, being a continuation of the slats S, or attached thereto, or fastened to the band B, as and for the purpose specified.

118,926. — Straw-Cutter. — Benjamin F. Grimes, Memphis, Tenn.

Claim.—1. The half-box or removable bearing H, lined with Babbitt-metal, and provided with a set-screw, h, for adjusting it, said removable bearing being arranged in a receptacle in the trough-supporting frame and held in place by the fly-wheel A, all as herein shown and described.

2. The frame-work supporting the trough, when so constructed as to include in one piece the sockets for the legs, the receptacle for the half-box H, the journals and casing for the shaft K, and a receptacle for the bed-knife D, all as herein shown and described.

118,927.—Fare-Box for Cars.—Benjamin F. Grimes, Memphis, Tenn.

Claim.—1. A cash-box, provided with a pivoted tilting lid, which stands open to receive the fares when the cash-box is in place in the fare-box, and is forced down and locked by contact with the opening in front of the fare-box when the cash-box is withdrawn, substantially as shown and described.

2. The combination of the lock-bolt d, lever D, and lid C, substantially as shown and described.

3. A spring-catch for holding back the spring-bolt of the rear lock, when arranged and operating substantially as shown and described.

4. The lamp-receptacle, consisting of the flat box or case hinged to the fare-box, and held in place by a spring-catch, as herein shown and described.

118,928.—Sewing-Machine.—Francis Elijah Hahn, Philadelphia, Pa.

Claim.—1. The shaft F, provided with conical sleeves a, secured to and turning with but adjustable on the shaft, in combination with the bearings b b, recessed to receive the said sleeves, as set forth.

2. The combination, with the needle-arms, of the plate i secured to the arm, the plate i′ adjustable on the plate i, and devices for adjusting and securing the plate after adjustment, the two plates being recessed to form a slot, A, as set forth.

3. The tapering pin m, having bearings in the stationary arm, in combination with the needle-arm and its set-screw, so that the pin may be rotated in its bearings, as and for the purpose described.

4. The shuttle-driver, connected to a rod, N, rendered adjustable on an eccentrically-slotted arm, u, secured to the crank-pin on the driving-shaft, as set forth.

118,929.—Shoe. — George B. Hall, Rising Sun, Ind.

Claim.—1. The pieces A and C having the form shown, when arranged with respect to the counter D and elastic gore B of a gaiter or shoe, as described, and for the purposes set forth.

2. The rubber elastic gore B, when placed between and on the inside of the pieces A and C, and arranged in relation to the vamp and quarter, substantially as described and for the purposes set forth.

118,930. — Combination Lock. — William N. Hall, Springfield, Tex.

Claim.—1. The combination, with a sliding bolt, of the locking and unlocking-spindles, when the latter are made to both lock and unlock the bolt and are the only means required for fastening it to the door, as described.

2. The combination of the series of locking and unlocking-spindles B with the pivoted buttons F and fixed tongue E of the bolt D, as described.

3. The combination pegs e, having different forms or shapes to distinguish them from one another, as described.

4. The combination pegs e, arranged upon the spindles B so as to lock the combination ring C therewith, in connection with a notch, f, in the door arranged to receive the proper peg of each spindle to lock and unlock the bolt upon a combination of different-shaped pegs, as described.

118,931.—Cutter-Head for Wood-Working Machines. — Eminel P. Halsted, Worcester, Mass., assignor to R. Ball & Co., same place.

Claim.—1. The combination of the curved saw-spur cutter H with the holder or supporting-plate K concentrically arranged therewith, and holding bolt M, substantially as and for the purposes set forth.

2. The disk A, with the bosses C C D E, cutters F F, saw-spurs G H, holder K, plates L, and holding-bolts I I M O, constructed and arranged as shown and described.

118,932.—Plow.—Joab Hapgood, Shrewsbury, Mass.

Claim.—1. The combination of the mold-board C and rear supporting-arm F with the bed B provided with journals or pivots G I, arranged in relation to each other, bed B, and mold-board C, substantially as shown and described.

2. The combination of the mold-board C provided with notches m with the bed B and supporting-standard E, substantially as and for the purposes set forth.

118,933.—Recoil-Obviator for Ordnance. Samuel F. Hawley, Constableville, N. Y.

Claim.—The recoil-obviator attachment to guns, consisting of the chamber a, open in rear and closed in front, and applied to the muzzle of the gun, substantially as herein shown and described.

118,934.—Elastic Wheel for Traction-Engines.—Charles W. Hermance, Schuylersville, N. Y.

Claim.—The combination, with the hub A and spokes B B, of the rim C with its series of sockets D with springs c, plungers E, pivoted shoes G, and connecting-links b, forming the periphery of the wheel, all constructed and arranged substantially as set forth.

118,935. — Apparatus for Turning the Leaves of Music.—Charles Heyer, Racine, Wis.

Claim.—1. The drum C, with journal a, cord b, weight G, pulley D, and tube H, all constructed and arranged substantially as and for the purposes herein set forth.

2. The swinging frame I, provided with hole n, slide J, and springs a d and e, all substantially as and for the purposes herein set forth.

3. The cord m with spring-catches i i attached to the drum C, and operating substantially as and for the purposes herein set forth.

4. The combination of the drum C, cord b, weight G, swinging frame I with the slide J, and the cord m with the spring-catches i i, all constructed and arranged to operate substantially as and for the purposes herein set forth.

118,936.—Gas-Retort.—John D. Higgins, Rome, N. Y.

Claim.—The combination, with a gas-retort, of a detachable plate, F, arranged to be fitted into the retort so as to form, at the lower edge, a contracted opening for the passage of gas, substantially as and for the purpose set forth.

118,937. — Device for Delivering and Receiving Mail-Bags.—George W. Hildreth, Lockport, N. Y.

Claim.—1. The combination, with a railway car, of a partially automatic swinging mail-bag delivering and receiving device, substantially as described, whereby the receiving mechanism is loosened by the operation of exchanging the bags, and permitted to swing by its own gravity to deliver the bag within the car, substantially as set forth.

2. The peculiarly constructed holder L, M, and N, as shown and described.

3. The combination, with the partially automatic swinging mail-bag delivering and receiving device upon the car, of the stationary receiving and delivering device at the station of delivery, constructed and arranged substantially as set forth.

4. The combination, with the bar C and bearings D D¹, of the catch-finger b and spring J, substantially as and for the purposes set forth.

118,938.—Lathe.—Henry R. Hill and Nelson W. Twiss, New Haven, Conn.

Claim.—A cam or eccentric sliding on the grooved shaft H, lathe-carriage F provided with the arms J J, the screw-shaft G, the cutter-slide L, spring R, friction-roller N, and circular cutter M, all constructed and arranged and operating as specified.

118,939.—Burglar-Alarm.—Mary A. Holland, Passaic, N. J.

Claim.—The combination and arrangement of the bell-cranks L, pawls I and F, ratchet-roller or wheel H, bell-arm A, tablets D, and springs C and O, all substantially as specified.

118,940.—Burglar-Alarm for Windows.—Mary A. Holland, Passaic, N. J.

Claim.—1. The combination of the cam-plates E upon the sash and the bell-cranks G, either connected by the bars N or not for the purpose of sounding an alarm, substantially in the manner shown and described.

2. The arrangement of the bell-rack-supporting arm A, notched slide Q, incline S, stop L′, springs L and T, and the bell-crank connection T, all substantially as specified.

118,941. — Signal-Light. — Alexander M. Holmes, Morrisville, N. Y.

Claim.—The combination, with the colored globe D and spring E, of the white-light lantern A, suspended by the cord A′, and provided with the opaque flanch F, substantially as specified.

118,942. — Door-Fastener. — Warren A. Howard, Dugway, N. Y.

Claim.—The bar A with claw a^1, having a hole between the prongs thereof, combined with a shoulder, a^2, perforated in line therewith, and also perforated at right angles to the bar to hold the bolt of a portable door-fastening, as specified.

118,943. — Sugar Evaporator. — William E. Jacobs, Columbus, Ohio.

Claim.—1. The cellular arch c, constructed with lugs c^2 c^2 and ears c^3 c^3, and applied to the furnace A, substantially as described.

2. The double discharge oscillating tube a applied to the evaporating pan B, substantially as described.

3. The bridge N beneath the rear compartments of the pan B, and between the fire-wall k and chimney A^2, substantially as described.

4. The swinging finishing-pans C C′, in combination with the supplementary furnace A^1 and the double discharge-pipe a leading from the pan B, substantially as described.

5. The combination of the two independent furnaces A A^1, the clarifying-pan B, the two swinging pans C C′, and a hoisting apparatus for the latter, substantially as described.

6. The partial cover d for the swinging finishing-pans C C′, substantially as described.

118,944.—Vegetable-Slicer.—Remington James, Lockport, N. Y., and John W. Currier, Springfield, Mass.

Claim.—The frame of the device, constructed in sections, as shown, and connected together and made relatively adjustable vertically by means of the tongues a, the rod K, and the thumb nut k, substantially as and for the purpose specified.

118,945.—Plow.—Ross Johnson, Lawrence, Kan.

Claim.—The combination, with the mold-board of a plow, of the shank or subsoil-hook D, upright bar A, and brace E, all constructed and arranged as described, so that the mold-board will form the point of resistance to the upward strain of the subsoiler, substantially as herein set forth.

118,946. — CULTIVATOR. — Ezekiel Pickard Jones and James Lafayette Harrell, Hertford, N. C.

Claim.—The scraper F, slotted plate E, bolts *c c*, bent lever D, head *e*, guide H, beam A, handles B B, and plow C, all constructed and arranged for operation as herein shown and described.

118,947. — GAS-FURNACE. — John Jordan, Liverpool, England.

Claim.—1. A furnace having an inner lining of fire-brick, an outer casing, intermediate air-chamber, and tuyeres or blast-openings communicating with said air-chamber, as specified.

2. The combination of the above, the tube *g*, hopper *h*, and the feeding apparatus, as and for the purpose described.

118,948.—WROUGHT-IRON COLUMN.—John P. Kennedy, New York, N. Y.

Claim.—A lattice-web, C D, combined with straight T-bars A, constructed and arranged as and for the purpose specified.

118,949. — BLOWING-ENGINE. — Lucius J. Knowles, Worcester, Mass.

Claim.—1. The combination, with the cylinder in a blowing-engine, of an oil-passage, substantially as and for the purposes set forth.

2. The combination, with the cylinder A, of the oil-passages F I I and regulating cock L, substantially as and for the purposes set forth.

3. In the combination, with the cylinder A, provided with passages F I I, of the screw-stops K, substantially as shown and described.

118,950. — DRILLING-MACHINE. — George Koch, Cass, Pa.

Claim.—In a drilling-machine, the combination, with the walking-beam D and its connecting ropes or rods, of the loose-pulley A, provided with pawls G G, the shaft B with its perforated ratchet-wheels F F, and crank E″, all constructed and operating substantially as specified.

118,951.—COTTON-CHOPPER, SCRAPER, AND CULTIVATOR.—Frank A. Leonhard, Columbia, Tenn.

Claim.—1. The arrangement of the rollers I and scraper J, in connection with the arms F, whereby they are adapted to oscillate, as shown and described.

2. The arrangement of the two sets of rollers I and scrapers J and the vibrating chopper S, in connection with the pivoted frame E, as shown and described.

118,952.—SLAT-MATTING FOR CAR-FLOORS, &c.—Samuel Lewis, Williamsburg, N. Y.

Claim.—The combination of elastic-rubber blocks or washers C with the rods B and wooden slats A of a rigid slat-mat, substantially as herein shown and described, and for the purpose set forth.

118,953. — HOT-WATER APPARATUS FOR HEATING BUILDINGS.—Ambrose Marriott, St. Louis, Mo.

Claim.—1. In a heating apparatus, substantially as described, the central heating-vessel I, having an upwardly-increasing diameter, as described.

2. The regulating apparatus, consisting of the damper Q, swivel P, elastic wire-covered tube L N, and metal tube K, containing mercury, all substantially as set forth.

3. The grate, placed above the level of the lower water-chamber E, and consisting of two semicircular tilting segments, H H′, substantially as described.

4. The combination and arrangement of the lower and upper annular water-chambers E G, connecting-pipes F, and central heating-chamber I, all substantially as and for the purpose set forth.

118,954.—GRAIN-DRIER.—Alfred W. J. Mason, New Orleans, La.

Claim.—The combination, with the cylinder-beaters and the apparatus for admitting and discharging the grain, of the hot and cold-air pipes U V, air-distributer T, distributing-pipes W W′, and the exhaust-pipe Y, all substantially as specified.

118,955.—LIFTING-JACK.—Thomas Maxon, Springfield, Ohio.

Claim.—1. The pawl E, provided with pins or journals *b*, and sliding in the slots *d* of the post A, substantially as and for the purposes herein set forth.

2. The combination of the eccentric lever D and the sliding pawl E, constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the hollow post A, rack-bar B with plate C, eccentric lever D, sliding pawl E, and pawl G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

118,956.—APPARATUS FOR THE MANUFACTURE OF EXTRACTS FROM HEMLOCK AND OTHER BARKS.—William Maynard, Salem, Mass.

Claim.—1. The rollers G G arranged within the hopper H, provided with openings H^2 and pipes I I, in combination with the leaching-vessel J having a false bottom, K, and with the evaporator Q, substantially as set forth.

2. The leaching-vessels J J^2, provided with the central pipe N and false bottoms K, arranged for operation substantially as described.

3. The pipes O O extending out from the closed end of the tubes N N of the leaching-vessels J J^2 having false bottoms K K, in combination with the dome P of the evaporator Q, substantially as described.

4. The body R of the evaporator Q, surrounded by the chamber S, in combination with the heating-pipe T, radiating-pipes *b*, spiral plate U, opening W, pipe X, and chamber Y, substantially as described.

5. In combination with the evaporator Q, constructed as described, the valve Z and space *f*, as and for the purpose set forth.

6. The frame A, spiked roller C, adjusting-roller D, and guide-rollers E E, as and for the purpose set forth.

118,957.—CAR-COUPLING.—De Loss McComas, Calhoun, Mo.

Claim.—1. The box B, with guide C, the forked bar C, and spring E, all constructed and arranged, substantially as shown and described, with the draw-head of a railroad-car, for the purposes herein set forth.

2. In combination with spring E, the chains *a a*, levers *d d*, and foot-piece *e*, or their equivalents, arranged substantially as shown and described, and for the purposes herein set forth.

118,958.—VARIABLE CUT-OFF GEARING.—John E. McKay, New York, N. Y.

Claim.—The combination of a cut-off valve or valves, the intervening angular lever *f*, link *h*, and governor *k*, all constructed and operating substantially as and for the purpose set forth.

118,959.—DUMPING-CAR.—Thomas McVay, Braddock's Field, Pa.

Claim.—1. In the dumping-car the hopper B, hung, by means of vibrating arms *c c*, on pivots a little in the rear of the center, so that when the forward end is free the hopper will tip by its own weight and discharge its load, substantially as described.

2. In the dumping-car the hoppers *b b*, hung on the vibrating arms *c c* so as to swing back and tip forward, whereby the forward or open ends will be depressed and their contents discharged, substantially as described.

3. The windlass device, in combination with the hopper hung on vibrating arms, substantially as and for the purposes described.

4. The removable partition *f*, forming the fourth side of the hoppers *b b*, substantially as described.

118,960.—SAFETY ATTACHMENT FOR WATCH-CHAINS OR GUARDS.—Charles W. Mehrer, New York, N. Y.

Claim.—The combination of the slotted case, sleeve E, hooks H, sliding disk F, stem K, and the spring M, all substantially as specified.

118,961.—RAILWAY-CAR TRUCK.—John R. Mestier, Galveston, Tex.

Claim.—1. The swimming journal *d*, arranged in the axle-box C and combined with the collar *e* on the axle, substantially as herein shown and described.

2. The rubber washer *f*, fitted upon the axle and combined with the spiral spring K, which holds it against the back of the journal-box, as set forth.

118,962.—GRATE-BAR. — Joseph A. Miller, Providence, R. I.

Claim.—The brackets D D D, having thereon the projections E E E, of unequal length, and diminishing downwardly to an edge, combined with broad central bearing A and end pieces B, when constructed, arranged, and applied as and for the purpose specified.

118,963.—MACHINE FOR SPLITTING WOOD.—David Milliken, New York, N. Y.

Claim.—1. The combination of the trough A, axes C and D, arms E F, cranked arms L, springs N, and the actuating-wheel M, all substantially as specified.

2. The combination, with the pawl-lever P and the ax-arm E, of the catch-dog R, springs S, and the stop T, substantially as specified.

3. The arrangement of the catch-dog with the ax-arm F, whereby the said dog will not escape unless the ax passes to the full extent of its downward movement, all substantially as specified.

118,964.—PICKET-POINTER.—John W. Minor, Middleborough, Mass.

Claim.—The forked lever C, carrying knife *h*, vertically-adjustable fulcrum-block *d*, and the head-block D secured by screw-bolt *t* applied to the supporting-beam A, all constructed, arranged, and operating as shown and described.

118,965.—JACK FOR REPLACING CARS.—David Moritz, Black Rock, (Buffalo,) N. Y.

Claim.—1. The cross-head C, suspended by ball-joint from a screw, *z*, and connected with the bed-plate B, substantially as herein shown and described.

2. The shaft F, suspended by ball-joint from the car, and fitted loose through a pinion which hangs on the cross-head C and meshes into a rack on the bed-plate B, substantially as herein shown and described.

118,966. — SOFA-BED. — Abraham Morris, New York, N. Y.

Claim.—The folded seat C of a sofa-bed, connected by rods *s* with the sliding frame D to operate the same, substantially as herein shown and described, and combined with the folding back B, in the manner specified.

118,967.—GAS APPARATUS.—Robert Morton, London, England.

Claim.—1. The system of closing the mouths of gas-retorts and other orifices by the mere contact alone of the edge of the lid or cover with the end of the mouth-piece.

2. The construction of the lids or covers of gas-retorts with their edges turned up so as to form a metallic joint with the mouth-piece of the retort, substantially as hereinbefore described, and illustrated by the drawing.

118,968.—RIBBON-AND-VELVET CASE.—Robert L. Newton, Warren, Ill.

Claim.—The within-described cabinet for ribbons and velvets, consisting of case A, drawers B B with display-apertures *d d*, glass door H, shaft O, and spools N N, said spools so arranged and operated that the material on any one of them may be displayed independent of the others, substantially as herein set forth.

118,969. — HARNESS-OPERATING MECHANISM FOR LOOMS. — Osgood Plummer, Worcester, Mass.

Claim.—1. The concave eveners I and J or their equivalents, for the purpose set forth.

2. The hooked jacks with circular projections or equivalents, substantially as described, and for the purpose set forth.

3. The combination of the concave eveners I and J with the lifters and depressers, as and for the purpose set forth.

4. The eveners I and J, with partitions, as set forth.

5. The combination of the weighted lever R, sheaves S, with the heddles and heddle-connections, all arranged and operating as set forth.

6. The adjustable and reciprocating projection V, in combination with the tension-lever R and the evener-connections K.

118,970.—TOWEL-RACK.—Osgood Plummer, Worcester, Mass.

Claim.—The towel-rack A, B, C, and D, constructed, arranged, and secured together substantially as described and shown.

118,971.—TREADLE. — George K. Proctor, Salem, Mass.

Claim.—The crank A, constructed with recess I and ears having a screw-threaded hole in each, the screw G, and the plate H, all combined, constructed, and applied to a balance-wheel having stud K, as and for the purpose specified.

118,972.—BEE-HIVE. — Edward D. Pugh, Fort Plain, Iowa.

Claim.—The arrangement of boards W R^1 R^2 Y, passages *a b*, tube *d*, wedges *s*, bar N′, and slide X, as and for the purpose specified.

118,973. — HARROW. — William Rennyson, Norristown, Pa.

Claim.—In combination with a rotary harrow composed of the hub A, arms B, teeth C, and circle D, the draft-beam G provided with pivot holes *a b d*, and wheel E, substantially as and for the purposes herein set forth.

118,974.—DEVICE FOR OPERATING SASHES.—Silas P. Rogers, Belmont, assignor to himself, J. H. Watt, J. W. Watt, and Stewart Watt, Barnesville, Ohio.

Claim.—1. The screw-shaft C, in combination with the nut or lifting device D, said shaft being rotated substantially as and for the purpose set forth.

2. In combination with the screw C, nut D, and pin *b*, the miter-wheels *d d′*, shaft *f*, and crank E, all constructed and arranged substantially as and for the purposes herein set forth.

118,975.—GRAIN-BINDER.—Oliver B. Ross, Bowen's Prairie, Iowa.

Claim.—1. The arrangement of the bottom plate or frame A, slotted top plate or frame B, and slot-

ted pan or curved plate R with each other to adapt them to receive the operating mechanism, substantially as herein shown and described.

2. The combination of the loose ratchet and band-wheel D, spring E, crank F, slotted arm G^1, segment-arm H^1, center-wheel I, pinions h^1 l', arms L and grabbers M N n', for grasping and twisting the band, substantially as herein shown and described.

3. The combination of the latch T, spring U, pivoted latch-holder S, connecting-rod V, pivoted lever W, and cam f' with the crank F and center-wheel I, for the purpose of releasing and stopping the wheel I, substantially as herein shown and described.

4. The combination of the band and ratchet-wheel D, spring E, crank F, slotted connecting-arm G^2, segment-arm H^2, pinion O, shaft o', and tucker P, for the purpose of tucking the lock of the band between the band and bundle, substantially as herein shown and described.

5. The combination of the knife Q with the tucker P, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the band-holder Z, spring Y, connecting-rod X^2, connecting-rod X^1, pivoted lever W^2, and cam f' with each other and with the crank F, substantially as herein shown and described, and for the purpose set forth.

7. The combination of the stops F^2 with the grabbers M N n', for the purpose of opening the grabber-fingers N to receive the ends of the bands, substantially as herein shown and described.

8. The combination of the lever C^2, spring D^2, and stop B^2 with the spring E, crank F, and ratchet band-wheel D, for the purpose of throwing the crank F and wheel D into and out of gear with each other, substantially as herein shown and described.

118,976.—Generating Ozone.—Phineas Allen Royce, Snapension Bridge, N. Y.

Claim.—1. Producing ozone from phosphorus, under pressure of water and air, in the manner and by the apparatus substantially as herein fully described.

2. The method of producing the current of air and current of water conjointly, to act on the phosphorus and to cleanse the ozone from impurities, by means of the reservoirs B F, pipes b b' h i i', and tank C, arranged in the manner and operating substantially as herein set forth.

3. The siphon G, in combination with the reservoir F, for the purpose herein set forth.

4. The construction of the apparatus as a whole, consisting of the reservoirs B F, tank C, glass chambers D D^1 D^2, or their equivalents, resting on the water and air-tight bottom E, the glass tubes b' i' e f, and pipes b h i, all arranged in the manner and for the purposes herein set forth.

118,977.—Single-Wheel Toy-Propeller.—William Sellers, New York, N. Y.

Claim.—1. The fixed axle C of the wheel A, carrying the pinion a, in combination with the loosely-suspended frame D carrying the clock-gearing, said frame and gearing also forming a counterpoise weight for the wheel A, the several parts arranged and operating substantially as set forth.

2. The wheel A, braces B, and axle C, carrying the profile figures and pinion a, in combination with the loosely-suspended frame D carrying the clock mechanism, all arranged to operate substantially as set forth.

3. The figure E revolving on a fixed pin, f, in combination with the cord d connected to the axle of the wheel A, substantially as and for the purpose set forth.

118,978.—Numbering-Machine.—C. Latham Sholes, Milwaukee, Wis., assignor to James Densmore.

Claim.—1. The arrangement of the spring over and directly on the foot of the clutch-bar, substantially as described.

2. The combination of the arm of the clutch-bar with the circular groove of the complementary disk, substantially as described.

118,979.—Apparatus for Lighting and Heating Purposes.—Albert Marcins Silber and Frederick White, London, England.

Claim.—1. The receiving or distributing-chamber or vessel H, containing float M for opening and closing a valve in the supply-tap G, and communicating with one or any number of burners, the said valve opening the tap when the chamber is empty and closing it when the burner is extinguished, and regulating and controlling the flow of oil to the burners, substantially as described.

2. The combination of the chamber H with the filtering-box F, as described.

3. The float M, molded of China or porcelain, to contain an internal annular hollow space or chamber, and perforated centrally through its solid core with an aperture to receive a wooden wedge-pin, all substantially as and for the purpose herein set forth.

4. The combination of a number of burners or lights with one single receiving or distributing-chamber or vessel, H, furnished with its supply-tap or cock G and float M for opening and closing the same, when actuated as described, so that one such chamber may serve any number of burners or lights.

5. The arrangement and combination of the within-described parts, whereby the continuity of the passage of oil or liquid from the tank to the burner is intercepted by the chamber H, substantially as described.

118,980.—Carpenter's Bench.—Friedrich Starke, Dayton, Ohio.

Claim.—A carpenter's bench, provided with the swivel-post B, to which the parts of the vise are connected, as and for the purpose specified.

118,981.—Stump-Extractor.—John S. Swann, Kanawha county, W. Va.

Claim.—The herein-described apparatus, consisting of the frame 1 1 with the pivoted lever 2 and the sliding lever 3, constructed and arranged to operate substantially as set forth.

118,982.—Motive-Power.—John S. Swann, Kanawha county, W. Va.

Claim.—The mechanical device herein described, consisting of the lever B provided with its pins or studs e, in combination with a rack, the whole constructed and arranged to operate substantially as and for the purposes set forth.

118,983.—Apparatus for Generating and Carbureting Hydrogen-Gas.—Hannah C. Terry, Brooklyn, N. Y., administratrix of John B. Terry, deceased.

Claim.—1. The combination of the hydrogen-gas generator, the carbureter, and the purifier, through which the gas, both before and after carburation, passes, substantially as shown and described.

2. The arrangement, in one apparatus, of the hydrogen-gas generator, the carbureter, and the gas-purifier, in the manner herein shown and set forth.

3. An apparatus for generating and carbureting hydrogen-gas, constructed and arranged to operate as herein shown and specified.

118,984.—Corn-Harvester.—Madison Thorp, Waterloo, Iowa.

Claim.—1. The husking-belts I Q R and O Q R and rollers H J and N P, constructed and arranged in connection with each other and with the fingers or teeth U and frame A, substantially as herein shown and described, and for the purpose set forth.

2. The cleaner-plates R, in combination with the teeth Q, belts I O, and rollers H J N P, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the fingers or teeth U, pulleys V, bands W, and roller X with the frame A and husking-belts I Q R and O Q R, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the pivoted or swinging frame D′ and conical rollers E′ with the fingers or teeth U and frame A, substantially as herein shown and described, and for the purpose set forth.

118,985.—Paper-Trimming Machine.—Herbert L. Todd, Corning, N. Y.

Claim.—1. The stationary guide N and movable guide O, in combination with the rollers B to which the knives C are attached, and with the frame A and slotted roller P, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the curved guides M with the rollers B to which the knives C are attached, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the pawl U, spring V, and rod, chain, or cord W with the slotted roller P and frame A, substantially as herein shown and described, and for the purpose set forth.

118,986.—Lock.—Henry R. Towne, Stamford, Conn.

Claim.—The combination of a flat metallic key having supporting-notches K K with a lock provided with the key-guide H and annular supporting-rims I I, the combination of said features serving to furnish a continuous support for the flat key during the whole of its revolution.

118,987.—Fertilizer from Sea-Weeds.—Upham S. Treat, Eastport, Me.

Claim.—As a new and improved article of manufacture and commerce, a fertilizer formed substantially in the manner described.

118,988.—Hot-Air Furnace.—William H. Turner, Indianapolis, Ind., assignor to himself and Charles E. Cardell, same place.

Claim.—1. The combination of the stove A, the drum H, the base B, the cylinders E connected by the rings C, and the register F provided with the bars s, all constructed and arranged substantially as and for the purpose set forth.

2. In combination with the furnace constructed as described, the register E, having the stationary bars s arranged to cover and obstruct the view through the openings between the revolving bars i, substantially as set forth.

118,989.—Oil-Can.—Charles O. Twining, St. Louis, Mo.

Claim.—The hereinbefore-described packing-case for oils, consisting of the can B provided with the corner face and with the opening E, the faucet C and the case A provided with the metal shield D, when the several parts are constructed and combined, substantially as and for the purpose specified.

118,990.—Ironing and Kitchen-Table Combined.—John N. Valley, North East, Pa.

Claim.—1. The combination of the connected bars A A provided with eyebolts, the pivoted cross-bars B B, bench G H, and a back, E, with or without the ironing-board D′, all constructed as set forth.

2. The combination of the ironing-board D provided with eyebolts, as described, with smaller board D′ pivoted thereto, the frame A B, as described, the connecting-rods d d, and the brace C, all constructed substantially as set forth.

118,991.—Table and Stand.—John S. Welch and Andrew A. Wheeler, Boston, Mass.

Claim.—The elongated base A having at one end a hollow post, C, in combination with the table E and rod D, with the table hung at one end of its under side, through plate a, on a fulcrum, b, of said rod D, and with said rod D arranged within said hollow post C, to be raised by a spiral spring, H, and to be secured from turning as well as in its adjusted height by a set-screw, G, and groove f, the whole as and for the several purposes described.

118,992.—Printing and Ornamenting.—Joseph Louis Wells, Philadelphia, Pa.

Claim.—The process of ornamenting or lettering non-absorbent surfaces by applying to the latter a removable coating, printing or otherwise forming the letters or figures on the surface of said coating, and then removing the coating where it is not covered, as specified.

118,993.—Rotary Engine.—William P. Wentworth, Seneca Falls, N. Y.

Claim.—In the cylinder A of a rotary engine having its interior formed upon a single circle eccentric to the piston-head F, a recess, a, which corresponds to and receives a portion of the periphery of said piston-head, substantially as and for the purpose specified.

118,994.—Sofa-Bed.—Julius Werner, New York, N. Y.

Claim.—1. The double-jointed head and foot-rests G, hinged to the ends of the sofa-back, substantially as herein set forth and described.

2. The combination of the pivoted seat B with the hinged back D, frame E, and rests F G, all arranged substantially as herein set forth and described.

118,995.—Box for Shoe-Blacking.—Gefort H. Wetjen, New York, N. Y.

Claim.—The cover C, body A, and foot B, combined and constructed substantially as and for the purpose specified.

118,996.—Harvester.—William N. Whiteley, Springfield, Ohio.

Claim.—1. The rectangular wrought-iron main frame, constructed with the side bars A extended backward and upward to form a bearing, y, for the lever which lifts the cutting apparatus, and the front bar D extended sidewise and bent to form a rectangular loop, E, for the forward end of the drag-bar, as set forth.

2. The long pinion-shaft pipe-box S, cast in one piece with the fly-wheel shield T and flanges, and attached to the main frame by the same bolts which secure the main axle-boxes, as and for the purpose set forth.

3. In combination with the seat-leg W, slotted at its lower end, the serrated plates A B A′ B′, to render the seat C′ adjustable in a horizontal plane in any direction, as set forth.

4. In combination with the segment E′ pivoted to the fulcrum y, the lever F′ pivoted in a socket made in said segment, substantially as and for the purpose set forth.

5. The extension arm J′, combined with the cutting apparatus, lifting-lever, and main frame, so that the lifting-lever may raise and lower the cutting apparatus and its pivotal point shall be between the planes of the bearing-wheels.

6. In combination with the rake-switch and the latch k', the supplemental latch p' to arrest the switch and hold it when released by the automatic latch k'.

7. The sprocket-chain wheel V′, in combination with the arm a', divider c', take-up wheel b', and adjustable tension-spring, as set forth.

8. A flexible-spring gathering-arm arranged upon the rake or reel-blade, substantially in the manner shown and described.

9. The flange k' upon the inner shoe g, arranged in connection with the lugs e f, as and for the purpose set forth.

118,997. — PIPE-WRENCH.—Henry Wilson, Tarr Farm, Pa.

Claim.—The combination of the jaw A and handle B with the forked and slotted handle C, pin *e*, and jaw D, all arranged substantially as herein shown and described.

118,998. — WASHING-MACHINE.—Joseph C. Wismer, Doylestown, Pa.

Claim.—The within-described washing-machine, consisting of the box A with double-inclined bottom B, concave slots or bars C C, roller D, levers E E, handle G, bar H, blocks I I, and lids J J, all substantially as and for the purposes herein set forth.

118,999.—VISE.—John A. Younce and George W. Smith, Hartford, Ind.

Claim.—1. The combination, with the levers D' D'' and the bar G, of the toggle-levers B B', substantially as specified.

2. The lever B, provided with the wedge-shaped enlargement *z*, to operate a bench-clamp or vise, substantially as specified.

REISSUES.

4,545. — TEMPORARY BINDER.—George W. Emerson, Chicago, Ill., assignor to John R. Barritt.—Patent No. 79,560, dated July 7, 1868.

Claim.—The flaps C C, combined with hoop-skirt wire h h, as set forth.

4,546.—GRAIN-SEPARATOR.—Simeon Howes, Alpheus Babcock, Norman Babcock, and Carlos Ewell, Silver Creek, N. Y., assignees, by mesne assignments, of Henry Montgomery and Simeon Howes.—Patent No. 23,039, dated February 22, 1859; reissue No. 2,096, dated October 31, 1865.

Claim.—1. In the wind-trunk of a grain-separator, in which the cheat and light grains are separated from the main air current while the chaff and dust pass off with the same, the arrangement of an air-inlet or opening below the point where such separation takes place and above the cheat-discharge opening of said trunk, substantially as described, whereby a counter-current of air is caused to pass up against and through the light grains and cheat after their separation, as above stated, for the purpose of removing such dust and chaff as may have escaped removal by the main current, as hereinbefore specified.

2. In the wind-trunk of a grain-separator constructed to operate substantially as described, the arrangement of the slanting-board in relation to the side opening for the counter-current of air, substantially as shown and described, whereby the escape of the light grains through said opening is prevented, and the said light grains directed so as to be acted on in the most favorable manner by said counter-current, as hereinbefore described.

3. In combination with the main wind-trunk, vertical partition *i*, and chess-hopper of a grain-separator, the side opening *k* and slant-board *k'*, substantially as and for the purpose hereinbefore described.

4,547.—INSOLE FOR BOOTS AND SHOES.—Moses A. Johnson, Lowell, Mass., assignor to Horace B. Shattuck, same place.—Patent No. 61,742, dated February 5, 1867.

Claim.—1. An insole composed of layers of paper to make it stiff, interposed layers of felted or sheet-hair to make it soft and warm, a bottom composed of paper, glazed or water-proofed, cloth, or leather, a top of Canton-flannel or cloth for exterior wear and finish, and a stiffener to prevent it from creeping under the action of the foot in walking, substantially as described.

2. An insole composed substantially of layers of paper and interposed layers of felted or sheet-hair, and a stiffener, when the layers of paper and of hair are inclosed between a bottom of glazed or water-proofed paper, cloth, or leather, and a top of Canton-flannel or cloth, and when said stiffener is laid and secured around the margin or edge of the insole, as and for the purpose described and represented.

4,548.—WOOD-BENDING MACHINE.—Hiram McDonald, Shortsville, N. Y.—Patent No. 31,182, dated January 22, 1861.

Claim.—1. The eccentric *l m*, sliding plates *o p*, slides *t u*, and the keys *r s*, either in pairs or one of each, placed at the outer parts of the beds F F, and arranged substantially as and for the purpose herein set forth.

2. The combination of the former C, beds F, levers E, and adjustable rollers *f* and straps J, all substantially as specified.

3. The combination of the former C, straps J, and beds F, when said straps are connected to the former and the beds, substantially as specified.

4,549.—Division A.—DEPILATING HIDES.—John E. Siebel, Chicago, Ill.—Patent No. 116,638, dated July 4, 1871.

Claim.—The use of refuse gas-lime as a depilatory, especially for the use of tanneries.

4,550.—Division B.—PRESERVING WOOD.—John E. Siebel, Chicago, Ill.—Patent No. 116,638, dated July 4, 1871.

Claim.—The use of refuse gas-lime in connection with either one of the three following substances, viz., sulphate of zinc, ferrous sulphate, or ferric sulphate, for the impregnation and preservation of wood.

4,551.—HEAD-BLOCK FOR SAW-MILLS.—Edward H. Stearns, Erie, Pa.—Patent No. 14,700, dated April 15, 1856; extended seven years.

Claim.—1. The eccentrics S S, when placed upon the oscillating shaft H, and operating the pawls of a head-block, substantially as described.

2. The combination of the eccentrics S S and journals *o o* with the shaft H, constructed to operate in the manner and for the purpose substantially as described.

3. The wheel L and shaft H, in combination with one, two, or more eccentrics, S, substantially in the manner and for the purposes shown and described.

4. The combination of two or more eccentrics, S on oscillating shaft H with two or more pawls, M, springs N, and rack P on the under side of the sliding standard or knee, giving a forward movement to the rack, whether the shaft is oscillated forward or backward, substantially as shown and described.

5. The cam-shaft R, for throwing the pawls M out of contact with the notches in rack P, constructed to operate substantially as described.

6. The double dog *b*, in combination with the mortise *a* of standards D and E, constructed to operate as described.

4,552.—SPOKE-TENONING AND HUB-BORING MACHINE.—John Deming, Salem, Ohio, assignor to himself and A. R. Silver, same place.—Patent No. 103,157, dated May 17, 1870.

Claim.—1. The combination of the jaw-holder *u*, the jaws V, circularly-turning plate S with the screw-bolt S' and hub *t*, having bosses, and the nut W, all in such manner that the jaws and plate are adjustable, substantially as and for the purpose set forth.

2. The segment-ratchet R, pivoted lever Q, and forked rest O, constructed and arranged as described, and combined with the arm P of the spindle-supporter, substantially in the manner described and shown.

3. The combination of the single clamp-screw I, the nut H, angular plate K K', and slotted standard D of tool-head, in the manner shown and described.

4. The improved boring device, consisting of the tool-head B provided with the ear E, as shown, the spindle C, slotted standard D, screw G, nut F, clamping-nut H, and clamp-screw I, substantially as described.

5. The self-centering chuck S U V *t* S' W, made adjustable circularly, applied in an oblong slot of the frame A, and made adjustable lengthwise of the frame in said slot, in combination with the vertical adjustable tool-head B P O and clamp Q R, substantially as described.

4,553.—WOOD-BENDING MACHINE.—Samuel Kingsland, Council Bluffs, Iowa, assignor to Henry Ocorr.—Patent No. 35,983, dated July 22, 1862.

Claim.—1. In the process of bending wood the employment of a heated metallic form, over and upon which the wood is bent and shaped, substantially as herein shown and set forth.

2. A wood-bending form, consisting of a hollow metallic structure, of suitable shape to impart the desired configuration to the wood bent over upon it, and provided with apertures or openings for the entrance and discharge of the agent by means of which heat is imparted to its metallic wall, substantially as herein shown and described.

3. The combination of a series of hollow metallic wood-bending forms, so connecting or communicating with each other that the heating agent, when introduced into one of said forms, may be free to pass or diffuse itself through the whole series, substantially as herein shown and set forth.

4. The combination, with the wood-bending form or forms, of the frame or frames for supporting the same, and the means for bending the wood upon the forms carried by said frame or frames, and constructed and arranged for operation substantially as herein shown and described.

5. A wood-bending mechanism, composed of a hollow, internally-heated form, and means for bending and retaining upon said form the wood to be shaped, as herein shown and described.

4,554.—FIRE-ALARM. — Jonathan O. Fowler, Jr., Hudson, Wis., assignee of J. R. Tunnicliffe, deceased.—Patent No. 35,050, dated April 22, 1862.

Claim.—A fire-alarm, consisting of a detachable and portable barrel loaded with powder, and provided with a fuse having its outer end saturated with a composition ignitable by hot air at a fixed temperature, substantially as herein described.

4,555. — BUR FOR KNITTING-MACHINES.—Miner Van Auken, Amsterdam, N. Y., assignor to John Warner, same place.—Patent No. 38,997, dated June 23, 1863; antedated February 16, 1863.

Claim.—1. A knitting-bur which is constructed with a closed top, A, and a hub, B, depending therefrom, irrespective of the oil-chamber around the hub, substantially as described.

2. A knitting-bur which combines in its construction a closed top, A, and a depending hub, B, in combination with a cup-shaped step, D, into which the lower end of the said hub extends, substantially as described.

3. The combination, in a knitting-bur, of the closed top-stock A, hub B with one or more passages through its side, and the oil-reservoir around the hub, substantially in the manner and for the purpose described.

4. A knitting-bur, the stud C of which is closed in at its top by a portion of the body of the bur and at its bottom by a cup-shaped step, D, all in such manner that the oil is closed in against the entrance into it of flying fibrous materials both at top and bottom of the bur, substantially as described.

DESIGNS.

5,256.—CARPET.—John H. Bromley, Philadelphia, Pa., assignor to John Bromley & Sons.

Claim.—The design for a carpet, substantially as shown.

5,257. — MATCH-SAFE AND PAPER-WEIGHT COMBINED.—George W. Brown, Louisville, Ky.

Claim.—The design above described, to be used as a match-safe, igniter, and paper-weight, as shown above.

5,258.—CARPET.—Benjamin Crabtree, Jr., Philadelphia, Pa., assignor to John Bromley & Sons, same place.

Claim.—The design for a carpet, substantially as shown.

5,259. — SCHOOL-DESK. — Thomas A. Galt and George S. Tracy, Sterling, Ill.

Claim.—The design for a school-desk frame, as shown.

5,260. — HAME-LOOP.—Josiah Letchworth, Buffalo, N. Y.

Claim.—The design for a hame-loop, as shown and described.

5,261.—ORNAMENTATION OF GLASSWARE.—John Ernest Miller, Birmingham, Pa., assignor to Sweeny, McCluney & Co., Wheeling, W. Va.

Claim. — The design for the ornamentation of glassware, as shown.

5,262.—BIRD-CAGE HOOK.—Joseph B. Sargent, New Haven, Conn.

Claim.—The design for bird-cage hook, as shown in the accompanying illustration and described.

5,263.—COOKING-STOVE.—William A. Spicer, Providence, R. I.

Claim.—The design for a stove, as shown.

5,264.—LETTER-BOX.—George Francis Topliff, Boston, Mass., assignor to The United Mail-Box Company, same place.

Claim.—The design for a mail-box, as herein set forth.

5,265. — GRATE-FRONT. — Charles Zeuner, Cincinnati, Ohio, assignor to Innes & Magill, same place.

Claim.—1. The design for the central ornament A, as herein shown.

2. The ornamental open-work B, as herein shown.

3. The ornamental open-work C, as herein shown.

4. The border D with its ornaments E, when shaped and arranged as shown.

5. The border F, shaped and arranged as herein shown.

6. The ornaments G, as herein shown.

7. The combination of the central ornament A, ornamental open-work B and C, borders D, E, and F, and ornaments G H, when arranged with relation to one another, as herein shown.

5,266.— BUSTLE.—Amos W. Thomas, Philadelphia, Pa.

Claim.—The design for the supporting-springs of a bustle, as shown.

TRADE-MARKS.

439.—ENGINE-OIL. — Harmon, Merrick & Co., Cleveland, Ohio.

440.—MATHEMATICAL INSTRUMENTS.—Heller & Brightly, Philadelphia, Pa.

441. — LEATHER. — George F. Page and Charles T. Page, Franklin, N. H.

ISSUE OF SEPTEMBER 19.

PATENTS.

119,000.—TREATING FLESH, OFFAL, &c.—William Adamson and Charles F. A. Simonin, Philadelphia, Pa., assignors to William Adamson.

Claim.—The extraction of animal oils and fats by hydrocarbon vapors, under heat and pressure, substantially in the manner described.

119,001, antedated September 2, 1871.—COTTON-GIN.—Charles N. Andrews, St. Louis, Mo.

Claim.—1. The bars of the gin-grate 3, constructed as shown and described, with a convexity, 11, at the point where the saw-teeth pass out, and fastened at the upper ends, while the lower ends are placed within the peripheries of the gin-saws and extend close to the ends of the fender-grate P, all substantially as and for the purposes herein set forth.

2. The hollow brush-cylinder G, provided with circumferential continuous lines of bristles, with holes through the cylinder between said lines of bristles, and the heads of the cylinder provided with openings 8 8, and loose disks or registers with oblique flanges 9 9, and slots and set-screws 10 10, all substantially as shown and described, and for the purposes herein set forth.

3. The combination of the hull-bar 2 and fender-grate P, when constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the fan H with the hull-arrester O, the hull-bar 2, the chute N, and the cylinder C, substantially as and for the purposes hereinbefore set forth.

5. The combination of the triangular hull-arrester O, hull-bar 2, fender-grate P, and gin-saws E, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

6. The combination of the cylinders A B C D, grates K L, and hollow partition T, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

7. The concave or semicircular grate-bars L L, constructed as shown and described, and arranged in a single tier under the cylinder D and between the cylinders B C, substantially as and for the purposes herein set forth.

8. The concave or semicircular grate-bars K K, constructed as shown and described, and arranged in two tiers, substantially as and for the purposes herein set forth.

9. The arrangement of the fender-grate P, hull-bar 2, fan H, and hull-arrester O with the space 5 between them, substantially as and for the purposes herein set forth.

10. The combination of the hopper J, cylinders A B C D, grates K L, hollow partition T, saws E, fan H, brush-cylinder G, flue I, hull-arrester O, hull-bar 2, chute N, damper 4, gin-grate 3, and fender-grate P, all constructed and arranged substantially as and for the purposes herein set forth.

119,002. — GLUE-POT. — John I. Baringer, Germantown, N. Y.

Claim.—A glue-pot provided with chimneys B B′, combined with the flues A A′, substantially as described.

119,003.—WATER-METER.—Henry M. Bartlett, South Dedham, Mass.

Claim.—1. The valve O, in combination with the channels N N′, ports M M′, valve F, and piston B, substantially as described.

2. The valve F, provided with the ports G G′ and recesses H H, in combination with the surface C′ of casing C, having ports K K′ and L L′, substantially as described.

3. The arrangement of valve-piston F, valve O, and piston B, so that water received through induction-pipe S, and passing through ports L L′ and K K′, operates the piston B, which actuates valve O, the latter, in turn, actuating valve-pistons F, in the manner substantially as described.

119,004.—WATER-METER.—Henry M. Bartlett, South Dedham, Mass.

Claim.—1. The floating valve-piston B, constructed as described, in combination with cylinder A having ports W W′, X X′, and *a a′*, substantially as described.

2. The described arrangement of valves *c c′ d d′* and their branches *e e′* of piston B with relation to ports W W′, X X′, and *a a′*, of cylinder A, passages Y Y′ Z Z, and valve F, as and for the purpose set forth.

119,005.—MANUFACTURE OF BONE-BLACK.—Charles Y. Beach, Brooklyn, N. Y.

Claim.—The treatment of bones or other animal substances, for the purpose or purposes herein specified, by direct exposure of them to burning gases or heated gaseous products of combustion, substantially as herein set forth.

119,006.—TOY-LOCOMOTIVE AND TRACK.—Eugene Begga, Paterson, N. J.

Claim.—1. The boiler A, formed with water-legs *i* at its sides, constructed to form jogs or shoulders *k* at or near the forward end of the boiler, in combination with the yoke D which carries the cylinders, substantially as specified.

2. The combination, with the yoke D and steam-exhaust pipe *l*, of the chimney F, having its cap constructed to form a nut on the upper end of the pipe, whereby the chimney and yoke carrying the cylinders are mutually supported, substantially as herein set forth.

3. The yoke D, constructed and arranged, substantially as described, to form live and spent-steam chambers *t u* for operation by suitable ports with the cylinders of the engine.

4. The arrangement of the live and spent-steam chambers or passages *t u* in the yoke D with the inlet-pipe *p* and outlet-pipe *l*, substantially as specified.

5. The tender C, having its body or lower portion constructed to form a reservoir for the fluid by which the boiler is heated, and provided with a forwardly-projecting tube or passage, *f*, to convey said fluid to the burners beneath the boiler with which said boiler is connected, substantially as specified.

6. The track, composed of curvilinearly-grooved blocks Q Q and strips *h′ h′*, combined and arranged substantially as herein described, and for use with a toy-locomotive or cars, as set forth.

119,007. — MORTISING-MACHINE. — Henry Bickford, Cincinnati, Ohio, assignor to J. A. Fay & Co., same place.

Claim.—1. The pivoted heart-shaped lever P, with or without point Q, substantially as and for the purposes set forth.

2. The operating-mechanism, consisting of chisel-shaft F, gears Z, Y, X, and V, lever P provided with point Q, and shaft K provided with projection *a* and finger N, all operated by a treadle and connecting-rod, substantially as and for the purposes set forth.

3. In combination with finger N, the pivoted lever P with or without point Q, and gear V, substantially as and for the purposes mentioned.

4. In combination with the mechanism specified in the third claim, the operating-table, substantially as and for the purposes set forth.

5. The gears Z and Y, when provided with blind-tops, for the purpose specified.

119,008.—FIRE-ESCAPE.—George W. Bishop and Hugh H. Smith, Baltimore, Md.

Claim.—1. The clamping-bar and frame A C, made with an adjustable jaw, *b′*, and provided with a pulley, F, ratchet-wheel *g*, pawl *g′*, pulleys D E, and single rope *s s*, all combined and operating substantially as and for the purpose described.

2. The friction-pulley J on shaft of pulley E, and pressure-spring K, and lever L, arranged as described, in combination with pulleys D E F, ratchet and pawl *g g′*, and single rope *s s s*, substantially in the manner and for the purpose described.

3. The spiked brace G, arranged and operating as described, in combination with the combined clamp-bar and frame A C, pulleys F E D, and single rope *s s s*, substantially in the manner set forth.

119,009. — BALING-PRESS.—George Brodie, Plum Bayou, Ark.

Claim.—1. The flattened follower-rod E, obliquely divided, as described, and toothed racks or screw segments *a a*, in combination with the nut G, substantially as described.

2. The screw follower-rod E, composed of adjustable sections for expanding it, substantially as described.

119,010. — WOOD PAVEMENT. — Closson P. Burgess, Rochester, N. Y., assignor to himself, Emmet Stafford, and James R. Stevenson, same place.

Claim.—The paving-blocks B B, having their corners at *a a* and *b b* removed, arranged to overlap in the transverse line of the street, and surrounded at their bases by open spaces to receive the cement, substantially as described, for the purposes specified.

119,011.—ROTARY PUMP.—Luke Chapman, Collinsville, Conn., assignor to himself and W. J. Wood, same place.

Claim. — The combination, in a pump, of the following elements, *i. e.*, the revolving plunger *b*, the revolving cut-off *d*, and the cylindrical valves *n*, made loose in their sockets and free to revolve, as described.

119,012.—LATHE.—Hillry Chavons, Union City, Ind., assignor to himself and William P. de Bolt, same place.

Claim.—1. The combination, with the revolving mandrel B, of the sliding gate E and revolving cutter-head F, composed of saws *f f* and knives *g g*, the whole being arranged for operation substantially as specified.

2. The combination of the upper horizontal or laterally-sliding carrier H and its revolving cutter-head G, composed of carving-cutters *q q*, the revolving mandrel B, and vertically-sliding gate E with its cutter-head made up of saws *f* and knives *g*, essentially as and for the purposes herein set forth.

3. The combination, with the gate or carrier by which the revolving cutter-head is slid up to or from the work, of the suspension frame J, the fast pulley *e′*, the belt *g′*, and the loose pulleys *h′ h′*, when arranged in relation with each other, substantially as shown and described.

119,013.—LOCOMOTIVE.—John Cooke, Paterson, N. J.

Claim.—The link I, mounted within the hollow pintle G in the center of the front of the locomotive, and supporting the equalizer M and allowing it to swing while always bearing in the center of the pintle, as herein specified.

119,014. — DRIVING-WHEEL OF LOCOMOTIVE ENGINES.—Almond F. Cooper, San Francisco, Cal.

Claim.—The covering-plates B B and hub A, with their corrugations *b c* and projections *f f*, in combination with the elastic packing C E and sleeves or thimbles *g*, the whole constructed substantially as shown and described.

119,015. — COTTON-CULTIVATOR.—Thomas Dale, Russellville, Ky.

Claim.—1. The combination of the wheels, the axle, the frame arranged above the axle, the stirrups depending from the frame and embracing the axle, the handles rigidly secured to the frame behind the axle, and the plows in rear of the axle, serving as a fulcrum on which to rock the frame, all these members being constructed and operating substantially as set forth, so that the frame, while free to be lifted by the handles, is prevented by the axle from descending below a given point.

2. The combination of the frame, the loops, the axle, and the driving-gear on the axle with a rotary chopper journaled to the frame, and driven by the gear on the axle in such manner that, when the frame is raised to pass obstructions or to be turned in its path, the chopper will be thrown out of gear and become inoperative, substantially as described.

119,016. — ICE-PRESERVER. — James Dunning, Bangor, Me.

Claim.—As a new article of manufacture, the ice-preserver described, consisting of the cylinder *a*, top *b*, the inner and outer linings *d e*, and the tube *f*, substantially as specified.

119,017.—GUDGEON FOR SHAFTS.—William W. Eastman, Meadville, and William H. H. Morris, Fairfield, Pa.

Claim.—1. Iron gudgeons for mill-work, provided with a cap-plate, B, ears *b b*, and a circular flange, D, for fastening the same to wood shafts, in the manner and for the purposes here set forth.

2. In combination with the above-described plate and flanged gudgeon A, the loop bars *d d* which surrounds the wheel-arms E E, the metal block bearings *e e*, and the screw-nuts *a a* for securing iron gudgeons to wood shafts for mill-work, substantially as herein shown and described.

119,018. — MACHINE FOR MIXING SOAP.—Charles Elling, Cleveland, Ohio.

Claim.—1. The tub or vat A, and cylindrical case B constructed with open ends, arranged in said tub so that its lower end shall be above the bottom thereof, substantially in the manner as described, and for the purpose set forth.

2. The vat or tub A, cylindrical case B, and screw H, as arranged in relation to each other, and operating in the manner substantially as described, and for the purpose set forth.

119,019. — CLIPPING-SHEARS. — George F. Evans, Norway, Me.

Claim. — In combination with the plate *a*, the piece *d* and cutters *e*, rod *f* and arm *h*, the cylinder *j* and piston *l*, the said cutters *e* to operate directly from and in the same direction with the piston *l*, as herein set forth.

119,020, antedated September 16, 1871.—GUN-LOCK.—Warren R. Evans, Thomaston, Me.

Claim.—1. The hammer, made as described, having the recess R, tongue W, notch T, and point S to strike the cartridge.

2. The combination of the bell-crank A, projection M, slot I, and rotating fluted shaft, as herein set forth, for the purpose described.

3. The breech-block G, composed of two walls with the space between the same, and having the pin V, the slot J, and shoulder I, as herein described.

4. The pivoted arm N on the breech-block with

the stud O, in combination with the depression F', to operate as herein set forth.

5. The trigger A' having the spring B', the shoulder C' to act, in combination with the shoulder F, on the trigger, as herein set forth.

6. The combination of the breech-block and pin V with the tongue W and extremity P' of the trigger, for the purposes herein set forth.

7. The combination of the hammer, Fig. 1, Plate 2, with the breech-block G arranged therein as described, and trigger A', mainspring U, lever H, all as herein described, for the purposes set forth.

119,021.—BOOT AND SHOE-HEEL.—George F. Fling, Portland, Me.

Claim.—The combination of a metallic shell, *a*, open at both top and bottom, and provided with the flanges *b c d*, arranged as set forth, with the removable filling *i* of wood and backing *l* of lead, when the same is to be affixed to a boot or shoe by the screws *e*, *f*, *h*, and *k*, as herein set forth.

119,022.—GRAIN-DRILL. — John P. Floom, Canton, Ohio.

Claim.—1. The covering-tooth *o r s*, in combination with the seed-teeth P Q P, the working part *s t t u* of said covering-tooth being of the general form shown, and being supported directly behind the seed-tooth Q and close up to the seed-teeth P P by a standard *s r o* running back nearly horizontal to a point, *r*, in the rear of the working-part *s t t u*, and then rising to the tooth-frame B, substantially as and for the purpose specified.

2. The lifting-lever L provided with the forked end *n*, eye *p*, and pin-lever T, supporting-link M provided with the slot *m* and locking-link N, in combination with the wheel-axle D and tooth-frame B, the several parts being arranged substantially as and for the purpose specified.

3. The slide-plate latch *i*, in combination with the vibrator H with upturned end *h* and frame B, said parts being so arranged that the raising of the frame acts through the rod W to raise the latch from the upturned end *h*, substantially as and for the purpose specified.

4. The within-described broadcast device *a d k*, consisting of the base *d* with notched passages *c c*, valve-pieces *a*, and guiding-flap *e*, when used in combination with the seed-teeth, substantially as and for the purpose specified.

119,023.—GRAIN-DRILL. — John P. Floom, Canton, Ohio.

Claim.—1. The combination of the two-part slide plate D H having the seed-cavities E therein, with the series of cut-off plates B B, and discharge-plate G with holes K K therein, the said slide-plate being so constructed as to admit of a change in the size of all its seed-cavities by the sliding of one of its parts upon the other, and the several parts being arranged and combined substantially as and for the purpose herein specified.

2. The cut-off plate B, provided with a narrow turned-down edge or flange, as shown, in combination with the vibrating slide-plate D H with seed-cavity E therein, whether said slide-plate be made in one or more parts, substantially as and for the purpose herein specified.

3. The herein-described slide-plate D H, consisting of the bar D with holes E E, head-block D', and cavity-blocks *d*, the bar H with holes *b b* and underlying flanges *c c*, and the adjusting-screw I, the several parts being constructed, combined, and arranged substantially as and for the purpose herein specified.

4. The combination of the discharge-plate G, tightening-screws J J, screw-blocks N N, and movable hopper-pieces A A, the several parts being arranged so as to draw the lower edges of the hopper-pieces toward the discharge-plate by turning up the tightening-screws, substantially as and for the purpose specified.

119,024. — SAP-BUCKET HOLDER. — Alvin Franklin, Galena, Ohio.

Claim.—A bucket-holder, formed by curving an elastic wire, as shown, for furnishing a horizontal and lateral support for the bucket, as herein described.

119,025, antedated August 28, 1871.—PIANO-TRUCK.—Charles Albert French, Davenport, Iowa.

Claim.—The adjustable and detachable truck or trucks B B, substantially as and for the purpose hereinbefore set forth.

119,026.—WATER-WHEEL. — John G. Garretson, West Liberty, Ohio.

Claim.—The combination of the cap B, Fig. 2, with its funnel-shaped chutes *i i*, with the wheel A, Fig. 1, constructed as described, the funnel-shaped chutes throwing the water into the wheel at nearly right angles to the axis of the wheel, while the centrifugal force of the water already within the wheel prevents the striking, splashing, or flying of the entering column, but causes it to quietly take position in the wheel and impart to the wheel the momentum with which it entered, in the manner and by the means above set forth.

119,027.—GASKET-PACKING.—William Wallace Girdwood, Barking Road, Bromley, Great Britain.

Claim.—A gasket-packing constructed wholly of metallic fabric by rolling or twisting a sheet of metallic gauze, as herein described.

119,028.—SIPHON-BOTTLE.—Claude Glover, New York, N. Y.

Claim. — The combination of the flexible diaphragm valve *d*, the socket *b*, the plunger F, the spring *e*, and the screw-cap E, substantially as herein described, the whole arranged, applied, and operating with respect to the valve-seat *a* and flanged head of the bottle, substantially as herein set forth.

119,029.—CUTTING APPARATUS FOR HARVESTERS.—Marshall Harrison, Laclede, Mo., assignor to himself and Jefferson Mizo, same place.

Claim.—In combination with the bottom plate A a^1 a^2 a^3, top plate E, and a series of cutters, D, pivoted to bar B, and fulcrumed to rib a^2, the supplementary bar C, to which the rear ends of all the cutters are pivoted, as and for the purpose specified.

119,030.—VALVE FOR STEAM-PUMPS, &c.—Joseph W. Hopkins, New York, N. Y., assignor to himself, Albert G. Bearup, and Patrick Carraher, Jr., same place.

Claim.—1. The combination of the ports *i i* in the valve E and ports *d d* in the valve C with the stationary ports *h h* and *k k*, when arranged substantially as and for the purposes herein set forth.

2. The combination, with the elements recited in the preceding claim, of the ports *u u r r s s* and exhaust-cavities *n* and *c*, arranged in relation with each other, essentially as shown and described.

119,031. — EVAPORATING SALT WATER.—James L. Humphrey, Syracuse, N. Y.

Claim.—Tubes D, provided with nozzles *d*, in combination with fan C, substantially as and for the purpose set forth.

119,032.—SPINDLE FOR SPINNING-MACHINES. Daniel Hussey, Lowell, Mass.

Claim.—The live and dead spindles A and B, constructed and pivoted together as shown, and having the bearing at *f*, and arranged with and applied to a covered bolster-reservoir in manner as set forth, all being substantially as explained.

119,033.—BRAKE FOR WAGONS.—Francis M. Kelley, Hart county, Ky.

Claim.—In combination with a slotted sliding draft-tongue, L, the rigid arm B, cranks C, adjustable rod D, crank E, shaft F, cranks G G, adjustable screw-rods H H, and brake-bar I, arranged in the manner and for the purpose set forth.

119,034.—MANUFACTURE OF ILLUMINATING GAS.—Joshua Kidd, New York, N. Y.

Claim.—1. The method described of first instantly vaporizing the liquid at a heat below its decomposing point by injecting it into the vaporizer sparingly and then passing the vapors thus generated through a red-hot retort.

2. The use of a jet of gasoline vapor or steam, escaping under pressure, for inducing air into rich gas, as described.

119,035.—METAL BINDING FOR OIL-CLOTHS, &c.—Daniel M. Knowles, New Bedford, Mass.

Claim.—The metallic binding A, with its ridge or lap B and overlapping ends D^2 and C^2 and D^2, constructed as shown and described.

119,036.—BOLT FOR LOCKS.—Theodore Kromer, Neustadt, Grand Duchy of Baden.

Claim.—1. The bolt A provided with the stud B, in combination with the latch G provided with the notches *a b* and *d e h*, when operating together, as described.

2. The arrangement and combination of casing P, row of notched sliding pins C, springs F, latch G provided with notches *a b* and *c d h*, and bolt A provided with the stud B, operating together, as described.

119,037.—LOW-WATER ALARM. — John C. Leistner and Augustus Kayser, Cincinnati, Ohio.

Claim.—1. The arrangement of the pipe C projecting into the enlarged mouth-piece D within the boiler, as described and represented, for the purpose set forth.

2. In the described combination with the elements of the preceding clause, the devices C E F G, whereby the alarm-inlet and its mouth-piece are secured at any desired elevation relatively to each other and to the boiler, for the object designated.

119,038.—SECTIONAL TUBULAR STEAM-BOILER. — James A. Maynard, Newtonville, Mass.

Claim.—1. The within-described sectional boiler, consisting essentially of a series of independent clusters of water-tubes connecting water-chambers which communicate with each other through short pipes or nozzles, substantially as and for the purpose described.

2. A furnace E, provided with internal slotted smoke-flues *m*, constructed and arranged substantially in the manner and for the purpose described.

3. The bolts *i*, in combination with the removable heads *h*, substantially as and for the purpose set forth.

4. A sectional tubular boiler, in combination with the furnace E, provided with internal smoke-flues *m*, the whole arranged and constructed to operate substantially as and for the purpose specified.

119,039. — STEAM-ENGINE. — John H. McGowan and David B. Caldwell, Cincinnati, Ohio.

Claim.—The within-described arrangement of auxiliary cylinder G, plunger H, pitman I, wrist J, and spur and pinion E F, substantially as and for the purpose set forth.

119,040.—MACHINE FOR MAKING CIGARS.—Martin V. McKinney, Louisville, Ky., assignor of one-half his right to Henry U. Frankel, same place.

Claim.—1. In combination with the slotted frame G, the adjustable upper roller A having levers R R and handle W, the lower rollers A A and header D, all constructed and arranged substantially as described.

2. The conical header D, formed of two parts, connected at their smaller ends by spring E and adjusted by set-screw F, substantially in the manner and for the purpose set forth.

3. An adjustable tobacco-trough, provided with sliding cover Y, in combination with a swinging-box Q, substantially as described.

119,041. — PRUNING-SHEARS. — John W. Mix, Batavia, N. Y.

Claim.—1. The pruning-shear, consisting of the levers A A, hook B, and blades C C', arranged as described, and operating in the manner and for the purpose specified.

2. The shifting blade C', having its edge standing above the square shoulder *c* only sufficient to cut through the bark, when combined with the main cutting-blade, C, which alone severs the limb, as herein described.

119,042.—DUST-PAN. — James B. Morgan, Davenport, Iowa.

Claim.—The construction of a dust-pan with a lid, having a thumb-piece and spiral spring, substantially as described, and for the purposes set forth.

119,043.—LIGHTNING-ROD. — David Munson, Indianapolis, Ind.

Claim.—1. A continuous cable lightning-rod consisting of any suitable number of core and outside wires, the latter being angular, substantially as described.

2. A lightning-rod consisting of any suitable number of angular, sharp-edged copper wires, twisted around a core of some other cheaper metal to form a single rod, substantially as described.

3. A lightning-rod consisting of any suitable number of angular sharp-edged copper rods twisted between, and with any suitable number of round wires of a cheaper metal, to form a single rod, substantially as described.

119,044. — COMBINED BREAST-PUMP AND NURSING-BOTTLE.—Orwell H. Needham, New York, N. Y.

Claim.—1. The combination, with the nursing or feed-bottle A, of a milking-shield attachment, B, provided with an upper nozzle, *h*, and a lower nozzle, *i*, both at right angles to the line of direction of the shield attachment for coupling to a milk-receptacle a device for exhausting the air, substantially as and for the purposes herein set forth.

2. The milking-shield attachment B, constructed of a nipple-ring or band, *d*, a tube, *f*, a connecting yielding lining, *e*, and the upper and lower lateral nozzles *h i*, which are claimed above, essentially as described.

119,045.—COOKING-STOVE. — Daniel Eldon Paris, Troy, N. Y.

Claim.—1. The two side rear flues Q Q to a diving-flue cooking-stove, so arranged as to connect with the rear central flue P by means of a damper or dampers, and so that the products of combustion, after passing into the side flues Q Q, shall immediately thereafter (when said damper or dampers are open) pass into the rear central flue P for the purpose of heating, and in combination with a water-tank or reservoir situated in rear of said flues, substantially as herein shown and described.

2. The extension of the top flues of a diving-flue cooking-stove beyond the rear vertical line of the exit-pipe, and underneath a reservoir or reservoirs, and thence back toward and into said exit-pipe, substantially in the manner and for the purpose herein shown and described.

3. A downward and upward-draught smoke-flue or flues at the rear end of the stove, connected into and in combination with a flue-chamber below the reservoir, and so arranged that the products of combustion shall pass from the top flue of the stove down one or more of said flues into and through said chamber and thence upward to the exit-pipe, for the purpose and substantially in the manner herein shown and described.

4. The damper O, or its equivalent, made to operate as follows: When open to let the heat or smoke pass into the central flue P to heat the reservoir, and, when closed, to drive it around the oven of the stove, substantially as herein shown and set forth.

5. For a diving-flue cooking-stove or range, one or more double-acting flues, made to pass each way from the exit pipe, and controlled by a damper, arranged, when passing in rear of said pipe, to heat the oven, substantially in the manner herein shown and described.

119,046. — FOUNTAIN.—George Polyblank and Joseph Parkin, Cleveland, Ohio.

Claim.—1. The flexible bag F for holding water, when arranged in relation to chamber C, jet-pipe L, and charging-pipe *b*, substantially in the manner as described, and for the purpose set forth.

2. The arrangement of the basin A, midriff B, chamber C, overflow-pipe D, and jet-pipe L, in combination with the flexible bag F, in the manner substantially as and for the purpose specified.

3. The combination and arrangement of the weight-dish J, guide-rods I, ropes K, and flexible bag F, in the manner as described, and for the purpose specified.

119,047.—FENCE.—David Rhodes, Fredericktown, Mo.

Claim.—The panel D, composed of the planks *a a* and *b b* provided with the single notches *c* and double notches *d d'*, plank *e* provided with the slot *f* and tenon *g*, and battens A, all arranged relatively one to the other, as and for the purpose hereinbefore specified.

119,048.—REVOLVING FIRE-ARM.—Charles B. Richards, Hartford, Conn., assignor to The Colt's Patent Fire-Arms Manufacturing Company.

Claim.—1. The guide-pin *p* of the pawl, in combination with the guiding-surface *q*, when arranged substantially in the manner described, for the purpose set forth.

2. The ratchet-shoe A with its wing *i*, in combination with the transverse channel in the frame, substantially as set forth.

3. The eccentric head *s* of the ejector-rod, shaped substantially as shown, in combination with the projection *v*, for the purpose explained.

119,049. — CONSTRUCTION OF PILES FOR RAILWAY RAILS. — Thomas Richardson, John William Richardson, and Adam Spencer, West Hartlepool, England.

Claim.—The arrangement of the slab *d*, bars *c*, layers *b*, of fibrous iron, and side pieces *a*, when operating together, as and for the purpose described.

119,050.—SASH-HOLDER.—James F. Rickel, Byron, Ill.

Claim.—The sash-holder described, consisting of the plate A with projections *a a'*, bolts b^1 b^1 with ends b^2 b^2 projecting through slots in the plate, and having springs *c c*, as shown, pivoted bar *d* moving in recesses *b b*, arm *d*, in combination with the racks of the sashes, as described.

119,051.—MACHINE FOR MAKING HORSE-SHOES. — Webster Roberts, Cleveland, Ohio.

Claim.—1. The vibrating beams C C^1, segments G E, and dies D F, in combination with the opening and closing-die N and reciprocating rack N', in the manner substantially as described, and for the purpose set forth.

2. The die N, consisting of two sections, forming a part of the plate L', pivoted to the bed H, in combination with the mechanism to impart to said die reciprocating motion, and with the cams R and spring O for opening and closing said die, substantially in the manner and for the purpose specified.

3. The combination of the finger T', having a segmental gear at its lower end, with the die N and rack-plate C, in the manner and for the purpose set forth.

4. The combination, with the reciprocating opening and closing-die N, of the head D', and mechanized to impart to said head the several movements, substantially as specified, and for the purpose set forth.

5. The drop F', in combination with the lever V, shear S, and head D', substantially as and for the purpose specified.

6. The flanged rollers J, in combination with the reciprocating die N and vibrating head D', in the manner and for the purpose substantially as described.

7. The combination of rectilinearly-reciprocating opening and closing female die and two rotary male dies to co-operate successively therewith, the one to mold the shoe and the other to crease and punch the shoe, thereby forming or making the said article in the manner described.

8. The movable gauge S^3 with the mechanism described to impart the desired movement to said gauge, in combination with the dies N, for the purpose substantially as described.

9. The spring O, blocks P, levers Q, provided with cams R and arms *g*, in combination with the plates L and die N, substantially as and for the purpose set forth.

10. The sleeve A', spring within said sleeve connected with the stem C^1, and head D', operated as described, in combination with the reciprocating die N, substantially as and for the purpose set forth.

11. The springs R^3 and vibrating beams C C^1, in combination with the vibrating segmental gears E G, arms M^3, and reciprocating rack N', operating substantially in the manner and for the purpose described.

119,052. — MEDICAL COMPOUND FOR THE HAIR.—Philipp Schlicher, Louisville, Ky.

Claim.—The manufacture and use of a compound for the purpose of causing the hair to grow on the human head, consisting of the ingredients in their several proportions as above described, and for the purpose herein set forth.

119,053. — MEDICAL COMPOUND FOR THE CURE OF FEVER AND AGUE.—Oscar Seidmore, Albany, N. Y.

Claim.—The medical compound for fever and ague, compounded of the several ingredients in the proportions and manner substantially as set forth.

119,054.—CHART-HOLDER. — Daniel Shryock, Hannibal, Mo.

Claim.—1. The described arrangement of rods E, eyes D, oblique wires J, and staple G, for the purpose set forth.

2. In the described combination with the above, the described mode of securing the staple G in the post.

119,055. — WINDOW-CLEANER. — George Smeaton, Brooklyn, N. Y.

Claim.—1. The combination of the frame, composed of the base and upright B, the sliding carriage F on the upright B carrying the cleaning and polishing devices, and the driving band E attached to said carriage to operate it from the base, substantially as herein described, for the purpose set forth.

2. The combination of the sliding carriage F and attached rotary polishers G G, the band E, the wheels H H, and the racks or tracks on the side of the upright B, substantially as and for the purpose herein described.

119,056.—FURNACE FOR STEAM-BOILERS.—Charles D. Smith, Chicago, Ill.

Claim.—Flues B and D, in combination with sloping false bottom C and ports E and F, the whole constructed and arranged substantially as described, for the purpose specified.

119,057. — STOP-VALVE. — August Snyder, Allegheny City, Pa.

Claim.—1. The valves A' and A'', provided with cogs *x*, in combination with pinion D and valve-stem F, as herein described, and for the purpose set forth.

2. The separating or seating pieces B' and C, suspended on the valve-stem F, in combination with the valves A' and A'', as herein described, and for the purpose set forth.

3. The valves A' and A'', provided with projections *s* for the purpose of pivoting them in the separating pieces B' and C, as herein described.

4. The arrangement of the valve-stem F, pinion D, separating pieces B' and C, and valves A' and A'' with relation to the openings *x'* in the valve-seats and valve-chamber, the whole constructed and operating in the manner hereinbefore described, and for the purpose set forth.

119,058.—OPERATING WATER-CLOSET COCK. Bennett P. Spear, Charlestown, Mass.

Claim.—The weighted arm E, provided with handle F, in combination with the quick-thread valve B of cock A, all arranged and operating substantially as described.

119,059, antedated September 16, 1871.—COMPOSITION FELTING.—Harriet N. Stimson, Lowell, Mass., administratrix of the estate of Lucius S. Stimson, deceased, assignor of one-half her right to Nelson F. Libby, same place.

Claim.—A composition felting, as described, the same consisting of a sheet, lap, or bat of animal or vegetable fibers, or their specified equivalent, saturated with a composition of oil and resin or pitch, as set forth, and earthy or mineral substance or silica, all combined substantially in the manner and for the purposes described.

119,060.—FOLDING-SEAT.—James M. Swain, Peekskill, N. Y.

Claim.—The frame C C, in combination with the jointed brace D D, pivoted arm B, and seat A, constructed as and for the purpose specified.

119,061. — LAMP-BURNER. — Alvin Taplin, Forrestville, assignor to The Bristol Brass and Clock Company, Bristol, Conn.

Claim.—The diverging ratchets C C, geared together by spur-wheels *d* at their converging ends, in combination with the inner tube A of a V or wedge-shape, the sides of which are in the plane of the axes of the ratchets, essentially as shown and described.

119,062.—ROLLING-PIN.—William Thomas, Hingham, Mass.

Claim.—As a new article of manufacture, a rolling-pin, the body of which is composed of concrete, composition, or artificial stone, substantially as herein shown and described.

119,063.—WASH-BOILER.—Joseph C. Tilton, Pittsburg, Pa.

Claim.—1. The false bottom D, having the valve H, in combination with the external tubes F F, when arranged as shown, for the purpose described.

2. The combination of the sleeve R, false bottom D, valve H, hook D, spring P, and external tubes F F with the boiler A, when arranged as shown and described.

119,064. — MACHINE FOR GRADING AND DITCHING ROADS.—George Trump, Second Fork Village, Pa., assignor to himself and George William Huntley, same place.

Claim.—The arrangement of the racks H H with their slots N, projecting eyes P P, latches J J, curved brace S, and curved iron bar T, when constructed and combined with the center draft-bar D, as herein described and set forth.

119,065, antedated September 1, 1871.—LUBRICATING LOOSE PULLEY AND JOURNAL.—Stephen Ustick, Philadelphia, Pa.

Claim.—1. A closed longitudinal oil-channel at one side of the shaft A, communicating with the journal and loose pulley or pulleys by means of suitable outlets, and with the box D or other oil-reservoir, substantially as described.

2. The combination of the tube B with the shaft A, when the oil-channel *a* is formed in the surface of the shaft or the inner surface of the tube, substantially as set forth.

3. The combination of the connecting-tube or tubes G with oil-channels *a*, as and for the purpose specified.

4. The arrangement of the fibrous material *g* in the cross-openings *a'* to convey the oil at those points to the end channels *a*, substantially as described.

5. The combination of an oil-box, D, with one or both ends of the shaft A, when its inner end forms the journal, as represented in Fig. 2, substantially as above set forth.

119,066. — PORTABLE COOKING-RANGE.—John Van, Cincinnati, Ohio.

Claim.—1. The described arrangement of rear flues H H' behind the ovens, connected at their upper portion by the breeching I, whose neck J discharges into the smoke-stack through extension *m* of the top plate.

2. The combined arrangement of rear flues and breeching H H' I, extension *m* of the top plate, and elevated back plate N to a portable cooking-range, substantially as and for the objects explained.

3. In the described combination with the rear flues H H' I and rear extension *m* of top plate, the combined back-plate guard and shelf N O o P *p*, formed and arranged as and for the purposes set forth.

4. The arrangement of detachable broiler T, bracket R, hooks Q, box U, and pipe 2.

5. The visor or broiler-door V, supported in any desired position, by means of the pinions X, curved racks Y, shaft Z, and latch 1.

119,067.—WASH-BOILER.—Henry Weidley and David Weidley, Greene Post Office, Pa.

Claim.—The arrangement and construction of the inclined deflecting cross-plates G E beneath the bevel-lipped slots *e f*, so as to cover up the under side of bottom B, except the central slot B' and tubes or pipes C, all combined and operating in the manner and for the purpose specified.

119,068.—CHURN.—Calvin S. Young, Henry Wissinger, and Thomas T. Williams, Minta, Pa.

Claim.—The combination of the cylinder G, piston-rod H, cross-piece D, uprights B, connecting-rod K, and dash I, when constructed and operating together as described.

119,069. — WASHING-MACHINE. — Peter Young and Noah Doll, Robertsville, Ohio, assignors to themselves, John Rhodes, and Frederick J. S. Wagner, same place.

Claim.—1. The levers P P, in combination with the vibrating rubber K J H, cross-bar Q, rod R, and pivoted treadle S, the several parts being arranged substantially as and for the purpose specified.

2. The sockets W having the spring Y and plungers X arranged therein, in combination with the pivoted levers P P having the vibrating rubber K J H between their upper ends, the several parts being arranged substantially as and for the purpose specified.

3. The slotted plates *h h* and springs or rubbers *e e e e*, in combination with the rubber-arms J J, and rubber H having the axial pins *k k* therein, the several parts being arranged substantially as and for the purpose specified.

4. The connecting-links M M with the cross-bar O secured between their upper ends, and with their branches L N L N attached to the ends of the cross-heads I I, substantially as and for the purpose specified.

5. The combination of the concave roller-frame F F having an elastic movement at one end, vibrating rubber K J H having an elastic movement between the rubber H and arms J J, cross-bar O, and branched arms M N L, levers P P, sockets W W with springs Y and plungers X, cross-bar Q, rod R, and pivoted treadles S, the several parts being arranged as and for the purpose specified.

119,070. — WASHING-MACHINE. — Peter Young and Noah Doll, Robertsville, Ohio, assignors to themselves, John Rhodes, and Frederick J. S. Wagner, same place.

Claim.—1. The toggle-levers K L, in combination with the rock-shaft G and rubber N, said rubber being hung on the sliding arms H H, and the several parts being arranged substantially as and for the purpose specified.

2. The cross-bar R and links Q Q, in combination with the toggle-levers K L, when arranged with respect to the cross-bar S, substantially as and for the purpose specified.

3. The combination of the rubber N, arms H H with cross-heads M M, toggle-levers K L, links Q Q, and cross-bar R, rock-shaft G, and spiral lifting-springs J J, the several parts being arranged substantially as and for the purpose specified.

119,071.—CHAIR AND CRADLE COMBINED.—Abraham Abrahams, Syracuse, N. Y.

Claim.—A cradle and chair combined, composed of the parts A, B, and C, arranged with reference to each other, and operated substantially as described.

119,072. — MASHING-TUB. — John Charles Birket, Peoria, Ill.

Claim.—1. In a mashing-tub, the chamber E provided with the semicircularly-curved pipes *a*, in combination with the hollow shaft C, joint *i*, and induction steam-pipe D, substantially as and for the purpose set forth.

2. The combination of the semicircularly-curved pipes *a* of the chamber E with blocks *b* arranged on the bottom of the tub, substantially as and for the purpose set forth.

119,073, antedated September 9, 1871.—HAT. — Abram Bogardus, Matteawan, N. Y.

Claim.—A seamless hat, cap, and bonnet, made from the skins of any animal, with the wool, hair, or natural growth remaining thereon, tanned in the usual way.

119,074. — PORTABLE WARDROBE.—Joseph P. Buckingham, Chicopee, Mass.

Claim.—The device for holding and stretching clothes, consisting of the frame A with its holes *b b*, lugs *a a*, and slots *d d*, in connection with the pins X X with their nuts *y y*, and the hook G with its upright H and disk *f*, the parts being constructed and arranged substantially as shown and described.

119,075.—TOBACCO-PIPE.—Theodore Burnham, Bridgeport, Conn.

Claim.—The bowl A, and chamber B having the passages *a* and *d*, arranged substantially as described, and combined with the cylinder D, the inner surface of which is open to the atmosphere, substantially as specified.

119,076. — LIQUID-METER. — Henry Chandler, Buffalo, N. Y.

Claim.—1. The combination, with the cylinder A, pipe b^1, and spout *a*, of the piston C C′, and valve F, substantially as hereinbefore set forth.

2. The combination, with the cylinder A, piston C C′, and valve F, of the sliding rod H, lever I, and spring K, substantially as hereinbefore set forth.

3. The combination and arrangement of the springs A A′ with the sliding rod H, spring-lever I K, valve F, piston C C′, and cylinder A, as hereinbefore set forth.

4. The combination of the spring-arm K′ L with the valve F, projection f^2, stay-rod *e*′, and piston C C′, as hereinbefore set forth.

5. The combination in a cylinder, and with the piston C C′, valve F, and induction-pipe b^1, of the hubs D D′ provided with ports *d d*′, arranged so as to operate as hereinbefore set forth.

6. The pivot-slot *f*′ in the rod *e*, arranged with the valve-shifting spring-lever I K, valve F, and sliding rod H, as hereinbefore set forth.

119,077.—SEPARATING WOOL FROM RAGS.—John F. Collins, Albany, N. Y.

Claim.—1. The process of recovering animal fiber from mixed rags, part of which have been dyed in logwood, hereinbefore described.

2. The process hereinbefore described of recovering and coloring animal fiber from rags of a mixed character, no portion of which have been dyed in logwood.

119,078.—FURNACE FOR HEATING SAWS FOR HARDENING AND TEMPERING. — Joseph Crookes, St. Louis, Mo.

Claim.—1. The adjustable rotary-bed C, constructed as described, its shaft D, bevel-gear E, pinion *e* arranged in air-chamber B′, in combination with furnace A, substantially as and for the purpose described.

2. The slide-rack H, crank-rod H′, arms h, and rack-bar I, in combination with furnace A, substantially as and for the purpose set forth.

119,079.—PARLOR-BED.—Mark Crosby, Boston, Mass.

Claim.—1. The combination of the supports *n n* with horns or projections *t t*, and bottom A with side pieces D and E, when combined and arranged with a parlor-bed which opens each way from the center, as and for the purposes substantially as hereinbefore set forth.

2. In combination with the foregoing claim the automatic pieces F F′, combined with side pieces D and E, and piece B, when all are combined and arranged with a parlor-bed which opens each way from the center, substantially in the manner as and for the purposes hereinbefore set forth.

119,080.—SOLDER.—William S. Deeds, Baltimore, Md.

Claim.—1. The combination of metallic antimony with the components of ordinary soft solder, substantially as described, for the purpose specified.

2. The combination of arseniureted lead with the components of ordinary soft solder to produce a superior solder, substantially as described, for the purpose specified.

3. The employment of the alloy of antimony, arseniureted lead, and tin as a temper to ordinary soft solder for its improvement, substantially as described, and for the purpose specified.

119,081.—NOZZLE FOR OIL-CANS.—Sharron P. Doane, San Francisco, Cal.

Claim.—1. The nozzle or spout A, slotted at *f*, and provided with the sliding cap *d* and punch *e*, substantially as and for the purpose above described.

2. The nozzle A, provided with the gauze cap or partition *b*, in combination with the sliding cap *d* and punch *e*, substantially as and for the purpose above described.

119,082.—CARRIAGE-WHEEL.—Franklin N. Draper and Aaron Danison, West Liberty, Ohio.

Claim.—The tapering metallic shells *d* and *e*, made largest at their inner ends and with flanges 2 and 3, in combination with the tapering plugs *f* and *g* inserted as specified, and the spokes set together and clamped in the manner set forth.

119,083. — MATERIAL FOR THE MANUFACTURE OF TEXTILE FABRICS.—Henry Van Phul Draper, Hannibal, Mo., assignor to James H. McConnell, Springfield, Ill.

Claim.—1. As new articles of manufacture, textile fabrics, cordage, and twine, obtained from the list of the plant *Abutilon avicennæ*, whether used alone or in combination with other substances, substantially as described.

2. The use of the list of the plant *Abutilon avicennæ* in the manufacture of textile fabrics, cordage, and twine, whether the same is used alone or in combination with other materials, substantially as set forth.

119,084.—MATERIAL FOR THE MANUFACTURE OF PAPER-PULP.—Henry V. P. Draper, Hannibal, assignor to himself, Frank Holtzclaw, John W. Hickman, Andrew B. Hopkins, and Samuel S. Boyd, St. Louis, Mo.

Claim.—1. As a new article of manufacture, a pulp suitable for the manufacture of paper, obtained from the plant *Abutilon avicennæ*, whether used alone or in combination with other fibrous substances in the manufacture of paper, substantially as described.

2. The use of the plant *Abutilon avicennæ* in the manufacture of paper, whether the same is used alone or in combination with other materials, substantially as set forth.

119,085.—DISH-WASHER.—William H. Emory, Ashburnham, Mass.

Claim.—The cloth or swab-holder A, having prongs *a a* and *b b* as constructed, and inserted in the handle B, substantially as herein shown and described, for the purposes set forth.

119,086.—TABLE-BASKET OR DISH. — John Gibson, Jr., Albany, N. Y.

Claim.—1. Mounting or supporting the table-basket or dish B on wheels, substantially as described, for the purpose specified.

2. The table-basket or dish B, constructed to be revolved upon the base A, substantially as specified and shown.

3. A table-basket or dish B, when provided with a central handle, *c*, substantially as and for the purpose set forth.

4. The receptacles *e*, *e*′, or *e*″ in combination with a table-basket or dish B, substantially as and for the purposes set forth.

119,087.—DEVICE FOR LUBRICATING RAILWAY JOURNALS. — Charles W. Harvey, Buffalo, N. Y.

Claim.—1. The combination and arrangement, with the journal and axle-box of a railroad truck, of a series of lubricating devices, each consisting of the felt G, spring I, and case H, substantially as described.

2. The partially-detached portions or wings *g* of the felt G, arranged substantially as described.

3. The arrangement, in an axle-box and with the oil-feeding devices G I H, of the blocks of felt J, substantially as hereinbefore set forth.

4. The combination and arrangement, with a series of oil-feeding devices G I H, with or without the blocks J, of the cord K, substantially as described.

5. The arrangement, in an axle-box and with the oil-feeding device G I H, of the pivoted arms L, substantially as hereinbefore set forth.

6. The guard-plate O secured to the felt G of the oil-feeding device, substantially as hereinbefore set forth.

7. The partitions F and F′, provided with openings *f* and *f*′, arranged substantially as shown and described.

119,088.—DIRECT-ACTING ENGINE.—Bradbury M. Johnson, Brooklyn, N. Y., assignor to himself and William H. M. Pye, same place.

Claim.—1. The removable valve-seat *i*, made with the respective inlet and exhaust-ports, arranged substantially as shown, for the main and secondary valves, and the cylinder that operates the main valve, substantially as set forth.

2. The cylinder *k* in the steam-chests *f* and piston *l*, in combination with the valves *o* and *g* and ports for the induction and exhaust, the parts being arranged and operating substantially as set forth.

3. The exhaust-ports *p* connected to the main exhaust *e*, and positioned in the cylinder *k* in such a manner as to be uncovered by the piston *l* as it completes its movement, substantially as and for the purposes set forth.

119,089.—WASHING-MACHINE.—Henry Elford Lea, Halfmoon Bay, Cal.

Claim.—A washing-machine having a perforated drum, C, revolving on the hollow journal *i*, in combination with the boiler F and pipes *h k*, substantially as shown and for the purposes described.

119,090.—PHOTOGRAPHIC POSING-CHAIR.—William H. Lewis, New York, N. Y., assignor to Scovill Manufacturing Company, same place.

Claim.—1. The photographic posing-chair, formed with the open or hollow back legs *b b*, in which the lower portions of the side pieces *d d* of the back slide, substantially as specified.

2. The sliding bolts *o o*, operated at the back of the chair, in combination with the rods *i i*, side pieces *d d*, and legs *b b*, substantially as set forth.

119,091. — ALLOY FOR THE MANUFACTURE OF PLOW MOLD-BOARDS.—William Magee, Jamaica, N. Y.

Claim.—The composition, consisting of the ingredients herein stated, used in such proportions as to secure the positive preponderance of copper so that this metal shall form the basis of the alloy, substantially as described, and for the purpose stated.

119,092.—COKE-OVEN.—Theodore G. Meier, St. Louis, Mo., assignor to Adolphus Meier & Co., same place.

Claim.—1. The arrangement and combination of horizontal flues C C′ and vertical flues *d d*′ to collect the gases, aid combustion, and extract heat and distribute the same to sides and bottom of the oven, substantially as and for the purpose set forth.

2. The alternate arrangement of vertical flues *d d*′, by means whereof each oven gives and receives heat and each oven can be worked separately of its neighbors, in combination with horizontal flues C C′, substantially as shown and described.

3. The trough-shaped tile B having trough *b*, substantially as set forth.

4. The trough-shaped tile E having trough *e* and vertical hole *e*′, substantially as set forth.

5. The trough-shaped tiles B and E, constructed as described, and arranged to serve as inlet to vertical flues *d d*′ or outlet to horizontal flues C C′, substantially as and for the purpose set forth.

6. The right or left skew-back tile F, having longitudinal holes *f f*′ and diagonal hole *f*″, when arranged in combination with trough-shaped tiles E

and vertical flues *d d'*, substantially as and for the purpose described.

7. The combination of pipes G G', branch pipes $g\ g^1\ g^2\ g^3$ with stop-cocks, when arranged in connection with longitudinal flues *f f'*, vertical flues *d d'*, and horizontal flues C C', substantially as shown, and for the purpose set forth.

119,093.—SUBMARINE TELEGRAPH-CABLE.—Edwin W. Newton, Franklin Grove, Ill.

Claim.—1. A telegraph-cable formed of the three parts, a conducting core of copper, an envelope of glass, or glass and other material, and an inclosing continuous iron-tube, in the manner and for the purpose described.

2. The process or method by which the glass envelope or insulator is formed on the copper wire and combined with the glass coating on the inside of the iron tube, in the manner and for the purpose described.

119,094. — BUNG AND BUNG-INSERTER.—Daniel Boone Rickey, San Francisco, Cal.

Claim.—The standard C provided with the base E, and having the hole *d* passing through its upper end, in combination with the ring *f* having the opposite inclined depressions *g* and bar *i*, substantially as and for the purpose above described.

118,095.—FUR-SET BOX.—Earle H. Smith, Bergen Heights, N. J.

Claim.—In a fur-set box, a combination of the muff and collar-compartments described, arranged within a box having an oval or like non-rectangular contour, substantially as specified.

119,096.—HOLLOW-AUGER. — James Swan, Seymour, Conn.

Claim.—In hollow augers, the arrangement of cutters in the manner described, secured by screws I upon their face, and provided with the adjusting-screws L, in the manner substantially as set forth.

119,097.—CAR-COUPLING. — James Timms and William P. Brown, Malta, Ohio.

Claim.—1. The oscillating coupling-bar J, made with arrow-heads on each end and loaded as described, in combination with the oscillating draw-heads B B, made with a flaring mouth, an oblong contracted throat, and a transverse passage or space *b*, all substantially as and for the purpose described.

2. The draw-head B made with a flaring mouth, *a*, oblong-contracted throat *a'*, and transverse space or passage *b*, in combination with the loaded lever *t*, stops *o o*, and loaded arrow-headed coupling-bar J, substantially as and for the purpose described.

3. The levers *d d* and bar *g* and the flexible attachment A, combined with the head B, and arranged substantially as described.

4. The stop N for preventing the coupling-bar turning while the draw-head is being turned, substantially as set forth.

119,098. — BREECH-LOADING FIRE-ARM.—Horace Updegraff, Fort Laramie, Wyoming Ter.

Claim.—1. The combination of the hammer D, ratcheted ring C', and pawl E with the breech-block I and lever H, substantially as described.

2. The combination of hammer D, ring C', pawl E, lever H, breech-block I, and spring *h'*, substantially as set forth.

3. In combination with the hammer D, ring C', and pawl E, provided with spur e^1, the cam or inclined way *b'* in the stock, operating as set forth.

4. The combination of the hammer D, ring C', pawl E provided with the spur e^1, and the breech-block I provided with the lip i^2 for tripping the pawl, as set forth.

119,099.—PREPARING RATTAN FOR CHAIR-SEATS.—Gardner A. Watkins, Gardner Mass.

Claim.—1. The process of strengthening and polishing strands formed from the inner wood of rattan by passing the same through rollers and subjecting them to pressure and friction.

2. The process of strengthening and polishing strands formed from the inner wood of rattan by infusing the same in cement or chemicals and subjecting them to pressure and friction.

3. The process of strengthening and forming rattan by means of pressing or rolling the same.

119,100.—PISTON-PACKING.—S. Lloyd Wiegand, Philadelphia, Pa.

Claim.—An annular jet-tube leading from one side of the piston, surrounding a jet-tube leading from the opposite side of the piston, inducing currents through each other, and thereby applying internal pressure to the packing-rings, substantially as described and shown.

119,101.—GATE.—Seymour G. Wood, Rochester, N. Y.

Claim.—1. The frame A B provided with a stop or stops, O, in combination with a vertically-folding slat gate, *a b*, and elevating-cords *d d'*, arranged to operate substantially as set forth.

2. The yielding base-board D, arranged, with relation to the gate, as and for the purposes set forth.

119,102.—GUIDE FOR SEWING-MACHINES.—Charles Armstrong, Chicago, Ill.

Claim.—The bent arm *a a'*, movable guide-plate *d*, and sliding plate *k*, all constructed and operating together substantially as and for the purposes specified.

119,103. — RAILWAY-CAR BRAKE. — Daniel Arndt and Dillingham Clark Washington, Cleveland, Ohio.

Claim.—The slotted levers D D, connected by means of the shafts or rods E E and E', in combination with the axles C C, blocks G G, chain *a*, pulley *b*, springs *d d*, and shaft H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

119,104. — EXTINGUISHING FIRE. — Jacob Autenrieth, Newark, N. J.

Claim.—1. The compound for extinguishing fires, consisting of chalk, saltpeter, sulphur, and coal-dust, compounded in the manner and about in the proportions specified.

2. A cylinder charged with a fire-extinguishing compound, as described, and having its end or ends closed by paper which is rendered combustible by being saturated or coated with a solution of niter or coal-dust, or their equivalents, as and for the purpose set forth.

3. A fire-extinguishing compound, consisting of coal-dust, sulphur, saltpeter, and chalk, arranged within a portable cylinder having its ends closed with paper rendered combustible by coating the same with a solution of coal-dust, niter, or sulphur, or their equivalents, as and for the purpose set forth.

119,105.—STAIR-PAD.—Edward H. Bailey, Brooklyn, N. Y.

Claim.—In combination with outer cloth case C and inclosed batting B the intermediate paper layers A impregnated with odor of sandal-wood, as set forth, to form a moth-excluding pad for stair or other carpets.

119,106.—IRON RUNNING-GEAR FOR WAGONS.—John Ball, Sr., Canton, Ohio.

Claim.—1. The circular bound C D E, composed of the circular hoop C, circular pieces D E with tongue-ends *d d e e*, bent tongue-plates *l m l m* united by clamping-bolts, plates, and cross-pieces, as described, the several parts being constructed and arranged substantially as and for the purpose herein specified.

2. The straight axle-piece B and arched axle piece A, in combination with the bent-iron support J and circular bound C D E, constructed as described, said axle pieces and bound being united by clamping-bolts I I, with intervening filling-blocks F F, and the several parts being constructed and arranged substantially as specified.

3. The front bolster K L, consisting of the bed-plate L, inverted arch-plate K, and bent-iron support *f'*, said bed and arch-plates being firmly united at their ends, substantially as and for the purpose specified.

4. The bolster-standard *i j k*, consisting of the base-plate *i* having the upright leg *j* and inclined brace-leg *k* bent up at the ends thereof, said legs being united at their upper ends, substantially as and for the purpose specified.

5. The trussed reach R S R S, consisting of the four bars R S R S arranged in pairs and having their front ends R' R' placed parallel and at a short distance from each other, said front ends being connected by bent face-plates U U and cross pieces *r s r s*, and the several parts being arranged and combined substantially as specified.

6. The tension-rods V V, in combination with the trussed reach R S R S and the rear axle M N, the several parts being arranged and connected substantially as and for the purpose specified.

7. The center reach T T, consisting of two plate-bars placed one above the other and united as described, in combination with the trussed reach R S R S having the parallel front ends R' R', substantially as and for the purpose specified.

8. The combination of the straight axle piece M, blocks I I I, arched axle piece N, plate-bar bolster Q, end bent-iron supports H' H', and bent-iron center support P, the several parts being arranged and connected substantially as and for the purpose specified.

9. The axle-spindle *g a b h*, formed by drawing out and uniting the axle pieces A B, and combining therewith the skein pieces G H, substantially as specified.

10. The combination of the cast-iron hub W, wrought-iron spokes X X with shoulders *x x* formed thereon, and felly-rings Y Y formed of plate bar-iron bent edgewise, the several parts being arranged and connected substantially as specified.

11. The filling piece *u* with bent end lips 23 23, in combination with the felly-ring Y Y, formed as described, and the tire Z, said tire and filling piece being connected by one or more bolts, *y*, with intervening thimbles, and the several parts being arranged substantially as specified.

12. The herein-described wheel W X Y Y Z, consisting of the cast-iron hub W, wrought-iron spokes X with shoulders *x x* thereon, felly-rings Y Y formed as described, filling pieces *u*, and tire Z, the several parts being constructed, arranged, and connected substantially as and for the purpose specified.

13. The double-tree *v w w*, consisting of the broad top plate *v*, edge plates *w w*, bent center plate *w'*, and end blocks *v' v'*, the several parts being arranged and connected substantially as and for the purpose herein specified.

119,107. — MACHINE FOR PULPING WOOD FOR PAPER-STOCK, &c. — Benjamin F. Barker, Curtisville, Mass.

Claim. — 1. The grindstone C of a wood-pulp machine, provided with a slightly-inclined grinding-edge, substantially as and for the purpose herein shown and described.

2. The plate D, affixed to the bottom of the grindstone and projecting beyond the circumference of the same, to constitute a rotating bottom of the annular chamber in which the wood is placed, as set forth.

3. The wedge-shaped blocks F, made adjustable, as set forth, and applied to the case E to crowd the wood against the stone to be ground, as specified.

4. The plate H, having the hook *d* which forms the feed-chamber over the plate D, as specified.

5. The cylinder L, suspended above the grindstone C, to feed wood to the upper surface of the same, in combination with the shell E, in which wood is fed to the circumference of the stone, as specified.

119,108.—HARVESTER-CUTTER GRINDER.—Joseph P. Barker, Vienna, Ohio.

Claim.—The springs K, guards or blocks F, and roller G, as arranged, in combination with the head D, frame C, and bar A, substantially in the manner as described, and for the purpose set forth.

119,109.—WASH-BOILER.—Joseph W. Bates and Mary A. Bates, St. Paul, Minn.

Claim.—The within-described wash-boiler, consisting of the copper and tin sections A B joined together, as shown, tubes D D, faucet E, and the removable rim G perforated and provided with the cords I I, and the funnel H, all constructed to operate substantially as described.

119,110.—GATE.—Julius S. Benedict, Bedford, Ohio.

Claim.—The construction and arrangement of the section A, provided with the extension B, eye C, and incline plane *a*, in combination with section D having an incline plane corresponding with the plane *a*, guides F G, arms J, roller I, and pintle E, operating conjointly, as and for the purpose substantially set forth.

119,111.—PHOTOGRAPHER'S CURTAIN.—Lyman G. Bigelow, Grand Rapids, Mich.

Claim.—The preparation of cheap cloth in such manner that it may, both as to its luster and folds, resemble silk or other rich fabrics, to be used in place of them, and answer all the purposes for which curtains are required in photography, substantially as described in the foregoing specification.

119,112. — HARNESS-SADDLE. — Valentine Borst, New York, N. Y.

Claim.—The skeleton-frame B, depressions C, groove M, removable braces J J, lugs K K, bolts L, and independent wooden strips A, all constructed and arranged as herein shown and described.

119,113. — DOVETAILING-MACHINE. — William G. Branch, James A. Hazeltine, Walter Branch, and Charles F. Branch, Pomeroy, Ohio.

Claim.—1. The arrangement of the frame-work D, slides E E, brace-work F, rod *b*, spring *d*, and treadle N, substantially as shown and described, and for the purposes herein set forth.

2. In combination with the frame D provided with slides E E and operated by means of the treadle N, rod *b*, and spring *d*, the corner boxes C C for guiding the slides E E, when said corner boxes are arranged substantially as shown and described, so that they may be adjusted to compensate for wear, as herein set forth.

3. The table J provided with stop K, in combination with the adjustable stops G G, frame M, sliding-nut *f*, screw *e*, adjustable gauge I, and set-screw O, all constructed and arranged substantially as and for the purposes herein set forth.

119,114.—LIQUID-MEASURING CAN.—Christopher Martin Bridges, Leon, Iowa.

Claim.—In combination with driving-pulley G, the notched disk J, pawl K, disk L, nut M, and spring N, arranged to operate in the manner specified.

119,115. — MAGAZINE FIRE-ARM.—Andrew Burgess, New York, N. Y.

Claim.—1. The combination and arrangement of the hammer D, tumbler E, link I, and breech-block C, substantially as and for the purposes described.

2. The pusher T, breech-block C, spring *s*, trig-

ger J, and lever v, arranged and operating as described.

3. The pusher T, arranged to operate the spring S and thereby release the cartridge from the magazine, as described.

4. The breech-block C and bent lever v, arranged to operate as specified, for the purpose of moving the cartridge laterally.

5. The combination of trigger J' and pusher T u, arranged to operate as specified.

119,116. — CONSTRUCTION OF BRACKETS, SHELVES, &c.—Naroy G. Burleigh, Boston, Mass., assignor to himself, Charles A. Jackson, and William H. Eaton, same place.

Claim.—The arrangement of the screws B C in the edge of a shelf relatively to corresponding slots A A in the side brackets, by which the shelf is to be received and supported, in the manner and for the purpose specified.

119,117.—COUPLING-HOOK FOR COAL-CARS. Frank Bush, Boonton, N. J.

Claim.—1. The inner hook c^2, formed upon the shank of the coupling-hook C in such a manner that its point may enter a hole in the plate D, substantially as herein shown and described, and for the purpose set forth.

2. The ring E, in combination with the links F and the hooks c^1 c^2 of the coupling-hook C, substantially as herein shown and described, and for the purpose set forth.

119,118. — WAGON-SEAT STANDARD.—William Campbell, Belleville, Mich.

Claim.—1. The construction and arrangement of the dovetail-channeled plate E, yoke E^1, dog G, and ratchet-faced standard F, as and for the purpose set forth.

2. The plate E cast with the yoke E^1, arms E^2, terminating in hooks E^3, and the lower hooked arms E^4, in combination with the strips B C, plates D, dog G, and ratchet-faced standard F, as and for the purpose set forth.

119,119.—WATER-ELEVATOR.—James Curts, Ottumwa, Iowa.

Claim.—1. The combination of the spout D, incline G, sides E, inclined slats H, tripping-bar I, and one or more pulleys, J, all constructed and arranged within a single frame, substantially as and for the purposes herein set forth.

2. In a water-elevator, the arrangement upon one shaft of the windlass K, smooth wheel L, and ratchet-wheel M, in combination with the hinged pawl O, brake P, and bar R, all constructed and arranged substantially as and for the purposes herein set forth.

119,120. — HORSE HAY-FORK. — Jacob H. Carothers, Pine Grove Mills, Pa.

Claim.—The improved horse hay-fork herein described, consisting of the S-shaped claws or prongs A a' B, slotted link C, roller C', ratchet-bar D, and trip-lever F, all constructed and arranged as specified.

119,121. — TUBE-EXPANDER. — Charles H. Clark, Laramie, Wyoming Ter.

Claim.—1. The combination of tapering screw A, rolls B, and frame C, constructed and operating as and for the purpose specified.

2. In combination with rolls B having journals b^1 b^1, screw A, and frame C, the spring-bands D, arranged as and for the purpose specified.

3. In combination with tapering screw A, frame C, and rolls B, the concave rolls G, operated as and for the purpose specified.

119,122.—CAR-DUMPING APPARATUS.—Ezra Cockill, Llewellyn, Pa.

Claim.—1. The cradle J, pivoted to a scaffold having inclined ways B, and arranged to automatically raise and tilt the car, as specified.

2. The blocks I, in combination with the cradle J and car E, substantially as specified.

3. The pendent gate L, bar m, latches n, pins o, and lugs A, arranged and operating in connection with the car E, substantially as set forth.

119,123.—MACHINE FOR DOUBLE SEAMING TINWARE.—McDuff Cohen and Robert M. Edmonds, Charleston, S. C.

Claim.—The double-grooved disk D, the double-beveled disk E, and the horizontal disk B, constructed and arranged to operate together without change or substitution, in the manner described.

119,124. — RAILWAY-SWITCH STAND AND LOCK.—Alonzo W. Cram, St. Louis, Mo.

Claim.—1. The single flanged and notched guide-bar C D d, substantially as and for the purpose set forth.

2. In combination with the guide-bar C D d, the inclined raised portions c, for the purpose described.

3. The drop-bolt, consisting essentially of the case H, bolt I, tumblers J and M, spring K, and strap F f f', substantially as set forth.

119,125.—WASHING-MACHINE. — Nathaniel Crockett, Portland, Me.

Claim.—The within described washing-machine, consisting of the box A with interior concave bottom B, standards C, shaft D, arms E, rubbers G, hinged perforated boards H, springs a, pitmen I, and crank-shaft J, all constructed and arranged to operate substantially as and for the purposes herein set forth.

119,126.—WINDLASS. — William P. Davis, Honeoye Falls, N. Y.

Claim.—The crank-arm F, provided with the dog e and brake-ring G, in combination with the ratchet-wheel E and fulcrum-arm e, arranged and operating conjointly with the cap H and segmental lugs i i, substantially as described, for the purpose specified.

119,127.—LEADER-PIPE COUPLING. — John Demarest, Mott Haven, N. Y., assignor to himself and Jordan L. Mott, same place.

Claim.—The improved leader-pipe coupling, consisting of the two parts A B, constructed, arranged, and attached together substantially as specified.

119,128.—BED AND TABLE-FAN.—William H. Downs, Jeffersonville, Ind.

Claim.—The wheel D, provided with a circumferential zigzag flange, b, in combination with one or more sets of rollers, d, arms e, shafts h, and adjustable fans E, all constructed and arranged substantially as shown and described, and operated by a cog-gearing, B, run either by a spring or weight, as herein set forth.

119,129.—RAILWAY-CAR SPRING.—George Elliot, St. Louis, Mo.

Claim.—The combination and arrangement of the case or box A, cap or cover C, and follower E with the diamond-formed leaves F G H, &c., when the said leaves have corresponding teats f and dimples e, all substantially as described.

119,130. — HARVESTER-RAKE. — Richard Emerson, Sycamore, Ill.

Claim.—The guide-frame, rake, and rake-truck or carriage, substantially as described, in combination with the endless chain, grain-platform, incline, and grain-trough or receptacle, as shown and set forth.

119,131.—BOOT AND SHOE-TREE.—Thomas R. Evans, Philadelphia, Pa.

Claim.—The combination, in a revolving shoe-tree, of the notched wheel G and a lever, H, having a projection adapted to notches in the wheel and hung adjacent to the wheel, as described, so that it can be brought against the latter or turned back and retained free from contact therewith, for the purpose set forth.

119,132. — SASH-HOLDER. — Alexander C. Faivre, Meadville, Pa.

Claim.—The combination of the bed-piece B, slotted as shown, eccentric A, posts E and F, spring C working in the recess in the rear of the bed-plate, and the pitman D, all constructed as described and shown, and for the purpose set forth.

119,133.—CARPENTER'S PLANE.—Henry N. Frederick, Hancock, N. Y.

Claim.—The toothed segment C pivoted to the plane A, and combined with the iron B, which has the toothed portion a, substantially as herein shown and described.

119,134. — MILLSTONE DRESS. — Manasseh Fries, Philadelphia, Pa., assignor of one-half his right to Kreider, Zindgraf & Co., same place.

Claim.—The millstone dress, consisting of the bunches or gangs of adjacent furrows a, with the intervening land or flouring surfaces b, when arranged with relation to each other, in the manner and for the purpose shown and described.

119,135.—APPARATUS FOR THE MANUFACTURE OF COAL-GAS. — William Gibson, Cambridge, assignor to the American Coal-Gaslight Improvement Company, Boston, Mass.

Claim.—1. An automatic dip-pipe seal and valve combined in the same chest, the gate or plug of the valve being arranged so as to close the direct passage only, without at any time closing the dip-pipe, for the purpose as fully set forth and described.

2. The construction and arrangement of the plug g, as described, with the upper side s curved sloping toward the dip-pipe k, in a manner and for the purpose set forth.

3. The soft-metal guides h h and n, in combination with a sliding plug, g, for the purpose as herein fully set forth and described.

119,136. — APPARATUS FOR EVAPORATING BRINE. — Samuel D. Gilson, Syracuse, N. Y.

Claim.—1. The deposit-chamber D within the tank of a closed-chamber, A, substantially as set forth.

2. The doors M, or equivalent port or entrance, for access to the deposit-chamber, as set forth.

3. The revolving cylinder B, knife E, and chamber D, combined and operating substantially as described.

4. The pipes K L, cylinder B, knife E, chamber D, and cover F, combined and operating substantially as described.

119,137.—ELECTRO-MAGNETIC SIGNAL FOR SWITCHES AND DRAW-BRIDGES.—Thomas S. Hall, West Meriden, Conn.

Claim.—1. The arrangement of a key, K, connected by a rod, b, to the switch-rails, and by wires 11, 12, 14, and 15 to the signal-house D and alarm-bell F, substantially in the manner herein shown and described.

2. The arrangement of a key, w, controlled by the lock-bolt H of a draw-bridge, and connected by wires 11, 12, 14, and 15 with a signal-house D and alarm-bell F, substantially as herein set forth.

119,138.—TRACTION-ENGINE. — Melvin A. Halsted, San Francisco, Cal.

Claim.—1. In a traction-engine the division of the floor on a segment line, substantially as and for the purpose described.

2. In combination with a fore carriage, constructed as stated in the first claim, the steering-gear.

3. The combination of the oscillating engines, two-crank shaft, pinions, and independent wheels, substantially as described.

4. The combination of the clutches L L, pinions K K, and independent driving-wheels, substantially as described and represented.

5. The combination of the divided floor, driving-shafts, oscillating-engines, steering-gear, disconnected driving-wheels, and clutch mechanism.

119,139.—SAWING-MACHINE.—Christian O. Hansen, Ferguson, Mo.

Claim.—The vibrating saw-frame D, driving-shaft A, notched plate H, and catch-lever I, combined and arranged together and with the table, all substantially as specified.

119,140.—COTTON-GIN ATTACHMENT.—Hiram P. Harrell, Roxobel, N. C.

Claim.—The cotton-gin attachment, formed of the rollers C and D, arranged for crushing cotton-seed, substantially as herein shown and described.

119,141.—GATE.—William Hathaway, Northbridge, Mass.

Claim.—The arrangement of the cap J, ear K, pintle L, cap M, catch N, and gate C, when constructed substantially as and for the purposes described.

119,142. — CORN-PLANTER. — Lysander L. Haworth, Decatur, Ill., assignor to himself, Mahlon Haworth, George D. Haworth, and James W. Haworth.

Claim.—The metallic stop B, constructed substantially as and for the purpose hereinbefore set forth.

119,143.—TILTING-CHAIR.—Samuel S. Hayward, Norwich, N. Y.

Claim.—1. The construction and relative arrangement of the hinge-bars G and H, spring K, the chair-seat A, and the supporting-stool, substantially as and for the purpose specified.

2. The adjustable hinge-bars G and H, constructed substantially as described, and provided with the nuts g'' and h'', respectively, and combined with the chair-seat and supporting-stool, substantially as and for the purpose shown.

119,144. — MEDICAL COMPOUND OR LINIMENT FOR RHEUMATISM, &c.—John W. Helms, Bainbridge, Ga.

Claim.—A liniment prepared of the ingredients in about the proportions herein set forth.

119,145. — BREECH-LOADING FIRE-ARM.—Alexander Henry, Edinburgh, North Britain.

Claim.—1. The general arrangement and combination of parts constituting the breech action, shown at Figs. 1 and 2, Sheets 1 and 2; at Figs 1 and 2, Sheet 3; and at Figs. 1, 2, and 3, Sheet 4 of the drawing, by which the several actions of raising or lowering the breech, extracting the spent cartridge-case, and of "cocking" the hammer or "striker," are effected by the actuating of one lever, part of which is situated on the outside of the lock-casing, substantially as hereinbefore described.

2. The actuating a vertically-sliding breech-piece by a lever contained within the lock-casing, and moved radially in a vertical plane by means of another lever centered on the axis of the tumbler-shaft and extending below the body of the fire-arm, as hereinbefore described and shown at Figs. 1 and 2, Sheet 1; at Fig. 2, Sheet 2; at Figs. 1 and 2, Sheet 3; and at Figs. 1, 2, and 3, Sheet 4; or by means of a lever situated at the side of the fire-

arm, as shown in dotted lines at K, Figs 1 and 2, Sheet 4 of the drawing, or any mere modification thereof.

3. The compound levers, constructed and arranged substantially as herein described, for indicating whether the hammer or striker is half or full-cocked, and serving as levers for half or full cocking or bolting the said hammer or striker, as hereinbefore described, or any mere modification thereof.

119,146.—MELON-SHAPED MOLD.—Charles Hodgetts, Brooklyn, N. Y., assignor to E. Ketcham & Co., New York city.

Claim.—The melon-shaped mold formed from one sheet of metal, substantially in the manner herein described.

119,147.—URINAL FOR RAILROAD CARS.—James L. Howard, Hartford, Conn.

Claim.—1. The combination of the flue E with the basin A and the tubes B and C, substantially as hereinbefore set forth.

2. The combination of the hood D, basin A, discharge-tube B, and ventilating-tube C, substantially as hereinbefore set forth.

3. The combination of the basin A, hood D, flue E, and the tubes B and C, substantially as hereinbefore set forth.

119,148.—PROCESS OF POLISHING COFFEE. George Whitney Hungerford, Chicago, Ill.

Claim.—The process herein described of polishing coffee by means of the revolving drum and gum arabic, applied as set forth.

119,149.—MACHINE FOR CLEANING COFFEE, GRAIN, &c.—George Whitney Hungerford, Chicago, Ill.

Claim.—1. The herein-described machine for cleaning coffee, &c., consisting of the bodies or cases B and D having the passages L and K and spouts I and J, and the fan C, all arranged to operate substantially as described.

3. The arrangement of the valve M, hinged deflector N, and the fan C with its adjustable deflecting-plates O O, all as herein described.

119,150.—LATERAL-MOTION CENTER-PIN FOR RAILWAY TRUCKS.—Robert B. Jewell, Dunkirk, N. Y.

Claim.—The improved lateral-motion center-pin herein shown and described, having a member composed of base B and cap C, separated by corrugated rollers D, and constructed with recess *z* with depressions *y* and corrugations *x* to receive the said rollers, or provided with an equivalent thereof, substantially as specified, for the purpose set forth.

119,151.—CLAMP FOR MAKING PICTURE-FRAMES.—Leonard A. Johnson, Candor, N. Y., assignor to himself and John O. Frost, same place.

Claim.—1. The pivoted plates or frames B B, provided with the movable self-adjusting corner pieces C, which clamp the parts of the picture-frame at the corners, substantially as and for the purpose herein shown and described.

2. The combination of the ropes D D, blocks E, and adjustable lever F with the corner pieces C and pivoted plates B, all arranged as specified.

3. The corner pieces C, provided with the bottoms *b* and projections *f*, substantially as and for the purpose specified.

119,152.—POTATO-DIGGER.—Franklin Jones, Terre Haute, Ill.

Claim.—The arrangement of crank-shaft B *b'*, fork D F, and potato-receptacles J J upon wheels C C, as and for the purpose specified.

119,153.—SPRING FOR MATTRESS, &c.—William B. Judson, Poughkeepsie, N. Y.

Claim.—The combination, with the springs A A, of the straps B and C C, metal plates D D, and rivets *a a*, all constructed and arranged substantially as and for the purposes herein set forth.

119,154.—INK FOR PRINTING.—Julius Kircher, New York, N. Y.

Claim.—A printing-ink composed of the ingredients in any desired proportions, and having for its basis common iron, as a new combination of matter, substantially as described and set forth.

119,155.—SCREW-PROPELLER.—Mathias Kolb, New York, N. Y.

Claim.—The combination, in the construction of screw-propellers, of the following three characteristic devices: First, that they are incased. Second, that they are but partly submerged. Third, that their thread or threads are produced to an extent each that is not smaller than one-third of a turn and not larger than the extent described in section 6 of my specification.

119,156.—METAL-PLANING MACHINE.—Martin Kremser, Indianapolis, Ind.

Claim.—In combination with the upright posts of a metal planer, the slides *h h*, screws *m m*, frame *b c d e*, screw *o*, and cross-head *a*, substantially as and for the purpose described.

119,157.—GRAPPLE.—Charles La Dow, South Galway, N. Y.

Claim.—1. The grapple herein described, having the swivel C constructed with the slotted end to receive the pivot *a*, substantially as described.

2. In a grappling device, the pin D having the slotted eye *d*, and pole E having the stud *d'*, in combination with the jaws A A' and swivel C, as and for the purpose specified.

119,158.—CURTAIN-FIXTURE.—Joshua D. Legg, Long Eddy, N. Y.

Claim.—The curtain D, attached to the roller A, by means of the long tapes or cords F and E, in the manner herein shown and described, whereby it may be doubled or folded upon itself so as to cover a part of the window, or extended to cover the whole thereof, as set forth.

119,159.—WINDMILL.—Isaac Lehmer, Lima, Ind.

Claim.—The combination of the slide-rods C, stationary rods E, pivoted blocks or studs F, sliding wheel G, and springs H, or equivalent, with each other, and with the fans or wings B and shaft A, substantially as herein shown and described, and for the purposes set forth.

119,160.—MACHINE FOR ROLLING METALS. Abraham Liemann, Munich, Germany.

Claim.—The helical rollers A B, constructed substantially as shown and described, for the purpose of drawing out and thinning metal plates.

119,161.—FIRE-ESCAPE LADDER.—Henry Luckenbach and George Luckenbach, Philadelphia, Pa., assignors to William F. Warburton, same place.

Claim.—1. In combination with the upper round and its projection *h* the chain-belt, suspended from the bar by an eye connected thereto at right angles, as shown and described.

2. The eyes connected to the lower round of the said ladder and adapted to receive the straps, as and for the purpose described.

3. The combination of the ladder, constructed as described, and the independent hooks *f f* connected by chains and swivel-joints to the upper end of the ladder, as specified.

119,162.—CHILD'S CARRIAGE.—Herman Lutz, New York, N. Y.

Claim.—1. A folding carriage, constructed substantially as herein described.

2. The combination of the handle E with the foot-rest, the back-rest, and the seat of the carriage, substantially in the manner set forth, so that the handle serves to retain the several sections of the carriage in the proper relation toward each other.

3. The sectional push-handle E, in combination with a folding carriage, substantially as described.

4. The combination of the straps *f* with the foot-rest, the back-rest, and the handle E, substantially as set forth.

5. The loops *k l* on the foot-rest and on the back-rest or head-rest, respectively, substantially as described.

119,163.—PLANING-MACHINE.—George H. Mansfield, Concord, N. H.

Claim.—The rack D and pinion C, in combination with the elastic bearings E, substantially as and for the purposes specified.

119,164.—TRANSMITTING POWER.—Obadiah Marland, Boston, Mass.

Claim.—An engine actuated by the pressure of atmospheric air working through the engine into a vacuum or partial vacuum, substantially as described.

119,165.—PROVISION AND MILK-SAFE.—Benjamin H. Martin, Ann Arbor, Mich., assignor to himself and Oliver M. Martin, same place.

Claim.—1. The construction and arrangement of the rotative-standard D, having the gains *a* cut in its faces, and the rack-bars F secured therein by the latch-plates *d*, as described.

2. In milk and provision-safes, the swinging table I, hinged to the door-jamb by the rod J, as and for the purpose set forth.

3. A milk-safe, A A' B C, constructed as herein described, when provided with the rotative standard D, cups E E', rack-bars F, and latch-plates *d*, as herein shown and specified.

119,166.—CARRIAGE-TOP.—Alexander McKenzie, Westminster, England.

Claim.—The combination of the head-joint A with the gearing and spring E, all arranged substantially as herein shown and described.

119,167.—COMPOSITION FOR COATING THE OUTSIDE OF BUILDINGS.—Jacob Müller, Newark, N. J.

Claim.—A compound for the outside coating of buildings, made as herein described.

119,168.—FUR-BOX.—Silas C. Nichols, Buffalo, N. Y., assignor of one-half his right to Charles N. Tyler, same place.

Claim.—A fur-box, composed of a removable tubular box, B, open at both ends, when used in connection with an outer box, A, in the manner and for the purpose set forth.

119,169.—CULINARY-STEAMER.—John S. Ogden, Johnstown, Pa.

Claim.—The culinary-steamer, consisting of the flanged channel-vessel A, the steam-cylinder B with perforated concave bottom, and the upper cylinder E with flaring perforated pan F, substantially as specified.

119,170.—HARVESTER-CUTTER.—William James Oxer, Williamsport, Ind.

Claim.—The combination of a leger-plate A with disk *a* and projections *a' a'*, and the guard B with recess *b* and openings *b' b'*, the section and guard being joined together by means of a single screw, *d*, all substantially as and for the purposes herein set forth.

119,171, antedated September 16, 1871.—LUBRICATOR FOR PICKER-SPINDLE IN LOOMS.—Thomas Parker, Shelby, N. C.

Claim.—The tubular screw E, enlarged at F, arranged in the top of picker C and above the spindle B, for the purpose of allowing a lubricating-wick, D, to be applied in the manner specified.

119,172.—HARVESTER.—Charles J. C. Petersen, Port Chester, N. Y.

Claim.—1. The main gear-wheel *k* in its relation to the driving-wheel *i* and piece *l*, and constructed and operated as herein recited.

2. The stationary shaft *w*, with the wheels and pinions and clutch thereon, arranged and operating as herein set forth.

3. The side frame *x* with the coupling-bar *f'* attached thereto, and the lever *e'*, having the top *e''*, as arranged, for the purpose of setting the sickle-bar at different angles against the grass, and for holding the cutting apparatus firmly in its place, as described.

4. The track-clearer *f''*, in combination with the adjustable divider *i''* and finger-bar, the parts being constructed and connected as described.

5. The arrangement of the oil-receptacle in its relation to the finger-bar and the pieces under the cutter-bar, as described.

119,173.—DRILL-CHUCK.—Pompeius Philippi, Beardstown, Ill.

Claim.—The chuck B having lug G thereon, and the cap D having a corresponding but larger recess therein, adapted to allow a slight and limited lateral play to said chuck, as and for the purpose described.

119,174.—FAN-MILL.—Alexander Plymate, administrator of Franklin H. Plymate, deceased, Garden City, Minn.

Claim.—The feed-board *h'*, sieves L, and two-part shoe H I, constructed and arranged in a fanning-mill, as and for the purpose specified.

119,175.—GALVANIC BATTERY.—Emile Prevost, New York, N. Y.

Claim.—1. In a galvanic battery, the combination of a carbon-cup with a conical zinc element, substantially as set forth.

2. The collar *a*, at or near the top of the carbon-cup C and opposite the top edge of the conical zinc element B, substantially as described.

119,176.—ELECTRO-MAGNET.—Emile Prevost, New York, N. Y.

Claim.—The process, substantially as above described, for treating and preparing bars for electro-magnets.

119,177.—MAGNETIC SCISSORS.—Emile Prevost and Adrien Rablat, New York, N. Y.

Claim.—As a new article of manufacture, the magnetized scissors herein described.

119,178.—RAILWAY CATTLE-GATE.—William A. Pugh and James F. Bigger, Rushville, Ind.

Claim.—The combination and arrangement of the platforms A operating by sliding contact, guards B, side pieces C, and oblique stops D, constituting an automatically rising-and-falling cattle-guard for railroads and other purposes, and operating substantially as described.

119,179.—MEDICAL COMPOUND OR LINIMENT.—Thomas B. Randell, New York, N. Y.

Claim.—The composition made of the ingredients, substantially as and for the purposes herein specified.

119,180.—Shutter-Fastener.—Edward F. Reed and John C. Grundy, Chelsea, Mass.

Claim.—The operating arm *m* upon the plate *e* of the sliding rod *d*, head *b*, and coiled spring *g*, in combination with the case *f* formed with the open seats or slots, as at *i*, all constructed and arranged as and for the purpose set forth.

119,181. — Corn-Harvester. — Albert F. Roberts, Lexington, Ky.

Claim.—1. The compound lever R, as described and shown, consisting of the bar *r'* and the slides *r r* provided with the pins *s s*, in combination with the springs *o o* and wheels *n n*, for the purposes set forth.

2. The wheels *n n* upon the shafts of the revolving tables, constructed as described, with the notches *t t* in their collars, in combination with the pins *u u* upon the frame I and springs *o o*, for the uses and purposes shown and described.

119,182.—Puddling and other Furnaces. Anthony Pollok, Washington, D. C., administrator of James Russell, deceased.

Claim.—The combination, with the said furnaces, of one or more vertical screens or protecting plates, cooled by means of spray or jets of water, substantially in the manner described and illustrated.

119,183.—Thill-Coupling. — Truman H. Ryder, Mentor, Ohio.

Claim.—The combination of plate B having hook C, spring G having finger-hold H, and inclined-head or key F with bolt D in ears on clip E, in the manner and for the purpose described.

119,184.—Attachment for Piano-Pedals. Sigmund Schoenbrun, New York, N. Y.

Claim.—The bar A formed with the slot C, and having one end working in guides F and the other resting on the treadle B, as described, in combination with the sliding foot-piece D and set-screw E, substantially as and for the purpose set forth.

119,185. — Feed-Water Apparatus for Steam-Boilers. — William C. Selden, Brooklyn, N. Y.

Claim.—The method of purifying the water and rendering it fit for reuse previous to its return to the boiler, substantially as herein set forth.

119,186.—Treating Tarred Rope, Cordage, and the like, for the Manufacture of Paper-Stock, &c.—Charles F. A. Simonin, Philadelphia, Pa., assignor to William Adamson, same place.

Claim.—Subjecting tarred rope, cordage, &c., to the action of hydrocarbon vapors, substantially as and for the purpose set forth.

119,187.—Process for Treating Textile Fabrics with Hydrocarbons.—Charles F. A. Simonin, Philadelphia, Pa., assignor to William Adamson, same place.

Claim.—1. The process, substantially as described, of subjecting textile fabrics to hydrocarbon vapors, for the purpose specified.

2. The combination of a vessel to which hydrocarbon vapors are admitted, or in which they are generated, with a system of rollers or their equivalents, by which fabrics can be caused to traverse through the vessel, substantially as described.

3. The combination of a vessel to which hydrocarbon vapors are admitted, or in which they are generated, with slats or their equivalents for holding the fabrics, as herein set forth.

119,188.—Process and Apparatus for Extracting Fatty Substances.—Charles F. A. Simonin, Philadelphia, Pa., assignor to William Adamson, same place.

Claim.—1. The within-described process of extracting fatty and oily matters by subjecting the materials to be treated to a downward current of liquid hydrocarbon combined with an upward current of hydrocarbon vapor.

2. The combination, with an extracting-still, of a cold-water reservoir, H, by which a portion of the vapor is condensed and directed onto the material.

3. A vaporizer and extractor comprised in one vessel, in combination with a condensing-tank, L, and a coil or worm communicating with the vessel, substantially as set forth.

4. The vapor-pipe M and branch pipe N, both pipes communicating with the vessel and the worm, as and for the purpose set forth.

5. The combination of the vaporising and extracting vessel, the condenser K and second condenser R, and communicating pipes.

119,189. — Filtering-Cistern. — John Q. Simonson, Graniteville, N. Y.

Claim.—The within-described stationary filter B, having a passage, *b'*, for the water through the partition *b*, elevated above the base, as shown, so as to leave pockets below the level of the communicating passage or passages for the collection of sediment, and having the filtering material in a layer or layers, M, in the middle height, arranged and operating as herein specified.

119,190. — Boiler Fire Extinguisher.—Thomas R. Sinclaire, New York, N. Y.

Claim.—The apparatus, arranged substantially as herein described, whereby steam in a boiler causes water to flow from the boiler to the furnace whenever the pressure in the boiler is sufficient to raise the safety water-valve that regulates such flow.

119,191.—Clothes-Drier.—Charles Francis Smith, Aurora, and Augustus Haerther, Chicago, Ill.

Claim.—A clothes-rack composed of two brackets, A B C D E H, when combined with removable rods J J J, &c., and arranged to fold up and hold the rods in place, as and for the purpose set forth.

119,192. — Gang-Plow. — Hoell B. Smith, Tremont, Ill.

Claim.—1. In three-horse plows, the beams M M, combined with draft-bar and block O P having long upper double-tree clevis o^1 and short lower middle-horse single-tree clevis o^2, for the purpose of enabling the middle horse to walk in the furrow, one side horse on the land, and the other on the plowed ground.

2. The vibratory guard V pivoted to the axle and applied to the beams, as specified.

119,193.—Churn.—Thomas C. Smith and Norton L. Francis, Oquawka, Ill.

Claim.—The cones C C, made with an escape at their apexes as well as with passages *c c* in their sides, applied to a vertical revolving shaft which is arranged in a rectangular box, all in the manner described and shown.

119,194.—Water-Wheel Case.—William H. Snyder, Phelps, N. Y.

Claim.—A water-wheel embracing the exterior casing, provided at its lower part with a series of angular flanges, D, independently connected and removable at will, and the interior casing provided with the chutes B, between which the flanges are arranged to control the flow of the water to the wheel, substantially as set forth.

119,195.—Press for Pressing Yarn, &c.—Thomas Stibbs, Wooster, Ohio.

Claim.—1. The open body of the within-described press, consisting of the platform *a*, the uprights or ribs *b b' c c'*, the hold-fasts or hooks *i i*, and the horizontal arms or ways *d d*, arranged substantially as and for the purpose set forth.

2. The combination of the jointly-acting carriage *e* provided with lugs *h*, the screw *f*, and the platen *g* with the uprights or ribs *b b' c c'*, horizontal arms or ways *d d*, and the hold-fasts or hooks *i i*, of the body portion of the press, substantially as and for the purpose set forth.

119,196.—Railway-Car Coupling.—James Temple, Bellefonte, assignor to L. C. Kinyon, Williamsport, Pa.

Claim.—The combination and arrangement of the open face-plate A, guiding-jaws *a a*, yoke C, drop-plate D, and bent raising-plate G with a link or coupling-bolt, in the manner and for the purpose specified.

119,197.—Necktie-Holder.—Hiram Howard Thayer, Philadelphia, Pa.

Claim.—1. The wings *b* and *b'*, composed of bent wire uniting in a loop, *d*, below, and connected to a plate, A, or to legs *x* and *x'*, all substantially as set forth.

2. A holder, in which the loop overlaps the button at one side, and in which a plate or its equivalent, attached to the said loop, also overlaps the button at the other side, substantially as set forth.

119,198, antedated September 2, 1871.—Fastener for Meeting-Rails of Sashes.—Nathan Thompson, Brooklyn, N. Y.

Claim.—1. The combination of the screw A, restricted from travel in direction of its length, the keeper B, having a locking shoulder portion, *b*, and the screw-tongue C, substantially as specified.

2. The combination of the stops *d d'* with the locking-tongue C, the screw A, and the keeper B, essentially as described.

119,199, antedated September 2, 1871.—Casing for Window-Pulleys.—Nathan Thompson, Brooklyn, N. Y.

Claim.—A pulley-shell or casing, constructed from a blank of sheet metal, cut, bent, and shaped to form the supporting ends, cheeks, and guard, substantially as specified.

119,200.—Weather-Board Gauge.—George W. Tinsley, Blakesburg, Iowa.

Claim.—In a weather-board holder the braces D hinged to the handle C, in combination with the pointed plate C' and the slotted blade A having the adjustable stud B, as and for the purpose specified.

119,201. — Loom-Shuttle. — Frederick O. Tucker, Stonington, Conn.

Claim.—The guard *a*, having a prong or arm, *d*, in combination with the catch *g*, both constructed and arranged within a shuttle and at one side of same for operation of the guard, substantially as and for the purpose described.

119,202.—Alarm-Lock for Tills.—William H. Tucker, Indianapolis, Ind.

Claim.—1. The straight tumbler or tumblers *e*, passing at will through either of the two orifices in plate *f'*, and resting upon either arm h^1 or h^2 of the lever or levers h, and operating to raise the catches *b* from the plate C, or to lower them past said plate so as to lock or unlock the till.

2. The lever or levers h combined with the screw or screws *y*, the bar *w*, rod *y*, and arm *a'*, for the purpose of checking or releasing the mechanism of the second alarm.

119,203.—Floor-Clamp.—Thomas S. Urie, Hubbardston, assignor to himself and George H. Cagwin, Carson City, Mich.

Claim.—The floor-clamp, consisting of the jointed frame A, jaw-levers B C, and operating levers D and E, all combined substantially as herein shown and described.

119,204. — Machine for Forming Wire Bails.—John P. Van Bramer, Galesburg, Ill., assignor to himself and Ellis Thompson, same place.

Claim.—1. The lever D, operating with relation to the standard L and cutters B E, substantially as and for the purposes set forth.

2. The combination and arrangement of lever D, cutters B E, plate C, sliding gange H, standard L, and post P, constructed and operating substantially as and for the purpose specified.

119,205. — Wheel-Cultivator.—John A. Viars, Sherman, Tex.

Claim.—The double frame A, composed of the frames D D, the interior frames H H raised and lowered on the cranks K, the caster-wheels C C, and main wheels B B, all constructed, arranged, and combined substantially as and for the purposes described.

119,206. — Cultivator. — James Waddell, Liberty, Ind.

Claim.—The within-described adjustable cultivator-frame, to which the plow-shanks are attached, consisting of the four beams E E E' E', the two slotted cross-beams A^1 and A secured by the headed bolts *b b'*, the connecting-bars A^2 A^3, and the oblique slotted braces G G, all constructed to operate substantially as and for the purposes herein set forth.

119,207.—Shoe.—Edward Walcott, Natick, Mass.

Claim.—A boot or shoe the upper of which is composed of a main piece and a side piece which form the top of the quarter on one side of the shoe, and is extended so as to cover and form a lapel for the slit in the front of the same, substantially as herein shown and described.

119,208.—Kitchen-Table.—Bernhard Welteck, New York, N. Y.

Claim.—1. The drawer F of the table A, carrying on its front the supporting legs E E, and having arranged within its interior the dough-trough G, pie-board H, and chopping-block I, the several parts constructed and arranged for operation, as herein shown and described.

2. In combination with a table having the drawer F, carrying the dough-trough G and pie-board H, the ironing-board L, having the hinged leg and dowels, arranged as and for the purpose set forth.

119,209. — Ditching-Machine. — David Whitesell, Mattoon, Ill.

Claim.—1. The combination of disks C to cut the sides of the ditch, the disk L to centrally incise the sod, and the horizontal bottom edges of mold-boards K K to cut the bottom, all constructed, arranged, and operating as described.

2. The movable axle-frame A D D, the lever G, links F F H, and the frame I, combined, as described, with plow-beam E, so as to raise and lower the point of the plow in the manner described.

119,210. — Diving Apparatus. — Charles Wilson, Bridgeport, Conn., assignor of one-half his right to Charles F. Mudge, same place.

Claim.—1. The face-piece A B, consisting of two

separate compartments—one for the nose and one for the mouth—in combination with two or more pipes for conveying air or sound, or both, to or from above the surface of the water in which the diver may be using the apparatus, substantially as herein specified.

2. The combination of the receptacle F' with the nose-piece A, substantially as and for the purpose herein specified.

3. The combination, with the head-armor G and pipe *f*, of the air-bag or jacket J, substantially as herein specified.

4. The combination, with the air-bag or jacket J, of an air-pump, N, substantially as and for the purposes herein specified.

5. The combination, with the water-proof clothing M M', of the suit L, ventilated in the manner substantially as herein specified.

6. The combination, with the face-piece A B and flexible pipes, of the reel mechanism P, substantially as and for the purpose herein specified.

7. The shaft *l* of the reel P, provided with internal longitudinal bores which admit of the carrying through it of the tubes C' D' E', so as to bring their ends in an accessible position, as and for the purposes herein specified.

119,211.—FLOOD-FENCE.—Joseph Leicester Wines, Hebardsville, Ohio.

Claim.—The swinging water-board E secured to the hinged upright F, carrying a projecting arm, G, in combination with a right-angled lever H, and a connecting-rod or chain, K, and operating to disengage from its staple a hook, B', coupling any two adjacent panels of a portable fence, all substantially as and for the purposes herein set forth.

119,212.—POST-OFFICE LETTER-BOX.—Silas N. Brooks, Shelburne Falls, Mass., administrator of Linus Yale, Jr., deceased.

Claim.—1. The combination of several box-frames with each other and with pigeon-holes, as described, by means of rivets passing through the frames and the wood-work entering between the said frames, the combination being substantially as described.

2. The above, in combination with the flanges making part of the frames and protecting and inclosing the exterior of the wood-work, substantially as set forth.

119,213.—BALE-HOOK.—Richard T. Yardley, Baltimore, Md.

Claim.—The construction of toothed hooks having the form substantially the same as that described in this specification.

119,214.—COMPOUND FOR PRESERVING TOMATOES.—Daniel C. Yates, Big Lick, Va.

Claim.—The within-described preserving compound, consisting of rain-water, vinegar, and alum, substantially as herein set forth.

REISSUES.

4,556.—GUIDE FOR SEWING-MACHINES.—Jacob S. Alter, Leavenworth, Kan.—Patent No. 102,469, dated May 3, 1870.

Claim.—1. The combination of coiled spring with nut C, fixed screw *b*, and washer *c* with the plate B, as described, to regulate the pressure on the material, as set forth.

2. The adjustable gauge-plate A, having notch and guiding-flange for the presser-foot and guide-shoulders for the cloth-holder, arranged with a rigid slotted ribbed plate B, held by spring-pressure, so that it can adapt itself to the thickness of cloth, and also slide out and in, a fixed pin rising from the adjustable gauge-plate, as and for the purpose specified.

4,557.—TREATING LINSEED AND OTHER OILS FOR PAINT, &c.—David E. Breinig, New York, N. Y., assignor, by mesne assignments, to Anna S. Breinig, Charles Taylor, and John H. Welles.—Patent No. 61,653, dated January 29, 1867.

Claim.—1. A compound obtained by treating linseed-oil or its chemical equivalent with an alkali, and exposing the product to the action of a solution of sulphate of zinc, or its chemical equivalent, substantially as described.

2. A compound obtained by treating the metalline gum hereinbefore described with linseed-oil or its chemical equivalent, substantially in the manner set forth.

3. A compound obtained by treating the above-named mixture of linseed-oil and metalline gum with spirits of turpentine or benzine, substantially in the manner described.

4,558.—PREPARING COLORING MATTER FROM ANTHRACENE.—Julius Brönner and Hermann Gutzkow, Frankfort-on-the-Main, Prussia.—Patent No. 97,597, dated December 7, 1869.

Claim.—The preparation of coloring matter by nitrating the product which we obtain from anthracene by oxidation (oxanthracene) and the further treatment with alkalies, substantially as described.

4,559.—CORN-PLANTER.—William Morrison, Carlisle, Pa.—Patent No. 25,435, dated September 13, 1859.

Claim.—A corn-planter constructed substantially as shown and specified, viz., with right-and-left mold-boards *m m'*, adjustable cutters or coverers *d d'*, and hopper B, when these several parts are constructed and arranged for joint operation in the manner and for the purpose herein set forth.

4,560.—Canceled.

4,561.—Canceled.

4,562.—MACHINE FOR ROLLING LEATHER.—Joel Whitney, Winchester, Mass., assignor of part interest to N. J. Simonds.—Patent No. 37,991, dated March 24, 1863: reissue No. 4,122, dated September 13, 1870.

Claim.—1. The arrangement of levers *f f* transversely to the treadle J and parallel with the axes of the rolls B and B', substantially as described and shown.

2. The combination and arrangement of treadle J, rolls B B', and levers *f f*, or equivalent intermediate devices between the treadle and rolls, whereby the motion of the treadle serves to move one roll in a direct line toward the other, substantially as described and shown.

3. In combination with the treadle devices by which one roll is actuated toward or away from the other roll, an adjusting device, as shown, or its equivalent, by which one roll may be adjusted with respect to the other roll independently of the treadle mechanism, and without changing the positions of the treadle and levers relatively to each other, substantially as described and shown.

4,563.—MACHINE FOR MAKING CEMENT PIPES.—Edward L. Baker, Boston, Mass., Henry Knight, Brooklyn, N. Y., and Edwin Dayton, Meriden, Conn., assignees, by mesne assignments, of William Goodwin.—Patent No. 49,828, dated September 5, 1865; antedated August 28, 1865.

Claim.—1. The rotary shoe or shoes F, combined with a core and flask, substantially as described.

2. The combination of the flange *f* with a revolving head, substantially as and for the purpose specified.

3. The arrangement of the crane M in combination with one or more flasks, constructed to operate substantially as and for the purpose specified.

4. The combination of the crane M, table B, and two or more flasks, substantially as and for the purpose specified.

4,564.—SPRING-BED BOTTOM.—Henri E. Bissel, Hartford, Conn.—Patent No. 94,701, dated September 14, 1869.

Claim.—1. A canvas stretcher for a bed made in sections laced together, substantially as described and for the purpose set forth.

2. The canvas stretcher for a bed made in sections *a*, laced together and attached to the head-piece *b* by means of springs and bars, substantially as and for the purposes set forth.

4,565.—FURNACE FOR SOLDERING.—Lewis Cutting, San Francisco, Cal., assignor to Francis Cutting, same place.—Patent No. 71,141, dated November 19, 1867.

Claim.—1. The arrangement, with the top F, formed of gypsum, fire-brick, or other slow conductor of heat, of heaters G of good conducting material, whose lower surfaces communicate with and are exposed to the heated gases of the fire-chamber or hot-flue, substantially as described.

2. The organization into a soldering furnace of the following elements: A top of non-conducting mineral matter whose radiating surface is not in good conducting communication with its absorbing surface, one or more heaters whose upper or delivering surface is relatively small to its lower or absorbing surface, a fire-chamber or hot-flue formed immediately below said non-conducting top and conducting heaters, along which the gases of combustion play in contact with said heaters, and a non-conducting center to the heaters, all arranged and combined substantially as described.

3. The heaters G, extending a considerable mass of conducting material into the fire-chamber or hot-flue of a soldering-furnace, substantially as described.

4. The heaters G, having their upper central surface packed with gypsum, fire-brick, or other slow conductor, substantially as described.

5. The said heaters G when provided with plates H, substantially as described.

4,566.—MACHINE FOR THRASHING, HULLING, AND CLEANING CLOVER-SEED.—Martin H. Mansfield, Ashland, Ohio.—Patent No. 56,583, dated July 24, 1866.

Claim.—1. In a thrashing or clover-hulling and thrashing-machine which employs a fan, G, for blowing away chaff, dust, and other foreign substances, the dust-chamber b^1, situated within the frame of the machine, aperture *b*, fan b^2, and a discharge-passage at a^1 leading into a space above the straw-carrier or shaker, substantially as described.

2. The shoe E, constructed with inclined planes *e e'*, and a trap, *g*, in rear of the passage *f*, substantially as described.

3. The vibrating shoe E, (irrespective of the trap *g*,) constructed with stepped inclined planes *e e'*, and arranged as shown, in combination with the vibrating intermediate screen D, straw-carrier C, and fan G, substantially as described.

4. The shoe E, irrespective of the trap *g*, having one or more stepped inclines, as specified, and the intermediate screen D, disconnected and receiving motion independent of each other, and arranged in relation to the fan G, substantially as described.

5. The tailing-box F, conveyer F', and endless elevating-apron *f'*, in combination with screen D, shoe E, fan G, a straw-carrier, C, and a thrashing-cylinder, B, arranged substantially as described.

6. The specified construction of the teeth *h h'*, and their combination with each other and the cylinder and concave, for the purpose set forth.

DESIGNS.

5,267.—SPOON-HANDLE.—Bernhard D. Beiderhase, New York, N. Y.

Claim.—The design for a spoon handle, as shown.

5,268.—BAND-SAW FRAME.—William H. Doane, Cincinnati, Ohio, assignor to J. A. Fay & Co., same place.

Claim.—The design for a band-saw frame, as shown.

5,269.—FEET FOR GLASSWARE.—John Oesterling, Wheeling, W. Va.

Claim.—The design for pressed-glass feet, as shown.

5,270.—NET FABRIC.—John Slack, Brooklyn, N. Y., assignor to Abraham G. Jennings, New York city.

Claim.—The design for a reticular fabric, as shown.

5,271.—OIL-CABINET.—Moses H. Wiley, Boston, Mass., assignor to himself, John H. B. Lang, and Thomas Miller, same place.

Claim.—The design for an oil-cabinet, consisting of the body A formed with the inclined front, the inclined cover C, and the horizontal partition B, as herein set forth and shown.

5,272.—CARPET-PATTERN.—Joseph Miller Christie, Kidderminster, England, assignor to Henry Jecks Dixon & Sons.

Claim.—The design for carpets, as shown.

5,273.—PICKLE-JAR OR CASTER.—John Hill, West Meriden, Conn., assignor to Meriden Silver-Plate Company, same place.

Claim.—The design for pickle-jars, as described and shown, with or without a cover.

5,274.—PLATE OF SHUTTER AND TASSEL-HOOKS.—Elbridge J. Steele, Wolcottville, Conn., assignor to Turner, Seymour & Judds, same place.

Claim.—The design of the shape or configuration and surface ornamentation of the plate, substantially as described and represented.

5,275.—CASTER-RING.—Elbridge J. Steele, Wolcottville, Conn., assignor to Turner, Seymour & Judds, same place.

Claim.—The design of the caster-ring, as described and represented.

TRADE-MARKS.

442.—SEEDS.—Briggs & Bro., Rochester, N. Y.

443.—SEEDS.—Briggs & Bro., Rochester, N. Y.

444.—CORDIAL GIN.—Joseph Forster, New Orleans, La.

445.—HAIR-RESTORER.—Edwin A. Warren, Worcester, Mass.

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PATENTS.

119,215.—ROCK-DRILLING MACHINE.—Cleophas Bernard, Florida, assignor of fifteen one-hundredths of his right to Timothy Lague, Holyoke, Mass.

Claim.—1. The carriage, composed of frame 1, bed 4, and table 5, arranged and combined substantially as specified.

2. The sliding frame 13, provided with arms 14 14 and disk 15, substantially as specified.

3. The mechanism for revolving the drill intermittently, consisting of pinion 16, shaft 18, gears 19 and 20, and toothed disk 21, arranged and combined substantially as specified.

4. The detachable head 39, provided with radial shank 40, as specified.

5. The mechanism for oscillating the hammer, consisting of racks 26 26′, pinions 27 27′, connecting-rods 29 and 30, and crank-shaft 31, arranged and combined substantially as specified.

6. The mechanism for revolving or feeding the hammer against the drill, consisting of shaft 35, gears 36 and 37, and shaft 18′, in combination with beam 24 and shaft 18, substantially as specified.

7. The fan, consisting of drum 43, fan proper 44, air-chamber 46, pipe 47, valve 48, and nozzle 49, in combination with drill 17, hammer-shaft 35, and mechanism for carrying and revolving the drill and for feeding and oscillating the hammer, all arranged, combined, and operating substantially as above specified.

119,216.—STEAM-WAGON AND PLOW.—William C. Bibb, Madison, Ga.

Claim.—1. In a steam-wagon for plowing and other purposes, the combination of cylinders F, piston-rods *a*, axle-trees D′ D, pinions B^4 and B^3, shaft C pinions B^2 and B^1, loose wheel A, pinion a^2, curved rack a^1, and carrying-wheels *w*, for the purposes set forth.

2. The horse-feet devices J J, in combination with the carrying-wheels *w*, for the purpose described.

3. The seeding and harrowing devices, consisting of cylinder *s*, apron *y*, lever *l*, slide *m*, ring *r*, and harrow-teeth, for the purpose described.

119,217. — SHUTTLE-THREADING DEVICE FOR SEWING-MACHINES.—John L. Borsch, Philadelphia, Pa.

Claim.—The sewing-machine shuttle-threader hereinbefore described, it being made in form and of style substantially as described, and for the purposes set forth.

119,218. — BREECH-LOADING FIRE-ARM.—Andrew Burgess, New York, N. Y.

Claim.—1. The toggle-joint in combination with a pivoted breech-block, B, substantially as specified.

2. The combination of the trigger J, hook I, tumbler E of the hammer D, breech-block B, and toggle H, substantially as specified.

3. The trigger J connected with the toggle H, and arranged so that it will operate the dog G simultaneously with the closing of the breech-block B, and thereby release the hammer and cause the discharge of the piece, substantially as specified.

4. The retractor-rod O, bar P bent at its rear end, and spring R, in combination with the hammer grooved and provided with the projection *q*, as shown and described.

5. The retractor-stop Z in combination with the retractor of a breech-loading fire-arm, substantially as described.

119,219.—EXHAUST MECHANISM FOR LOCOMOTIVE-ENGINES. — William A. Carns, Malden, assignor to himself and Henry Elmer Townsend, Boston, Mass.

Claim.—1. The combination and arrangement of the cylinder D and its air-induction passage C with the propeller P, the duplex valve E, and the exhaust-steam passages A A′ B, arranged as set forth, the said valve being provided with seats disposed with the air-inductor passage C and the exhaust-steam pipes or passages A A′ B, in manner as explained.

2. The combination and arrangement of the bridge or partition I and the groove *b*, or either, with the parts, as above claimed.

119,220.—WATER-WHEEL. — Joel T. Case, Bristol, Conn., assignor to National Water-Wheel Company, same place.

Claim.—1. The combination and arrangement, in the case B, of the solid wall *i* and the groups of chutes 1 2 3, substantially as and for the purpose described.

2. The wheel C, formed of the buckets *e* and ogee-shaped disks D D′, relatively arranged substantially as shown and described, and for the purposes set forth.

119,221.—HORSE-POWER.—Return J. Cheney, Petaluma, Cal.

Claim. — The brake, consisting of screw-rod *f* and plate or spring *h*, when applied to the tumbling-rod of a horse-power through the hub of one of the wheels of the power, substantially as above described.

119,222.—MACHINE FOR FORMING GLASS CHIMNEYS FOR LAMPS.—Michael H. Collins, Chelsea, Mass.

Claim.—1. The above-described organized instrumentality or apparatus, consisting of the chair A, provided with arms, or arms and tube-guides *a a′*, as specified, the skeleton-frame *b b b* or the rollers *g*, or both the frame and rollers, when the said frame or rollers, or both the frame and rollers, are mounted upon a shaft supported in suitable bearings and furnished with means of rotation, as stated, the whole being arranged and for use with a glass-blower's tube or rod, as and for the purpose set forth.

2. The skeleton-frame or series of wires *b b b*, the rollers *g*, the disk G, and the arbor E, the whole being mounted upon the frame B and combined with means of rotation, substantially as set forth, and for use with a glass-blower's pipe, as explained.

3. The series of rods or rollers *g*, the disk G, and arbor E, all mounted upon the frame B, in combination with means or mechanism for putting the same in rotation, such being for use with a glass-blower's rod or tube, as and for the purpose set forth.

4. The skeleton-frame or ribs *b b b* and the disk G when mounted upon a rotary arbor, and for use with a glass-blower's rod or tube, as and for the purpose stated.

5. The adjustable clamping mechanism, as described, in combination with the series of rollers or rods *g* and the disk G, as and for the purpose described.

6. In combination with the skeleton-frame and the rollers *g* when mounted upon a rotary shaft and provided with means of rotation, as specified, one or more supports or guides *a a′*, for centralizing the glass blower's rod or tube, when used with the same, as set forth.

7. In combination with the skeleton-frame when mounted upon a rotary shaft and provided with means of rotation, as stated, one or more supports or guides, *a a′*, as shown and described, and for the purpose set forth.

8. In combination with the rollers *g* when mounted upon a rotary shaft and provided with means of rotation, as described, one or more supports or guides, *a a′*, as and for the purpose specified.

9. In a rotary glass-forming machine in which the outer surface of a glass-blown article is formed by rotating the rollers or forming devices against such surface, the combination of one or more cutters, as and for the purpose set forth.

119,223, antedated September 10, 1871.—SHAWL-STRAP. — George Crouch, Westport, Conn.

Claim.—The metallic loops made to receive the straps, and also the rings of the handle, as set forth.

119,224.—MANUFACTURE OF PAPER-PULP.—Asahel K. Eaton, Brooklyn, N. Y., assignor to "The Eaton Fiber Company," New York city.

Claim.—The use of the sulphide of sodium as a solvent in the treatment of wood, straw, or other vegetable fiber for the purpose of producing paper-pulp.

119,225.—STEAM-GENERATOR. — Jonas Eberhardt, Conshohocken, Pa.

Claim.—The boiler *a*, constructed with the exterior circulation-pipes *b*, the interior flues *e*, and a flue-chamber, *i*, said flues *e* being attached respectively at one end to the head of the boiler, and at the other end to the shell or wall of the flue-chamber, substantially as set forth.

119,226.—LADDER-HOOK. — Silas D. Fish, Schuyler Falls, N. Y.

Claim.—The hook described, having the parts *a a′*, socket B, and friction-roller *c*, all arranged as described, for the purpose set forth.

119,227.—GAS-MACHINE.—Thomas B. Fogarty, Brooklyn, N. Y.

Claim.—1. The float B, constructed and operated substantially as set forth, in combination with the gas-holder tank A, substantially as set forth.

2. The combination of the float B, lever C, and holder E, constructed and operated substantially as set forth.

3. The combination of the air-vessel T and hook I, constructed and operated substantially as set forth.

4. The combination of the air-vessel T and holder E, constructed and operated substantially as set forth.

5. The drip-pipe and levers O and M, constructed and operated substantially as set forth.

119,228, antedated September 9, 1871.—NAIL-PLATE-FEEDING MACHINE. — John C. Gould, Oxford, N. J.

Claim.—1. The adjustable bracket *k*, in combination with the bolt *l* and the set-screw *m*, and the arm that carries the nose-piece, the bracket being hinged to the frame and the arm hinged to the bracket, substantially as described, and from which it may be lifted and moved either from or toward the machine, substantially as described.

2. The hand-lever *p*, in combination with the subject-matter of the first clause of the claim.

3. The ball-and-socket joint *r*, in combination with the said adjustable bracket, the shaft *q*, the lever that operates the segment *c*, and also the segment *c*, in the manner described.

4. The contraction of the arm *d*, the arm *e*, spring *f*, fork-spring *g*, and nipper-rod *h* for slipping the gripe of the fork-springs or rollers back on the nipper-rod for the feed while the plate is held by the knives, substantially as described.

119,229. — PRUNING-SHEARS. — Ignatius Grass, Sandusky, Ohio.

Claim.—In combination with the blades A A′ of pruning-shears, the pivot screw-bolt B provided with rectangular-shaped neck *b*, and the strap C provided with rectangular hole *c* and screw *c′* for the purpose of holding the screw-bolt B relatively stationary with the blade A′, as hereinbefore set forth.

119,230.—ELECTRIC AND VAPOR CHAIR.—Mary A. Hayward, Brooklyn N. Y.

Claim.—1. The medical chair containing a metallic lining and connections to a battery, substantially as specified, for directing electrical currents through the body.

2. The lining of sponge applied to and combined with the medical chair having a metallic lining, for the purposes specified.

119,231.—BOLT-CUTTER.—Jesse Johnson, Cochransville, Pa.

Claim.— In bolt-cutting tools of the character of those described in the patents hereinbefore referred to, the particular construction of the rack-bar with the rib extending longitudinally along its lower surface, the location of the hole for the adjusting-screw partly or wholly within said rib, and the groove in the bottom plate of the frame B for the reception and guidance of the rib and the movable cutter, as and for the purpose set forth.

119,232. — SUCKER-ROD. — Daniel Jones, Boston, Mass.

Claim.—A sucker-rod, composed of a grooved rod and recessed socket united by means of metal poured into the grooves and recesses in a molten state, as described.

119,233.—TRUSS. — Nathaniel Jones, Syracuse, N. Y.

Claim.—The foraminous metallic truss-plate and projecting presser, constructed with recesses for the slots that receive the hooks of the connecting-straps, as set forth.

119,234.—CRIMPING-MACHINE.—Martin R. Lemman, and William A. L. Kirk, Hamilton, Ohio.

Claim.—1. In combination with the roller D, guide F, and knife I, the slotted lever H *h′* and the spring L, the parts being arranged, in relation to one another, substantially as set forth.

2. In combination with the roller D and knife I, the adjustable guide F *a f* G, as described, and for the purpose described.

119,235.—SPINDLE FOR CLOTHES-WRINGER ROLLS.—Thomas E. McDonald, Trenton, N. J.

Claim.—The clothes-wringer roll-spindle above described, consisting of the journals A, metal bars B, and center bar C, united to the journals A and leaving the open space *a*, in the manner and for the purpose set forth.

119,236.—FENDER FOR GAS-BRACKETS.—William Hartley Miller, Philadelphia, Pa.

Claim.—1. In combination with a gas-bracket a fender, to prevent the flame or burner from striking the wall or other object against which the outer end of the bracket may be thrust.

2. In combination with a gas-bracket a fender having a joint at the center, allowing the fender to revolve, substantially as described.

119,237.—ANIMAL-TRAP.—John H. Mooney and George A. Lloyd, San Francisco, Cal.

Claim.—1. The longitudinally-moving rods D and E united at F, and so arranged as to have distinct motions, one in a curved and the other in a straight line, substantially as described.

2. The curved link J or an equivalent device for guiding the rod D and giving the curve, as described.

3. The adjusting device, consisting of the link J, with the transverse slot K and the holding-screw L, as described.

4. In combination with the rods D and E having different motions, as shown, the impelling-spring I or equivalent device, as described.

5. The bell-crank lever having the arms *o* and *r*, as shown, and the swinging plate M, together with the notched rod E, as and for the purpose described.

119,238.—APPARATUS AND PROCESS OF TANNING. — William Morris, Philadelphia, Pa.

Claim.—1. The tanning of hides or skins with astringent liquids by means of percolation.

2. The combination of hydraulic pressure and pneumatic exhaustion for producing percolation of fluids for tanning hides or skins, and for other uses of percolation in manufactures.

3. The apparatus, substantially as described and shown, arranged to operate as set forth.

119,239. — BOOT-AND-SHOE BLACKING.—James H. Patterson, Glen's Falls, N. Y.

Claim.—The manufacture of a powder or dry dust blacking and polish for leather, substantially as above described.

119,240.—METHOD OF BENDING WOOD FOR ROUND BOXES.—Samuel Patterson, Berlin Heights, Ohio.

Claim.—As an improvement in the manufacture of round wooden boxes, the method of bending the wood A by means of the grooved bar B, in the manner and for the purpose herein shown and described.

119,241.—GRAIN-BINDER.—Alexander Philippi, St. Louis, Mo.

Claim. — In a grain-binder, the driving-wheel B', pinion E, shaft E', bevel-wheels F F', operating apron D, in combination with slotted shift-lever f', connecting parts J' J, foot-lever H', rope attachment H, pulleys A, lever-arm g^3, shafts g g^1, part-pinions g^2 g^3, and compressing-fingers G G', all arranged, supported, and constructed to operate as and for the purpose set forth.

119,242.—ACCELERATING THE GROWTH OF PLANTS AND ANIMALS. — Augustus I. Pleasonton, Philadelphia, Pa.

Claim.—1. The method herein described for utilizing the natural light of the sun transmitted through clear glass, and the blue or electric solar rays transmitted through blue, purple, or violet-colored glass, or its equivalent, in the propagation and growth of plants and animals, substantially as herein set forth.

2. The herein-described construction of conservatories and other buildings, when the roof, walls, or parts thereof are covered with alternating portions of clear and blue, purple, or violet glass, or equivalents, as and for the purposes set forth.

119,243. — COUPLING-FAUCET.—Oliver Salgee, Brooklyn, N. Y.

Claim.—1. The valve f, with the wings 2 in the opening through the seat e, in combination with the thimble c and ring d of the faucet, as and for the purposes set forth.

2. The valve-seat e, screwed into the female coupling-screw b, and confining the elastic surface r of the seat to the ring n', in combination with the valve f, thimble c, and ring d, substantially as set forth.

119,244. — WASHING-MACHINE. — John H. Schmidt, Stockertown, Pa.

Claim.—The combination and arrangement of the concave C, elastic extension i, springs k k, and opening n in the front of the tub or box, constructed substantially as and for the purposes herein specified.

119,245. — MANUFACTURE OF DENTAL PLATES.—Francis M. Shields, Sacramento, Cal.

Claim.—1. The frame composed of the base plate A and standards B in combination with the swinging frame composed of the plate C, side arms E, and standard j, substantially as and for the purpose above described.

2. The shield-shaped flask G, divided into two or more parts and having the lugs k, in combination with the plate C and side arms E, all constructed and arranged substantially as and for the purpose set forth.

3. The curved tube M with its compression-pipe o, in combination with the crucible N and flask G, substantially as and for the purpose set forth.

4. The curved tube M, crucible N, and flask G, in combination with the indicating-standards g and compression-pipe o, when constructed and arranged substantially as and for the purpose set forth.

119,246.—FEEDING MECHANISM FOR SEWING-MACHINES. — David M. Smyth, Orange, N. J., assignor to Joseph W. Stickler and Theodore C. Elliott, same place.

Claim.—A wheel-feed for a sewing-machine, mounted so as to be moved laterally or lengthwise of its axis, in combination with a cam, ratchet-wheel, and pawl to communicate such lateral movement independently of the feeding movement given to the wheel, substantially as set forth.

119,247.—PISTON AND PISTON-PACKING.—Edward Sullivan, Mount Washington, assignor to himself and John S. McMillin, Pittsburg, Pa.

Claim.—The combination and arrangement of the body A, provided with chambers g, the wedge-shaped pieces J K, arcs k, rings c and D, arranged and operating as herein described, and for the purpose set forth.

119,248. — PISTON-PACKING.—Edward Sullivan, Mount Washington, Pa.

Claim.—A piston packing-ring constructed of metal and wood in the manner hereinbefore described.

119,249.—RAILROAD CAR-HEATER.—Benjamin D. Thompson, New York, N. Y.

Claim.—The combination of the case A with its three compartments, B, C, and D, the wick-tubes a, the wick-elevators c operated by the screw H, the whole constructed and arranged as and for the purpose specified.

119,250.—DISINFECTING-COMPOUND.—Henry A. Tilden, New Lebanon, N. Y.

Claim.—The combination of bromide of aluminium with chloride of aluminium for disinfecting and deodorizing or other purposes, produced as herein described, or in any other manner substantially the same which produces the same intended results.

119,251. — FISHING-ROD. — Thomas Tout, Cambridge, Mass.

Claim.—Constructing fishing-rods of lamina of whalebone running longitudinally, with the spaces between filled with strips of wood, all substantially as shown and described.

119,252, antedated September 25, 1871.—APPARATUS AND PROCESS FOR THE MANUFACTURE OF SALT.—Alexander C. Twining, New Haven, Conn.

Claim.—1. The refrigerator, in combination with the volatile and its vapor and the skimmer, or any combination substantially the same, as and for the purpose described.

2. The current-sweep, in combination with the circular ring and the revolving brush or scraper, with or without wire-gauze or perforations, substantially as and for the purpose described.

3. The employment in the condenser of the ice formed in the refrigerator and used for condensing the vapor of the volatile, substantially as described; also, the use of the wire-gauze or perforated-sheet compartments G in and as an attachment or part of the condensing apparatus or vessel used therefor.

4. The circulation-pump D, in combination with the vessel B or any equivalents thereof, as and for the purpose described.

5. The general combination, or any substantially the same, as and for the purpose described.

119,253.—NEST SPIRAL CAR-SPRING.—Richard Vose, New York, N. Y.

Claim.—A nest of two or more spiral springs, placed one within another, with spaces between them, constructed and arranged as described, so that by means of the terminal or dead coils of the several springs being concentrically in contact with each other, contact and consequent friction between the elastic or live parts of the springs are prevented, as specified.

119,254.—NEST SPIRAL CAR-SPRING.—Richard Vose, New York, N. Y.

Claim.—A nest of two or more spiral springs placed one within another, with spaces between them, the several springs being maintained in position so that they cannot come in contact with each other, by the means substantially as described.

119,255.—PROPULSION OF VESSELS.—Henry Waterman, Brooklyn, N. Y.

Claim.—1. The combination of the piston and plane rods with the coupling C and cups D and F, for arresting the strokes of the piston by compressed air, substantially as and for the purpose hereinbefore set forth.

2. The combination of the cylinder and piston and chamber with cock V and valve i', located to receive and discharge the exhaust-steam from one side of the piston, substantially as and for the purpose hereinbefore set forth.

3. The combination of the pipes b and c with cylinder H and the pipe n' with cylinder d' for the purpose of moving the engine-valves and cock V by compressed air, substantially as and for the purpose hereinbefore set forth.

4. The combination of the valve R with the chamber for regulating the speed of the engine, substantially as and for the purpose hereinbefore set forth.

5. The combination of the rods A and B with a fixed support in the bow of the boat, for the purpose of using them of their minimum weight, substantially as and for the purpose hereinbefore set forth.

6. The combination of the plane-plate pivots nearer the side x than the side y with the shoulder on the ends of the male hinge-pieces i i, and the distance of the axis of the pivots from the face of the plate, substantially as and for the purpose hereinbefore set forth.

119,256, antedated September 6, 1871.—RETURN-BEND FOR STEAM-GENERATOR.—S. Lloyd Wiegand, Philadelphia, Pa.

Claim.—1. The short tubes, having spherical bearing-faces, formed as described, interposed between correspondingly-shaped slats in the return-bend, and the vessels put in connection thereby.

2. The elastic bolt, or bolt and spring, in combination with the return-bend and short tubes, as described and shown.

119,257, antedated September 6, 1871.—STEAM-GENERATOR.—S. Lloyd Wiegand, Philadelphia, Pa.

Claim.—1. A boiler or steam-generator, composed of a single vessel or tank of any length, (having a small cross-sectional area,) and arranged or disposed in folds or coils, in combination with suspended tubes, substantially as shown and described.

2. The tank or vessel, formed in folds or coils with an intervening flue or flues, in combination with the suspended tubes, substantially as shown and described.

3. The oblique deflectors M, as shown and described.

4. The parallel straight tubes arranged in rows, in combination with and inclined toward the narrow and long flues intercepting the products of combustion passing through the flue to the chimney.

119,258. — LOCK-SPINDLE FOR SAFES.—Charles O. Yale, New York, N. Y.

Claim.—1. The interceptive piece of Franklinite or its equivalent inclosed in an envelope of ductile metal and occupying a larger area than the diameter of the spindle, for the purposes and substantially as described.

2. The combination, with the spindle, of one or more valves for packing the joint around the spindle, for the purposes and substantially as specified.

119,259.—MOLDING PIPE.—William D. Alford, Cuyahoga Falls, Ohio.

Claim.—The herein-described pipe-pattern, consisting of the single or one part A, and screw-part consisting of the detached sections C C', when used in connecton with the part A, in the manner substantially as set forth, and for the purpose specified.

119,260.—MOTIVE POWER.—James N. Bethune, Warrenton, Va.

Claim.—A cylinder mounted upon a carriage, and having a central shaft bearing radial blades, the carriage being furnished with means for revolving said shaft, and the cylinder being furnished with means for forming an opening at either or both sides thereof, all substantially as and for the purpose specified.

119,261. — HAND-CULTIVATOR. — David Boggs and Hermann Rohs, Cynthiana, Ky.

Claim.—The pin D, in combination with the prongs A, constructed and attached to the handle, in the manner and for the purpose as herein shown and described.

119,262. — GAME-TABLE.—Emanuel Brunswick, Chicago, Ill.

Claim.—The table A, provided with the holes a, and with the head piece C having the radial passages b, arranged substantially as described.

119,263, antedated September 23, 1871.—LATCH FOR GATES.—Charles B. Clark, Buffalo, N. Y.

Claim.—The combination with the plate C, cast with a right-angled plate, D, forming the back of the latch-housing, the front plate A, as and for the purposes set forth.

119,264. — AMALGAMATION OF GOLD AND SILVER.—Augustine B. Crosby, Greene, Me.

Claim.—The continual straining, circulation, and renovation of the quicksilver while in active use, the washing of the ore-pulp, so that the action of the free oxygen of the water may be obtained upon the particles of amalgam to purify and make them easily collected, and in such manner that but a small amount shall be lost during the collection, and the mechanical devices pertaining to and necessary for their accomplishment, substantially as hereinbefore described.

119,265. — WRENCH. — Anthony Cumberworth, Toronto, Canada, assignor to himself and William D. Little, Syracuse, N. Y.

Claim.—The above-described improved pipe and nut-wrench, having a reversible stationary head or jaw, B, constructed substantially as and for the purposes described.

119,266, antedated September 9, 1871.—BLIND-FASTENER.—Gilbert K. Dearborn, Smithfield, assignor to James Berney, North Providence, R. I.

Claim.—The arrangement and combination of the spring F, case A, hooks B and C with the extended end C', as shown, and operating substantially as described.

119,267.—PROCESSES OF UTILIZING TINNERS' CLIPPINGS.—Frederick William Dorn, New York, N. Y.

1. The separation of the tin from tinners' clippings, or waste tin by means of a combination of muriatic and hyponitric-acid gas and steam, substantially as and for the purpose hereinbefore set forth.

2. The use of muriatic-acid gas and steam, substantially as and for the purpose hereinbefore set forth.

3. The alternate application of the gaseous mixture and steam, for the purposes set forth.

119,268.—WARDROBE AND BEDSTEAD.—Oliver L. Gardner and William Gardner, Glen Gardner, N. J.

Claim.—The case or wardrobe A, supplied with the hinged lid a^2, projection d, and arm or lever d', in combination with the bedstead B B' and the bottom C, arranged and operating substantially as and for the purpose described.

119,269.—LUBRICATOR FOR STEAM-ENGINES.—James Harper, New Haven, Conn.

Claim.—1. The chamber A, provided with a means for filling, combined with the steam-passage L and passage T, the said passage T provided with a valve to open or close said passage, substantially as and for the purpose specified.

2. In combination with the subject-matter of the first claim, the indicating-tube D, as and for the purpose described.

119,270.—DAMPER.—William B. Hayden, Columbus, Ohio.

Claim.—1. The combination of an oscillating mercurial steam-balance with a damper, substantially as described.

2. The oscillating pipe C, communicating at its ends with vessels G G', in combination with steam-pipe J for conducting steam into vessel G' above the mercury therein, substantially as and for the purposes described.

3. The hollow journal p' of oscillating shaft D, as a means of communication between stationary steam-pipe N and the pipe J, which leads into the upper end of vessel G', substantially as described.

4. The pipe g, in combination with the vessel G on the highest end of oscillating pipe C, substantially as and for the purposes explained.

119,271.—COMBINED FASTENER FOR SASHES AND BLINDS.—Augustus Haye, Morrisania, N. Y.

Claim.—The tubular screw D, the tubular nut or socket-screw F, the screw-bolt C, and nut or screw-socket H, all constructed, arranged, and operating substantially as and for the purposes described.

119,272.—FLOWER-POT.—Albert D. Judd, New Haven, Conn.

Claim.—As a new article of manufacture, a flower-pot consisting of several panels or sections, the base B and cap C constructed to be united together by studs or rivets formed on said sections, substantially as described.

119,273.—PICTURE-NAIL.—Hubert L. Judd, Brooklyn, N. Y.

Claim.—The sheet-metal back, with a notched opening to form a screw-thread at the edge of the sheet metal, as set forth.

119,274.—WATER-WHEEL.—James C. Kelly, Groveland, N. Y.

Claim.—1. As an improvement upon my patent of June 21, 1870, the chutes d d of the concentric gates D E, said chutes being sharp-edged at the top to divide the water, and angular and concave on the sides to concentrate it to the discharged parts, as herein described.

2. The construction of the curb A and division-plate C in one integral part, with a cavity at the top to receive the concentric gates and a deep cavity at the bottom to receive the wheel, as herein described.

3. The curb A with division-plate C, concentric gates D E with angular chutes d d, the rods G, screw H, swivel-block A, and the lever-cam K, and screw L, all arranged as described, and for the purpose specified.

119,275.—LAMP-WICK ADJUSTER.—Levi Bennett Lathrop, San José, Cal.

Claim.—The employment of teeth short in the direction of the axes of the shafts, and terminating in edges at their outer extremities in a plane at right angles to the axis of the wheel or roller from which they proceed, in a manner substantially as hereinbefore described, and for the purposes hereinbefore set forth.

119,276.—LOOM FOR WEAVING HAIR-CLOTH AND FABRICS PRODUCED THEREON.—Isaac Lindsley, Pawtucket, R. I.

Claim.—1. The new manufacture of hair-cloth, having its weft-hairs disposed in the fabric in the manner described.

2. The combination of the nipper-box C with the devices shown, or their equivalents, by which the box is moved, so as to release the weft-hairs at different points in the web, substantially as described.

3. The presser-bar J, constructed and operating substantially as described.

119,277.—LOOM FOR WEAVING HAIR-CLOTH.—Isaac Lindsley, Pawtucket, R. I.

Claim.—1. The combination of the stationary driving-pulley H and the pulley B' on the selecting instrument with the two guiding-pulleys G G', one or both of which are movable and held by a yielding pressure to maintain a proper tension of the belt, substantially as described.

2. The combination of the lever N and the duplex cam with the wrists e and f upon the crank, co-operating, substantially as described, to produce a proper motion to drive the nipper.

3. The combination of the lever N with the nipper-staff by means of the pulley L and its shaft and the strap K, or their equivalents, substantially as described.

4. The binder P', constructed and operating substantially as described.

5. The combination of the clipping-blade with the slide that carries the selecting instrument so as to operate as often as that operates, substantially as described.

119,278.—LOOM FOR WEAVING HAIR-CLOTH.—Isaac Lindsley, Pawtucket, R. I.

Claim.—1. The selecting instrument, formed with two blades or parts, constructed and operating substantially as described.

2. The sheath or wrapper for enveloping and holding the bunch of hair so that the hairs may be drawn singly therefrom and preserved in a moist condition, substantially as described.

3. The combination of the sheath or wrapper with the selecting mechanism and the recess for holding the end of the bunch of hairs, substantially as described.

4. The arrangement of the sheath or wrapper in a curved position, in combination with the lay and selecting apparatus, substantially as described.

5. The guard R, in combination with the selecting-instrument, as substantially as described.

119,279.—HORSE-POWER.—James Marshall, New Orleans, La.

Claim.—1. The combination, in a horse-power, of the large stationary gear-wheel C upon the column B with the pinion D, shaft E, gear-wheel F, pinion G, and shaft H, all arranged substantially as and for the purpose set forth.

2. The fixed upright hollow column B having saddle-base B', in combination with the shaft H, gear-wheel C, frame N, and levers M M, all constructed and operated substantially as and for the purpose specified.

3. The arrangement of the column B, frame N, gear-wheel C, pinion D, shaft E, gear-wheel F, pinion G, shaft H, bevel-wheels I K, and horizontal shaft L, all constructed and arranged for operation as shown and described, for the purposes set forth.

119,280.—VISE.—Russell Phillips, Boston, Mass.

Claim.—1. The combination, with the leg A of a vise provided with the jaw C, of the movable jaw J with its rack and plate sliding upon said leg, and operated by the lever K and pawl L, as herein shown and described.

2. A bench-vise and hand-screw or clamp composed of the parts herein specified, constructed and arranged to operate as shown and set forth.

119,281.—AXLE-SHIELD FOR CARRIAGES.—Benjamin F. Robbins, Harwich, Mass.

Claim.—The combination of the shield, Fig. 3, with the appendage, Fig. 5, both forming the shield proper, substantially as and for the purpose hereinbefore set forth.

119,282, antedated September 11, 1871.—MACHINE FOR STONE POLISHING.—Anton Saffer, New York, N. Y.

Claim.—The oval stone-polishing machine herein described, having the means d for rapidly and easily securing and releasing the stone, and the means E for protecting the mechanism against the water and grit, in combination with the oval lathe mechanism, and with means I J for forcibly pressing against and polishing the edge of the stone, as herein set forth.

119,283.—SPINDLE-BEARING FOR SPINNING-MACHINES.—Jacob H. Sawyer, Lowell, Mass.

Claim.—1. The standard D, constructed as described, with the whirl-opening b through its base, and with the female screw c arranged in such base in manner as set forth, in combination with the spindle-step as made or provided with the connecting male screw d arranged on it, as explained.

2. The spindle-step E, the upper bearing-standard D, the live spindle B, and whirl C, constructed, combined, and arranged together and with the supporting rail F, substantially as described.

119,284.—TUCK-MARKER FOR SEWING-MACHINES.—Alvin Shattuck, Buffalo, N. Y.

Claim.—1. The combination, with the spring-crimper C provided with two spring-jaws, c c, of the stock E provided with guides f f for closing the jaws, as hereinbefore set forth.

2. The combination and arrangement, with the needle-bar and spring-marker C, of the slotted connecting-arm B, head or stock E, and piece D, as hereinbefore described.

119,285, antedated September 9, 1871.—COMBINED SEEDER AND CULTIVATOR.—William D. Stroud, Oshkosh, Wis.

Claim.—1. The levers f, h, and j, arranged as described, in combination with the seed-box A, driving-shaft B, and cut-off attachment n t u v 1 2 3 4, in the manner and for the purpose hereinbefore specified.

2. In combination with the seed-box A of a seeding-machine, a cut-off attachment constructed in sections, as 1 2 3 4, and composed of the slotted plates t provided with valves n, hooked rods u, and eyes v, all arranged as described, for the purpose hereinbefore specified.

3. The gauge-valves q secured to the bar a', provided with the needle of the indicator b', and operated by the lever c', in combination with the seed-cups of the seeding-machine, as and for the purpose specified.

119,286.—DIE FOR FORMING CARRIAGE HEAD-BLOCK PLATES.—Wales Terrell, Ansonia, Conn.

Claim.—The dies shown in Figs. 2 and 3, constructed and operating as herein described.

119,287, antedated September 15, 1871.—LUBRICATING LOOSE PULLEYS.—Stephen Ustick, Philadelphia, Pa.

Claim.—1. The combination of the longitudinal groove b in the periphery of the shaft A with the eye of the loose pulley B and the annular groove a of the bearing C, the said grooves being arranged and operating in relation to the eye of said pulley and the supply-tube D, substantially in the manner and for the purpose above described.

2. The annular groove e on the shaft A and packing d'', in combination with the groove b, substantially as and for the purpose set forth.

119,288, antedated September 15, 1871.—MODE OF LUBRICATING JOURNALS.—Stephen Ustick, Philadelphia, Pa.

Claim.—The combination and arrangement of the oil-tubes E with the chambers D of the pillow-blocks B, substantially in the manner and for the purpose above set forth.

119,289, antedated September 18, 1871.—WARDROBE.—Henry Whittemore, Orangetown, N. Y.

Claim.—The shelf or shelves B, provided with the hooks b b arranged within the part A, with the wires d d and d' d', the latter connected with the former by means of the eyes i i, and affixed to the part A by screw-rings or hooks e e, with the curtains D D, the whole combined substantially as herein shown and described.

119,290.—WASH-STAND, BUREAU, AND TOILET-TABLE COMBINED.—Henry Whittemore, Orangetown, N. Y.

Claim.—1. The combination and arrangement of the reservoir H, wash-bowl E, siphon d, and tank F with the cabinet A, with or without mirror D, substantially as and for the purposes set forth.

2. The combination of a permanent wash-bowl and reservoir, when connected by the siphon d for drawing water from that portion of the reservoir, when the said siphon is provided with the stop-cock h below the level of the top of the wash-bowl, substantially as set forth.

119,291.—ORNAMENTING LEATHER.—Louis Wolfson, Boston, Mass.

Claim.—The method described of ornamenting a leather surface, viz., by the employment of wax and a heated iron or die, and subsequently polishing or burnishing the surface, all substantially as explained.

119,292.—FLAG-HALYARD.—William Albert, Brooklyn, N. Y.

Claim.—The combination, with the flag-halyard A and the mast, staff, shrouds, or other object, whenever they are to be made fast, of a weighted traveler, B, adapted for making the said halyards fast to it, and capable of rising and falling as the halyards change in length, all substantially as specified.

119,293.—Handle-Strap for Traveling-Bags. — Arthur Alexandre, New York, N. Y.

Claim.—The arrangement of the two hooks D, two keepers, F, double strap C, and short strap E, as and for the purpose specified.

119,294, antedated September 22, 1871.—Land-Roller.—William W. Andrew, La Porte, Ind.

Claim.—1. The combination of the hollow roller B, journal or journals D, and swinging weight E, for the purposes substantially as specified and shown.

2. The employment of the false or additional heads c', in the connection specified, to compensate the weight of the frame, substantially as specified and shown.

119,295.—Hub for Wagon-Wheels.—Simeon Atha, West Liberty, Ohio.

Claim.—The hub for carriage or wagon-wheels constructed of the wooden portion A b, metal cover D with flanges E, and thin connecting-plates e, all formed in one piece, the plates e held so as to firmly press against the wooden hub by reason of their elasticity, and through the shoulders of the spokes, as herein described.

119,296.—Whip-Stock.—Horace W. Avery, Westfield, Mass.

Claim.—The herein-described whip-stock, having its upper or flexible portion a of twisted rawhide and its lower or rigid portion of the rawhide, and wedges of iron b and rattan c, the whole being bound with cord d, saturated with glue, and covered with leather strips h, all constructed as specified.

119,297. — Wagon-Tongue Supporter.—Charles J. Babcock, Rives Junction, Mich.

Claim.—The construction and arrangement of the metallic hounds A, eyebolts C, leaf-spring D adjustably secured to the hounds by the bolts c passing through its slot b, and the hinged plate E with relation to the fore axle B and tongue F, as and for the purpose set forth.

119,298.—Electric Battery.—Louis Bastet, Tarrytown, N. Y.

Claim.—1. The use of bichromate of potash, nitrate of potash or nitrate of soda, in combination with sulphuric acid in place of nitric acid in the porous cell of a carbon battery, in the manner described and for the purpose set forth.

2. The partition E in the porous cell of an electric battery, substantially as and for the purposes described.

3. One or more compartments, substantially as seen at F, in combination with the porous cell of an electric battery, for the purposes described.

119,299. — Curtain-Fixture. — John E. Baum, Philadelphia, Pa.

Claim.—The detent B, having a tooth, e, and incline g at one end, a projection, h, at the other end, and a depression, k, between the incline and projection, in combination with the slide C which lies in said depression, and the bracket A having a rack, b, the said slide C being provided with a knob, D, or other device for holding the cord E, substantially as described.

119,300. — Wash-Boiler. — Silas Bennett, Newcastle, Pa.

Claim.—The flanged and perforated bottom C, vertical pipes D d' G, longitudinal perforated tubes E H, small perforated cross-tubes I, and cross-strips F, constructed and arranged in connection with each other, and with the boiler A and cover B, substantially as herein shown and described, and for the purpose set forth.

119,301. — Medical Compound for Consumption, &c. — Thomas W. Bethel, Brooklyn, N. Y.

Claim.—A medical compound prepared of the ingredients and substantially in the manner herein set forth.

119,302. — Thill-Coupling. — Coleman Bridgman, St. Cloud, Minn.

Claim.—1. The jointed pin or key D, in combination with the coupling A, substantially as and for the purposes described.

2. The slot F in the ear C of the coupling A, in combination with the pin D, as shown and described.

3. The slotted washer H, in combination with the jointed pin D and slotted ear C, substantially as described, and for the purposes set forth.

119,303. — Cloth-Measuring Machine.—Thomas M. Brintnall, Medina, Ohio.

Claim.—1. The combination of the main frame and the receiving and transferring-roller f, and mechanism for supporting and rotating the folding-board or bolt e' on said frame, with the hinged frame and the measuring-roller and registering devices on the same, all constructed and arranged to operate substantially as and for the purpose described.

2. In combination with the movable standard q and the rail a on which it stands, the stirrup or clutch t, the cross-bar r, and angle-plate u, constructed and arranged to operate substantially as and for the purpose described.

119,304. — Shutter-Worker. — Alfred Brown, Boston, Mass.

Claim.—1. The combination of the shaft D, sector E, the box H, and the primary and auxiliary arms F G, connected by a ball-and-socket joint, as set forth, all being arranged and applied together, substantially as described.

2. The combination and arrangement of the studs or stops $e f$ with the shaft D, sector E, box H, and primary and auxiliary arms F G, all connected as described.

119,305.—Apparatus for Elevating Hods. George W. Brown, New York, N. Y.

Claim.—1. The movable frame for the upper chain-wheel of a hod-elevating apparatus, made with wrought-iron tubes between the top frame and the base, as and for the purposes set forth.

2. The hook i', applied near the middle of the hod at one side thereof, as and for the purposes set forth.

3. The two-ended hod, provided with a hook on one side near the middle, and a fork at the lower end of the shank, as and for the purposes set forth.

119,306.—Machine for Making Wedges.—Thomas B. Brown and Joshua N. Dinsmore, Kendall's Mills, Me.

Claim.—1. The rotary tool M, having a series of crotched cutters arranged to work above and below the wedge-blank as it is fed along at right angles thereto, for the purpose specified.

2. The combination of pusher L, trough K, pusher N, and guides O P, arranged, as described, to enable the blank to be successively presented to the sharpening and chamfering-tools, as set forth.

3. The chamfering-cutters Q and sharpening-tool M, when combined and arranged in a machine to receive the wedge-blank and successively act upon it, in the manner specified.

4. The feeder R and spring-rod S, when arranged between the tools Q Q and T, as and for the purpose specified.

5. The arrangement, with the cam-wheel Z and the slide L, of the lever b and rod c, substantially as specified.

6. The combination of the chamfering-cutters Q Q and slitting gang-saw T, substantially as and for the purpose specified.

7. In a wedge-making machine, the combination of sharpening-tool M, chamfering-cutters Q Q, and slitter T, when arranged to receive and operate upon the blank successively, in the manner specified.

119,307.—Paper-Bag Machine.—James M. Bryant, Joseph P. Bryant, and Samuel H. Bryant, Temperanceville, Pa.

Claim.—1. A pair of feeding and pasting-rolls, D D^1, one roll, D, being provided with raised W-shaped pasters n^3 n^3, a pasting-ring, n, and feeding-ring n^1, substantially as described.

2. A paste-vat, l, arranged under the feeding and pasting-roll D so that the paste-ring n and pasters n^3 n^3 n^3 shall dip therein, and with a transverse trough, l^1, under the feeding-ring n^1, substantially as set forth.

3. The arrangement of the feed-rollers D D', reciprocating feed-table E, vertically-moving former G, and top and end sliding folders, constructed and combined relatively to each other, substantially as described.

4. The vertically-moving former G, operated by and in combination with the cam-yoke H' and cam H, the yoke H' being bell-mouthed and enlarged back, substantially as shown, so as to receive a quick throw and be held stationary during the greater part of the time of the operation of the machine.

5. The bent arms o^3 o^4, carrying the rollers o o at their forward ends, in combination with inclines or wedges w w, for causing the rollers to engage and discharge the bag, substantially as set forth.

119,308.—Steam-Wagon.—Oliver H. Burdett, New Athens, Ohio, assignor to himself and Robert Webb, same place.

Claim.—1. The combination of the inner pivoted frame D, to which the boiler, &c., are attached and swiveled, crank-screw G with the outer frame C, with which the wheels A are connected, substantially as herein shown and described, and for the purpose set forth.

2. The arrangement, in a steam-wagon, of the cam, crank, or working shaft M at the points at which the inner frame D that supports the boiler, &c., is pivoted to the frame C of the carriage, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the shaft H, to which power is applied from the engine, spur-wheels J L, and endless chain K, or equivalent gearing, shaft M working at the pivoting-points of the frame D, cams or cranks N, legs O, swiveled crank-screw G, frame D and C, and wheels A with each other, substantially as herein shown and described, and for the purposes set forth.

119,309.—Carriage-Bolt.—Orrin C. Burdict, New Haven, Conn., assignor to Plumb & Burdict.

Claim.—A carriage-bolt, consisting of a cylindrical portion A and diamond-shaped neck A' a' a', formed by simply swaging a portion of the bolt-blank, as hereinbefore set forth.

119,310.—Steam-Generator.—Gottlieb F. Burkhardt, Boston Highlands, Mass.

Claim.—1. The arrangement of the main steam-generator boiler a, secondary boiler e, and auxiliary boiler m with the furnace c, fine-tubes b f n, and flue-spaces i g h k, substantially as shown and described.

2. In combination with the boilers and flues, arranged as described, the exhaust-pipe x opening into the flue g, substantially as shown and described.

3. In combination with the boilers and flues, arranged as shown and described, the flue-openings p v and damper v, arranged substantially as shown and described.

4. In combination with the boilers, arranged as shown and described, the stop-cock b^3 and blow-off pipes, arranged to operate substantially as described.

119,311. — Clothes-Pin. — Benjamin Burling, Whitehall, N. Y.

Claim.—The sliding clasp E, either with or without the wood G, in combination with the legs F F, substantially as and for the purpose described.

119,312.—Cabinet-Bedstead.—Sanford S. Burr, Boston, Mass.

Claim.—As a new article of manufacture, a cabinet-bedstead, composed of the book-case A provided with shelves in the usual way, and a space, B, in rear of the shelves, in combination with the bed-frame a hinged to the lower part of the case, and the wire bedding C, said parts being constructed and arranged in the manner and for the purposes shown and described.

119,313. — Projectile. — John G. Butler, Fortress Monroe, Va.

Claim.—1. The split or slitted annular band B applied to the base of a projectile, substantially as specified.

2. The double-lipped band B attached to the projectile by means of the screw-threads and metallic keys K, substantially as specified.

119,314.—Steam-Pump.—Lysander Button and Theo. E. Button, Waterford, N. Y.

Claim.—1. The arrangement of the pump-cylinder A E U, the connecting-frame or bars C C, the steam-cylinder B D P, and the bearings I N N, as shown and described.

2. The fly-wheels F F and crank-shaft, eccentric T, walking-beam H, the slide-valve, the steam-cylinder and connected bearings I and N N, the pump-cylinder and frame C C, the pistons V W, rod K, the cross-head R, and connecting-rods, all constructed and arranged as shown and described.

119,315.—Throttle-Governor for Steam-Engines. — Herman Camp and George W. McIntosh, Rouseville, Pa.

Claim.—1. The combination of the set-screw G and arm C with the valve B for giving the latter the desired lead, substantially as herein described.

2. The combination, in a throttle-governor, of the valve B, arm C, piston D, spring E, and set-screw G, constructed and operating with relation to each other substantially as herein described, and for the purpose set forth.

119,316.—Desk for School-Teachers, &c. Wesley C. Carter and James P. Emery, Galva, Ill.

Claim.—1. In combination with the desk the foot-rest B, hung in the notched bars b, to be adjustable therein, substantially as herein shown and described.

2. The adjustable shelf, provided with the pivoted supporting-bars i i, whose ends fit into the notched sides of the compartments, as specified.

119,317.—Drill and Nut-Wrench.—Thomas A. Chandler, Rockford, Ill.

Claim.—The arrangement of the sockets A B and collar E with the arms C D journaled upon the shaft a between said sockets and collar, in combination with the pawls F and springs G, as and for the purpose substantially as described.

119,318.—Frame for Drying Laces, &c.—Henry Chatain, Washington, D. C.

Claim.—1. In combination with the grooved posts A A' and the top bar C of a frame for drying laces, &c., the lower bar B, as operated by ropes f f', with the shield n and spring-clamp M, substantially as and for the purpose specified.

2. In combination with a frame for drying laces, &c., constructed substantially as shown and described, the spring-clamp M, cut out of a single piece of wood, substantially as and for the purpose set forth.

119,319. — Reversible Hinge.—Pascal P. Child, St. Louis, Mo.

Claim.—The hinge for gates, doors, &c., having

the projections B and B', and the double-ended pivot-pin F, resting in sockets in the projections, all arranged and combined substantially as set forth.

119,320, antedated September 11, 1871.—HORSE HAY-RAKE.—Archibald L. Chubb, Grand Rapids, Mich.

Claim.—1. The spring-teeth F, constructed as described, in combination with the plate G and the axle-beam A, all constructed and operated substantially as described and shown, for the purposes set forth.

2. The guides H, in combination with the plate G, axle-beam A, and spring-teeth F, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

119,321. — CURTAIN-FIXTURE. — Herbert Clayton, Lexington, Ky.

Claim.—1. The construction of curtain-fixture brake D of plate *d*, and a wire bent into a single eye, *b*, at the doubled end and clasped at the two free ends around a pin, *c*, as shown and described.

2. A wire brake, having eye *b* and plate *d*, when combined with a weighted cord passing through said eye, as and for the purpose specified.

119,322—Suspended.

119,323.—LIGHTNING-ROD CONNECTION.—Ayres Codington, Bound Brook, N. J.

Claim.—The improved lightning-rod connection, consisting of the metal disk A with radial screw-threaded holes, and the sections and branches secured therein, all substantially as specified.

119,324. — MACHINE FOR SHAVING ICE.—William H. Collins, Boston, Mass.

Claim.—1. The cutter-disk E, carrying one or more plane-bits or cutters, arranged in slots radiating from the axis of motion thereof, and having its bearing on its outer edge on anti-friction trucks, substantially as described.

2. The cutter-disk E, constructed and operated as set forth, in combination with an ice-holding tank, J, arranged in a vertical position above the same, substantially as described.

3. In combination with the cutter-disk E provided with radiating cutters A, and arranged to revolve in a horizontal plane in or on a peripheral bearing, the conical chute D secured to the bed A and concentric to the cutter-disk E, substantially as described.

4. The curved scraper I, in combination with the conical chute D and cutter-disk E, all arranged and operating substantially as described.

5. In combination with a machine organized as herein set forth for the purpose of shaving ice, the inclosing-case M, arranged and applied substantially as described, for the purpose specified.

119,325.—SEED-DROPPER.—Lewis H. Converse and James K. Welter, Springfield, Ill., assignors to Lewis H. Converse.

Claim.—1. The dropper E, suitably pivoted at its center and provided with the openings *e* and studs G, in combination with the slide C provided with the lugs H, when said parts are so arranged as that a longitudinal-reciprocating movement of said slide shall cause said dropper to rotate intermittently in one direction, substantially as and for the purpose specified.

2. In combination with the slide C and dropper E, arranged as shown, the lugs L and stops M, substantially as and for the purpose set forth.

119,326.—STRAW-CUTTER.—John A. Cornish, Marshfield, Mo.

Claim.—1. The spring-bar *l* provided with the emery-pad *p*, and attached to the leg *m* of the box, through which passes the screw *n* for adjusting said bar, as shown and described.

2. The straight round bar *e* and the spirally-fluted feed-roller *a*, arranged to operate as specified.

3. The bar *e*, spirally-fluted feed-roller *a*, shaft *d*, and cutter-disk *c c'*, constructed and arranged as shown and described, whereby the straw or other material is cut between the intervals of feeding, as specified.

119,327.—VISE.—John W. Coyne, Madrid, N. Y.

Claim.—The combination, with the jaws A B and their screw C, of the improved self-adjusting device for preserving parallelism, composed of the rigid arm or pawl H projecting inward from the movable jaw, and the stationary rack I for the engagement of said pawl, arranged and operating as shown and described, with or without the described adaptation of the upper ends of the jaws to receive interchangeable face-plates F F' F² F³ F⁴ G for holding objects of different shapes.

119,328, antedated September 23, 1871.—WATER-WHEEL.—John M. Cress and William L. Cress, Taylorsville, Tenn.

Claim.—1. The plane circular bucket C, outwardly convex, and provided with a circular flange or guide-board, *d*, along its inner edge, as specified.

2. In combination with a water-wheel having the bucket C, the circular tapering chute F and the barrel-shaped case E, all constructed and arranged to operate as specified.

119,329.—MANUFACTURE OF ILLUMINATING-GAS.—Darius Davison, New York, N. Y.

Claim.—1. The process, substantially as herein described, of manufacturing illuminating-gas by distilling the coal or other substance in half or partial charges introduced alternately within the retort, upon opposite sides of a longitudinal partially-dividing vertical plate, at successive intervals, equal to about the time required for a half distillation of each half or partial charge.

2. The device B, composed of a horizontal bottom plate, *d*, and vertical longitudinal dividing-plate, *e*, for use in a loose or detachable manner within the retort, substantially as specified.

3. The horizontal bottom plate *d* and vertical longitudinal plate *e*, to be used together, or the vertical longitudinal division-plate *e*, to be used separately, in combination with retorts now in use and with new retorts, essentially as and for the purpose herein set forth.

119,330.—TORPEDO FOR OIL-WELLS.—Julius C. Dickey, Titusville, Pa.

Claim.—1. A torpedo, having the explosive compound inclosed in a bag or pouch which will spread or expand so as to fill the bore of the well when in position and thereby bring the charge in close contact with the rock, substantially as set forth.

2. The combination, in a torpedo, of the frame *b*, expanding sack *a*, and the inclosing case *i*, substantially as set forth.

119,331.—RAILWAY-CAR SEAT.—Alpheus B. Dinsmore, Springfield, Mass.

Claim.—A duplicate car-seat, consisting of the seats A and beveled whirl-plates B, pivoted to and turning upon the bench C, and made to operate simultaneously by means of the disks D, cranks *c*, and bars *a b*, substantially as described.

119,332.—SLATE.—Freeman D'Ossone, Philadelphia, Pa.

Claim.—The slate A, in combination with the numerals or sliding-pieces 1 2 3 4, &c., substantially for the purpose shown and described.

119,333.—SEAL LOCKING-BOLT.—George R. Dunn, Newark, N. J.

Claim.—1. In combination with a mortised locking-bolt, the locking-plates F G, beveled locking-pin J, and perforated seal-slip K, substantially as described, for the purpose specified.

2. In combination with a hollow mortised locking-bolt, the locking-plates, and the perforated seal-slip, the locking-pin L, substantially as described, for the purpose specified.

3. In combination with the stationary beveled locking-pin, the perforated seal-slip, substantially as described, for the purpose specified.

4. The locking-plate F, constructed with the outer and inner groove at right angles to each other and with the beveled locking-pin J, substantially as described, for the purpose specified.

5. The locking-plate G, constructed with the external groove H and the interior concave surface, substantially as described, for the purpose specified.

119,334. — EXCAVATOR. — John M. Dunn, Erin, Miss.

Claim.—The ditching-machine, consisting of the frame A, wheels B C, blades *b*, guard F, apron G, shaft H, and wings *d*, all arranged to operate substantially as herein shown and described.

119,335.—KEY-BOARD FOR MUSICAL INSTRUMENTS. — William D. Edgar, Ottawa, Kan.

Claim.—1. A key-board, having the two rows of keys A B arranged with the keys of one between the keys of the other, as described, to enable a full tone to intervene between every two keys of each row.

2. The slide C and plates D E, combined, as described, to serve as a register, in the manner set forth.

119,336.—BEE-HIVE. — John C. Edwards, Cattleville, Mo.

Claim.—The arrangement in a bee-hive of the dividing-sheets J, the brood-frames I supported and adjusted as described, and the inclosing-hoop L of the honey-frames, as described and represented.

119,337.—INSECT-TRAP.—Samuel Endslow, Blain, Pa.

Claim.—1. The lid B of an insect-trap, held in a raised position by the curved spring C, which forms at the same time its hinge, operated in the manner and for the purpose described.

2. The combination of the lid B, held open by its spring-hinge C, as described, the pivoted end E provided with the right-angled shoulder *e*, and the looped netting D, all arranged and operating as described.

119,338. — WASHING-MACHINE. — John P. Eshleman, West Salem, Ohio.

Claim.—The combination of the frame A having grooves cut in its sides, pivoted standards C, washer D, rollers H and I, ribs G, splash-boards K and L, and rollers M, when all are arranged to operate substantially as shown and described.

119,339. — COMBINED WHEELBARROW AND STEP-LADDER. — Henry James Evans, Christieville, Canada.

Claim.—1. The jointed step-ladder, so made that it can be converted into a wheelbarrow, and vice versa, as set forth.

2. The frames A, F, G, and H, connected and arranged substantially as herein shown and described.

3. The steps B, C, and D of a step-ladder, pivoted to the side-boards so that they may constitute bottom boards and back of the barrow, as set forth.

119,340.—FANNING-MILL. — Francis Eves, Fountain City, Wis.

Claim.—1. The adjustable slat sieve A, provided with the hinged part B, arranged and operating substantially as and for the purposes described.

2. The eccentrics E, in combination with the adjustable slat sieve A, and arranged to operate substantially as and for the purposes described.

3. In combination with the adjustable slat sieve A, the tail-piece S, cut out on its upper edge and attached to the frame by screws passing through slots in its ends so as to permit it to be vertically adjusted, as shown and described.

4. The combination of the sieves A and J and distributer N, when the same are constructed and arranged to operate as and for the purposes set forth.

119,341. — TRUNK. — Henry Saxon Farley, Sing Sing, N. Y.

Claim.—1. The bureau-trunk composed of the equal parts A B, containing drawers, respectively, said drawers being in vertical positions within the trunk, but horizontal in the bureau, as specified.

2. The mirror C and folding-rods D D, connected with the upper part B of the bureau-trunk, substantially as and for the purpose herein shown and described.

119,342, antedated September 11, 1871.—WATER-CLOSET SEAT. — Benjamin G. Fitzhugh, Frederick, Md.

Claim.—1. A water-closet seat operated from a spring, which latter, without operating the lid, is overbalanced by the weight of the lid, substantially as and for the purpose described.

2. The combination of the spring E, seat A, and slotted lid C, all arranged to operate substantially as herein described.

119,343.—STOVE-GRATE.—Cornelius O. Foley, Troy, N. Y.

Claim.—1. The bearing D, provided with wings E E, constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of a grate, B, with journals C C', bearing D, and wings E E, all constructed and arranged, as shown and described, so that the grate in its movement will pass beyond the fire-box and under the bed-plate, substantially as herein set forth.

3. The bar G, forming part of the bed-plate, and extending beyond the side of the stove, for the purposes set forth.

4. The angular lever H, provided with pin A and slot *i*, and its long arm formed as a wrench, all substantially as and for the purposes herein set forth.

119,344.—SEAT FOR HORSE-CARS.—Martin T. Glynn and John L. Goodman, Boston, Mass.

Claim.—A car-seat, H, supported by the arm G, which is pivoted to the arm of the main seat, and provided with the spring *k* and notched brace I pivoted to G and operating in a stop below the seat, as shown and described.

119,345.—MARINE RAILWAY.—John H. Gosline, Hampton, Va.

Claim.—The arrangement of the rack and pinion, the cradle, and the driving mechanism of a marine railway, as and for the purpose specified.

119,346.—COTTON-PRESS.—George W. Grader, Memphis, Tenn., assignor to himself and James H. Edmondson, same place.

Claim.—1. The combination of the two engine-cylinders F I with the segment-levers E E and the platen and follower of a press, substantially as and for the purposes set forth.

2. The automatic clutch and cross-head, constructed to operate substantially as herein described, for the purposes set forth.

3. The grooves O, arms N, and rollers *n* in combination with the jaws M, substantially as described, for guiding and tripping the clutch.

4. The wrought-iron draw-bar and rack H H' A in combination with the clutch M M, substantially as set forth.

5. The double annular puppet-valves Q Q' in combination with a press, operating substantially as herein set forth.

119,347.—SEDIMENT-CHAMBER FOR LAMP-POSTS.—John W. Graham, Chillicothe, Ohio.

Claim.—The sediment-chamber B, provided with means for removing the condensed vapors or other

impurities from the chamber, substantially as described.

119,348.—TRUNK.—Nicholas Groel, Newark, N. J.

Claim.—A water-proof trunk, composed of two equal portions, A and B, provided with the hasp or bottom brace H, and having suitable provisions for the attachment of rowing and steering apparatus, substantially as shown and described, and for the purpose set forth.

119,349. — RAILROAD-CAR VENTILATOR.—George B. Hall and Joseph Shaffer, Kansas City, Mo.

Claim.—1. The double window D D′, arranged to be moved within and from its casing C to form a support for the main window B of a railway car, and by turning one of the parts of said double window at right angles to the side of the car to prevent the entrance of dust, cinders, &c., while the ventilation of said car is uninterrupted, as herein shown and described.

2. The double window D D′ provided with spring-knobs or pulls *b*, operating as and for the purpose herein described.

119,350.—DEVICE FOR SECURING HEMMERS, &c., to SEWING-MACHINES. — Henry M. Hall, New York, N. Y.

Claim.—The clamp A, constructed as shown, and combined with the bar or arm B of an attachment for sewing-machines, and with a suitable thumb-screw for confining the same to or upon the horizontal plate of a machine, substantially as and for the purpose specified.

119,351.—AUTOMATIC FAN.—Willis DeLancey Hall, Memphis, Tenn.

Claim.—The automatic fan, combining the standard G in the hollow tube I with set-screw H, clamp-jaw K with set-screw N, and the semicircular frame F supporting the clock-work A, pinion C, and axle D with the arms or wings E E′ E″ E‴ and set-screw C′, all constructed and arranged substantially as described.

119,352. — TEA-AND-COFFEE POT.—Horace J. Hammond, Newburg, Ohio.

Claim.—A tea or coffee-pot, consisting of an inner earthenware vessel, A, and an outer metallic vessel, B, the latter being sufficiently larger than the former to provide a water-space, C D, between them, except at D′ and E, and provided with a filling-passage, F, placed on the side opposite the spout H, all substantially as specified.

119,353. — GRADING-MACHINE. — John F. Hanna, Momence, Ill.

Claim.—1. The cutting-and-carrying wheel H mounted on the hinged frame A when the latter is suspended from the laterally-adjustable frame F by the vertically-adjusting bolts E and beam C, all substantially as specified.

2. The arrangement, obliquely to the earth, of the annular rotary cutter I, and, at right angles thereto, the correspondingly-shaped stationary cutter L, as and for the purpose described.

3. In combination with cutters I L, arranged as described, the curved plate M and rim O, to guide the soil, as set forth.

4. The annular cutter-flange I, rim O, and extension M of stationary cutter L, combined with pressure-plates N placed at intervals, as and for the purpose specified.

5. In combination with cutters I L and rim O, the scraper Q, obliquely arranged to discharge the dirt, as described.

6. In combination with rim O, annular cutter I, and scraper Q, the rotary dirt-receiving-and-discharging wheel R, arranged as described.

7. The arrangement of the roller V and circular track I′ upon the hinged frame and wheel H, respectively, to hold the flange I near that part of the edge which is cutting out the soil.

119,354. — MOLE-TRAP.—George W. Hardwick, Wyandotte, Ind.

Claim.—The combination of the tube *a*, pin *i*, spring *h*, pawl *h*, spindle *b*, and tooth *g*, as described.

119,355.—STREET-LANTERN.—Jacob F. Harly, Kipton Station, Ohio.

Claim.—1. The glass of a street-lantern constructed in one piece in the form of an oblate spheroid, having an upper and lower opening, and provided with an equatorial rib or groove B, for the purpose specified.

2. In combination with the glass A the hinged frame E, substantially as described, for the purpose specified.

3. The street-lamp, consisting of the oblate spheroidal glass A, provided with the top and bottom openings formed by the collars C D, and with the equatorial rib or groove B, and the hinged frame E provided with the collar J and chimney N, substantially as described, for the purpose specified.

119,356.—HARVESTER-PITMAN.—George W. Harrison, Lansing, Mich., assignor to himself and Simon Forster, same place.

Claim.—The coupling for harvesters, consisting of the inner movable box *c*, the outer box *c* attached to the knife-heel, the lug *g*, set-screw *e′*, bolt *g*, and rubber blocks *a a*, with or without the metallic linings *b b*, substantially as specified.

119,357. — CARTRIDGE-SHELL FOR DRILL PURPOSES. — Alfred Charles Hobbs, Bridgeport, Conn.

Claim.—1. The rubber disk D, secured to the shell A by means of the dovetailed recess C, substantially as described.

2. A blank cartridge, consisting of the metallic shell A having the rubber cushion D, and a bullet, B, attached, as herein described.

119,358.—TOY-PROJECTOR.—Edward V. B. Hoes, Green Bay, Wis.

Claim.—In combination with a fork, A, the rod B pivoted between its prongs, and the rubber C passing through a hole in said rod, as and for the purpose specified.

119,359.—CAR-COUPLING.—Carl L. Horack, Hastings, Minn.

Claim.—The curved and forked swinging bar D E F, pivoted on the standard B, and arranged in combination with the draw-head A and bolt C, as shown and described.

119,360.—DEVICE FOR LOCKING-NUT.—John M. Horton, Milwaukee, Wis., assignor to himself and Hiram W. Foote, same place.

Claim.—The locking-plate A having the angular perforations B B′, the slots C C′, and the locking-lips D D′, all these parts being arranged as shown and described.

119,361.— CLOD-BREAKING-AND-PULVERIZING MACHINE.—Henry H. Hull, Bergen, N. Y.

Claim.—The beams A A, constructed with rounded surfaces C C, and provided with the projecting plates D D, thus forming a reversible scraper and pulverizer, substantially as set forth.

119,362.—MOTIVE POWER.—James B. Hunter, Ashley, Ill.

Claim.—1. The tilting-frame or way mounted on the rockers C and points E and provided with the tilting-lever, connected as described, and having the shiving-stop working in connection with the notched stop-bar, all substantially as specified.

2. The transmitting wheel *a* having the zigzag groove *b*, and connected to the shaft by a spring, combined with the lever *d*, roller *e*, rod *f*, and the cross-head A.

3. The arrangement of the cross-head A on friction-rollers *e*, and with the rail *m* and guide *k*, all substantially as specified.

4. The driving-shaft E, having a separate drum, M, for the connecting-chain of each end of the car, said drum being mounted as described, and connected to a spring-winding drum, T, for automatically winding up the slack chain, all substantially as specified.

119,363.—PROPULSION OF VESSELS.—Henry Jackson, Brooklyn, N. Y.

Claim.—The rotary tube A having collar E and aperture N at the lower end, the surrounding tube B having socket F, the elbow H, and the water-pipe I, all constructed, arranged, and applied to discharge water, as and for the purpose specified.

119,364.—VALVE ARRANGEMENT FOR LIQUID-METERS.—Julius Jonson, New York, N. Y., assignor to Joseph G. Harrison, same place.

Claim.—The within-described valve arrangement for liquid-meters, composed of a series of valves, *f*, controlling a series of compartments, *c c′*, *d d′*, and *e*, and operated by pistons *h h′* by the direct action of the liquid, in combination with the valve *n*, having a positive motion, and ports or passages *o o′*, *p p′*, *r k*, and inlet and outlet-pipes *q l*, substantially as specified.

119,365.—MELTING COPPER.—Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—The process of melting copper by interposing between a black-lead crucible and the copper an intermediate lining of carbon-excluding substance, as and for the purpose specified.

119,366.—BEE-HIVE. — Alfred H. Klepper, Muscatine, Iowa.

Claim.—The front division or section of the hive, having the stationary comb-frames J K and the transparent frame M N made approachable by the removable cover C, as specified.

119,367.—COTTON-PRESS.—Jacob B. Knight, New Orleans, La.

Claim.—1. The combination of the trusses E and K, the straining-rods N, the platen C, and the bed G, all constructed, arranged, and operating substantially as and for the purposes set forth.

2. In the cotton-press herein described and shown, the arrangement of the body A, head B, platen C provided with the truss E and shoes F, the bed G provided with the truss K and shoes M, the straining-rods N, nut L, screw H, levers J, and the follower, all constructed and operating substantially as described and shown.

119,368.—SLATE-FRAME.—William Knight, Covington, Ky.

Claim.—The open recess B in the edge of a slate, in combination with the button C or its equivalent, placed at one end of the recess, and the projection K at the other end of said recess, for the retention of a ruler for said slate.

119,369.—CLOVER-HARVESTER.—Jonathan Lamburn, Boundary City, Ind.

Claim.—The draft-rods L L, attached at one end to the axle and at the other to the thill-bar N, and the adjustable slides M M having elongated openings through which said rods pass and are allowed a slight vertical play, combined with the box A, as and for the purpose specified.

119,370. — HOLD-BACK FOR CARRIAGES.—John A. Lannert, Cleveland, Ohio.

Claim.—The herein-described hold-back for carriages, consisting of the bands B surrounding the thills A, slotted bar C, tongues E E′, spring G, and hook F, arranged to operate in the manner as described, and for the purpose set forth.

119,371. — WHIFFLETREE. — John A. Lannert, Cleveland, Ohio.

Claim.—The combination of the shell or thimble A, hook B fast to and projecting from the shell, pivoted and notched tongue C, stop E, guide H, rod F, and spring G, constructed and arranged in the manner described.

119,372.—FENCE.—Hezekiah Latshaw, McKnightstown, Pa.

Claim.—The combination of the panels A B C, posts D E, locking-bars G G′, hooks *f f*, braces H H′ with clips and pins, all substantially as and for the purposes herein set forth.

119,373.—WASH-BOILER.—George J. Leach, Rome, N. Y.

Claim.—The combination of a boiler, A, bottom C with slots *a a* and ribs *b b*, perforated tubes D D′ E, and grating G in the lid B, all constructed and arranged substantially as and for the purposes herein set forth.

119,374.—GATE-LATCH.—John H. Lee, Marshall, Texas.

Claim.—1. The case A with cover B, constructed with slots *d d′* and cam surface A, bolt C with pins *c c′*, spring E, and rod D, all arranged as and for the purpose specified.

2. The catch bolt C, provided with sliding pivots and governed in its movement by the oblique guide-surface A, substantially as specified.

119,375.—PHOTOGRAPHIC FILTERING APPARATUS.—Robert M. Linn, Lookout Mountain, Tenn.

Claim.—1. The combination of the compressing apparatus F and E with the photographic bath-cup D, substantially in the manner and for the purpose hereinbefore set forth.

2. The construction and arrangement of the arms B, supports *z*, posts T, and the ring K.

3. The construction of the filtering-bowl in the manner and of the material, as described, with the attachment *a* at the bottom.

4. The discharge-pipe V, of rubber or glass, and the method of inserting it through rubber packing, as at *d*.

5. The valve M, in combination with a rubber strap or band and tension-cord P.

6. The valve-strap N, when used for the purpose hereinbefore set forth.

7. The bellows F, made and used substantially as hereinbefore set forth.

8. The grooved blocks E and S, and the manner of binding the material to the same, as represented at S and T, and the groove S and U, substantially in the manner and for the purpose hereinbefore set forth.

9. The flexible-rubber plate H, for the purpose hereinbefore set forth.

10. The slotted double arm *b*, for the purpose hereinbefore set forth.

11. The adjustable clamping device, substantially as and for the purpose hereinbefore set forth.

12. The catch Q, for the purpose hereinbefore set forth.

13. The filtering-plug W, constructed as shown at X, combined with the wrapping Y and the rubber band Z, substantially in the manner and for the purpose hereinbefore set forth.

119,376.—EARTH-CLOSET.—Joseph M. Loewenstein, New Orleans, La.

Claim.—1. The removable frame B, with hopper D, having a bolt or pin, *y*, for holding the spring sliding door E, arranged with weights H for balancing it, and provided with the conductor F having aprons *a f* arranged to close the opening therein alternately, as set forth, in combination with the case A provided with a perforated box or drawer, C, substantially as set forth.

2. The construction and arrangement of case A with perforated box or drawer C and guides I, weights H, hooks *e*, removable frame B with hopper D and bolt *y*, spring sliding door E with conductor F, and holders *d* carrying the weights H, stops *f*, rod and spiral spring G, aprons *a*, *f*, and *g*, all substantially in the manner as herein shown and set forth.

119,377—Suspended.

119,378.—SLIDING STOP-VALE.—Henry G. Ludlow, Troy, N. Y.

Claim.—1. In a sliding stop-valve in which the gate or gates have a lateral and closing movement toward the valve-seat or seats, and in direction at right angles to that of the stem or valve-rod, the combination therewith of the triangular wedge piece D and the correspondingly-inclined wedge followers C, operating to move or crowd the gates upon their seats, when closed, by a horizontal movement.

2. In combination with a stop-valve in which the gate or gates have a lateral and closing movement toward the valve-seat or seats, and in a direction at right angles to the stem or valve-rod, the combination therewith of the triangular diagonally-wedged piece D and the correspondingly-inclined and diagonally-wedged followers C operating to tighten the gate or gates on their seat or seats when the downward movement of the latter in closing the valve has ceased, and to relieve the gate or gates of friction in the opening movement.

3. The combination of the triangular wedge piece with the wedge-shaped followers arranged to operate the gate or gates, as described, by movements at right angles to each other between guides, as described.

4. The combination in a sliding stop-valve of the fixed inclines *c*, the inclined follower C, the gate or gates B with the triangular wedge piece D and the operating stem E, constructed, arranged, and operating substantially as described.

119,379.—TRUSS-PAD. — Joseph B. Marsh, Brooklyn, N. Y.

Claim.—A truss-pad composed, in part, of a marginal ring, border-plate or band, A, and in part of a front leather, back plate, and intermediate filling, all firmly secured in common by the turning in of the edges of the ring, plate, or band, substantially as specified.

119,380.—WATER-ELEVATOR. — Isaac Mayfield, Mayfield, Ky.

Claim.—The combination, with the wheels C C′, having the tapering studs *z* of the chain composed of tapering links, bearing the buckets *d* having the lateral discharge-openings *o* and the side trough *x*′, substantially as specified.

119,381.—CALENDER. — William McAdams, Newton, Mass.

Claim.—The whole inner box *e f g g h h i j k k*, in combination with the outer box *a* having the closed top *c*, the whole being combined, arranged, and constructed as and for the purposes hereinbefore set forth.

119,382. — CART-SADDLE.—William B. McClure, Alexandria, Va.

Claim.—A cart-saddle, constructed as described—that is, with a groove and with a chain provided with rollers, for the purpose set forth.

119,383.—THREAD-CUTTER.—James Joseph McLoughlin, Nashville, Tenn.

Claim. — As a new article of manufacture, a thread-cutter, constructed as herein shown and described.

119,384.—CLOTHES-WRINGER.—Charles V. Mead, Trenton, N. J.

Claim.—1. The wringer-frame, composed of the parts C C and D D, with the bars E E hinged together at *a*, substantially as herein shown and described.

2. The combination of the frame C D E, racks G, eccentrics H, and levers I with the rollers A B, all being constructed and arranged to operate substantially as and for the purposes herein set forth.

119,385.—BUTTER-WORKER.—Peter P. Meredith, Stevensville, Mont. Ter.

Claim.—1. The combination of the cam-bar H provided with hooks *d d*, the block *b* on the cross-head D, and a spring or other equivalent device suitably arranged to hold said cam-bar away from the block except when forced close to it to change the direction of the movement of the butter-box, substantially as herein set forth.

2. The arrangement of the cam-bar H, lever I, rods *e e*, pawls or feed-hands J J′, and the pivoted lever K connected with the cross-head D, substantially as and for the purposes herein set forth.

3. The butter-stamp O provided with projections *k k*, and keyed to the cross-head D so as to be readily removed, for the purposes herein set forth.

4. The combination of the inclined plane A with guides *a a*, butter-box E with lug *f*, and ratchet-bar h, and the feed-bar L with lug *f*′, all constructed and arranged to operate substantially as and for the purposes herein set forth.

119,386. — GUN-LOCK. — Absalom Miller, Daleville, Ala.

Claim.—The combination of the hair-trigger L, set-trigger J, spring M, catch K, trigger-dog H, spring I, hammer B, dog C, connecting-rod or piece E, spring F, hammer B, and frame A with each other, substantially as herein shown and described, and for the purpose set forth.

119,387.—CHURN.—Henry H. Montgomery, Greensburg, Ind.

Claim.—The within-described churn-dasher, consisting of the vertical bars C C, upper and lower connecting-bars B B, inner-placed stationary notched wings *c c*, and revolving shaft D with arms *b b*, all arranged within the box A, and operated substantially as set forth.

119,388. — ROTATING DROP-PIPE.—George C. Morgan, Chicago, Ill.

Claim.—1. A water-pipe for railroads, consisting of the parts A, B, and C, constructed and jointed substantially as described, and having a reservoir and duct arranged to convey an anti-freezing liquid to each of the joints, as set forth.

2. Supplying an anti-freezing liquid to the joints of pipes for the purpose of preventing the formation of ice therein, substantially as set forth.

119,389. — INSECT-DESTROYER.—David G. Mosher, Mosherville, Mich.

Claim.—The construction and arrangement of the insect-catching-and-destroying device, composed essentially of the sides A, back B, handle C, receptacle E, door F, and recessed or grooved tines G, as set forth and shown.

119,390. — OFFICE-DESK. — Harcourt Mott, Troy, N. Y.

Claim.—The combination of the desk A, upright case or back B provided with a recess at its top and at each end, and the sectional fan-case covering C, the sections of which are secured within the end recesses of the back at its base by pivots, as shown, so as to allow the fan-case to be folded within the recesses, or cover the desk and front of the upright B, all substantially as set forth.

119,391. — BILLIARD-CUSHION OF RUBBER AND GUTTA-PERCHA.—John Murphy, New York, N. Y.

Claim.—A billiard-cushion composed of rubber and gutta-percha, the two substances being combined, substantially as and for the purpose herein specified.

119,392.—MANUFACTURE OF CANDY WHISTLES.—August Neuhausen, Wheeling, W. Va.

Claim.—1. The improved whistle-molds, constructed and arranged substantially as specified.

2. The process of casting whistles complete in one piece on a coro-piece, and a stud arranged in the mold to form the air-passage, substantially as herein specified.

3. As an improved article of manufacture, a whistle, composed of sugar and other substance cast in one piece and having the air-passage formed on cores, substantially as specified.

119,393.—MACHINE FOR BENDING WOOD.—Henry Ocorr, Sheboygan, Wis.

Claim.—1. The combination, with one or more wood-bending forms and the bench or other support thereof, of a screw-press or follower, supported in a grooved bearing overhanging the form or forms, and arranged to slide in said bearing, so that it may be brought over any one of the forms with which it is used, substantially as shown and set forth.

2. A wood-bending form for bending the backs and rims of chairs, provided with detachable side flanges for imparting different shapes, as desired, to the ends of the bow bent over or upon the form, as herein shown and described.

119,394. — MANUFACTURE OF ARTIFICIAL STONE.—James O'Friel, Brooklyn, N. Y.

Claim.—The composition herein specified for a cement, prepared substantially as set forth.

119,395. — TOOL-HEAD FOR PLANING-MACHINES.—Seth White Paine, Williamsport, Pa.

Claim.—1. The combination of the tool-post E journaled within the head, the shaft L, the pinion M, and the toothed segment N, substantially as and for the purpose specified.

2. The tool-post E, pivoted within the head so as to be capable of an oscillating movement in a vertical plane having a line corresponding with the movement of the planer-bed, in combination with said head, the shaft L, the pinion M, and the slotted plate O provided with the toothed rack *o*′, substantially as and for the purpose shown.

3. The means employed for giving to the tool-post E an oscillating movement vertically, consisting of the trunnioned pivoted ring F, the shaft L, the pinion M, the plate O provided with the slot *o* and toothed rack *o*′, the pulleys *i* and R, the rollers Q, and the cord P, in combination with each other and with said tool-post, substantially as shown and described.

4. The means employed for giving to the journaled tool-post E a semi-rotary movement horizontally, consisting of the shaft L, the pinion M, the toothed segment N, the swiveled pulleys *i* and R, the rollers Q, and the cord P, in combination with each other and with said tool-post, substantially as shown and described.

5. The tool-post E provided with the head E′, having within its lower face the openings K and within its sides the set-screws *k*, when the same are constructed and relatively arranged substantially as and for the purpose specified.

119,396.—WASHING-MACHINE.—Joseph H. Palmer, Yonkers, N. Y.

Claim.—1. The combination of the longitudinally-corrugated beater G and frame H I J, curved bottom C having slots or openings formed in it, and inclined vertically-corrugated side-boards D having slots or openings formed in them, with each other, and with the box A, substantially as herein shown and described, and for the purposes set forth.

2. The washing-machine side-boards D, having slots therein, and arranged with respect to the false and true bottoms, as described, to form a water-course through the side-boards and between the said bottoms, for the purpose specified.

119,397.—HARROW.—Delbert A. Parkman, Union City, Tenn.

Claim.—In combination with the hinged parallel bars A B and knife-shaped teeth C C, the log G attached or connected to the bar A by means of the chains *d d*, substantially as and for the purposes herein set forth.

119,398.—HARROW.—James M. Payne, Benton, Ill.

Claim. — The combination, with the harrow-frame G, of cutters or colters applied on the ends of vertically-movable spring-spindles *c*, substantially as described.

119,399. — CLOTHES-WASHER. — Henry W. Pell, Rome, N. Y.

Claim.—1. The combination of the lobular chambers B B and puffer-pipes C C, crowned with one or more deflecting-plates or disks, substantially as described.

2. The flexible plate *b*, duplicated or otherwise, operating as described.

119,400.—MILITARY EQUIPMENTS.—William H. Penrose, Fort Lyon, Col. Ter.

Claim.—The adjustable bifurcated yoke, combined with a waist-belt to support the necessary equipments from the breast and back of the wearer in the manner described, each equipment being attached by a strap, L, with suitable connections from the front and rear of said yoke, for the purpose specified.

119,401.—ELEVATOR.—Francis B. Perkins, Boston, Mass., assignor to himself and Campbell, Whittier & Co., same place.

Claim.—In combination with the drum *g* and its gear *i*, operated by the worm *k* on the driving-shaft, the intermediate gear *m*, driven by the worm *n* on the driving-shaft, and engaging with and actuating the drum-gear *i*, substantially as shown and described.

119,402.—APPARATUS FOR POINTING HORSE-SHOE-NAILS.—Charles H. Perkins, Providence, R. I., assignor to American Horse-Nail Company, same place.

Claim.—1. The spring nail-point guide *b* and the die *a*, constructed and used in combination with any available appliance to act on the guide and nail, substantially as and for the purpose set forth.

2. The combination of the die *a*, spring nail-point guide *o*, plunger *c*, guide-block *d*, and elevating spring *e*, substantially as and for the purpose hereinbefore set forth.

119,403.—ALARM-LOCK.—Charles E. Pierce, New York, N. Y.

Claim.—1. The lever D, provided with the toothed segment D², in combination with the cog-wheel H of the alarm mechanism, and plate P′, pivoted to the bar J, substantially as and for the purposes described.

2. In combination with the toothed segment-lever D and sliding link I, bar J, with its angular slot P and mortised end R′, and plate P¹ pivoted to mortised end P² on bar J, for purposes set forth.

3. In combination with bolt K and bar J, sliding link I, having slot O in and tenon R on the same, as described, and for the purposes set forth.

4. In combination with the preceding claim, projecting pieces N, slot M, and recess L′, as described, and for the purposes set forth.

5. Bolt K and sliding link I, attached to each other, in combination with beveled ends B² of the keeper, bar J, toothed segment-lever D, and an alarm mechanism, all of which are arranged to connect with each other, and, by pressing bolt K against one of the beveled ends of the keeper, sounded while said bolt is still retained in the keeper, substantially as set forth.

119,404.—Wheel-Cultivator. — Warren M. Pitts, Holden, Mo.

Claim.—1. The detachable feet Q constructed and secured to the standards P, substantially in the manner herein shown and described, to receive the scraper-plates S, as set forth.

2. The flanges U, formed upon the sides of the bases of the feet Q to receive the cutter-plates S, substantially as herein shown and described, and for the purpose set forth.

119,405.—Automatic Governor-Valve.—Joseph B. Potter, Conneautville, Pa.

Claim.—1. The plug *d* and conical or taper valve *e*, the former having a greater area than the latter, and connected, as shown and described, in combination with the spring *m*, to operate in the manner specified.

2. The plugs *d e*, valve *e*, shoulder *n*, and spring *m*, working in connection with each other, as described.

119,406, antedated September 23, 1871.—Tempering Apparatus.—Henry H. Ray, Arena, Wis.

Claim.—In combination with the bending device described, the trough *d*, and the rods *h* and cams *g* for operating the same, as and for the purposes set forth.

119,407. — Heel for Boots and Shoes.—Charles A. Read, Bridgeport, Conn.

Claim.—The rubber A, having a canvas *a b* respectively vulcanized to the upper and lower parts thereof, and the leather layer *c* cemented to the bottom, all arranged as and for the purpose specified.

119,408.—Shifting-Rail for Wagon-Seats.—James L. Reed, Hastings, Mich.

Claim.—1. The rail B, provided with hooks *h h*, posts *p p*, and catch-posts C C, constructed substantially as described.

2. The rail B, provided with hooks *h*, posts *p*, and catch-posts C C, in combination with seat A provided with a rail or rim, *a*, perforated at its forward ends, and having springs *e e*, constructed substantially in the manner set forth.

119,409.—Car-Coupling.—Henry R. Robbins, Baltimore, Md.

Claim.—The pivoted box *m*, the pin *n* suspended in yoke *r*, and the spring-lever *t t'*, arranged as herein shown and described, in connection with the draw-head *u'*.

119,410.—Suspended.

119,411, antedated September 23, 1871.—Seed-Planter and Fertilizer-Distributer.—John Sample, Franklin county, Miss.

Claim.—The combination of the wheels E, dropping-wheels G g^1 g^2, slide I, bars K, crank-rod L, bar M, and spring J with the seed-hopper and the fertilizer-hopper, substantially as herein shown and described.

119,412.—Self-Oiling Journal-Box.—John Sault, South Manchester, Conn.

Claim.—1. The removable arms or pins *c c*, &c., attached to the journal in such a manner that a greater or less number of them can be used at a time to regulate the supply of oil.

2. The oil-box, having the feed-hole *g* placed in the position indicated.

119,413.—Manufacture of Cement.—David O. Saylor, Allentown, Pa.

Claim.—1. The process for making hydraulic cement from argillo-magnesian and argillo-calcareous limestone, substantially as herein specified and described.

2. As an improved article of manufacture, hydraulic cement produced from argillo-magnesian and argillo-calcareous limestone, substantially as herein specified and described.

119,414.—Clamp for Mortising-Machines.—Anton Schmackers, Cincinnati, Ohio, assignor to J. A. Fay & Co., same place.

Claim.—The clamp C C', provided with screw D *d d'*, and occupying slot *b* in back B or B', as and for the purpose set forth.

119,415.—Horseshoe. — Rudolph Seiffert, Chicago, Ill.

Claim.—The calk B, having the groove *c* formed in its end, with the screw-stem *b* for securing it to the shoe, as herein set forth.

119,416.—Railway-Car Coupling.—George C. Sherman, Chicago, Ill.

Claim.—The draw-head herein described, provided with the angular projection *h'''* in rear of the pin, and with the rock-shaft *d*, having loop *g* and operating-arm *e*, in combination with the pin having a globular expansion *h* at its upper portion, substantially as specified.

119,417. — Fifth-Wheel and Coupling for Vehicles.—Eugene W. Silsby, Ottumwa, Iowa.

Claim.—The combination of the circles D D', arms E E', center circles G G', and king-bolt *b*, all constructed and arranged with the front axle A, head-block B, and reach C, substantially as and for the purposes herein set forth.

119,418. — Cotton-Hoe. — Zachariah B. Sims, Bonham, Tex.

Claim.—1. As an improvement upon the patent granted me August 31, 1869, for improvement in cotton-hoes, the divided handles C D, united together by the angular metallic socket E, as and for the purpose set forth.

2. The divided handles C D, angular metallic socket E, arms B B, back A, elevated loop *a*, and cutters *b b*, when all are constructed and employed in connection with the central cutter *c*, in the manner and for the purpose heretofore set forth.

119,419.—Rolled Steel Plate for Making Cultivator-Teeth. — William W. Skinner and David D. Skinner, Des Moines, Iowa.

Claim.—The improved steel plate, as described, and for the purposes specified.

119,420.—Wagon-Hound.—Fridolin Smith, Tiffin, Ohio.

Claim.—1. The hounds B, having a piece, *b'*, removed from one side, leaving the strip or hounds B thinnest in the center and gradually increasing in thickness toward the ends, substantially as herein shown and described, and for the purpose set forth.

2. The block A, rounded upon one side to receive and hold the strip B while the piece *b'* is being removed, substantially as herein shown and described.

3. The hounds B, bent into oval form and made thinner in the middle than toward the ends, substantially as herein shown and described, and for the purpose set forth.

119,421. — Gate.—Byron Snyder, Clinton, Wis.

Claim.—The construction and arrangement of the posts A A', D, E E', and H, the heel-post B, hinged to the post A, and carrying the adjustable gate C, the brace F, latch-bar G, latch-bolt *d*, latches *e e'*, and weighted cords I, I', J, and J', all arranged and operating with relation to each other as herein described, for the purpose specified.

119,422.—Sole-and-Heel Burnishing Machine.—Vivian K. Spear, Lynn, Mass.

Claim.—1. In a machine for burnishing boot-and-shoe heels, the combination, with the boot-carrier, of the revolving wheel, under the arrangment substantially as shown and described, so that the wheel shall revolve against the heel-edge in a direction inward toward the boot, for the purposes stated.

2. In a machine containing a means of reducing or finishing and of burnishing a heel-edge, the boot carrier or "jack," constructed and applied to the machine-frame, substantially as herein shown and described, so as to permit of a boot-heel being presented to the action of either wheel, at the discretion of the operator, without removing or disturbing the boot from its position within the jack.

3. The combination of one or both of the wheels *d* or *e*, and the jack or carriage B, the whole being organized and operating substantially as herein explained.

119,423. — Combined Subsoil, Drill, and Side-Hill Plow. — William W. Speer, Allegheny City, Pa.

Claim.—The perpendicularly-sided and triangular mold-board G, pivoted at the vertex of its angle to the bolt I of subsoil-plow irons C D E, and adjustable on the arc-bar J to enable the plow to be adapted to the uses specified.

119,424.—Anti-Friction Bearing of Water-Wheels. — Bradford Stetson, Uxbridge, Mass.

Claim.—1. The friction-roller, inner-support ring F, as provided with the friction-roller pivots or journals *h*, the annular groove *g*, and the passages *i* leading from said groove into and through the pivots or journals *h*.

2. In combination with the inner-support ring F, the oil-groove *g*, ducts *i*, and pivots *h*, the outer ring K and its series of screw-pivots and clamp-nuts, all arranged and operating as set forth, with the friction-rollers J arranged between the rings K F and employed to support a water-wheel or other shaft, as described.

119,425. — Steering Apparatus.—Joseph W. Strange, Bangor, Me.

Claim.—The combination of the steering-wheel, tiller, and mechanism by which to produce a geared or direct movement, or to lock the wheel, substantially as described and shown.

119,426. — Composition for Removing Scales from Steam-Boilers.—Charles A. Sweet, Ripon, Wis.

Claim.—A compound composed of the above-named ingredients, substantially in the proportions described, and for the purpose specified.

119,427.—Balanced Valve for Steam-Engines.—John F. Sweet, Cedar Rapids, Iowa.

Claim.—1. The relative arrangement within the plug and casing of the ports *a*, a^1, a^2, a^3, *b*, b^1, b^2, and b^3, substantially as and for the purpose shown.

2. The heads E' and K, the bolts I provided with the nuts I', the step *k*, and the collar L, in combination with each other, the spindle C, and the sleeve E, substantially as and for the purpose set forth.

119,428.—Feed-Water Heater for Steam-Boilers.—John F. Taylor, Charleston, S. C.

Claim.—The perforated and hollow chamber B, of nearly the same internal diameter of the boiler, placed in the smoke-chamber and at a little distance from the tube-sheet *b*, and connected by pipe *g* with the steam-boiler, in combination with the inlet-pipe *f* rising to or above the top of said chamber B, and connected with the ordinary feed-pump, as and for the purpose specified.

119,429, antedated September 9, 1871.—Knob for Drawers, &c. — Nathan Thompson, Brooklyn, N. Y.

Claim.—A sheet-metal knob, formed with spurs or prongs *a* projecting longitudinally from its open inner edge, substantially as and for the purpose specified, as an improved article of manufacture.

119,430, antedated September 9, 1871.—Pulley, Sheave, and Wheel.—Nathan Thompson, Brooklyn, N. Y.

Claim.—1. A pulley, sheave, or wheel made in sections A A' by stamping or pressing, as described, and formed with ribs or projections and correspondingly-shaped grooves or depressions on their inner faces, arranged to hold said sections both concentrically and from turning independently of one other, substantially as specified.

2. The combination, with a pulley, sheave, or wheel constructed in sections by stamping or pressing, as described, of the attachable side hubs *d d* constructed to fit the sections A A', and to be held by the latter both concentrically and against independent movement, essentially as herein set forth.

119,431. — Railway-Car Coupling.—Eugene M. Van Hoesen and Nelson H. Brown, Syracuse, N. Y.

Claim.—The swing-head B, shaped as shown, and applied to the finger *c* of the draw-head to constitute a coupling, substantially as set forth.

119,432.—Washing-Machine.—Joseph Varney, Batavia, Ill.

Claim.—1. The combination of the octagon longitudinally-corrugated roller B, the reciprocating corrugated wash-board D, and the spring E, said spring connecting the wash-board with the operating mechanism and pressing it against the roller, substantially as and for the purposes herein set forth.

2. The combination of the box A, octagon roller B, crank C, wash-board D, spring E, block G, lever H, pitmen J M, fly-wheel K, pulley *a* L, belt *b*, crank *d*, and treadle N, all constructed and arranged substantially as and for the purposes herein set forth.

119,433.—Plow.—James Cunningham Vertrees, Gallatin, Tenn.

Claim.—A plow constructed substantially as described, and having its standard B and handle C provided with a series of holes for adjusting the beam D thereon, as herein set forth.

119,434.—Stove-Cover for Fuel-Reservoirs.—Jacob V. Vrooman, Schenectady, N. Y.

Claim.—1. Hinge C, constructed and arranged with reference to cover A, in the manner herein set forth.

2. The hinged cover A, having a spur or nib, *a*, combined and arranged with reference to cover B so as to operate in the manner and for the purpose herein shown.

119,435. — Roach-and-Mouse Trap.—William I. Webb, Philadelphia, Pa.

Claim.—The combination of the funnel-shaped glass vessel D *c*, the elevated bait-holder E, the case B, and the opening F, as and for the purpose described.

119,436. — Apparatus for Distilling.—Ernst Werner, Canton, Ill.

Claim.—1. The doubler B having the worm-pipe *d*, in connection with the pump *k*, beer-reservoir H, and pipes *f m y*, all constructed and arranged substantially as specified.

2. The arrangement of the still A and doubler B communicating through the pipes *d d'*, pump *k*, and beer-well H, all constructed to operate substantially as described, for the purpose specified.

119,437.—TRANSMITTING MOTION.—Henry F. Wheeler, Boston, Mass.

Claim.—The combination, with the reciprocating piston-rod, of the links, pawl-arms, friction-pawls, and flanged wheel, arranged and operating substantially as described.

119,438. — SELF-ACTING GATE.— Franklin Whitaker, Bel Air, Md., administrator of the estate of Samuel Whitaker, deceased.

Claim.—1. The double-armed lever G, chains I, pulleys I', and cranks J, in combination with the gate B, staple E', and pivoted sliding arm E, substantially as described.

2. The pulleys D D', chain *d'*, and lever E, in combination with the gates B B', as and for the purpose described.

119,439, antedated September 14, 1871.—MACHINERY FOR MANUFACTURING BRUSHES. George Willett, St. Albans, Vt.

Claim.—1. Rolling and casing a brush by the continuous movement of an apron, substantially as shown and described.

2. The arrangement and combination of the carriage E, cam J, apron D, and frame or table A with the parts connected therewith, substantially as and for the purposes herein shown and described.

119,440, antedated September 14, 1871.—MACHINERY FOR MANUFACTURING BRUSHES. George Willett, St. Albans, Vt.

Claim.—1. The brush-clamp L, with the elastic bed N and eccentric lever M, arranged to operate substantially as and for the purposes described.

2. The handle-clamp C, constructed and arranged to operate substantially as and for the purposes described.

3. In combination with machinery for making brushes, the wheel G and mode of operating the plunger F, substantially as shown and described.

4. The combination of the clamps C and L, plunger F, and wheel G, substantially as and for the purposes herein shown and specified.

119,441. — OIL-CAN.—George D. Winchell, Cincinnati, Ohio.

Claim.—1. The arrangement, substantially as herein described, of the partially open-mouthed oil-can A, fixed brace B, hinged cover C, and detached segmental pan G, said pan being adapted to receive a suitable pump, I, as and for the purpose explained.

4. The combination of the supporting-neck J, plate L *l l'*, spring O *o o'*, hooks S S', and pump I *i*, for the object set forth.

REISSUES.

4,567.—WHEEL FOR VEHICLES.—James R. Baird, Vincennes, Ind. — Patent No. 117,142, dated July 18, 1871.

Claim.—The combination, in a staggered-spoke wheel, of the hub A, ring B, spokes C C with shoulders *a a* and tenons *b b*, the felly D, and felly-plate E with pin D and spoke-socket G, all constructed and arranged substantially as and for the purposes herein set forth.

4,568.—COOKING-STOVE.—Mary Ann Boughton, Norwalk, Conn.—Patent No. 113,842, dated April 18, 1871.

Claim.—1. The combination, in a cook-stove, of an oven, a fire-place, and tubes *g g* arranged wholly within the oven, as described, and communicating with the flues, as set forth, so as to conduct the gases through the oven after they have passed round three sides thereof, as set forth.

2. A cook-stove in which the gases pass round three sides of the oven without being reversed, and without being divided except at the point over the upper plate where the exit-flue is situated, as set forth.

3. The combination of the exit-opening and the tubular flue communicating therewith and with upper and lower flues *h* and *h'*, furnished with slides, substantially as specified.

4. The combination, with the front plate *k* and recessed hearth-plate *k'*, of hinged doors I I' having flanges *l l*, arranged as specified.

5. A plate, E, hung to the outer casing of a stove so as to be turned to a vertical or horizontal position, substantially as described.

4,569.—MACHINERY FOR FORMING THE LIPS OF AUGERS. — James Swan, Seymour, Conn.—Patent No. 116,509, dated June 27, 1871.

Claim.—1. In combination with the projecting crimp-dies *a a* and revolving mandrel C, the sleeve N arranged upon the said mandrel and held in position by one or more trunnions, to which the lever P is attached, the said sleeve having a longitudinal movement imparted thereto, through the lever P, by means of the crank R, the internal front of the sleeve being beveled or expanded outwardly, the whole operating in the manner substantially as described.

2. The combination of a pair of holding-dies, a revolving mandrel, C, a carriage, D, cam F, shaft H, worm I, and pinion L, substantially in the manner herein described.

3. The cam F, having a rounded projection, as shown, in combination with the revolving mandrel C, substantially as and for the purpose specified.

4,570. — CLOTHES-WRINGER.—Washington Whitney, Winchendon, Mass., assignor to The Metropolitan Washing-Machine Company.—Patent No. 33,861, dated December 3, 1861.

Claim.—1. The combination, in a clothes wringing machine, of a yoke adapted to straddle or fit over the edge of a tub to which the machine is applied, with a clamping-screw carried by one of the legs of the yoke, and a self-adjusting pad on the end of the screw which will adapt itself to the curvature or inclination of the side of the tub, substantially as shown and described.

2. The projections formed upon one of the legs of the yoke, in combination with a clamping device carried by the other leg, under such an arrangement that the clamping device shall bear upon one side of the tub to which the wringer is applied at a point intermediate between those at which the projections bear upon the opposite side of the same, substantially as shown and described.

3. A clothes-wringer provided at each end with a roll-supporting metallic frame cast in one piece with a yoke or pair of legs for straddling the edge of the tub to which the wringer is applied, one of the legs of each pair being provided with a clamping device, substantially as described.

4. The combination of the lower roll and its supporting frames with the upper roll carried in brackets hinged to the frames, and the springs connected with the frames and brackets so as to draw together the rolls, substantially in the manner shown and set forth.

4,571. — MACHINE FOR OPERATING GLASS-MOLDS. — William C. King, Pittsburg, Pa.—Patent No. 114,569, dated May 9, 1871.

Claim.—1. A rotating base for carrying through the medium of operating mechanism, two or more molds into such position that a descending plunger shall form therein articles of glass-ware, substantially as described.

2. The hinged and counterbalanced drop-pan *s*, made substantially as and for the purpose described.

3. In connection with a series of revolving molds a hooked lever, F, wheel *o*, with pins *o''* or their equivalents, arranged substantially as and for the purposes described.

4. In connection with a series of revolving molds a bent lever, *m*, pin *n*, grooves *p p'*, and wheels *o*, having ratchet-teeth *o'* or their equivalents, arranged substantially as and for the purposes specified.

5. The block *i*, perforated or chambered out in the direction of the axial line of the molds attached thereto, and provided with drop-weights *x*, substantially as described.

4,572.—LAMP.—Charles B. Mann and Stephen S. Mann, Baltimore, Md.—Patent No. 114,954, dated May 16, 1871.

Claim.—1. A safety-filling attachment for lamps, consisting of a long wick and filling-tube, and a drum having an orifice for the insertion of the nozzle of an oil-can, and provided with the spring-slide *b* or other suitable device to close said orifice, and so constructed as to provide outlets for the vapor from the reservoir of the lamp while preventing its escape through the tube and drum, substantially in the manner shown and described, and for the purpose specified.

2. In a safety-filling attachment for lamps the spring-slide *b*, constructed and arranged in connection with the drum *a*, substantially as described.

3. In an attachment for lamps, the long wick and filling-tube *c*, when forming, in connection with the drum, an annular chamber, which is provided with outlets and communicates with the lamp-reservoir, substantially as described.

4. In an attachment for lamps, consisting of a drum having screw-connections and a long wick and filling-tube, ventilating-holes in the drum, and a vapor-passage in the screw-neck of the drum for the outlet of vapor from the lamp-reservoir, as described.

5. In an attachment for lamps, a long wick and filling-tube, and a drum with screw-connections, when secured together by means of a flange on the head of the tube so as to leave an annular space between the tube and the screw-neck of the drum, for the purpose specified.

6. The safety-attachment for lamps, consisting of the long wick and filling-tube *c*, and a drum having screw-connections, and which is provided with an annular gas-chamber with ventilating-holes in it, and constructed to form the space between its male screw-neck and the long-wick-tube, substantially in the manner described, and for the purpose specified.

DESIGNS.

5,276.—GROCER'S CAN. — John J. Bockee, Jr., New York, N. Y.

Claim.—A design for a grocer's can, of the shape and ornamentation substantially such as shown and described.

5,277.—CIGAR-BOX.—Andreas Lis, Covington, Ky.

Claim.—The design for a cigar-box, as shown at A B B' C D D' in the annexed illustration.

5,278.—CARPET-PATTERN. — William McCallum, Halifax, England, assignor to Joseph Wild & Co., New York, city.

Claim.—The design for a carpet, as shown.

5,279.—CARPET-PATTERN. — William McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,280.—CARPET-PATTERN. — David Paton, New York, N. Y., assignor to Joseph Wild & Co., same place

Claim.—The design for a carpet, as shown.

5,281.—CARPET-PATTERN. — David Paton, New York, N. Y., assignor to Joseph Wild & Co., same place.

Claim.—The design for a carpet, as shown.

5,282. — FRAME FOR CHURCH, HALL, AND LAWN-SEATS.—Henry M. Sherwood, Chicago, Ill.

Claim.—A design for church, hall, school, and lawn-seat frames, with ornaments of leaves, quarterfoils, and buds, substantially in the manner above described.

5,283.—KNITTED NUBIA FABRIC.—John Taylor, Philadelphia, Pa.

Claim.—The design for a knitted nubia fabric, in which are combined a fringe, A, and a body, B, of a different fabric.

5,284.—ICE-PITCHER BODY.—George Wilkinson, Providence, R. I., assignor to John P. Adams, Brooklyn, N. Y.

Claim.—The design for an ice-pitcher body, as shown and described.

5,285.—FIRE-IRON STAND.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for fire-iron-stand parts, together or separately, as shown and described.

5,286.—FIRE-IRON STAND.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for fire-iron stand, described and shown in the accompanying illustration.

5,287.—BASE FOR BIRD-CAGE BRACKET.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for base for brackets, substantially as described and shown in the accompanying illustration.

5,288.—FASTENER FOR MEETING-RAILS OF SASHES.—Purmort Bradford, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for sash-fastener described, consisting of an ornamented panel on the back or rear of the fastener.

5,289.—ORGAN-CASE.—Levi K. Fuller, Brattleborough, Vt.

Claim.—The design for an organ-case, as shown.

5,290.—ORGAN-CASE.—Levi K. Fuller, Brattleborough, Vt.

Claim.—The design for an organ-case, as shown.

5,291. — TROLLING-SPOON. — John Henry Mann, Syracuse, N. Y.

Claim.—The design for trolling-spoons, in which the spoon A is of a shield-shape, having shoulders *b*, and formed with the concavo-convex or spoon surfaces, as described.

5,292.—FRUIT-BOX.—Joseph Sherman, Burlington, N. J.

Claim.—The design for a fruit-box, substantially as described, and illustrated in and by the accompanying drawing.

5,293.—IRON FRAME FOR UPRIGHT PIANOS, Justin Whitney, Boston, Mass.

Claim.—The piano-forte frame design, substantially as described and represented.

5,294.—STOVE-COVER LIFTER.—Edward B. Wilbur, Raynham, Mass.

Claim.—The design for a stove-cover lifter, substantially as represented in the drawing, and as hereinbefore described.

5,295.—DOOR-BOLT.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for barrel-bolt and keeper, together or separately, as described and shown in the accompanying illustration.

TRADE-MARKS.

446.—LINIMENT.—William H. Adams and Frank A. Young, Bangor, Me.

447.—CHOLERA MEDICINE.—Atchison & Bro., Frankfort, Ind.

448.—MEDICINE.—Dunn & Co., London, England.

449.—LEATHER.—Eagle Tanning Works, Chicago, Ill.

450.—STRENGTHENING-PLASTER.—Charles W. Massonneau, Red Hook, N. Y.

451.—CORN-SALVE.—John McKee, New Orleans, La.

452.—MEDICINE.—Jane Scott, New York, N. Y.

453.—MEDICINE.—Thompson, Steele & Price Manufacturing Company, Chicago, Ill.

EXTENSIONS.

CHARLES WINSLOW, of Lynn., Mass.–Letters Patent No. 17,950, dated August 4, 1857; reissue No. 492, dated September 15, 1857.

"Improvement in Elastic Gore-Cloth."

Claim.—An elastic band or gore-cloth, when made not only of a fabric composed of a cement of India rubber or gutta-percha and two pieces of cloth in which the warp and weft of each piece are made to cross one another diagonally or at acute angles, but with the edges of the cloth cut and overlapped and cemented down in a line or lines out of parallelism with either the warp or weft-threads, the line of maximum elasticity in the binding making that angle with the warp as well as the weft, which is the complement of half the angle which they make with each other.

PHILIP W. MACKENZIE, of Jersey City, N. J.—Letters Patent No. 18,051, dated August 25, 1857; reissue No. 1,403, dated February 10, 1863; reissue No. 1,843, dated December 27, 1864.

"Improvement in Cupola and other Furnaces."

Claim.—1. A furnace of elongated form and having its surrounding shell concave on the sides, substantially as described, for the purpose set forth.

2. Introducing the blast in cupola or blast-furnaces in a thin sheet or sheets, substantially as described, in contradistinction to a series of round jets, whereby the blast is caused to act more uniformly on the charge.

3. A furnace, having the plan of its bosh of a shape substantially like that shown, and provided with a means for the introduction of the blast all along both sides, whereby the mass of fuel and metal is presented in a thin vertical stratum to the action of two continuous sheets of blast entering at the opposite sides of the furnace, substantially as and for the purpose set forth hereinbefore.

4. Projecting the inner edge of the bosh, or the inner lower portion of the furnace-chamber, inwardly beyond the tuyere or blast-opening to prevent the clogging of the blast-openings or tuyere-mouths, substantially as described.

JAMES A. WATROUS, of Green Spring, Ohio. Letters Patent No. 18,113, dated September 1, 1857.

"Improvement in Apparatus for Suspending Eaves-Troughs."

Claim.—The employment of a metal strap, D^1, in combination with the cross-bar B^1 and the slotted plate C^1 for securing and readily adjusting eave-troughs.

GEORGE C. DOLPH, of West Andover, Ohio. Letters Patent No. 18,141, dated September 8, 1857; reissue No. 904, dated February 21, 1860.

"Improvement in Mowing-Machines."

Claim.—Attaching the cutter-bar B and cutter A to the front of the frame of the machine by means of a plate or bar, so arranged that its front end may be raised or lowered by a lever independently of the main frame of the machine, and thus give to the cutting apparatus a tilting or rocking movement which will elevate and lower the points of the fingers, said parts being constructed and applied to the patented machine of E. Ball above referred to, in the manner substantially as described.

CHARLES MONSON, of New Haven, Conn.—Letters Patent No. 18,154, dated September 8, 1857.

"Improvement in Extension Gas-Tubes."

Claim.—1. The combination of levers and tube or tubes, substantially as set forth.

2. The use and application to a gas-tube of jointed extension-levers like (or operating substantially upon the principle of) those which I have described.

3. The use and application thereof, as an instrument for extending the reach, and for contracting the reach of a gas-tube or of gas-tubes of whatever form, and for holding and guiding the same.

4. The use of said levers as an instrument for relieving or preventing the strain of traction or of weight upon said gas-tube and upon the joints thereof, substantially as shown in the drawings C and D, with the accompanying explanations of said drawings.

CHARLES H. SAYRE, of Utica, N. Y.—Letters Patent No. 18,073, dated August 25, 1857.

"Improvement in Cultivators."

Claim.—A combined horse-hoe and double mold-board plow, constructed, arranged, and operated substantially as set forth.

THOMAS J. CHUBB, of New York, N. Y.—Letters Patent No. 18,038, dated August 25, 1857.

"Improvement in Separating Ore."

Claim.—Effecting a separation of a thin layer of finely-pulverized ore into layers or stratums of different specific gravity upon a perforated bed or its equivalent, by means of applying light minute puffs of air up through the interstices of the said bed and through a thin layer of ore evenly spread and resting thereon, as herein described, for the purpose of very gently agitating the said layer of ore and floating the lightest substance therein to the top thereof, and allowing the heaviest substances therein to gravitate to the bottom of said layer on the said bed.

HENRY W. ALDEN, of New York, N. Y., executor of the estate of TIMOTHY ALDEN, deceased.—Letters Patent No. 18,175, dated September 15, 1857; reissue No. 3,572, dated July 27, 1869.

"Improvement in Type-Setting and Distributing-Machine.

Claim.—1. The method, substantially as described, for conveying the type to and from the type-cases, and the composing and setting-tables, consisting of a type-carrier, in combination with a series of conveyers, which are capable of receiving any type indiscriminately, and also of receiving an indication representing the type so received or that required, whereby that type may be deposited into or taken from the type-cases, substantially as set forth.

2. The herein-described or any equivalent method of attaching the conveyers to the carrier-wheel, by which they are permitted to stop while delivering or receiving type without arresting the motion of said carrier, substantially as set forth.

3. Giving to the griping-end of the conveyer a motion from and toward the center of the carrier-wheel, whereby said griping-end is made to closely approach the place at which the conveyer is to receive or deposit a type, for the purposes and in the manner substantially as described.

4. The cam u^5 and lever t^5, whereby the griping-bolt o is withdrawn and made to release the type, substantially as described.

5. The latch v^5 and notch x^6 in the bolt o, to retain the bolt open, substantially as set forth.

6. The pin y^6 on the carrying-wheel, to throw back the latch and release the bolt o, substantially as described.

7. The cam d^6 on the carrier-wheel, in combination with the pusher b^6 on the conveyer, to discharge the type from the gripers, substantially as set forth.

8. The lever u^6 secured to a stationary fulcrum, to give motion to the pusher x^6 of the setting-conveyers, substantially as set forth.

9. The springs l^5, having the double function of thrusting the conveyers out and forcing them in, substantially as described.

10. The projecting piece y^6 on the conveyers, and the stationary hooks x x, for the purpose of arresting the conveyers at proper places, substantially as set forth.

11. The adjustable indicator-points o^6 on the conveyers, substantially as and for the purpose described.

12. The bar n^6, cams f^6, and spring o^6, for carrying the conveyers to the forward ends of their slots, substantially as set forth.

13. In combination with the devices or mechanism for receiving the types into and for delivering them from the type-cases, arranging the types edgewise in said cases, whereby, for all the types of a font, a uniform throw or action may be given to said mechanism.

14. In combination with the type channels or cases, the mechanism for pushing out the type, consisting of the rack, pendulum, lever, and propelling-rod, and the pusher upon the conveyers, or any equivalent thereof, as described.

15. In combination with the type-channels, the mechanism for preventing the stopping of a setting-conveyer at a type-channel when it is empty, or a distributing-conveyer at a channel when full of type, consisting of the tilting-bar s^7, the pendulum-lever, and rack or equivalents, as described.

16. The rim r^7, to lift the pawl m^7 clear of the ratchet l^7, substantially as set forth.

17. The excavated ring m^8, in combination with the conveyers and type-channels, substantially as and for the purpose described.

18. The stationary inclined pieces g^7, in combination with the grooves of the ring m^8, for restoring the indicating-points upon the conveyer to a zero or starting-point, as set forth.

19. The movable indicators e^7, in combination with the grooves in the ring m^8, and with the shifting-bars of the distributing mechanism, substantially as described.

20. The channel of excess Q, in addition to the regular type-cases K, and in combination with the conveyers d substantially as and for the purpose set forth.

21. The latch j^3 and pusher b^3, in combination with the channel Q, substantially as and for the purpose described.

22. The mechanism for feeding up the line of type, consisting of the cam w^3, spring x^3, arm u^3, and pawl q^3, substantially as set forth.

23. The mechanism for feeding up the column of type and for elevating the successive lines thereof into the channel, substantially as described.

24. The method of engaging and disengaging the feeding-pawls, consisting of the hanging-lever a^3, in combination with the frame x, with the means for depressing the bolt d^3, and with the ratchet having the engaging and disengaging wedges, as described.

25. The movable plate d^3 in the channel a, to allow of raising the top line free of obstruction, substantially as set forth.

26. The arrangement of type-levers, to act on the nicked edges of the type and produce the required set in the machine, substantially as and for the purpose described.

27. The combination of the type-levers z^3 with the distributing-conveyers, substantially as and for the purpose set forth.

28. The movable frame y^3 carrying the type-levers z^3, in combination with the graduated stop c^4, substantially as and for the purpose described.

29. The lever i^4 and apron g^4, to regulate the throw of the frame y^3, for the "thin space," substantially as set forth.

30. The hammer a^5, to keep the type down on the bottom of the channel a and insure a correct operation of the levers z^3, substantially as described.

31. The bell-crank lever e^4 and pin l^4, for relieving the frame y^3, substantially as described.

32. The arrangement of mechanism for transmitting the movements produced upon the levers z^3 by the nicks in the type, and for effecting the proper combinations upon the indicators e^7, consisting of the detaining-levers n^4, the bars p^4, bar t^4, bars r^4, bar y^4, and the connecting-levers g^4, together with the operating-cams upon the shaft j^6, or any equivalent combination whereby the same results will be produced, as described.

33. In combination with the keys, the arrangement of mechanism whereby the separate different signals represented by each of a great number of keys may be produced by a less number of indicators, as described.

34. The independent registering apparatus, constructed as described, or its equivalent apparatus, which will effect the recording of the letters or signs as indicated by the keys, independently of the type-carrying apparatus, substantially as set forth.

35. The pins o^9 placed in the rings R of the register-wheel, substantially as and for the purpose described.

36. The stationary cam s^{10}, for returning the pins o^9, substantially as set forth.

37. The radiating revolving-levers h^9, in combination with the register-wheel and with the keys, substantially as described.

38. The mechanism for transmitting the indications from the register, consisting of the detaining-levers k^9, in combination with the setting-indicators and with the register, substantially as described.

39. The springs g^9 g^9 and lever i^9, in combination with the indicator-bars f^9 and with the register and carrier-wheel, whereby the indicator-bars are caused to act on the setting-conveyers and immediately thereafter made to retreat previous to the

passage of a distributing-conveyer, substantially as set forth.

40. The toe e^9, in combination with the radiating revolving frame f^9, stop-pawl p^9, and register-wheel R, substantially as and for the purpose described.

ISSUE OF OCTOBER 3.

PATENTS.

119,442, antedated September 18, 1871.—PRESERVING THE COLORS OF DRIED FRUITS.—David Ackart, Schaghticoke, N. Y.

Claim.—Sulphuric acid with water, in the manner and for the purposes above specified.

119,443.—REVOLVING REFRIGERATOR.—Cyrus Avery, Erie, Pa.

Claim.—1. The combination of a revolving refrigerator with the base H, so constructed as to form a water-cooler, as herein set forth.

2. The construction of a revolving refrigerator with bottle-pockets, so constructed that the water shall pass on all sides of but not enter the same, in the manner and for the purposes set forth.

3. The bottle-pockets A A A, &c., constructed as described, in combination with the discharge-pipe *j* placed in the bottom of the same, as and for the purposes set forth.

4. The removable cover B B, with the centrally-located filter C constructed therein, combined with the base H, as herein described.

5. The combination of the case G with the revolving refrigerator, as herein set forth.

119,444. — DUMPING-CART. — Olof Benson and John G. Falk, Chicago, Ill.

Claim.—1. A dumping-cart, provided with a guiding-pole or rudder, C, projecting from its rear end, and a rope or chain, G, secured to the front end for the purpose of attaching a horse, arranged and operating substantially in the manner described, and for the object set forth.

2. In combination with a cart arranged as described, the stop-brace E, either with or without the cord F, as shown and described.

119,445.—DIE FOR CUTTING SCREWS.—John Carroll, Oakland, Cal., assignor to himself and Charles Wilkinson, same place.

Claim.—1. The cylinder D, provided with the guide-holes and the corresponding dies, in combination with the perforated case A, when constructed and operated substantially as described.

2. The holding device E, constructed substantially as shown, in combination with the subject-matter of the first clause of the claim, substantially as shown and described.

119,446. — THILL-COUPLING. — Jonathan Childs, West Troy, N. Y.

Claim.—The plate-hook E of the carriage-shaft, formed with the eccentric circles or curves G H and shoulder or projection I, and arranged in combination with the clip or coupling A and its bolt B and packing D, substantially as and for the purpose herein specified.

119,447.—SHOEMAKER'S PINCERS.—Arthur Clarke, Boston, Mass.

Claim.—The combination of the serration A with the upper jaw *c*, as and for the purpose hereinbefore set forth.

119,448.—STOPPING MECHANISM FOR KNITTING-MACHINES. — Richard Cook, New Hartford, N. Y.

Claim.—The combination of the endless screw *a*, gearing *c e*, and shaft *d* with the endless belt *f*, provided with the cross-bars *u*, the rod W, and the lever A, all constructed, arranged, and operating as and for the purpose described.

119,449.—CAP-SHEARING BLOCK.—Richard Cook and Thomas Hanford, New Hartford, N. Y.

Claim.—The cap-shearing block E, axle K, standard J, and platform I, arranged, combined, and operated as and for the purposes shown and described

119,450.—CARRIAGE-CURTAIN STRAP.—Horatio Cornell and Andrew H. Marshall, Wilmington, Del.

Claim.—1. The curtain-strap or holder provided with a metal link or series of links, as set forth.

2. The metal loop or section *b'*, substantially as set forth.

3. The curtain-holder, made in the manner described, of the flexible portion united to the rigid loop or section.

4. The curtain-strap, united to the carriage-frame by the pivotal connection to allow of its being turned around.

5. In combination with the carriage-curtain holder the beveled washer, as and for the purpose described.

6. In curtain-holder, consisting of the metallic hook-strap *b' h*, having the link or links *b* near the end h, said end being elbow-shaped and perforated or otherwise adapted to be pivoted to the carriage-frame, as specified.

119,451. — METHOD OF CASTING PLATE-GLASS.—Ewan Cossaboom, Lenox, Mass.

Claim.—The intermediate table for removing the glass from the casting-table to the oven, constructed, substantially as shown, on wheels, with bed or face of wood, plaster, or other material, as set forth.

119,452. — PRUNING-SHEARS. — John F. Creighton, Placerville, Cal.

Claim.—In combination with the shears A, the griping-tool or hold-fast B, secured to the shears by the bolt *c* and screws *f*, in the manner and for the purpose above described.

119,453. — REFRIGERATOR. — Henry Davis and Rinaldo Alden, Erie, Pa.

Claim.—The ice-chamber A, with shelf *d* and body B, in combination with the revolving shelves *a a a*, when arranged and operating as above described, for the purposes specified.

119,454.—WATER-GAUGE FOR STEAM-BOILERS.—Morris Doyle, Baltimore, Md.

Claim.—The combination and arrangement of one or more constricted nozzles, A, and valve W within the steam-passage, forming communication between steam-drum and water-gauge, and directed away from the boiler with the secondary chamber H, to which the transparent water-gauge is attached, substantially as described.

119,455.—APPARATUS FOR EXTINGUISHING STREET GAS-LAMPS.—George S. Dunbar, Pittsfield, Mass.

Claim.—1. The combination, with a gas-burner, of a horizontal flexible diaphragm, carrying a central open vertical duct whose interior port dips into a liquid seal, all as above set forth.

2. The combination, with a gas-burner, of a horizontal flexible diaphragm, operated on by the pressure of the gas beneath, and a liquid seal on the top of the said diaphragm inclosed between concentric cylinders, of which cylinders the inner one transmits the gas, all arranged in the manner and for the purposes above set forth.

3. The combination, with the horizontal flexible diaphragm of the latch X X, so arranged as to lock down the diaphragm by its own gravitation or diminution of pressure beneath the same, all substantially as specified.

119,456. — SIGNALING DEVICE FOR RAILROADS.—George F. Folsom, Boston, Mass., assignor of one-half his right to Albert A. Folsom, same place.

Claim.—1. The combination of the posts B B' and sockets G G' and heads M M', blind-rods D D' E E', levers *c c' f f'*, check-locks F F', rocking bar H with springs *h h'*, treadles K K', connecting-rods J J', blinds *c c' d d'*, signal-boards and windows *a a' b b'*, or the equivalents of any, substantially as and for the purpose hereinbefore set forth.

2. The signal-chamber or lantern C, combining signal-boards and windows *a a' b b'* and blinds *c c' d d'*, constructed and operated substantially as and for the purpose hereinbefore set forth.

119,457. — COMBINED SASH-HOLDER AND BLIND-OPENER.—Louis Gathmann, Chicago, Ill.

Claim.—1. The combination of the mechanism for opening and closing the blinds of a window with a sash-lock or detent, when so arranged and constructed that both may be operated by one key or spindle, substantially as specified.

2. The combination of the screws E, pinions F, sash-lock D, and spindle *g*, substantially as specified.

3. The spindle G, made with the square enlargement *a* and the square point or enlargement *b*, and intervening round spaces, substantially as specified and shown.

119,458.—MACHINE FOR CLOTHING ORGAN AND MELODEON-VALVES.—Czar D. Goodman, Cleveland, Ohio.

Claim.—1. The leaf G, consisting of a rectangular frame having arranged transversely therein a series of grooved metal bars, I, substantially in the manner as described, and for the purpose specified.

2. The leaf G, as arranged to operate, in combination with the bed A, in the manner substantially as described, and for the purpose set forth.

3. The bed A, consisting of the adjustable cleat C, cleat F, block J, and slide K, all arranged to operate in relation to each other substantially in the manner as described, and for the purpose set forth.

4. The heater I', in combination with the bars I, for the purpose specified.

119,459. — LOOM-HARNESS OPERATING MECHANISM. — Robert Burns Goodyear, Wilmington, Del.

Claim.—1. The lifting-lever o, rigidly attached to the shaft *i*, in combination with the treadle h having the movable treadle-shoe *s* pivoted thereon, all constructed and operating in the manner and for the purpose substantially as set forth.

2. The lifting-lever o, in combination with the two or more shoes, such as $s\ s^1\ s^2$, two or more treadles, such as $h\ h^1\ h^2$, and the corresponding tappets or cams, such as $n\ n^1\ n^2$, together constituting a treadle-motion for looms, all constructed and operating as set forth.

119,460. — APPARATUS FOR CLARIFYING WINES.—August Gottschalk, Napa, Cal.

Claim.—The sack C, consisting of three regular folds *b c d*, when surrounded by a case or cover, D, of less dimensions, so that it will act as a press upon the fluid to be filtered, as described.

119,461. — POTATO-DIGGER.—Isaac Hicks, Hartford, Wis.

Claim.—The combination, in a potato-digger, of a single or double mold-board plow, F, with, respectively, one wheel, A, or a pair of wheels, A A, constructed with an inner and an outer rim joined together by strips with open spaces between, such strips being placed diagonally forward and outward, each having upon its forward edge a flange for the purpose of raising and carrying the potatoes to the outside of the wheel or wheels.

119,462.—SAW-SET.—David Jones, Allegheny, Pa.

Claim.—The arrangement of the levers A B *f* A P, adjusting screws *o n*, and spring *x*, constructed, arranged, and operating as herein described.

119,463. — TRANSOM OR KING-BOLT AND ROCKER-PLATE FOR CARRIAGES.—James A. Judd, Newton, Mass.

Claim.—The transom or king-bolt B, with its head or enlargement *b*, in combination with the plate E made in two pieces and secured to the axle-bed C, operating substantially in the manner and for the purpose set forth.

119,464.—MANUFACTURE OF PAPER-PULP.—Morris L. Keen, Jersey City, N. J., assignor to Samuel A. Walsh, New York City.

Claim.—1. In the treatment of crude paper-stock thoroughly moistened or soaked in water, as described, heating the same in a close vessel until the gummy or resinous interstitial matter has been thoroughly softened or dissolved and the retention of the materials under treatment in the vessel with the volatile matter liberated during said treatment, until the mass has been cooled below the volatilizing point of interstitial matter in the materials treated or those used in the treatment, for the purpose substantially set forth.

2. The use of a neutralizing percentage of alkali equivalent to the acid of the stock treated, and the retention of same with the interstitial and fibrous portion of stock until chemically liberated at the time of coagulating and settling of the interstitial into the fibrous portion of the pulp, substantially for the purpose described, and as set forth.

3. The treatment of paper-stock in a close boiler with naphtha, turpentine, or equivalent essential oil or oils, at a temperature sufficient to soften and dissolve the resinous or gummy interstitial matter of the crude paper-stock under treatment, used alone or combined with steam or vapor, and then retaining intact the pulpy mass of materials after such treatment in the close boiler or vessel until the whole mass is cooled below the volatilizing point of the ingredients contained in stock or used in the process, substantially for the reason and purposes set forth.

4. The utilization of the crude pyroligneous spirit obtained as a concentrated extract by pressure of crude mass of materials after discharge from boiler, and the employment of the fibrous portion for the manufacture of white paper.

5. The manufacture of a cheap paper-stock by treatment, as described, by being, subsequently to its discharge from the boiler, pressed and freed from interstitial matter, and after treatment by alkali or other solvent for the manufacture of white paper-stock or pulp.

6. The treatment of paper-stock materials in a close boiler with a solvent or combinations of solvents with heat sufficient to soften some or all of the interstitial matter and tend to liberate gaseous vapors, the same being closely confined during the entire treatment and until they are cooled down below their volatilising point, all substantially as and for the purpose set forth.

7. The retention of all interstitial matter in the treatment of crude paper-stock materials, the same being treated in the manner set forth or its equivalent, for the specified purpose designated.

119,465. — MANUFACTURE OF PAPER-PULP OR STOCK.—Morris L. Keen, Jersey City, N. J., assignor to Samuel A. Walsh, New York City.

Claim.—As an improvement in the treatment of paper-stock with vapor or water, or both, the protection of the boiler and the contained material from action on each other by the means herein described, or a substantial equivalent therefor, so as to avoid the corrosion of the boiler and the staining of the stock, as herein specified.

119,466.—Iron-Arch Bridge.—Levi Kittinger, Massillon, Ohio.

Claim.—1. The rolled-iron arch-plate G, having the raised center L L on one side and the flanges A A on the other side, and with the molded edges J J outside of the flanges A A, substantially as and for the purpose herein specified.

2. The herein-described arch G K H K, consisting of the top and bottom plates G H, each having the raised centers L L, opposing flanges A A, and projecting edges J J, and of the side plates K K fitting between the plates G H and in the grooves formed by the flanges A A, the said posts being united by the suspension-rods D or equivalent clamping-bolts, substantially as is herein specified.

3. The combination of the shoe-plate C, bottom arch-plate H with divided ends *i i*, chord-plate B with upturned end *b*, filling-block N, top arch-plate G with turned-down edges *n n*, and clamping-bolts *c c*, the several parts being arranged as and for the purpose specified.

4. The branched post E F D, having its legs E F secured at considerable distances from each other between the cords A A, and welded together with a collar *d* to the arch-bolt D, substantially as and for the purpose herein specified.

5. The combination of the arch G K H K, constructed as described, branched posts E F D, chords A A, chord-plates B B, shoe-plates C C, and filling-blocks N N, the several parts being united as shown, and the whole forming a bow-string girder, substantially as is herein specified.

119,467.—Corn-Planter.—John Knull and Jason P. Pence, Saint Paris, Ohio.

Claim.—A corn-planter, having the hinged beams C D provided with standard and shovels for opening a furrow for the seed and for covering the same, as described, in combination with the hopper F provided with the tube H, and the alternating slides I and L operated by the lever *o*, as set forth.

119,468.—Medical Compound or Corn-Salve. — John McKee, New Orleans, La.

Claim.—The within-described compound, substantially as and for the purpose described.

119,469.—Apparatus for Grinding Rock, Quartz, &c.—William J. Menzies, St. Helens, England.

Claim.—The revolving cylinder, supported in a water-bath so as to relieve the pressure on the bearings, substantially as described.

119,470.—Corn-Planter.—Nelson B. Moody, Woodman, Wis., assignor to himself and John Murray, same place.

Claim.—1. The shovels *a a* with braces *b b*, arranged so that when the shovels are reversed the braces act as cutters, in combination with the wheels C, substantially as set forth.

2. The windlass K, with double arms or treadles *x x*, in combination with the chains A A′, pulleys *g g*, plow-beams E E, and rollers J J, as and for the purposes set forth.

119,471. — Combined Sad and Fluting-Iron. — Frederick Myers, New York, N. Y.

Claim.—1. The improved sad and fluting-iron, consisting of the sad-iron plate A, handled plate B, with intervening fluting-rollers to admit of a free rolling movement of the upper and lower rollers when in use for fluting, and the device for rigidly connecting the two when used as a sad-iron, substantially as and for the purposes specified.

2. The plate A, by which the fluting-rollers are heated, in combination with the vertical stud E and wedge M, substantially as and for the purposes herein set forth.

3. The handled plate B, in combination with the loose handle H, having at one end a gear-wheel, Y, connecting with the wheel K, the said wheel connecting with the upper fluting-roller and operating the same rollers in either direction, when brought in contact with each other, by rotating the loose handle in a direction to accomplish the same, substantially as shown and described.

119,472, antedated September 15, 1871.—Cider-Mill. — Newton A. Patterson, Knoxville, Tenn., assignor to himself and M. L. Patterson, same place.

Claim.—The conveyer J, attached to the bottom of the hopper, and having bifurcated and elastic prongs for a portion of its length, as and for the purpose specified.

119,473.—Heel for Boots and Shoes.—Alfred T. Perrine, Boston, Mass.

Claim.—1. The heel-tip, made of a spiked or toothed plate B, upon which a lift of leather or similar material, C, is pressed and held by friction, in combination with a metallic shell, A, secured to the shoe by a bolt or screw, substantially as described and specified.

2. In combination with the metallic shell A and plate B, secured to the shoe A by a bolt or screw, the indentation *a* and corresponding recess in the plate for adjusting the position of the tip upon the shell, substantially as described and specified.

119,474. — Breech-Loading Fire-Arm.—George R. Pierce, Grand Rapids, Mich.

Claim.—1. The pawl E and spring *b*, in combination with the bolt G and trigger H, constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the lug D, pawl E, gib *a*, spring *b*, bolt G, and trigger H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

119,475. — Railway-Car Coupling.—Seabred Dodge Pratt, Penn Yan, N. Y.

Claim.—The draw-head A, having projections *a a′* and cavities *b b*, and hinged lid B, having corresponding cavities and projections, in combination with link C, as described, and for the purpose set forth.

119,476.—Composition for Paving.—Hiram Saunders, Chester, assignor to Edward A. Price, Media, Pa.

Claim.—A composition, consisting of a mixture of lime, chalk, brimstone, bluestone, iron cuttings or clagging, and simple sand, gravel, or coal-ashes, compounded with a mixture of resin, pitch, and gas-tar in a fluid state, substantially in the proportions and for the purposes set forth.

119,477.—Water-Wheel.—Henry Shears, Merton, Wis.

Claim.—1. Wheel C, direct-acting buckets D, and reacting buckets E, operating substantially as described.

2. Rim G, gates H, pins I, and pins O, operating substantially as described.

119,478. — Self-Closing Gas-Burner.—George E. Smith, New York, N. Y.

Claim.—The compound hoop D, in combination with the catches or detents F and G, and the spring *d*, the extra gas-cock H, with the disk L, spring E, metal rod N, pin P, and lever R, all substantially as and for the purpose heretofore set forth and specified.

119,479, antedated September 16, 1871.—Shutter-Fastener. — John F. Smith, Boston, Mass.

Claim.—The combination and arrangement of the spring *e*, staple *d*, and hooks *f*, as and for the purposes hereinbefore described.

119,480.—Gas-Burner.—William B. Stofer, Memphis, Tenn.

Claim.—The tapering tube D, enlarging upward and provided with bulb K, in combination with cylinders A and C, when constructed and operating as described.

119,481, antedated September 14, 1871.—Moth Protector.—Ferdenand F. Voigt, New Orleans, La.

Claim.—The spindle *a*, circular plate *c*, revolving frame *d d′ d″ d‴* provided with hooks, as stated, and the covering or sack *m*, when the same are constructed, combined, and arranged substantially as described.

119,482.—Rotary Pump.—William Henry Ward, Auburn, N. Y.

Claim.—1. A pump having inlet and outlet openings, G and I, and oscillating valve-registers, H, arranged contiguous to and between said openings, in combination with a revolving winged cylinder, when said openings and oscillating registers are arranged in such manner as to divide the suction and pressure-chambers and cause the suction and force pressures to balance themselves, and thereby avoid all side pressure or friction, as described.

2. In a pump having oscillating resisting valves operating in connection with a revolving winged cylinder, said resisting valves made to close by a simultaneous movement upon the said cylinder by means of the pressure of the fluid in the discharging chambers T, acting through the mediums, substantially as described.

3. The auxiliary chambers E of the inlet openings G, neutralising the current into the working chamber and forming external chambers for the reception of gravels, &c., and prevent them from being drawn into the pump, as described.

4. The case A, forming side receiving chambers E, inlet and outlet ports G and H, and top and bottom pressure discharge-chambers T, as described.

119,483. — Rotary Steam-Engine.—William Henry Ward, Auburn, N. Y.

Claim.—1. Reversing a steam-engine by means of valves H, arranged to operate independently of the throttle-valves, substantially as described.

2. In a rotary engine the cams N, arranged on the outer ends of the register-shafts, as shown, in combination with rims M and teeth *m*, to operate substantially as described.

3. The rims M, when provided with a slot, *r*, in combination with a key, *s*, on rotator-shaft L, to operate substantially as described.

4. In a rotary engine the ribs E, open at alternate ends to receive springs *t*, which bear against the packing of the wings *d*, for the purposes described.

5. In a rotary engine the resisters C, when their wings *c* are provided with springs to operate the packing, and with side openings *b* to heighten the same by steam, as described, for the purposes set forth.

119,484. — Rotary Steam-Engine.—William Henry Ward, Auburn, N. Y.

Claim.—1. A perpetual open exhaust, in combination with a winged rotator, E F, and a revolving feed and cut-off valve, N, operating as and for the purpose described.

2. In a rotary steam-engine, the combination of the continuous revolving steam-feed and cut-off valves N with the continuous revolving rotator and open-hinged resisters, and arranged and operating as described.

3. The recesses I, arranged directly within the exhaust-chamber C, to receive and accommodate the swinging movement of the resisters, as described.

4. The openings in the resisters for the escape of the exhaust steam from the working-chamber, essentially as described.

5. The openings in the partitions H, in combination with the openings *e* in the resisters, to afford a constant and free communication between the chambers C and D, essentially as described.

6. The openings in the resisters and the partitions arranged to alternate with each other to form a steam-cushion between these parts to prevent their contact, essentially as described.

7. The revolving cut-off valves N, made to have a movement in advance of the speed imparted by their gearing by means of the clutch devices upon their shafts, operated and controlled by the action of the governor, essentially as described.

8. The resisters, having a movement inward simultaneously to divide the steam-chamber by means of cranks R, levers S, and plunge-rods *q*, operated by the pressure of the steam in the feed-pipe, as described.

9. The exhaust-chamber C, made to encircle and inclose the working steam-chamber for the purpose of using the exhaust steam to heat the cylinder of the working-chamber, as described.

10. The packing, halved and lapped and provided with a steam cut-off tongue, *z*, to afford longitudinal adjustment, as described.

119,485. — Grape-Picker. — Gustavus A. Warner, San Francisco, Cal.

Claim.—The implement above described, consisting of the handles A A provided with one plain jaw, B′, to the side of which a knife or blade, *c*, is fixed, and the channeled jaw B having the ridges *e* formed into teeth, all the parts constructed and operating as and for the purpose specified.

119,486.—Machine for Twisting Bars of Metal.—Arthur David Williams, Scott's Chambers, Pudding Lane, London, England.

Claim.—1. The chucking apparatus, constructed substantially as described.

2. The combination of the revolving and adjustable chucking apparatus with the traveler N′ and moving chain M, substantially as described.

3. The combination, with the chucking apparatus and the traveler N′, of the pipe T′, substantially as described.

4. The combination, with the chucking apparatus and the traveler N′, of the pipes T′ & T, substantially as described.

119,487, — Spring Bed-Bottom.—George Wilson, Chicago, Ill.

Claim.—1. The bed-bottom, substantially as herein described, consisting of the corrugated metal spring-stripe B attached to the frame-work.

2. The combination of the expansible frame-work, consisting of the end frames A, tie pieces C, rods D, screws *d* with the corrugated metal spring-stripe B, substantially as specified.

3. The combination of the corrugated spring-stripe B, frame-work A C D *d*, or its equivalent, and the straps E, substantially as specified

119,488. — Construction of Vessels.—Adam Wingard, San Francisco, Cal.

Claim.—The flat bottom B, in combination with the double-pointed ends *c d e f* and concavities D and E, as described.

119,489.—Wash-Boiler.—Elias M. Wright, Geneva, N. Y., assignor to himself and Gardner Herrick, Albion, Mich.

Claim.—1. The combination and arrangement of the water-chamber B, false bottom C, transverse passage D, distributer E, cover G, and passages *a a*, all constructed and operating substantially as and for the purposes herein specified.

2. The cover H, constructed with the horizontal or inclined condensing-tubes or passages *h h*, operating substantially as and for the purpose set forth.

119,490. — WATER-GOVERNOR FOR STEAM-ENGINES.—George Aab, Brooklyn, N. Y., assignor to himself and John McAndrews, Philadelphia, Pa.

Claim.—The combination of the float D and sleeve C, operating the double valves M M' by means of a single rod, F, crank L, and shaft J, substantially in the manner as herein shown and described.

119,491.—LATCH FOR GATES. — Henry D. Alderfer, Grater's Ford, Pa.

Claim.—The inclined latch *b*, passing entirely within the casing, combined with the rod *f* and spring *e* for operating the same, said rod and latch moving in the vertical plane of the gate, as set forth.

119,492.—ELECTRO-MAGNETIC GAS-LIGHTING APPARATUS.—Almon N. Allen and Rodney H. Dewey, Pittsfield, Mass.

Claim.—1. The combination of a magneto-electric machine acted upon by a spring with a gas-burner, substantially as described.

2. The arrangement of a diaphragm acted on by gas or air under pressure and serving to control the motion of a spring power acting on a magneto-electric machine, substantially in the manner herein set forth.

119,493.—GRAIN-DRIER. — Stephen V. Appleby, Spotswood, N. J.

Claim.—1. The corrugated spiral cylinder C, revolving upon the hot-air pipe D within the steam-cylinders B B, substantially as shown and described, and for the purposes set forth.

2. The hot-air pipe D, provided with slide-valves and having unbroken connection through both grain-cylinders, upon which said pipe the said cylinders revolve, substantially as and for the purposes set forth.

3. The connecting-tube G, in combination with the revolving grain-cylinders C, when said cylinders revolve within the steam-cylinders B B', substantially as and for the purposes set forth.

119,494.—WAGON-SHAFT COUPLING.—Seth Barnum, Whitestown, N. Y.

Claim.—1. The shaft-coupling, constructed, and the several parts connected together, substantially as and for the purpose hereinbefore set forth.

2. The bolt E and band F, arranged as shown.

3. The flanges H H upon the thill-iron B, as shown.

119,495.—GRAIN-DRILL.—Andrew P. Barry, Martinsville, Miss.

Claim.—The combination of the drum *f*, adjustable buckets *i*, connected as stated, tube O, and the planting mechanism, when the same are so arranged as to operate substantially as described.

119,496. — ATTACHMENT FOR SEWING-MACHINES.—Abel H. Bartlett, Spuyten Duyvil, N. Y.

Claim.—1. The plate A, slotted at B, having curved arm C D, long slotted arm E F, arm G H I with guide and clamp-holes, and concave-sided rib M, constructed as described, and applied as a holding device for tuckers, corders, hemmers, and quilters.

2. The hemmer *e f* and plate *s s'* combined with the arms E G and plate A C, substantially as specified.

3. The chalk-holder k, support *i*, and plate I, combined with the arms E G and plate A, substantially as specified.

119,497.—SELF-LIGHTING LAMP.—William W. Batchelder, Boston, Mass., assignor to himself and Matthew Riley, same place.

Claim.—1. In a self-lighting lamp-burner, the interior fixed barbed check-strip *i*, in combination with the feeding barbed slide *f*, pivoted link *h*, and operating lever *g*, as and for the purpose set forth.

2. The double-supporting lips *e* of the fuse-tube, in combination with the severing-instrument *j* arranged to pass over and connect with either lip *e* by a double movement to insure the ignition of the fuse in the event of the failure to produce an ignition by the first movement of the severing-instrument, as described.

3. In a self-lighting lamp-burner, the combination of the fuse-tube *d* with its fixed and sliding barbed strips *f i*, the double-supporting lips *e*, the severing-instrument *j* with its pivoted link *h* and operating handle *g*, the several parts being constructed, arranged, and operating as described.

119,498. — BRONZING-MACHINE. — Edward F. Benton, Buffalo, N. Y.

Claim.—1. In a bronzing-machine, an endless sheet-metal belt or carrier, as and for the purposes set forth.

2. The hopper F, provided with a revolving cylinder F', constructed as described, and arranged to operate as set forth.

3. The combination and arrangement of the polishing-roller G, cleaning-brush H, and comb N, substantially as and for the purposes set forth.

119,499.—TURN-BUTTON FOR DOORS, &c.—Purmort Bradford, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—1. The combination of the plate A, headed stud B, and button D, secured together substantially as set forth.

2. In combination with the above, the recess *a* in the button and the spring device therein, substantially as and for the purpose specified.

119,500.—BLOWER-STAND.—Purmort Bradford, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—A blower-stand, consisting of the two sides A B and the plate C, secured together and made detachable, substantially as and for the purpose specified.

119,501.—SETTING KETTLES FOR EVAPORATING CANE-JUICE, &c.—Francois M. Brignac, St. James parish, La.

Claim.—1. The arrangement of a set of kettles or pans for evaporating cane-juice or other saccharine liquid in the manner herein described, and for the purpose set forth.

2. The location of furnaces and formation of flues, in combination with the arrangement of kettles, substantially as specified.

119,502. — PLOW-CLEVIS. — Jerry Brison, Competine, Iowa.

Claim.—The combination of the diagonal braces B^1 B^2 of the plate B, and the adjustable and extensible brace-rod, substantially as and for the purpose described.

119,503. — APPARATUS FOR DISCHARGING EXTRANEOUS COLORING MATTERS, &c., FROM PRINTED FABRICS.—Benjamin G. Brooks, Manchester, N. H.

Claim.—The process of discharging extraneous coloring and other impurities from printed or dyed fabric by the action of jets of high-pressure steam driven against and through the fabric, when so stretched that the jets may operate against one or the other or both sides of the fabric from perforated steam-pipes or other equivalents, substantially in the manner and for the purposes herein set forth.

119,504.—MODE OF ATTACHING DRUMS TO SHAFTS.—Benjamin G. Brooks, Manchester, N. H., assignor to Waterman Smith, same place.

Claim.—1. The removable journal A provided with a male screw, C, in combination with the roller-head G provided with a female screw to fit the male screw C, substantially as described.

2. In combination with the above-claimed devices, the collar B, substantially as described, for the purposes set forth.

119,505.—REGULATOR FOR EXHAUSTERS IN GAS-WORKS.—Adam S. Cameron, New York, N. Y.

Claim.—1. The oscillating vessel A, with its partition *d*, in combination with a pipe, D, connecting with the hydraulic main or exhaust-pipe of gas-works, substantially as described.

2. The adjustable weight E, in combination with the oscillating vessel A and pipe D, substantially as set forth.

119,506. — INSTRUMENT FOR EXTRACTING CAPS FROM CARTRIDGES. — William Clews, Ilion, N. Y.

Claim.—1. The combination of the socket A and pointed lever-extractor B, operating together, substantially as and for the purpose herein specified.

2. The pivoted fulcrum-arm D with its stop *l*, in combination with the extractor B, substantially as and for the purpose herein set forth.

3. The auxiliary lever C, in combination with the extractor B, substantially as and for the purpose herein specified.

4. The curve-pointed lever-extractor B, when arranged in combination with the socket-holder A, auxiliary lever C, and fulcrum-arm D so as to operate on the cartridge-caps with the successive movements, substantially as herein specified.

119,507.—STRETCHER FOR PICTURES.—John D. Crocker and Junius A. Brand, Norwich, Conn.

Claim.—1. A metal plate consisting of a web and bar or rib, the former extending out centrally from the elongated spring-bearing rib or bar B, and the whole applied wholly within the inclosed recesses of the frame, substantially in the manner and for the purpose described.

2. The combination of the braces, springs, and staples *g*, substantially in the manner and for the purpose described.

3. The pins *p* inserted loosely through holes made through the stretcher-frame for securing the stretcher-frame into the ornamental frame, substantially as described.

119,508. — REFRIGERATOR. — David Cromwell, St. Louis, Mo.

Claim.—In combination with the provision-chambers C^1 C^2, the ice-chamber C, its slanting ice-support D, provided with stays d^2 d^3, and the L-shaped ice-receptacle d d^1, all constructed and arranged substantially as and for the purposes described.

119,509, antedated September 16, 1871.—GATE. — Samuel A. Darrach, Newburg, N. Y.

Claim.—In a gate, the arrangement of the metal stiles B B' having the flanges *a c* to receive the wooden rails C and base-board E, the projections *h j*, and the extensions *l* on the stile B', in conjunction with the cast-metal posts G G' *m n i k k*, as herein set forth and shown.

119,510.—WASH-BOILER.—William James Dodge, New York, N. Y.

Claim.—The arrangement of the rack D, in combination with the uprights or handles C, with catches *c*, cover B B with openings *b b*, and boiler A, as constructed and shown, and for the purpose herein described.

119,511. — CARRIAGE-WHEEL. — Harry E. Dodson, West Liberty, Ohio.

Claim.—The combination of the spokes, forming a solid band around the pipe-box, the metallic sections B B', with tapering apertures diminishing in diameter from the spokes outward, and the tapering wooden fillings B^2 B^3 bearing against the spokes, substantially as set forth.

119,512. — SHAVING-HORSE. — Franklin J. Eldred, Webster, N. Y.

Claim.—The clamp-head for shaving-horses, consisting of the plate A with plane and notched edges *a b*, the open flanges *c c*, and webs *d d*, arranged and operating as herein described.

119,513. — MACHINE FOR SCOURING SKINS AND HIDES.—Edward Fitzhenry, Boston, Mass., assignor to Hide and Leather Machine Company.

Claim.—The combination and arrangement of the yoke K and its cams I I with the carrier A, and mechanism, substantially as described, for supporting the brush B, pressing it downward, and regulating the action of the pressure-springs, such mechanism consisting of the frame C, the rods D, the frame E, the screw F, the nuts *d c*, the springs F, the arches H, the shaft *e'*, and rollers *f f*, all being arranged as explained.

119,514.—COOKING-STOVE.—John H. Goodfellow, Troy, N. Y., assignor to Swett, Quimby & Perry, same place.

Claim.—1. In combination with the grate A the sliding agitator B arranged on the upper side of the grate, and having on its front and rear edges inclined cinder-raising fingers *c c* in the spaces between the grate-bars, as described.

2. In combination with the fire-chambers J K and hearth-pit I having a removable cover, L, the detachable grate A and sliding-agitator B, with inclined clearing-fingers *c c* between the grate-bars and a cinder-chamber, R, above, and an ash-chamber, Q, below the removable grate, as herein set forth.

3. In combination with the fire-chamber and the hearth-pit having a removable cover, the removable grate A and sliding agitator B with inclined fingers *c c* arranged in the removable pan H, having an ash-chamber therein below the removable grate, as herein described.

4. In combination with the fire-chamber and the hearth-pit having a removable cover, the removable cinder-pan G arranged in the hearth-pit over an ash-chamber, and having its bottom formed by the grate A and sliding agitator B with clearing-fingers *c c*, as herein set forth.

5. In combination with the fire-chamber and the hearth-pit having a removable cover, the removable pan H having an ash-chamber in its lower part, and the detachable cinder-pan G arranged over the ash-chamber and having its bottom formed by the grate A and sliding agitator B with inclined fingers *c c*, as herein described.

6. In combination with the sifting-grate and sliding agitator, the shank *d* formed on the agitator and engaged with a detachable shaker-rod within the limits of the grate, and the shield *e* formed on the grate and closed over the shank of the agitator, as set forth.

7. In combination with the sliding shank *d* covered by the shield *e* and having a hole, *s*, therein for the insertion of the bent end of a removable operating-rod, f_1, as described, the lug or projection *o* or *o'* arranged on the shank and in respect to the hole *s* therein, as set forth.

119,515.—JOINT FOR SCHOOL-DESKS, &c.—Thomas Gregg, Danville, Pa.

Claim.—1. A hinge-joint, combining in its construction a stationary plate having in one of its sides a groove which forms a segmental portion of a true circle, and a movable portion or arm which has upon it a segmental portion of a circle adapted to work in the groove in the plate or stationary portion of the joint, substantially as and for the purpose set forth.

2. The within-described hinge-joint, in combina-

tion with the friction-brake D, substantially as and for the purpose set forth.

119,516. — CHUCK FOR HOLDING VALVE-COCKS TO BE DRESSED.—Joseph L. Hayden, Haydenville, Mass.

Claim.—In combination with the jaws or chuck for holding the article to be dressed or finished, the sliding-sleeve, connecting-rod or bar, pawl-plate, pawl and ratchet, for the purpose of rotating the jaws or chuck and article held by them, to bring its faces or points successively to the finishing-tool without stopping the tool, machine, or instrument, substantially as described.

119,517. — SCROLL-SAW.—Isaac Hird, Cincinnati, Ohio.

Claim.—1. An endless belt, J, working over suitable guide-pulleys to carry it out of the way of the work upon the table, combined with the saw S and branch O and slide G, substantially as and for the purpose set forth.

2. In combination with the pulley, carriage *k*, the uniform-tension spring Q, set-screw P, and tension-screw *q*, substantially as set forth.

3. The revolving head H, having notches of varying widths to admit saws of varying thicknesses, substantially as and for the purpose herein specified.

119,518. — LANTERN. — James J. Hull and Joseph Kaufman, Brooklyn, N. Y.

Claim.—As an article of manufacture, the lantern as described, for the purposes set forth.

119,519.—WOOD PAVEMENT.—Stephen H. Ingersoll, New York, N. Y.

Claim.—A wooden pavement constructed as described, and for the purpose set forth.

119,520. — RAILWAY-RAIL CHAIR. — Granville E. Jarvis, Grafton, W. Va.

Claim.—1. In combination with the brace A A′, secured rigidly to the tie so as to support the rail against lateral thrust, the adjustable chair C and draw-spike D, or its equivalent.

2. The brace-carrier A A′, provided with a recess or chamber upon its under side for the reception of the projecting portion of the chair, substantially as described.

3. The combination of the brace-carrier A A′, the adjustable chair C, and bolts E E for securing the tread of the rail to the brace-carrier, substantially as set forth.

119,521, antedated September 30, 1871.—MACHINE FOR ROLLING TAPERING FORMS. Henry Kellogg, Milford, Conn.

Claim.—1. The combination of the disks A A′ shafts B B′, pivoted tables G G′, and mechanism substantially as described for rotating said tables, substantially as set forth.

2. In combination with the subject-matter of the first claim, the reciprocating frame M and hollow mandrel N, substantially as set forth.

3. The combination of the reciprocating frame M, hollow mandrel N, cam T, pivoted jaws *t t*′, and the disks A A′, substantially as set forth.

119,522.—ALARM APPARATUS FOR STEAM-BOILERS. — Joseph Kirk, London, England, assignor to George Jordan Firmin

Claim.—1. The combination of the equilibrium-valves with a mercury-float or equivalent instrument for starting them from their seats, and a chamber in which the pressure then accumulates and lifts the valves to the full extent, substantially as described.

2. The combination of the said equilibrium-valves, mercury-float, and pressure-chamber with an alarm instrument, substantially as before set forth.

119,523. — CHILD'S CARRIAGE. — John G. Krieger, Washington, D. C.

Claim.—1. The carriage-body the rear portion or a section of the rear portion of which is constructed substantially as shown and described, so that it may be made to form a portion of a couch or support for a bed, in the manner set forth.

2. The combination and the arrangement of the swinging portion B of the body, the seat C, the swinging board D, the foot-board E, and the rod G, substantially as and for the purpose set forth.

119,524, antedated September 25, 1871.—WAGON-BRAKE. — Charles M. Lufkin, Unity, N. H.

Claim.—The combination of a movable roller, M, gudgeons *e e*, rollers *g g*, guide-staples *h h*, reach E′, cross-bar N, rub-blocks C C, suspension-rods D D, pivots *a a*, spring L, loop *s*, rod *q*, bolt *o*, and button K, the whole constructed and arranged substantially as and for the purpose set forth.

119,525.—MACHINE FOR POLISHING NEEDLES.—Francis W. Mallett, New Haven, Conn., assignor to The Mallett Manufacturing Company, same place.

Claim.—1. In combination with the plate E and the facing L, to one or both of which a reciprocating movement is imparted, the polishing brushes, arranged to operate through the perforations in the said plate, substantially as and for the purpose specified.

2. In combination with the plate E and the facing L, operating as described, the toothed racks *a d*, operating alternately to receive and guide the needles in their passage upon the plate, substantially in the manner herein set forth.

3. In combination with the hopper I and cut-off C^2, the lever P and holder R^3, as and for the purpose specified.

119,526.—MODE OF HARNESSING HORSES TO SHAFTS OF VEHICLES.—Robert McHardy, Edinburgh, Great Britain, assignor of one-half his right to John Coatsworth, London, England.

Claim.—1. The clasp or holder formed of two metal plates, Fig. 3, hinged together, and shown clasped together in Figs. 1, 2, 4, and 5, and also the studs or pins and thumb-rivets in connection with them.

2. The plate *n* with the groove *r*, Figs. 6, 7, and 8, for allowing the position of the clasp to be changed as required to slide freely in the groove.

3. The eye *x*, the pulley *y*, and chain *z*, Fig. 8, for the purpose described.

4. The strap or band *d*, in connection with a buckle and stud for forming a shaft-holder, as shown in Fig. 14.

5. The modified clasp or holder shown in Fig. 15.

119,527. — APPARATUS FOR RAISING AND LOWERING WEIGHTS. — Thomas Moore, South Stockton-on-Tees, England.

Claim.—1. The combination, in an apparatus for raising weights, of two chain-wheels (for the lifting-chains) with connecting gearing, constructed to operate substantially as before set forth, so that the said two chain-wheels are driven simultaneously in opposite directions.

2. The combination, in apparatus for lifting weights, of the two chain-wheels, (for the lifting-chains,) the connecting gearing, and the hand chain-wheel, all constructed to operate substantially as before set forth, so that the turning of the hand chain-wheel or its equivalent causes the two lifting chain-wheels to turn simultaneously in opposite directions.

3. The combination of the two lifting chain-wheels, (for lifting-chains,) the gearing connecting them so that they are caused to revolve simultaneously in opposite directions, and the spindle by means of which (and the gearing) power is imparted simultaneously to the said lifting chain-wheels, the whole operating substantially as before set forth.

4. The combination of the two lifting chain-wheels, the connecting-gearing by means of which the said wheels are caused to revolve simultaneously in opposite directions, and the two connecting chains for said wheels, the whole operating substantially as before set forth.

119,528.—HAY-AND-COTTON PRESS.—Peter L. Negley, Castleton, Ind.

Claim.—The arrangement of the spring *f*, the latch *m*, and the hinges *a* and *b*, in combination with the lever C, the rope O, the weight W, the following-block F, the hook *e*, the chain G, the helical sheaves N′ and N″, and the involute wheel H, all constructed and operated substantially as set forth.

119,529.—MACHINE FOR MAKING STAPLES.—William F. Nolker and Edward H. Morgan, Cincinnati, Ohio.

Claim.—1. The arrangement, on one and the same reciprocating slide or follower, of the benders P P′ and knife N, disposed in relation to one another and to the stationary former L, and angular perforated knife M, substantially as described and for the purpose set forth.

2. In combination with the elements of the preceding clause, the "pusher-off" S T U, connected and operating substantially as and for the purpose described.

3. In combination with the elements of the first clause of claim, the feeding mechanism W *a b c d e f g*, as described, and for the purpose specified.

119,530. — LOBE ATTACHMENT FOR EAR-DROPS. — Louis L. Northup, Johnston, R. I.

Claim.—The lobe attachment, Fig. 3, to be applied to the ear-lobe to give support for an ear ornament, substantially as described.

119,531.—THIMBLE AND THREAD-CUTTER.—James A. Pettet, Philadelphia, Pa.

Claim.—A thimble, A, having a seam-smoothing projection, B, horn *a*, and cutting-blade *c*, all substantially as described.

119,532.—HORSE HAY-RAKE. — Peter Pfeifer, Durhamville, N. Y.

Claim.—1. The combination and arrangement of the lever N, connecting-bar G, and spring-latch K with the notched quadrant-brace J, rake-head F, and bars H, substantially as shown and described.

2. The combination of the spring-button R and socket Q with the head of the rake-tooth P, as and for the purpose described.

119,533.—JACK FOR FINISHING SHOES, &c.—John E. Plummer, Binghamton, N. Y.

Claim.—The arrangement of the heel-support, provided with the bell-crank lever B, the rotating cylinder or sleeve D, the screw-rod A within said cylinder, and nut or thumb-screw C, all as and for the purpose described.

119,534.—SASH-HOLDER.—George B. Ransom, Chester, Conn., assignor to himself and James B. Clark, same place.

Claim.—The locking-bar A arranged upon the sash, and having one end supported by a fixed point, and the bar constructed and combined with one or more notches in the jamb, the movement of the said bar being by means of slots or equivalent devices made both longitudinal and vertical in the disconnection of the bar from the notch on the jamb, substantially as set forth.

119,535.—HEATING-STOVE.—William Frazier Ross, Davenport, Iowa.

Claim.—1. The fresh-air duct A, in combination with foul-air duct H and draught-duct B, or either of them, substantially as and for the purpose set forth.

2. The combination, with air-duct H, of the dampers *h* and *h b*, either or both of them, substantially as and for the purpose set forth.

3. The combination, with air-duct B, of the damper *a* and air-duct A, substantially as and for the purpose set forth.

4. The combination, with fuel-chamber C and draught-chamber *b*, of the air-ducts D F, either or both, substantially as and for the purpose set forth.

5. The combination, with fuel-chamber C, damper *b*, and duct F, substantially as and for the purpose set forth.

6. The construction and arrangement of the bottom or grate M of the fire-chamber so as to form either one opening, or grates, or a close bottom, as set forth.

119,536. — CURTAIN-RACK. — Friedrich Schmidt and William Schmidt, Cincinnati, Ohio.

Claim.—The combination of the movable serrated arm B with the stud *a*′ and permanent slotted plate A, when operating as and for the purpose set forth.

119,537.—MACHINE FOR PRODUCING STEREOTYPE MATRICES.—Alexander Shiland, Albany, N. Y.

Claim.—1. The revolving disk B, constructed as described, and provided with vertical vibrating arms *c c* bearing type-punches, or cutters *h h*, arranged so as to be capable of being brought singly over a given point, in combination with the guard G, and feed-bar H provided at one end with a bevel and the other end with a regulating-screw, *o*, operating against a stop, and made elastic by a spring, when all are constructed and arranged substantially as and for the purposes set forth.

2. The feed-bar H, when operated by the beveled or wedging pieces *i i* attached to the type-punches, or cutters *h h*, or their arms *c c*, in combination with the dog or pawl *p*, ratchet-wheel *q*, or their equivalent, and the carriage C, when all are constructed and arranged substantially as and for the purposes set forth.

3. The combination of the impressing-lever E provided with the pressing-foot described, with the revolving and vertically-vibrating arms *c c*, feed-bar H, ratchet-wheel *q*, and dog *p*, or their equivalents, substantially as and for the purpose set forth.

119,538.—BOOT-PATTERN.—Elias Shopbell, Ashland, Ohio.

Claim.—1. The side plates C and end plates D, constructed and arranged as described, and adapted to move independently of the toe-plates B B′ and the foundation-plate A, as set forth.

2. The combination of the foundation-plate A, toe-plates B B′, side plates C, and end plates D, constructed and arranged as described.

3. The combination of the plates E F F and G G, constructed and arranged as described.

119,539. — CLOTHES-DRIER. — George C. Smith, Hamilton, assignor of one-half his right to J. C. Phillips, West Chester, Ohio.

Claim.—The pulley *g*, in three parts, as described, attached to the side rail *c* and posts *b* by brackets H, in combination with the tightening device E and D and cord J, and for the purposes set forth.

119,540.—BRACELET.—James H. Sprague, Providence, R. I.

Claim.—As an improved article of manufacture, a bracelet made from hard rubber or the semi-elastic or comparatively soft substance, when such bracelet is composed of sections and hinged in the manner and for the purposes herein set forth.

119,541. — ELECTRO-MAGNETIC VALVE.—George M. Sternberg, New York, N. Y.

Claim.—1. The frictionless valve D, urged in one direction by the spring E or equivalent gentle force, and in the other direction by the lever P or its equivalent, and having a flexible diaphragm, I, mounted so as to prevent the escape of gas, as herein specified.

2. The adjusting means K^1, in combination with the valve D and its connections, mounted and operated as and for the purposes herein specified.

3. The adjusting means K^1 to limit the opening of the valve, in combination with the adjusting means K^2 to limit the closing thereof when the valve is operated through the medium of a diaphragm actuated automatically by a lever, P, or its equivalent, controlled by changes of temperature, as specified.

4. The entire combination and arrangement of parts—to wit: the electro-magnet M, controlled by changes of temperature acting through the medium of the armature N and lever P on the diaphragm I, which latter is free to move in its central portion, and tightly confined at its edge, and by its motion controls directly or indirectly the valve D, the whole being adapted to regulate the communication between the gas-pipe C^1 and the pipe C^2 to maintain a uniform temperature, all substantially as herein specified.

119,542.—ELECTRO-MAGNETIC THERMOMETER.—George N. Sternberg, New York, N. Y.

Claim.—The U-shaped thermometer, having mercury in the base and a light liquid in the bulb, with a hermetically-sealed conductor, C, and an adjustable conductor, D, combined and arranged for operation relatively to each other, and to suitable mechanism for controlling temperatures, as and for the purposes herein set forth.

119,543.—MANUFACTURE OF ELECTRO-THERMOMETERS.—George M. Sternberg, New York, N. Y.

Claim.—1. The thermometer A B, having the wire D hermetically sealed therein and projecting at the top, substantially as and for the purposes herein set forth.

2. The within-described method of hermetically sealing the thermometer-tube B around the conductor D, the same consisting in first drawing the tube B to form a fine aperture above the wire and sealing it there in the ordinary manner, and afterward sealing it again at a point opposite the wire after the mercury has cooled and withdrawn, as specified.

3. The within-described method of adjusting the position of the conductor in a hermetically-sealed thermometer by softening the glass by heat, and drawing the conductor or both the conductor and the glass, as herein specified.

4. The hermetically-sealed magnetic thermometer herein described, mounted within the perforated casing G, suspended on lugs I J, one of which is insulated from the casing G and connected directly to one of the wires, as specified.

119,544.—SPARK-ARRESTER. — William M. K. Thornton, St. Louis, Mo.

Claim.—1. The arrangement, on the stack B, of a gauze box, C, which is provided with deflectors J and combined with a spark-trap, G, substantially as described.

2. The adjustable hood E, in combination with the draught-opening *b* through the front of the gauze box C, substantially as described.

3. The upwardly-flaring head G^1 to the trap G, communicating in front with the gauze box C, and provided with deflectors L and a gauze cover, *m*, substantially as described.

4. The deflector *s*, arranged between the deflectors J and L and over the front part of the head G^1, substantially as described.

5. The inclined vacuum-tube G^2, in combination with a spark-trap, G, which communicates with the stack B, substantially as described.

119,545. — DUST-SHIELD FOR RAILWAY CARS. — William M. K. Thornton, St. Louis, Mo.

Claim.—1. A platform for one or each car of a railroad train, made in sections, which are connected or applied together so as to have independent pivotal movements, substantially as and for the purpose set forth.

2. The intermediate section D′, suspended by flexible suspenders from the car-frame, in combination with the pivotal end or truck sections suspended from the trucks, substantially as and for the purpose described.

119,546. — BARREL. — James Tomlinson, Goderich, Canada.

Claim.—A barrel composed of a series of wooden hoops the ends of which are united together by the combined fastening device, consisting of the rivets *b* and staple *c*, the latter embracing the taper lap and clinched on the under side of the hoop before placing the hoop upon the barrel, substantially as and for the purpose set forth,

119,547. — DEVICE FOR DESTROYING INSECTS.—Peter Spohn Van Wagner, Saltfleet township, Canada.

Claim.—1. An improved fan D, the wings of which stand at an angle of twenty degrees forward of the center and divided, as shown in Fig. 3, passing astride of the feed-pipe *j*.

2. A new method of discharging the dust inside a tube current of air, free from contact with the nozzle, by means of the arrangement and combination of feed-pipe *j* and worm or screw *e*, as shown, for carrying a regular supply of dust to the nozzle.

3. The arrangement and application of the oscillating agitator a^1, operated by the eccentric *m* for working the dust to the worm inside the feed-pipe.

4. The arrangement of the movable lip *s* for throwing the dust upward when necessary, operated by bell-crank *t* and connecting-rod *u*; also, hollow handle *v* for holding and elevating machine, substantially as, in the manner, and for the purpose specified.

119,548.—REFRIGERATOR. — John B. Webster, St. Louis, Mo.

Claim.—The upper ice-chamber E E′, orifices c^3 c^4, ventilating-pipes c^5 c^6, vertical chambers D D′, partition *d*, waste-pipes F F^1 F^2, and provision-chambers C C′, all combined and arranged in the manner and for the purpose set forth.

119,549. — LANTERN. — William Westlake, Chicago, Ill.

Claim.—1. The combination of the rod E with the tube D for supporting the bell and connecting it with the base, substantially as specified.

2. The combination of the hinged bar or rod F with the rod E and tube D for holding the top of the globe, substantially as described.

3. In combination with the tubes M and L, the latter being connected to the bell B by the tubes D and C, the air-deflector or regulator O, constructed and arranged to operate substantially as set forth.

119,550.—SPRINKLING ROSE-HEAD. — William Westlake, Chicago, Ill.

Claim.—The sheet-metal rose, consisting of the cap A B and neck C, united by a screw, E F, located in a concavity below the periphery, and provided with the flange D, all constructed and arranged to operate substantially as described.

119,551.—MACHINE FOR DRESSING MILLSTONES. — John I. Yount, Tippecanoe City, Ohio.

Claim.—1. In a machine for dressing millstones, the oscillating and endwise-reciprocating picks, substantially as and for the purpose set forth.

2. In a machine for dressing millstones, the endwise reciprocating and oscillating picks when the length of their arcs of oscillation is varied during each reciprocal stroke, substantially as and for the purpose set forth.

3. The combination of the picks, carrier-block C, cranked shaft D, arresting-strap L^4 or its equivalent, crank-shaft I, pitmen H H^1, and oscillating levers G G, substantially as set forth.

4. In combination with the endwise-reciprocating and oscillating picks I, the rods K K′, bar L, and oscillating levers L^1 L^3, substantially as set forth.

5. The studs N N on the frame A, in combination with the levers L^1 L^3, substantially as and for the purpose set forth.

6. The combination of the levers L^1 L^3 and adjustable suspension or slide-rods M M′, substantially as set forth.

7. The elastic strap L^4 permanently secured at one end, but adjustably fastened at the other end by a stirrup-bolt, l^2, and nut l^3, substantially as and for the purpose set forth.

8. The combination of the sockets B^1, pick B, and set-screw *b′*, substantially as and for the purpose set forth.

119,552.—LATCH FOR GATES AND DOORS.—Jesse H. Allison, Charlottesville, Ind.

Claim.—The combination of the screw C with elliptic head D, sleeve G, wing H, and flange I, all constructed and arranged as shown and described, and used with a horizontal bar, B, on the gate, substantially as and for the purposes herein set forth.

119,553. — VEGETABLE-CUTTER. — Hiram Baldwin, Nashua, N. H.

Claim.—1. The pivoted slide H, in combination with the knife frame A having grooved sides B, substantially as described.

2. The vegetable-cutter having the frame A, grooved sides B, knife D, pivoted slide H, pivoted board or handle E, rod F, and screw G, all constructed and arranged substantially as set forth.

119,554. — HOT-AIR FURNACE. — Joseph C. Barnes, Albany, N. Y.

Claim.—The cold-air chamber in sections A^1 and A^2, connected by the tubes F surrounding the fire-pot and chamber D, and either surrounding the ash-pit or not, and the said chamber surrounded by the chamber E, and the whole by an outer case, I, or not, all substantially as specified.

119,555, antedated September 16, 1871.—ATTACHMENT FOR SEWING-MACHINES.—Abel H. Bartlett, Spuyten Duyvil, N. Y.

Claim.—1. The plate B, scrolls C and D, constructed, arranged, and combined together and with the support W, and clamp-screw X, substantially as specified.

2. The adjustable scrolls D and C, combined with the support and clamp-screw X, substantially as specified.

3. The combination of the plate B and scrolls C and D with the support W and spring E, substantially as specified.

4. The scroll L, constructed and arranged substantially as specified.

5. The combination of the scroll L with the support W and spring E, substantially as specified.

6. The plate R, constructed, arranged, and combined with plates P and Q, support W, and clamp-screw X, all substantially as specified.

119,556, antedated September 30, 1871.—BACK-BAND HOOK.—Henry Beagle, Jr., Philadelphia, Pa.

Claim.—The double-slitted body A, having central bar *a′* and hook C struck up therefrom, as and for the purpose specified.

119,557.—HUB AND SPOKE.—William Beauchamp, Grayville, Ill.

Claim.—1. The construction of the hollow hub A with its straight flanges B, inside screw-threads D D, and corresponding screw-box E, when constructed and combined as herein described and set forth.

2. The slits K as sawed in the spokes J, when constructed to fit closely upon the flanges B, as herein described, and for the purposes set forth.

119,558. — TURBINE WATER-WHEEL.—Asa Bee, Lancaster, Mass.

Claim.—1. A bucket or float G, having its lower or discharge end of tubular and tapering form, terminating in an orifice of oval or reniform shape in cross section, substantially as herein represented and described.

2. The combination of the gates *i* hung and operated as described, the guides L arranged as described, and the buckets G constructed as above specified, for the purposes set forth.

119,559.—MILK-CAN.—Thomas M. Bell, New York, N. Y.

Claim.—The method of forming the hoops G H, neck C, and cover D from two disks of metal without waste, and in the manner described.

119,560.—CARRIAGE-SPRING ATTACHMENT. Orrin E. Bennett, Cannonsville, N. Y.

Claim.—The device A B C, constructed, substantially as herein shown and described, to adapt it for attachment to the cross-springs of platform-spring carriages, as and for the purpose set forth.

119,561.—APPARATUS FOR LIGHTING GAS-JETS BY INDUCED CURRENTS OF ELECTRICITY. — Abraham L. Bogart, New York, N. Y.

Claim.—1. An insulated gas-burner, having its insulating section constructed of or from glass or similar vitreous material, substantially as and for the purpose specified.

2. The glass section A, provided with the neck B and with the grooves *b* and *a′*, and combined with the metal tip C and base D, substantially as and for the purpose shown.

3. The spark-conductor E, having the form shown, and provided with the openings F, *g*, *h*, and *e*, substantially as and for the purpose set forth.

4. The spark-conductor E, provided within the opening F with the notches *f*, and within the opening *g* with the set-screw G, in combination with the insulating section A, provided with the shoulder *a*, projections *a″*, and conical depression *a‴*, substantially as and for the purpose shown and described.

5. In combination with the spark-conductor E, constructed as described, and provided with the opening *h*, the platinum-point holder H, substantially as and for the purpose specified.

6. The burner-tip C, provided with the groove *c′*, in combination with the eduction-wire J, substantially as and for the purpose shown.

7. The platinum-point I and holder H, when combined and secured together, substantially as and for the purpose set forth.

8. The lower switch, consisting of the shaft L provided with the journals M and N, the pointer P, the conductor R attached to or upon the spring S, the arm T provided with the roller *t*, the wire-holders U, and plates *u*, the ratchet-wheel V, the pawl W, the chain X, and the weight Y, when the several parts are constructed as described and combined with each other, the case O, and the dial Q, substantially as and for the purpose specified.

9. The upper switch, consisting of the shaft L provided with the journals M and N, the conductor R attached to or upon the spring S, the arm T provided with the roller *t*, the wire-holders U, and plates *u*, the wheel A′ provided with the studs B′, the pivoted lever C′ provided with the roller D′, lugs *c′*, and pivoted pawl E′, the stops F′, the chain

G′, the coiled spring P′, and the detent M′, when the several parts are constructed as shown, and combined with each other and with the case O, substantially as and for the purpose set forth.

10. The indicator, consisting of the shaft N′ provided with the pointer P′ and sprocket-wheel Q′, the lever R′ provided with the hinged pawl S′ and with the stud U′, when the several parts are constructed as described and combined with each other, the dial T′, and the case O′ provided with the slot V′, substantially as and for the purpose shown.

11. The combination of the upper switch and indicator, substantially as and for the purpose specified.

119,562. — Fire-Plate for Boiler-Furnaces.—Etienne Boileau, St. Louis, Mo.

Claim.—The fire-plates F F^2 F^3, having narrow slits or slots *g*, terminating at the upper end in air-passages g^2, substantially as set forth.

119,563.—Ornamenting Labels and Hat-Linings, &c.—Thomas W. Bracher, New York, N. Y.

Claim.—1. A label for hats and caps ornamented by variegated Dutch or other metal leaf, as herein set forth.

2. A hat-lining, having a paper center, in combination with designs produced on said lining by means of leaf, substantially as described.

119,564. — Buggy-Spring and Attachment. — George A. Brown, Reading, Mich., assignor to himself, Samuel C. Dodge, and Henry F. Doty, same place.

Claim.—The combination of spiral springs, in connection with pulleys and other attachments, as herein set forth and described, and for the uses and purposes inferred herefrom.

119,565.—Screw-Cutting Device.—George W. Brown and A. T. Gifford, Providence, R. I.

Claim.—In combination with the stock A, the circular plate B pivoted to said stock and constructed with a series of holes near its edge, and with the metal intervening between each hole and the edge filed out or otherwise removed, as described, to form cutting-teeth that may be sharpened by grinding, all as set forth.

119,566. — Ram for Naval Warfare.—William Brown, Portsmouth, England.

Claim.—The reciprocating shaft, working watertight in the bow of the ram, in the manner and by the means described, when the said ram is provided with the intermediate water-space formed by the two bottoms H I, whereby the shaft is depressed to work below the surface of the water, as and for the purpose set forth.

119,567. — Water-Wheel.—Orrin Bryant, Chesterfield, Mass.

Claim.—The spider H with the rim K, chutes E and L, combined and arranged to operate in connection with a water-wheel, substantially as and for the purpose herein shown and described.

119,568.—Curtain-Fixtures.—William N. Bulkley, Brooklyn, N. Y.

Claim.—The double pawl K′, single pawl M, ratchet L, and loose pulley K, in combination with the conical friction-pulley H, and partition-plate *c*′, arranged and operating substantially as and for the purposes described.

2. The rotary screw-shaft E, traveling-nut F, spiral pressure-spring G, reversed ratchet I, double pawl K′, and reversible double pawl I′, in combination with the hollow conical cylinder-head C and partition-plate *c*′, substantially as described.

3. The swinging-bracket P and cord-catch U, constructed as described, in combination with the double suspension-cord W, substantially as described and set forth.

119,569. — Bread-Cutter.—Isaac S. Bunnell, Carbondale, Pa.

Claim.—The combination, as described, with knife A, of the straight lever B and nearly right-angled lever C, each pivoted at opposite ends of the knife, and also to the frame, for the purpose of giving a backwardly-drawing cut to the knife from heel to point when forced down.

119,570.—Cooper's Croze and Howel.—Anthony Busenger, Mount Solon, Va.

Claim.—The cooper's plane, composed of the parts A, D, and G, and the irons *a*, B, and E, substantially as and for the purposes described.

119,571.—Stove-Pipe Thimble.—Cephas A. Buttles, Milwaukee, Wis.

Claim.—A stove-pipe thimble in which the upper head is provided with strengthening-ribs *c* that project beyond its inner edge and support a flange, *n*, upon which the band is secured, the lower edge of said band being fastened to a flange, *n*, supported by arms *c*′ projecting from the lower head, substantially as and for the purposes herein set forth.

119,572. — Elevator. — Patrick Byrne, Nashville, Tenn.

Claim.—The arrangement of the posts A C, beams H J, drum E, shaft D, pinion T, wheel M, and hoisting-wheel L, substantially as specified.

119,573.—Baling-Press. — Nathan Chapman, Hopedale, Mass.

Claim.—1. The combination and arrangement of the follower K, hung to the endless chain I by an eyebolt so as to be turned on and off the press-box automatically, substantially as and for the purpose described.

2. In combination with the short pawls U and V, the pin *a* and latch *z* for holding the pawls clear from the ratchet-wheel when not working.

3. In combination with the eyebolts J and follower K, the blocks E′, with rounded ends, which govern the motion of the eyebolts and follower when turning in and out of the press.

4. The end doors J′ of the press-box, in combination with the side doors M′, constructed and arranged, as shown, to release the end doors when the side doors are opened, substantially as described.

119,574.—Coal-Elevator.—John C. Clifford, Yonkers, N. Y.

Claim.—1. The endless chain-conveyer L, constructed substantially as described.

2. The arrangement of the conveyer L and spout K of the elevator-leg, whereby their relative distance is unchanged and the fall of the coal on the conveyer maintained at its minimum when the leg is more or less elevated, substantially as set forth.

3. The pivoted mouth-piece O, in combination with the receiving-hopper N, arranged and operating as and for the purposes set forth.

4. The arrangement of the radial arms G G, in combination with the shaft *a*′ of the elevator-leg, whereby the position of the latter when raised and lowered is maintained at the same radius from the central axis E E, substantially as set forth.

119,575. — Butter-Worker. — George S. Coleman, Alexandria, Va.

Claim.—1. The bowl H, formed with a square cast-iron bottom L and with the center aperture J, as described, and for the purposes set forth.

2. The bowl H and the center-pin K, upon the head of which the bowl rests, in combination with the cross-piece U and guides V V, when arranged and operating as described, for the purposes set forth.

3. The hollow spindle M with its square head fitting into the iron bottom L of the bowl H, having a top plate with apertures P P, a square bottom fitting into the receptacle T, incline boards S S, and receptacle T, when constructed, combined, and operating as described, and for the purposes set forth.

4. The curved and jointed handle D, ladle E, bowl H, spindle M, center-pin K, guides V V and W, and receptacle T, when constructed, combined, and operating as described, and for the purposes set forth.

119,576.—Mechanical Movement.—John H. Cooper, Philadelphia, Pa.

Claim.—1. A mechanical movement, in which a disk or slide is adapted to an arm having a pin and segmental hub, substantially as described, so that by the uniform rotation of the arm definite intermittent movements are imparted to the disk or slide and the latter locked during the interval between the movements.

2. The blocks D, rendered adjustable, substantially in the manner described.

3. The arm G, having its segment detachable and adjustable, as specified.

119,577.—Potato-Digger.—William Cousens, Orono, Me.

Claim.—In combination with the beam B, braces G, and rollers D D′, the hood, formed and applied as set forth.

119,578, antedated September 27, 1871.—Strap-Cutter.—Richard Crocker, Marshalltown, Iowa.

Claim.—In a strap-cutting machine, the comb *f*, combined with a series of rotary knives, D, arranged to pass severally through the slots thereof, as and for the purpose specified.

119,579.—Carriage.—John Curtis, Cincinnati, Ohio.

Claim.—As a new article of manufacture, the metallic plate A B C D D′ *d d*′, when constructed as herein described, and for the purpose explained.

119,580, antedated September 22, 1871.—Water-Wheel.—John F. Daniels, Foxborough, Mass.

Claim.—1. Combining the chain of buckets H H^1 H^2, having the projecting flanges O O, with the wheels D and E, arranged and constructed substantially as described, and for the purpose set forth.

2. The pivot K, in combination with the bucket when so arranged as to form a rivet for the chain, and also as a connection to attach the chain to the upper part of the bucket, and by means of its inwardly-projecting point *k* to serve to confine the lower part of another bucket.

119,581. — Cleaning Boiler-Flues by Steam-Jets.—Charles Dasenbrock, Cincinnati, Ohio.

Claim.—The arrangement of the steam-pipe or pipes E and nozzles G in relation to the boiler B and flues C, as herein shown and described, so as to leave a space between the ends of the nozzles and the flues and thus permit the passage of the gaseous products of combustion without exposing the nozzles to excessive heat.

119,582.—Railway-Car Brake. — Marmaduke F. Daughtrey, Portsmouth, Va.

Claim.—The combination of the spring G, chain H, and rollers I with the rod D, all substantially as specified.

119,583, antedated September 18, 1871.—Corset. — Rebecca De Baun, Chicago, Ill.

Claim.—1. The shoulder-straps F F, with divided front ends *f f*′, adapted to hold the two parts of a side-lacing corset, substantially as specified.

2. The combination of the front A, back C C′, and brace E, substantially as and for the purpose specified.

119,584.—Rudder for Vessels.—Alphonse De Man, Ghent, Belgium.

Claim.—1. The combination, in a hollow tubular rudder, of two tubes, one inside the other, joined at their forward ends, as shown, with an annular space, M, between said tubes, the rear end of which is closed by the ring N, substantially as set forth.

2. In tubular rudders constructed as described, the solid ring, O, for the purposes set forth.

3. The screw-wheel, constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

4. The combination of the propeller-wheel with the tubular rudder, each of said parts being constructed, arranged, and operated substantially as set forth.

119,585.—Horse-Collar and Hame.—Alexander Dunbar, Woodstock, Canada.

Claim.—1. The skeleton horse-collar frame, formed of a continuous wire and covered and padded, substantially as herein shown and described.

2. The draft-hooks E, fitted over the front wire of the collar and applied against the boards C, substantially as herein shown and described.

119,586.—Gas-Retort.—Henry H. Edgerton, Fort Wayne, Ind.

Claim.—1. The interior tile D, set up within the retort in line with the supporting-tile, as and for the purpose specified.

2. The tiles C, so constructed as to support the retorts and the upper tiles above, so that the upper tiles will not rest on retorts, as specified.

119,587.—Horse-Power.—Charles M. Erwin, Winona, Miss.

Claim.—1. The levers C C, united to the horse-power wheels by means of the radial arms B B′ and connecting-bar D, as described.

2. The wheel described, with king-post A, arms B B′, levers C C, connecting-bar D, and standards E, combined and arranged as described.

119,588.—Cultivator.—Charles Escudier, Parish of Iberia, La.

Claim.—The arrangement, in a cultivator, of the main frame *a*, bearing-wheel and frame *e*, standard plates *d*, shoe *h*, lever *g*, rods *i*, and draft-beam *l*, all constructed to operate as described.

119,589.—Tension-Regulator for Sewing-Machines.—Edward M. Estabrook, New York, N. Y.

Claim.—The combination of the bar A A′, clamp B, wheel C, spring D, lever G, and slide *f*, all constructed, arranged, and operating substantially as and for the purposes herein set forth.

119,590.—Valve-Gear.—Thomas E. Evans, William R. Thomas, and Joshua Hunt, Catasauqua, Pa.

Claim.—1. The bell-cranks *p p*′, applied indirectly against the ends of the rods E and E′ so as to move the main valve A to the middle position, as set forth.

2. The combination of the valve A with the rods E E′, pistons F F′, ports *h j*, exhaust-pipe *n*, and auxiliary valve C, all arranged to operate as specified.

119,591. — Locomotive-Engine.—Robert Francis Fairlie, Victoria Chambers, Westminster, England.

Claim.—1. The pendent, vibratory, and longitudinally-sliding pipe C, attached to the tube-sheet of a locomotive-boiler by a flexible elbow-joint, a D E F, and to steam-chests H of the cylinders that drive the wheels by a ball-and-socket joint, G H′, combined with a swiveling or bogie-frame working on center pivots under the boiler, as and for the purpose specified.

2. The hollow swivel-pin K, the steam-supply

pipes L, the hollow and swiveled ring E having branch pipe projecting therefrom, and rigid pipe C, combined and arranged in a bogie-engine, as and for the purpose specified.

119,592. — ANIMAL-TRAP. — Thomas Fell, New York, N. Y.

Claim.—The combination of the plates A B C and detachable pins D, all being constructed and arranged substantially as specified.

2. The arrangement, with the falling doors, of the holding and tripping wire K Q, substantially as specified.

119,593. — TURN-TABLE FOR RAILWAYS.—Charles H. Fisher, Albany, N. Y.

Claim.—The combination of the tie-rods m m m m and n with the stringers *g g*, the struts h h, and the braces h *k* and *s s*, substantially as and for the purpose hereinbefore set forth.

119,594.—ANIMAL-TRAP.-Henry Foust, Mill Village, Pa.

Claim.—The animal-trap, consisting of the body A and water-vessel I, hinged together, the former provided with the entrance E, exterior bait-box F, and the tilting-platform D, and the latter with the inclined rear end, as herein shown and described, for the purpose specified.

119,595, antedated September 18, 1871.—TURN-TABLE FOR TRANSFERRING FREIGHT.—George French, Alexandria, Va.

Claim.—The combination of the turn-table T, cog-rim R, screw-posts P P^1 P^2 P^3, and pinions *o o o o*, when constructed to operate substantially as described.

119,596.—WRENCH.—John Gates, Portland, Oreg.

Claim.—The construction of the adjusting-screw of a movable wrench-jaw with two sections cut therefrom on opposite sides of the end, as and for the purpose specified.

119,597.—SURFACE-BLOW FOR STEAM-BOILERS.—John Gates, Portland, Oreg.

Claim.—The surface-blow, consisting of the inverted cup A and pipe B, and arranged within a steam-boiler, substantially as and for the purpose herein shown and described.

119,598.—RAT AND MOUSE-TRAP.—Levi F. George, San Francisco, Cal., assignor of two-thirds of his right to Algernon S. Austin, same place.

Claim.—The turn-table A B in the trap or box R R R, working on the axis X by means of the clock spring C, in combination with the hooks H and H′, and the fixed springs K K′, substantially as and for the purpose herein set forth.

119,599.—BANK-NOTE. — John Gibson, Jr., Albany, N. Y.

Claim.—1. In bank-notes, checks, bonds, and other monetary papers or documents of value, the arrangement of perforations *s s* or *s′ s′* to form or constitute figures or characters expressing the true denomination, amount, number, date, name, or other essential matter, whereby such perforated figures or characters are rendered indelible, ineffaceable, or unchangeable, substantially as and for the purpose set forth.

2. The arrangement of figures or characters formed by perforations made in the paper, constituting a note, check, bond, or other instrument or document, with the written or printed essential features or characteristics of such note, check, bond, &c., whereby a correspondence and corroboration of the true and originally-intended expressions will be had in the same in an unalterable manner, for the purpose substantially as set forth.

3. The arrangement of the blocking or limiting perforations *z z* or *z′ z′* with the figures or characters expressing the original and true denomination, amount, registering-number, date, name, or other essential characteristics of a note, check, bond, or other instrument or document, whereby the fraudulent insertion of additional figures, letters, or other characters or matter will be effectually prevented or detected, substantially as set forth, and for the purpose specified.

119,600.—BED-BOTTOM.—Samuel Gissinger, Pittsburg, Pa.

Claim.—The arrangement of the frame, consisting of side pieces A and cross-bars B, rollers D *c*, ratchet-wheel *i*, pawl *j*, hooks *n*, guides *f*, and canvas C, arranged and operating as herein described, and for the purpose set forth.

119,601.—MANUFACTURE OF PIPES, ROOFING, FLOORING, AND OTHER ARTICLES FROM DISINTEGRATED WOOD. — James Kent Griffin, Waterdown, Canada.

Claim.—1. The process of disintegrating, dividing, reducing, and seasoning refuse or other wood or fibrous matter for the purpose of forming the same into various articles of manufacture.

2. Woodphalt, produced, by disintegrating, dividing, reducing, and seasoning the fiber of refuse or other wood or fibrous matter, and afterward compressing the same for the purpose of affording ready material for manufacture.

3. The combination of the steam-chest A, chamber L, chutes *n n*, and cutters, arranged and operating substantially as described.

4. The endless apron a^1 arranged between each of the cutters, as described, in combination with the chutes *n n*, steam-chest A, and the heating cylinder F, substantially as described.

5. The alternate pressing and oscillating rollers *d d*, in combination with the rotating steam-cylinder F, apron a^1, and cutter *a′*, substantially as and for the purpose set forth.

6. The automatic-delivering screw-core *h* arranged so as to produce continuous pipe, substantially as described.

7. The double automatic-delivering cores *h h′* arranged so as to produce a continuous sheet for roofing, flooring, &c., substantially as described.

8. Embossed or ornamental surfaces produced out of the material hereinbefore described, by means of revolving pressing-rollers geared together, and having irregular, corrugated, embossed, ornamental, or varied surfaces.

9. The case M, provided on its inner surface with spring-guides or ribs *s s*, in combination with a rotating cylinder, N, chute *n*, and cutter *a′*, substantially as described.

10. The combination, in one and the same cylinder, of a centrifugal drying-cylinder, for expelling the water or sap, a rotating heating-cylinder, and a rotating disintegrating-cylinder, substantially as and for the purpose set forth.

11. The rotating drying, heating, and disintegrating-cylinder, formed with a series of perforations, in combination with case M, substantially as described.

12. The pipes O O′ and case M, in combination with the rotating centrifugal drying, heating, and disintegrating-cylinders N, operating substantially as described.

13. The double conical-shaped core, composed of the sections Z *z*, arranged and operating in connection with the presser-rollers T T′, substantially as described.

119,602, antedated September 27, 1871.—SPRING BED-BOTTOM.—George C. Grut, Chicago, Ill.

Claim. — The braces C C′, united by a single knuckle-joint, and pivoted to frames A and B, in combination with stop-pins *c*, when covered with leather or rubber, substantially as and for the purpose described.

119,603. — COMPOSITION BOX. — Thomas Brian Gunning, New York, N. Y.

Claim.—A box formed of elastic material, with the outer face *e* of the body and the inner face *e* of the rim of the cover correspondingly beveled, as and for the purpose specified.

119,604. — PAPER WASHER, — Edmund S. Hanna, Pittsburg, Pa., assignor to himself and Columbus West, same place.

Claim.—As a new article of manufacture, a paper washer for use on wagons, carriages, and other vehicles, and on operative machinery, as hereinbefore described.

119,605.—FURNACE FOR STEAM-BOILERS.—Charles J. Harris, Bloomington, Ill.

Claim.—1. In a furnace for steam-boilers, the combination of the grates C and D, the latter being arranged in rear of and below the former, and the former composed of hollow bars to convey the outside air to and above the rear grate, all substantially as and for the purposes herein set forth.

2. The combination, in a furnace for steam-boilers, of the grates C and D, constructed and arranged as described, and a pipe for conveying the exhaust steam from the machinery to and beneath the rear grate D, substantially as and for the purpose herein set forth.

119,606.—CASTER FOR SEWING-MACHINES. Warren D. Hatch, Antrim, N. H., assignor to himself, Shepard Russell, Boston, and Henry O. Goodrich, Worcester, Mass.

Claim.—The combination of the jointed rod G hinged to upper part of the frame, long lever F, short lever E, swiveled casters D C, and lugs B with each other to adapt them for attachment to a sewing-machine frame or other article, substantially as herein shown and described, and for the purpose set forth.

119,607. — CONCRETE PAVEMENT. — James M. Hawes, Covington, Ky.

Claim.—1. The process of preparing a pavement substantially in the manner herein set forth.

2. A pavement composed of the ingredients specified, and prepared and laid substantially as herein set forth.

119,608.—SCARF OR NECK-TIE HOLDER.—James Hayden and William H. Hart, Jr., Philadelphia, Pa.

Claim.—As an article of manufacture, a scarf or neck-tie holder, A, with or without the tongue B, (strengthened or not,) constructed substantially as shown and described.

119,609.—STOVE-PIPE DRUM.—Ben James Hobson, Covington, Ky.

Claim. — The improved air-heating apparatus herein described, formed of the cylinder *a*, provided with air-entrance and exit-pipes *g* and *h*, located as specified, the series of horizontal tubes *b* and connected vertical cylindrical drums *c* and *d*, and the pipes or elbows *e* and *f*, all constructed and arranged as and for the purpose described.

119,610, antedated September 23, 1871.—EARTH-CLOSET.-Chester D. Holmes, Boston, Mass.

Claim.—In general combination, the three compartments, *g*, *a′*, and *b′*, of the structure, the valve B with its ports *l* and *n*, and the seat *c* operated by the carriage and weights, under the arrangement and for operation as herein specified.

119,611.—BOB-SLED.—Dennis Holtz, Tiffin, Ohio.

Claim.—The reach C, connected by king-pin *a* and jaws *s* to a circular flanged plate, G, supported by a yoke, B, and provided on its rear end with a swivel-coupling, substantially as described, and for the purpose set forth.

119,612.—DERRICK.—William M. Howland and George L. Howland, Topsham, Me.

Claim.—1. The combination of the keeper or guide L with the chain and chain-wheel, substantially as specified.

2. The arrangement, with the pawls G and pawl-levers F, of the rods *a*, springs *c*, and adjustable plate *f*, substantially as specified.

3. The foot-piece P, hook-headed bolt Q, case S, and spring T, combined with the shore and socketed stake-holder of a car, all substantially as specified.

4. The combination, with levers K and rods I, of the rod *i* and springs *k*, substantially as specified.

119,613.—EGG-PACKING BOX.—Nathan L. Janney, Wilmington, Del., assignor to himself and William L. Gilbert, same place.

Claim.—The improved case for receiving or holding eggs, formed of the box *a*, provided with vertical grooves, the series of vertical partitions *b b′*, the horizontal perforated shelves *c c′*, and the double egg-pouch and ring, arranged in the manner shown and described.

119,614.—PORTABLE FENCE.—Abram Jewett, Sanford's Corners, N. Y.

Claim.—A portable fence-post, consisting of the base bar *d*, the crossed bars *a*, bar *f*, the band *e*, and vertical bars *g*, when constructed and arranged substantially as herein described.

119,615.—FOUNDATION FOR PLASTERING.—James John, Chicago, Ill.

Claim.—1. The combination of the line-wires B with the supporting-strips A and clamps, substantially as described, to form a foundation for plastering.

2. Iron wire, applied substantially in the manner specified, as a substitute for wood laths or other material as a foundation for plastering upon ceilings and walls, for the purposes set forth.

119,616. — THILL-COUPLING. — Erastus D. Johnson and Edward A. Cowan, Thorntown, Ind.

Claim.—The thill or pole-iron E having the hook *e*, in combination with the flanged block D′ and clip B, as and for the purpose specified.

119,617.—MECHANICAL MOVEMENT.—Daniel E. Keating, Oswego Falls, N. Y.

Claim.—The combination of the eccentric miter-wheels D and D′, the shafts A and B, the face-plate E, and the levers F, G, and G′, all constructed, arranged, and operated as described and shown, for the purposes set forth.

119,618.—COMBINED PLOW AND STOCK FOR CULTIVATORS.—Martin Kennedy, Chicago, Ill.

Claim.—1. The stock *a*, constructed with the double chamfered flange *b*, point *a′*, sockets *r*, and lugs *p*, whereby it is adapted for the attachment of various implements necessary to the performance of different functions, as shown and described.

2. In combination with the stock A, provided with the double chamfered flange *b* or beveled ridge *c*, the mold-board *g*, provided with the corresponding flange *f*, as specified.

119,619. — HORSE HAY-FORK. — John C. Lampman, Baltimore, Mich.

Claim.—An improved horse hay-fork, consisting of the tines A C, shank or standard B, notch or shoulder *b′*, loop or link F, trip-lever G, hoisting-rope E, and guide-pulley I, said parts being constructed

arranged, and operating substantially as herein shown and described, and for the purpose set forth.

119,620.—MEDICAL COMPOUND FOR CURE OF CONSUMPTION. — James E. Larkin, Newark, N. J.

Claim.—The above medical compound, substantially as described, for the purpose set forth.

119,621. — PIPE-ELBOW. — Isaac Leas and William H. France, Terre Haute, Ind.

Claim.—The method of forming stove-pipe knees from a single piece of metal by cutting from a rectangular sheet eight triangular pieces, four on each side of a central longitudinal strip, and then bringing together the parts into the form of a curved tube as described.

119,622.—ELECTROTYPING. — William Augustus Leggo, Montreal, Canada.

Claim.—1. The process described, consisting of heating the type before making the impression in the wax, as and for the purpose set forth.

2. The press described, consisting of the screwed posts *f*, toothed wheels *g*, worm *h*, spindle *i*, bed-plate *a*, and steam-space *b*, or its equivalent, all combined and arranged as described.

3. The arrangement of two or more tables about the press, as described.

119,623. — PRINTING-TELEGRAPH. — Landy Tunstall Lindsey and Horace Horatio Curtiss, Jackson, Tenn.

Claim.—1. The mechanical circuit-changer, composed of the vertical axis M, arms N, insulated rims *m m'*, and the electrical connections therewith, as described, the arrangement acting upon the principle of centrifugal force for changing the direction of an electrical current.

2. The combination of the magnet C, armature-lever B, escapement E, ratchet-wheel F, axis A propelled by a weight or spring and bearing the toothed-wheel W, in conjunction with the spring R and electrical connections described, for acquiring an automatic movement of the instrument.

3. The device consisting of the sleeve O, arm *o*, roller I, feed-hand *i*, studs *c d*, lever L, for insuring the movement of the paper in the manner as described.

119,624, antedated September, 30, 1871.—RAILWAY RAIL-CHAIR.—Allen P. Lord, Friendship, N. Y., assignor to himself and Johnson Higgins, same place.

Claim.—A chair for railroad rails constructed from flat wrought-iron plates or bars in parts A B C, each formed specifically as herein described, and the whole combined and arranged to operate together in the manner shown and specified.

119,625.—BLIND-SLAT OPERATOR. — Henry B. Lum, Sandusky, Ohio.

Claim.—The combination, with the slotted arm D connected to the slats, of the bent rod E passing through the window-frame, and otherwise arranged, substantially as specified.

119,626.—METALLIC SIEVE FOR GRAIN-SEPARATORS. — James A. Maloney, Georgetown, D. C.

Claim.—1. A sheet-metal sieve, A, for grain-separators, provided with apertures *b*, formed and arranged as described and shown, for the purpose set forth.

2. In combination with a sheet-metal sieve, constructed as described, the guard-plate C, substantially as and for the purpose specified.

119,627.—HAY-RACK.—Jeremiah Mandigo, Wayland, Mich.

Claim.—The construction and arrangement of the sill A, sides B, girts *a*, stripe *b*, arms C C', wings D, pintles *c*, and hinges *c'*, as and for the purpose set forth.

119,628.—GROUND-MARKER AND FURROWER.—George W. Martin, William G. Parrish, and James A. Petrie, Elizabeth, N. J.

Claim.—The beams of the three furrowing-plows, combined, as described, with the same rigid and end slotted bar M, and the rod L to which they are pivoted, for the purpose of enabling the two end beams to be adjusted toward or from the central one, and all to be lifted together.

119,629.—WASHING-MACHINE. — William Martin, Orford, Iowa.

Claim.—1. In combination with the rubber F attached to pivoted arms K, the crotched arm M, brace N, link P, and lever Q, all constructed and arranged as and for the purpose specified.

2. The beater F, having the oscillating motion on its own axis while swinging on the arm K, substantially as specified.

3. The combination, with the rubber B and the springs, of the buttons G H, substantially as specified.

119,630.—ROCKET. — Cornelius E. Masten, Boston, Mass.

Claim.—1. A rocket having opposite sticks, *b c*, rigidly affixed to the rear of the rocket, and inclined relatively to its axis, substantially as shown and described.

2. In combination with such opposite inclined sticks *b c*, the guiding-vanes or blades *d* on the rear end of the sticks, substantially as shown and described.

119,631. — PAPER-BOX MACHINE.—Charles A. Maxfield, New York, N. Y.

Claim.—1. The folders C C and the pairs of folders F F, in combination with the plunger A, substantially in the manner described and specified.

2. The combination, with the plunger A and folders C C with their pairs of folders F F, of the spring-folders D D, constructed and operated substantially as described and specified.

3. The combination, with the plunger A, folding devices C C, F F, and D D, as described, of the rollers E E, constructed and operating substantially as described and specified.

4. The construction of the spring-arms D D so that they shall serve the twofold purpose of holding the blank smooth upon the end of the plunger to prevent the bottom of the box from "bagging" and folding the two sides of the box, substantially as described and specified.

119,632. — CUTTER-HEAD.—Charles E. McBeth, Hamilton, Ohio.

Claim.—The quadrant-shaped segments A A' B B' and hub C D furnished with the cutters and bits *a b c d*, in combination with the graduated series of gauging-collars 1 2 3 4 5, constructed and operating in the manner shown and described, for the purpose specified.

119,633. — DITCHING-MACHINE.—John W. Metz, Stout's, Ohio.

Claim.—In combination with the main frame B and its pivot-bolts *b*, the slotted sheaths C C' *c c'*, ratchet-bars F F' *f f'*, rock-shaft G *g g'*, treadle H, shaft K *k'*, pinions L L', racks M, and retaining devices N *n*, for the purpose stated.

119,634. — HEATING-STOVE. — John D. Miller, Detroit, Mich., assignor to Detroit Stove-Works, same place.

Claim.—1. The construction and arrangement, with relation to the shell B, base A, top C, and base-plate O, of an internal combustion-chamber, composed of the bottom plate H, flanged front and back plates E, side plates F G, and top plate P, provided with the damper Q and the diagonal deflector or flue-strip R in the base-chamber, as and for the purpose set forth.

2. The arrangement, in the double top composed of the plates P and S and casing C, of the chute T, as described.

3. In heating-stoves, the sectional swinging cover, the lower section U being provided with an opening, *e*, and pivoted at the periphery to the top C, the upper section U' being in like manner pivoted to the lower one, and provided with any suitable means for locking the sections together, substantially as described.

4. The construction and arrangement of the base A, shell B, top C, front and back plates E E, side plates F and G, bottom plate H, door I', base-plate O, diving-flue J, up-take flues L L, base-chamber K, top chamber M, smoke-pipe N, covering-plate P, damper Q, diagonal flue-strip R, top plate S, feed-chute T, draught-tube V, and sectional swinging-cover U U', as shown and set forth.

119,635. — ELEVATOR.—Charles E. Moore, Boston, assignor to himself and Martin L. Wyman, Melrose, Mass.

Claim.—1. In combination with or as a part of an elevator mechanism, a rope-winding drum having a toothed gear loose upon its shaft, and which drives the drum by a pawl upon said gear, substantially as described.

2. The winding-drum, arranged substantially as shown and described, so that the weight of the drum or its downward movement when released from the strain of the car exerted upon the rope effects the stoppage of the motive power that drives the drum.

3. A drum hung so that it drops when the car is arrested and shipe the belt by dropping.

119,636.—MACHINE FOR COVERING WRINGER-ROLLS.—Joel Moulton, Boston, Mass.

Claim.—1. In combination with the shaft-rotating chuck or holder *g*, the sliding cross-head *h* and the gear-rack or bar *k*, extending from the cross-head in the vertical plane of the axis of the chuck, substantially as shown and described.

2. In combination with the cross-head *h* and gear-bar *k*, the shaft *n* and pinion *m*, the pulley *p* and weight *r*, ratchet and pawl *t u*, and the handle *w* and its ratchet and pawl, substantially as shown and described.

3. The removable bunters or bunter-heads d^2 on the ends of the shanks or pins c^1, substantially as described.

4. The guide-rolls g^2 h^2, made adjustable for materials of varying thickness, substantially as described.

119,637, antedated September 18, 1871.—BRONZING-MACHINE.—John H. Nevins, Williamsburg, N. Y.

Claim.—1. The combination of the fountains F' and F'', the brush *h*, and roller R'', when the roller R'' is rotated in the fountain F'' for the purpose of taking up the bronze powder evenly on its surface, as set forth.

2. The slides S S S, in combination with the fountains F' and F'' when inserted between the same, for the purposes set forth.

3. The fountain F'' and roller R' in combination with the applying-roller R'', and operating as described.

4. The applying-roller R', moved from the spreading-roller R'' and the sheet-drum C by the lifters L L, operated by the cams C'' C'' for the purpose of stopping the application of bronze, and dropping to the same by its own weight, for the purpose of applying bronze to the passing sheet.

5. The case of the fountain F''', constructed with the slide S' moving co-ordinately with the roller R' to open and close the lower bronze-fountain F'''.

6. The rubbing-and-polishing rollers R R, constructed as shown, and given both rotary and end motion, the last by the slotted cams M M.

7. The combination of the sliding segment S' and the arms *a a*, by which it is carried and kept in position.

8. The combination of the lifting-arms L L, the actuating-arms L', and the sliding-segment S'.

9. The cams C'' C'', when operating to throw the applying-roller R' out of function.

119,638. — APPARATUS FOR EXTINGUISHING FIRES.—Gorton W. Nichols, Chicago, Ill.

Claim.—1. The exhaust and charging-cock B or equivalent, operating as and for the purpose specified.

2. The employment of a cock or equivalent, other than that to which the hose is attached, as a vent by which the contents of fire-extinguishers may be drawn off, as specified, for the purpose as set forth.

3. An air-vent, opening and closing simultaneously with and by the same means as the main passage to the reservoir, as set forth.

4. Attaching to fire extinguishers a receptacle for holding charges, substantially as specified.

5. The combination of these several parts, as specified, for the purpose set forth.

119,639. — CULTIVATOR. — John S. Nolan, Paulsborough, N. J.

Claim.—1. The oblong and eight-sided shovels P, adapted to be reversed or changed in position so as to adapt the implement for use as a harrow or cultivator, as specified.

2. The improved agricultural implement formed of the central beam A, hinged adjustable side beams B, and adjusting devices H I G J F, the oblong reversible teeth P provided with self-sharpening teeth Q, the vine-lifters L L and N N, all constructed and arranged as shown and described, to operate as specified.

119,640.—CUTTING APPARATUS FOR HARVESTERS. — James T. Polson, Laclede, Mo.

Claim. — The arrangement of the covering-plate of the rotary cutters upon hinges on a projection from the fingers, as and for the purpose specified.

119,641.—PNEUMATIC PUMP.—James Powell, Cincinnati, Ohio.

Claim.—1. The arrangement and combination of the valve J and valve-seat S, the axial projection T, spring L, screw-socket K, and screw-nut F, when the said parts are arranged for locking the otherwise automatically-operated valve and adapted to an air-pump, substantially as and for the purpose described.

2. In combination with the subject-matter of the first claim, the arrangement of the shoulder W, sliding cap G, elastic packing P, and screw-nut F, substantially as described.

3. The combination of the foregoing with the pump B and air-chamber or reservoir A, as and for the purpose described.

119,642.—GAUNTLET-GLOVE.—Virgil Price, New York, N. Y.

Claim.—A glove having the projecting bead *c*, combined with a detachable gauntlet having the projecting bead *d*, with the continuous spring *e* therein, as and for the purpose specified.

119,643.—DIE FOR MANUFACTURING CLIP KING-BOLTS.—Franklin B. Prindle, Southington, Conn., assignor of one-half his right to John Deeble, same place.

Claim.—1. The blank B, constructed in the manner and for the purpose substantially as specified.

2. The dies C and C', constructed as shown, and combined with each other and with suitable operating mechanism, substantially as and for the purpose described.

3. The lower forming-die F, made cylindrical horizontally and provided with the central perforated

bushing F', substantially as and for the purpose shown.

4. The shaping-dies L and M, constructed and combined substantially as and for the purpose set forth.

5. The series of dies C, C', E, F, I, K, L, and M, when constructed and combined substantially as and for the purposes specified.

6. In combination with the trimming-die I the gauge O and o pivoted to or upon the supporting frame of the press, made adjustable by means of the set-screw R, and connected with the press-treadle, in the manner and for the purpose substantially as shown.

119,644, antedated September 23, 1871.—COTTON-CULTIVATOR.—Richard H. Prunelle, Beulah, Miss.

Claim.—1. The arrangement in one machine for cultivating cotton of a barring-off, *a*, a scraping, *c*, a cutting-out, *p*, and a throwing-on mechanism, *a'*, as specified.

2. The combination of the frame A, cutters *p*, bars *q*, spring *v*, cams *w*, and wheels *x*, as described.

119,645.—ANIMAL-TRAP.—Niels Rasmussen, Chicago, Ill., assignor to himself and William Hessemer, same place.

Claim.—An animal-trap, consisting of the vessel A, cover H with tubular projection F, and trap-doors D provided with the finger-bars *a*, when constructed and arranged to operate as herein shown and described.

119,646.—STOVE-PIPE DRUM.—Thomas R. Renwick, Grand Rapids, Mich., assignor to himself and Josiah A. Osgood, and said Osgood assignor of one-half his right to Charles M. Weiss, Watertown, Mass.

Claim.—In connection with a stove-pipe, or the smoke-pipe of a furnace, the draught-promoter, consisting of the drum B and registers C D, arranged as specified.

119,647.—MACHINE FOR MAKING EYELETS. John C. Rhodes, South Abington, Mass.

Claim.—1. The combination, with a machine to mold a cup-shaped eyelet blank, such substantially as that represented at A, to the shape of a finished eyelet, but with or without a bottom, as represented at B and C, of a hopper with an orifice at bottom opening into a passage or chute leading toward the molding instruments, said orifice being of such shape and dimensions as to permit the passage through it of the cup-shaped blank, when and only when said blank is right-side up in regard to the molding instruments, and mechanism to agitate said hopper or the blanks within it, in order thereby to cause said blanks to assume severally the position proper to enable them to pass through the orifice of the hopper, substantially as described.

2. The combination, with the chute, matrix, and follower, of mechanism to impart to said chute a vibratory movement, and to the follower two distinct forward movements separated by the interval of time required to retract the chute, substantially as set forth.

3. The combination of the hopper, chute, vibrating lever J, rotating cams *e* and *k*, springs *s* and *o*, holder *b*, follower *d*, and matrix *f*, substantially as described.

119,648, antedated September 30, 1871.—PICTURE-NAIL. — Thomas C. Richards, New York, N. Y.

Claim.—A driving-shank, screw-threaded upon its upper end, a nut into which the shank is screwed, and a glass or porcelain scalp properly recessed to receive the nut, which is secured therein by lead or its equivalent, substantially as set forth and shown.

119,649.—TRAP FOR WASH-BOILERS.—Henry R. Robbins, Baltimore, Md.

Claim.—1. The trap *a*, provided with internal partitions which terminate in curves that form contracted throats, as described, and having a tube *d*, for the purpose set forth.

2. The trap *a*, provided with the tube *d*, and combined with the pipe *g* by means of the lantern-joint *e f*, as specified.

119,650.—PUMP.—John Roberts, New Madison, Ohio.

Claim.—The mode of securing the valve E in the cylinder by means of an annular plate, h, spring *i*, and knobs *g*, substantially as described.

119,651.—KNITTING-MACHINE NEEDLE.—S. H. Roper, Boston, Mass.

Claim.—1. A knitting-machine needle the hinged latch of which has journals integral with itself, and secured in bearings sunk or indented in the walls of the slot, but not extending through to the outer surface of the shank, all substantially as described.

2. The complete needle, having all its parts constructed and combined as herein described.

119,652.—STEAM-BOILER.—E. H. Rümmele, Glenbeulah, Wis.

Claim.—The cylinders A and C, connected, by the rear passage *b*, with the system of fire-passages D, *j*, *k*, *l*, and *m* within and around the said cylinders, all in combination substantially as and for the purpose described.

119,653. — CIGAR-MOLD AND PRESS.—John Ryan, Detroit, Mich.

Claim.—The arrangement of the matrix-plate A having the matrices A', the die-plate B provided with the dies B', said plates being pivoted together by the hinges C in the manner shown and described, and in connection therewith the standards D, shaft E, lever F, and eccentrics G, as and for the purpose set forth.

119,654. — CORN-HUSKER. — Daniel Sager, New York city, assignor to James A. Robinson, Brooklyn, N. Y.

Claim.—1. The endless apron B and shaker C, combined with a common revolving shaft, E, for the purpose of making their relative movements always correspondent to one another.

2. The shaker C, having its sides *a b c* slatted, as and for the purpose specified.

3. The arrangement of the slatted shaker C and the fan-blower M, as shown and described, for the purpose set forth.

119,655. — WAGON-BRAKE. — Henry Sager, Penn Station, Pa.

Claim.—The arrangement, in combination with the wheels of a wagon or car, of the brake D, bell-crank H, rod K, and brake-lever E, substantially as and for the purposes described.

119,656.—SCREW-DRIVER FOR FIRE-ARMS.—George W. Schofield, of the United States Army.

Claim.—An improved double screw-driver for fire-arms, having the two blades A and B pivoted together so that they may slide longitudinally one upon the other, and secured in position relatively with each other by means of the stud *b* and notches *c* and *c'*, substantially as described.

119,657.—CAN FOR HYDROCARBON LIQUIDS. Ira W. Shaler, Brooklyn, N. Y.

Claim.—1. The combination, with a can for holding hydrocarbon liquids, of a stopper-receiving tube or socket closed by a wire-gauze screen or cap, substantially as shown and described.

2. A can for holding hydrocarbon and other inflammable liquids, provided with a discharge-spout and filling-orifice or stopper-receiving tube, combined with protecting diaphragms of wire-gauze, as herein shown and set forth.

119,658.—VISE.—John Simpson, Cleveland, Ohio.

Claim.—1. The box *a*, provided with the rack C, and having its mouth contracted, substantially in the manner and for the purposes herein set forth.

2. In combination with the box *a* having a contracted mouth, and provided with the rack C, the box *b*, and screw E, constructed and arranged substantially as and for the purposes herein set forth.

119,659.—CURRY-COMB AND BRUSH.—Howard C. Smith, Coxsackie, N. Y.

Claim.—The horse-brush herein described, having the transverse-channel combs D and the elastic cushions B, substantially as specified.

119,660. — SLEIGH. — Hugh Smith, West Gray, Me.

Claim.—1. The runner-fronts B, made of metal, with arm D, both grooved to receive dasher-board, and constructed at O and S for attachment, respectively, to the runner and sleigh body, substantially as described.

2. The brackets W of the runner-fronts, each constructed with the recess *p* and notch *r*, in combination with the shaft extension T, formed with the disks *n* and lug *o*, the whole arranged to operate in the manner substantially as herein shown and described, for the purpose set forth.

3. The rail a^2, start b^2, and lug c^2, substantially as and for the purpose specified.

4. The brace-rods F F, arranged between the body C and the runners A of the sleigh, in combination with the stanchions E, when the stanchions are formed substantially as described.

119,661. — GATE. — Samuel Smyth, East Bridgewater, Pa.

Claim.—The revolving gate hung on trunnions, as described, and provided with sliding weights, in the manner specified.

119,662.—HORSE-HOLDER FOR SLEIGHS.—Henry A. Sprague, Charlotte, Me.

Claim.—1. The device A a^1 a^2 D E F, constructed substantially as herein shown and described, to adapt it for attachment to a sleigh-runner for holding the reins, as and for the purpose set forth.

2. The combination of a short chain, G, with the holder A a^1 a^2 D E F, substantially as herein shown and described, and for the purpose set forth.

3. The grooves *b'*, formed in the sides of the runners B just above the shoes C, to adapt said runners to receive the holder A a^1 a^2 D E F, substantially as herein shown and described, and for the purpose set forth.

119,663. — GAS-MACHINE. — Theodore G. Springer, Fayette City, Pa.

Claim.—1. The process herein described for manufacturing illuminating gas, consisting of the mixing of carbureted hydrogen and atmospheric air, and passing the same through a jet of hydrocarbon, substantially as herein set forth.

2. In a gas-machine where carbureted hydrogen and atmospheric air are mixed together, creating a suction for taking in the atmospheric air by means of compressed carbureted hydrogen, substantially as herein set forth.

3. Feeding hydrocarbon liquids to the point where they are mixed and formed into illuminating gas by the action of compressed hydrogen, substantially as herein set forth.

4. The combination of the tank C, cylinder D, tube E, and perforated bottom H with the air-chamber formed above the cylinder, all substantially as and for the purposes herein set forth.

5. The arrangement of the small tube *b'*, large tube J, and branch J' with valve *e*, all substantially as and for the purposes herein set forth.

6. The device for operating the valves *a a'*, consisting of the connecting-rod P, lever O, with roller *i*, springs R S, rock-shaft *k*, and lever N, the latter connected with the gas-holder, all constructed and arranged substantially as and for the purposes herein set forth.

119,664.—TURBINE WATER-WHEEL. — Stephan Stevenson, Dansville, N. Y.

Claim.—In combination with the chute-frame A, provided with the downwardly-tapering and inwardly-inclined chutes C, the wheel having the elliptical and outwardly-inclined bucket C', substantially as specified.

119,665.—HINGE FOR SEWING-MACHINES.—Roswell H. St. John, Bellefontaine, Ohio.

Claim.—A hinge, one or both of whose members is clothed with resilient material on those portions which come in contact with the object to which it is attached to perfectly isolate it therefrom, for the purpose described.

119,666.—KETTLE. — David Stuart, Philadelphia, Pa.

Claim.—1. A preserving or other kettle provided with a bail, which, after being raised to an upright position, is retained, substantially in the manner and for the purpose described.

2. In a preserving or other kettle, a bail restricted in its movements, substantially as described, in combination with a lip, *b*.

3. A kettle provided with an annular flange, *c*, in which are recesses *y*, as and for the purpose specified.

119,667. — BRICK-MOLD.—Rudolpf Stuckwisch, Terre Haute, Ind.

Claim.—The cap B, provided with openings, as described, said cap being detachable and arranged with relation to mold A for operation, in the manner and for the purpose set forth.

119,668. — GRAIN-BINDER. — Martin Summers and Samuel B. Lane, Zionsville, Ind.

Claim.—1. The band-holder E, dropper arms *f*, shaft *d*, pinion A'', rack-bar C''', and wheel O'', combined as specified.

2. The jaws L, tucker Z, bar W, wedge 8, suspension-bar 6, bar 7, and wheel O''', combined as described.

3. The vertical shaft O provided with the pinion 4 and flange o^2, the cam-wheel O', the jaws L, braces S, flange a^4, bar 14, and rod P, combined as set forth.

4. The jaw L, bisected as shown in Fig. 3, in combination with the springs L', shaft O, and wedge 8, as explained.

5. The butt-holder, consisting essentially of the bent rod H and connecting-bar H' connected with the shaft *t*, as described, so that the butt-holder may vibrate therein, as specified.

6. The arms *k*, rods *m*, bar V^6, and wheel O''', combined as described.

119,669. — HORSE HAY-RAKE. — George Sweet, Dansville, N. Y.

Claim.—1. The combination, in a horse-rake having wheels B B and axle A, of a series of rake-teeth, D, attached to a cross-bar, C, rigidly connected parallel with and in rear of the axle, shaft J with cranks *e e* and lever L, rods *f f*, guide-standards *m m*, and brake-blocks K acting on the periphery of the driving-wheel for unloading the rake, all substantially as herein set forth.

2. The lock-lever, composed of the three parts I, I^1, and i^6, when said parts are constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the lever L with cam f and pivoted bar n for breaking the joint of the lock-lever, substantially as herein set forth.

119,670.—FENCE.—John D. Tifft, Cuyahoga Falls, Ohio.

Claim.—1. In a wire-fence, the wire ends encircling each other by means of the sliding loops e e, in combination with the rubber sleeve E and the washers F F, all constructed as specified.

2. In a wire-fence, the combination, with the wires A A, of the slats B B, inclined supports D D, and foot D', all attached to said wires by means of staples, as specified.

119,671.—WATER-METER.—Daniel L. Tower, New York, N. Y.

Claim.—1. The wings L L, abutments N N, and chambers M M arranged in a water-meter, substantially as and for the purposes described.

2. The flange G and ports K and O, when arranged to operate substantially as and for the purpose described.

3. The arrangement of the valve F between the valve-plates D and E, thereby relieving it from undue pressure, substantially as described.

4. The crank-lever R, fingers T T, and pins U.

5. The disk V and pins X X combined with crank-arm R and spring S, substantially as and for the purpose specified.

119,672.—RAILWAY SWITCH.—Edward A. Trapp, San Francisco, Cal., assignor of one-fourth his right to Henry J. Huttner, same place.

Claim.—1. The cams A and B, with the faces curved outwardly, for giving at first a slow motion and then a more rapid motion, in combination with a set-bar, d, attached to the car for operating said cams.

2. In combination with cams constructed with the faces as herein described, the arrangement of the cogged sector f with chains or ropes, shafts h h, pinion i, drum j, cogged sector k, pinion l, countershaft m, worm-screw n, and toothed lever o, for the purposes set forth.

119,673.—COMBINED LATCH AND LOCK.—Martin P. Warner and Edwin W. Payne, Morrison, Ill.

Claim.—The bolt A provided with a long notch, D E, and the notch G, and pivoted on a spindle so as to be thrown out of the case by its own gravity, in combination with the pawl H constructed to be operated by hand and by a key, as specified.

119,674.—MECHANICAL MOVEMENT.—William Weaver, Greenwich, N. Y.

Claim.—1. The arrangement of the belts D, two or more, with respect to the driving-pulley or drum B, loose pulleys E equal in number to the belts D, and driving-shaft F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the levers H, provided with a spring sliding weight or other adjusting device, in combination with the loose pulleys E, belts D, driving-shaft F, and driving-pulley or drum B, substantially as herein shown and described, and for the purpose set forth.

119,675.—SHOEMAKERS' JACK.—Franz Weissenborn, Egg Harbor City, N. J.

Claim.—The notched teeth s, spring-bolt f, and lever g, arranged with respect to the frame A and beam B, as and for the purpose specified.

119,676.—PLATFORM FOR STOVES.—William Westlake, Chicago, Ill.

Claim.—The herein-described zinc-boards for stoves, consisting of the zinc cover A spun over the flange c and under the edge e, as shown, whereby the parts are firmly united and held in place without the use of nails or screws, and the sheet provided with a solid bearing around its edge, as set forth.

119,677.—CLUTCH-MECHANISM.—David M. Weston, Boston, Mass.

Claim.—1. In combination with the pulley a, the friction-clutches, normally controlled by the springs e, and thrown into engagement with the pulley-rim i by centrifugal force and the stress of the springs combined, substantially as described.

2. The pulley a having a split hub, c, secured upon the sleeve or bushing by the bolt g and nut h, substantially as shown and described.

119,678.—SAW FOR SAWING FRET-HOLES IN FAN-STICKS.—Joseph W. White, Weymouth, Mass.

Claim.—A saw, curved in its transverse section and having both its edges toothed and tapering, substantially as shown and described.

119,679.—BUCKET FOR CHAIN-PUMP.—Joseph S. Wilcox, Ypsilanti, Mich.

Claim.—The construction and arrangement of the plates B B', tube d, and link C with the elastic bucket A, of the form shown, as and for the purpose set forth.

119,680.—OVEN.—Abner Willson, Buffalo, N. Y.

Claim.—1. The combination and arrangement, in a baking-oven, of the shield-plate C, legs D D, and rack F E, as hereinbefore set forth.

2. The arrangement, with the shield C, legs D D, and rack E E, of the secondary shield c, arranged so as to leave an air-space, f, between them, as hereinbefore set forth.

3. The combination, with the radiating-plate A, rack E E, and shield C, of the tin cover or inclosing-case B, as hereinbefore set forth.

4. The shield-plate C, when made convex on its under surface, and arranged over a radiating-plate A and within a case, B, of a baking-oven, as hereinbefore set forth.

5. The tin case B and legs b b, combined and arranged with heating-plate A, as hereinbefore set forth.

6. The construction and arrangement of the legs D and recesses c^2 with the case B and shield and rack C E so as to facilitate the proper adjustment of the inclosing-case and leave space for the ascent of the heat, as hereinbefore set forth.

119,681.—MACHINE FOR THREADING BOLTS.—Sheffield H. Wright, Lowell, Mass., assignor to American Bolt Company, same place.

Claim.—The combination of the bolt-holder A, rods and levers L, O, S, and P, adjustable collars M N, spring R, and clutch I, as and for the purpose set forth.

119,682.—MANUFACTURE OF SOFT-IRON AND STEEL CASTINGS.—Richard Yeilding, New York, N. Y.

Claim.—1. The process of making soft annealed castings by casting in hot closed molds and cooling the same and the contained metal down slowly in a heated oven or furnace allowed to cool gradually, all substantially as specified.

2. The combination of the carbonizing substances with a mold for casting steel for the decarbonization of the steel simultaneously with the casting, substantially as specified.

119,683.—COG-GEARING.—Luther R. Faught, Philadelphia, Pa.

Claim.—Arranging in one of a pair of wheels the revolving cylindrical cogs or rollers A A or B B, in combination with flanges C C', for protecting the wearing-surfaces and for supporting the axles a a or b b, and containing, also, the channels f f or g h h for lubricating the frictional end surfaces from within, the whole operating in the manner and for the purpose set forth.

REISSUES.

4,573.—MILK-COOLER.—Anna E. Baldwin, Newark, N. J.—Patent No. 93,583, dated August 10, 1869.

Claim.—1. The combination, in a milk-cooling apparatus, of the vessel A, central tube B, and agitating-paddles D, substantially as and for the purpose described.

2. The agitators of the milk and cooling-chambers, when attached to and operated simultaneously by one and the same cover, a b, as described.

3. The milk-cooling apparatus, consisting of vessel A, tube B, lid a b, when provided with paddles C D, handle E, and faucets c c', substantially as and for the purpose described.

4,574.—CLOTHES-WRINGER.—Charles A. Cummings and Freeman M. Swallow, Worcester, Mass., assignors, by mesne assignments, to Metropolitan Washing-Machine Company, Middlefield, Conn.—Patent No. 34,395, dated February 11, 1862.

Claim.—1. Making the rolls self-adjustable by means of the straps and spring, when constructed and operating substantially in the manner and for the purpose above set forth and described.

2. As a means of attaching clothes-wringers to tubs, a vertically self-adjusting two-legged yoke in combination with a holding or pinching device, substantially as described.

3. A clothes-wringer in which the clamping or holding-yokes are adjustable to varying distances from each other so that the machine may embrace a greater or less segment of the tub, substantially as shown and described.

4. The combination, with the frame of a clothes-wringer, of two-legged yokes or holders adjustable both vertically or upon a vertical axis, and toward and away from each other, substantially as herein shown and described.

4,575.—STEAMING AND COOLING-CLOTH.—Luke M. Heery, Hinsdale, Mass.—Patent No. 115,200, dated May 23, 1871.

Claim.—1. The mechanism substantially such as is herein described for steaming the roll from both ends at the same time.

2. The process of cooling the roll by forcing cold water through it from the interior of the hollow perforated cylinder by means substantially such as are herein described.

4,576.—BOBBIN-WINDER FOR SEWING-MACHINES.—Charles H. Palmer, New York, N. Y., assignor to The Palmer Automatic Bobbin-Winder Company.—Patent No. 105,363, dated July 12, 1870.

Claim.—1. The turning-frame C, the abutment piece B B', and spring P, arranged for joint operation in connection with the friction-wheel H and suitable devices for engaging the bobbin-winding mechanism with the driving-wheel of the machine, and for releasing it therefrom, as herein specified.

2. The combination of the trip-lever E E' with the movable frame C, the disk B, the pressure-lever D, and spring P, all constructed substantially as described, and operating to hold the wheel H in contact with the driving-wheel of the sewing-machine for winding bobbins, and to automatically release them from contact with each other when the bobbin is full, as specified.

3. The combination, with the movable frame C and disk B B', of the adjusting set-screw V, which regulates the extent of horizontal rotatory motion of the frame C, as described.

4,577.—BINDING INVOICE-BOOKS.—John L. Rile, New York, N. Y.—Patent No. 115,896, dated June 13, 1871.

Claim.—The method of making file, sample, and scrap-books by the use of strips placed therein, and afterward taken therefrom in the process of manufacture, to be further employed in the making of other similar file, sample, or scrap-books, as specified.

4,578.—PROCESS OF EXTRACTING OILY AND FATTY MATTERS.—Louis S. Robbins, Rye, N. Y., assignor to Ann D. Brewton.—Patent No. 75,980, dated March 24, 1868.

Claim.—The process, substantially as herein described, of extracting fatty and oily matters from substances in which such matters are contained by treating such substances with the light vapors obtained from the distillation of hydrocarbons such as petroleum, naphtha, or other equivalent hydrocarbons.

DESIGNS.

5,296.—AGITATING PLATE FOR EGG-BEATERS.—Emanuel Bostick, Fort Wayne, Ind., assignor to himself and Erastus B. Kunkle, same place.

Claim.—The design for the agitating-plate of an egg-beater, as shown.

5,297.—WIRE-FENCE.—Marcellin Dupuy, New York, N. Y.

Claim.—The design for a wire-fence, as shown.

5,298.—SPOON-HANDLE.—Joseph Fradley, Brooklyn, N. Y.

Claim.—1. The design A B C D E for the rear side of the upper part of a spoon-handle, substantially as herein shown and described.

2. The design A B C D E F for the front side of the upper part of a spoon-handle, substantially as herein shown and described.

3. The design H I, in connection with the design A B C D E, for the rear side of a spoon-handle, substantially as herein shown and described.

4. The design G, in connection with the design A B C D E F, for the front side of a spoon-handle, substantially as herein shown and described.

5,299.—PARLOR-ORGAN CASE.—Levi K. Fuller, Brattleborough, Vt., assignor to J. Estey & Co., same place.

Claim.—1. The design for an organ-case, consisting of the pilasters D D, in combination with the ends, as described.

2. The design for an organ-case, consisting of the curved projections A A and consoles C C, in combination with the front, as described.

3. The design for an organ-case, consisting of the curved projections A A, consoles C C, and the front, in combination with the pilasters D D and the end, as described.

4. The design for an organ-case, as shown and described.

5,300.—CARPET-PATTERN.—John Magee, New York, N. Y., assignor to Bigelow Carpet Company, Clinton, Mass.

Claim.—1. The design for a center-piece A, as shown.

2. The design for the surrounding scroll-work B, as shown.

5,301.—HEATING-STOVE.—John D. Miller, Detroit, Mich., assignor to Detroit Stove Works, same place.

Claim.—1. The design for the legs or feet, substantially as shown.

2. The design for the base, substantially as shown.

3. The design for the door, substantially as shown.

4. The design for the stove, substantially as shown.

5,302.—THILL-COUPLING.—Henry Newby, Avondale, Ohio.

Claim.—The design for a thill-coupling, as shown and set forth.

5,303.—HOOD.—Charles Rich, Henry Crow, and Marcus Rich, New York, N. Y.

Claim.—The design for hoods above described, and illustrated in drawing.

5,304.—HINGE.—Charles Suedekum, Newport, Ky.

Claim.—The design for a hinge, as shown and specified.

5,305. — UPRIGHT STEAM-ENGINE.—Albert A. Wilson, New Haven, Conn., assignor to himself and The Yale Iron Works, same place.

Claim.—The design for upright steam-engine, as described and shown in the accompanying illustration.

5,306.—THILL-COUPLING—David E. Wolff, Welsh Run, Pa.

Claim.—The design for thill-coupling, substantially as herein described and shown.

TRADE-MARKS.

454. — SMOKING-TOBACCO. — William T. Blackwell, Durham, N. C.

455. — COFFEES, SPICES, MUSTARD, AND CREAM-TARTAR.—Butler, Earhart & Co., Columbus, Ohio.

456.—HAIR AND FACE DRESSINGS.—Orion Clark, Brattleborough, Vt.

457. — LABEL AND SHOW-CARD. — Samuel Crump, New York, N. Y.

458.—FLOUR.—William M. Galt, Washington, D. C.

459. — CONDITION-POWDER.—Charles Garlick, Montreal, Canada.

460.—SHIELD FOR NECK-TIE, CRAVATS, &c. William H. Hart, Jr., & Brother, Philadelphia, Pa.

461.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

462.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

463.—WHISKY.—Mills, Johnson & Co., Cincinnati, Ohio.

464.—PREPARED COTTON FOR MATTRESSES, CUSHIONS, &c.–Patent Elastic Felt Company, New York, N. Y.

465. — MEDICINE. — Albert F. Shannon, Quincy, Ill.

466.—POLISH FOR METAL WARE.—William S. Witherspoon, Thomas S. Witherspoon, and Thomas Wern, Fairview, W. Va.

467.—TOBACCO.—William A. & Frederick R. Brown, Dickinson, Va.

468.—REED-ORGAN.—J. Estey & Co., Brattleborough, Vt.

469.—PAINT.—Holden, Tascott & Co., Chicago, Ill.

470.—PAINT.—Holden, Tascott & Co., Chicago, Ill.

471.—PAINT.—Holden, Tascott & Co., Chicago, Ill.

EXTENSIONS.

WILSON AGER, of Washington, D. C.—Letters Patent No. 18,177, dated September 15, 1857.

"Improvement in Machines for Cleaning Rice."

Claim.—The method of cleaning rice by submitting the mixture of grain and husk resulting from the hulling process to an alternate packing and loosening action, produced by surfaces dressed and operating substantially as hereinbefore set forth.

CHAUNCEY THOMAS, of Boston, Mass.—Letters Patent No. 18,254, dated September 22, 1857; reissue No. 1,331, dated August 26, 1862.

"Improvement in Carriage Props."

Claim.—The improved carriage prop, as constructed with a screw or a loose shoulder-cap, D, combined with a joint bar-standard, A, and arranged between the leather L, and the joint bars G H, all placed on the standard or the leather passing through them, and secured in position by the nut I, substantially as described.

ISAAC A. DUNHAM, of North Bridgewater, Mass.—Letters Patent No. 18,237, dated September 22, 1857; reissue No. 4,454, dated July 4, 1871.

"Improvement in Edge-Planers for Shoemakers."

Claim.—1. The above-described sole or welt-trimmer as composed of a cutting-blade, *d'*, a guard, *d d*, and stock *c c*, constructed, arranged, and combined together, substantially as set forth.

2. In combination with the cutter *d'* and guard *d d*, the nipple or projection *e*, as and for the purpose set forth.

JOHN BUTLER, of New York, N. Y.—Letters Patent No. 18,184, dated September 15, 1857.

"Improvement in Gas-Generators."

Claim.—Generating illuminating gas in a retort over the surface of melted lead or other fusible metal, in the manner set forth in the specification.

GEORGE E. BURT, of Harvard, and ABRAM WRIGHT and GEORGE F. WRIGHT, of Clinton, Mass.–Letters Patent No. 18,232, dated September 22, 1857.

"Improvement in Horse-Powers."

Claim.—The method by which we are enabled to unerringly give such a shape to the ends of the tracks of said machine that closely fitted platform-chains may be operated upon them without producing any variation of tension or irregularity in the movements of said chains, substantially as herein set forth.

T. J. ROBERTSON, of Washington, D. C.—Letters Patent No. 18,249, dated September 22, 1857.

"Improved Hand-Stamp."

Claim.—The construction of hand-stamps in the manner herein described and represented.

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PATENTS.

119,684.—TUG FOR HARNESS. — Isaac H. Alexander, Newfield, N. Y.

Claim.—1. The thill-holder described, made of the external part or plate A, the internal metal part E, held together by the strap B, with the arrangement of the holes C C' and tongues D D', substantially as set forth.

2. The plate A and strap B, arranged together for a thill-holder without the part E, substantially as described.

119,685.—STEAM AND AIR-ENGINE.—John F. Alexander, Shelby, N. C.

Claim.—1. The combination of the steam-chamber, the valve, the oscillating piston, the pin on the rock-shaft of the piston to move the valve, the vibrating crank on the rock-shaft, the link-rod connecting the vibrating and the revolving crank, and the fly-wheel, all these members being constructed to operate in combination, substantially as herein-before set forth.

2. The combination of the parallel steam-chambers, the pistons oscillating independently of each other, each in its respective chamber, the valves, a vibrating crank on each piston-shaft, and a link-rod connecting each vibrating crank with the corresponding crank of the fly-wheel, all these members being constructed to operate in combination, substantially as set forth.

3. The interposed lining-plate of the steam-chamber, constructed as described, curved on one side to correspond with the traverse of the piston and on the other with the shape of the steam-chamber, to secure it firmly while working and yet allow it readily to be removed.

4. The combination of the steam-chamber, the steam-valve, and the exhaust-passage leading around the valve and connecting with a single exhaust-passage, substantially as hereinbefore set forth.

5. The combination of the valve-seat, the valves moving parallel to each other in alternately-opposite directions, the oscillating reversing-lever pivoted between and connecting the two valves, substantially as hereinbefore set forth.

6. The combination of the reversing slide, the perforated diaphragm, and the slide-valve, operated by the direct action of the steam to reverse the engine, substantially as hereinbefore described.

119,686.—SEWING-MACHINE TREADLE.—Richard N. Allen, Pittsford, Vt.

Claim.—1. The foot-rests or sandals D, having the heels thereof hinged to the vibratory links E, and the toes of the sandals connected to cranks C for operating the same, in the manner substantially as described, and for the purpose set forth.

2. The foot-rests or sandals D so arranged, in combination with the vibratory links E and cranks C, that said sandals shall have a transverse swinging motion, and, at the same time, a vertical vibratory or treadle movement, as and for the purpose specified.

3. The combination of the sandals D, vibratory links E, cranks C, and band-wheel G, substantially in the manner as and for the purpose set forth.

119,687, antedated September 30, 1871.—POTATO-PLANTER.—L. Augustus Aspinwall, N. Y.

Claim.—1. The arms V, or their equivalents, provided with the radial spears S, substantially as and for the purpose set forth.

2. The metallic perforated hopper bottom M M, having an increased pitch, substantially as and for the purpose set forth.

3. The arrangement of the supplementary frame E with the main frame F at O, as and for the purpose set forth.

119,688.—SPRING BED-BOTTOM.—Frederick P. Baldwin and Charles T. Segar, Utica, N. Y.

Claim.—A spring bed-bottom, constructed as hereinbefore set forth and described, where the India-rubber cushions *c c* are used in combination with the springs B B and the metallic strips *s s*, the short wooden slats *c c*, and the support D, all for the purpose specified.

119,689. — SPIKE-MACHINE. — Moody Belknap, Philadelphia, Pa.

Claim.—1. The adjustable arm C and rack D, in combination with the eccentric cylinder *a'* (which forms the fulcrum of the griping-lever A) and with the lever A and its die 3, substantially as and for the purpose hereinbefore set forth.

2. The springs 4 and 5, in combination with the adjustable die in the griping-lever A, substantially as and for the purpose hereinbefore set forth.

3. The adjustable controller of the lateral movement of the header E, the same consisting of the tongue *f'*, jam-nuts *f' f''*, and stationary parts F and 7, arranged to operate substantially as and for the purpose hereinbefore set forth.

4. The cutter or knife G, consisting of a short bar of steel having the groove *g'* made across near the lower end of its front side, as described, and with the side *g*[4] as cut back to form the described angle of the cutting-edge *g''*, the said cutter or knife G being inserted in the carrier H, so that as the latter moves forward the groove *g'* of the said cutter or knife will be in front and the side *g*[4] thereof pass in close contact with the beveled face *b'* of the stationary die B, and with the middle part of its cutting-edge *g''* directly opposite to the recess for the point of the spike in said die, substantially as and for the purpose hereinbefore set forth and described.

119,690.—FEEDING MECHANISM FOR SEWING-MACHINES.—Richard Blees, Brooklyn, N. Y.

Claim.—1. The feed-bar F, connecting-bar B, levers V and L, and cams K and C, all constructed, arranged, and operating substantially as described.

2. In combination, the levers L and V V', when provided with means, substantially as described, for regulating the amount of motion imparted by each to the feed-bar.

119,691.—METALLIC HEEL FOR BOOTS AND SHOES. — Edward P. Bray, Elizabeth, N. J.

Claim.—The nut *i* made with a head and a left-hand screw upon the outside, and a hole for receiving the right-hand screw *e* inserted through the metallic heel *b*, for the purposes and as set forth.

119,692. — SADDLE-BOX FOR RELIEVING PRESSURE FROM ROLLS IN ROLLING-MILLS.—William Henry Brough, Coatesville, Pa.

Claim.—The combination and arrangement of the double-acting wedges B and C moving in planes at right angles to each other and the intermediate key D with the saddle-box A having a recess, *a*, and incline *d*, and with the housing, substantially in the manner and for the purpose above described.

119,693. — ROLLING-MILL. — William H. Brough, Coatesville, Pa.

Claim.—The combination and arrangement of the chain-roller C, chain G, and drag-bar H with the rolls B and B', the stationary table J, movable

table J', lever L, and friction-clutch I for the return of the iron to the front of the rolls, substantially in the manner above described.

119,694. — APPARATUS FOR EVAPORATING AND CLARIFYING SACCHARINE LIQUIDS.—Francis G. Butler, Bellows Falls Vt.

Claim.—1. Elongated elevated scum-arresters extending from opposite sides of the pan and reaching nearly across its bottom.

2. Corrugations, crimps, or partitions connected at alternate ends to the flaring sides by the scum-arresters or an extension piece.

3. The combination, with two adjacent elevated scum-arresters reaching nearly across the bottom of the pan, of a cross-gate connecting the same about midway of the pan.

4. The combination, with corrugations, crimps, or partitions extending across the bottom sheet, of sides set off from such bottom and from the partitions or crimps, substantially as shown and described.

5. An evaporating-pan constructed with a series of pairs of contiguous elevated scum-arresters, alternating with a series of pairs of corrugations, crimps, or partitions, the ends of each such corrugations being alternately connected to the sides, substantially as set forth.

6. The scum-arresters, in combination with an evaporator having partitions or crimps arranged to produce a continuous transverse channel.

119,695.—MACHINE FOR TURNING AND POLISHING. — Rollin M. Clapp, Vergennes, Vt.

Claim.—1. The combination of the revolving hollow cutter-head C having cutter *c*, revolving feed-rollers d^3 and d^4 with the revolving hollow-shaft F' and revolving polishing-cylinders H'', substantially as described.

2. The combination of the band-wheels B'' and B''', bands *b'* and *b''*, pulleys F and G with the hollow revolving and slotted shaft F', gear-wheels *g g' g''*, frame H, and polishing-cylinders H'' H''', in the manner and for the purpose substantially as described.

3. The turning and polishing-machine herein described, consisting of the hollow cutter-head C, feed-rollers d^3 and d^4, hollow revolving and slotted shaft F', revolving pulleys B', B'', B''', b^4, F, and G, bands *b b' b''*, gear-wheels *g g' g''*, and revolving frame H with polishing-cylinder H'', constructed and arranged to operate in the manner shown and described.

119,696. — BUCK-SAW FRAME. — William Clemson, Middletown, N. Y.

Claim.—The saw-frame above described, composed of end pieces A, fulcrum-brace B, strain-rod C, and brace-screws *a a*, in the manner and for the purposes set forth.

119,697.—HAME FOR HARNESS.—Charles H. Drury, Osceola, Ill., assignor of one-half his right to Isaac M. Spencer, same place.

Claim.—The springs B B, formed by separating a strip from each hame on the inner edge, or by inserting an equivalent metal spring, operated by a screw, *g*, or equivalent, the upper end of each spring being slotted, and respectively secured by bolts or pins to the hames, substantially as and for the purposes described.

119,698.—CANOPY.—Joseph Ellisdon, Liverpool, England.

Claim.—1. The carriers *b*, runners *c* and *g*, and protector-sheet *d*, in combination with the operating cord *e* or its equivalent, for the purpose set forth.

2. The housing *i*, in combination with the parts *b*, *c*, *g*, *d*, and *e*, for the purpose set forth.

3. In combination with the above, the gores *f* in the protector-sheet *d*, arranged to serve therewith in contracting and expanding in a drooping position, as and for the purpose set forth.

119,699.—LIQUID-METER.—Nicholas Finck, Elizabeth, N. J., assignor to himself and Edward P. Bray, same place.

Claim.—The shaft *r*, arm *u*, and weight or spring *v* actuated by the link *p*, in combination with the four-way cock *l*, arms *f* and *o*, and swinging piston *d*, substantially as and for the purposes set forth.

119,700. — SAUSAGE-STUFFER. — Charles Forschner, New York, N. Y.

Claim.—1. The rod C, connected through the rod Q with the piston P, in combination with two racks, V and W, placed at right angles to each other, substantially as described.

2. The movable frame K supporting a shaft, J, provided with a worm-wheel, N, and a pinion, M, and operating the rod C either direct, through the combination of the pinion M with the rack W, or through the combination of the worm-wheel N, wheel H, pinion E, and rack V, substantially as and for the purpose hereinbefore set forth.

119,701.—SAWING-MACHINE.—John Groat, Peru, Ind.

Claim.—A sawing-machine composed of the parts herein shown and described, all constructed and arranged as and for the purpose set forth.

119,702.—MACHINE FOR BENDING WOOD.—Gustaf Gustafson, Chicago, Ill., assignor to himself, John Phillips, and Henry Leibenstein, same place.

Claim.—1. Hinged pattern B, for the purpose herein described.

2. Table A, provided with slot C, in combination with pattern B, pivoted shaft E, lever F, pulley G, rope and weight H or chain I, lugs J, and pins K, M, and N, the whole constructed and arranged substantially in the manner and for the purposes herein described.

119,703, antedated September 25, 1871.—IRONING-TABLE.—Charles C. Hardy, Rutland, N. Y.

Claim.—The construction and arrangement of the leg B, table A, and hinge C, when the said hinge is formed by the combination of the plate c^1, projecting staples c^2 c^2, hooks *d*, and projections d^1, as and for the purpose herein described.

119,704, antedated September 30, 1871.—RAISIN-SEEDER. — Jackson Harrington, New London, Conn., assignor to himself and Ralph Wheeler, same place.

Claim.—The combination of the bows A A and shanks C C with the seeding-needles *a a a* and the concave cup D, all constructed and arranged substantially as herein shown and described, and for the purposes set forth.

119,705.—CUSPADORE. — Eugene A. Heath, New York, N. Y.

Claim.—A metallic cuspadore having a heavy base, A, and a light upper portion, B C, formed and combined substantially as and for the purposes herein set forth.

119,706.—CUSPADORE. — Eugene A. Heath, New York, N. Y.

Claim.—A cuspadore composed in part of light material A, in the form substantially as shown, with a weight, B, of lead or analogous material embedded in the base and adapted to serve therewith, in the manner and for the purposes herein specified.

119,707.—BOOT-AND-SHOE-HEEL POLISHER. Charles H. Helms, Poughkeepsie, N. Y.

Claim.—The heel-polishers, constructed of two or more parts, B and C, in combination with the elastic pressure-springs K and reciprocating slide D, substantially as described, and for the purposes set forth.

119,708.—CLOTH-PRESSING MACHINE.—Patrick Howe, Boston, Mass.

Claim.—1. The construction of the bracket *d*, having the sole-plate *e* and sides *f f i i* cast in one piece, in combination with the levers *g* and *k* and link *n*, for the purpose set forth.

2. The combination of the lever *k*, fulcrum *l*, connection *n*, lever *g* with its fulcrum *h*, and the arms *s* and *u*, in a manner as herein set forth and described.

119,709, antedated September 22, 1871.—WATER-METER.—Hyam Jacob Hyams, Pittsburg, Pa., assignor of one-half his right to N. B. Hatch, same place.

Claim.—An improved liquid-meter, provided with a central measuring-chamber, B, projecting cylinders C' C'', reciprocating pistons *s s* connected by forked links *n' n''* to separate cranks *d' d''*, set on an upright shaft, E, at an angle to each other equal to one-sixth of their revolution, and with a valve-chest, A, furnished with a valve-seat, P, and circular valve R, operated eccentrically upon said seat by means of a short revolving crank, *t*, so as to open and close the induction and eduction-ports alternately in the manner described, when all the specified parts are constructed, combined, arranged, and made to operate with respect to each other as shown, for the purposes set forth.

119,710, antedated September 27, 1871.—INLAYING.—John W. Hyatt, Jr., Albany, N. Y., assignor to Embossing Company, same place.

Claim.—The process of inlaying in wood by first applying the paint, enamel, or other suitable material to the surface thereof on the ends of the grain, and then depressing the portions to be inlaid by a stamp or punch of the required design and removing the coating from the surface surrounding the design, as hereinbefore set forth.

119,711.—STAPLE-MACHINE.—Wesley Malick, Erie, Pa.

Claim.—1. The feeding-rollers A' and W, in combination with the rollers *u u*, the shears U U, the guide V and gauge *v*, and the revolving arm T, when the same are arranged and operated as set forth.

2. The revolving arm T, constructed with sockets and set-screws, and removable pieces S, as described.

3. The hopper K, jointed, slotted, arranged, and operated in the manner and for the purposes as set forth.

4. The combination of the jointed and slotted hopper K and rollers G G', the latter being provided, respectively, with the finger *e'* and grooves *i i*, and the socket *o'* and die *i' i'*, as set forth.

119,712.—HARVESTER.—Leander J. McCormick and William R. Baker, Chicago, Ill., assignors to C. H. McCormick & Brother, same place.

Claim.—1. The combination of the driving-wheel, the main frame, the lever K, the thrust-bar acting directly on the periphery of the driving-wheel, and the pivoted guide-link *l*, all these parts being constructed for joint operation, substantially as hereinbefore set forth.

2. The combination of the adjustable slotted socket-plate I, the adjustable bearing of the grain-wheel, and the grain-wheel axle, all constructed and operating, as hereinbefore set forth, to adjust and hold the wheel by means of the nut on the axle.

3. The combination of the main frame, the driving-wheel, the sprocket-wheel on the main axle, the sliding box moving with the main axle, and the shipping-lever on the sliding box, as set forth.

119,713, antedated September 30, 1871.—FIRE-ALARM.—Joseph Nelson Pitts and John Edson Russell, Niagara Falls, N. Y.

Claim.—The combination of the bar *c*, sliding bolt or hook *d*, and connecting catch-bar *g* with the sliding inclined bars E E and their connections with the lineal mediums *e e* extending to all rooms, substantially as herein specified.

119,714.—WATER-METER.—Arthur O'Leary, Iowa City, Iowa.

Claim.—The case A, pipes B and C, rotating wheel D, valves E, pitmen H, and cams I, all arranged and operating substantially as and for the purposes set forth and described.

119,715. — IDENTIFYING-STAMP. — George Pardy, San Francisco, Cal.

Claim.—The use of a so-called operating-sign, which shall depend for its value or meaning upon its position or relation to the base-signs, as and for the purposes as herein set forth.

119,716.—MACHINE FOR BENDING TIRES.—Douglas F. Pomeroy, Painesville, Ohio, assignor of one-half his right to Findley McGrew, same place.

Claim.—The combination of the frame A, main roller B, gauge-rollers C C, standards I, slide blocks *b*, right-and-left-handed screw D', index *d*, and gear-wheels E and F, substantially as and for the purpose as hereinbefore set forth.

119,717.—Suspended.

119,718.—HEATING-STOVE.—Alonzo C. Rand, Chicago, Ill.

Claim.—1. The distributing-compartment G, in combination with one or more spiral flues for supplying air heated in the manner described to the gases arising from burning coal.

2. The hollow grate D, with its axial passage *d*, in combination with the spiral air-passage b^2, as specified and shown.

3. The air-heating and distributing-device, as a whole, consisting of the spiral air-passages b^2 b^3, the dampers E F, the distributing-compartment G, the hollow grate D with its tubular axle *d*, all arranged and operating substantially as shown and set forth.

119,719. — HEATING-STOVE. — Alonzo C Rand, Chicago, Ill.

Claim.—1. The coal-magazine C having closed top D and doors *d*, in combination with the flue C, deflector F, and air-tube H, as set forth and described.

2. The air-tube H penetrating upward through the layer of coal on the grate G, and opening into the flue C, substantially as and for the purpose described.

3. The heat-deflector F, when combined with the coal-magazine B having a central flue, C, for the object described.

4. The heating-compartment A', in combination with the tube H, grate G, flue C, and deflector F, substantially as described.

119,720.—BURNING HYDROCARBON ON LOCOMOTIVES.—Alonzo C. Rand, Chicago, Ill.

Claim.—1. The hydrocarbon-reservoir or generator C, having one or more flues or smoke-passages *c c*, arranged and operating for the purpose set forth.

2. The smoke-pipes *a a'*, dampers *b b'*, in combination with the reservoir C, arranged and operating as set forth.

3. The burners F F, consisting of the nipples *f f*, and chimney-tube *f' f'*, in combination with the vapor-pipe E and reservoir C, arranged for operation as set forth.

4. The draught-plate G, in combination with the burners F F, for the purpose of regulating the amount of air admitted to the tubes *f' f'*.

5. The jacket P, in combination with the reservoir C, for the purpose described.

6. The coil of pipe D, with its stop cock *d*, in combination with the reservoir C, for the purpose specified.

7. The liquid-fuel apparatus and arrangement as a whole, consisting of the reservoir C, the smoke-pipes *a a'* with their dampers *b b'*, the vapor-supply pipe E, the burners F F, and the draught-plate G, all arranged substantially as described, for the purposes set forth.

119,721. — HORSE HAY-RAKE. — Martin C. Remington, Weedsport, N. Y.

Claim.—The open standard-guides *k k* having ribs *t t*, ribs or projections *u u*, and recesses *t t* in their tops, in combination with the key *s* for securing the springs *m* in their places, and also for coupling and bracing the whole series of guides together, as herein specified.

119,722.—FRAME FOR THE GLASSES OF CARRIAGE - CURTAINS. — Washington H. Rhodes, Lancaster, Pa.

Claim.—The combined arrangement of a fixed foundation-plate or frame, A, on curtains of vehicles, when intermediate between the ordinary frame and glass B D, and counterpart E secured by the nut and screw-bolt G F, substantially as shown, for the purpose specified.

119,723.—COMPOSITION FOR FIRE-BRICK.—Edward F. Rogers, Chelsea, assignor to himself, Stoughton B. Holden, Woburn, and Luther L. Holden, Boston, Mass.

Claim. — Fire-bricks composed substantially of the several ingredients specified herein, and in the manner substantially as described.

119,724. — SEWING - MACHINE TREADLE.—Henry C. Smith, Cleveland, Ohio.

Claim.—The combination of the treadle G with the treadle E, substantially as shown and described, and for the purpose set forth.

119,725, antedated September 23, 1871.—APPARATUS FOR PRESSING HOLLOW-WARE. — Nathan Thompson, Brooklyn, N. Y.

Claim.—The combination of the plunger B, plug E, matrix A, and rubber packing C, for operation substantially as set forth.

119,726, antedated October 7, 1871.—PLIER. Nathan Thompson, Brooklyn, N. Y.

Claim.—1. The combination, with the limbs A A', of the cutting knuckle-plate C and detachable cutter D, arranged in relation to each other, to the jaws *a a'*, and to the pivot *d* of the pliers, essentially as described

2. The limbs A A', constructed to lie, at their knuckle portions B B', the one within the other, and provided with cavities *e* and *i*, in combination with the cutters D and cutting knuckle-plate C, fitted to said limbs substantially as described, and secured, in common with the limbs, by the rivet or pivot *d*, about which the whole works, essentially as specified.

3. The combination, with the cutting knuckle-plate C, of the adjusting-screw or stop *u*, the pivot *d*, the cutter D, and the limbs A A' having holding-jaws *a a'*, substantially as specified.

119,727. — BED-BOTTOM. — Cornelius Van Densen, Clarksville, N. Y.

Claim.—The combination of the cross pieces A A, elastic webbing B B, strips *b*, staples *a*, and slats C, substantially as described, and for the purpose set forth.

119,728.—MACHINE FOR SETTING BUGGY-TOPS.—John Baittee Weller, Bellbrook, Ohio.

Claim. — The machine for setting buggy-tops, substantially as shown and described.

119,729.—GRAPPLE.—Henry Whitall, Philadelphia, Pa., and James Burson, Yates City, Ill.

Claim.—1. Upright U, constructed substantially as described, and for the purposes set forth.

2. The combination of the cord *r r*, upright U, hooks H H, and the trip-cord *c*, substantially as described.

119,730.—SASH-HOLDER.—Edwin S. Wills, Philadelphia, Pa.

Claim.—1. The combination and arrangement of the prop F, cam C, and pedestal E with the meeting-rail A, arranged in relation to the stile B' for locking the sashes in their closed position, substantially as described.

2. The combination of the catch H with the pedestal E, arranged and operating in relation to the cam C for fastening the sashes in their adjusted position, as above set forth, thereby serving to prevent the cam being turned over.

119,731. — COMBINED COTTON-PRESS AND HORSE-POWER. — James M. Albertson, New London, Conn.

Claim.—1. The combination of the wheel F with the nut D, attached to the press-frame Y, and operated by the levers Q Q, when constructed and arranged as shown, and for the purpose specified.

2. The arrangement, in the cotton-press herein described, of the pinion G, vertical shaft W, bevel-wheels L and M, shaft K, and pulley N, all constructed and operating substantially as and for the purpose set forth.

3. In combination with the screw C, the lever B, stand I, hook S, and nut D, when arranged as shown, and for the purpose set forth.

119,732. — DEVICE FOR PRESSING CHAIR-SEATS INTO THEIR FRAMES. — William Aldrich, Proctorsville, and Alfred F. Spaulding, Northfield, Vt., assignors to Cyrus Wakefield, Wakefield, and Calvin S. Greenwood and Levi Heywood, Gardner, Mass.

Claim.—1. A machine for attaching the bottom fabric to chair-seat frames, consisting of the bed-plate A, former B, follower C, folding frame D, and stretcher-plate F, substantially in the manner and for the purpose as hereinbefore described.

2. The combination of the bed-plate A, follower C, spline G, in combination with a chair-seat or other frame, substantially in the manner and for the purpose described.

3. The combination of the bed-plate A and follower C with the folding frame D, substantially in the manner and for the purpose described.

4. A folding-frame with the folders *e e¹ e² e³*, and levers *m*, substantially in the manner and for the purpose described.

5. The combination of the folding frame D with a spline and chair-seat or other frame, for the purpose and in the manner described.

6. A stretcher-plate, F, with cam-plate K, cam H, lever M, and stretchers *e e e e*, substantially in the manner and for the purpose described.

7. The combination of said stretcher-plate with a spline and chair-seat or other frame, as and for the purpose described.

8. The combination of the bed-plate A, folding frame D, and stretcher-plate F, in combination with a spline, substantially in the manner and for the purpose described.

119,733.—VEGETABLE-CUTTER.—Charles C. G. Armerling, Philadelphia, Pa.

Claim.—The arrangement of the sliding frame S F, knives K, K¹, and K², rubber cushion *r*, set-screws S, joint J, treadle D, shaft H, lever R, shaft M, pinion N, wheel W, shaft F, feed-box F B, and sliding end S E, all combined and operating as specified.

119,734.—HOOF-PARER.—Isaac Baker, Long Branch, Mo.

Claim.—An improved hoof-parer, formed by the combination of the curved bars A *a'* and B, connecting end-bars or rods C, center-bar or rod D *d'*, and double-edged curved blade E F with each other, substantially as herein shown and described, and for the purpose set forth.

119,735.—MECHANICAL MOVEMENT.—Albert Benneckendorf, Hoboken, N. J.

Claim. — The slotted oscillating semicircle, arranged to embrace the roller F, substantially as described, to convert reciprocating or vibrating into rotary motion, as specified.

119,736.—WAGON-BRAKE.—George M. Bennett, Burlington, Iowa.

Claim.—1. The combination and arrangement of the brake-bar E, lever F, rods G H I, tongue D, and quadrant J, substantially as specified.

2. The combination of the quadrant J, sliding plate M, rod *n*, and lever N, as specified.

119,737.—DEVICE FOR CUTTING STENCIL-PLATES.—Henry Bolthoff, Central City, Col. Ter.

Claim.—The brass plate A, having tenon *a* and perforations *c c*, constructed as described, to serve as a stock for cutters B and to fit handle C, as set forth.

119,738. — COAL-SCUTTLE. — John A. Bragaw, New York, N. Y., assignor to himself and Nelson Ingram, same place.

Claim.—1. The swinging hood A of a coal-scuttle, when rigidly affixed to the bail B, so that it can thereby be controlled, substantially as specified.

2. The cross-rod D, affixed to the swinging hood A in front of the scuttle, substantially as and for the purpose herein set forth.

119,739. — SHEET-METAL KNOB FOR TEA-POTS.—James Britton, Williamsburgh, N. Y.

Claim.—The method of forming a tea-pot knob, A *a b*, by first striking up the center of a star-shaped piece of sheet-metal; secondly, bending the head *b* and arms *a* into the shape shown in Fig. 2 of drawing; and thirdly, crowding the arms together in a conical die to produce the form shown in Fig. 3 of drawing, all as specified.

119,740, antedated July 26, 1871. — CURTAIN - FIXTURES. — Nathan Campbell, Rochester, N. Y.

Claim.—The clamping-lever B, in combination with a suitable frictional rest, when the former is arranged to be operated by the weight of the curtain through the medium of the elevating-cord, for the purposes set forth.

2. In combination with a locking and releasing-clamp or lever, B, the yielding frictional bearing *d*, for the purposes set forth.

3. In combination with the pivot of a curtain-roller, the cushioning bearing *g*, for the purposes set forth.

4. A clamping side bracket, composed of the lever B provided with side pivots *e*, and the plate or socket C having an open center, into which the extremity of the lever is introduced, substantially as and for the purposes set forth.

119,741.—SHANK-LASTER FOR BOOTS AND SHOES. — Orrin R. Clark, La Fayette, Ind.

Claim. — 1. The combination of the handle A, strap B, and pinchers composed of the jaws C and C', the latter of which is constructed with a loop through which the strap passes, substantially as and for the purpose set forth.

2. The combination of the handle A, strap B, pinchers C C', constructed as described, and spring D, substantially as and for the purpose set forth.

119,742. — DEVICE FOR RAISING SUNKEN VESSELS. — Thomas Collier, New York, N. Y.

Claim.—1. The hatch-stopper, consisting of the two pieces A B of plank and the India-rubber sheets clamped to the under side of the hatch, the rabbeted edges of the said pieces being lapped with rubber packing between, all substantially as specified.

2. The employment of a sack, O, of flexible material, impervious to air and water, the guards R, a sheet or ring N, and the inflating tubes Q, substantially in the manner described, for stopping holes in the ship's hull, all substantially as specified.

119,743. — MACHINE FOR BOARDING, PEBBLING, AND GLOSSING LEATHER.—Owen Coogan, Pittsfield, Mass.

Claim.—1. The two boarding-rolls A B, supported on shafts which have each a spur-wheel on the end thereof, combined with an intermediate idler spur-wheel, whereby the said rolls are moved in the same direction and enabled to carry the ends of a folded sheet of leather in opposite directions.

2. In combination with the supporting-shaft of the bottom one of a pair of boarding-rolls, A B, which has pulleys on one end and worm on the other, the worm-wheel *e* having the pin *f*, the levers *g h*, and the connecting-rod, all as and for the purpose specified.

119,744.—PROPULSION OF CANAL-BOATS.—Owen Coogan, Pittsfield, Mass.

Claim. — 1. The propelling-rope D, stretched above a water-course or road and suspended from springs or yielding jaws, so that it can be wound over a drum on the vehicle to be propelled, and used substantially as described.

2. The springs E E, arranged in pairs to close under the rope D and support the same, but so that the rope can be conveniently withdrawn, as and for the purpose set forth.

3. The replacing-roller *e*, arranged on the vehicle within the shuttle *f*, which will open the supporting-springs or jaws and deposit the rope, as set forth.

4. The towing-drum F, arranged on a vehicle in connection with the main propelling-drum *a*, substantially as and for the purpose herein shown and described.

119,745.—BROOM-NEEDLE.—Collin M. Cowardin, Gardner Station, Tenn.

Claim.—A broom-needle, having the socket or cavity C surrounding the eye on one side and a groove, E, on the other side extending from the eye to the heel, all substantially as specified.

119,746. — GRINDING-MILL. — William H. Culver, West Troy, N. Y.

Claim.—1. The metal plates A and B, provided with the tangential furrows *b b* and intervening spaces *c c* cut with file-teeth, as shown and described, for the purpose set forth.

2. The combination and arrangement, in the mill herein described, of the plates A and B with the curb O, plates C D provided with perforations *l* and *m*, space *k*, and shaft K, when all these parts are constructed substantially as shown and described, for the purpose set forth.

119,747.—DRYING-ROOM.—Robert Dalrymple, Galt, Canada.

Claim. — 1. The drier, constructed as described, with the perforated floor B placed at a distance above the lower floor about equal to one and a half (1½) times the width of the room F, when the base of the same is square; when rectangular, the height of the aforesaid floor to be formed by dividing the

area of its base by half the sum of two sides thereof, and provided with the furnace, a compartment, E, and draught-regulator, e, substantially as and for the purpose specified.

2. In combination with the drier, constructed as described, the deflector D, as and for the purpose set forth.

119,748.—Inhaler and Vaporizer for Administering Anæsthetics.—Ethelbert E. Duncanson, Chicago, Ill.

Claim.—1. The inhaler A, constructed, arranged, and combined with a vaporizer and a connecting-tube, substantially as herein specified.

2. The inhaler A, provided with an air-induction passage and a regulating slide, substantially as specified.

119,749.—Stud or Button.—William R. Dutemple, Providence, R. I., assignor to himself and I. M. Hopkins, same place.

Claim.—In combination with a button and post, the plate C, having tube D and wings e e arranged thereon at right angles, and the stop d on its surface, and the plate F having nib g, constructed and arranged as and for the purpose specified.

119,750.—Cultivator.—David B. Eberly, Pine Village, Ind.

Claim.—1. The device formed by the shovel O provided with the spring-cap P, the standard K having a vertical and horizontal portion with an open slot, L, at its front end, pivoted at M and clamped at N, in combination with the beam H, constructed to operate as hereinbefore described.

2. The slotted angular arms D D, loop F, with nuts and screws d, slotted braces G G, perpendicular journals E E, and plow-frames H H, arranged relatively one to the other, as and for the purpose hereinbefore set forth.

3. In combination with the double-pointed shovel O, the spring-cap P secured thereto by the rivets i i, and screw-bolt j, for the uses and purposes hereinbefore set forth.

119,751.—Lubricator.—Erick Ehlin, San Francisco, Cal.

Claim.—The conical valve E, having prolongation F and wire-coil G, arranged, as described, in connection with a lubricator, to form a gradual conveyer of lubricating material to the journal of a rotating shaft or axle.

119,752.—Helical Wire-Brush.—Francis F. Field, Stapleton, N. Y.

Claim.—An improved wire-brush, in which the adjacent wires C, singly or in pairs, are arranged between the binding-wires B at right angles with each other at their centers, substantially as herein shown and described.

119,753.—Apparatus for Fixing Photographs.—Charles A. Gale, Piqua, Ohio.

Claim.—The fixing apparatus, as herein described, for the purpose of protecting the operator from inhaling the fumes from the poisonous fixing solution while fixing the picture, and also preventing the diffusion of the fumes through the dark room and gallery.

119,754.—Folding-Chair.—William Gardner, Glen Gardner, assignor to himself and O. L. Gardner, Orange, N. J.

Claim.—In combination with the pivoted seat C having the projections c and recesses c' c', the back legs A A and front supports or legs B having the projections b b, all constructed and arranged to operate substantially as and for the purpose described.

119,755.—Valve Movement.—Frederick Glasson, New York, N. Y., and William Gilfillan, Paterson, N. J.

Claim.—The flexible metallic plates L, in combination with the rod and arm K J that operate the valve I, and with the recessed heads or ends d of the steam-chest D, substantially as herein shown and described, and for the purpose set forth.

119,756.—Deodorizing Excrements.—Pierre Nicolas Goux, Rue De Longchamps, Paris, France.

Claim.—The lining, with the said absorbents or their equivalents, by the aid of molds or mandrels or otherwise, the interior of the vessels or receptacles intended to receive human excreta, substantially as hereinbefore described.

119,757.—Valve or Bottom for Separating Slate from Coal.—Samuel E. Griscom, Mahanoy Plane, Pa.

Claim.—The artificial valve or bottom, constructed as herein described.

119,758.—Door-Lock.—Florent Gyss, New York, N. Y.

Claim.—1. The combination of the locking-brace F with a door-lock, substantially in the manner shown and described.

2. The lifter D, in combination with the locking-brace F, substantially as described.

3. The combination of the lock-bolt B and lifter D with the brace F, substantially as described.

4. The night-bolt B', in combination with the locking-brace F, substantially as set forth.

119,759.—Ditching-Machine.—Oscar F. Hale, Irvington, Iowa.

Claim.—1. The combination of the frame-work A B D, platform F, mold-boards H, plow-point M, lever N, pivoted adjusting-bar O, bars G I, knives J, knives R, tank K, and pipes L with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the horizontal knife S, inclined apron T, carrier U, and carrier-frame C with the knives R J, mold-boards H, and frame-work A B D, substantially as herein shown and described, and for the purpose set forth.

119,760.—Piano-Forte.—Azariah Horace Hastings, New York, N. Y.

Claim.—1. The plate A, provided with the oblique grooves a at the top or back for holding the screws B, substantially in the manner herein shown and described.

2. The travelers D D, made prismatic, with necks d, heads e, and slots f, substantially as herein shown and described.

3. The guide-stripe h h, applied to the prismatic travelers, substantially as herein shown and described.

119,761.—Gas-Heater.—John P. Hayes, Philadelphia, Pa.

Claim.—1. The combination of the naphtha-tank B with the vaporizing-cylinder C, the said parts being constructed and arranged to operate together substantially as and for the purposes hereinbefore set forth.

2. In combination with the tank B and vaporizing-cylinder C, the suspended stripe of felt G G or their equivalent absorbents, arranged to operate substantially as and for the purposes hereinbefore set forth.

3. The vaporizing and mixing-chamber C, heater D, water-tank E, oil-tank B, and the suspended stripe of porous fabric G G, the said parts being constructed, arranged, and combined within the exterior case A, substantially as and for the purpose hereinbefore set forth.

4. The removable heater D, in combination with the chamber c'', the said heater being constructed and applied substantially as and for the purpose hereinbefore set forth and described.

5. The removable cap F when used in combination with the water-tank E and the upper part of the cylinder C, substantially as and for the purpose hereinbefore set forth.

119,762, antedated September 25, 1871.—Street-Lantern.—Mark Antony Heath, Providence, R. I.

Claim.—1. In a street-lantern, as described, the glass globe as made with a supporting-neck as set forth, and the brackets C as arranged and provided with elastic cushions a b to receive and support the neck and globe, all being as set forth.

2. The lantern made of the instrumentalities as described, arranged as represented—that is, of the cross-head D, the series of standards or brackets C, their connecting-ring E and elastic cushions a b, and the glass globe A provided with the neck B and surmounted by a dome, H, all as set forth.

119,763.—Electric Battery.—Vitalis Himmer, New York, N. Y.

Claim.—1. The inverted vessel C, having the pendent tube b, and applied as a cover to the cup of an electric battery, substantially as herein shown and described.

2. The electric battery composed of the cup A, pot B, inverted vessel C, pipe b, and elements D E, all arranged substantially as herein shown and described.

3. The tube b, supplying the exciting solution to the copper-plate of a battery, made lengthwise adjustable to regulate the strength of the battery, substantially as herein shown and described.

119,764.—Water-Ram.—Christopher Hodgkins, Marlborough, N. H.

Claim.—1. A hydraulic ram, provided with two supply-pipes, A B, which communicate with the same air-chamber F and discharge-pipe E, substantially as specified.

2. The double valves C D of a hydraulic ram, when suspended from one beam, d, so that the closing of one will open the other, and vice versa, as specified.

3. The drive-valve of a hydraulic ram, when perforated, and provided with the projecting-shoulder l above the ring of perforations, as and for the purpose specified.

4. The air-chamber F of a hydraulic ram, provided with three apertures and two check-valves to communicate with two supply-pipes and one discharge, as set forth.

5. The beam d, holding the two valves C D, and made vertically adjustable, substantially as and for the purpose herein shown and described.

6. The combination of the pipes A, B, and E with the air-chamber F, valves f f, C, and D, and beam d, all arranged to operate substantially as herein shown and described.

119,765.—Sling for Packages.—Friedrich Hohorst, New York, N. Y.

Claim.—1. A sling for packages, composed of a netting A, provided with eyelets a and side ropes b, said side ropes being made to pass through the eyelets a, and also through eyelets c at the ends of the supporting-straps d, substantially in the manner herein shown and described.

2. The combination of side ropes b with a netting, A, and its corner eyelets a, substantially as set forth.

3. The combination of self-adjusting straps d with the side ropes b, corner eyelets a, and netting A, substantially as described.

119,766.—Railway-Car Safety Apparatus.—Katharine E. Holmes, Cambridgeport, Mass.

Claim.—1. The combination of the hanger D provided with adjusting-screws e' e' and nuts f f, as specified, with the railway carriage and the guard, and applied thereto, as set forth.

2. The arrangement and combination of the slotted plate m, and its support-pin n, and the lifter-bar E, as described, provided with screws and nuts, as shown, with the carriage A or B, the hanger D and the guard C, applied together, substantially as explained.

3. The combination and arrangement of the two guards C C, as described, and the mechanisms, substantially as described, for adjusting them vertically, as set forth, with the two railway carriages A B, connected as explained.

119,767.—Lock-Nut for Railway Joints.—William P. Horton, Milwaukee, Wis., assignor to himself and John B. Smith, same place.

Claim.—The plate B or E, held in position by means of its ends turned inward and driven under the fish-bar, as described.

119,768.—Dust-Ring for Watches.—George Hunt, Springfield, Mass.

Claim.—The movable spring-band C, combined with and arranged on the edge-beveled top plate A, as described, to crowd the band against the incline of the plate, form a self-closing wedge-joint, and thus more perfectly exclude the dust.

119,769.—Balanced Slide-Valve.—Charles H. Hutchinson, Concord, N. H.

Claim.—1. The combination, with shield H, of the cylinder G having a square flange, M, and working directly against the under side thereof, as and for the purposes specified.

2. The arrangement of fixed cylinders E G and slide-valve F in a steam-chest, when all are constructed as shown in Fig. 4 of drawing, and for the purpose specified.

119,770.—Spike-Extractor.—William H. Ives, Luzerne, N. Y.

Claim.—In combination with claw-bar A, the fulcrum-block C, arranged to slide on said bar and to bring its heel D under the heel B of the bar, as and for the purpose specified.

119,771.—Press for Stamping Pans, Dishes, &c.—John B. Jones, Williamsburg, N. Y.

Claim.—1. In combination with dies B C, the plunger M and hollow die D arranged therein so as to move with a differential velocity after coming in contact, the said plunger M having the greatest velocity, so as to complete the pan when they have reached the end of their throw, and at a single operation.

2. The water-reservoir H and chamber F, applied to the press for regulating the descent of the movable die, as specified.

119,772.—Soap.—Carl R. Kicherer, Brooklyn, N. Y., assignor to Doscher & Co., same place.

Claim.—The improved soap compound herein described, whether used separately or in combination with common soap, all substantially as specified.

119,773.—Chandelier Center.—Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—The arm connected to the center piece by the tenons C and a nut or key, and having a projection on the shoulder fitting into a socket in the center piece to prevent turning, all substantially as specified.

119,774.—Horse-Power.—James W. Knox, Winona, Miss.

Claim.—The sweep attachment to the overhead power-wheel, comprising the two branches D D, brace F, and the hooked part E, the branches D being bolted to the under side of the rim of the wheel and the brace bolted to one of the arms, all substantially as specified.

119,775.—Flanged Collar for Brooms.—Henry A. Lee, New York, N. Y.

Claim.—As a new article of manufacture, the cap D, corrugated, as shown, and applied to the brush A and wires C C, as and for the purpose specified.

119,776.—Fruit Packing-Box.—Elisha D. Lewelling, San Lorenzo, Cal.

Claim.—The supplementary packing-box A, having a skeleton or open bottom, and provided with bales or handles C, in combination with the false bottom B and fruit-box D, substantially as and for the purpose above described.

119,777.—Double-Tree.—Alfred Lomax, La Porte, Ind.

Claim.—The double-tree above described, consisting of the pivoted eveners A A′, pendent standards C C, and stay-rods E F, substantially as specified.

119,778.—Tanners' Rinsing-Wheel.—Philo Lull, Norwich, N. Y.

Claim.—The combination of stone or earthenware plates *b* with the wooden pins *a* of a tanner's wheel, as specified.

119,779.—Sap-Bucket Cover.—Robert Marshall, Hobart, N. Y.

Claim.—The cover A, concaved at B, flanged at C, and having eyes D E, combined with cord F and a staple driven into the tree, to embody a new mode of protecting the bucket from snow, rain, leaves, and other foreign matter descending through the air.

119,780.—Chandeliers' Center.—John Meab, Meriden, Conn., assignor to Meriden Malleable-Iron Company, same place.

Claim.—A ring having notches B, and arms D having shanks C, combined, as described, with pintles F and sockets E, arranged under each of said notches B, to form a chandelier which may be centered more cheaply and accurately, while the arms are less liable to twist, than in chandaliers now known to the public.

119,781.—Suspended.

119,782.—Medical Compound for Sore Throat, &c.—Francis Matilda Moore, Chico, Cal.

Claim.—A medical compound or sirup composed of the ingredients named, mixed and prepared in about the manner specified, for the purpose above described.

119,783.—Flour-Bolt.—Thomas G. Morgan, Murfreesborough, Tenn.

Claim.—In combination with cams C the revolving weight D arranged on end of the pivoted lever H, as and for the purpose specified.

119,784.—Means for Mounting Sewing-Machines upon their Tables.—Charles Parham, Philadelphia, Pa.

Claim.—1. In combination with a table or stand-top and its supports A, and a sewing-machine arranged over but isolated from said top, the horizontal brace C, when serving to brace said top and supports and supporting the sewing-machine isolated therefrom, substantially as described.

2. In combination with a table or stand and a sewing-machine supported by an insulating or isolating-brace attached thereto, the hinged connections formed part on the brace and part on the bed of the sewing-machine, so that the latter may be swung and held up in a vertical, or nearly so, position for oiling and other purposes, or be detached and removed therefrom, substantially as described.

3. In combination, with the table sewing-machine, and brace, as herein described, the oil-pan or receptacle *f* under the sewing-machine and upon the brace, as set forth and represented.

119,785.—Candle-Burner.—Julius A. Pease, Catskill, N. Y.

Claim.—1. The cap D, wick-tube E, guides G, and chimney-holder I, combined and operating as shown and described.

2. The burner, as specified, in combination with the candlestick A and rods H, as and for the purposes described.

119,786.—Cultivator.—Francis L. Perry, Canandaigua, N. Y.

Claim.—1. Beveling the ends of the side bars H H at different angles, and arranging them to be reversed to make the cultivator wide or narrow, substantially as described.

2. The outriggers N N attached to the cultivator, substantially as described, and provided with rigid or spring-teeth made of round or oval wire, for the purpose set forth.

119,787.—Stove-Grate.—John A. Price, Scrantoff, Pa.

Claim.—The fire-pot A, provided with the vertical bars *a* and combined with the inclined grate *b*, as specified.

119,788.—Wheel for Vehicles.—William F. Ray, Fort Wayne, Ind.

Claim.—The curved plate D, arranged on the inside of felly A, and receiving at each end a spoke, C, as and for the purpose specified.

119,789.—Balanced Slide-Valve.—John Rigby and Joseph Holt, Marquette, Mich.

Claim.—The hanger N, rollers *m*, weighted lever J, and steam-cylinder G, in combination with a steam slide-valve, arranged substantially as and for the purposes set forth.

119,790.—Conveyer of Smoke and Cinders for Locomotives.—Augusta M. Rodgers, Brooklyn, N. Y.

Claim.—The combination of one or more fan-blowers, E, with the conveyer D, which extends from the cap C on the top of the smoke-stack of a locomotive-engine, substantially as shown and described.

119,791.—Pan-Scraper.—Gottlieb Scherer, South Boston, Mass.

Claim.—An improved pan-scraper formed of iron rings interlocked with each other, substantially as herein shown and described, as a new article of manufacture.

119,792.—Propulsion of Canal-Boats.—Cornelius Schilling, New York, N. Y.

Claim.—The arrangement of two or more propeller-blades, *d d*^{1} *d*^{2}, said blades being secured to levers D D^1 D^2, which are pivoted to rods *e* and links *a*, in combination with the crank-shaft A, all constructed and operating substantially in the manner herein shown and described.

119,793.—Piano-Stool.—Charles A. Schindler, West Hoboken, N. J.

Claim.—The brand F and brace-arms B cast solid in one piece, in combination with the pedestal C and legs B, substantially as herein shown and described, and for the purposes set forth.

119,794.—School-Desk.—August Schlag, Brooklyn, N. Y.

Claim.—1. The combination of the seat A, hinged to links *a*, which connect the legs B B′, which are jointed together by pivots *f* and provided with recessed slots *g*, substantially in the manner shown and described.

2. The swinging book-rack D, in combination with the folding legs B B′, hinged seat A, and sliding desk F, substantially as set forth.

3. In combination with the legs B B′, the extensions B″ provided with slots *f* and logs *l*, the back-rest C, sliding desk F, and top strip E, all arranged substantially as described.

119,795.—Ice-Machine.—Charles A. Seely, New York, N. Y.

Claim.—1. The process of refrigeration wherein chloride of calcium or its equivalent is employed as an absorbent of ammonia, substantially as described.

2. The generator A, constructed and operated as herein described.

3. The combination of the generator, the condenser, and the freezer.

4. The combination of the generator with the combined condenser and freezer.

119,796.—Endless-Traveling Sidewalk.—Alfred Speer, Passaic, N. J.

Claim.—The combination, with the endless-traveling sidewalk and the permanent way, of the transfer-cars I, substantially as specified.

119,797.—Rotary-Engine.—John Stott, Burlington, Iowa.

Claim.—1. The combination of the piston E, toothed ring D, hub F, and the pinion O, substantially as specified.

2. The steam-gate G, swinging on its center within steam-chest C, in combination with weighted arm I, thereby dividing the pressure of steam and lessening the friction on the piston.

119,798, antedated September 25, 1871.—Weft-Stop Mechanism for Looms.—John J. Switzer, Boston, assignor to himself, Edwin H. Fitz, Northborough, Willard Comey, Westborough, and Edward B. Pendleton, Westerly, Mass.

Claim.—1. The combination of the weft-detectors C^1 C^1 with the levers F, sliding bar F^1, and swinging bar F^2 of the stop-motion, all arranged and operating as set forth.

2. The hanger D, latch D^1, and latch D^2, in combination with the weft-detector C^1, operating substantially as described, and for the purpose set forth.

119,799.—Mode of Dumping Grain.—John Sypes, Fairbury, Ill.

Claim.—The peculiar construction and application for the purposes intended, of the driveway G, the grooves B B, the rails A A, the safety-wedges D D, the stops C C, the trap-door F, the lock I, and the lever K, with its attachment.

119,800.—Elevator-Brake.—Theodore Thorn, St. Clair, Pa.

Claim.—A cage, B, having downwardly-converging posts which slide in guides J, and the long wedge-shaped brake-blocks, the said cage and blocks being both attached to a common hoister, G, in combination, as described, with mechanism K L, for the purpose specified.

119,801.—Peat-Machine.—William S. Tisdale, New York, N. Y.

Claim.—1. The propeller-screw *a* provided with the flange *c* on the blade *b*, in combination with the hopper A and cylinder B, substantially as and for the purpose described.

2. In combination with the propeller-screw *a*, constructed as described, the saw-knives *e* and the stationary knives *g*, substantially as and for the purpose described.

3. In combination with the propeller-screw *a*, constructed as described, the revolving saw-knives *e* and the knife-screen *d*, substantially as and for the purpose set forth.

119,802.—Bottle-Opener.—Charles B. Trimble, New York, N. Y.

Claim.—A device for removing the yoke from the top of a bottle-cork, consisting of plate C, ears D D, and lugs E E, constructed and arranged as described.

119,803.—Hub for Vehicles' Wheels.—Oliver Vanorman, Fond du Lac, Wis., assignor of one-half his right to Judson A. Archibald, same place.

Claim.—The combination of two rings or bands, B B, with slotted faces, together with the hub A, substantially as and for the purpose set forth.

119,804.—Sleigh.—Rice Webb, Star Prairie, Wis.

Claim.—An improved cutter or sleigh, consisting of the runners A, raves, knees, or braces B, beam C, braces D, box or body E, cross-bars F, rod G, and draft-bar H, said parts being constructed and operating in connection with each other substantially as herein shown and described, and for the purpose set forth.

119,805.—Shutter for Hot-Beds, &c.—James Weed, Muscatine, Iowa.

Claim.—1. A hot-bed frame, with a cover or shutter which is hinged to it, and is made in sections, which fold upon or against one another, substantially in the manner and for the purpose described.

2. The combination of the lever G and cord *g* with the hinged folding-shutter B B′ and a hot-bed frame A, substantially as and for the purpose described.

3. The combination of the arm *a*, prop C, hinged folding-shutter B B′, and the hot-bed frame A, substantially as described.

4. The combination of a spring or weight, or both a spring and a weight, with the hinged folding-shutter B B′, and the hot-bed frame A, substantially as described.

119,806.—Fruit-Box.—Charles W. Weston, San Francisco, Cal.

Claim.—The veneers or other thin flexible strips *a b* having the lengthened ends *e* doubled over a wire or other stiffening-rim, *d*, in order to form a rim to the box, substantially as above described.

119,807, antedated October 3, 1871.—Tool-Handle Fastener.—James G. Wilbur and Hiram H. Hulbert, Kilbourne City, Wis.

Claim.—A metallic key, C, having an oblique side provided with reversely-obliqued barbs *d* thereon, for the purpose of allowing the elastic fiber of a wooden helve to return, after lateral compression, over the shoulders of said barbs and thereby prevent the wedge from working out.

119,808.—Smoke-Stack of Locomotives.—Edwin H. Winchell, New York, N. Y.

Claim.—The combination of a wide-mouthed air-funnel with the additional vertical funnel surrounding the smoke-pipe of the locomotive, constructed, arranged, and operating substantially in the manner and for the purposes described.

119,809.—Railroad-Car Ventilator.—Edwin H. Winchell, New York, N. Y.

Claim.—1. The combination of a reversible hood or funnel, having a dividing-plate, *c*^{1}, in the movable collar, with the flattened air-chamber and the fixed dividing-plate D, constructed in the manner, and operating for the purposes described.

2. The device and operation of sliding plate G on the side of a railroad car, for the purpose of adjusting and holding in place deflectors E at the sides of the window in the angles and positions and for the purposes shown.

3. The deflectors or leaves E, constructed in the manner and for the purposes shown.

4. The combination of hood and air-chamber on the roof, constructed substantially as described, with or without the dividing-plates *c*^{1} and D, with the deflectors at the windows, constructed and operating substantially as described.

119,810.—APPARATUS FOR TURNING LEAVES OF MUSIC. — Augustus Altenburg and George J. Lambrix, Buffalo, N. Y., assignors to Charles Spark, same place; said Spark assignor to himself, Augustus Altenburg, and Charles Louis Massing.

Claim.—1. The combination and arrangement of the series of spring arms E with the guide-rod *i* and oscillating escapement J *j j'*, operated by a pedal, substantially as and for the purpose hereinbefore set forth.

2. The separating blocks or flanges *e*, attached to the arms E, combined with the pins *j j'* of the oscillating shaft J, as and for the purpose hereinbefore set forth.

119,811, antedated October 7, 1871.—WHEEL FOR VEHICLES.—Ephraim Ball, Jr., Canton, Ohio.

Claim.—1. The bisected bushing B provided at its inner end with a double shoulder, *x y*, in combination with the hub A and axle, constructed as shown, substantially as and for the purposes herein set forth.

2. The within-described wheel for vehicles, consisting of the hub A, bisected bushing B provided with shoulders, as described, spokes C and V-shaped felly or fellies D having tire shrunk around the same, all substantially as set forth.

119,812.—MEDICAL COMPOUND FOR TREATING CHILLS, FEVER, &c.—Robert Bevill, Bowie county, Tex.

Claim.—A chemical compound, of the ingredients and for the purpose set forth.

119,813. — MACHINE FOR CURVING SAW-BLADES.—Bela S. Bishop, Menasha, Wis.

Claim.—The combination of the frame A, standards B, girt B', cross-head C, set-screw D, shaft E, wheel F, peen-wheel G, and table H, all constructed and arranged substantially as and for the purpose set forth.

119,814, antedated September 25, 1871.—FELLING ATTACHMENT FOR SEWING-MACHINES.—Charles C. Blakemore, Zanesville, Ohio.

Claim.—As an article of manufacture, the seamer and feller herein described, consisting of the scroll A made of a single piece of metal, all as set forth.

119,815.—BLACKING-BRUSH.—Charles Brintzinghoffer, Philadelphia, Pa.

Claim.—The handle G formed with the dovetail H and carrying the thumb or set-screw J, in combination with the back A of the polishing-brush formed with the dovetailed slot or groove D, all constructed and operating substantially as and for the purpose specified.

119,816. — STEAM-HEATER. — Gottlieb F. Burkhardt, Boston Highlands, Mass.

Claim. — The series of horizontal water-chambers, horizontal flue-pipes, vertical flue-spaces, and horisontal air-chambers, having the relative arrangement and respective connections, substantially as shown and described.

119,817, antedated October 7, 1871.—STEAM-CONDENSER, &c. — Alfred Cail, Paris, France.

Claim.—1. The combination, with the condensing-tubes, arranged substantially as described, of the tanks O and U, pipes X and Y, and water-pump V, as set forth.

2. The combination of the said condenser G and reservoir O with distributing-pipe R and perforated trough T, substantially as set forth.

3. The combination of the evaporating-condenser G with the condenser H, substantially as and for the purpose specified.

4. The combination of the condensers G and H with the air-pump I, reservoir J, and feed-pump K, substantially as specified.

5. The combination of the connecting-pipe *c*, the pipe Y, and reservoir J, for the purpose specified.

6. The combination of the box D, reservoir E, condenser G, pipes F, escape-pipe *i*, and valve-pipe *h*, all as set forth.

7. The pipe *h* with its cock *f*, arranged substantially as described.

8. The arrangement, in respect to the generator and elevated tank O, of the pipes *m* and *o*, with their cocks *l* and *n*.

119,818. — LARD-COOLER. — Ambrose E. Camp and Charles L. Reid, Louisville, Ky.

Claim.—The steam-pipes C and G in combination with a lard-cooling apparatus, substantially as described.

119,819.—RUNNING-GEAR FOR BUGGIES.—Egbert P. Carter, Arcade, N. Y.

Claim.—1. The compound spring C composed of a single strip, *a*, of spring-metal, and the backing *b* of wood, rigidly connected at or near the center and loosely attached near the ends by means of suitable clips *d*, substantially as and for the purposes set forth.

2. In combination with the springs C extending from axle to axle, the supporting-plates *f* and bars D, constructed and arranged as herein set forth.

3. A running-gear for buggies, embracing in its construction the following instrumentalities: The springs *a*, the attaching-plates *b*, and the brace-rods *c*, arranged with reference to each other and the axle, substantially in the manner set forth.

119,820. — MACHINE FOR CUTTING AND PUNCHING SHINGLE-BANDS.—Charles B. Choate, East Saginaw, Mich.

Claim.—1. The combination, with the punches L, rising and falling vertically through the table I, of the fixed cutter C of the rock-shaft B, bearing the oblique cutter C' and adjustable press-brackets *y*, substantially as specified.

2. The combination with the rock-shaft, bearing the oblique cutter C' and press-brackets *y*, of the fixed blade C, punches L, arms P O, and the sliding gauge D', substantially as specified.

119,821.—MECHANICAL MOVEMENT.—Alexander Clark, Albany, Ill., assignor to Stephen G. Perkins, same place.

Claim.—1. The weighted hand-lever B, in combination with the buffer or recoil springs O, arranged to operate as herein described.

2. In combination with the above the lever C, link D, pitman G, and crank-shaft E, provided with suitable gear-wheels, when arranged to operate as set forth.

119,822.—TANNING APPARATUS.—Joseph W. Coburn, East Walpole, and Elisha F. Winslow, South Dedham, Mass.

Claim.—In combination with a tanning-vat, the air-tubes, side chambers, and partitions and passages, combined and relatively arranged, substantially as described.

119,823.—RAILWAY-CAR SPRING.—John W. Cochran, New York, N. Y.

Claim.—The cylinder B, constructed with an internal flange, *b*, about midway of its length, in combination with the rubber core A, sleeves *a*, spiral spring D, and caps C C, all arranged substantially as shown and described.

119,824.—FEED-PIPE OF STEAM-BOILERS.—Jonathan Cone, Bristol, Pa.

Claim.—The combination, substantially as described, of the external feed-pipe of a steam-boiler with a series of two or more smaller internal pipes the aggregate areas of which are equal to, or nearly equal to, the area of the main pipe, the said pipes passing through the steam space of the boiler and terminating below the water-level of the same.

119,825. — INDUCTION-COIL. — Daniel McFarland Cook, Mansfield, Ohio.

Claim.—The combination of two or more simple or compound helices, in the manner and for the purpose set forth.

119,826.—ANIMAL-TRAP.—John F. Coppock, Dexter, Iowa.

Claim.—The bow A armed with arms B B' B', the clasps C C, toggle-arms D D', trigger-bar E, lug H, dog I, tripper-lever J, and disk K, when combined and arranged to operate substantially as described, and for the purpose specified.

119,827.—PAPER-CUTTING MACHINE.—Edwin Cowles, Cleveland, Ohio.

Claim.—1. The combination of a pressure-bar, C, with an inclined table, A, supporting-gauge, and a cutting instrument, substantially as described.

2. A stud or its equivalent applied to the cutter-carrying stock P, in combination with toes *h* on the pressure-bar C, whereby the latter will be lifted automatically at the termination of each stroke of the said stock, substantially as described.

119,828.—MACHINERY FOR MAKING WOODEN TRAYS.—Daniel M. Cummings, Enfield, N. H., assignor to himself and Lewis Kimball, Jr.

Claim.—1. The combination of the laterally movable plate *a* and the set-screw *b* with each other and with the pivoted frame B, substantially as and for the purpose herein set forth.

2. The combination of the laternally-movable plate *a*, the set-screw *b*, and the wrench C with each other and with the pivoted frame B and the pivoted shaft S, substantially as and for the purpose herein set forth.

3. The combination of the laterally-movable plate *a*, the set-screw *b*, the wrench C, and the pivoted frame B with the peculiarly-shaped cutters *f f* and *g g* on the rotary shaft A, substantially as and for the purpose herein set forth.

4. The combination of the doubly-curved cutters *g g* with the shaft A, the laterally-movable plate *a*, the set-screw *b*, and the pivoted frame B, substantially as and for the purpose herein set forth.

5. The combination of the supports D D' and the clamping-bars E E with each other and with the rectangular frame G G H H, the bars L M, the bridle-pieces N N *k k*, and the set-screws *n* and *q*, substantially as and for the purpose herein set forth.

6. The combination of the cutter-shaft F with the supports D D', the clamping-bars E E, the rectangular frame G G H H, the bars L M, the bridle-pieces N N *k k*, and the set-screws *n* and *q*, substantially as and for the purpose herein set forth.

119,829. — MACHINE FOR DRESSING RAILWAY TIES.—John P. Dirner, Honesdale, Pa.

Claim.—The combination of the oblique cutters G G, the parallel cutters H H having reciprocating motion, and a feeding apparatus, substantially as described, for the purpose set forth.

119,830.—COMPOSITION FOR REMOVING INCRUSTATION IN STEAM-BOILERS.—Charles G. Dodge, Marshall, Mich.

Claim.—The compound for the removal and prevention of steam-boiler incrustations, composed of the ingredients, in the proportions, and applied substantially as set forth.

119,831.—RAILWAY-CAR AXLE.—Ellis Doty and George W. Miltimore, Janesville, Wis.

Claim.—1. The combination of the fixed axle A, the hollow and revolving axle B, and wheels E E' loosely mounted thereon, substantially as and for the purpose described.

2. The combination of the fixed axle A, the hollow axle B, chamber D communicating with the fixed axle A, wheels E E', and chambers F communicating with the bearings of axle B, substantially as and for the purpose described.

119,832. — SMOKE-CONSUMING APPARATUS FOR FIRE-BOXES.—John Durand, Columbus, Ohio.

Claim.—1. The provision, in the fire-box of a locomotive, of a deflector composed of a tile having longitudinal channels or ducts that are adapted to receive atmospheric air through the tube *d* or its equivalent, and to discharge said air, when heated, into the upper portion of the fire-box, substantially as herein shown and described.

2. Such longitudinally-channeled deflector, when made of two or more tile-sections, for the purpose herein explained.

3. The said deflector in a locomotive fire-box, supported upon tubes which communicate with the water-spaces of the boiler, for the object stated.

119,833.—PROGRAMME-CLOCK.—Samuel F. Estell, Chicago, Ill.

Claim.—The jointed detent D, in combination with the shaft *h*, or its equivalent, for throwing the detent into or out of operation, substantially as specified.

119,834. — BREECH-LOADING FIRE-ARM.—George H. Ferriss, Utica, N. Y.

Claim.—1. The projecting piece W, wherever it projects beyond the rear end and below the center of the barrel, in combination with a bent lever, as C, substantially as and for the purposes specified.

2. The bent lever C, operating within or partially within the slot Z in the break-off upon the projecting catch W, substantially as and for the purposes herein described.

3. The thumb-piece E, in combination with lever D, pin T, and bent lever C, substantially as and for the purposes specified.

4. A cartridge, without reference to its interior shape, the bottom and sides only of which are cut away at or near its rear end, in a concave or other form, so as to facilitate the grasping of the cartridge while permitting attachment of the nipple upon its top near its rear end, substantially as and for the purposes set forth.

5. The recess R in the rear end of the barrel, to give room in drawing the cartridge, substantially as herein described.

6. A curb surrounding a cone or nipple, provided with a slit for the purpose of withdrawing the percussion-cap from the cone after fire.

7. The piece F, when made separate from the break-off or piece A, for the purpose of holding the pivoted levers C and D.

119,835. — FEED-WATER APPARATUS FOR STEAM-BOILERS. — Charles G. Fisher, Washington, D. C.

Claim.—1. The feed-water pipe or pipes P P, with distributer or distributers attached, when arranged as herein shown, substantially as and for the purpose described.

2. The combination of the feed-water pipes P P with distributers *f f* and feed check-valve O, substantially as and for the purpose shown and described.

119,836, antedated September 23, 1871.—WOOD PAVEMENT.—Maurice Fitzgibbons, New York, N. Y.

Claim.—A pavement constructed of truncated wedge-shaped blocks having grooves in their sides;

the spaces between the sides of the block being filled with concrete, as described.

119,837.—BLACKSMITH'S TOOL.—Samuel J. Forbes, Marshalltown, Iowa.

Claim.—The improved tool, consisting of the levers A, jaws B, shears C and *h'*, punch *h*, slotted bar D, and slotted head K.

119,838. — PIPE-WRENCH. — David Frank and Theophilus Snyder, Allentown, Pa.

Claim.—1. The side pieces A A, attached to a handle, B, and provided with graduated hooks *a a*, and used in combination with a hook or other suitable device to grasp and hold pipe of various sizes, substantially as herein set forth.

2. The hook C provided with teeth *c c*, and pivoted between and used in combination with suitable side pieces, and a device for forcing the hook upon the pipe to hold the same, substantially as herein set forth.

3. The combination of the side pieces A A with graduated hooks *a a*, the hook C, and a spring, *d*, suitably arranged to throw the hook C down upon a pipe laid in the hooks *a a*, substantially as herein set forth.

4. The combination of the side pieces A A with hooks *a a*, hook C with teeth *c c*, handles B B', tooth *f*, and with or without a spring, *d*, all constructed and arranged substantially as and for the purposes herein set forth.

119,839, antedated September 25, 1871.—VAPOR-BURNER.—Thomas S. Gates and Alexander H. Fritchey, Columbus, Ohio.

Claim.—The band *m*, constructed and operating as and for the purposes hereinbefore set forth.

119,840. — CHURN. — John Gire, Louden City, Ill.

Claim.—The combination of the four removable dasher-wheels G H H H, springs *i*, movable sleeves *b*, and short journals *a a'*, all constructed as described and arranged within the box A, with partition B and cog-wheels C and D D, as set forth.

119,841. — CARRIAGE-WHEEL. — Joseph S. Graves, Lima, N. Y., assignor to himself and Charles W. Harman, same place.

Claim.—1. The annular wedge D, jointed nut C, loose collar H, and head-nut I, arranged and combined, as herein described, for the purpose of expanding the spokes against the felly.

2. The loose collar H, screw-nut I, and collar G in combination with the solid head B of the pipe-box A having the screw-thread *a* upon its periphery, substantially as described.

3. The combination, with the nut C and loose collar H, of the longitudinal tongues and grooves *f g*, as herein shown and described, and for the purpose specified.

4. The wedge D arranged upon the pipe-box A for forcing outward the spokes, in combination with the clasp K formed with a slot to receive a wedge for expanding the felly, substantially as and for the purpose set forth.

119,842, antedated October 6, 1871.—LAMP.—Franklin T. Grimes, Liberty, Mo.

Claim.—1. In a fountain-reservoir lamp, the valve-seat or plate V, upper-valve Q, lower-valve I, perforated plate or valve-seat X, tube H, the guide-plate, and the rod P provided with a spiral spring and a screw-nut, arranged as herein shown and described, for the purpose specified.

2. The small tube L, arranged to project into the wick-chamber K, as herein shown and described, for the purpose specified.

119,843.—MANUFACTURE OF WRAPPING-PAPER.—Benjamin E. Hale, New York, N. Y.

Claim.—1. The process, substantially as described, for producing printed wrapping-paper.

2. As a new article of manufacture, printed wrapping-paper produced in subdivisions from sheets which are multiples of such subdivisions, substantially as described, for the purpose specified.

119,844, antedated September 30, 1871.—METALLIC HOOP.—Edgar C. Hamlin, Pavilion, N. Y.

Claim.—The metallic hoop-lock, provided with overlapping lips *b* and indentations *a*, arranged to act conjointly for the purposes set forth.

119,845.—WASHING-MACHINE.—James W. Hampton, Mount Pleasant, Iowa.

Claim.—1. The combination of the casing D, casting E' with brace G, elongated pinion E, eccentric cog wheel H, and movable lever I, all substantially as and for the purposes herein set forth.

2. In combination with the casing D, casting E' with brace G, elongated pinion E, and eccentric cog-wheel H, all secured to the hinged lid of the box A, the cross J with pins *i i*, arms K K with round bars L L, and the pinion-journal *a* with nut *d* substantially as and for the purposes herein set forth.

119,846.—RIFLED FIRE-ARM. — Alexander Henry, Edinburgh, North Britain.

Claim.—The system or mode of rifling or grooving fire-arms in which a series of planes or flat surfaces are combined with angular curved or rectangular ridges or lands, either intervening between the planes or intersecting the same, as hereinbefore described and shown in the accompanying drawing.

119,847.—REFRIGERATING-CAR.—Claudius L. Hong and Ellsworth Ely, Lockport, N. Y.

Claim.—1. A vehicle provided with the preserving-chamber A, the refrigerating-chamber B, and the observing-compartment D, combined with the air-passage E extending over their top, sides, and bottom, substantially as described, for the purposes specified.

2. In a railroad car, the air-passage G and ventilator *f*, in combination with the air-passage E, substantially as described, for the purposes specified.

3. A railroad car or other vehicle, packed as herein described, and provided with the chambers A B, the air-passage E all around them, and the valves *e e'*, *o o'*, and *v v'*, all constructed, arranged, and operating substantially as and for the purposes herein specified.

119,848, antedated October 3, 1871.—WARP-SHEDDING MECHANISM FOR LOOMS.—Joseph Holding and James Eccles, Manchester, Great Britain.

Claim.—1. The combination, with the warp-beam and breast-beam of a loom, of a shaft, *f*, to which are connected wires or guides *e*, bent to the form substantially as described and alternately coupled to form a zigzag space, as set forth.

2. The combination of the subject-matter of the first claim and the disks *l*, arms *m*, or equivalent devices, whereby the within-described movements can be imparted to the shaft *f* and its guides.

119,849. — FOLDING-CHAIR. — Charles A. Jackson, Boston, Mass.

Claim.—1. The combination of the back B' of the chair with the legs L, controlling the front of the chair, and forming a back at different angles by means of the combination at the points marked A A A, and the combination at the front of the chair, marked B, by which the front legs L' are controlled and put into proper position to enable the chair to be used as a seat, all as shown and described.

119,850.—CONCRETE PAVEMENT.—Richard A. Jackson and Samuel Gissinger, Pittsburg, Pa.

Claim.—A pavement or road constructed of the material herein described, said material being treated and used in the manner and for the purpose as set forth.

119,851. — KEY-HOLE GUARD.—Ferdinand Jenny, Parkersburg, W. Va.

Claim.—1. The slotted tube A, provided at its outer end with movable disks *b b*, flange B, and on the inner side with the springs *f f*, said springs having one or more lugs near their outer end, and all arranged to operate substantially as set forth.

2. In combination with the above, the slotted key E, for the purpose set forth.

3. In combination with the slotted tube A, as shown, the head C, shank D, and lugs *d d d*, substantially as and for the purpose set forth.

119,852.—PUMP-PISTON.—Daniel Johnson, Ashland, Ohio.

Claim.—The piston herein described, provided with the conical leather buckets J J', and the block I having conical ends *k k* connected by cylinders *m* to the center stem *l*, tapering from each end toward its middle portion, as specified.

119,853.—SPRING FOR MATTRESSES, &c.—William B. Judson, Poughkeepsie, N. Y.

Claim.—A series of springs, A A, fastened together by means of the blocks *b b* and *d d*, and the connecting-straps B B with or without the lining *a*, substantially in the manner and for the purposes herein set forth.

119,854.—HORSE-NAIL MACHINE.—Edward Watson Kelley, Hamilton, Scotland.

Claim.—1. The construction and arrangement of the bevel-gear *f*, inclines *g g g*, rollers *e e*, springs *n n* or their equivalents, and the punches *a a*, and dies *d d*, for the purpose set forth.

2. The combination of the toothed racks *r r*, projection 5, finger 2, bolt 3, coiled springs 4 and 6, slotted bearing 1, pawl 7, arm 8, and connection 9, with the toothed wheel *a*, as and for the purpose set forth.

3. In combination with the table *o* the arched frame 10, eccentric 11, and the arm or lever 12, as and for the purpose set forth.

4. The combination of the polygonal head 24 with its fixed male dies A A and movable male dies B B, stationary female dies C C, shaping-rollers 20 21, pointing-rollers 22 23, and the guide-way 19, when all are combined, as and for the purpose set forth.

119,855. — GALVANIC BATTERY. — Jerome Kidder, New York, N. Y.

Claim.—1. The close bath or vessel containing the solution, having its plates or pairs arranged in relation to the one side of the battery, as described, whereby, on turning it so as to present one or other of its adjacent sides uppermost the battery becomes charged or thrown out of action, substantially as specified.

2. The cork or stopper C carrying the pairs or plates D D', arranged to occupy a position relatively to the side or sides of the battery or vessel containing the solution, essentially as described.

3. The combination of the pivots *b b* with the body of the battery, having its pairs or plates arranged to occupy a lateral position relatively to said body, substantially as specified.

4. The combination of the bath or legs A A', composing the same, the body B, the stopper C, and the pairs or plates D D, the whole arranged in relation with each other for operation, essentially as described.

5. The orifice G, arranged substantially as herein described, for the escape of gases and for charging the solution without removing the stopper C to which the elements are attached.

119,856.—DUMPING-CAR.—Sidney D. King, Middletown, N. Y.

Claim.—1. The combination, with a sliding dumping-car provided with the pulleys F and the adjustable plates *m*, of the automatic gate R, and the connecting chains N, substantially as specified.

2. The combination, with the sliding platform C, of the hinged car-body D, and the motive-screw W working in the female screw X, substantially as specified.

119,857. — TRUCK FOR LOCOMOTIVE ENGINES.—Chancy H. Lathrop, Jersey City, N. J.

Claim.—1. The center-box frame E E, constructed with curved slots *e e* at its ends of an inverted V-form at their centers *s s* on their upper edges, in combination with the rollers *d d* carried by the cross-frame C C of the truck, within which the center box and its frame are fitted to slide laterally, essentially as shown and described.

2. The combination of the slotted guides D D with the cross-frame C C of the truck, the rollers *d d*, and the self-centering slotted center-box frame, when the whole are constructed and arranged for operation substantially as herein set forth.

119,858.—STEM-WINDING WATCH.—Jacques Laurent, New York, N. Y.

Claim.—1. The combination of the pendent bow C and its attached sleeve *c*, constructed so as to be capable of turning around the axis of the stem with the obliquely-grooved portion *h* of the sleeve *i*, for moving the stop or shifter *o* by such turning action of the bow, substantially as and for the purposes herein set forth.

2. The attachment of one end, *b*, of the bow to the rotating sleeve *c* so as to be capable of springing in or out, in combination with the holes *d d'* in the fixed portion *e* of the stem, into which said free end of the bow is made to snap, essentially as described.

119,859. — WASHING-MACHINE. — John H. Lee, Marshall, Tex.

Claim.—The construction of the rotary barrel-case for washing-machines herein described, wherein the wire bars extend from end to end of the case, resting upon a ring, B, and form two frustums of a cone, substantially as specified.

119,860.—BREAST-PIN FASTENER.—John A. Lehman, Philadelphia, Pa.

Claim.—1. The catch *b*, formed with a tube to receive the tip of the pin, and a spiral rib or groove adapted to secure the catch to the hook, substantially as and for the purpose set forth.

2. The same when formed with a square or polygonal head adapted for a key to operate the same, substantially as shown and described.

119,861. — BREAD-CUTTER. — Carl Lemke, Cincinnati, Ohio.

Claim.—The combination, as herein described, of bed-plate A, slotted standard B E, vibrating arm C D, knife H I J, latch F, and pivot G *g*, for the object stated.

119,862.—BED-BOTTOM.—George D. Leonard, Chicago, Ill.

Claim.—The combination and arrangement of the slats B, blocks C and C', and the springs D when the springs D have bearings and operate substantially as shown and described.

119,863, antedated September 29, 1871.—HOLLOW AXLE FOR WAGONS AND CARRIAGES. — William A. Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawaka, Ind.

Claim.—An improved hollow axle for wagons, carriages, &c., composed of a properly-shaped me-

tallic sheet, *a*, combined with the thimbles *b* and with suitable journal-screws or screw-plugs *c*, substantially as herein set forth.

119,864. — PROCESS OF MAKING HOLLOW METALLIC AXLES AND OTHER HOLLOW METALLIC ARTICLES.—William A. Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawuka, Ind.

Claim.—1. The within-described heating, shaping, and welding process of producing hollow axles or other hollow articles from previously-prepared sections of the same.

2. As a new manufacture, the within-described wrought-metal hollow axle, said axle having substantially the shape of a metal-trimmed and complete wooden axle.

119,865.—APPARATUS FOR WELDING.—William Arnold Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawaka, Ind.

Claim.—1. The combination and arrangement of the furnace I, oven J, and dies L M, substantially herein represented and described, and for the purposes set forth.

2. The combination of the dies L M, frame N, bed-plate O, guide-ways P, and operating device Q R S with the heating-furnace or oven, substantially as and for the purposes set forth.

119,866. — HOLLOW AXLE FOR RAILROAD CARS.—William A. Lewis, Chicago, Ill., assignor to Hollow Axle Manufacturing Company, Mishawaka, Ind.

Claim.—The within-described jointless wrought-metal hollow axle for railway cars, &c.

119,867.—CAR-WHEEL.—William A. Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawaka, Ind.

Claim.—1. As a new manufacture, a jointless sheet-metal hollow car-wheel, of substantially the shape herein set forth.

2. Jointly, the three sections hereinbefore described, and which are represented in Figs. 1, 2, and 3 of the drawing, of which to construct a car-wheel.

119,868.—WROUGHT-METAL AXLE FOR WAGONS AND CARRIAGES.—William A. Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawaka, Ind.

Claim.—1. As a new manufacture, a parallel-sided wrought-metal tube, the end portions of which are taper-swaged, by substantially the process herein described, to such shape as will enable said tube to be used as a constituent in the construction of axles for wagons, &c.

2. The combination of my within-described taper-swaged wrought-metal tube with the requisite stock and trimmings to form a wagon or carriage-axle of any usual or desired shape.

119,869. — TUBULAR DOUBLE-ARCH AXLE FOR WAGONS.—William A. Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company, Mishawaka, Ind.

Claim.—1. As a new manufacture, my improved double-arch and tubular axle for wagons, carriages, &c., constructed of the tube *a*, the journal-shoulders *g g*, the arches *b c*, and the embracing-clamps or clips *d e*, substantially in the manner herein set forth.

2. The exterior shape given to my said improved axle by the arch *c* and the exposed portion of the tube *a*, substantially as herein represented and described.

119,870.—CHURN.—William H. Link, Shanesville, Ohio.

Claim.—The compound churn-dasher herein described, consisting of the two parallel horizontal shafts C C, adapted to be rotated in the same direction, and carrying the spirally-arranged blades D D, beveled diagonally, and so placed that the faces as they pass each other in the center shall be parallel, substantially as and for the purpose specified.

119,871.—BALANCE.—Christopher C. Marsh, New York, N. Y.

Claim.—The combination of the beam A, adapted for the reception of the weights F, the hanger D secured removably to the standard by means of the cap E, and the pivot B fixed in the hanger D and passing through an aperture in the beam, the whole being constructed and adapted, as herein described, to constitute an instrument for averaging commercial and other accounts.

119,872.—FRUIT-BOX.—Joshua H. Marvil, Laurel, Del.

Claim.—As a new article of manufacture, a ventilated fruit or berry-box, when the same is formed from two or more perforated sheets of pasteboard or thin sheets of wood, arranged and crossing each other at right angles, and are constructed and secured in position substantially as described.

119,873.—COMBINED TABLE, BUREAU, CUPBOARD, AND SINK. — Martha J. Miller, Bloomington, Ill.

Claim.—The combination of the frame A, sink B, top C, drawers D D, cupboard E with door G, leaves H H', and the hinges I, all constructed and arranged substantially as and for the purposes herein set forth.

119,874.—RUDDER ATTACHMENT. — Joshua H. Moore, Deep River, and James B. Clark, Chester, Conn.

Claim.—The longitudinally-divided metal socket composed of stripe A A', provided with interlocking lugs *e e* and ears *g g*, for adjustment and connection of the stripe which receive the rudder-blade B in between them, substantially as specified.

119,875.—DIVIDER. — Charles M. Nichols, West Greenwich, R. I.

Claim.—The dividers constructed with pointed legs of equal length having grooves *c c* arranged in each leg, as described, and provided also with the adjustable clasps *c c* to hold the pens or pencils within the grooves, as herein shown and described, for the purposes specified.

119,876. — MANUFACTURE OF SPLIT NEEDLES. — Charles H. Palmer, New York, N. Y.

Claim.—In the method of forming a split by means of two saws arranged to cut from opposite surfaces toward each other, the arrangement of the saws upon their arbors relatively to each other, so that the teeth of one saw shall interlock with those of the other, in the manner described, in virtue of which arrangement I am enabled to made a clear and continuous cut entirely through the material.

119,877.—CAR-AXLE BOX.—William G. Parr, Normal, Ill.

Claim.—A cover or cap for car-axle boxes, working on a curve and held in place by a rim on the box, in combination with a catch or other fastening on top, substantially as and for the purposes herein set forth.

119,878.—TRACTION-ENGINE. — Robert C. Parvin, Philadelphia, Pa.

Claim.—1. The steering apparatus, consisting of the wheels I I having independent axles, the lever I^2, shaft I^3, toothed-wheel L, and worm L^2, substantially as specified.

2. The endless shoe-bearing band for traction-engines, consisting of the short side plates E', the pivot-bolts *e*, and the long links E encircling at each end said bolts *e*, substantially as specified.

119,879.—PERCUSSION-CAP CARRIER.—Richard Paulson, Washington, D. C.

Claim.—1. A cap-supplying device for sportsmen's use, consisting of a series of cellular spring cap-seats, *n*, arranged in a row or rows on one or both sides of and against a rigid disk, *a*, and in positions, as shown, to be readily applied to the nipple of the arm, essentially as described.

2. The radial section *e* of the cap-seats, having a depth equal to or greater than the length of the caps, and held in rigid contact against a metal plate which forms the backs of the seats, so that the latter will inclose them and shield the caps and prevent their dropping out or loss, and the necessity of outside covers, as described.

3. The sectional disks or spring-arms secured between a rigid central disk-plate, *a*, and two outer disks, *f*, and supported between side arms *c* upon an axle to allow the cap-carriers to turn thereon, as described.

4. The arrangement and combination of the cleaning-pins with the arms of the frame and the cap-holder, as described.

119,880.—MACHINE FOR FITTING AND BORING FELLIES.—William Lawrence Perry, Jonesville, S. C.

Claim.—1. The combination of the arms B B pivoted to the common center P, and the boxes F F, adjustable lengthwise of said arms, substantially as and for the purpose herein set forth.

2. The combination of the race D and its set-screws with the said arms B B, substantially as described, for the purpose of securing them in position.

3. The carrier E containing the forward bearing of the spoke-auger H, and provided with a set-screw, T, the race D, and the sector-like plate C which contains the rear bearing of said auger, the whole being arranged relatively to the boxes F F and arms B B, substantially as and for the purpose herein specified.

4. The combination of the dowel auger-slides S S with the boxes F F, substantially as and for the purpose herein set forth.

5. The combination of the miter-boxes M M with the boxes F F, substantially as and for the purpose herein described.

6. The combination of the gates I I, the abutment pieces K K by which the same are secured, and the set-screws J J with the boxes F F, substantially as and for the purpose specified.

7. The arrangement of the dowel-auger slides S S, the miter-boxes M M, gates I I and their abutment pieces K K relatively to each other on the boxes F F, substantially as described.

119,881. — SMOKE-CONSUMER. — Charles Plumb, Montreal, Canada, assignor to himself and Robert Mitchell, same place.

Claim.—1. The process described of consuming smoke, consisting in causing the smoke to revolve over the furnace by means of an eddy, created substantially as described.

2. The pipe *f*, nozzle *g*, lip *i*, steam or air-pipe *b*, or their equivalents, arranged for operating substantially as and for the purpose set forth.

3. The adjustable lip *i*, in its parts of projection i^1, set-screw i^2, depression i^3, arranged and working substantially as set forth.

4. The nozzle *g*, with elongated opening *h*, arranged and operating with a blast, substantially as set forth.

119,882.—FRAME FOR SCHOOL-DESKS AND SEATS.—John L. Riter, Brownsville, Ind.

Claim.—The improved supports for a combination school-desk and school-seat, consisting of the S-shaped strip of wood A and slightly-curved strip B, bent to the forms described, and notched at *a a'*, and fitted together, substantially as specified.

119,883.—PREVENTING THE CLOGGING OF OIL-WELLS.—Edward A. L. Roberts, Titusville, Pa.

Claim.—The mode of cleaning oil-wells which have become clogged, by the use of heated salt-water, substantially as and for the purposes hereinbefore set forth.

119,884. — PROCESS OF PREVENTING THE CLOGGING OF OIL-WELLS.—Edward A. L. Roberts, Titusville, Pa.

Claim.—The mode hereinbefore described of preventing the clogging of oil-wells by extracting the benzine from the oil at the well and returning it into the well, substantially as and for the purposes hereinbefore described.

119,885, antedated September 25, 1871.—CHIMNEY-COWL. — John G. Roth, New York, N. Y.

Claim.—A ventilator or chimney-cap having funnel H, in combination with funnel K and flange B, and constructed as above described, arranged and operating substantially in the manner and for the purposes set forth.

119,886. — PROCESS OF OBTAINING SUGAR FROM MOLASSES.—Julius Schroeder, Petschek, Austria, assignor to L. Weinrich, same place.

Claim.—1. The process herein described, of obtaining sugar from boiled-sugar mass by exposing it in a chilled and molded condition to centrifugal action in a centrifugal sugar-machine, substantially as specified.

2. In combination with the treatment of the mass, as described in the preceding clause of the claim, the use of warm water in a mist or spray as produced by a mixture of air and steam within the revolving cylinder of the centrifugal machine, essentially as and for the purpose herein set forth.

119,887.—LAMP.—Ira W. Shaler, Brooklyn, N. Y.

Claim.—1. In lamps of otherwise ordinary or suitable construction, the combination, with a tubular wire-gauze wick provided with a wire-gauze diaphragm, as described, of a surrounding tube forming part of the cap or cover of the fluid-vessel, said tube inclosing the wire-gauze wick up to or about its diaphragm, substantially as herein shown and set forth.

2. The combination, with the tubular wire-gauze wick, its diaphragm, and surrounding tube, of a wire-gauze diaphragm, closing the orifice of the fluid-vessel around the wire-gauze wick, substantially as shown and described.

119,888. — UMBRELLA. — Josiah Shepherd, New Britain, Conn.

Claim.—A re-enforcing rib, connected at one end to a rib of an umbrella and at the opposite end free, but self-affixing to the rib and stretcher, all substantially as set forth.

119,889.—STEM-WINDING WATCH.—Harry R. Smith and Rufus Folsom, Cincinnati, Ohio.

Claim.—1. In combination with the mainspring wheel and hand-setting wheel of a stem-winding watch, an intermediate wheel, rotating in a plane parallel to the watch-plate, and shiftable in a direction perpendicular thereto, for the purpose of transmitting motion to either the winding or setting mechanism, as desired.

2. The described arrangement of pusher D E F, double-wheel G H I, (whose upper member I gears with the mainspring wheel,) and shiftable pinion N

gearing with the member G, and with the cannon pinion-wheel, in the described combination with the shifting-devices M, m, m', m'', L, K, P, and Q, for the purpose set forth.

119,890.—Lamp-Chimney Cleaner.—Isaac Smith, New York, N. Y.

Claim.—The lamp-chimney cleaner, made of lamb-skin, a body of shellac, and a wire handle, prepared and attached together in the manner substantially as set forth.

119,891.—Office-Time Indicator.—James S. Smith, Middletown, Conn.

Claim.—In an office-time indicator, the movable and turnable buttons A B C, &c., adapted to be connected and disconnected and changed to various positions in the slot m, as and for the purposes specified.

119,892.—Broiler.—Othniel J. Smith, Wauwatosa, Wis.

Claim.—The double reversible broiler herein described, consisting of the sections A A' having bars B B, and respectively provided with the inclined and centrally-divided lug F, and the dovetailed stud E, and with the stud connections d' d'', substantially as specified.

119,893.—Fire-Kindler.—Rachel P. Smith, Dubuque, Iowa.

Claim.—The combination of the metallic can C, rod B, fire-kindler compound A of the ingredients substantially as described, secured by the wire-basket a, and the handle D forming the stopper for the can, all constructed and used substantially as set forth.

119,894.—Book-Binding.—David M. Smyth, Orange, N. J. assignor, by mesne assignments, to Henry G. Thompson, Melford, Conn.

Claim.—The manner, substantially as herein described, of connecting the sheets constituting a book by means of the interlacing-thread and the series of locking-threads interlocked with each other and with the series of sheets, substantially as and for the purpose set forth.

119,895. — Device for Tapping Gas and Water-Pipes.—Leander Spaulding and Elias E. Guy, Norfolk, Va.

Claim.—As an improvement in machines for tapping gas and water-pipes and water-mains, the improved tool, constructed as shown, consisting of the set-screw J, drill-chuck I, yoke H, drill G, stuffing-box K, sleeve L, cock F, clamp A, fitting B, and clamping-screws C.

119,896. — Tonguing-and-Grooving Machine. — Deloy F. Sutton and Bernard Meilink, Toledo, Ohio.

Claim.—1. The oscillating heads I I carrying the parallel shafts m m, upon which the male and female cutter-heads are placed, substantially as and for the purposes herein set forth.

2. The combination of the oscillating heads I I, shafts m m, cutter-heads J J, and double wedge-shaped slide K, all substantially as and for the purposes herein set forth.

3. The combination, with the double wedge-shaped slide K, of the connecting-rod p, arm r, shaft L, and lever M, all substantially as and for the purposes herein set forth.

4. In combination with the main frame A and carriage B, the adjustable guide-bar g, and set-screws f f, substantially as and for the purposes herein set forth.

5. The combination of the posts t t', slide v, angular lever H, lug s, and swinging bearing-bar d, all substantially as and for the purposes herein set forth.

119,897.—Railway-Car Coupling.—Joseph B. Tracy, Lincoln, Del.

Claim.—The combination, with the bumper A, of the angular piece B having pins b b' and rack-bar C, and the link-pawl D, when arranged as and for the purpose set forth.

119,898.—Churn.—Alvah Traver and Philip Nichols, Troy, N. Y.

Claim.—The combination of the box A, uprights H H, cross-bar I, crank-shaft C D resting on the friction-wheels M M, the connecting-rods a a' a'', dasher-rods b b' connected to the dasher E provided with a crucial slot in its center, and the dasher-rod b' provided with the crucial-cross dasher F, which operates through the dasher E, all constructed as set forth.

119,899. — Electro-Magnetic Motor.—Maurice Howell Utley and Alexander Ross, Montreal, Canada.

Claim.—1. Two sets of magnets, d d', each having their poles in a pair of soft-iron plates, d², and all arranged upon a brass cylinder, e', combined with corresponding sets of magnets f f', having their poles in soft-iron plates f², and arranged upon rings b b', whose circumference is greater than that of cylinder e', so that, when the magnets d and f are opposite, the magnets d' and f' are intermediate, as and for the purpose specified.

2. The insulating material g on shaft e, the two pieces of metal g' g² not touching each other, the wire e, and pair of springs h h', combined and arranged as a compound commutator, in the manner described, and for the purpose specified.

3. The plate i', provided with studs M M', N N', and P P' arranged thereon at equal distances apart and from the center k, and the pair of plates k' fixed on insulating arms l, when all are applied to springs h h and the negative and positive poles of the battery, to form an improved switch, as and for the purpose specified.

4. The magnets d d' and f f', having their poles in soft-iron plates d² f², the compound commutator e g g' g² h h' e, the switch i M M' N N' P P, k k' l, the governor q q' r r' r² s² s, and the ordinary condenser, combined and arranged in an electrical motor, as and for the purpose specified.

5. The governor, composed of spindle q, cylinder q², rings r r', springs r² and s², and weights s, arranged and operating substantially in the manner and for the purpose described.

119,900. — Punching-Machine. — William H. Van Cleve, Ypsilanti, Mich.

Claim. — The combination of the bed-plate C, punch A, stripper D, and spring B, substantially as and for the purpose specified.

119,901. — Dredging-Machine.—Israel D. Vandecar, Chicago, Ill.

Claim. — 1. The combination of the scoops A, bails B, arms C, shaft D, and braces U, when constructed and arranged substantially as shown and described.

2. In combination with the scoops A, bails B, arms C, and shaft D, the jointed connecting-rods F F and sliding head H, substantially as described.

3. In combination with the scoops A, bails B, arms C, and shaft D, the rubber blocks S and T, as and for the purpose shown and described.

4. The combination of the pulley K, connecting-links L, hooks J, sliding block I, and cord N, constructed and arranged as and for the purposes set forth.

5. The combination of the sliding block I, the pulley Q, and chain O, constructed and arranged as described.

119,902.—Method of Removing Submarine Rocks.—Alexey W. Von Schmidt, San Francisco, Cal.

Claim.—1. The method of entering a rock partially or wholly submerged by means of a cylinder composed of suitable material and the connection therewith formed in the manner substantially as shown and described.

2. The method of removing the rock by forming therein a chamber or cavity of sufficient capacity to receive the shell thus formed, supporting said shell by stone pillars during the excavating process, afterward substituting for them wooden supports, charging the cavity with blasting agents, filling the cavity with water as a tamp, and then igniting the explosive agents, all substantially as herein fully described and shown.

119,903. — Drier. — Charles H. Wakelee, San Francisco, Cal.

Claim.—1. The box D with its inclosed coiled pipes e, wire-gauze f, and opening g, in combination with the chamber A and stack H, substantially as and for the purpose above described.

2. The connecting-lever m, in combination with the weighted bell-crank n pivoted at o substantially as and for the purpose above described.

3. An apparatus for desiccating purposes, having the chamber A, horizontally-moving endless skeleton band B, heating-box D constructed as described, stack H, and automatically-feeding hopper I, all combined and arranged as above specified.

119,904.—Cultivator.—Henry Weld, Black Walnut, Ill.

Claim.—The combination of the double-tree C, single-tree d, the lever e, the L-shaped adjusting-plates e, and the plows E, all mounted upon the beams A and arranged to operate as set forth.

119,905. — Insect-Trap. — Thomas Wier, Lacon, Ill.

Claim.—An insect-trap, constructed of piece a grooved and fastened together substantially as shown and described.

119,906.—Boot for Horses' Hoofs.—Romeyn Williams, Philadelphia, Pa.

Claim.—The combination of the belt B, of leather or other pliable material, provided with pad or pads H, inner projecting pin G, straps C C', and buckle D, and the steel band E encircling the exterior of the strap B, all constructed substantially as shown and described, and for the purposes set forth.

119,907. — Carriage-Spring. — David D. Wisell, Zanesville, Ind.

Claim.—The spring-leaves A B C, provided with elongated slots a a' and holes b b', and connected together by means of headed rivets d d' covering the slots, substantially as and for the purposes herein set forth.

119,908.—Cut-off for Steam-Engines.—William Wright, New York, N. Y.

Claim.—The combination of the cams K¹ K² on the shaft H with the valve-stems R¹ R², the toes L¹ L², and the intermediate pieces N N, with their oblique sides corresponding with the oblique sides n n of the cams, for the purpose as set forth.

119,909. — Horse-Power. — William R. Wright, Barnwell county, and David A. Warnock, Beaufort county, S. C.

Claim.—1. In combination with the lengthened pinion I and the mechanism driven by the same, the shaft E having a uniform size within and outside of its bearings, and the spur-gear F attached to said shaft, substantially as and for the purpose specified.

2. The construction and relative arrangement within the supporting-frame of the shafts E, G, and K, the gear-wheels F and H, the pinions I and L, and the band-pulley M, substantially as and for the purpose shown.

119,910, antedated September 25, 1871.—Machine for Cutting Stone. — Hugh Young, Stamford, Conn., and James L. Young, New York, N. Y.

Claim.—1. The frame of a diamond-tool stone-cutting machine, consisting of the horizontal or inclined part P P' P P'', upon which is mounted the diamond-tool or tools, and the mechanism imparting motion thereto, of the vertical slide pieces S S S S, between which the platform for receiving the stone to be cut is guided in its perpendicular movement, and of the supports W W W W, between which the stone to be cut may be passed entirely under the machine, substantially in the manner and for the purpose set forth.

2. The combination of the frame P P P' P'', arbor A, pillow-blocks a a, wheels M M, and pitmen C C, with the saw-sash frame F F' F F'', and blade or blades B, substantially as and for the purpose specified.

3. The combination of the arbor A, cams C', cam-yoke C'', rods t'', levers t', cam-levers t, boxes G', and slides G, or substantially the same, with the saw-sash frame F F' F F'', the whole arranged so as to operate in the manner and for the purpose herein set forth.

4. The variable feed-motion mechanism, consisting of the arrangement of the platform T, screws N, wheels D, levers d, dogs d', bars d'', and rods e, connected to the adjustable wrist j, the graduated sector-levers J, arbor H, lever E'', eccentric yoke E', eccentric E, and arbor A, when used in combination with the frame or sash F F' F F'', and operating substantially as and for the purpose specified.

REISSUES.

4,579. — Machine for Cleaning and Scouring Rice, Coffee, and other Grains.—Wilson Ager, Washington, D. C.—Patent No. 18,177, dated September 15, 1857; extended seven years.

Claim.—The method of cleaning and scouring rice, coffee, and other grain by means of the mechanism herein described, consisting chiefly of the shell S provided with the cavities p and ridges r on its interior surface in combination with burr-cylinder B, provided with similar cavities and ridges p' r' upon its outer surface, as specified and shown, constructed and arranged to operate as described, whereby the grain after being hulled is subjected with the husk to an alternate packing and loosening action while being cleaned and scoured, resulting from the peculiar form and dress of the scouring surfaces above described, substantially as set forth.

4,580.—Harness-Trimmings.—John Bauer, Newark, N. J.—Patent No. 116,536, dated July 4, 1871.

Claim.—A terret, ring, or similar article of harness-trimmings lined with a cast-metal ring or piece, D, fitting the interior of said terret, or ring, substantially as and for the purpose herein specified.

4,581.—Cultivator.—Theophilus F. Bertrand and Peter Sames, Rockford, Ill.—Patent No. 60,916, dated January 1, 1867; reissue No. 4,309, dated March 28, 1871.

Claim.—1. The cross-piece E, attached to tongue D and bracket a, substantially in the manner and for the purpose described and shown.

2. The standards c and c', having pulleys x and x', when arranged upon and attached to the axle C, in combination with the chains and rods 7 and 8, and the hinged inclined auxiliary frame H and H', arranged to operate substantially as shown and described.

3. The curved notched bars d d', secured at their upper ends to the standards c and c' by rods 5 and

6, and to the cross-piece E by rods 3 and 4, in the manner and for the purpose set forth.

4. The combination of two supporting-levers F and F', with their spring-bolts and curved notched bars *d* and *d'*, with the hinged inclined auxiliary frame H and H', when constructed and arranged to operate in the manner shown.

5. The adjustable foot-rest M, notched standards L, and holding-wedge 9, when constructed and arranged to operate together in the manner and for the purpose described.

6. Adjusting the auxiliary frame H and H', with the plow-standards, to different widths, by means of the arched coupling-bar K and screw staple-clamps *k*, as described and shown.

7. The chains or rods 7 and 8, when their pendent ends are connected to bearings or supports that project outside of and are not affected by the adjustment of the beams H and H', as described and shown.

8. The screw-eyebolts P, and socket-plate or block Q, in combination with bed-plate R, constructed and arranged to operate as shown.

9. The standard O, screw-eyebolt P, socket-plate or block Q, and bed-plate R, in combination with beams H and H', substantially as shown and described.

10. The safety-pin *i*, in combination with the standards O, screw-eyebolt P, rings *l*, brace-rod *k*, and auxiliary frame H and H', in the manner and for the purpose described.

11. The combination of the rigid frame, consisting of the tongue D and axle C, the hinged auxiliary frame H and H' carrying the plows, and their means of adjusting the same laterally, consisting of the arched bar K and screw-staples *k*, with the foot-supporters M and M, and the lifting and holding devices supported upon the tongue and axle, in the manner and for the purpose shown and described.

4,582.—HARVESTER.—E. D. Buckman, Philadelphia, Pa., and Samuel A. Sisson, Hoosick Falls, N. Y., executors of Samuel L. Allen, deceased, assignors to J. Russell Parsons.—Patent No. 16,957, dated April 7, 1857; extended seven years.

Claim.—1. The combination of the following devices or elements, viz.: First, a draft or upper frame; second, a lower frame, free to rise and fall, and supporting the finger-bar and cutting apparatus; third, a device to which the power of the team to draw the machine is applied, and which is movable forward and backward relatively to the draft-frame; fourth, a flexible connection connected at one end with the lower frame, and at the other end with the said movable device; all these elements of a machine being and operating in combination, substantially as described.

2. In combination with the four devices or elements claimed in combination in the first claim, an apparatus, substantially as herein described, whereby the driver can press down the lower frame when mowing matted grass.

4,583.—MECHANICAL MOVEMENT FOR SEWING AND OTHER MACHINERY. — James Hanley, New York, N. Y.—Patent No. 18,845, dated December 15, 1857.

Claim.—The employment of a roller, or equivalent, so constructed and arranged that it shall be free to revolve with or be carried away from the balance or driving-wheel of a machine when moved in the proper direction, and to impinge upon or jam against the periphery of the wheel by being forced into or upon an inclined surface or recess, substantially as described, and for the purpose specified.

4,584. — WAGON-AXLE. — William Arnold Lewis, Chicago, Ill., assignor to Hollow-Axle Manufacturing Company.—Patent No. 108,607, dated October 25, 1870.

Claim.—1. A wagon axle made from tubing by swaging taper spindles upon the ends.

2. The combination of the clip *m*, bolts *o*, king-bolt *i*, and axle *a*, constructed and arranged substantially as and for the purposes set forth.

3. The combination of the collar *c*, hinge *r*, and axle *a*, constructed and arranged as and for the purposes set forth.

4,585.—Division A.—BASE-BURNER.—Dennis G. Littlefield, Albany, N. Y.—Patent No. 30,333, dated October 9, 1860; antedated July 3, 1860; reissue No. 1,303, dated April 22, 1862.

Claim.—1. The combination of the cold air-chamber H, the perforations S S S S, the register S', and the damper R, as described.

2. Combining, in hot-air furnaces, the shell or covering L, the register S' for opening and closing the top of the shell, as set forth, the perforations S S S S, opposite or near the fire-pot, and the cold-air channel H, substantially as above described.

4,586.—Division B. — GRATE. — Dennis G. Littlefield, Albany, N. Y.—Patent No. 30,333, dated October 9, 1860; antedated July 3, 1860; reissue No. 1,303, dated April 22, 1862.

Claim.—The mill-grate, constructed and operating substantially as and for the purpose described.

4,587. — PISTON-ROD PACKING. — William Hartley Miller, Philadelphia, Pa.—Patent No. 73,454, dated January 21, 1868.

Claim.—1. In a fibrous packing, composed of a series of concentric braids, applying or introducing the lubricant during the course of construction, in distinction to saturating it after all the braid has been applied.

2. As a new article of manufacture, a piston-packing, composed of a series of concentric layers of fibrous material with suitable lubricants interposed or laid on each braid before the succeeding braid is woven or braided thereon, substantially as described.

4,588. — INDUCTION-COIL APPARATUS AND CIRCUIT-BREAKER. — Priscilla Webster Page, Washington, D. C., administratrix of the estate of Charles Grafton Page, deceased, assignor to The Western Union Telegraph Company, New York, N. Y.—Patent No. 76,654, dated April 14, 1868.

Claim.—1. An induction-coil apparatus, consisting of a primary and secondary circuit, when said secondary circuit is many times—that is to say, two, three, or more times—the length of the primary circuit, having the connections so arranged that shocks, sparks, and electrostatic results may be obtained from the secondary circuit alone, or from the combined primary and secondary circuits, or from the primary alone, or from portions of either circuit, substantially as set forth.

2. The combination of an automatic circuit-breaker with either a primary coil alone, or a primary and secondary coil combined, substantially as set forth.

3. The combination of a mechanical circuit-breaker with a primary and secondary coil combined, substantially as set forth.

4. The combination of both a mechanical and automatic circuit-breaker with a primary and secondary coil combined, substantially as set forth.

5. The combination of a primary and secondary coil, inclosing an electro-magnet, with an automatic circuit-breaker, substantially as set forth.

6. The combination of a primary and secondary coil, inclosing a compound or divided electro-magnet, with an adjustable automatic circuit-breaker, substantially as set forth.

7. The combination of a primary and secondary coil, inclosing a compound electro-magnet, with an attached hammer circuit-breaker, substantially as set forth.

8. The spark-arresting circuit-breaker, whether used with a primary coil alone or a primary and secondary combined, substantially as set forth.

9. The spark-arresting circuit-breaker, whether used with a coil or coils, inclosing an electro-magnet, substantially as set forth.

10. The spark-arresting circuit-breaker, whether attached to or independent of the primary or primary and secondary coils, substantially as set forth.

11. The adjustment of the retractile force of an automatic circuit-breaker, substantially as set forth.

12. The combination of an electro-magnet, armature, and adjustable retractor.

13. Adjusting or regulating the length of vibration of the armature of an electro-magnet by means of a set-screw or any mechanical equivalent for substantially the same purpose, substantially as herein set forth.

14. The employment of one electro-magnetic instrument to open and close the circuit of another electro-magnetic instrument, using either one battery for both or separate batteries for each, substantially as set forth.

15. The employment of separate and independent batteries to operate an electro-magnetic circuit-breaker and the circuit which is broken by it, substantially as set forth.

4,589. — TRUSS-SPRING. — John W. Riggs, Brooklyn, N. Y., assignor of one-half interest to John J. Diefendorf.—Patent No. 22,674, dated January 18, 1859.

Claim.—As a surgical appliance, a steel spring covered with vulcanized India rubber.

4,590.—STREET-SPRINKLING CART.—Leonhard Rodenhausen, Philadelphia, Pa.—Patent No. 67,805, dated August 13, 1867.

Claim.—1. In a sprinkling-cart, the valve F, located at the junction of the eduction-pipe and sprinkler, substantially as and for the purpose described.

2. A sprinkling-cart having the following characteristics: a closed body, A, having an inclined bottom, *b'*, induction-pipe C, eduction-pipe G, sprinkler H, and a suitable valve, substantially as and for the purpose described.

4,591.—MANUFACTURE OF ARTIFICIAL ASPHALT ROCK.—Archibald B. Vandemark, Jersey City, N. J.—Patent No. 117,946, dated August 8, 1871.

Claim.—1. An artificial asphalt rock, made substantially in the manner herein described.

2. Combining bitumen and paraffine oil, or their chemical equivalents, and calcareous substances, substantially in the manner and about in the proportions herein set forth.

DESIGNS.

5,307.—SUGAR-TONGS.—Joel Hall, 2d, Wallingford, Conn., assignor to Hall, Elton & Co., same place.

Claim.—The design for sugar-tongs, substantially as described and shown.

5,308.—SASH-HOLDER.—Alexander W. Lawrence, Raleigh, N. C.

Claim.—The design for a window-sash lock and holder, as herein shown and described.

5,309. — FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,310. — FLOOR OIL-CLOTH PATTERN.—Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, and other fabrics, shown and described.

5,311. —FLOOR OIL-CLOTH PATTERN. — Charles T. Meyer, Lyon's Farm, N. J., assignor to Edward C. Sampson, New York city.

Claim.—The design or pattern for floor oil-cloths, carpets, or other fabrics, shown and described.

5,312.—TABLE-CASTER.—Daniel Sherwood and George D. Dudley, Lowell, Mass., assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—The design for a table-caster or stand, substantially as shown in the accompanying drawing.

5,313. — SEWING-MACHINE COVER.—John Wilson, Boston, Mass., assignor to Wilson & Hughes, same place.

Claim.—The design for a sewing-machine cover in five pieces, each of which is provided with an imitation panel, substantially as shown and described.

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PATENTS.

119,911, antedated September 30, 1871.—STOVE-PIPE DAMPER.—James Ash, Sterling, Ill.

Claim. — The washer or sleeve B, rod *b*, and thumb-screw *b'*, when applied to a stove-pipe damper, as and for the purpose specified.

119,912.—FRUIT-CAN TONGS.—Abel T. Atherton, Lowell, Mass., assignor to himself and Fitz Henry Winter, same place.

Claim. — The tongs, for handling and holding fruit-cans and jars, having the pivoted vertically self-suspending jaws B B with the concave India-rubber or soft frictional inner surfaces, substantially as herein specified as a new article of manufacture.

119,913.—STEAM-ACTUATED CAR-BRAKE.—John T. Bassett, Galesburg, Ill., assignor to himself, John Bassler, and Marcellus S. Matthews, same place.

Claim.—1. The eduction J, operated in the manner substantially as described, by pipes D, G, H, and I, and valves L and M, for the purpose of allowing the steam or air to escape from each cylinder of the steam or air-actuated car-brakes, substantially as set forth.

2. The valve devices D G H L M, when interposed between and arranged to operate with the brake-cylinder A B and pipe E, for the purpose specified.

3. The combination of pipes D, G, H, and I and valves L M with the brake-cylinder A B and eduction J, substantially as and for the purpose specified.

119,914. — HARNESS-TRIMMING. — John Bauer, Newark, N. J.

Claim. — In covered harness-mountings, the groove G for reception of the sewed seam E of the covering D, and pressing the seam E into said groove G below or even with the facial surface of the covering D of harness-mountings, substantially as and for the purposes hereinbefore set forth.

119,915.—PAPER-BAG MACHINE.—Benjamin S. Binney, Somerville, Mass.

Claim.—1. The combination of the dovetail plate d and supporter E with the adjusting-screws a b, box g^3, and screws e^2 f^2, the whole being combined, arranged, and constructed as and for the purposes hereinbefore set forth.

2. The sliding doctors M M, arranged as and for the purpose above set forth.

119,916.—MACHINE FOR CUTTING SCREWS. James M. Carpenter, Pawtucket, R. I.

Claim.—The combination of one or more cutters for forming a tapering thread on the point of the screw with the dies for forming the thread upon the body, substantially as described.

119,917, antedated September 27, 1871.—PAPER-FILE.—Case Chapman, Chicago, Ill.

Claim.—In combination with the front and back plates A A′, constructed as described, the supports B with side guides and turned-down ends formed thereon, the whole constructed and applied substantially as and for the purposes set forth.

119,918.—COMBINATION SCISSORS.—Edson Clapp, Boston, Mass.

Claim.—The combination, with a pair of scissors of the offset or bar g, the cutter-block A, and cutter f, arranged and operating as herein shown and described.

119,919.—HYDRAULIC MAIN OF GAS-WORKS. Charles Collier, Selma, Ala.

Claim.—1. The dry-main or receiver G and the arch-pipe H, in combination with the hydraulic main C, substantially as herein shown and described.

2. In combination with the above, the valve I with its pipe-connections J J′ with the dip-bridge and stand-pipe, the rods i k, lever j, and weights m and n, or their equivalents, for operating the same in the manner as and for the purposes herein set forth.

119,920. — LANTERN. — Michael B. Dyott, Philadelphia, Pa.

Claim.—1. The arrangement of a readily-removable fountain-reservoir, A, of a lantern, chandelier, or lamp, at any suitable point above the horizontal plane of combustion, so as to supply the contained fluid to the burner or burners by pressure of the said fluid, when the said fountain-reservoir is distinct and readily-removable by lifting, at any time, from the conduit-tube or tubes between it and the burner or burners below, as and for the purpose hereinbefore set forth and described.

2. The combination of the conduit-tube or tubes b'', the respective supply and stop-off cock or cocks c', and the burner or burners C, with the top or roof B of a lantern, irrespective of the distinct and independently-removable fountain-reservoir A which supplies the said tube or tubes and burner or burners, as and for the purpose hereinbefore set forth and described.

3. The arrangement of the inverted conical annular reflector D above the burner or burners C of a lantern, in combination with the roof B, the perforated hot-air flue d', the deflecting plate b^6, and the cold-air chamber which is between the said deflecting plate and the fountain-reservoir A when in position, as and for the purpose hereinbefore set forth and described.

4. The construction and arrangement of the perforated cylinder d', in connection with the central opening in the reflector D, and the open hot-air space or chamber between the said reflector and the partition b^6 above it, substantially as and for the purposes hereinbefore set forth.

5. The capacious opening g' in the side of the collar G of a lantern, in combination with the inside concentric slide g'', when the said parts are constructed and arranged substantially as and for the purposes hereinbefore set forth and described.

6. In combination with the slotted cylinder or mouth and throat of the fountain-reservoir A, the spring a', and the catch-projection or pin a'' in the valve-stem a^3, arranged to operate in relation to each other, as and for the purposes hereinbefore set forth and described.

119,921.—HEMMER FOR SEWING-MACHINES. Henry Allyn Ellis, Greenbush, assignor to himself and George S. Weaver, Albany, N. Y.

Claim.—1. The hooked strip C and right-angular stripe D J in combination with a holder, B, substantially as and for the purposes described.

2. The strips C, D, and J, constructed substantially as described, and adjustably connected to the holder B.

3. The combination of a folding and guiding tongue, J, a retaining-hook, c, and a turning device, b, substantially as described.

4. The curved bridge A on the holder B, arranged so as to lie in front of the turner, in combination with the folding-tongue J, substantially as described.

119,922. — TRACTION-WHEEL. —George W. Fitts, Oberlin, Ohio.

Claim. — A traction-wheel, constructed and arranged substantially as and for the purposes herein set forth and described.

119,923.—PROPULSION OF CANAL-BOATS.—Patrick Henry Fontaine, Reidsville, N. C.

Claim.—The offset blocks i on chain g, in combination with the pivoted poles C and supports F, substantially as described.

119,924.—COUNTERPOISE GUN-CARRIAGE.—John G. Foster, Boston, Mass.

Claim.—1. The carriage D having the gun mounted to rise and fall therein, as described, and provided with the pulleys over which cords pass for elevating and lowering the gun, as set forth.

2. In combination with a gun mounted as above described, the bars P or their equivalents, whereby the gun can be supported independent of the counterpoise, substantially as and for the purpose set forth.

3. The combination of the gun-carriage D and the chassis having the shafts B with their sliding drums mounted thereon, and arranged to operate substantially as described.

4. The combination of the counterpoise K and its frame L having the device for loosening the chains M applied thereto, and the shafts B having the sliding drums mounted thereon, with the supports P and the gun F arranged to move up and down, all arranged to operate substantially as described.

5. The counterpoise K made in the form of a shield, and arranged to protect the gun and men, substantially as described.

6. In combination with the carriage D having a gun mounted thereon, as described, and the shafts B with their sliding drums, the counterpoise or weight O, whereby the gun can be operated in case the counterpoise K or its frame is disabled, as set forth.

119,925.—MACHINE FOR MAKING SPIKES.—Morrison Foster, Cleveland, Ohio.

Claim.—1. The adjustable cutters f' and W arranged in relation to the revolving griping-jaws, in the manner and for the purpose specified.

2. The combination of the cam-I with the pointing-rollers m' and m'', and their spindles q and q', and jaws k k', as and for the purpose set forth.

3. The combination of the frame B, pin g, slotted yoke e, cam b, cross-head d, and header e, as and for the purpose described.

4. The guides or arms A, in combination with the cross-head d and shaft e, to keep the header and heading die pointed toward the shaft e, substantially as described.

5. The combination of the segment J, bar i, and the revolving griping-jaws k k', arranged and operating in relation to one another as described.

6. The combination of the clearer r with the jaws k k' and slotted plate t', arranged and operating as described.

7. The guard or shield S, constructed as described, and operating in connection with the griping-jaws, in the manner and for the purpose specified.

119,926. — COMBINED BREAD-BOARD AND DOUGH-TRAY.—Bennington Fulton, Pulaski, Iowa.

Claim.—A bread-board and dough-tray, provided with a raising-chamber, constructed, arranged, and combined as hereinbefore described.

119,927, antedated September 29, 1871.—TOY.— Henry N. Gallagher, Worcester, Mass.

Claim.—A toy, composed of a moving portion, whose weight is supported wholly above a track on which it runs, and is retained by the guards D D and clasps E E, and a track with handles so placed as to allow the moving portion to pass freely, when constructed and operating in the manner and for the purpose above described.

119,928. — SPARK-ARRESTER FOR LOCOMOTIVES.—Benjamin Garvin, Oshkosh, assignor of one-half his right to Henry Hull, Fond du Lac, Wis.

Claim.—1. The conical deflector E, constructed with an annular plate, I, as described, for the purpose specified.

2. In a locomotive smoke-stack, the combination of two chambers connected by diving-flues, one chamber, J, formed by the annular plate I and the deflector E, being arranged to receive the live sparks from the exhaust, and the other chamber, formed by the diaphragm H, being arranged to receive the spark-cinders after they have passed through the first chamber, substantially as described, for the purpose specified.

3. The diaphragm H, annular plate I, and flues K, in combination with the stack A, deflector E, and smoke-pipe B, substantially as described, for the purpose specified.

119,929.—EVAPORATOR FOR SAP, &c.—William F. Gibson, Ryegate, Vt.

Claim.—The arrangement and combination of the auxiliary fire-place D, flue E, and chamber F with the evaporating-pan A and the main fire-place B, one or more tubes, I, and the smoke-chamber C, arranged substantially as specified.

119,930.—MECHANISM FOR OPERATING SEWING-MACHINES.—Elijah L. Howard, Hingham, assignor to George A. Whiting, Charlestown, Mass.

Claim.—1. The combination of the movable inclined plane K with the pedal H, the frame E, (provided with the arm e or its equivalent,) and the driving-wheel F, to operate with the wheel C, as described, all being arranged and applied together substantially as and for the purpose as set forth.

2. The combination of the brake L and the inclined plane K with the pedal H, the frame E, and the wheel F, to operate with the wheel C, the frame E being provided with the arm e or its equivalent, and all being arranged essentially in manner as shown and explained.

119,931. — FIRE-EXTINGUISHER. — Elias Jones, Pierrepont, N. Y.

Claim.—The combination of the pipe a, receptacle A, pipes c, case B, and funnels C, as specified.

119,932.—BRAKE FOR VEHICLES.—Henry B. Lee, Maryville, Mo.

Claim.—1. The combination of a rub-block and step for vehicles, constructed and arranged as set forth.

2. The combination of the lever D with the connecting-rods C and B, lever b, and rub-block x, as described.

119,933. — WASH-BOILER. — Eli F. Lewis, Winsted Lake, Minn.

Claim.—The boiler A, supporting-rim B, faucet C, and rack E, when combined and arranged as and for the purpose shown and described.

119,934. — COTTON-PRESS. — Lewis Lewis, Vicksburg, Miss., assignor of one-half his right to George M. Barber, same place.

Claim.—In combination with the levers E E, rods F F, follower D, sheaves L L, and windlass H, the ropes or chains J and K, when constructed and arranged substantially as shown, and for the purposes set forth.

119,935.—PENCIL-CASE.—William A. Ludden, Flushing, N. Y.

Claim.—The sleeve s around the cylinder c, and connected with the exterior case t, in combination with the extension r and screws i and o, substantially as and for the purposes set forth.

119,936.—FIRE-EXTINGUISHER. — John H. Manning, Chicago, Ill., assignor to Edwin L. Buttrick, same place.

Claim.—1. The curved pipe F′, provided with faucet J and united to pipe F, as described, whereby the water is discharged into the case in a descending direction, substantially as and for the purpose described.

2. The combination of pipes F, F′, and G, cylinder B, valve D, plate m, and case A, all arranged substantially as and for the purpose described.

119,937.—HARVESTER.—Leander J. McCormick and William R. Baker, Chicago, Ill., assignors to C. H. McCormick & Bro., same place.

Claim.—The combination of the rocking shoe, the rake-post, the extensible sectional brace connecting the rake-post and frame, and the rack, pinion, and detent for adjusting and holding the brace, these members being constructed and operating in combination, substantially as hereinbefore set forth, to enable the driver to rock the guard-fingers without leaving his seat and while the machine is working.

119,938.—CLOTHES-PIN. — Henry Mellish, Walpole, N. H.

Claim.—The prongs of a clothes-pin when consisting of the springs E E in connection with the spring-bars C C, with the elliptical openings B B through them, and the ends of the spring-bars C C, separated at the point D from the body of the pin, substantially as and for the purpose hereinbefore set forth.

119,939. — BREECH-LOADING FIRE-ARM.—George Merrill, East Orange, N. J.

Claim.—1. The extractor-bar E secured to the breech-plug D by means of the collar c, the latter being provided with the incline r for forcing back the firing-pin as set forth.

2. The combination of the sliding breech-plug D, the firing-pin having the eccentric or shoulder h, and the ring or collar c having the incline r thereon, all constructed and arranged to operate as set forth.

3. The sliding breech-plug D in combination with the eccentric firing-pin, and the hammer H arranged in rear of said breech-plug, whereby the end of the firing-pin is thrown out of line with the hammer, and the hammer is cocked by the movements in opening the breech.

119,940. — BREECH-LOADING FIRE-ARM.—George Merrill, East Orange, N. J.

Claim.—1. The ring J applied to the rear end of the barrel and arranged to turn with the extractor A, substantially as described.

2. The combination of the breech-plug C with its groove *s* and spring *e*, and the loose sleeve R with its notch *o* and incline *n*, and the firing-pin *e*, all constructed and arranged to operate as set forth.

3. The combination of the breech-plug C with the extractor-hook A and the ring J, all constructed and arranged to operate substantially as and for the purpose set forth.

119,941.—TOBACCO-PIPE.—Joseph M. Mur, New York, N. Y.

Claim.—As an improved article of manufacture, a tobacco-pipe provided with a separate and detachable ash-cup, *c*, placed loosely between the fire-proof tobacco-bowl B and the outer case or shell A, substantially as and for the purposes shown and described.

119,942.—CONDENSER OR COOLER FOR ALCOHOLIC AND OTHER LIQUIDS.—James R. Neil, Brooklyn, N. Y.

Claim.—The septum *d* between the concave disks *a* and *b* and within the chamber *c*, in combination with the inlet and outlet connections *e* near the center of the disks, and the passage-ways *f f* near the edges of such septum *d*, as and for the purposes set forth.

119,943.—APPARATUS FOR RECTIFYING ALCOHOLIC SPIRITS.—James R. Neil, Brooklyn, N. Y.

Claim.—The rectifying-column, made of chambers united to each other, and each chamber having a convex bottom, *b*, a concave top, *a*, a diaphragm, *d*, with openings around its edges, and a pipe, *f*, leading from one chamber to the other, substantially as set forth.

119,944.—HINGE.—Alfred A. Oat, Philadelphia, Pa., assignor of one-half his right to Charles D. MacQueen, same place.

Claim.—The pawl D pivoted to an inclosed recess, S, formed in the leaf L′ of the hinge, and provided with a spring, C, pin N, and sliding bolt T, in combination with the ratchet R on the leaf L, all constructed and operating substantially as and for the purpose described.

119,945. — MACHINE FOR MAKING BLIND-HINGE HOOKS. — Galen Orr, Needham, Mass.

Claim.—In combination with the jawed dies *a b* provided with mechanism for operating on one of them, as described, the grooved roller *c* and its slides I N provided with mechanism for actuating them, substantially as set forth, so as to move the roller with reciprocating vertical and horizontal movements in manner and with respect to the dies, and for the purpose or objects as explained.

119,946.—APPARATUS FOR THE MANUFACTURE OF CHOCOLATE-DROPS AND OTHER CONFECTIONS.—Sanford A. Parker, Cambridge, Mass., assignor to himself and Frederick G. Cass, same place.

Claim.—1. The frame C with its wires *d d*, operating substantially in the manner and for the purpose set forth.

2. The stripper G with its division-plates *l l* and slots *m* or equivalent device for holding down the wires *d d*, in combination with the frame C and its wires *d d*, operating substantially in the manner and for the purpose described.

119,947.—FILE.—Isaac N. Patten, Memphis, Tenn.

Claim.—As an improved article of manufacture, a flat file, whose teeth have the strike and dip, as described and shown, and whose ends terminate in tangs and handles, as set forth.

119,948.—COMBINATION LOCK.—George H. Peacock, Webster, N. Y.

Claim.—1. The bolt A having the incline X, and the lever consisting of the cross-plate C and arms D, in combination with the finger-bars E E E and E′, substantially as and for the purpose set forth.

2. The bolt A having the incline X, spring B, cross-plate C, arms D, and guards F, in combination with the finger-bars E E E and E′ provided with slots G G, shoulders H H, and indentures K, substantially as and for the purposes set forth.

119,949.—COOKING-STOVE.—John S. Perry and Andrew Dickey, Albany, N. Y.

Claim.—Combining with the hearth of a stove removable ash-pans, one of said pans being seated within the other, and the uppermost pan having a removable vibrating grated bottom, substantially as and for the purposes described.

119,950.—CORN-PLANTER.—Francis A. Ramey and Ransler R. Cross, Woodstock, Va.

Claim.—1. The hooked cams N N′, the latter adjustable, and both constructed and arranged, as described, in combination with the slides *d d′*, arms *e e′*, rocking-shafts D D′, studs *i f*, lever *y*, stop *y′*, the bar D′, and springs *s s′*, all substantially in the manner and for the purpose described.

2. The combination of the levers *b′ b′*, notched standards *b*, independent beams F F, shovels G G′, coverers *q*, beams J, seed-tube *f′*, and the seed-dropping mechanism, all constructed, arranged, and operating as described.

119,951.—SHIFTING RAIL FOR BUGGY-TOPS.—John F. Regan, Chicago, Ill.

Claim.—The wooden shifting rail for carriage-seats, constructed as described, and attached to the back of the seat so as to bear thereon at all points, substantially as and for the purposes specified.

119,952. — SAP-BUCKET COVER. — Daniel Smith, Gilsum, and Elbridge Smith, Keene, N. H.

Claim.—1. The wire-fastening D, clasping or encircling the spout, on which it is held by a cam, H, or by the elasticity of the wire, and hooking into the cover by the bent extremities F F, substantially as and for the purpose described.

2. The cover A and the wire D, when used together, as and for the purpose described.

119,953.—DISH-WASHER.—William Linton Thompson, Stanstead, Canada.

Claim.—The cylindrical dish-holder H with the floats B, as described, placed at different angles, in combination with the vessel I and cover G, as and for the purpose specified.

119,954.—HORSE-POWER.—John Valentine, Buffalo, N. Y.

Claim.—1. The bridge-tree B provided with socketed arms, combined with the central shaft H and toothed rim A cast with hubs *a a*, substantially as hereinbefore set forth.

2. The bolts *b′*, rim and hubs A *a a*, bridge-tree B, and bed-pieces C C, arranged substantially as hereinbefore set forth.

119,955.—HOT-AIR FURNACE. — James G. Weldon, Pittsburg, Pa.

Claim.—Generating steam and introducing it into the air-passages of an air-heating apparatus by passing the water for the production of such steam into a hollow arm, F, so extending through the walls T of the furnace A and into the fire-box as to be acted upon by direct heat, and conveying the steam so generated, by means of suitable pipes H, into the air-passages E leading to and around the outside of said furnace, in the manner shown and set forth.

119,956.—SULKY.—Jesse Winecoff, Berlin, Pa.

Claim.—The combination described in the foregoing specification, viz., 1 2 3 4 5 6 7 8 9 10 11 12 13 14, for the purpose of producing an agreeable riding-sulky, substantially as set forth.

119,957.—PHOTOGRAPHIC TENT.—I. Fletch Woodward, McMinnville, Tenn.

Claim.—The adjustable elevating half A B along with the partition C and the side curtains E E, substantially in the manner and for the purpose set forth in my specification.

119,958. — MACHINE FOR WASHING AND FULLING CLOTH.—Satterlee Arnold, Philmont, N. Y.

Claim.—1. The combination of two or more tanks for containing cleansing, or cleansing and fulling solutions, each tank having a system of rollers rotating together therein, as described, through which the cloth is continuously carried automatically through all the tanks and subjected to repeated squeezings, substantially as herein described.

2. In combination with the said tanks A, B, and C, or any two of them, provided with rollers, as described, the squeeze-rollers pertaining to said tanks respectively, substantially as shown and described.

3. In combination with rollers arranged in vertical tiers, as described, so that each pair in the same vertical series will squeeze the cloth, as described, rubber, or other elastic substance between the journal-bearings of the rollers and set-screws to press said bearings together or allow them to spring asunder to adjust the squeeze of the rollers to the thickness of the material operated upon, substantially as described.

119,959.—COFFEE-ROASTER.—John B. Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.

Claim.—1. In an apparatus for roasting coffee, a hollow heating-iron, H, arranged to communicate with a reticulated inclosed cylinder, G, so as to receive the deposit of oil or condensed moisture from the coffee therein and send it back in highly-heated vapor to be absorbed by the dry coffee by the action of the heating-iron, as described.

2. A hollow heating-iron, H, connected with a revolving coffee-holder, A G, by hollow-couplings d^2, so as to be turned up out of the fire when the roasting is finished, as described.

3. The pipe H and its several connections in combination with the axial perforated pipe D and cylinders A and G, as and for the purpose set forth.

4. The guard or jacket *d* in combination with the perforated pipe *c*, as and for the purpose set forth.

5. The auxiliary pipe P in combination with the perforated pipe E, as and for the purpose set forth.

6. The combination and arrangement of the pipes P H and connections, perforated pipe D, jacket *d*, and cylinders A and G, for the purpose set forth.

119,960. — HAIR-CURLER. — C. Henry Barney, Providence, R. I.

Claim.—1. The improved curling-rod provided with a suitable atmospheric port or ports and a longitudinal interior flame-chamber, adapted to receive a vertical flame at or near its base, substantially as shown and described.

2. In combination with the improved curling-rod described, the vertical socket E provided with a lateral-projecting gas-burner punctured for a vertical flame, as and for the purpose specified.

119,961.—COMBINED BOILER AND STEAMER. Joseph P. Bradford, Calamus, Iowa.

Claim.—The herein-described apparatus, consisting of the box A, with the removable perforated bottom G, supply-pipe E, and furnace B, all constructed and arranged to operate substantially as described.

119,962.—TABLE AND DRAWER ATTACHMENT FOR SEWING-MACHINES.—De Witt Clinton Breed, Medina, N. Y.

Claim.—1. The frames C C and drawers D D, or their equivalents, attached by opposite edges, as described, to the leaf B and rod E, or their equivalents, so that said drawers always retain their upright position as the leaf is lowered or raised.

2. The construction of the whole device, consisting of the hinged leaf B, frame C containing drawer D, hinged at *a* to the leaf B and hinged at *b* to rod E, the middle drawer or drawers having a pin, *c*, working in slot *d* of rod E, all in combination with the table A of a sewing-machine or other device having the stop-pieces *e f*, substantially as and for the purpose described.

119,963. — PARING-AND-SLICING KNIFE.—Heman P. Brooks, Waterbury, Conn.

Claim.—The herein-described device for attachment to knife-blades, consisting of a bar, A, supports B, rests D, and securing-hooks C or their equivalent, substantially as and for the purpose set forth.

119,964, antedated September 25, 1871.—COMPOSITION FOR WATER-PROOFING WALLS.—Robert May Caffall and Daniel Miller, Alton, England, assignors to William Gowers Monk, Brooklyn, N. Y.

Claim. — The enameling composition or paint composed of the ingredients known as gum shellac, gum benzoine, linseed-oil, and spirit, prepared in the manner hereinbefore described, for the purpose of preserving brick and stone.

119,965.—WASHING-MACHINE.—Almon H. Calkins, Lineville, Ind.

Claim.—1. The construction of the hinge-frame D with its connecting-rod F to contract or expand it, spring E, and base *a* of the frame A, as shown and described.

2. The construction and application of the journal rod d^1, extended through roller C and through slots b^3 of the uprights A A, serving as a holder and guide, in combination with the rollers *c c c* and B, as shown and described.

3. In combination with the devices claimed in the first and second claims, the devices G H, arranged and operating in connection with the hooks *g h*, tub I, shaft *b*, crank b^1, and handle b^2.

119,966.—PREPARING PIGMENTS FOR WATER-COLOR PAINTING.—Edward R. Campbell, New York, N. Y., assignor to himself and James H. Campbell, same place.

Claim.—The preparation of pigments used in water-color painting with a vehicle composed of glycerine and gum arabic, substantially in the proportion and manner set forth.

119,967.—BACK-SAW. — William Clemson, Middletown, N. Y.

Claim.—The back-saw herein described, when formed with the saw-blade A, grooved back-bar B, and handle C, and connected together in the manner herein described.

119,968, antedated September 30, 1871.—GATE FOR GANGS FOR MARBLE-SAWS.—Lucius B. Clogston, West Rutland, Vt.

Claim. — In combination with ordinary crossbars and side tubes A C the plugs B fast to the former and working loosely in the latter, as and for the purposes specified.

119,969. — TRAVELER FOR VESSELS. — David N. B. Coffin, Jr., Boston, Mass.

Claim.—The sliding traveler-rod *a*, bent at each

end, as set forth, in combination with the supports *b r*, springs *c*, and sliding ring *e* or its equivalent, for the attachment of the sheet-block, operating substantially as specified.

119,970, antedated September 30, 1871.—ROLLING AND FELTING HAT-BODIES.—James Crisp, Bloomfield, and Viner V. Dodd, Orange, assignors to themselves and Emmons B. Corby, Orange, N. J.

Claim.—1. The frame A having mounted therein a pair of reciprocating beds B and D provided with the loose rollers C, and arranged to be operated longitudinally by means of the rock-shaft *f* and pitmen *g* and *h*, in combination with the frame E, levers F, and links *b* for operating one of the beds vertically, substantially as and for the purpose of felting hat-bodies, as set forth.

2. In combination with the beds B and D, constructed and arranged to be operated reciprocally, the adjustable frame E, levers F, and links *b*, substantially as and for the purpose set forth.

3. The beds B and D provided with the closely-arranged loose rollers C, when constructed and arranged to operate as herein described, for the purpose of felting hat-bodies, as set forth.

119,971.—WINDMILL.—Montgomery Crossman and Pratt A. Spicer, Marshall, Mich.

Claim.—1. In a windmill, the winged and weighted governor-lever E, so hung to the shaft or turn-table as to oscillate in a plane parallel with that in which the wind-wheel revolves, substantially as and for the purposes specified.

2. The arrangement of a wind-wheel A on its shaft in such relation with the vane D so that said wheel will be impelled to face the wind behind its vertical axis or pivot *p*, substantially as and for the uses described.

3. The winged and weighted governor-lever E, in combination with the shaft A, turn-table *e*, bent rod F, and small vane D, all constructed and arranged relatively with each other and with the wind-wheel A, substantially in the manner and for the purpose set forth.

119,972.—WINDMILL.—Montgomery Crossman and Pratt A. Spicer, Marshall, Mich.

Claim.—In a windmill, the winged and weighted governor-lever E, so hung to the turn-table as to oscillate, by the power of wind and gravity, in a plane more or less oblique with the face of the wind-wheel, substantially as and for the purposes set forth.

119,973. — COMBINED WHEELBARROW AND HAND-PLOW. — Benjamin G. Fitzhugh, Frederick, Md.

Claim.—The divided hand-frame A having a supporting-wheel, C, an inclined division-bar, *a*, link *c*, and locking-pin *b* adapted to receive and hold the projecting tongue or hold-fast of a barrow-box, D, or the shank of a tilling device, as described.

119,974.—BROILER.—Benjamin G. Fitzhugh, Frederick, Md.

Claim. — The roasting, toasting, and broiling-utensil, consisting of the back A, rims B, dripping-trough D, handle F, and spits *a b*, substantially as described.

119,975. — WINDOW-SHADE AND CLOTHES-DRIER.—Benjamin G. Fitzhugh, Frederick, Md.

Claim.—A combined window-shade and clothes-drier, consisting of the frame A and cords *a* and *c* (or the frames A A′) and shade D, so constructed as to be used in a window-frame for either purpose, as described.

119,976. — DUMPING-CART. — Benjamin G. Fitzhugh, Frederick, Md.

Claim.—1. A dumping-cart so arranged that the tilting of the body is effected by backing the cart, substantially as described.

2. The combination of the pieces B and bars D with the tail-board of a dumping-cart, arranged to operate substantially as described.

3. The device G H *i* when arranged so as to either lock the front of the body of the cart to the draft-frame or act as a brake, when desired, substantially as described.

4. The lever G and rod H *h* when arranged to lock the front of the body of the cart to the wheels, so as to effect the tilting by means of frictional contact with the wheels in backing, substantially as described.

5. The brake device G H *h* when so arranged that the frictional force of braking the wheels prevents the backward tilting of the body of the cart, substantially as described.

6. The combination of the tail-board C, pieces B, levers D, rod H *h*, lever G, projections *i*, and draft-frame E with the wheels and body of the cart, all arranged to operate substantially as and for the purpose described.

119,977.—PORTABLE FURNACE.—Benjamin G. Fitzhugh, Frederick, Md.

Claim.—1. A portable furnace having a pendent central grate, F, open sides and central openings in its top, and the side openings thereof closed by toasting or broiling-shields H or other detachable covers, I, adapted to receive sad-irons, and the central top opening closed by detachable covers adapted for preserving or cooking, as described.

2. The combination, with a central suspended grate, F, of a removable side-toasting or broiling device, H *b*, arranged substantially as described.

3. In a portable furnace, the combination of the centrally-suspended grate F with the sad-iron supports G and the slotted covers I, arranged as shown and described.

4. In a portable furnace, the removable top J with its annular rim *e* and smoke-flue *f*, adapted to receive a preserving-kettle, as described.

119,978. — MINING-SLUICE AND RIFFLE.—Converse J. Garland, Gwin Mine, Cal.

Claim.—1. The irregular diagonally-corrugated plate D, as and for the purpose described.

2. The frame *b*, in combination with the plates B C D E, all constructed and arranged substantially as and for the purpose set forth.

119,979.—MACHINE FOR MAKING EYELETS.—Thomas Garrick, Providence, R. I.

Claim.—1. The combination, in an organized machine, of the series of dies and punches or instruments as described for cupping, intermediately drawing, eyelet-shaping, end-punching, and delivering eyelets from a planchet, and the transferring mechanism, as described, for transferring and presenting the several shapes into which the planchet is by such means wrought successively from one set of instruments to the next in order, substantially as herein specified.

2. In combination with such organized machine, a preliminary cutting-punch and die and a transferring device for cutting out and delivering planchets to be operated upon by the said cupping and succeeding instruments of the said series, substantially as shown and described.

3. In combination with a suitable punch and die, as describe , mechanism which, besides operating to force said punch into the die and turn over the flange of the eyelet, has also a further movement to give a supplemental pressure to swage and reduce the thickness of the eyelet's flange, substantially as specified.

4. In combination with an organized machine for making eyelets from planchets, as described, a supplemental punch and die for finally trimming the edge of the eyelet's flange vertically to the proper size, substantially as specified.

5. The elastic carrier K, as described, and in combination with the endless belt or band, substantially as and for the purpose specified.

6. As an improvement in the art of making eyelets, the reduction of thickness of the flange after the same has been turned, and the subsequent trimming of the margin of the flange, substantially as and for the purpose described.

119,980.—CHURN-DASHER.—Demas L. Grover, Groton, N. Y.

Claim.—The dasher-staff of a churn, composed of the parts A and B, connected together by tube A′ having holes a'' and a^4, vertical slot a''', and within which is tube a' of a thermometer and a scale of degrees marked on said tube, constructed in the manner and for the purpose substantially as described.

119,981.—DIFFERENTIAL PULLEY-BLOCK.—Charles Hall, New York, N. Y.

Claim.—1. The combination of the short-link chain-sheave, grooved hook, block-frame, and lateral-grooved guide-sheave, substantially as before set forth.

2. The combination of the differential-grooved chain-sheave, hook, block-frame, and differential-grooved guide-sheave, substantially as before set forth.

119,982. — RAILROAD-CAR VENTILATOR.—George A. Hines, Brattleborough, Vt., assignor of one-half his right to John F. Vinton, same place.

Claim.—1. The ventilating-plate C combined with hood D, and so divided longitudinally as to afford an induction and eduction-draught, substantially as shown.

2. The induction-ports H, in combination with hood D and chamber G or their equivalents, substantially as shown.

3. The deflecting surfaces *h*, *h′*, and I, or their equivalents, in the combination shown and described.

4. The combination, with the foregoing ventilating apparatus, of the door *f* or its equivalent.

119,983. — CURTAIN-FIXTURE. — Franklin Hobart, Mount Pleasant, Iowa.

Claim.—1. The herein-described arrangement of the cords *a a* and *c c* for hanging a window-curtain or map and operating it from the center, when the cords *c c* are passed through a ring-bolt, c^3, in the center of the stick C, substantially as and for the purposes set forth.

2. In combination with the ring-bolt c^3 in the curtain-stick C and the cords *c c*, the adjustable clamp *c*, substantially as and for the purpose set forth.

119,984, antedated October 10, 1871.—BOAT-HOISTING, LOWERING, AND DETACHING APPARATUS.—Joseph Humphries, Washington, D. C.

Claim.—1. In combination with the davits B the supplemental davits or shores C, whereby a boat may be lowered and held away from the ship's side, as set forth.

2. The combination of eyebolts H H and K K with triggers I I and rods J J, as described in the annexed specification and drawing.

119,985.—CULINARY SHELF.—George Troutman Hunsaker, Carthage, Ill.

Claim.—The detachable shelf A, with its upward hook E and its downward leg and foot G H resting on a horizontal part or base to keep the hook E up securely under a projecting and descending point of support, all substantially as shown and set forth.

119,986.—GARDEN-HOE.—Thomas V. Kimble, Indianapolis, Ind.

Claim.—A cultivator cast in one piece of steel, whose blade is curved both longitudinally and transversely, so that the concave of the longitudinal curve and the convex of the transverse curve are both on the same side, and which is provided with a handle-socket consisting of a cylindrical tube cast on the convex side of the transverse curve, and so constructed that the cavity of the said socket will not perforate the shell of the blade, all substantially as set forth.

119,987. — MACHINE FOR MAKING LIGHTNING-RODS.—George S. Knapp, Winona, Minn.

Claim.—1. The combination of the rotating shaft B, provided with arms for carrying a series of bobbins and with holes or guides *o*, with the guide-plate M and die N, all arranged to operate substantially as and for the purpose set forth.

2. The adjustable rollers H in combination with the radially-arranged bobbins G, guide-plate M, and die N, all constructed and arranged to operate substantially as described.

3. The guide-plate M and die N, arranged to swing or move laterally on the bed, in combination with the take-up shaft or drum E, whereby they are permitted to adjust themselves to the varying position of the rod, as set forth.

4. The shaft or drum E provided with the eccentric lever *e* for holding and winding up the finished rod, as set forth.

5. The guide-plate M having a central hole for the core, with a series of holes for the surrounding wires arranged radially therefrom, and the circular slit for guiding the covering arranged outside of the latter, as herein described.

119,988. — HOISTING-MACHINE.—George R. Long and Samuel King, Lanark, Ill.; said King assigns his right to said Long.

Claim. — The cruciform bars *a a*, standard B, socket *af*, cap E, and journal *h*, in combination with the lever D and cord or chain *d*, the several parts arranged and operating substantially as set forth.

119,989. — REAMING-TOOL.—James B. Miller, Pittsburg, Pa., assignor to himself and Thomas W. Bell, same place.

Claim.—A reamer having a thread cut on its forward or entering end, and having also longitudinal grooves or flutes, substantially as shown and described.

119,990.—GLASS CLOCK-CASE.—Charles A. Moore, Westbrook, Conn., assignor to himself and M. Hartley, New York city.

Claim.—As a new article of manufacture, a clock-case made of glass pressed in a mold, substantially as herein described.

119,991.—BEE-HIVE.—Elizabeth O'Connor, Philadelphia, Pa.

Claim.—A hive united by rods, and having each separate part detachable from the adjacent parts in order that the hive may be taken to pieces and be laid flat for transportation, the joints being so formed that when the hive is set up the securing-rods will firmly unite the whole in one complete hive, as described.

119,992. — SUBMARINE-EXCAVATOR. — Robert R. Osgood and Ralph R. Osgood, Troy, N. Y.

Claim.—Combining, with the handle or lever of a dredging-machine, or with the handle or lever to be substituted therefor, a cutter or pick for grooving or loosening the earth below the surface of the water, substantially as and for the purpose set forth.

119,993.—SUSPENDER AND SHOULDER-BRACE COMBINED. — Thomas O. Potter and Joseph William Smith, Boston, Mass.

Claim.—1. The combination of the straps A A′ and B B′ with the strap D D′ and the attachments E E′ and F F′, the whole arranged and operating substantially as described.

2. The combination of the slide E and strap D by means of the web *b*, passed around the bar *a* and secured to the strap D, in the manner described.

119,994, antedated October 7, 1871.—MANUFACTURE OF SOLUBLE PHOSPHATES FOR FERTILIZERS.—Daniel W. Prescott, Edinburgh, Va.

Claim.—The solution of bone-dust by the use of soda-ash, which, uniting with the gelatine of the bone, forms a soapy compound, acting upon the particles of bone, forming a soluble compound thus fitted for prompt action as plant-food.

119,995.—CARD-RACK. — L. Corydon Prindle, Chicago, Ill.

Claim.—The springs B, constructed, arranged, and applied to the card-board A, or its equivalent, substantially as herein shown and described.

119,996.—ELECTRO-MAGNETIC WATER-ELEVATOR. — Silas G. Randall, Providence, R. I., assignor to Amelia A. Randall, same place.

Claim.—In combination with the electro-magnet, the armature and the pump, the latter being operated automatically by the movement of the armature attached to a suitable circuit-breaking device, as and for the purposes specified.

119,997.—FIRE-ESCAPE.—Thomas C. Rice, Worcester, Mass.

Claim.—The combination, with the slide-block C, constructed as described, of the combined friction-lever and hand-support D, as shown and described.

119,998, antedated September 30, 1871.—SAW.—De Witt Riker, San Francisco, Cal., assignor to himself and Frederick W. Runge.

Claim.—The division or block B, provided with a cutting-tooth and planing-knife, as described.

119,999. — COOKING-STOVE. — George Roberts, Montreal, Canada.

Claim.—1. The novel combination of the plate *d* and fire-pot *e* with pipes *g* and *h*, arranged and operating substantially in the manner and for the purpose described.

2. The perforated division *b*, partitions *c*, diaphragms *f*, and air-ducts *i*, constructed, arranged, and operating substantially as described.

3. The novel damper *l* with pivot l^1 and ledge l^2, constructed as and for the purpose described.

4. The novel combination of the pipes *g* and *h* with mouth-pieces h^3 and apertures k k^1 k^2, constructed, arranged, and operating as and for the purpose described.

120,000.—TELEGRAPH APPARATUS.—James Rowe, Paterson, N. J.

Claim.—1. The lever L, provided with the two pallets p^7, engaging the pins of an escapement-wheel, such lever being operated by a magnet and armature.

2. The ratchet-wheel r^1 operating the escapement-wheel of a telegraph instrument by means of a spiral or a convolute spring in a state of compression between them.

3. The lever L, provided and operated as above, and also provided with the pawl *r*, operating the escapement-wheel by means of a ratchet-wheel and compressed spring.

4. The dog p^5 operating to maintain the compression of the spring S between the ratchet r^1 and the escapement-wheel W.

5. The pendent lever l^3 provided with the V-shaped cam v', co-operating with the V-shaped cam *v* on the lever L, and also provided with the circuit-closing pin *i* or other equivalent device.

6. The sliding latch A provided with the lip a^3, and the pendent lever l^3 provided with the ledge *a*, operating co-ordinately to close and open the circuit of the printing-magnet M'.

7. The counter-weight C and spring S^4 operating upon the latch A to permit or break the connection of the printing-circuit, as described.

8. The counter-weight operated by an impulse derived from the printing lever L^1, substantially as shown.

9. The lever L arranged and operating to complete the printing-circuit through the screw-stops g^1 and g^2 or their equivalents.

10. The pointed feed-bar E sliding in guides provided in the perpendicular slide d^1, operated by the link A^3 from the printing-lever L^1 to feed the slip of a printing-telegraph.

11. The cork printing-pad of a printing-telegraph.

12. The overbalanced locking-lever L^2, provided with locking-lip *k* and the stop h^1, and operating to lock the escapement-lever L.

13. The pin i^4 operating to carry the elbowed arm *j* of the collar *d* and to compress the spring S.

14. The elbowed arm *j* operating upon the stop h^1 of the lever L^2 for the purpose of locking the levers L and L^2.

15. The same operating in conjunction with the pin i^4 and the stop h^1 to secure unison.

16. The bevel-pointed pin *n* located on the printing-lever and operating upon the bevel-edged collar *d* to cause the elbowed arm *j* to escape the pin i^4 by sliding the same on the type-wheel shaft.

17. The spring S^7 receiving compression during the revolution of the escapement-wheel, and operating to return the elbowed arm *j* to the stop h^1, and also to return the arm *j* into position to engage the pin i^4.

18. The slotted link t^4, block J, spring S^4, pawl p^5, and toothed wheel R in combination.

19. The adjustable block J on the slide *l* in combination with the spring-connection block *k*.

120,001.—THILL-COUPLING.—Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. Passing the connecting-bolt D through the ears F of the shaft-clip J and the elastic tube H, or its equivalent, in such manner that the action of the bolt upon the tube shall expand it, substantially as and for the purpose set forth.

2. The combination of the elastic tube H, or its equivalent, confined within the ears F, with the connecting-bolt D and shaft-head B of the shaft-clip J, substantially as and for the purpose set forth.

3. Protecting the ends of the elastic tube H, or its equivalent, by means of the collars C and C, and which, in combination with the bolt D, compress the tube longitudinally and expand its diameter within the shaft-head B, substantially as and for the purpose shown and described.

4. Broadly, the use of a metallic guard, P, constructed and operating substantially as and for the purpose shown and described.

120,002.—THILL-COUPLING.—Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. The detachable and adjustable ears F and F, in combination with the shaft-head B, connecting-bolt D, or its equivalent, substantially as and for the purpose shown and described.

2. The combination of the cross-head T with the shaft-clip J, substantially as and for the purpose set forth.

3. The interposition of an elastic block, H, when placed on the top side of the cross-head T, and between the ears F and F and under the shaft-head B in such manner that the elastic block H is compressed by means of the ears F and F and screw-taps S and S, substantially as and for the purpose shown and described.

4. In combination with the thill-coupling described, the friction-plate I and the elastic block H, as and for the purpose set forth.

5. The T-headed clip-bar K, substantially as and for the purpose of receiving the ears F and F, as shown and described.

6. The combination of the parts C, D, E, F, and H, Sheet 2, or their equivalents, in connection with thill-couplings, in the manner and for the purpose substantially as shown and described.

120,003. — PACKING FOR STEAM-ENGINES, GAS-PIPES, WATER-PIPES, &c. — Alonzo J. Simmons, Indianapolis, Ind.

Claim. — The manufacture or preparation of a compound to be used as steam, hydraulic, or gas-packing, of the ingredients in the proportions, and for the purposes set forth.

120,004.—CARRIAGE-NUT.—Justin P. Skinner, Plantsville, Conn.

Claim.—As a new article of manufacture, the herein-described nut, consisting of the nut B and cap A united and secured together by the projection *d* on the cap, substantially as set forth.

120,005, antedated October 3, 1871.—METALLURGIC FURNACE.—John Y. Smith, Pittsburg, Pa.

Claim.—1. A revolving furnace, A, the inclined heads of which are supported against friction-wheels *B'*, substantially as and for the purpose set forth.

2. A revolving furnace, A, when lined on the interior by a solid tube of homogeneous material formed by the action of heat, substantially as set forth.

3. In combination with a revolving furnace, adjustable rings of refractory material for forming the joints between the necks of the furnace and the parts connected therewith.

4. The formers D, when used in combination with the shell of the furnace to form the lining thereof, substantially in the manner set forth.

5. In combination with the blast-pipe and spiral fuel-feeder M, a fan and case, I, when respectively so constructed and connected that the blast shall operate the feeder, substantially in the manner set set forth.

6. In combination with the combustion-chamber L, a chamber, N, filled with incandescent lumps of a pure carbonaceous substance, such as coke or anthracite coal, through which chamber the gaseous products of combustion are forced, substantially as set forth.

7. In combination with an apparatus for feeding finely-pulverized fuel to be burned while floating in the air, a chamber, N, filled with incandescent lumps of such carbonaceous substances as aforesaid, through which the carbonized air is forced, substantially as set forth.

120,006.—LINING FOR METALLURGIC FURNACES.—John Y. Smith, Pittsburg, Pa.

Claim.—1. A solid continuous furnace-lining of silex, substantially as set forth.

2. The process of forming a furnace-lining by fluxing pulverized quarts or silex, substantially as set forth.

120,007.—APPARATUS FOR FEEDING FUEL INTO FURNACES.—John Y. Smith, Pittsburg, Pa.

Claim.—1. An apparatus for feeding pulverulent fuel into a furnace, combining in its construction the following elements, viz., an induction and an exhaust-pipe, an intermediate wheel arranged to be revolved by the action of the current of steam, air, or gas passing through said pipes, and a shoe or other feeding mechanism regulating the discharge of the pulverized material connected with said wheel so as to be moved by it, substantially as set forth.

2. In combination with a pipe or series of pipes for passing a current of steam or gas into the furnace or combustion-chamber, a hopper or pipe for delivering into such current of gas or steam the pulverized fuel, and an opening or series of openings for introducing air mingled with the steam or gas and pulverized fuel into the furnace or combustion-chamber, when, and only when, further combined with mechanism for regulating the quantities, respectively, of the steam or gas, pulverized fuel, and air so admitted, substantially as set forth.

3. In such an apparatus, in combination with the induction and exhaust-pipes and wheel H, an opening, as at I^1, for regulating the flow of steam into the furnace while maintaining the uniform action of the wheel, substantially as set forth.

4. The slide K^1 or pipe K^2, when arranged to receive the stream of entering pulverulent fuel, and when so supported that the passing current shall impart to them a tremulous motion, substantially as and for the purpose set forth.

120,008. — APPARATUS FOR FEEDING PULVERIZED FUEL TO METALLURGICAL AND OTHER FURNACES. — John Y. Smith, Pittsburg, Pa.

Claim.—1. In combination with the fuel-feeder for supplying comminuted fuel, the fans C E and F, arranged to operate in separate compartments in relation to each other, substantially in the manner set forth.

2. In combination with the hopper, fan-case, and fan for driving forward the pulverulent fuel, a pipe, L, for connecting the hopper with the fan-case, substantially as set forth.

3. The arrangement of the pipes M and E' in relation to the fan E and its case, substantially as and for the purpose set forth.

4. In combination with the case and fan E, and exit-pipe E', openings O^1, &c., arranged substantially as and for the purpose set forth.

5. The combination and arrangement of the hopper, pipe L, fan E and its case, pipe E', and openings to allow the intermingling of air, &c., in regulated quantities with the pulverulent fuel only after it has passed out of the case, substantially as set forth.

120,009. — WOOD-PRESERVING COMPOSITION.—Richard Sutphen, Freehold, N. J.

Claim.—1. The composition for preserving wood, consisting of asphaltum, coal-tar, resin, and Japan, substantially as described.

2. The combination of coal-tar, resin, and Japan to form a wood-preserving compound, substantially as and for the purpose specified.

120,010.—SASH-TIGHTENER. — William E. Swett, San Francisco, Cal.

Claim.—The plate *c*, hinged or otherwise loosely secured at one side to the window-sash frame, in combination with the spring *e*, substantially as and for the purpose above described.

120,011. — SAD-IRON HANDLE.—Alexander Tait, Sonora, Cal.

Claim.—The single standard A provided with the screw *c*, either with or without the rod *b*, in combination with the handle D and ferrule *f*, substantially as and for the purpose above described.

120,012.—SMUT-MILL AND GRAIN-CLEANER. Benjamin T. Trimmer, Rochester, N. Y.

Claim. — 1. In a smut or grain-cleaner, the arrangement of the stationary beaters P and revolving beaters P' provided with the corrugations *o o* and *p' p'* alternately in a vertical and circumferential direction, as herein described.

2. In a smut or grain-cleaner, the revolving beaters constructed, as described, with the rings *p p*, fans or beaters *q q* with or without the fan or beaters *r r*, when operating in connection with the stationary beaters, substantially as described.

3. In a smut or grain-cleaner, the arrangement of the revolving beaters P' provided with the hub *m* and vertical rings *p p*, in combination with the fans *q q* and beater P, as set forth.

4. In a smut or grain-cleaner, the arrangement of the exhaust-fan D, induction air-tube *c*, flour *s*, spouts *t u*, and scraper or fan E, all constructed and operating substantially as described.

5. In a smut or grain-cleaner, the arrangement of the brush-bars G G, springs *v v*, and their holding-screws and flanges *w* of the fan or scraper E, constructed and operating as shown.

6. In a smut or grain-cleaner, the arrangement

of the perforated cylinder B, made up of a series of sections and carrying the beaters P, in combination with the bolts *g* and tube-sections *h*, all constructed substantially as described.

7. In a smut or grain-cleaner, the angle-irons K K, in combination with the cylinder B made up of a series of sections or rings and united together by the bolts *g* and sections *h*, substantially as and for the purpose set forth.

8. In a smut or grain-cleaner, the arrangement of the air-trunk, the same made of two parts, H and I, communicating at top and bottom, the interior part being also divided by the double chutes *b' b'*, and having the swing-valve *d'*, and the whole communicating at the top by port *f* with the jacket-space between the perforated cylinder and outer casing, as herein described.

120,013. — RAILWAY-CAR TRUCK.—John G. Wetmore, Winsted, Conn.

Claim.—The bearing-plate F, constructed and arranged upon the truck-frame, as described, and adapted to act in combination with a recessed car-wheel, as set forth.

120,014.—CONCENTRATING SILVER ORES.—Thomas Wren, Hamilton, Nev.

Claim.—The above-described method or process for concentrating the ores by passing the rock through a crusher and then over the screens, in the manner and for the purpose specified.

120,015.—LATHE-CHUCK. — Charles E. Albro, Fulton, N. Y.

Claim.—The shank having bar B, the two movable jaws C C, the right and left-swiveled screws D D, and the spur-wheels E F E, all constructed, arranged together, and operated as described, and for the purpose specified.

120,016.—HEATING AND PREPARING STONE FOR PAVEMENTS, &c.—Campbell Allen, Albany, N. Y.

Claim.—1. The heating and drying of broken stone or gravel for roadways, pavements, sidewalks, roofing, or other purposes by the direct application of steam upon such stone or gravel, in a closed retort, at a temperature and pressure so much above that required for the stone or gravel when ready for use that, when the pressure is relieved and the steam allowed to escape, the water remaining upon the surfaces of the stone or gravel will be at once converted into steam by the heat stored up in the mass, and the material left drying at the temperature required, substantially as specified.

2. The utilization of the surplus heat by discharging the steam from a retort in which the heating has been completed into another retort similarly charged, substantially as described.

3. The combination and arrangement of retorts, substantially as described, for the purposes set forth.

120,017. — POWER-HAMMER. — Isaac Althouse, Columbus, Ohio.

Claim.—The combination, with the hammer-stem and the crank, of the two links E and F, in the manner substantially as described.

120,018. — HORSE-POWER.—Starns S. Ammons, Winona, Miss.

Claim.—1. The arrangement of the levers D D, spring-bar E, rods G G and H H, in combination with the shaft A and wheel B, substantially as and for the purposes described.

2. The draft-rods H H and push-rods G G for applying horse-power to driving-wheels, substantially as set forth.

3. The spring-bar E, in combination with the levers of a horse-power, substantially as described.

120,019. — DOUBLE-TRANSMITTING PRINTING-TELEGRAPH.—George L. Anders, Boston, assignor to himself and E. B. Welch, Cambridge, Mass.

Claim.—1. The transmission of electrical currents in one circuit, a current in one direction securing the selection and impression or printing of a letter, sign, or character of a telegram, and transmitted in opposite direction, securing the selection and impression of a letter, sign, or character of another and separate telegram, substantially as set forth.

2. The transmission of electric currents transmitted through a circuit, effecting the operation of one or the other of two printing or impression mechanisms, according to the direction of the currents, in a printing-telegraph instrument, substantially as specified.

3. Two impression mechanisms, or their equivalents, attached to one or more type-wheels in a printing-telegraph instrument operating in one circuit, substantially as set forth.

4. The use of two strips of paper, or their equivalent, on a printing-telegraph instrument, substantially as shown and described.

5. The printing of two separate and distinct messages simultaneously, in a printing-telegraph instrument, by means of one circuit, substantially as set forth.

120,020.—INSECT-TRAP.—John James Armstrong, Kings county, N. Y.

Claim.—The cup B, of concave-convex sides, and provided with the apertures F and bottom D, in combination with the receiver A, substantially as and for the purpose specified.

120,021.—COFFIN.—Samuel Avery, Phœnix, N. Y.

Claim.—The keys H and plates A having flanges B B, combined with a side, C, and end D having grooves E E, as and for the purpose specified.

120,022, antedated October 14, 1871.—WHEEL FOR VEHICLES. — Albert Ball, Canton, Ohio.

Claim. — The within-described carriage-wheel, the same consisting of the elastic hub E C G, composed of the box-piece E, head-piece G, hub-ring C, and elastic packing-ring D, the iron spokes B B provided with the clips H, the bent wooden felly A, and the iron or steel tire K, the several parts being constructed and combined substantially as and for the purpose specified.

120,023. — MACHINE FOR CUTTING THE TEETH OF WHEELS. — Henry Belfield, Philadelphia, Pa.

Claim.—The combination of the adjustable slide F, adapted to receive and retain the blank to be cut, the rotating spindle A, and the wheel B having an external screw-thread and transverse recesses forming a series of serrated cutting-edges, as specified.

120,024.—STOVE-PIPE DRUM.—Edward E. Blinn, Brewerton, N. Y.

Claim.—The oven A *a'*, in connection with the stove-pipe B, the pipe passing eccentrically through the chamber of the oven, so that it can be revolved around said pipe, as and for the purpose described.

120,025. — WAGON OR CARRIAGE-BODY.—Michael C. Boyer, Norristown, Pa.

Claim.—A wagon or carriage-body, consisting in part of one or more wrought-iron frames braced by cross-bars, wire-netting, or its equivalent, so as to form a girder or girders, substantially as described.

120,026, antedated October 3, 1871.—SHORTENING FOR CULINARY USES.—Henry W. Bradley, Plainfield, N. J.

Claim.—1. The improved process for rendering cotton-seed oil suitable for culinary use, the same consisting in subjecting the oil to heat and oxidizing chemical substances, substantially as described.

2. The new article of manufacture, consisting of cotton-seed oil treated so as to be suitable for culinary use.

3. The new compound for shortening or other culinary use, consisting of deodorized cotton-seed oil and suet or other suitable fat.

120,027.—HARVESTER.—Harry H. Bridenthall, Jr., New Derry, Pa.

Claim.—1. The combination of the rake E¹ F¹, lazy-tongs J', shaft K', grooved guide-plate L' l', guide-pin or roller M', pulley N', chain O', guide-pulleys P', and pulley Q', with each other, and with the platform A' and driving-shaft B, substantially as herein described, and for the purpose set forth.

2. The combination of the clutch R' *a'*, constructed as described, and foot-lever S', with the tongue A, shaft B, driving-wheel D, and pulley Q', for the purpose of throwing said wheel D and pulley Q' into and out of gear with each other, substantially as herein shown and described, and for the purpose set forth.

3. The arrangement of the bars R S, the pivoted bar F², and arm A², with the finger-bar Q, shoe T, and box E, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the lever Z', arm A², pawl C² D² E², segmental ratchet-wheel B², and bar or lever F² with the bars R S, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the lever T', ratchet U', pawl V', segmental pulley W', chain X', and lever Y' with each other, with the tongue A, bar R, and finger-bar Q, substantially as herein shown and described, and for the purpose set forth.

120,028.—CULTIVATOR.—John T. Brittain, Springfield, Ohio.

Claim.—1. The frame of the cultivator, when constructed of flat tire-iron, as herein described, by combination of the handles C with the bent front and side beams A by means of the bolts *e* and the hinges D, and again with the side beams A by means of the connecting-bar E, the short bars H, and the adjustment F, substantially as and for the purposes hereinbefore set forth.

2. The herein-described construction of the two solid land-side rear plows I from a single square plate of metal without any waste of material, so as to make each plow adjustable and reversible right or left, formed from a right-angled triangle without casting or forging, in combination with the said described frame, substantially as hereinbefore set forth.

120,029.—FIRE-ALARM.—Henry L. Brower, New York, N. Y.

Claim.—1. The bar G, by means of which two or more alarms are connected, substantially as described.

2. The lever C, with the pin *e* and connecting-rod N, substantially as and for the purposes described.

3. The bent lever K with short arms, operating the bar G, setting-lever I, and spring-rod T, when the same are arranged to operate as and for the purposes described.

120,030. — IRONING-BOARD. — Benjamin D. Brown and Daniel Moyer, Philadelphia, Pa.

Claim.—1. The combination, with the ironing-board, of legs B B' hinged to the same, a brace, C, hinged to the leg B, and a swivel-button, *d*, on the board, as set forth.

2. The combination of the subject-matter of the first claim with the hook *f* and staple *g*, arranged as described.

120,031. — CHIMNEY. — Charles H. Brown, Atlantic, Iowa.

Claim.—The combination of the arched metal chimney A A, the guard B B, the cylinder C C, the pipe D D, and the register composed of the bottom *c*, the plate *d d* and its handle, in the manner described and for the purposes specified.

120,032.—HINGE.—Ira Buckman, Jr., Williamsburg, N. Y.

Claim.—1. The knuckle-joint I, having a flat face, L, and curved sides, forming an eccentric cam, the said knuckle serving to hold the door closed by its action on the follower J, and relieving it from pressure when the door is opened either way, after the points *i* pass the center of the follower.

2. In combination with the cam-knuckle I, as above, the torsion-springs R R connected with the sockets *r r* of the middle hinge and the socket-heads S S of the upper and lower butts, to retain the door after it passes to one side, and so hold it either open or shut.

3. The movable box-plate P provided with recesses *p p p*, in which the yielding substance K is secured, in combination with the plate N and set-screws *q q* for adjusting the spring, so that the follower J may have any required degree of pressure on the knuckle I, as shown and described.

4. The movable socket-head S provided with a serrated disk, *e e*, to fit corresponding serrations in or on the knuckle of the hinge F, in combination with the sleeve *e* and screw-nut E within the knuckle of the hinge, for adjusting the torsion-spring R, substantially as herein shown and described.

120,033. — VALVE FOR STEAM-ENGINES.—Henry L. Butler, Pittsburg, Pa.

Claim.—1. The combination of the double-inclined cross-bar or disk D, the valve B, valve-stem C, dies or pushers E E, and spring F, operating substantially as described.

2. The valve-stem C, having its collars or parts operating the valve B, arranged as described, so that the one can move independently of the other, substantially as and for the purpose specified.

3. The bevel surfaces b^1 and *k*, arranged to check the movement of the valve, substantially in the manner described.

4. The arrangement, entirely within the steam-chest, of the herein-described mechanism for completing the throw of the valve, so that no stuffing-box shall intervene between the valve and the spring imparting the terminal movement.

120,034.—GALVANIC-BATTERY. — Jean Armand Callaud, Nantes, France.

Claim.—1. The zinc disk B provided with arms *a*, and suspended within the center of the cup or jar A, and so arranged as to admit of a vertical adjustment, substantially as and for the purpose described.

2. The combination of disk B, wire D, bar C, and binding-post *d*, the whole arranged substantially as and for the purpose described.

3. The plate E, so folded as to form a series of radial wings, substantially as and for the purpose described.

120,035.—WAGON-SEAT FASTENING.—Ezra Caswell, Lyons, N. Y., assignor of one-half his right to A. H. Towar, same place.

Claim.—1. The hooked locking-bar I working vertically within suitable guides H, and the wedge working horizontally through a recess within said locking-bar, in combination with each other, with the seat-foot G, and with the supporting-rail C, substantially as and for the purpose specified.

2. The locking-bar I', when jointed and combined with the straps H, the wedge K, the seat-foot G, and the supporting-rail C, substantially as and for the purpose shown.

120,036.—ROCK-DRILL. — John Chapman, Amsterdam, N. Y.

Claim.—The stationary cam-tracks *g i* and *i j* combined, as described, with the pawl-rollers *f*, so that the latter will move on and between the former, as and for the purpose specified.

120,037.—ROLLER-CLEARER FOR SPINNING-MACHINES.—Linneus Cheetham, Lewiston, Me.

Claim.—A scavenger-roll provided with grooves filled with woolen cord or its equivalent, as described.

120,038.—MUSIC LEAF-TURNER. — Georg Carl August Claus, Chicago, Ill.

Claim.—1. The swinging arms A B, connected with the elastic band D and with the treadles F G, and provided with the elastic fingers *m*, to operate substantially as herein shown and described.

2. The spiral springs H H applied to the music leaf-turning apparatus for holding the leaves the requisite distances apart, as specified.

3. The paper-holding apparatus, consisting of the pinchers *i i*, elastic cork *j*, wire *k*, slide *l*, and sheet I, all arranged substantially as herein shown and described.

120,039.—SLATE-FRAME. — Henry M. Clay, Easton, Pa.

Claim.—The elastic corner-pieces C constructed with apertures and wings *b b* to adapt them for application to a slate-frame, as and for the purpose specified.

120,040. — PRINTING-PRESS. — Robert J. Coons, Greensburg, Pa.

Claim.—1. The jointed rods *j j*, connecting the vibrating type-bed with the pivoted platen, and made adjustable at the ends, substantially as and for the purpose herein shown and described.

2. The sliding pawl H, secured to the back of the vibrating type-bed, and combined with the arched guide I, to be operated by the motion of the bed, substantially as herein shown and described.

3. The inking-rollers J J, hung to swinging arms *t t*, and resting, by their own weight, on the surface of the type to be moved over the same by the motion of the bed, as set forth.

4. The vibrating type-bed D, combined with the jointed rods *j*, sliding pawl H, rotary slab G, and roller-arms *t*, to operate all by its own motion, as set forth.

120,041.—PRINTING-PRESS.—Calvert B. Cottrell, Westerly, R. I.

Claim.—The air-compressing devices employed in printing-presses for compressing air to arrest the table, when arranged for allowing some of the air to escape, and controlled by an automatic regulator, substantially as specified.

120,042.—BITTERS.—Edouard Edmond Crady, Sioux City, Iowa.

Claim.—The herein-described compound, composed of the ingredients named, substantially as and for the purpose set forth.

120,043. — APPARATUS FOR CLEANING AND PRESERVING PRINTERS' ROLLERS.—Samuel Crump, Brooklyn, N. Y.

Claim.—An apparatus for cleaning and preserving printers' rollers, consisting of the racks C C, guides or ways *a a*, and bath A for containing oil or other liquids, the whole combined, arranged, and organized substantially as and for the purpose herein set forth.

120,044.—MACHINE FOR MAKING MACHINE-SCREWS. — Francis Curtis, Brattleborough, Vt.

Claim.—1. The combination, with the gear-wheels K L and shaft H, of the bar and wedge I J N O, crank-rod A, and lever P, substantially as and for the purposes herein set forth.

2. The combination of the lever P, hooked lever R, rod T, and mechanism to reciprocate the same, arm V, and springs *k*, *m*, and *w*, all substantially as and for the purposes herein set forth.

3. The combination of the rod T, by means of its hooks *t*, with the tube S, grooved and otherwise constructed as described, the tapering collar or plug *u* within said tube, the hooked rod *y*, and reciprocating jaws for grasping said rod and feeding it forward to the screw-making instrument, substantially as herein set forth.

4. The hollow spindle E and springs *x*, the chuck W sliding on said spindle over the springs and provided with elongated hub, grooved collar Z, pins *f*, buttons h^1, levers k^1, and jaws i^1, all constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The combination, with the subject-matter of the fourth clause, of the forked arm *y*, shaft X, spring *z*, and wedge *y*, and mechanism to reciprocate said wedge, substantially as and for the purposes herein set forth.

6. The combination of the chuck W, collar Z, arm C^1, pin d^1, sleeve D^1, spring-jaws e^1 e^1, and slide A^1, all constructed and arranged to operate substantially as and for the purposes herein set forth.

7. The combination of the burrer n^1, rocking arm G^1, shaft H^1, spring r^1, and guide-pin p^1, all constructed and arranged as described, and operated by means of the wedges I^1 I^1 on the slide A^5, substantially as and for the purposes herein set forth.

8. The combination of the die J^1, shaft K^1, spring y^1, reciprocating carriage L^1, shafts M' and P', arm N', spring s^1, and reciprocating wedge O', all substantially as and for the purposes herein set forth.

9. The combination, with the carriage L^1, shaft K^1, and spring y^1, of the cog-wheel s^1, dogs t^1 and v^1, and their springs w^1, the gauge d^2, and incline e^2, all constructed and arranged to operate substantially as and for the purposes herein set forth.

10. The combination, with the die J^1 and chuck W, of the knife R', standard S', slide A^4, and cam and spring B^1, substantially as and for the purposes herein set forth.

11. The combination of the header f^2, shafts T' and W', arm V', springs k^2, reciprocating wedge X', spindle E, and the gear-wheels connecting shaft T' with said spindle, substantially as and for the purposes herein set forth.

12. The combination of the screw-driver i^2, shafts C^2 E^2, connecting-arm D^2, spring m^2, reciprocating wedge G^2, cog-wheel H^2, and the cog-wheel on the header-shaft T', substantially as and for the purposes herein set forth.

13. The combination of the reciprocating carriage L^1, die J^1, mechanism for operating said die as described, the vertical revolving shaft y^1, and the horizontally-operating saw h^2, substantially as and for the purposes herein set forth.

14. The combination of the screw-driver shaft C^2, cog-wheel H^2 with notch n^2, cogs p^2, and spring r^2, the collar I^2, pawl t^2, pin s^2, and reciprocating arm J^2 with hook v^2 and shoulder w^2, all substantially as and for the purposes herein set forth.

15. The combination of the collar L^2 with notch s^2, lever y^2, and reciprocating arm K^2 with hook x^2, all substantially as and for the purposes herein set forth.

120,045, antedated October 11, 1871.—BALE TIE.—John Spraguen Davis, Louisville, Ky.

Claim.—The combination, with the band D, of the keys C C and the buckle herein described, having curved side bars A A and cross-bars B B, the latter provided with lips *b' b'*, when all are constructed and arranged as and for the purpose specified.

120,046.—CHURN-DASHER ROD. — Marion G. Decrow, Newark, Ohio, assignor of one-half his right to Joseph P. Decrow, Jr., same place.

Claim.—The combination of the rod *a*, lever *d*, pin *c*, and hook *e*, as specified.

120,047.—POWDER-FLASK.—Andrew Diezel, Omaha, Neb.

Claim.—The screw-top, provided with tubes C and F, the tube D, apertures E E, spring G, bridge K, screw M, slot L, screw N, chamber R, and posts P P, arranged substantially as shown and described.

120,048. — BALING-PRESS. — Levi Dodge, Waterford, N. Y.

Claim.—1. A machine for baling hay, straw, and other material, in which the following elements are combined, substantially as herein shown and described: First, a cylinder or case in which the bale is formed, so constructed as to permit the bale, when formed, to be bound while in and removed from it. Second, rollers or other feeding and compressing devices arranged to progressively feed and compress successive portions of the hay or other material into the cylinder or case until the bale is built up and formed therein. Third, a platform or support within the cylinder or case, upon which the bale, during the process of its formation, will rest, said platform and the feeding and compressing devices being arranged substantially as stated, so that the one may have a motion away from the other in proportion as the bale is built up and compressed.

2. The combination, with the cylinder or other case in which the bale is formed and the devices by means of which successive portions of the material to be baled are progressively fed and compressed into said cylinder or case, of a sliding base or support for the bale, arranged substantially as shown and described within the cylinder, and so as to offer a yielding resistance to the compressing devices and to move away from the said devices as successive parts of the bale are formed and compressed.

3. The combination of the feed and compressing-rollers and their skeleton supporting-frame with the ring in which said frame is held and moves, and the devices interposed between the ring and frame for reducing friction, substantially as shown and set forth.

4. The arrangement in a baling-press, constructed and operating substantially as described, of the bale-forming cylinder or case so that it may be adjusted up and down with relation to the feeding and compressing devices, as shown and set forth.

5. The combination and arrangement of the cylinder, the platform, and the feeding and compressing devices with the surrounding frame by which they are carried, substantially as herein shown and set forth.

6. A press for baling hay, straw, and like material, constructed and operating substantially in the manner shown and set forth.

120,049. — HARNESS. — George W. Dutton, Tomales, Cal., assignor to himself and John Ashton, same place.

Claim.—The collar or breast-plate *a*, having its upper ends flattened and padded to adapt itself to the shoulder-blades or where the draft should come upon the horse, and supported by straps B from the saddle D, in the manner shown and described.

120,050.—HOE. — Augustin Ellis, Canton, Ind.

Claim.—In a hoe or spade, the combination, with the curved slotted shank B, of the blade D, bolt *c*, plano-concave washer G, and plano-convex washer H, substantially as specified.

120,051. — SAWING-MACHINE. — James Anthony Elston, Elston Station, Mo.

Claim.—1. The jointed saw-frame L, constructed to receive the saw on the end of either arm, and provided with a vertical arc-bar, M, on which the arms of the saw-frames are adjustable toward each other, all arranged for the purpose of adaptation to large or small timber, as set forth.

2. The frame or table A, combined with wheels E' E' and adjustable braces D, both arranged on the outside of the table to give a firm support to the table, while the braces may be turned over the top thereof, when the wheels are used to transport the machine.

120,052.—FEEDING SAWDUST TO FURNACES. Andrew J. Emlaw, Grand Haven, Mich.

Claim.—1. The construction and arrangement of a blower, K, and chute G, in the manner and for the purpose set forth.

2. The employment of the distributing-plates P under the boilers, in connection with the feed-chutes G, through which the fuel is blown into the furnace, as and for the purpose set forth.

3. The arrangement of the chain M and chain-wheels N N' with relation to the box F for distributing the fuel to the feed-chutes G, as set forth.

4. The arrangement of the slides H, lever I, and rod J with relation to the box F and chutes G, as and for the purpose set forth.

5. The traps O in the chutes G, as described, for the purpose specified.

120,053. — TOBACCO-PIPE. — Henry C. Finlayson, New York, N. Y.

Claim.—In combination with the wooden shank B of the pipe, the wooden joint-coupling C and the removable metallic tube, D, the short metal cylinder F and metallic flange E, arranged within the stem, as herein set forth and shown, for the purpose specified.

120,054. — PUMP-PISTON. — Amos H. Foe, Strathroy, Canada.

Claim.—1. The valve-seat frame or "sucker," of the three sections A B C, in such a manner as will admit of nailing on the valve and collar, substantially as herein set forth.

2. The arrangement of said sections A B C with the valve D, rod F, and straps G, and collar H, substantially as set forth.

120,055. — PLOW-COLTER. — David D. Gibson, Springville, Iowa.

Claim.—1. The quadrilateral colter C provided with rings *a a*, said rings being formed on the ends of small screw-bolts and fastened by nuts on the opposite side of the colter, substantially as and for the purposes herein set forth.

2. In combination with the quadrilateral colter C having rings or eyes *a a*, as described, the rod *b* formed on the lower end of the shank D, substantially as and for the purposes herein set forth.

3. In combination with the quadrilateral colter C having rings or eyes *a a*, and the shank D with rod *b*, the concave and convex wedges *d d'*, straight wedge *m*, stirrup *f*, bar E, rod *h*, and set-screw *k*, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

120,056.—LUBRICATOR FOR STEAM AND AIR-ENGINES.—Samuel N. Goodale, St. Louis, Mo.

Claim.—1. The lubricator, consisting of a fibrous material, E, supported between plates D G, all arranged substantially as and for the purpose set forth.

2. In combination with the lubricator D E G, the collar I, pawl J, and ratchet K, as and for the purpose set forth.

120,057.—MAGNETO-ELECTRIC MACHINE.—Zenobe Theophile Gramme and Eardley Louis Charles D'Ivernois, Paris, France.

Claim.—1. The employment, in magneto-electric machines, of one or more cylinders, rings, or large endless bobbins arranged and constructed in the manner as has been above described, viz., made into a circular or other suitable endless shape, and consisting of a series of small bobbins or wires enveloping a core of soft iron or other good magnetic material, and connected together end to end in a continuous series, the said endless large bobbin or bobbins or cylinders situated between or in opposition to the poles of fixed or movable permanent or electro-magnets, for the purpose of allowing the production of continuous induction-currents in the conducting-wires, strips, or ribbons of brass or oth-

120,037.—Roller-Clearer for Spinning-Machines.—Linneus Cheetham, Lewiston, Me.

Claim.—A scavenger-roll provided with grooves filled with woolen cord or its equivalent, as described.

120,038.—Music Leaf-Turner. — Georg Carl August Class, Chicago, Ill.

Claim.—1. The swinging arms A B, connected with the elastic band D and with the treadles F G, and provided with the elastic fingers *m*, to operate substantially as herein shown and described.

2. The spiral springs H H applied to the music leaf-turning apparatus for holding the leaves the requisite distances apart, as specified.

3. The paper-holding apparatus, consisting of the pinchers *i i*, elastic cork *j*, wire *k*, slide *l*, and sheet I, all arranged substantially as herein shown and described.

120,039.—Slate-Frame. — Henry M. Clay, Easton, Pa.

Claim.—The elastic corner-pieces C constructed with apertures and wings *b b* to adapt them for application to a slate-frame, as and for the purpose specified.

120,040. — Printing-Press. — Robert J. Coons, Greensburg, Pa.

Claim.—1. The jointed rods *f f*, connecting the vibrating type-bed with the pivoted platen, and made adjustable at the ends, substantially as and for the purpose herein shown and described.

2. The sliding pawl H, secured to the back of the vibrating type-bed, and combined with the arched guide I, to be operated by the motion of the bed, substantially as herein shown and described.

3. The inking-rollers J J, hung to swinging arms *t t*, and resting, by their own weight, on the surface of the type to be moved over the same by the motion of the bed, as set forth.

4. The vibrating type-bed D, combined with the jointed rods *f*, sliding pawl H, rotary slab G, and roller-arms *t*, to operate all by its own motion, as set forth.

120,041.—Printing-Press.—Calvert B. Cottrell, Westerly, R. I.

Claim.—The air-compressing devices employed in printing-presses for compressing air to arrest the table, when arranged for allowing some of the air to escape, and controlled by an automatic regulator, substantially as specified.

120,042.—Bitters.—Edouard Edmond Crady, Sioux City, Iowa.

Claim.—The herein-described compound, composed of the ingredients named, substantially as and for the purpose set forth.

120,043. — Apparatus for Cleaning and Preserving Printers' Rollers.—Samuel Crump, Brooklyn, N. Y.

Claim.—An apparatus for cleaning and preserving printers' rollers, consisting of the racks C C, guides or ways *a a*, and bath A for containing oil or other liquids, the whole combined, arranged, and organized substantially as and for the purpose herein set forth.

120,044.—Machine for Making Machine-Screws. — Francis Curtis, Brattleborough, Vt.

Claim.—1. The combination, with the gear-wheels K L and shaft H, of the bar and wedge I J N O, crank-rod *h*, and lever P, substantially as and for the purposes herein set forth.

2. The combination of the lever P, hooked lever R, rod T, and mechanism to reciprocate the same, arm V, and springs *k*, *m*, and *w*, all substantially as and for the purposes herein set forth.

3. The combination of the rod T, by means of its hooks *t*, with the tube S, grooved and otherwise constructed as described, the tapering collar or ring *n* within said tube, the hooked rod *p*, and reciprocating jaws for grasping said rod and feeding it forward to the screw-making instrument, substantially as herein set forth.

4. The hollow spindle E and springs *x*, the chuck W sliding on said spindle over the springs and provided with elongated hub, grooved collar Z, pins f^1, buttons h^1, levers k^1, and jaws i^1, all constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The combination, with the subject-matter of the fourth clause, of the forked arm *y*, shaft X, spring *z*, and wedge *y*, and mechanism to reciprocate said wedge, substantially as and for the purposes herein set forth.

6. The combination of the chuck W, collar Z, arm C^1, pin d^1, sleeve D^1, spring-jaws e^1 e^1, and slide A^1, all constructed and arranged to operate substantially as and for the purposes herein set forth.

7. The combination of the burrer n^1, rocking arm G^1, shaft H^1, spring r^1, and guide-pin p^1, all constructed and arranged as described, and operated by means of the wedges I^1 I^1 on the slide A^4, substantially as and for the purposes herein set forth.

8. The combination of the die J^1 shaft K^1, spring y^1, reciprocating carriage L^1, shafts M′ and P′, arm N′, spring s^1, and reciprocating wedge O′, all substantially as and for the purposes herein set forth.

9. The combination, with the carriage L^1, shaft K^1, and spring y^1, of the cog-wheel s^1, dogs t^1 and v^1, and their springs w^1, the gauge d^2, and incline e^2, all constructed and arranged to operate substantially as and for the purposes herein set forth.

10. The combination, with the die J^1 and chuck W, of the knife R′, standard S′, slide A^4, and cam and spring B^4, substantially as and for the purposes herein set forth.

11. The combination of the header f^2, shafts T′ and W′, arm V′, springs k^2, reciprocating wedge X′, spindle E, and the gear-wheels connecting shaft T′ with said spindle, substantially as and for the purposes herein set forth.

12. The combination of the screw-driver i^2, shafts C^2 E^2, connecting-arm D^2, spring m^2, reciprocating wedge G^2, cog-wheel H^2, and the cog-wheel on the header-shaft T′, substantially as and for the purposes herein set forth.

13. The combination of the reciprocating carriage L^1, die J^1, mechanism for operating said die as described, the vertical revolving shaft y^1, and the horizontally-operating saw h^2, substantially as and for the purposes herein set forth.

14. The combination of the screw-driver shaft C^2, cog-wheel H^2 with notch n^2, cogs p^2, and spring r^2, the collar I^2, pawl f^2, pin s^2, and reciprocating arm J^2 with hook v^2 and shoulder w^2, all substantially as and for the purposes herein set forth.

15. The combination of the collar L^2 with notch z^2, lever y^2, and reciprocating arm K^2 with hook s^2, all substantially as and for the purposes herein set forth.

120,045, antedated October 11, 1871.—Bale Tie.—John Spraguen Davis, Louisville, Ky.

Claim.—The combination, with the band D, of the keys C C and the buckle herein described, having curved side bars A A and cross-bars B B, the latter provided with lips *b′ b′*, when all are constructed and arranged as and for the purpose specified.

120,046.—Churn-Dasher Rod. — Marion G. Decrow, Newark, Ohio, assignor of one-half his right to Joseph P. Decrow, Jr., same place.

Claim.—The combination of the rod *a*, lever *d*, pin *c*, and hook *e*, as specified.

120,047.—Powder-Flask.—Andrew Diezel, Omaha, Neb.

Claim.—The screw-top, provided with tubes C and F, the tube D, apertures E E, spring G, bridge K, screw M, slot L, screw N, chamber R, and posts P P, arranged substantially as shown and described.

120,048. — Baling-Press. — Levi Dodge, Waterford, N. Y.

Claim.—1. A machine for baling hay, straw, and other material, in which the following elements are combined, substantially as herein shown and described: First, a cylinder or case in which the bale is formed, so constructed as to permit the bale, when formed, to be bound while in and removed from it. Second, rollers or other feeding and compressing devices arranged to progressively feed and compress successive portions of the hay or other material into the cylinder or case until the bale is built up and formed therein. Third, a platform or support within the cylinder or case, upon which the bale, during the process of its formation, will rest, said platform and the feeding and compressing devices being arranged substantially as stated, so that the one may have a motion away from the other in proportion as the bale is built up and compressed.

2. The combination, with the cylinder or other case in which the bale is formed and the devices by means of which successive portions of the material to be baled are progressively fed and compressed into said cylinder or case, of a sliding base or support for the bale, arranged substantially as shown and described within the cylinder, and so as to offer a yielding resistance to the compressing devices and to move away from the said devices as successive parts of the bale are formed and compressed.

3. The combination of the feed and compressing-rollers and their skeleton supporting-frame with the ring in which said frame is held and moves, and the devices interposed between the ring and frame for reducing friction, substantially as shown and set forth.

4. The arrangement in a baling-press, constructed and operating substantially as described, of the bale-forming cylinder or case so that it may be adjusted up and down with relation to the feeding and compressing devices, as shown and set forth.

5. The combination and arrangement of the cylinder, the platform, and the feeding and compressing devices with the surrounding frame by which they are carried, substantially as herein shown and set forth.

6. A press for baling hay, straw, and like material, constructed and operating substantially in the manner shown and set forth.

120,049. — Harness. — George W. Dutton, Tomales, Cal., assignor to himself and John Ashton, same place.

Claim.—The collar or breast-plate *a*, having its upper ends flattened and padded to adapt itself to the shoulder-blades or where the draft should come upon the horse, and supported by straps B from the saddle D, in the manner shown and described.

120,050.—Hoe. — Augustin Ellis, Canton, Ind.

Claim.—In a hoe or spade, the combination, with the curved slotted shank B, of the blade D, bolt *c*, plano-concave washer G, and plano-convex washer H, substantially as specified.

120,051. — Sawing-Machine. — James Anthony Elston, Elston Station, Mo.

Claim.—1. The jointed saw-frame L, constructed to receive the saw on the end of either arm, and provided with a vertical arc-bar, M, on which the arms of the saw-frames are adjustable toward each other, all arranged for the purpose of adaptation to large or small timber, as set forth.

2. The frame or table A, combined with wheels E′ E′ and adjustable braces D, both arranged on the outside of the table to give a firm support to the table, while the braces may be turned over the top thereof, when the wheels are used to transport the machine.

120,052.—Feeding Sawdust to Furnaces. Andrew J. Emlaw, Grand Haven, Mich.

Claim.—1. The construction and arrangement of a blower, K, and chute G, in the manner and for the purpose set forth.

2. The employment of the distributing-plates P under the boilers, in connection with the feed-chutes G, through which the fuel is blown into the furnace, as and for the purpose set forth.

3. The arrangement of the chain M and chain-wheels N N′ with relation to the box F for distributing the fuel to the feed-chutes G, as set forth.

4. The arrangement of the slides H, lever I, and rod J with relation to the box F and chutes G, as and for the purpose set forth.

5. The traps O in the chutes G, as described, for the purpose specified.

120,053. — Tobacco-Pipe. — Henry C. Finlayson, New York, N. Y.

Claim.—In combination with the wooden shank B of the pipe, the wooden joint-coupling C and the removable metallic tube, D, the short metal cylinder F and metallic flange E, arranged within the stem, as herein set forth and shown, for the purpose specified.

120,054. — Pump-Piston. — Amos H. Foe, Strathroy, Canada.

Claim.—1. The valve-seat frame or "sucker," of the three sections A B C, in such a manner as will admit of nailing on the valve and collar, substantially as herein set forth.

2. The arrangement of said sections A B C with the valve D, rod F, and straps G, and collar H, substantially as set forth.

120,055. — Plow-Colter. — David D. Gibson, Springville, Iowa.

Claim.—1. The quadrilateral colter C provided with rings *a a*, said rings being formed on the ends of small screw-bolts and fastened by nuts on the opposite side of the colter, substantially as and for the purposes herein set forth.

2. In combination with the quadrilateral colter C having rings or eyes *a a*, as described, the rod *b* formed on the lower end of the shank D, substantially as and for the purposes herein set forth.

3. In combination with the quadrilateral colter C having rings or eyes *a a*, and the shank D with rod *b*, the concave and convex wedges *d d′*, straight wedge *m*, stirrup *f*, bar E, rod A, and set-screw *k*, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

120,056.—Lubricator for Steam and Air-Engines.—Samuel N. Goodale, St. Louis, Mo.

Claim.—1. The lubricator, consisting of a fibrous material, E, supported between plates D G, all arranged substantially as and for the purpose set forth.

2. In combination with the lubricator D E G, the collar I, pawl J, and ratchet K, as and for the purpose set forth.

120,057.—Magneto-Electric Machine.—Zenobe Theophile Gramme and Eardley Louis Charles D'Ivernois, Paris, France.

Claim.—1. The employment, in magneto-electric machines, of one or more cylinders, rings, or large endless bobbins arranged and constructed in the manner as has been above described, viz., made into a circular or other suitable endless shape, and consisting of a series of small bobbins or wires enveloping a core of soft iron or other good magnetic material, and connected together end to end in a continuous series, the said endless large bobbin or bobbins or cylinders situated between or in opposition to the poles of fixed or movable permanent or electro-magnets, for the purpose of allowing the production of continuous induction-currents in the conducting-wires, strips, or ribbons of brass or oth-

er good conducting metal enveloping the magnetic material, in which wires, strips, or ribbons a continuous displacement of the magnetism takes place without demagnetising.

2. The arrangements described for allowing of giving rise to alternate or opposite instead of continuous currents.

3. The general arrangement and combination of parts of the various above-described magneto-electric apparatus to be employed for any industrial, physiological, or other purposes for which electric currents may be made use of, substantially as described and illustrated in the annexed drawing, and for the purposes set down.

120,058. — Gas-Lamp. — Joshua Gray, New York, N. Y.

Claim.—The cap E provided with a perforation, *e*, in combination with the reservoir A, bonnet D, pipe B, and perforations *a b*, substantially as herein shown and described, and for the purposes set forth.

120,059. — Spark-Arrester. — John Greacen, Jr., and Stanley Greacen, New York, N. Y.

Claim.—1. The hinged inclining stack A, in combination with the smoke-conveying tubes, whereby the smoke, cinders, steam, &c., are carried directly into the bell-mouth D without change of direction, for the purpose set forth.

2. The combination of automatic gates G G with the draught-boxes F, substantially as described, for the purpose specified.

120,060.—Seal-Bolt.—Fred C. Hamilton, New York, N. Y., assignor, by mesne assignment, to Franklin W. Brooks, same place.

Claim. — As an improved lock for shackle-pins, the catches D, in combination with the holder F, carrying a seal of variegated glass or analogous frangible material, so applied that it must be broken in order to release the pin.

120,061.—Seal-Bolt.—Fred C. Hamilton, New York, N. Y., assignor, by mesne assignment, to Franklin W. Brooks, same place.

Claim.—1. The combination of the shackle-pin A B, bar C, sliding dog D, and spring-catch E, substantially as and for the purpose specified.

2. The shackle-pin A B and flanged cross-bar C, in combination with a spring-catch, E, seal e^2, and dog D, substantially as and for the purpose specified.

120,062. — Animal-Gag. — W. H. Harrison Hallock, Mattituck, N. Y.

Claim.—1. The combination, with the ring A, of the adjustable cross-bar C, substantially as and for the purpose herein set forth.

2. The handle D combined with the cross-bar, substantially as described.

3. The combination of the adjustable bearers F and rod G with the ring A, substantially as and for the purpose herein set forth.

120,063.—Animal-Trap.—George R. Harding, Manchester, Va.

Claim.—1. The notched bait-hook J, in combination with the dog H, rock-shaft G', arms G, ways F, and doors E, operating together, substantially as described.

2. The tripper K rising from the platform D, operating in combination with said platform and with the notched hook J, dog H, and doors E, substantially as described.

3. The trap-door L with arm M and the connection N, in combination with the rock-shaft G', dog H, hook J, arms G, and doors E, substantially as and for the purpose described.

120,064. — Chair. — William W. Haupt, Mountain City, Tex.

Claim.—1. The combination of the frame A, back B, bottom S, foot-rest F, bars O C H, side pieces m, and grooves G G', as specified.

2. The combination of the devices of the first claim with the head-rest R, operating as described.

120,065.—Device for Discharging Grain from Railway Cars.—Samuel W. Hawes, Jersey City, assignor to Richard W. Hawes, trustee, Hohokus, N. J.

Claim.—1. A discharge-spout, B E, placed at the bottom of a grain-transporting car, combined with an endless carrier-belt, F, as and for the purpose specified.

2. A discharge spout for grain-transporting cars, consisting of the tube B, combined with the double and jointed tubes E, as described and shown in Fig. 3 of drawing.

120,066.—Horse-Power.—David S. Heebner and Josiah D. Heebner, Norristonville, Pa.

Claim.—A link, *a*, for the endless chain of a horse-power, when such link is made higher at one end than at the other, as specified.

120,067.—Trunk-Lid Guide.—Louis Hillebrand and Daniel Wolf, Philadelphia, Pa.

Claim.—1. A hingeless hasp, provided with a handle, B, substantially as and for the purpose described.

2. The sockets D within the lock-casing, in connection with the lugs E of the hasp, substantially as and for the purpose described.

120,068.—Picker-Staff Check for Looms. Cyrus Augustus Hooper, Lewiston, Me.

Claim.—1. The finger A, in combination with the bolt B, spring D, and the holding-frame *c*, as described.

2. The bolt B provided with a square end, in combination with frame *c* provided with a square socket, and the finger A and spring D, as described.

120,069.—Tobacco-Dressing Machine.—James H. Howe, Utica, N. Y.

Claim.—1. The hopper A, with a flexible bottom, C, and the rotary beaters E combined, substantially as specified.

2. The combination, with the hopper A C and rotary beaters, of the flexible sheet D, substantially as specified.

120,070.—Pump-Piston.—John Humphrey, Keene, N. H., assignor to Bridgeport Manufacturing Company, Bridgeport, Conn.

Claim.—A piston for pumps, provided with a diametrical valve-chamber or passage, G, extending through the piston and opening on opposite points of its periphery, and with a hollow piston-stem or eduction-pipe, B, communicating with said valve-chamber, substantially as herein described.

120,071.—Steam-Plow.—Oliver Hyde, Oakland, Cal.

Claim.—The frame I, connected with the frame A by means of the hinged arms or braces J, in combination with the box K and driving-shaft E provided with the bevel-wheel *f* and sleeve *g*, all constructed and arranged substantially as and for the purpose herein described.

120,072.—Panoramic School Apparatus. A. Perley M. Jeffers, Allegan, Mich., assignor to himself, Milton C. Jeffers, and Eugene F. Beecher.

Claim.—1. The panoramic curtain a mounted upon rollers *b* and *c*, in combination with the screens moving horizontally to cover portions of the panoramic curtain, substantially as and for the purposes set forth.

2. The panoramic curtain and vertically-moving frame *l*, in combination with the box containing the apparatus and the horizontal moving screens, as and for the purposes set forth.

3. The plate *d* covered with Canton-flannel or equivalent material, in combination with the panoramic curtain, for the purposes specified.

120,073.—Cultivator.—Philip R. Jenkins, Cottonville, Iowa.

Claim.—The arrangement of the frame D E at an elevation above the axle in the rear, and at a depression below the same in front, while rigidly supported on the axle at about one-third the distance from the front of said frame, as and for the purpose specified.

120,074. — Medical Compound for Cure of Rheumatism, &c. — Joseph Keiser, York, Pa.

Claim.—The within-described compound, composed of the ingredients, substantially for the purposes herein set forth.

120,075. — Means for Uncapping Cartridges.—Charles A. King, Springfield, Mass.

Claim.—1. The process of removing caps or primers from empty cartridge-shells, substantially as herein described.

2. The combination of the tube A with the piston B, and plate *d* having a recess, *e*, therein, substantially as and for the purpose described.

120,076, antedated October 14, 1871.—Well-Auger.—Hillery R. King, Poplar Bluff, Ark.

Claim.—The short spiral web E, formed on the lower end of the hollow stem A, and arranged, with relation to the main spiral B, as shown and described, for the purpose specified.

120,077. — Neck-Tie Retainer. — Henry Laurence, New Orleans, La.

Claim.—1. In a cravat or neck-tie retainer, the combination of a hinged metallic loop, B, with the hinged wings A, substantially as described.

2. The spring-hinged loop B, arranged with respect to the pivot of the wings that its expansive force will act to return the depressed wings to their proper positions under the folds of the collar, as described.

120,078. — Revolving Flower-Stand.—Thomas Leslie, Brooklyn, N. Y.

Claim.—1. The arrangement and combination of the reservoir A, tank B, revolving columns D D, and limbs E, substantially as described.

2. The cups F, in combination with the limbs E, as shown and described.

3. The combination of the tubular limbs E with the revolving columns D D, as described.

120,079, antedated October 5, 1871.—Body-Loop for Carriages. — Henry Augustus Luttgens, Paterson, N. J.

Claim.—The movable or adjustable plate *g* or *h*, bolted firmly to the bottom face of spring-bars B and also to the carriage-body A or body-loop *d*, adapted to varied relative heights of the spring-bars B and carriage-body A, substantially in the manner and for the purpose described.

120,080. — Cylinder-Cock. — Matthew B. Mason and John S. McCrum, Kansas City, Mo.

Claim. — The combination, substantially as described, of the barrel A *b* L, detachable head C *c d*, valve E F *f*, support H, ridge or stop J, and operating bell-crank G, for the object stated.

120,081. — Seeding-Machine.—Samuel O. Masters, Corning, N. Y.

Claim.—1. The hopper I, pivoted to the frame D, as and for the purpose set forth.

2. The combination of the pivoted hopper I with frames D D', standards M, and cleats *m*, substantially as and for the purpose specified.

120,082. — Means of Lighting Gas.—Edwin D. McCracken, New York, N. Y., assignor to Lucius A. Bigelow, trustee, Boston, Mass.

Claim. — 1. The combination, substantially as herein described, with a system of main and service-pipes for supplying illuminating-gas to burners, and valves for letting on and shutting off said gas to and from the burners, of a separate system of main and service-pipes supplying, at a higher pressure than the illuminating-gas, a gas which produces both the operation of said valves and that of igniting the illuminating-gas, substantially as herein set forth.

2. The combination of the illuminating-gas chamber B *b*, the high-pressure gas-chamber C *c*, each divided into two compartments, the flexible diaphragm or its equivalent D, and the two valves *e* f^2, when arranged substantially as herein set forth.

3. The combination, substantially as herein described, with the high-pressure gas-chamber having two compartments, of the two valves *f* f^2, opening and closing in opposite directions, as and for the purpose herein set forth.

4. The combination, with the flexible diaphragm D or its equivalent, and the valves *e* and f^2 closing in opposite directions, of the stronger spring *j*, operating to close the valve *e*, and the weaker spring operating to close the valve f^2, substantially as and for the purpose herein set forth.

5. The adjusting-screw *i*, in combination with the valve-stems *e'* and f^1, substantially as and for the purpose herein described.

120,083.—Gas-Lighting Apparatus.—Edwin D. McCracken, New York, N. Y., assignor to Lucius A. Bigelow, trustee, Boston, Mass.

Claim. — 1. The combination, substantially as herein described, of the illuminating-gas pipe E, air or high-pressure gas-pipe G, chambers B and C, diaphragm D, single valve J, and spring K, and stop L, operating as herein set forth.

2. In combination with the above, the spring N, applied and operating substantially as and for the purpose herein set forth.

120,084.—Flocked Fabric for Hats, Bonnets, &c.—Chauncey L. Mitchell, Westborough, assignor of one-half his right to William Heckle, Boston, Mass.

Claim.—As an article of manufacture, a flock fabric made by fixing the flock with India-rubber cement directly upon buckram or other material, in the piece, made susceptible, by its stiffening-material, of being molded into form upon dies without fracture, substantially as and for the purposes described.

120,085. — Sewing-Machine Case.—Otto Nauen, New York, N. Y.

Claim.—1. The links *b c*, in combination with the table A and case B, constructed and operating substantially in the manner herein shown and described.

2. The combination of the lock F on the front section of the case with a catch attached to or forming part of one of the links on which the rear section of the case swings, substantially in the manner set forth.

120,086. — Shield and Towel-Rack for Washstands. — John M. Oakley, Green Point, N. Y.

Claim.—The combination of the shield A B C and

hinged racks or frames D E with each other, to adapt them to be used with an ordinary washstand, substantially as herein shown and described, and for the purpose set forth.

120,087. — MACHINE FOR BENDING AND CHANNELING HORSESHOES.—Adolf Oehme, Rock Island, Ill.

Claim.—1. The pendulum I, carrying the rollers r^1 r^2 and a disk, *s*, in combination with a cam, H, acting on the rollers r^1 r^2, and with the forming-die, all constructed and operating substantially in the manner herein shown and described.

2. The cam A acting on a roller, *g*, in the lever *f*, which connects, by rods *m i*, with a lever mounted on a rock-shaft, *l*, to which motion is imparted by the starting-bar U, in combination with the shaft E carrying the forming-die *u*, and with the cog-wheels which impart motion to the shafts E and G, substantially in the manner and for the purpose herein set forth.

3. The toggle mechanism K, constructed substantially as shown, in combination with the jaws *s t* and the forming-die *u* mounted on the shaft E, as specified.

4. The roller-creasing die r^3, mounted on a rod, g^1, in combination with the mechanism for reciprocating said rod longitudinally to bring the creasers to and from the shoe, and mechanism to draw the creasers down upon the shoe, as and for the purpose set forth.

120,088.—MACHINE FOR PUNCHING HOLES IN AND BENDING THE CALKS ON HORSESHOES.—Adolf Oehme, Rock Island, Ill.

Claim.—1. The disks F and G, provided, respectively, with noses *m n* and recesses *r s*, in combination with the starting-bar *k*, levers *i f*, click *q*, elbow-lever *d*, clutch E, cog-wheel *a*, and main shaft C, all as shown and described.

2. The cams I K, in combination with the lever O, punches *w*, guide *w'*, and table R, and with the main shaft C, the motion of which is controlled by a disk, F, provided with noses *m n*, substantially in the manner herein set forth.

3. The combination of benders *y* and hammers *z* with each other and with cams I K, receiving motion from a shaft, C, the motion of which is controlled by a disk, F, provided with noses *m n*, substantially as described.

120,089.—LIFE-PRESERVER.—Marcus Ormsbee, Brooklyn, N. Y.

Claim.—1. As an improvement in life preservers, a buoy, constructed in annular form, in combination with an elastic collar adapted to spring to the neck, substantially as and for the purposes specified.

2. In combination with the annular buoy A, one or more respiration-tubes, D, substantially as and for the purposes specified.

120,090, antedated October 12, 1871.—BRUSH AND SCRAPER FOR SINKS.—James H. Osgood, Boston, Mass., assignor to himself and Samuel H. Hall, same place.

Claim.—The combined scraper and brush described, consisting of brush A, back B, plate C, rivets *d*, all arranged together, substantially as and for the purpose described.

120,091.—THILL-COUPLING.—James W. Oulton, Amherst, Canada.

Claim.—The thill cross-head C c^1 c^2 and clip B b^1 b^2, when combined and arranged with the axle-yoke A, as and for the purpose specified.

120,092.—THIMBLE-SKEIN. — Charles Paddock, Alton, Ill.

Claim.—The octagonal shoulder B upon the end of the skein and the octagonal washer C, and their use together as described, for the purposes herein specified.

120,093.—VULCANIZING RUBBER SACKS FOR STOCK-PUMPS.—John S. Patric, Rochester, N. Y.

Claim.—1. The method of forming and vulcanizing rubber sacks for stock-pumps, by means of the wholly or partially-hollow mold A, composed of a suitable fire-proof material, over the edges of which the flaps *a* of the sack are turned, for the purposes set forth.

2. In combination with the hollow vulcanizing-mold A, the clamping-rings *b*, operating substantially as described.

120,094, antedated October 7, 1871.—APPARATUS FOR COMPRESSING AIR.—John S. Patric, Rochester, N. Y.

Claim.—1. The tilting air-compressing vessel A provided with locking-links *i n* at its extremities, in combination with the oscillating water-receivers G G', the parts being arranged to operate the water-valves *a a' b b'*, substantially in the manner set forth.

2. In combination with the inlet-valves *a* and *a'* and outlet-valves *b* and *b'*, the counter-weighted valve-stems N and N', arranged to be operated by the oscillation of the vessel A, for the purposes set forth.

120,095, antedated October 7, 1871.—APPARATUS FOR CONDENSING AIR.—John S. Patric, Rochester, N. Y.

Claim.—1. The vessel A, provided with compressing-chambers B and C, centrally-located water-box D, and suitable inlet and outlet water and air-valves, for the purposes set forth.

2. The oscillating water-receivers G G', arranged to operate the inlet and outlet water-valves *a a' b b'* conjointly, substantially as and for the purposes set forth.

3. The oscillating water-receiver G in combination with the locking-links *i*, whereby the receiver is locked in its upward position to be automatically released when filled, for the purposes set forth.

4. In combination with the oscillating water-receiver G and its locking device, the tilting water-chamber K, operating substantially as described.

5. In combination with the oscillating water-receivers G G', the balancing-beam H, connected and operating substantially in the manner set forth.

6. The oscillating receivers G G', balancing-beam H, and toes L L', in combination with the rock-shafts *f* and attachments, outlet-valves or valves *b b'*, and inlet-valves or valves *a a'*, when the parts are so arranged that said valves shall operate conjointly for the purposes set forth.

120,096.—MAKING RUBBER STEREOTYPES.—Henry D. Perky, Washington, D. C.

Claim.—The process herein described for producing flexible printing-forms from vulcanized rubber composition by the combined agency of pressure and dry-heat, applied as above set forth.

120,097.—CHURN-DASHER.—Henry S. Potter, Hawley, Pa.

Claim.—1. The improved churn-dasher, having the shaft A with beveled protuberance *a*, and the slatted removable paddles with the beveled holes A', shoulder a^2, elongated slots a^1, and blunt arms a^3, said paddles being arranged relatively in the manner and for the purpose described.

2. In a churn-dasher, as described, the shaft A having the beveled protuberance *a*, recess a^4, and shoulder a^2, in combination with the slatted paddles having the beveled holes A', as and for the purpose specified.

120,098.—CASTER FOR SEWING-MACHINES.—George K. Proctor, Salem, Mass.

Claim.—The levers D and E pivoted to two of the end legs of frame, and furnished with casters, in combination with the lever B pivoted to the opposite side of the frame, carrying the fulcrum car-

ter K, and journaled in levers D E, as shown and described.

120,099.—FLUX FOR REDUCING ORES AND REFINING METALS. — William Quann, Philadelphia, Pa., assignor to himself, John W. Thackara, and Edward L. Spain, same place.

Claim.—A flux composed of the within-described ingredients, combined in about the proportions specified.

120,100.—COW-MILKER. — William Reading, Offutt's Cross-Roads, Md.

Claim.—As a means of milking cows, the herein-described device, consisting of the tube A provided with the elastic fingers *a a*, open at their smaller ends, substantially as described.

120,101.—IRONING-TABLE. —Thomas Reed, Plainwell, Mich.

Claim.—The ironing-board C with straight bars *a a*, hook *b*, legs D D E, guides H H, pin *i*, and groove in the leg E, all combined and arranged substantially as and for the purposes herein set forth.

120,102.—STEAM-BOILER.— Richard L. Robertson, Jr., New Orleans, La.

Claim.—The within-described boiler A, constructed as described, for the purposes of applying thereto gasoline or other equivalent fuel for the generation of steam within the said boiler A, as and for the purposes specified.

120,103, antedated October 13, 1871. — CHURN.—Lewis Runyon, Newark, N. Y.

Claim. — In combination with the horizontal churn-barrel A, thermometer T, and tempering-chamber D, the agitator B having the flights *h* arranged as described, and each formed or set as herein set forth, when said barrel is provided with a small auxiliary cover, H, for the purpose of giving access to the thermometer without exposing the cream to the atmosphere, substantially as and for the purposes set forth.

120,104.—BALE-TIE. — Joseph F. Rusling, Lawrenceville, Pa.

Claim. — The lever D provided with the hook-shaped fulcrum end E, and having its free end made in spiral form, as shown, to adapt it to be tucked under the band and hold itself in position, as set forth.

120,105. — CANDLE. — Henry Ryder, New Bedford, Mass.

Claim.—The combination, in one candle, of two or more common braided wicks, arranged with relation to each other as described, so that while burning they will spread outwardly in opposite directions, and thereby produce a broader and more uniform flame, and give a maximum of light from a given weight of material.

120,106.—CARRIAGE. — Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. In vehicles without perch, the half-elliptic or C-spring B, in combination with the body-loop A and stirrup L, substantially as and for the purpose shown and described.

2. Extending the body-loop A and binging it upon the rear end of the half-elliptic spring B, as and for the purpose shown and described.

3. In combination with the stirrups L, the cross-braces O and O, seen in Fig. 3, in the manner and for the purpose substantially as shown and described.

4. Rigidly securing the front springs B 1 and the thills or pole to the axle, substantially as and for the purpose set forth.

5. The stirrup K, in combination with the front ends of the springs B 1 and the thills or pole of the vehicle, substantially as and for the purpose set forth.

6. The combination of the cross-brace P with the cross-bar E, Fig. 4, as shown and described.

7. Interposing the joint S, Fig. 1, between the fifth-wheel D and the cross-bar E and body-loop A 1, substantially as and for the purpose shown and described.

8. The combination of the ears T, Figs. 1, 4, and 6, with the cross-bar E or its equivalent, friction-plates *v*, rubber-block X, and the fifth-wheel D, the whole constructed and operating substantially as shown and described.

120,107.—TOP-PROP AND JOINT FOR CARRIAGES.—Cyrus W. Saladee, St. Catharine's, Canada.

Claim.—1. In top-props, the T-plate R with raised collar S, loose washer 2, and prop *m*, combined and operating in the manner and for the purpose substantially as shown and described.

2. Broadly, as a new article of manufacture, the adjustable top-joints A B, constructed and operating substantially as and for the purpose shown and described.

3. The combination of the tap E, open-socket C, set-bolt D, Figs. 2 and 3, with the top-prop *m* and ends B' of the top-joints A B, or their equivalents, substantially as and for the purpose shown and described.

120,108. — VENTILATING GRAIN-VESSELS.—William S. Sampson, New York, N. Y., assignor to himself, Ruth Ann Van Bunschoten, and Harriet Van Bunschoten, same place.

Claim.—The upper and lower perforated pipes A D, having inlets B, outlets C E, and covering-plates F, when all are constructed and arranged in the hold of a vessel, as described.

120,109.—VENTILATING GRAIN-CARS.—William S. Sampson, New York, N. Y., assignor to himself, Ruth Ann Van Bunschoten, and Harriet Van Bunschoten, same place.

Claim.—1. A grain-car having wire-covered inlet-openings A B in the bottom and outlet-openings C near the top, applied in combination with the perforated pipe D, as and for the purpose described.

2. One or more perforated tubes, D, open at each end, arranged longitudinally in a grain-car to draw the air through as the car moves and disseminate it among the grain, as and for the purpose set forth.

3. The openings E E in front and rear of the car, to produce a draught, and the perforated pipe D, combined with side and bottom openings A F C, to induce lateral currents of air therefrom, and thereby aerate the grain in all parts.

120,110.—PHOTOGRAPHIC POSING-CHAIR.—Charles A. Schindler, West Hoboken, N. J.

Claim.—1. In combination with the chair A B C, the removable arms H I and keepers J, substantially as specified.

2. The combination of the sliding slotted back D and arms E E with the chair-seat A and legs B C, as shown and described.

120,111. — MILK-SAFE.—Edmund F. Sevy, St. John's, Mich.

Claim.—In combination with a milk-safe, A, one or more vertical pivoted triangular standards, B, provided with radial rack-arms *e*, substantially as and for the purpose specified.

120,112. — SEED-DROPPER. — Frederick Sleight, Warren county, N. J.

Claim.—1. The tube E, apron F, and bar B, in combination with the hopper G and slide C, by

which the seed may be sown in drills, or broadcast, or both at the same time, substantially as set forth.

2. In combination with the hopper G and slide C, the bar A with its attachments and screw-rods I I and thumb-nuts D D, for the purpose described.

120,113.—CULTIVATOR.—Arthur C. Smith, Fayetteville, N. C.

Claim.—The combination of the land-marker L′ adapted to slide along the pivoted arm L, and rendered adjustable by means of the arms N N N and adjusting-plate n, with the stirrup K, cord m, and post L′, all arranged and operating as described.

120,114.—CHANDELIER.—Edgar M. Smith, New York, N. Y.

Claim.—1. In combination with a chandelier, a sliding center or drop-light that moves and is supported upon two guide-rods, c d, one of which, at least, shall be a gas-pipe, substantially as and for the purpose described.

2. In combination with the chandelier and sliding drop-light moving and guided by at least two rods or pipes, as described, the compound gearing and weight and auxiliary guides i i and m, as and for the purpose set forth.

120,115. — WAGON-STANDARD. — Jacob W. Smith, Dixon, Iowa.

Claim.—The stakes c c and braces f f, in combination with the bolster a having a series of transverse perforations, as and for the purposes shown and described.

120,116.—PRINTING-TELEGRAPH.—John E. Smith, New York, N. Y.

Claim.—1. The combination of the magnet M′ with the ratchet-wheel r of the type-wheel shaft, and shifting devices or connections, whereby said magnet is made to throw the ratchet-wheel into and out of gear with its pallet p to bring the type-wheels of the several instruments in circuit into unison, substantially as specified.

2. The combination, with the transmitting portion of the instrument, of a resistance, R, arranged to vary the strength of the current from a distant battery to control the action of the printing-lever, essentially as herein set forth.

3. The combination, with the resistance R, of the arm a, the frame F, the plate P, and blank and letter keys of the instrument, whereby the contact of said arm with any of said keys completes a shunt to the resistance R, substantially as specified.

4. The combination, with one of the keys of the instrument, of the spring S, or its equivalent, whereby on depressing said key it is made to check the motion of the arm a and circuit-wheel C; also, by holding the circuit open to release the armature A of the magnet M′, essentially as described.

5. The lever and switch L in combination with the key K and points d and e, whereby said lever serves to hold down the key and to close the circuit at d, so as to compensate for the interruption at e by the depression of the key, substantially as specified.

6. The combination of the spring S, the lever L, the resistance R, the arm a, the circuit-wheel C, the keys K K¹ K², &c., the magnet M′, the ratchet-wheel r on the type-wheel shaft, and the pins h h′, essentially as and for the purposes herein set forth.

120,117.—HUB-MORTISING MACHINE.—Peter Snyder, Grand Rapids, Mich.

Claim.—1. The traveling-table S formed with the boxes 2 2 and adjustable posts 6 6, box 8, screw-rod and crank F, arranged and operated substantially as described.

2. The dodge C, with the shafts x x and w w playing in the boxes 2 2, substantially as described.

3. The lever O, shaft N, projecting arm N, in combination with the bar y, for the purpose of giving a lateral motion to the dodge C, substantially as described.

4. The construction and arrangement of the hollow bolt r, bolt s, and block D, substantially as described.

5. The combination of the screw E with the block D, bolts r and s, and slot 5, for the purpose of varying the radius or sweep of the dodge C, substantially as described.

6. The dish B, constructed with the slot 5 and connected with the dodge C by the bolts r and s and gibs, as set forth.

7. The arrangement of the set-screws S′ S″ and T T′ in combination with the projections 11 or their equivalents, formed on the dish B, substantially as described.

8. The combination of the lever K provided with hinge 16 and spring 17, the ratchet-wheel M, and index-wheel I, stop-rod L′, latch 3, and tooth on spring H, and arm G, all arranged and operating substantially as described.

9. The auger-shaft e, formed with a feather-key working in a screw-pinion, L, so that the shaft e can pass longitudinally through the pinion at the same time that it revolves the pinion L, substantially as described.

10. The combination of the traveling chisel-box F F with the revolving auger-shaft e, substantially as specified.

11. The movable box n′ in combination with the bent lever p, lever-rod k, lever k′, rod l, and treadles x′ x′, for the purpose of connecting and disconnecting the friction-wheels a and b′, substantially as specified.

120,118. — HARNESS. — Jonas C. Spooner, Houlton, Me.

Claim.—The breast-yoke A, having the martingale C attached to its middle part, and provided at its ends with rings B and at its center with the snap-hook D, substantially as herein shown and described, and for the purposes set forth.

120,119. — HORSE-SHOEING REST.—George Stansel, St. Johnsville, N. Y.

Claim.—The combination of the base A, hollow standard B, springs C, lever D, bar F, and pivoted arms G with each other, substantially as herein shown and described, and for the purpose set forth.

120,120. — VARIABLE EXHAUST FOR LOCOMOTIVE-ENGINES. — Orlando Stewart, East Cambridge, Mass.

Claim.—1. The casing, composed of the base A, sides B, ends C, and combined with the pivoted wings E, when the several parts are constructed and arranged substantially as and for the purpose specified.

2. In combination with the elements above named, the shaft G, double arms H, and connections I and K, substantially as and for the purpose shown.

120,121. — PRIVY-SEAT COVER.—William Street, New York, N. Y.

Claim.—In combination with privy-seat A, cover B pivoted to an arm, C, and on each side thereof, which arm is itself pivoted to the seat A for the purpose of enabling the bottom side to be turned from the person of the sitter.

120,122. — BROOM-BRIDLE.—Joseph H. Subers and James H. Troup, Philadelphia, Pa.

Claim. — As a new article of manufacture, a broom-bridle having two or more metallic strips, B, combined with the bands A and A′, substantially in the manner and for the purpose set forth.

120,123. — SAW-FRAME. — William H. Sullenberger, Harrisburg, Pa., assignor of one-half his right to John Kerper, same place.

Claim.—The combination of the angular lever P P¹ P² pivoted at d and d′, the middle brace B, the top brace A, and the standards Q Q¹ Q², when these parts are constructed as set forth and arranged to act in regulating the tension of the saw S S′, mounted in revolving stocks Z Z′, substantially in the manner as and for the purpose hereinbefore set forth.

120,124. — THILL-COUPLING. — Otto Tackmann, Yonkers, N. Y.

Claim.—The loop-clip B having recess for the rubber spring, as described, the clasp H having loop J together with the strap-loop K and strap I, constructed and arranged substantially as and for the purpose specified.

120,125. — ALARM-LOCK.—Jackson T. Taylor, Newnan, Ga.

Claim.—1. The combination of nuts H with the tapering spindles D D and conically-perforated cog-wheels F F, to enable the wheels to be forced down upon the spindles, and the combination to be changed, in the manner described.

2. The quadrant-latch J, spindle K, handle L, and catch M combined, as described, with catches I I and slotted wheels F f, so that all must be moved into a certain position before the door can be opened.

3. The combination, in a door-lock, of cog-wheels F f and catches I I, alarm and detent mechanism M N O P Q, knobbed spindles D having points R and the points S, and the latch mechanism J K L M, all operating as and for the purpose specified.

120,126.—KNIT-FABRIC.—Samuel Thacker, Snenton, England, assignor to John S. Cropper, Hackensack, N. J.

Claim.—The manufacture of fabrics of the character herein refered to upon knitting-frames, aided by the after process of dressing and stiffening, substantially in the manner herein described.

120,127. — RECLINING-CHAIR. — Hopkins Thompson, New York, N. Y.

Claim.—The links a and straps e, in combination with the seat B, back-rest C, and pivots b c d f, substantially in the manner herein shown and described.

120,128.—HEAD-REST.—Thomas D. Thompson, Providence, R. I.

Claim. — The arm J, with the hinged jaw or clamp i and cam-lever k, in combination with ball c as attached to head-rest a and ball d, in combination with hinged jaw or clamp g, set-screw f, and slide A, as operated on tenon e, all substantially as described, and for the purpose specified.

120,129.—PERMUTATION LOCK.—Daniel L. Tower, New York, N. Y.

Claim.—1. In combination with jointed bolt E F the pinion G, rack-bar H, pinion I, bar P having arm R and finger S thereon, and the disk J having cam-groove T, all arranged and operated together as described, and for the purpose specified.

2. The grooved disk-shaft K, in combination with the spring-staple X, when said staple is secured to and turns with the disk-wheel J, substantially as and for the purpose specified.

120,130. — PROCESS OF ATTACHING TEETH TO PYROXYLINE DENTAL PLATES.—James A. Troutman, Seneca Falls, N. Y.

Claim.—1. The process of attaching the teeth to the plate by means of the solid material, substantially in the manner as herein described.

2. Coating the parts of the material to be protected from the action of the solvents with mucilage or its equivalent, as specified.

3. The backing-up and filling-in pieces, when made of the solid material, as herein described, and for the purposes set forth.

120,131.—WARPING-CHOCK FOR VESSELS.—Hans Trulsen, Painesville, Ohio.

Claim.—The two sheaves with vertical axles, in combination with the two rollers with horizontal axles.

120,132.—CIRCUIT-CLOSER.—William Unger, Newark, N. J.

Claim.—A cam placed diagonally to the movement of a spring-arm, actuated by a magnet, in combination with a metallic plate contiguous to said spring-arm, and acting therewith to close an electric circuit automatically and break the same, substantially as set forth.

120,133. — PRINTING-TELEGRAPH. — Henry Van Hoevenbergh, New York, N. Y.

Claim.—The method herein specified of causing one type-wheel to set the adjacent type-wheel by moving it around to the designated point, and there leaving the same, substantially as set forth.

120,134.—CARD-RACK.—Cornelius A. Wall, Grand Rapids, Mich.

Claim.—The card-holder herein described, consisting of the rigid frame C and the single piece of paper or cloth A folded to form a series of horizontal pockets, B B′, substantially as specified.

120,135.—SPOOL-HOLDER.—Andrew W. Warren, Annapolis, Md.

Claim.—1. The combination of the wire-frame A with the points B B B B B B B, more or less, and fastened at the end by the hook C and eye D, substantially as and for the purpose hereinbefore set forth.

2. The improved spool-holder, constructed of a single piece of wire, and operating as specified, substantially as and for the purpose hereinbefore set forth.

120,136.—PHOTOGRAPHY. — Frederick Augustus Wenderoth, Philadelphia, Pa.

Claim.—1. A carbon photographic picture made on a metal surface and sealed, all substantially as set forth.

2. The employment, for the purpose specified, of water and alcohol for moistening the gelatine prior to applying it to the plate.

3. The employment, in making a picture, of a plate or plated surface ribbed, substantially in the manner described.

4. The preliminary coloring of the face of the plate or plated surface, for the purpose specified.

120,137.—MILL-BOLT.—Benjamin C. White, Des Moines, Iowa.

Claim.—1. In a flour-bolt the ribs D, when curved and converging at the head of the reel, substantially as and for the purposes set forth.

2. The combination of the shaft B, radial arms C, converging bisected ribs D, and bolting-cloth box E, and conveyer I, all constructed and operating substantially as set forth.

3. The packing a, attached, as described, on the inside of the head of the reel and operating on the outside of the box or spout E, substantially as and for the purposes herein set forth.

120,138, antedated October 4, 1871.—VENTILATOR.—Reuben White, Boston, Mass.

Claim.—The foraminous reservoir A, in connection with the air-conduit B, when made and arranged substantially as described, and for the purpose set forth.

120,139, antedated October 5, 1871.—GAS-FLAME EXPANDER.—Hiram Whitney, Watertown, Mass.

Claim.—The double plate A, consisting of the perforated part a and solid part a′, constructed, arranged, and operating substantially as described.

120,140.—HARROW. — James Wigle, West Point, Ill.

Claim.—In combination with the harrow-frames or sections A A A, the cross-bars C C, standards D D, eyes E F, and pivoted rod G, passing vertically through said bars, as shown and described.

whereby each harrow has vertical movement independent of the others, for the purpose specified.

120,141. — CORNER FOR PHOTOGRAPHIC PLATE-HOLDERS. — Joseph L. Winner, Elizabeth City, N. C., assignor to Louis W. Gulager and Robert M. Robinson, Philadelphia, Pa.

Claim.—1. The corner for camera-holder, for the purpose described, constructed of non-corrosive metal with side flanges E, so as to be screwed or nailed to the kit or frame and adapted to brace the corners of the latter, all substantially as set forth.

2. The flange or ledge C on corners for camera-holders, for preventing the displacement of the plate, substantially as and for the purpose described

120,142.—SPRING BED-BOTTOM. — William H. Woodworth, Pewamo, Mich.

Claim.—The combination and arrangement, in a spring bed-bottom, of a series of slats, B, suspended from the rails A by elastic webs C, when said webs are secured to the rails and slats in the manner herein described, shown, and set forth.

120,143.—CANE-STUBBLE HOE.—Gustavus H. Wright and Amory K. Johnson, New Orleans, La.

Claim.—As a new and improved article of manufacture, the hoe A, consisting of the plate B, teeth or tines C, eye E, and cutting-blade D, arranged substantially as and for the purposes described.

120,144.—PINCHERS.—Daniel Zeiler, Marlborough township, Pa., assignor to himself and Daniel Miller, same place.

Claim.—A pair of pinchers or pliers, consisting of jaws A and A', connected together by a pin, *b*, and operated by a cam-lever, D, pivoted to one of the said jaws, and acting on an arm, B, secured to the other jaw, all substantially as specified.

120,145.—UNIVERSAL SAFETY-COUPLING.—Gustavus H. Zschech, Indianapolis, Ind.

Claim.—The ball-and-socket joint having the segmental recess G, segmental die H, and pins F E, as and for the purpose set forth.

REISSUES.

4,592.—TREATING VEGETABLE AND ANIMAL SUBSTANCES SO AS TO DRY AND PRESERVE THEM.—Charles Alden, Newburg, N. Y., assignor of part interest to Alden Fruit Preserving Company.—Patent No. 100,835, dated March 15, 1870; reissue No. 4,011, dated June 7, 1870; reissue No. 4,287, dated March 7, 1871.

Claim.—1. The within-described process of evaporating the moisture from animal and vegetable substances by exposing said substances on rising and falling platforms to a current or currents of air, substantially as set forth.

2. Saccharified fruit, obtained by exposing fruits to a saccharifying or supermaturing process, substantially such as herein described.

4,593.— LUBRICATOR. — John Broughton, New York, N. Y., assignor, by mesne assignments, to Henry Moore, same place.—Patent No. 45,694, dated January 3, 1865.

Claim.—1. The base or shank B and cap C connected firmly and rigidly together by the interior projections or connection, substantially as and for the purposes herein specified.

2. The independent detachable cup or reservoir A, in combination with the rigidly centrally-connected base B and cap C, substantially as and for the purposes herein specified.

3. The combination of the valve G with the tubular connected projections *a f* of the cap and base, in the manner and for the purpose herein specified.

4. The cup or reservoir A, with its bottom aperture arranged in combination with the base or shank B, with its shoulder *d* and packing-gasket or washer thereon, substantially as and for the purpose herein specified.

5. The lubricator, composed of the reservoir A having a simple bottom aperture, the base B having a shoulder, *d*, and packing-washer, on which the reservoir rests, the cap C rigidly connected with the base inside of the reservoir, and the valve G operating in the connection of the cap and base, substantially as and for the purpose herein specified.

4,594.—AXLE-BOX.—David Dalzell, South Egremont, Mass. — Patent No. 106,469, dated August 16, 1870.

Claim.—An axle-box for the hubs of carriage and wagon-wheels, constructed of two parts, A B, substantially as set forth.

4,595.—HEATING-STOVE.—John M. French, Rochester, N. Y., assignee, by mesne assignments, of David L. Stiles.—Patent No. 40,663, dated November 17, 1863; reissue No. 4,004, dated May 31, 1870.

Claim.—1. In combination with a stove having a cylindrical body, B, revertible flues located directly within and inclosed by the cylinder, but partitioned from the cylinder-space, said flues connecting with the hollow bottom *i*, by which a circuit is produced, and the whole so arranged as to form an oblong fire-chamber within the cylinder, for the purpose specified.

2. The flue-plate C, constructed with the draught-pipe *h*, formed in one piece, said pipe opening through the cylinder, as herein described.

3. The register G having air-holes *l l* only in the upper portion, and its closed part *m* situated opposite the draught-opening of the stove, substantially as and for the purpose set forth.

4,596.—PERMUTATION LOCK. — Lyman F. Munger, Rochester, N. Y. — Patent No. 17,804, dated July 14, 1857; reissue No. 62, dated April 2, 1861; extended seven years.

Claim.—1. A series of wheels, W, revolving on a common center, and provided with teeth or indentations at their peripheries for changing their position relatively with other wheels V or their equivalents, when each of the wheels W aforesaid has a pin projecting from its side or sides, so placed as to interlock with similar pins in the wheel or wheels next adjoining it, to operate substantially as and for the purpose herein set forth.

2. In a "combination" lock, the combination of two sets of wheels or their equivalents, capable of engagement and disengagement, when one set has interlocking-pins *n n* for driving the wheels of that set, and the other set has slots *t t* for releasing the bolt, the relative position of said pins and slots being changed to produce new "combinations," by simply disengaging and changing the relative positions of the wheels, and re-engaging them, as specified.

3. In combination with the two sets of wheels W and V, which are capable of engagement and disengagement, the eccentric arbor *r*, passing through the wheels V, for throwing one set away from and toward the other, as herein described.

4. In combination with the wheels V and eccentric arbor *r*, the notched disk *o* and pawl *d*, for holding the wheels in or out of engagement, as described.

5. In combination with the arbor or spindle of a combination lock, a friction-clutch, *a*, so arranged that the lock-works may be driven by the frictional connection, but if any undue resistance is met the said arbor or spindle may turn free, as described.

6. The combination, with the clutch *a* and arbor K, of the notch *k* and point *z*, for the purpose of restoring the position of the wheel W on its arbor, as described.

4,597.—PLOW-COLTER. — William Warren Stillman, Mount Hawley, assignor to Ralph Emerson, Rockford, Ill.—Patent No. 57,007, dated August 7, 1866.

Claim.—1. The clamp, constructed as hereinbefore described, with jaws to embrace the upper and lower sides of the plow-beam, pinch-screws to clamp the beam, and eyes for the colter-spindle, to adjust the colter laterally, as set forth.

2. The combination of the eyes on the clamp, the colter-spindle adjustable endwise therein, the collar embracing the spindle between the eyes, and the pinch-screw clamping the collar on the spindle, substantially as set forth, to adjust the spindle vertically.

3. The combination of the colter, its spindle, the collar, the clamp, and the set-screw, all these parts being constructed and operating in combination, substantially as set forth, to limit the vibration of the colter.

4. The combination of the laterally-adjustable clamp, the vertically-adjustable swiveling-colter, and the set-screw or stop to limit the vibration of the latter, while allowing it to conform to the line of draft; these members being constructed to operate in combination substantially as before set forth.

4,598.—Division A.—PAINT FOR SHIPS' BOTTOMS.—James G. Tarr and Augustus H. Wonson, Gloucester, Mass.—Patent No. 40,515, dated November 3, 1863; reissue No. 2,722, dated August 6, 1867.

Claim.—A paint, consisting of oxide of copper with a suitable vehicle or medium, substantially as described.

4,599.—Division B.—PAINT FOR SHIPS' BOTTOMS.—James G. Tarr and Augustus H. Wonson, Gloucester, Mass.—Patent No. 40,515, dated November 3, 1863; reissue No. 2,722, dated August 6, 1867.

Claim.—A paint, made of oxide of copper with a basis and medium, substantially as described.

4,600.—CULTIVATOR.—Benjamin Tinkham, Cameron, assignor to Hapgood & Co., Chicago, Ill.—Patent No. 30,897, dated December 11, 1860; reissue No. 4,231, dated January 10, 1871.

Claim.—In a straddle-row cultivator, the tongue C rigidly secured to axle B, in combination with bars D D rigidly secured to the axle, serving as braces to the tongue, and having their rear ends or two equivalent bars extended to the rear to support the plow-beams E E with their gangs of plows above the ground when required, substantially as set forth.

4,601. — LANTERN. — William Westlake, James F. Dane, and John P. Covert, Chicago, Ill., assignees, by mesne assignments, of William Westlake. — Patent No. 48,858, dated July 18, 1865; reissue No. 2,337, dated August 14, 1866.

Claim.—1. The combination of the globe *c* and base *d* with the guard *a*, the latter being extended down and connected directly to the base by means of springs or their equivalents, whereby the use of lateral flanges is dispensed with and the globe can be removed through the lower end of the guard, substantially as described.

2. The flange *g*, provided with an opening, *h*, and a slide, *i*, substantially as and for the purpose set forth.

4,602. — LUBRICATOR. — John B. Wickersham, Philadelphia, Pa.— Patent No. 82,667, dated September 29, 1868.

Claim.—1. The sleeve *f*, formed with a swell upon one side, in combination with the tube *e* and reservoir *a*, substantially as specified.

2. A lubricator formed with the tube *e* of white metal, for the purposes and as specified.

3. The combination of the glass reservoir *a* and screw-neck at its lower end with the socket *c* and washer *d*, rendered permanently tight by cement, as set forth.

4. A capillary-feeder formed by metal wires or rods, or a tubular strip of metal inclosed in a fibrous covering, so as to form a siphon, as and for the purposes set forth.

5. The cock *h* and chamber *k*, in combination with a capillary-feeder and oil-cup, substantially as set forth.

6. A lubricator with a glass reservoir and two necks, having pewter or white-metal connections wherever the oil comes in contact with the metal to prevent discoloration, as set forth.

7. A lubricator having a glass reservoir and contracted neck at the upper end, in combination with a cap or cover surrounding and covering the said neck, substantially as set forth.

8. A glass oil-holder for a lubricator, made with contracted necks at both ends, with screws upon their outer surfaces for the caps or sockets, as set forth.

9. A removable sleeve, *f*, upon the feeding-tube *e*, in combination with the capillary-feeder *i*, substantially as set forth.

4,603.—ICE-MACHINE.—Franz Windhausen, Brunswick, Germany, assignor to Louis Schneider, Christian T. Buddecke, and John A. Blaffer, New Orleans, La.—Patent No. 101,198, dated March 22, 1870.

Claim.—1. The process herein described for increasing the intensity of cold produced, the same consisting in returning a part of the compressed air after expansion so as to cool the air still under compression, as set forth.

2. The combination of the cooler and the temperature regulator, to operate substantially as herein described.

3. The double-acting cylinder jacketed and having its covers or heads divided into compartments fitted with valves, organized and operating as herein specified.

4. In combination with the freezing-cells of the refrigerator, the serrated dividing-plates H^2, whereby the current of air is impeded and caused to impinge against the sides of the said cells, as and for the purposes specified.

5. In combination with the refrigerating-chamber of an ice-making machine, the expansible chamber Z, connected therewith and operating substantially as described, for the purposes specified.

6. In combination with the refrigerating-chamber of an ice-making machine, the valve R and antechamber R R, provided with perforated inner walls, substantially as described.

7. The air-conducting pipes, located within a cooling-chamber supplied with air at a low temperature, in combination with a compression-pump of an ice-machine, for cooling the compressed air within the pipes, substantially as described.

DESIGNS.

5,314. — COFFIN-TOP.—William G. Algeo, Rochester, Pa.

Claim.—The lid or cover, having in its upper outer edge moldings alternating with a plain finish, as described and shown.

5,315. — ESCRITOIRE. — John F. Birchard, Milwaukee, Wis.

Claim.—1. The ornamental work B, substantially in the manner above described.

2. The hanging mirror C, in combination with the ornamental work E, substantially as described.
3. The drawer F and cover on the top of the escritoire, in combination with the ornamental work G, substantially as described.
4. The shelf H, in combination with the ornamental work I, substantially as described.
5. The design of the general contour of the escritoire, substantially as described.

5,316.—WATCH-HAND.—Bardwell A. Goodell, Waltham, Mass., assignor to E. Howard & Co.

Claim.—The crescent-shaped piece A and a diamond-shaped piece, B, arranged on the bar each side of said piece A, substantially as specified.

5,317.—ORGAN-CASE.—John R. Lomas, New Haven, Conn., assignor to B. Shoninger, same place.

Claim.—1. The design for the upper part of an organ-case, with the stationary book-rack set between and back of two posts, *j*, as shown.
2. The design for a book-rack, *a*, as shown.
3. The design for lamp-brackets *b*, as shown.
4. The design for an organ-case having a clock, *c*, as shown.
5. The design for the clock-case *e f*, as shown.
6. The design for the head piece *d*, as shown.
7. The design for the lid *i*, as shown.
8. The design for the end and corner molding *g*, as shown.

5,318.—ORNAMENTATION OF GLASS-WARE.—John Oesterling, Wheeling, W. Va.

Claim.—The design for the ornamentation for various pressed or blown-glass vessels as shown.

5,319. — SOCKET FOR LIFTING-HANDLE.—William M. Smith, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The design for socket for lifting-handle, as herein described and shown in the accompanying illustration.

TRADE-MARKS.

472.—WATCHES AND JEWELRY.—Aikin, Lambert & Co., New York, N. Y.

473.—SOAP.—George Baker and Isaac Bullock, Lima, Pa.

474.—CLOCK-SPRING.—Wallace Barnes, Bristol, Conn.

475.—BRONCHIAL TROCHES.—John I. Brown & Sons, Boston, Mass.

476.—FISH.—Andrew T. Carew, Bayport, N. Y.

477.—EDGE-TOOL.—Dunn Edge-Tool Company, West Waterville, Me.

478.—FERTILIZER.—Thomas J. Hand, New York, N. Y.

479.—FINE COTTON SHIRTING.—Harris Manufacturing Company, Coventry, R. I.

480.—ATOMIZER FOR PERFUMING, &c.—Thomas J. Holmes, Boston, Mass.

481.—LADIES' COLLARS, CUFFS, &c.—Edmond Husson, New York, N. Y.

482.—LINEN THREAD.—James Knox, Jr., Kilbirnie, Scotland.

483.—BEER.—Felix E. Lester, Troy, N. Y.

484.—PAINT.—Thomas McKeon, New York, N. Y.

485.—GIN.—I. D. Richards & Sons, Boston, Mass.

486.—MEDICINE.—Frank L. Richardson, Lowell, Mass.

487.—CAST-STEEL.—Singer, Nimick & Co., Pittsburg, Pa.

488.—WHISKY.—David A. Stanley, New York, N. Y.

489.—WHISKY.—Walsh, Brooks & Kellogg, Cincinnati, Ohio.

490.—WHISKY.—Walsh, Brooks & Kellogg, Cincinnati, Ohio.

491.—WHISKY.—Walsh, Brooks & Kellogg, Cincinnati, Ohio.

492.—WHISKY.—Walsh, Brooks & Kellogg, Cincinnati, Ohio.

493.—PAINT.—Walter & Fielding, New York, N. Y.

494.—PAINT.—Walter & Fielding, New York, N. Y.

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PATENTS.

120,146.—FORK-TINE SCOOP FOR GATHERING STONES.—Noble S. Barnum, Bridgefield, Conn.

Claim.—A shovel, the rear portion thereof being a scoop, and the front or working portion tines or prongs, substantially as herein shown and described, and for the purposes set forth.

120,147, antedated October 3, 1871.—ROLLER-SKATE.—John L. Boone, San Francisco, Cal., assignor to himself and Milton A. Wheaton, same place.

Claim.—1. The longitudinal side springs G, secured to the arms A of the bolster I so as to connect the two axles A and B, substantially as and for the purpose above described.
2. The axles A and B with their spindles *d*, in combination with the hub *g* having the arms A and the springs G G, all arranged and operated substantially as and for the purpose described.
3. The forked lever J, constructed as described, in combination with the springs G G and the hinged reach I, all arranged substantially as and for the purpose set forth.

120,148.—MACHINE FOR BENDING CHAIN-LINKS.—Henry Boyd, East Bridgewater, Mass.

Claim.—1. The combination of the mandrel E and four reciprocating bearing-surfaces, D D' H H', when the bearing-surfaces are so arranged together, in the manner described, that they can be adjusted, as described, the whole being substantially as above specified.
2. The combination of the mandrel E and its spiral flange *e* with four reciprocating bearing-surfaces, D D' H H', substantially as described.
3. The combination of the mandrel E, gauge G', four reciprocating bearing-surfaces D D' H H', and clearers J J, all substantially as described.
4. The combination of the mandrel E and its spiral flange *e* with the inclined and reciprocating rollers D D' or their equivalents, all substantially as described.

120,149.—BOLT-CUTTER.—James R. Brown, Cambridgeport, Mass.

Claim.—1. The combination of the levers D D, stirrups E E, and the carrier B, constructed as described, with the plate H, substantially as and for the purpose set forth.
2. In combination with the subject-matter of the above claim, the stationary cutter-head A provided with cutter *a*, the movable cutter *b*, the nut *c*, and holding-screw *b'*, substantially as set forth.

120,150.—HUB FOR CARRIAGE-WHEELS.—Joseph Y. Burwell, Worthington, Pa.

Claim.—The above-described arrangement and combination of the thimble D, provided with the rectangular-shaped end D', with the box B and divided hub A and A', substantially as set forth.

120,151, antedated October 6, 1871.—MANUFACTURE OF COAL-GAS.—Darius Davison, New York, N. Y.

Claim.—1. The process herein described of manufacturing coal-gas by dividing the usual whole charge into two equal parts, or thereabout, and depositing each fresh supply of a divided charge in rear of the retort and successively distributing a series of such partial whole charges within the retort at intervals in a progressive manner from the rear toward the mouth of the retort, essentially as herein set forth.
2. The slide *c*, constructed for operation within the retort, to pass the one charge or partial charge over and in rear of another, substantially as specified.
3. The charger, composed of a sliding scraper, *b*, and hod *c*, constructed and arranged for operation in relation with each other and the retort, essentially as shown and described.

120,152.—CAP AND OTHER PAPERS.—Dennis D. Foley and John J. Johnson, Washington, D. C.

Claim.—As a new article of manufacture, writing cap or manuscript paper punctured or perforated so that the holes in two or more sheets will register, and may be fastened together by tape or other device, as set forth.

120,153.—ROOFING-MACHINE.—Charles L. Fowler, Baltimore, Md.

Claim.—The roofing-machine hereinbefore described, consisting of the combination of the movable bed I I, car T, material hopper A, double hoppers C C, and rollers G G, and all the parts constructed and arranged to operate substantially as herein described, and for the purpose of manufacturing as set forth, constituting a reciprocating double-acting roofing-machine.

120,154.—SPRING MATTRESS.—Henry Gardner, Rodger Lowe, Joseph Wood, James Wood, and James Pickering, Manchester, Great Britain.

Claim.—The combination and arrangement of parallel series of springs, when connected together in the manner and for the purposes hereinbefore described and set forth.

120,155.—MACHINE FOR NAILING SHOE-SOLES.—Louis Goddu, Boston, Mass., assignor to Elmer Townsend, same place.

Claim.—1. The wire-transferring passage *z*, and the movable cutter *y*, arranged and combined in one sectoral gear-lever, L, disposed within and pivoted to the guide-nose, substantially in manner and so as to operate as described.
2. The combination of the sectoral gear-lever X, as described, and its grooved cam or rear groove of the cam G with the nail-transferrer passage *z*, the movable cutter *y*, and their common sectoral gear-lever L, arranged and combined with the guide-nose B or its passage *a*, as described.
3. In the nailing-machine, as described, the combination of the arm *c'* of the sectoral gear-lever X with the fulcrum-shaft of such lever by means of a friction-clamp, as described, such being for the purpose specified.
4. The adjustable crossed stops U V, as arranged and combined, as explained and represented, with the carrier M and the pendulous supporter T, provided with stops *w' x'*, as set forth.
5. The pawl-gauge *o'* and the stop-lever *p'*, combined in manner as described, and arranged on one shaft, and with the adjustable stops *r' r'*, as set forth.
6. The adjustable fulcrum *q*, provided with a clamp-screw, *s*, as described, in combination with the slotted feeder H and its operative eccentric *o*, all being arranged in the head A, as explained or represented.
7. The nailing-machine, as constructed with a stationary head, A, a movable feeder, H, and a movable jack-supporter or carrier, all substantially as described.
8. In the nailing-machine, the stationary head A, as made or provided with the beveled bottom or circular curved gauge *v'*, and bearing *r²* therefor, arranged substantially as described and represented, such being for the purpose as specified.
9. In the nailing-machine, the chip-discharging passage *a²*, arranged in and combined with the nose-piece and the cutters, all substantially as explained and represented.

120,156, antedated October 6, 1871.—HOOK FOR HATS, COATS, &c.—Albert J. Goodrich, Wolcottville, Conn., assignor to Turner, Seymour & Judds, same place.

Claim.—The base *c* of the hook *d*, made with notched edges, in combination with the separate plate *a* containing the screw-holes, the parts being constructed in the manner and for the purposes set forth.

120,157.—BUCK-SAW FRAME.—William Hankin, Williamsburg, N. Y., assignor to himself, William H. Hankin, and H. W. Peace, same place.

Claim.—In the buck-saw frame, the braces D E crossing each other diagonally, and united at their intersections by the pin *e* working in elongated slots to allow them to slide upon each other, as specified.

120,158.—STEP-LADDER.—William Huey, Galena, Md.

Claim.—The combination of strip K, table L, cross-piece E provided with the staple H, platform G, and spring-tappet P, when operating together, as and for the purposes described.

120,159.—WHEELBARROW.—William McKibbin, San Francisco, Cal.

Claim.—1. The scoop-shaped box *c*, mounted upon the side pieces *a* and *b*, so that when the handles are raised the box shall be level, for the purpose specified.
2. A wheelbarrow constructed as above described—that is, having the side pieces *a b*, wheel *j k l*, and scoop-shaped box *c*, all constructed and arranged substantially as above set forth.

120,160.—HORSE HAY-FORK.—Peter J. Moose and Jonathan Kuhn, Dansville, N. Y.

Claim.—1. The combination of the grapple-irons I provided with segmental slots *d d* arranged to overlap each other and be operated by their connecting-pin in frame A, and chains *g g* attached to bar B, substantially as and for the purpose described.
2. The draft-bar B provided with its ribs, in combination with the frame A, chains *g g*, and grapple-irons I, operating substantially as and for the purpose described.
3. In a horse-fork or hay-elevator, the combina-

tion of segmental slotted grapple-irons with the frame A, chains *g g*, draft-bar B, and their locking and connecting mechanism, constructed, arranged, and operating in the manner and for the purpose specified.

120,161.—TURN-TABLE AND RAILWAY TRACK FOR CHANGING GAUGE OF CARS.—William Kerr Muir, Hamilton, Canada.

Claim.—1. In combination with turn-tables D and E, the intermediate turn-table F, substantially as described.

2. In combination with the turn-tables D E F, the main lines of the track A B and the sidings A^1 B^1.

120,162.—PUNCH.—Robert J. Mullen, Providence, R. I., assignor to The Providence Tool Company, same place.

Claim.—That improvement in punches which consists in combining the supplemental cutting-shoulders *a*, which extend entirely around the punch, with the punch proper B, as described, for the purposes set forth.

120,163. — HAT-VENTILATOR. — Edgar G. Nichols, Beaufort, S. C.

Claim.—The ventilator herein described, formed of a fillet fixed below the hat, having openings through the upper edge of the fillet, or between it and the hat, substantially as and for the purposes set forth.

120,164.—BRUSH-MAKING MACHINE. — Joseph Pickering, Philadelphia, Pa., assignor to himself and Joseph M. Pickering, same place.

Claim.—1. The reciprocating blade D having a slot, *b*, constructed substantially as described, in combination with the hopper B, as and for the purpose above set forth.

2. The combination and arrangement of the adjustable slide G with the blade D and slot *b*, for regulating the size of the knots, substantially as set forth.

3. The shoe U, in combination with the hopper B and blade D, for separating the knots contained in the slot *b* from the body of bristles in the hopper B, as above set forth.

4. The combination and arrangement of the clamps F F for holding the stock E, with the frame A and hopper B, substantially as set forth.

5. The combination and arrangement of the swinging frame J, connecting-rod L, endless band M, and rollers N N with the frame A and reciprocating blade D for drawing the knots out of the hopper B, and after they have been transferred to the loop V inserting them in the stock E, substantially in the manner above described.

6. The needle R having three eyes, *u u u*, constructed either in a single piece or with a jointed piece, R^1, substantially in the manner and for the purpose set forth.

7. The combination and arrangement of the spool T provided with wire S, and the needle R with the standing-frame A and swinging frame J, for drawing the knots *r* into the holes of the stock E, substantially as described.

120,165. — FURNACE FOR ROASTING AND SMELTING ORES.—William Quann, Philadelphia, Pa., assignor to himself, John W. Thackara, and Edward L. Spain, same place.

Claim.—1. The arrangement, beneath and in combination with the outlet-flue or stack of a roasting or smelting-furnace, of a body of water flowing freely and constantly, and over which the gases are caused to pass, all substantially as and for the purpose specified.

2. A smelting-furnace in which an arched or curved roof, *m*, and descending flue *n* are combined with and arranged in respect to the basin and bench of the said furnace, substantially as herein described.

120,166, antedated October 7, 1871.—SOLDERING-IRON.—John C. Reynolds, Taunton, Mass.

Claim.—As a new article of manufacture, a soldering-tool formed of the copper or composition point *a*, secured to a soap-stone, *c*, and provided with a metallic handle, *f*, as and for the purpose described.

120,167, antedated October 14, 1871.—COMBINED THRASHING AND HULLING-MACHINE.—Henry Ries, Norwalk, Ohio.

Claim.—1. In combination with the lower separating-table F, perforated as shown, and cone-shaped shell G, the hinged guide-flaps *f f g*, substantially as described, for the purpose set forth.

2. The combination, in the thrashing and hulling-machine herein shown and described, of the adjustable endless belts C D, separating and receiving-tables E F provided with perforations *m*, *m*, and *n*, the hinged guide-flaps *f f g*, conical cylinder and shell H G armed with teeth, as shown, and sieve K, when said parts are arranged in relation to each other and to the fan and thrashing-cylinder in the manner and for the purpose substantially as specified.

120,168. — CURTAIN-FIXTURE. — Anthony Roelofs, Philadelphia, Pa., assignor to himself and Daniel Bergin, same place.

Claim.—1. The combination and arrangement of the bracket A, spurs *d* and *d'*, and guide H, all constructed and operating substantially as and for the purpose set forth.

2. The arrangement of the arbor G and guide H on the bracket A, in the manner and for the purpose herein specified.

120,169, antedated October 14, 1871. — STONE-DRESSING MACHINE. — Thomas Ross, Rutland, Vt.

Claim.—1. In combination with the driving-shaft and rotary cutter-head, the adjusting sleeve D carrying the driving-shaft, cutter-head, and bevel-gearing herein described, constructed and arranged substantially as set forth.

2. In combination with the driving-shaft, cutter-head, and bevel-gearing herein described, two swivel-joints between the driving-shaft and cutter-head, to allow the said cutter-head to be set and operated at any desired angle to the slab, substantially as set forth.

3. In combination with the adjusting sleeve carrying the driving-shaft and cutter-head, the screw-thread thereon, and the adjusting nut-wheel C^2, substantially as and for the purpose described.

4. In combination with the revolving cutter-head, the traveling pattern-plate with a single or double rack thereon conforming to the shape of the molding to be cut, and a circular guide-roller or disk, *x*, concentric with the feed-pinion, and fitting into a groove in the pattern-plate also conforming to the shape of the molding to be cut, substantially as described.

5. In combination with the cutter-head the traveling pattern-plate with a double or single rack corresponding to the shape of the molding to be cut, and a pinion or pinions engaging with said rack or racks, the worm-gear herein described for operating said pinion or pinions, substantially as set forth.

120,170.—MACHINE FOR EDGING BOARDS.—Jesse K. Sanborn, Sandy Hill, N. Y.

Claim.—The combination of the grooved rollers F and the fluted rollers G, when constructed, arranged, and operating in the manner and for the purpose substantially as described.

120,171. — BURIAL-CASKET. — John Scott, , Philadelphia, Pa.

Claim.—A burial-casket, constructed of angle-irons and interwoven wires, coated with asphaltum, with or without the addition of black resin or pitch, substantially as described.

120,172, antedated October 7, 1871.—LAMP. George W. Thompson, New York, N. Y.

Claim.—1. An atmospheric lamp consisting of two essential parts, viz., the body in which the oil-font and mechanism are located, and the combustion-chamber, in which the wick-tube and air-passage are located, the whole connected, one with the other, by the tubes for the passage of oil and of air, substantially in the manner and for the purpose set forth.

2. The combination of the train of wheels placed horizontally, with the wick-tube placed vertically in a combustion-chamber, substantially in the manner and for the purpose specified.

120,173.—RUFFLING ATTACHMENT FOR SEWING-MACHINES. — Edwin J. Toof, Fort Madison, Iowa.

Claim.—1. The arm A bent and flanged, as shown, and adapted to be secured to the presser-bar, when combined, as described and shown, with the actuating arm C and the feed-plate B which reciprocates on the arm, as set forth.

2. The single feed-plate B adapted to work directly against the under surface of the presser-foot, and provided with the needle-notch *r*, the turned-up portions *o* and *n*, and the lugs *a a*, all constructed and arranged as described.

3. The index device E provided with the arm Z, in combination with the lever C, screw *v*, and the feed-plate B, all constructed substantially as shown, and for the purposes set forth.

120,174. — FEATHER-RENOVATOR. — John Wellfare and Fred Champagne, Aurora, Ill.

Claim.—1. The reservoir for containing feathers, consisting of the ends A and B, the hinged side C, the fixed side D, the hinged cover E, the metal cover T, and the metal bottoms F and F', when the several parts are constructed and combined substantially as and for the purpose specified.

2. The means employed for admitting steam to the interior of the reservoir, consisting of the chamber *z*, the nipples *h*, the perforated diaphragm I, and the pipe O, substantially as and for the purpose shown.

3. The means employed for removing the volatile or gaseous impurities from the feathers, consisting of the pipe R communicating with the reservoir and with a smoke-flue, in combination with the steam-admitting devices above named, substantially as and for the purpose set forth.

4. The means employed for removing from the reservoir the solid impurities separated from the feathers, consisting of the chamber *z*, the perforated diaphragm I, the pipes K and L, and the funnel M, substantially as shown and described.

5. The means employed for removing moisture from the cleansed feathers, consisting of the metal bottoms F F', the chamber G, and the steam-pipe P, in combination with the pipe R, substantially as specified.

6. The device as a whole when each of its parts are constructed and combined substantially as and for the purpose shown.

120,175. — WASHING-MACHINE. — Stephen Williams and Henry McNeill, Philadelphia, Pa.

Claim.—The clamps C C', in combination with the rails F and H and central shaft J, forming a convenient frame for a washing-machine, easily applicable to any washing-tub of ordinary construction.

120,176. — LEG-AND-FOOT REST. — Elijah Withall, Rochester, N. Y.

Claim.—The foot-rest having the shelf B and its supports C and C' hinged to the standard A, and arranged to fold together, substantially as and for the purposes set forth.

120,177.—LOCK FOR POST-OFFICE BOXES, &c.—Silas N. Brooks, Bernardston, Mass., administrator of Linus Yale, Jr., deceased.

Claim.—The combination of the pin *c* attached to the bolt *d*, and operating in slots *e f* in the bolt-case, with the bent arm *a* of the lock, the combination and arrangement being substantially as described, and for the purpose specified.

120,178.—FENCE.—Peter Chase Yost, Carthage, assignor to himself and William B. Raper, Ferris, Ill.

Claim.—The portable fence and gate, made as set forth, with panels, trussels, and interlocking notches, and with parts sliding in sleeves R S on a portable panel, substantially as set forth.

120,179, antedated October 11, 1871.—APPARATUS FOR DISCHARGING ORDNANCE.—Henry Arden, Brooklyn, N. Y., assignor to John C. Smith, same place.

Claim.—1. An electric circuit-breaking and closing apparatus, operated by gravity, combined with means for firing a gun, substantially in the manner and for the purposes specified.

2. The combination of the suspended weight or arc E and an adjustable electric conductor, F, with a stationary electric conductor, G, all arranged and operating substantially as described.

120,180. — LOCOMOTIVE. — William D. Arnett, Denver City, Col. Ter.

Claim.—The combination of the pitmen-rods *e e b b*, crank-shaft *c*, frame B, and inclined cylinders C C, all arranged and operating on the driving-wheels D D, substantially as described.

120,181. — MACHINE FOR PICKING MILL-STONES. — Stephen A. Bell, Newtown, Ohio.

Claim.—In combination with the herein-described handle of a millstone-pick, composed of the bars K K' and adjusting joint M N, the roller-frame P R, operating in the manner and for the purposes set forth.

120,182. — ROCK-CHANNELING MACHINE.—M. C. Bullock, Rutland, Vt.

Claim.—The combination of the cutter A with its guide-piece *a*, substantially as and for the purpose set forth.

120,183.—ROTARY ENGINE.—Warren Case, Troy, Ill.

Claim.—1. The arrangement in the cylinder A of the four steam-inlets *a a a' a'* and the four steam-outlets *b b b' b'*, substantially as shown and described, so as to change the direction of the wheel at will and always have a double entry and a double exit, as set forth.

2. The combination of the casing A, heads B B, inlets *a a a' a'*, outlets *b b b' b'*, wheel C, valves D, rollers *e e*, and blocks E, said blocks and parts B' of the heads being provided with packing, all substantially as and for the purposes herein set forth.

120,184.—STEAM-HEATER.—Edward C. Clay, Malden, Mass.

Claim.—In a radiating apparatus composed of pipes, each of which is divided by a central longitudinal partition, *a*, extending nearly its whole length, the screw-threaded nipples *f g* of each pipe, made with their axes in the same line with each other and with that of the coupling-tube *h*, substantially as shown and described.

120,185. — ELECTRIC CLOCK. — William M. Davis, Cincinnati, Ohio.

Claim—1 The combination of the regulating-

pendulum B and its impulse power M with the impelling-pendulum C and its moving power—the electric magnet D.

2. The combination of the lifting-arm S on the pendulum-rod J and the impulse power M, whether that be the force of gravity or of a spring, with the arm L *l*, or its equivalent, on the rod *b*.

3. The combination of the regulating-pendulum B and an electric circuit with impelling-pendulum or pendulums C, whether near or distant.

4. The combination of the pendulum B having an impulse-arm, L *l*, and the circuit-breaker N O with the impelling-pendulum C having a lifting-arm, S *s*, and weight M, and the attached armature G and magnet D, or the essential equivalents of these separate parts, operating in unison, substantially as and for the purpose described.

5. The combination of the check-bar Z and the impelling-pendulum C, for the purpose described.

6. The described combination of the elements G, C, D, J, L, M, and S with an electric circuit, so as to telegraph time from the regulating-pendulum B to any number of clock-dials, whether near or distant.

7. The combination of the impelling-pendulum C, as above described, with the feed-hand Q and bridle X or its equivalent, and the wheels of an ordinary clock movement, for the purpose of indicating time.

8. The method of communicating motion to and of controlling the motions of an impelling-pendulum, C, whether near or distant, by means of an attached armature actuated by an electro-magnet which is charged at isochronous intervals by a regulating-pendulum, B.

120,186.—PROCESS OF REMOVING OBSTRUCTIONS IN OIL-WELLS.—James Dickey, Oil City, Pa.

Claim.—1. The improved process of clearing obstructions in oil-wells by dropping onto the liquid in the well a rocket, which will fire the contained charge on striking the surface of the liquid in the well, thereby using the momentum of the falling apparatus to resist the upward force of the discharge, substantially as and for the purpose set forth.

2. In the apparatus above described, the case for containing the powder, in combination with the movable bottom and the sliding hammer for firing the charge when it strikes the liquid in the well, substantially as and for the purpose specified.

3. The combination of the case for containing the charge of powder with the chamber for containing chlorate of potash or equivalent chemical agent, and the means for firing the charge, substantially as and for the purpose specified.

120,187. — BUCKLE. — Elliott F. Driggs, Brooklyn, N. Y.

Claim. — A double buckle, constructed of two pieces, A B, united by a twist or coil of one part upon the other, substantially as specified.

120,188.—GRATE-BAR.—Alexander W. Foster, Jr., Pittsburg, Pa.

Claim.—1. The heavy middle bar B, when made with the heaviest side from the fire, substantially as and for the purpose hereinbefore set forth.

2. The supports *b b*, substantially as and for the purpose hereinbefore set forth.

3. The elongated holes *d* for the reception of the bolts *c*, substantially as and for the purpose hereinbefore set forth.

120,189. — HOD-ELEVATOR. — Edward H. Garrignes, St. Louis, Mo.

Claim.—1. The combination of the upper frame E, provided with jack-screws G and flanged pulleys F, with endless chain H and hoisting apparatus A provided with flanged pulleys C and T-bolts D, substantially in the manner and for the purposes set forth.

2. The jack-screws G with pronged foot-bearings *g'*, in combination with frame E, substantially as and for the purpose set forth.

3. The T-bolt, consisting of screw-rod D and bar D', in combination with hoisting apparatus A, as and for the purpose set forth

4. The flanged pulleys C and F, endless chain H, frame E, key *e*, jack-screws G, pronged bearings *g'*, hoisting apparatus A, screw-rod D, bar D', spring-dog *i'*, hods I with double hooks *i*, all combined and constructed to operate in the manner herein shown and for the purposes set forth.

120,190. — NAIL-PLATE-FEEDING MACHINE. John C. Gould, Oxford, N. J.

Claim.—The combination of the vibrating lever *a*, the push-rod *b*, the pair of clamps or forks *c* and *d*, the latter constructed substantially as described, with the bolt A and roller *i*, as and for the purpose specified.

120,191. — LOTION FOR PROTECTING ANIMALS AGAINST FLIES. — James Greene, Providence, R. I.

Claim.—The lotion for animals, to prevent the attacks of flies, made of the materials hereinbefore stated, substantially as described.

120,192. — FASTENING FOR BOXES, &c.—John James Greenough, Syracuse, N. Y.

Claim.—The curved lip button A with notch *a*, constructed as described, and turning on a pivot, in combination with a catch of suitable construction, substantially as and for the purposes herein set forth.

120,193, antedated October 14, 1871.—MACHINE FOR DRIVING WEDGES IN PAVEMENTS.—William J. Harris, Elizabeth, N. J., assignor of one-half his right to Samuel Stewart, Potsdam, N. Y.

Claim.—1. The combination of a vertical drop-hammer with the lever D, clutch E, and trip H, to operate either in connection with the swages I I or with the leveling-plate M.

2. The combination of the swages I I or of the leveling-plate M, when either are in use, with the levers K and L, cams *a*, guide-rods *b*, and friction-pulleys C, all constructed and arranged substantially as shown and described, for the objects herein set forth.

120,194.—ALARM-PUMP FOR VESSELS.—Ezra Haskell, Dover, N. H.

Claim.—The improved pumping and alarm apparatus, constructed substantially in manner and to operate as described, viz., of the three pump-barrels A B C, their pistons D, induction and eduction-pipes *k l m*, air-opening *r*, stop-cock K, valves *k*, air-fountain H', steam-whistle I', and its valve *p*, and key *q*, all arranged in manner and to be operated by a cranked shaft, all as set forth.

120,195. — HARROW. — Edward W. Heltendeen, Geneva, N. Y.

Claim.—A harrow for pulverizing the soil and for cultivating growing crops, composed of two or more sections provided with small teeth inserted obliquely through the frame, substantially as and for the purposes set forth.

120,196.—PRIMER FOR CARTRIDGES.—Alfred Charles Hobbs and Jerome Orcutt, Bridgeport, Conn.

Claim. — 1. A disk-shaped anvil inserted edge wise into a percussion-cap, substantially as and for the purpose set forth.

2. The method of securing the anvil B upright within the cap and holding it therein by indenting or nicking the edge of the cap and compressing it against the anvil, substantially as described.

120,197.—VERMIN EXTERMINATOR.—Thomas W. Houchin, Morrisania, N. Y.

Claim.—The combination of a reservoir D, provided with a projecting lip, F, and guard G, with a frame-work, B, and handle C, substantially as and for the purposes set forth.

120,198.—BRAN-DUSTER AND FLOUR-BOLT. James H. Jones, Yellow Springs, Ohio, assignor of one-third his right to Joseph S. Parrott, same place.

Claim.—1. The eccentric arm or shaft H, in combination with the block or ledge L and notched bumper K, when applied to a bran-duster or flour-bolt, as and for the purposes herein set forth.

2. In combination with the eccentric arm H the adjusting device herein shown, consisting of the lever *b*, guide *d*, and set-screw *m*, when arranged as and for the purpose of regulating the inclination and vertical agitation of the screen, as set forth.

3. The combination of the screen or duster E, flour-bolt D, discharge spout C, intermediate spout M, conveyer N, and the secondary screen or bolt Q, substantially as and for the purposes set forth.

4. The combination of the screen or duster E, flour-bolt D, discharge-spout G, intermediate spout M, conveyer N, and the secondary screen or bolt Q, substantially as and for the purposes set forth.

120,199.—CAR-COUPLING.—James H. Kenworthey, West Point, Ind.

Claim.—1. The combination and arrangement of the bar A, guide B, short vertical shaft D, and cam E, substantially as and for the purpose set forth.

2. The combination and arrangement of the bar A, guide B, shafts C and D, cam E, and arm F, substantially as and for the purpose set forth.

3. In combination with the bar A and shaft C with arm F, the lever C', rod G and coupling-pin suspended therefrom, substantially as and for the purpose set forth.

120,200. — TREADLE-MOTION. — Eben W. Keyes, Charlestown, and Charles K. Bradford, Boston, Mass.

Claim.—1. In combination, the vibratory lever or frame D, suspended substantially as explained, the treadle F pivoted to this frame, and finally the two rods or pitmen I and G, and the swinging pivot or frame H, the whole being combined and operating in respect to each other and the crank and driving-shaft as to produce results herein stated.

2. In combination with a compound driving-motion, such as is herein explained, the pawl *g* and ratchet *h*, for purposes stated.

120,201.—THERMOMETRIC STEAM-GAUGE.—George Lightbody, New York, N. Y.

Claim.—The sheath B, tube A, and plug D, in connection with the thermometer A and the conducting material C, when arranged and operating together, substantially as and for the purpose described.

120,202. — BRICK-KILN. — Thales Lindsley, New York, N. Y.

Claim.—1. A water-smoking, burning, and cooling-kiln, having the constituent parts herein described and shown, disposed with respect to each other, substantially as described, and performing, severally and co-operatively, substantially the functions set forth.

2. A kiln-chamber, 1, Sheet 3, in which the upper half of the fire-flue and the bars of the fire-grate are arranged on a cycloid curve, said grate being provided with hinge and latch, all substantially as herein described.

3. The combination, with the fire-grate S'', of the fuel-bin S provided with the close-scuttle S', throat T, and throttle-valve, all constructed and arranged substantially as herein shown.

4. A system of triple walls used throughout the entire structure, the middle division of which being provided with the system of horizontal and vertical hot-and cold-air passages *c c' c''*, &c., O' O'', &c., *f f' f''*, &c.—the outer and inner divisions provided with the slots and apertures *n'*, &c., for passage-ways or flues, all arranged and operated substantially as and for the purposes set forth.

5. The combination of the triple walls and buttresses, substantially as and for the purposes set forth.

6. The centrally-located smoke-stack provided with an independent foundation, certain ports, a man-hole in bottom of smoke-stack flue, and a grained arch, double passage-way, substantially as and for the purposes set forth.

7. The arrangement of horizontal and vertical hot-and-cold-air-flues O' O'' O''' O, *e e'*, &c., *f f' f'*, &c., *c'*, &c., provided with dampers Q'' *n x*, &c.

8. The arrangement, with relation to the kiln and furnace and cold-air flues, of the ash-pits provided with the air-tight cover, substantially as described and shown.

9. Combination of perforated floors *a*, solid floor *c*, and interposed system of sleepers, stringers, and flues, substantially as shown and described.

10. The flue-damper provided with the annular flange-seat and blade, as shown and described.

11. A kiln-chamber, combining the several parts above described, constructed and operating as set forth.

120,203.—HYDRAULIC PUNCHING-MACHINE. Robert Livingston, Albany, N. Y.

Claim. — 1. The coupling-piece G, constructed with the lesser chamber E' and provided with the shoulder *g'*, in combination with the arm *a'* provided with the major chamber E and plunger C, when all are arranged to operate substantially as and for the purpose set forth.

2. The combination of the lesser chamber E', loose piston F, screw D, with the major chamber E, plunger C, and body A, when all are arranged to operate substantially in the manner set forth.

120,204.—HARROW.—James Mathison, Fremont, Neb.

Claim.—1. The handles H H, pivoted over the center of each harrow, with adjustable rods G having hooks *e*, arranged and operating substantially as and for the purpose set forth.

2. The draft-pole L, in combination with clevis K, adapted to be applied to either cross-bar C', or to either of the adjustable side bars N N, substantially as and for the purpose set forth.

120,205.—HARVESTER-CUTTER GRINDER.—Edwin Robert McCall, Simcoe, Canada.

Claim.—The adjustable standard C and D, the jointed arms or frame E and F, and the hand-lever H, as arranged, in combination with the grinding-wheel G and the driving mechanism I and J or their equivalents for sharpening cutter-blades for mowers and reapers, as shown and described.

120,206.—FIRE-LIGHTER.—John McCallum and Jacob Hartzell, Alliance, Ohio.

Claim.—The fire-lighter, hereinbefore described, made of the ingredients combined in the proportions specified.

120,207.—SPINDLE FOR WRINGER-ROLLS.—Thomas E. McDonald, Trenton, N. J.

Claim.—The clothes-wringer roll spindle herein described, consisting of the journals A and metal bars B, united together in the manner and for the purpose set forth.

120,208.—SUN-SHIELD FOR HORSES.—Hugh D. McGovern, Brooklyn, N. Y.

Claim.—The shield or horse-bonnet A, provided with an elevated part or cap, B, having a large open aperture, D, on the front, in combination with a fan-wheel, E, placed in the cap B, substantially as and for the purpose described.

120,209.—ROVING-FRAME.—Eustis P. Morgan, Saco, and James H. McMullan, Biddeford, Me.

Claim.—1. The combination, with the eccentric E, the fork F, the shaft G, and the dogs D D', of the fingers I I', the plate-jaws J J', or their equiv-

alents, for the purpose of setting in operation the mechanism for causing the reversal of the bobbin-rail R in case of the breakage or non-action of the spring l.

2. The combination of the shipper S, the shipper-lever X X′ X″, the trigger Y Y′, the vertical rod U, the tumbler T, and the friction-stud 2^d, or their equivalents, for stopping the frame automatically when the last coil on the outside of the bobbin of roving is near to the conical or beveled end of the bobbin, substantially as herein described.

120,210.—MANUFACTURE OF WOODEN PIPES FROM VENEERS.—Adolph Müller, Brooklyn, N. Y.

Claim.—1. The combination and arrangement of the mandrel and hot-air roller, constructed and operated substantially as and for the purpose set forth, with a suitable bed on which to place and arrange the prepared wood and move the same to the action of the mandrel and roller.

2. The combination of the mandrel and hot-air roller, as aforesaid, with a bed and endless chain-feed.

3. The combination of mandrel, hot-air roller, a bed with a trough and heating appliances, and feeding or carrying device, substantially as shown, and for the purpose stated.

4. The cutters, constructed and operating substantially as shown and described, in combination with the bed, mandrel, and roller.

5. The combination of a bed, feeding device, cutters, mandrel, and roller, substantially as and for the purpose described.

6. In combination with the parts last aforesaid, the furnace, hot-air chamber, pipes, and bars, all arranged and operating substantially as shown, and for the purpose set forth.

7. Providing one end of the mandrel with a bevel or beveled collar, substantially as and for the purpose specified.

120,211.—FIRE-ESCAPE AND HOSE-ELEVATOR.—William Henry Nobles, St. Paul, Minn.

Claim.—1. A series of telescopic sections, which is extended and retracted by cogged wheels engaging with racks upon the sections when they are so arranged that the section upon which the cogs are acting will be operated by the direct action of the cogs upon the section, all as herein described.

2. In combination with extending and retracting sections, the locking arrangement herein described, consisting of the spring-latch v and catch z, when constructed as shown, and made to unlock by the pressure of a cog or the periphery of a wheel upon the latch v.

3. In combination with the platform A, the three pivoted trucks B, C, and C′, as and for the purpose specified.

4. The spring-clamps *f f*, as arranged, for holding the tongues of the trucks C C′.

120,212.—CARPENTER'S PLANE.—Russell Phillips, Boston, Mass.

Claim.—1. The combination, with the central plane L, of the rabbeting-plane A attached to said central plane in the manner and by means herein shown and described, in order to adjust it both vertically and horizontally in relation thereto.

2. The combination of the three planes A, I, and L in the manner shown and described, so that either or both of the latter two planes may be removed from the former for the purposes stated.

3. The combination, with the plane A, of the adjustable gauge D and the rod or support *b* under the arrangement shown and set forth.

4. The combination, with the plane L, of the spurs applied thereto in the manner shown and described, to allow them to be adjusted separately or jointly with respect to the cutter of the plane.

5. The combination, with the plane A and its cutter-iron, of the lever n, pivoted to the cap-plate m, fulcrumed to the post o, and provided with the elevating device q, substantially as herein shown and set forth.

6. The combination, with the clamping-key, of the plow-plane I and its abutment of the right-and-left-threaded screw t, in the manner and for the purposes shown and set forth.

120,213, antedated October 11, 1871.—LUBRICATOR AND ANTI-FRICTION BEARING.—Thomas Foddick, Stranraer, James Lockhead, Glasgow, Scotland.

Claim.—1. The construction and arrangement of the anti-frictional rollers *g g*, movable in the frame *d* and adjustable by the set-screws *e e* or their equivalents, as fully set forth and described.

2. In combination with the anti-frictional rollers *g g*, the grooves *k k′*, channels *l l′*, and cup *c*, in the manner and for the purpose as fully shown and described.

120,214.—LAMP-BURNER.—Samuel Ross, Washington, D. C.

Claim.—The herein-described air-tube, composed of the parts F F′, constructed as set forth, and perforated flange E, with crescent-shaped openings *e e*, substantially as specified.

120,215.—PROCESS OF RESTORING WASTE INDIGO.—Francis A. Sawyer, 2d, Boston, Mass.

Claim.—The process, substantially as described, of restoring waste indigo, as set forth.

120,216.—WELL-BOTTOM.—Henry Smith, Southington, Conn., assignor to himself and Frederick Sutliff, same place.

Claim.—1. The false and removable well-bottom B, substantially as and for the purpose described.

2. The combination of the bottom B and chain bails *c c*, as and for the purpose described.

120,217.—STOVE-DRUM.—George T. Spaulding, Broadhead, Wis.

Claim.—1. The funnel-shaped drum, so constructed that when attached to the stove its front shall be at a right angle or nearly so with the top of the stove, and also at a right angle with its own top, as and for the purpose described.

2. The construction and arrangement of the damper within the drum, as and for the purpose set forth.

3. The attachment of the top of the drum to the funnel, and of both to the stove, by the rods R, substantially as described.

120,218.—FOUNTAIN FOR WASH-BOILERS.—George F. Stone, Baltimore, Md.

Claim.—1. The fountain for wash-boilers, constructed as described, so that the water entering at its center flows through an exterior channel to the discharge-pipe, substantially as and for the purpose specified.

2. The plate A provided with a concavo-convex disk, D, suspended beneath its central opening, substantially as described, for the purpose specified.

3. In combination with the plate A and flange B the suspended disk D and inner flange F provided with the cut-off C, substantially as described, for the purpose specified.

4. In combination with the channel G, partition C, and flange F, the discharge-spout I, substantially as described, for the purpose specified.

120,219.—CLOTH-SHEARING MACHINE.—John A. Thurston, Providence, R. I., assignor to himself, Thomas Sampson, and William Langhoff, same place.

Claim.—The combination of an emery-roller with the requisite rest and feeding apparatus, for the purpose of enabling the surface of cloths to be thereby preserved for the action thereupon of the appropriate shearing apparatus in any usual or proper manner.

120,220.—LOG-ROLLING MACHINE.—John Torrent, Muskegon, Mich.

Claim.—The combination of the toothed bar A, guide B, and hangers C, when operating together as described.

120,221.—STEAM-ENGINE.—Samuel Van Emon, Covington, Ky.

Claim.—The combination of valve-face N L L′ M M′ Q, reversing-valve P *p* S S′ R R′, slide-valve T, and intermediate valve-seat V *a b c*, operating substantially in the manner and for the purpose described.

120,222.—PITMAN-CONNECTION FOR STEAM-ENGINES.—Samuel Van Emon, Covington, Ky.

Claim.—The herein-described swiveling-connection for pitman and piston-rod, consisting of socket G gibs H H′, key I, and circular center *d d′ d″*, the parts being combined to operate substantially in the manner and for the purpose specified.

120,223, antedated October 21, 1871.—COPING.—Cyprian Willcox, New Haven, Conn.

Claim.—The fence-base described, provided with transverse strengthening-plates *b b* and ears *c*, the latter being attached to the inner surfaces of the sides *a′* in order that the sections may be united to each other, as and for the purpose described.

120,224.—STEREOSCOPIC PICTURE-CASE.—I. Fletch Woodward, McMinnville, Tenn.

Claim.—The constructing of an album, its leaves A A being capable of receiving, retaining, and exhibiting stereoscopic pictures on both sides, along with the adjustable folding eye-piece B B, that contains the lenses, being easily removed or replaced or attached to either lid by a slider, C, that slides into a socket in the lids at D, giving it a perfect adjustable focus, substantially in the manner described, and for the purpose set forth.

120,225.—PRINTING-PRESS.—John B. Adt, Baltimore, Md., assignor to himself and August Hoen, same place.

Claim.—The cylinder *b*, combined with the arms b^2, shaft b^3, rods *e*, cross-pieces *d f*, arm *e*, counterweight *m*, rollers *o*, drum *a*, and cams *h*, as and for the purpose specified.

120,226.—AUTOMATIC GAS-LIGHTER.—Almon N. Allen and Rodney H. Dewey, Pittsfield, Mass.

Claim.—1. The combination of a diaphragm, B, with a gas-burner, a spring-power, and a percussion mechanism, substantially as described, so that by the action of the gas on the diaphragm gas is admitted to the burner, the spring-power is released, and a fuse or match is exploded by the action of the percussion apparatus.

2. The lever *q*, ratchet-wheel *h*, and cam *e*, in combination with the sleeve F, diaphragm B, spring-power H, and with a percussion mechanism constructed substantially in the manner herein set forth.

120,227.—PAPER-FILE.—Henry J. Asthalter, Pittsburg, Pa.

Claim.—A bill and paper-file, consisting of a swinging-bar, *b*, hinged at one end to a plate, *a*, in combination with a spring, *d*, and stems *c c′*, which overlap or slide past each other, constructed and arranged substantially as described.

120,228.—GIRDER.—Zephaniah S. Ayres, New York, N. Y.

Claim.—The within-described construction of compound girder, the same having a cast-metal part, A^1 A^2 A^3, with a plain under face and a wrought-metal tie, B, let up into the casting so as to lie just within the plane of the lower face and flush therewith, as herein specified.

120,229.—BASE-BURNING STOVE.—Rodman Backus, Albany, N. Y.

Claim.—1. The hopper *t*, connecting with the upper end of the magazine *u* and arranged in the manner specified, so that the hopper *t* is in the top of the stove and over the oven and the magazine *u* extends down to the fire-pot below the oven, as set forth.

2. A removable bottom to the oven, containing an opening, and bars or grates depending below that opening for sustaining cooking utensils, as set forth.

120,230.—SEED-DROPPER.—Joseph C. Barlow, Quincy, Ill., assignor to Vandiver Corn-Planter Company, same place.

Claim.—1. The arrangement of the two angular plates in juxtaposition to one another in a corn-planter, as and for the purpose specified.

2. The combination of the plate or plates B, cap-plate C, pivoted angular plates E, and spring or springs F with each other, substantially as herein shown and described, and for the purpose set forth.

120,231.—ROTARY ENGINE.—John W. Barriger, Omaha, Neb.

Claim.—1. The case A, provided with the abutments *d e*, and combined with the rotating cylinder D, sliding pistons E, and with the heads *a b*, which have the cam-grooves and four pairs of ports, as specified.

2. The sliding pistons E, provided with the projecting tenons *k k* and with the shallow steam-grooves *m m*, as set forth.

120,232.—HORSE-POWER.—Sanford Basket, Crittenden county, Ark.

Claim.—The attachment of the lever to the rim of the main driving-wheel by means of the hangers and braces, and the setting of the lever at an angle to the upright main shaft instead of its axis being in the same plane as the axis of the main shaft, substantially as and for the purposes hereinbefore set forth.

120,233, antedated October 17, 1871.—COMBINED HEATER AND STAND FOR TABLE PURPOSES.—Emilie A. Beardsley, Binghamton, N. Y.

Claim.—The combination of the block of steatite or other heat-retaining stone A with the metal stand B for table use, substantially as and for the purpose herein set forth.

120,234.—DESK OR TABLE ATTACHMENT FOR CHAIRS.—Samuel L. Bligh, Pit-Hole City, Pa.

Claim.—The improved adjustable desk or table attachment for chairs, having the legs B, pivoted arms *b*, pivoted leaf *c*, and adjustable clasps or fastenings D, as described.

120,235.—MANUFACTURE OF BOILERS, STEAM-CYLINDERS, FITTINGS, &c.—George W. Bollman, Pittsburg, Pa.

Claim.—The manufacture of steam-boilers, cylinders, and fittings from a mixture of cast-iron and steel or carbonized iron, substantially as hereinbefore described.

120,236.—CONCRETE AND STONE PAVEMENT.—Samuel B. Brittan, Newark, N. J.

Claim.—The pavement herein described, constructed of the materials and by the mode specified.

120,237.—MACHINE FOR MAKING PAVING-BLOCKS.—Samuel Wallace Brooks, Brownsville, Tex.

Claim.—The tubular block-cutter D, top-beveled

and tubular support E, and the downwardly-inclined spout F, combined, as described, with a drop-weight, G, for the purpose specified.

120,238. — CHECK-REIN FASTENER.—Born L. Budd, Fairfield, Conn., assignor to James S. Mott, same place.

Claim.—1. The tongue-pivot bearings *f f*, formed by striking up in the plate, from the under side, cavities of a form substantially as herein described, not only to receive but to cover the ends of the pivots.

2. The spring-plate B, slit to form the spring, and covering the whole bottom of and combining with the base-plate A and tongue C, substantially as and for the purpose herein set forth.

120,239. — CHECK-REIN FASTENER. — Born L. Budd, Fairfield, Conn., assignor to James S. Mott, same place.

Claim.—The combination of the recessed base-plate A, the spring B, and tongue C, substantially as and for the purpose herein set forth.

120,240.—CIGAR-CLAMP.—Nicholas A. Buhle, New York, N. Y.

Claim.—1. The finger-ring B formed with the screw-socket *d*, in combination with the clamp A formed with the jaws *a a*, substantially as and for the purpose set forth.

2. The finger-ring B formed with the screw-socket d, arranged to operate in connection with the filling piece *e* and clamp A, as set forth, when all are constructed substantially as described.

120,241. — SEED-PLANTER.—Ezra E. Cheney, Bushnell, Ill.

Claim.—1. The frame E *d e f* jointed to the end of tongue D, and resting movably upon beam C, combined with sliding seat F, as and for the purpose specified.

2. The forked post E provided with the cross-piece *f*, and combined with the tongue D, seat-support *d*, and beam C, substantially as herein shown and described.

120,242.—DRIER.—Solon L. Cheyney, Springfield, Ohio.

Claim.—1. The removable non-conductors D D, secured to the plate *s* provided with feet *z*, and used in the dry-house, constructed substantially as and for the purposes herein set forth.

2. The combination in the dry-house and oven, constructed substantially as described, of angular strips *a a*, the lower set of which is provided with apertures *b b*, substantially as and for the purposes herein set forth.

3. The combination of the drier A, having its floor provided with the removable cooking-stove top E and boiler, all constructed and arranged to operate substantially as and for the purposes set forth.

120,243.—SAW-SET.—Erastus Y. Clark, New York, N. Y.

Claim.—In combination with a saw-set, the supporting slide N, substantially as and for the purpose specified.

120,244.—COOKING-STOVE.—James H. Codding, Taunton, Mass., assignor to Dighton Furnace Company, same place.

Claim.—The detachable shelf A, provided with spurs or projections D D, in combination with dovetails C C on the stove-plate, all as shown and described.

120,245.—PHOTOGRAPHIC PRINTING-FRAME. John George Coffin, Portsmouth, Ohio, assignor to Sensitized Paper Company, same place.

Claim.—The hollow chamber, covered with a perforated top, under the negative.

120,246.—BARK-MILL.—Owen Coogan, Pittsfield, Mass.

Claim.—1. In combination with the rolls B C, constructed as described, the feed-table F, when provided with the hinged leaf *b*, as and for the purpose set forth.

2. The arrangement of the spring H, rods *d d*, levers G G, and feed-roller C with relation to the table, as shown and described.

120,247.—HASP-LOCK.—George Crompton, Jersey City, N. J.

Claim.—The combination of the pivoted lock-bar F and spring *b'* with the pivoted jaws E, recessed hasp B, and plate C, substantially as herein shown and described, and for the purpose set forth.

120,248. — PLOW. — Thomas Cuming, Jr., Brookhaven, Miss.

Claim.—The combination, with the mold-board and land-side of a turn-plow, of share D, arranged and adjustable between them, as and for the purpose specified.

120,249.—CORN-HARVESTER AND SHOCKER. Elijah Culp, Hilliard Station, Ohio.

Claim.—1. The combination of the shocker-gate I, cords *d*, and spring-cylinder N for the purpose of holding the stalks of corn in a perpendicular position till the shock is completed.

2. The combination of the shocker-gate I, cords *d*, spring-cylinder N, and gathering-shaft G for the purpose of collecting the cut stalks of corn from the sickle into a perpendicular position to form a shock of corn.

3. The combination and arrangement of the forked tongue B, center-cutting circular sickle F, shocker-gate I, spring-cylinder N, front and rear guards O and J, cords *d*, and ratchet-crane L and tongs K', substantially as and for the purpose specified.

120,250. — WOODEN MAT FOR PICTURE-FRAMES.—Harrison W. Curtis, Philadelphia, Pa., assignor to Hale, Goodman & Co., same place.

Claim.—As a new article of manufacture, a rectangular wooden mat having an oval or circular opening, and consisting of four strips or segments cut so that the joints shall be at the top, bottom, and sides of the mat, and joined so that the grain in adjacent sections shall be at different angles, as and for the purpose set forth.

120,251.—LIGHTNING-ROD COUPLING.—David W. Demorest, Newark, N. J.

Claim.—The coupling C and screw D, combined with the locked sections A B of a lightning-rod, as specified.

120,252.—INDIA-RUBBER SHOE.—Lewis Elliott, Jr., New Haven, Conn., assignor to L. Candee & Co., same place.

Claim.—An India-rubber shoe made with knitted elastic uppers of the character specified, an elastic binding to the edge of the same, and India-rubber foxing between such elastic uppers and the sole, the same forming a new article of manufacture.

120,253.—APPARATUS FOR DRYING FRUITS, MEATS, &c.—Hermann Endemann, New York, N. Y.

Claim.—The combination of an air-exhauster and an air-heating apparatus with a drying-chamber and with valves J M, which allow of regulating the temperature of the air made to pass through the drying-chamber by the action of the exhauster, substantially as herein shown and described.

120,254.—COMBINATION OF DEVICES AND FURNACES FOR THE MANUFACTURE OF SPIKES.—David Eynon, St. Louis, Mo.

Claim.—1. The combination, substantially as described, of a furnace, reducing-rolls, and a spike or bolt-machine.

2. The combination of the furnace with its movable roof.

120,255.—MACHINE FOR SPINNING WOOL.—Luther W. Felt, Keene, N. H.

Claim.—1. The combination of a removable tube, K', and hook, h, constructed substantially as set forth, with a spring, h', for the purpose described.

2. The combination of a removable tube, K', with a twisting-hook, h, secured as described.

3. A tubular flier, N, provided with a slit, *r*, cap-piece *l*, and depression *p*, in the manner substantially as and for the purpose set forth.

4. A tubular flier, N, constructed as described, when provided with a wire, *s*, and hook *s'*, for the purpose set forth.

5. The combination of a tubular flier, N, constructed as described, with the draw-rolls L L and M, for the purpose set forth.

6. The combination of a tubular flier, N, provided with a cap, *l*, and depression *m'*, with a retractible spindle, S, for driving the same, as set forth.

7. The combination of a tubular flier, N, provided with a cap, *l*, depression *m'*, and retractible spindle S, with a sliding frame, O, for carrying the latter, as set forth.

8. In combination with the tubular flier N, spindle S for driving the same, and sliding frame O, the sliding frame P and spool or bobbin-carrier T, substantially as and for the purpose set forth.

9. The combination of a tubular flier provided with a cap-piece, *l*, depression *m'*, and retractible spindle S for driving the same, with the draw-rolls L L and M, substantially as described.

10. The combination of a retractible spindle, S, for driving the flier, with a loose spool, T, and bobbin R, substantially as set forth.

11. The combination of a sliding frame, P, hinged cruse-piece V, cam W, spring X, rod 9, and yoke Y with a loose spool, T, carrying the bobbin, for the purpose set forth.

12. A friction-yoke, Y, formed in two parts and hinged at one end, when provided at the other with rods 9 and 10, attached in the manner and for the purposes set forth.

13. The combination of a tubular flier, N, and retractible spindle S for driving the former and carrying the spool and bobbin, as set forth, with a frame, O, for adjusting the spindle, and frame P for adjusting the bobbin, when so arranged and constructed that the spindle may be withdrawn from the flier and both frames simultaneously tilted forward, for the purpose described.

14. The combination of the tilting spindle S with the wire Z and bobbin R, substantially as and for the purpose herein described.

15. The combination of a flier, N, tilting-spindle S, and wire Z, substantially as described.

16. The combination of a flier, N, tilting-spindle S, wire Z, bobbin R, and spool T, as described.

17. In combination with the drawing-rolls of a spinning-machine, an air-tube, 13, provided with a slit or series of openings, for the purpose set forth.

120,256. — MECHANISM FOR DELIVERING ROVING IN SPINNING-MACHINES.—Luther W. Felt, Keene, N. H.

Claim.—1. The combination of the wheels D and E with mechanism, substantially as described, for delivering a quantity of roving between the griping points of said wheels, greater in length than the direct distance between the adjoining rods *b*, as set forth.

2. The combination of the wheels D and E and mechanism substantially as described, for furnishing an increased length of roving between their griping points, as set forth, with a twisting-tube, K, whereby the necessary amount of twist is imparted to the roving to give it the requisite strength in its weaker portions to withstand the strain before being drawn to the required degree of fineness.

3. The combination of the wheels D and E, mechanism substantially as described for furnishing an increased length of roving between their griping points, and twisting-tube K with the draw-rolls L L and M, for the purpose set forth.

120,257.—HOT-AIR FURNACE.—Reuben R. Finch, Peekskill, N. Y., assignor to Union Stove Works, same place.

Claim.—The truncated cone *k* and shield *i* in combination with the chamber *f* and air-tubes *g* above the furnace or fire-pot *e*, substantially as and for the purposes set forth.

120,258.—HAND-GRINDER FOR HARVESTER-CUTTERS. — Henry C. Fisk, Wellsville, N. Y.

Claim.—1. The shaft, consisting of the section D and adjustable section D', in combination with the pinion I I', spur-wheel J, latch-bar or equivalent F, and grinding-wheel B, substantially as described.

2. The construction and arrangement of the loop-handles A'', having their grasp parallel with the main bar, substantially as and for the purpose set forth.

120,259. — APPARATUS FOR DISCHARGING ACID CARBOYS.—William Gee, New York, N. Y.

Claim.—1. The combination of the suspending-chains E E and the frames C C provided with cams arranged in relation to the attachments of the said chains E E, substantially as and for the purpose herein set forth.

2. In combination with the above, the yoke D, lever F, standard G, and stay or brace I, substantially as and for the purpose described.

3. The combined mouth-piece B and vent-pipe a provided with an elastic socket, *g*, for its attachment to the neck of the bottle, substantially as and for the purpose herein specified.

120,260.—ADVERTISING-ALBUM. — George W. Hawes, New York, N. Y.

Claim.—The method of applying cards or hand-bills to pictorial advertising-books, substantially as above described.

120,261, antedated October 13, 1871.—COMBINED BURGLAR AND FIRE-ALARM.—Louis Giebrich, Ottumwa, Iowa.

Claim.—1. The bells C C, pivoted frame D, and shaft F, combined as described, and for the purpose specified.

2. The combination of the pins *h h* on the wheel *e* with the levers G, H, and I, all arranged to operate substantially as herein shown and described.

3. The T-head rod *j*, combined with the bell-crank I, forked lever H, lever G, hook *l*, and cord *m*, all arranged substantially as herein specified.

4. The barrel L and hammer *q*, combined with the alarm-setting-apparatus G H I, substantially as herein shown and described.

5. The cord *m* secured with one end to the lever I, and with the other to the hook *n* of the rock-shaft J to operate the alarm whenever said rock-shaft is turned, as set forth.

6. The levers M M, combined with the cords *w*, springs *v*, rod *t*, and rock-shaft J, to constitute the alarm-discharging-apparatus, as specified.

7. The alarm C, arm a^2, and knob *z*, combined with a cord, *w*, operated by the levers M M and rock-shaft J, in the manner specified.

120,262.—TELEGRAPH APPARATUS. — Webster Gillett, Allegheny City, Pa., assignor to himself and Paul Hugus, Pittsburg, Pa., and Charles M. Gillett, Cleveland, Ohio.

Claim.—1. A local battery, arranged in the direct main line, in combination with a local circuit, which shall leave and return to the main line outside of the local battery so as to operate as a feeder to the main line, substantially as described.

and tubular support E, and the downwardly-inclined spout F, combined, as described, with a drop-weight, G, for the purpose specified.

120,238. — CHECK-REIN FASTENER.—Bern L. Budd, Fairfield, Conn., assignor to James S. Mott, same place.

Claim.—1. The tongue-pivot bearings *f f*, formed by striking up in the plate, from the under side, cavities of a form substantially as herein described, not only to receive but to cover the ends of the pivots.

2. The spring-plate B, slit to form the spring, and covering the whole bottom of and combining with the base-plate A and tongue C, substantially as and for the purpose herein set forth.

120,239. — CHECK-REIN FASTENER. — Bern L. Budd, Fairfield, Conn., assignor to James S. Mott, same place.

Claim.—The combination of the recessed base-plate A, the spring B, and tongue C, substantially as and for the purpose herein set forth.

120,240.—CIGAR-CLAMP.–Nicholas A. Buhle, New York, N. Y.

Claim.—1. The finger-ring B formed with the screw-socket *d*, in combination with the clamp A formed with the jaws *c c*, substantially as and for the purpose set forth.

2. The finger-ring B formed with the screw-socket *d*, arranged to operate in connection with the filling piece *e* and clamp A, as set forth, when all are constructed substantially as described.

120,241. — SEED-PLANTER.—Ezra E. Cheney, Bushnell, Ill.

Claim.—1. The frame E *d e f* jointed to the end of tongue D, and resting movably upon beam C, combined with sliding seat F, as and for the purpose specified.

2. The forked post E provided with the cross-piece *f*, and combined with the tongue D, seat-support *d*, and beam C, substantially as herein shown and described.

120,242.–DRIER.–Solon L. Cheyney, Springfield, Ohio.

Claim.—1. The removable non-conductors D D, secured to the plate *x* provided with feet *z*, and used in the dry-house, constructed substantially as and for the purposes herein set forth.

2. The combination in the dry-house and oven, constructed substantially as described, of angular strips *a a*, the lower set of which is provided with apertures *b b*, substantially as and for the purposes herein set forth.

3. The combination of the drier A, having its floor provided with the removable cooking-stove top E and boiler, all constructed and arranged to operate substantially as and for the purposes set forth.

120,243.—SAW-SET.—Erastus Y. Clark, New York, N. Y.

Claim.—In combination with a saw-set, the supporting slide N, substantially as and for the purpose specified.

120,244.—COOKING-STOVE.—James H. Codling, Taunton, Mass., assignor to Dighton Furnace Company, same place.

Claim.—The detachable shelf A, provided with spurs or projections D D, in combination with dovetails C C on the stove-plate, all as shown and described.

120,245.–PHOTOGRAPHIC PRINTING-FRAME. John George Coffin, Portsmouth, Ohio, assignor to Sensitized Paper Company, same place.

Claim.—The hollow chamber, covered with a perforated top, under the negative.

120,246.—BARK-MILL.–Owen Coogan, Pittsfield, Mass.

Claim.—1. In combination with the rolls B C, constructed as described, the feed-table F, when provided with the hinged leaf *b*, as and for the purpose set forth.

2. The arrangement of the spring H, rods *d d*, levers G G, and feed-roller C with relation to the table, as shown and described.

120,247.—HASP-LOCK.—George Crompton, Jersey City, N. J.

Claim.—The combination of the pivoted lock-bar F and spring *b* with the pivoted jaws E, recessed hasp B, and plate C, substantially as herein shown and described, and for the purpose set forth.

120,248. — PLOW. — Thomas Cuming, Jr., Brookhaven, Miss.

Claim.—The combination, with the mold-board and land-side of a turn-plow, of share D, arranged and adjustable between them, as and for the purpose specified.

120,249.—CORN-HARVESTER AND SHOCKER. Elijah Culp, Hilliard Station, Ohio.

Claim.—1. The combination of the shocker-gate I, cords *d*, and spring-cylinder N for the purpose of holding the stalks of corn in a perpendicular position till the shock is completed.

2. The combination of the shocker-gate I, cords *d*, spring-cylinder N, and gathering-shaft G for the purpose of collecting the cut stalks of corn from the sickle into a perpendicular position to form a shock of corn.

3. The combination and arrangement of the forked tongue B, center-cutting circular sickle F, shocker-gate I, spring-cylinder N, front and rear guards O and J, cords *d*, and ratchet-crane L and tongs K', substantially as and for the purpose specified.

120,250. — WOODEN MAT FOR PICTURE-FRAMES.—Harrison W. Curtis, Philadelphia, Pa., assignor to Hale, Goodman & Co., same place.

Claim.—As a new article of manufacture, a rectangular wooden mat having an oval or circular opening, and consisting of four strips or segments cut so that the joints shall be at the top, bottom, and sides of the mat, and joined so that the grain in adjacent sections shall be at different angles, as and for the purpose set forth.

120,251.—LIGHTNING-ROD COUPLING.—David W. Demorest, Newark, N. J.

Claim.—The coupling C and screw D, combined with the locked sections A B of a lightning-rod, as specified.

120,252.—INDIA-RUBBER SHOE.—Lewis Elliott, Jr., New Haven, Conn., assignor to L. Candee & Co., same place.

Claim.—An India-rubber shoe made with knitted elastic uppers of the character specified, an elastic binding to the edge of the same, and India-rubber foxing between such elastic uppers and the sole, the same forming a new article of manufacture.

120,253.—APPARATUS FOR DRYING FRUITS, MEATS, &c.—Hermann Endemann, New York, N. Y.

Claim.—The combination of an air-exhauster and an air-heating apparatus with a drying-chamber and with valves J M, which allow of regulating the temperature of the air made to pass through the drying-chamber by the action of the exhauster, substantially as herein shown and described.

120,254.—COMBINATION OF DEVICES AND FURNACES FOR THE MANUFACTURE OF SPIKES.—David Eynon, St. Louis, Mo.

Claim.—1. The combination, substantially as described, of a furnace, reducing-rolls, and a spike or bolt-machine.

2. The combination of the furnace with its movable roof.

120,255.—MACHINE FOR SPINNING WOOL.—Luther W. Felt, Keene, N. H.

Claim.—1. The combination of a removable tube, K', and hook, A, constructed substantially as set forth, with a spring, *h'*, for the purpose described.

2. The combination of a removable tube, K', with a twisting-hook, A, secured as described.

3. A tubular flier, N, provided with a slit, *r*, cap-piece *l*, and depression *p*, in the manner substantially as and for the purpose set forth.

4. A tubular flier, N, constructed as described, when provided with a wire, *s*, and hook *s'*, for the purpose set forth.

5. The combination of a tubular flier, N, constructed as described, with the draw-rolls L L and M, for the purpose set forth.

6. The combination of a tubular flier, N, provided with a cap, *l*, and depression *m'*, with a retractible spindle, S, for driving the same, as set forth.

7. The combination of a tubular flier, N, provided with a cap, *l*, depression *m'*, and retractible spindle S, with a sliding frame, O, for carrying the latter, as set forth.

8. In combination with the tubular flier N, spindle S for driving the same, and sliding frame O, the sliding frame P and spool or bobbin-carrier T, substantially as and for the purpose set forth.

9. The combination of a tubular flier provided with a cap-piece, *l*, depression *m'*, and retractible spindle S for driving the same, with the draw-rolls L L and M, substantially as described.

10. The combination of a retractible spindle, S, for driving the flier, with a loose spool, T, and bobbin R, substantially as set forth.

11. The combination of a sliding frame, P, hinged cross-piece V, cam W, spring X, rod 9, and yoke Y with a loose spool, T, carrying the bobbin, for the purpose set forth.

12. A friction-yoke, Y, formed in two parts and hinged at one end, when provided at the other with rods 9 and 10, attached in the manner and for the purposes set forth.

13. The combination of a tubular flier, N, and retractible spindle S for driving the former and carrying the spool and bobbin, as set forth, with a frame, O, for adjusting the spindle, and frame P for adjusting the bobbin, when so arranged and constructed that the spindle may be withdrawn from the flier and both frames simultaneously tilted forward, for the purpose described.

14. The combination of the tilting spindle S with the wire Z and bobbin R, substantially as and for the purpose herein described.

15. The combination of a flier, N, tilting-spindle S, and wire Z, substantially as described.

16. The combination of a flier, N, tilting-spindle S, wire Z, bobbin R, and spool T, as described.

17. In combination with the drawing-rolls of a spinning-machine, an air-tube, 13, provided with a slit or series of openings, for the purpose set forth.

120,256. — MECHANISM FOR DELIVERING ROVING IN SPINNING-MACHINES.—Luther W. Felt, Keene, N. H.

Claim.—1. The combination of the wheels D and E with mechanism, substantially as described, for delivering a quantity of roving between the griping points of said wheels, greater in length than the direct distance between the adjoining rods *b*, as set forth.

2. The combination of the wheels D and E and mechanism substantially as described, for furnishing an increased length of roving between their griping points, as set forth, with a twisting-tube, K, whereby the necessary amount of twist is imparted to the roving to give it the requisite strength in its weaker portions to withstand the strain before being drawn to the required degree of fineness.

3. The combination of the wheels D and E, mechanism substantially as described for furnishing an increased length of roving between their griping points, and twisting-tube K with the draw-rolls L L and M, for the purpose set forth.

120,257.—HOT-AIR FURNACE.—Reuben R. Finch, Peekskill, N. Y., assignor to Union Stove Works, same place.

Claim.—The truncated cone *k* and shield *i* in combination with the chamber *f* and air-tubes *g* above the furnace or fire-pot *e*, substantially as and for the purposes set forth.

120,258.—HAND-GRINDER FOR HARVESTER-CUTTERS. — Henry C. Fisk, Wellaville, N. Y.

Claim.—1. The shaft, consisting of the section D and adjustable section D', in combination with the pinion I I', spur-wheel J, latch-bar or equivalent F, and grinding-wheel B, substantially as described.

2. The construction and arrangement of the loop-handles A'', having their grasp parallel with the main bar, substantially as and for the purpose set forth.

120,259. — APPARATUS FOR DISCHARGING ACID CARBOYS.–William Gee, New York, N. Y.

Claim.—1. The combination of the suspending-chains E E and the frames C C provided with cams arranged in relation to the attachments of the said chains E E, substantially as and for the purpose herein set forth.

2. In combination with the above, the yoke D, lever F, standard G, and stay or brace I, substantially as and for the purpose described.

3. The combined mouth-piece B and vent-pipe a provided with an elastic socket, *g*, for its attachment to the neck of the bottle, substantially as and for the purpose herein specified.

120,260.—ADVERTISING-ALBUM. — George W. Hawes, New York, N. Y.

Claim.—The method of applying cards or handbills to pictorial advertising-books, substantially as above described.

120,261, antedated October 13, 1871.—COMBINED BURGLAR AND FIRE-ALARM.–Louis Giebrich, Ottumwa, Iowa.

Claim.—1. The bells C C, pivoted frame D, and shaft F, combined as described, and for the purpose specified.

2. The combination of the pins *h h* on the wheel *e* with the levers G, H, and I, all arranged to operate substantially as herein shown and described.

3. The T-head rod *j*, combined with the bell-crank I, forked lever H, lever G, hook *l*, and cord *m*, all arranged substantially as herein specified.

4. The barrel L and hammer *q*, combined with the alarm-setting-apparatus G H I, substantially as herein shown and described.

5. The cord *m* secured with one end to the lever I, and with the other to the hook *n* of the rock-shaft J to operate the alarm whenever said rock-shaft is turned, as set forth.

6. The levers M M, combined with the cords *m*, springs *v*, rod *t*, and rock-shaft J, to constitute the alarm-discharging-apparatus, as specified.

7. The alarm O, arm a^2, and knob *z*, combined with a cord, *w*, operated by the levers M M and rock-shaft J, in the manner specified.

120,262.—TELEGRAPH APPARATUS. — Webster Gillett, Allegheny City, Pa., assignor to himself and Paul Hugus, Pittsburg, Pa., and Charles M. Gillett, Cleveland, Ohio.

Claim.—1. A local battery, arranged in the direct main line, in combination with a local circuit, which shall leave and return to the main line outside of the local battery so as to operate as a feeder to the main line, substantially as described.

2. In single circuit-lines, a working battery arranged in the line of both the main and local circuits, whereby a single battery may be made to work both the main and local circuits, substantially as described.

120,263. — OIL-TANK. — George W. Glass, Pittsburg, assignor to himself and William J. Brundred, Oil City, Pa.

Claim.—1. The valve-stem A passing down through the dome B of the tank C, substantially as herein described, and for the purpose set forth.

2. The detached nut D, in combination with the valve *e* and its stem A, substantially as described.

3. The screw *f* provided with cap *h*, and used in combination with valve *e*, substantially as herein described, and for the purpose set forth.

120,264. — PROPULSION OF VESSELS. — Joseph S. Godfrey, Leslie, Mich., assignor to himself, Sears M. Loveridge, and James Irwin, Pittsburg, Pa.

Claim.—A water-trunk or passage, B D, leading from the bow of the vessel to the case of the centrifugal pump and entering the case at the axis of the pump, in combination with a water-passage, G, from the periphery of the pump-case to the stern of the boat, substantially as described.

120,265.—PAPER-PULP ENGINE.—Simeon L. Gould, Skowhegan, Me.

Claim.—1. The case A *g*, in combination with the centrifugal disintegrator B, substantially as described.

2. The partitions *p*, arranged in the case A *g*, in combination with a centrifugal disintegrator, substantially as described.

120,266. — DIE FOR CUTTING SCREW-THREADS. — John J. Grant, Greenfield, Mass.

Claim.—The combination, with the stock and dies and the set screws or equivalent external adjustment of the dies, of the interposed taper or taper-headed screws, applied to operate substantially as herein specified.

120,267.—WINDOW-SASH. — John Groves, New York, N. Y.

Claim.—The double-studded and reversible catch E F H pivoted to the stile B, and operating to lock the sash to the stile and the stile to the frame, as set forth.

120,268.—PAVEMENT.—Hermann A. Gunther, New York, N. Y.

Claim.—A pavement formed of artificial stones or concrete blocks, separated by a filling of gum or other equivalent water-repellent substance capable of being hardened and remelted, substantially as and for the purpose specified.

120,269.—VALVE FOR STEAMBOAT ENGINES. Andrew M. Haley, Sioux City, Iowa.

Claim.—1. A steam supply-pipe, A, and exhaust-pipe C, combined with a chamber, B, communicating with steam-cylinder and with said exhaust-pipe, as described.

2. The combination with said chamber B of the open-ended tube D, movable therethrough, and the exhaust C having valve-seat *b*, for the purpose specified.

3. The combination, with said chamber B, open-ended tube D, and exhaust C having valve-seat *b*, of the circular valve E, all constructed to operate in the manner described.

120,270. — COMBINED LOUNGE AND BEDSTEAD.—John C. Hall, Cincinnati, Ohio.

Claim.—The provision in a lounge-bedstead of the folding boards K K', strap L, and buckle M, or their equivalents.

120,271.—BED-BOTTOM.—James W. Hampton, Mount Pleasant, Iowa.

Claim.—The combination of the clevises G G, attached to the under side of the bed-slats, supporting-bars B B, the stationary bars D D, the springs C C, and the slats A A, all substantially as and for the purposes herein set forth.

120,272. — APPARATUS FOR RELEASING HORSES. — James Harrison, New York, N. Y.

Claim.—1. The arrangement of the chains B D H and rings F I with the pins or nails C, eye-bolts E, long hooks G, and the stalls of a stable, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the whiffletree K, traces L, and breast-collar M with the chains B D H, substantially as herein shown and described, and for the purpose set forth.

120,273.—HAY-ELEVATOR.—Theodore Harter, Ilion, N. Y.

Claim.—The lever F, having the beveled end *f* and diverging arms G G', in combination with the bar *f*, pulleys C D', and rope D, substantially as specified.

120,274.—CULTIVATOR.—Julius W. Hatcher, Bethesda, Tenn.

Claim.—In a cotton-chopper, the arrangement of the cam-wheel G H so that its axis is above that of the internally-toothed transporting-wheel C E, the same being geared together, as shown, and the chopper O, rod L, spring K and arm or rod, all as shown and described, for the purpose specified.

120,275.—SUSPENDED LIFTING-JACK.—Hector C. Havemeyer, New York, N. Y.

Claim.—1. The hydraulic jack provided with the rods *h h*, cross-piece *j*, and hook *k*, substantially as specified.

2. The lifting-jack provided with the projecting trunnions *d d*, and combined with the ring B having the pins *e e*, substantially as described, so that a universal joint is thus produced, for the purpose specified.

3. The combination of a hydraulic jack with the ring B and truck C, to operate substantially as herein shown and described.

120,276.—WATER-CLOSET SEAT.—David L. Hawkins, Poughkeepsie, N. Y.

Claim.—1. The movable cover C for water-closets, consisting of a piece of cloth having the opening, as described, and adapted to be drawn through the slot *d*, as and for the purpose specified.

2. The combination, with the water-closet seat A, of the cover C, cylinder D, coiled spring G, and shaft E, as and for the purpose specified.

3. The combination of the cover C, cylinders D D', spring G, cloth I, and gear-wheels D^2 D^3 applied to the seat of a water-closet, as and for the purpose set forth.

120,277.—SHUTTLE FOR SEWING-MACHINES. James C. Hervey, Newport, Ky.

Claim.—1. The lid C, washer D', spring F, pin D, and nut E, in combination with the cylinder B and shuttle A, substantially as specified.

2. The combination and arrangement of the hinged slotted cylinder B, spool G, hinged lid C with eye *g''*, washer D', spring F, nut E, loop *g'*, and shuttle A, substantially as set forth.

120,278. — BLAST-ATTACHMENT FOR LIME-KILNS.—William Hollenbaugh, New Germantown, Pa.

Claim.—In connection with a kiln for burning lime, the combination of a fan-blower and the telescopic-pipe H H' with the terminal-box J provided with slides or valves K K' for distributing the heat equally, as described, under and throughout the kiln.

120,279. — ROCK-DRILL.—Simon Ingersoll, New York, N. Y.

Claim.—The spiral bar A having the grooves *a' a' a'* cut as described, in combination with the nut B when applied to a rock-drill, and operated substantially as and for the purpose set forth.

120,280.—GAS-REGULATOR.—John Keeling, New York, N. Y.

Claim.—The counterpoise vessels E and F, when provided with the air-cocks J and K, and connected by the flexible tube G, in combination with the walking-beam C and valve or bell of the gas-governor B.

120,281.—SHUTTER-WORKER.—Lester Bradner Kenney, Charlotte, Mich.

Claim.—The combination of the beveled pinion D with its cam *a* with the beveled pinion E having a groove, *b*, all constructed to operate substantially as set forth.

120,282.—BRIDGE.—Lancelot Kirknp, Brooklyn, N. Y.

Claim.—1. The upper chord or arch formed by combining the plates *a*, constructed as shown in Figs 2 3, 4, and 5 of the drawing, for the purpose specified.

2. The combination, with the upper and lower chords A and B, of the vertical suspension-rods C and diagonal braces D, when the same shall be constructed and operate substantially as and for the purposes set forth.

120,283. — SOFA-BED.—George Knell, Philadelphia, Pa.

Claim.—1. The combination of the plates D and D' at each end of the sofa, when constructed and arranged substantially as herein described, so as to form hinges for the back, braces for the latter and for the arms of the sofa, and bearings for the ratchets and their operating rods.

2. The supporting lugs *f* on the plates D, in combination with the subject-matter of the first claim.

3. The ratchets *f f*, hung to the back of the sofa so as to be operated together, in combination with fixed pins upon which the ratchets are adjustable, as set forth.

120,284.—TOY-GUN.—Jacob Lair and Jacob F. Rawzell, Indianapolis, Ind.

Claim.—1. The sliding guard G provided with the projection h, and operating substantially as and for the purposes herein set forth.

2. The combination of the stop-block C, drive-pin D, springs *f f*, sliding-guard G, and trigger H, all constructed and arranged substantially as and for the purposes herein set forth.

120,285. — GRAIN-SEPARATOR.—William H. Lawrence, Baltimore, assignor of one-half his right to D. A. Edie, Morrisville, and one-fourth his right to H. C. Karr, Baltimore, Md.

Claim.—The combination of the rotating elliptical cams h, springs H, pin h, and arms I, substantially as and for the purpose specified.

120,286. — WASHING-MACHINE. — George Leach, Union, N. Y.

Claim.—The cylinder B with sides formed of the diamond-shaped slats *e e*, and bars *g g* with internal projections *i i*, in combination with the inclosing-reservoir A and gearing *d e*, with or without the connected boiler H, substantially as and for the purposes set forth.

120,287.—COFFEE-MILL.—Antoine Lepage, Woodhaven, N. Y.

Claim.—1. The notched collar A arranged on the spindle B between the spindle-standard E and the adjusting-nut D, for which it forms the bearing, in combination with the rigid horn G on the crank H, substantially as and for the purpose herein set forth.

2. The combination of the notches *n n* in the hopper, the projections *g g* on the base-ring J, the projecting portions of the spindle-standard E, the stops *h h* on said ring and those on the female cone, and the lugs *d d* on the latter, substantially as and for the purpose described.

120,288.—AUTOMATIC TELEGRAPHIC TRANSMITTER.—George Little, Rutherford Park, N. J.

Claim.—The rounded circuit-closing points *i e*, combined with mechanism for drawing along a strip of perforated paper, substantially as and for the purposes set forth.

120,289.—TELEGRAPH-RECORDING INSTRUMENT.—George Little, Rutherford Park, N. J.

Claim.—1. The ink-marking pen, extending nearly horizontally from a vibrating armature and contiguous to a roller over which the strip of paper passes, for the purposes set forth.

2. An ink-fountain with a discharge-hole above and contiguous to the vibrating-pen, in combination with a swinging armature and electro-magnet, substantially as set forth.

120,290.—TELEGRAPH APPARATUS.—George Little, Rutherford Park, N. J.

Claim.—1. An electro-magnet operated by earth currents and combined with an electro-magnet and armature, for the purposes specified.

2. An adjustable resistance or rheostat, combined with a retractile electro-magnet for the armature of an electro-magnet, and with the branch-circuit connections, substantially as and for the purposes set forth.

120,291.—AUTOMATIC CIRCUIT-CLOSER FOR TELEGRAPH APPARATUS.—George Little, Rutherford Park, N. J.

Claim.—1. The circuit-closing roller, made of one or more ranges of headed pins inserted through the shell of said roller and pressed outwardly by a spring, ring or rings, substantially as set forth.

2. The circuit-closing roller with spring-pins combined with the roller *a*, and acting to feed the paper, as set forth.

3. The non-conducting disks *u* forming the sides of the circuit-closing roller, for the purposes set forth.

120,292.—STOP-VALVE. — Fred. D. Livingston, Norwich, Conn.

Claim.—The screw J having valve I, double valve D E F having rod K forming part thereof, and valve-seated and recessed plug G combined with a shell having the parts A parallel to each other, all being constructed, arranged, and applied together, as and for the purpose specified.

120,293.—AUTOMATIC FAN.—Martin Lochner, Newark, N. J.

Claim.—The fan-wheel G, shaft C, and water-wheel E, arranged to operate in connection with the flume D, supply-pipe F, and exit-pipe or opening H, substantially as and for the purpose set forth.

120,294, antedated October 11, 1871.—WATER-COOLER, FILTER, AND ICE-CHEST COMBINED. — Richard Long, Pittsburg, Pa.

Claim.—1. The wings *j j*, rotating with the central ice-chamber C and within a water-chamber *c* to agitate and thereby more rapidly cool the water.

2. The ice-chamber C, the water-chamber *c* surrounding it, and the filtering-chamber *b* surrounding the latter, all combined as described, so that the water first passes through the charcoal, then in-

to the water-chamber, and is finally cooled without contact with the ice.

3. The combination of the cover B and pin *i* with the swiveled agitator, ice-chest, and loop A, substantially as described, to operate as set forth.

120,295.—RAILWAY RAIL.—John Maitland, Newburg, Ohio.

Claim.—A railway rail, consisting of the sections B B' having a dove-tailed groove, as described, and beveled edge *c c'*, head A provided with a tongue or feather, D, of the shape and size to fit into said groove, substantially as and for the purpose set forth.

120,296, antedated October 13, 1871.—IRONING-TABLE.—James H. Mallory, La Porte Ind.

Claim.—The combination of the ironing-table A with the short supports *e e'*, sliding supports h h', adjustable brace *g*, and pins *f* and L, substantially as specified.

120,297.—BALING-PRESS.—Thomas E. Marable, Petersburg, Va., assignor to himself, Joseph B. Dunn, and Starke A. Plummer, same place.

Claim.—1. The followers a b, when pivoted to their bars, as specified.

2. The combination of the beam *c*, hinged nuts *g*, screws h, and upper follower *a*, as described.

120,298.—STEAM AND OTHER ENGINES.—Robert Mudge Marchant, London, England.

Claim.—1. The combination, with the cylinder of an engine, of an exhaust-chamber loaded to and maintained at an inferior pressure to that of the spent gas or vapor passing from the engine to said chamber for the further utilization of the exhaust gas or vapor, substantially as specified.

2. The exhaust-tank or chamber D provided with a safety or pressure-regulating valve, E, a perforated partition, I, an exhaust-inlet, C, and outlet K, a water-inlet, F, and outlet H, all arranged for operation in relation with the cylinder of the engine, the exhaust-pipe from which connects with said chamber, essentially as herein set forth.

120,299.—GAS-AND-SMOKE-CONSUMING APPARATUS.—George Marlow, Chicago, Ill.

Claim.—1. The retort A, provided with the respective series of openings J and K, so arranged as to admit the flame through the said retort around the distributing-cylinder E, substantially as and for the purpose described.

2. The perforated distributing-cylinder E, in combination with pipes H and H', substantially as and for the purpose described.

120,300.—WASH-BASIN.—Christopher C. Marsh, New York, N. Y.

Claim.—The suspended wash-basin A, in combination with the hopper B having a perforated bottom, as described.

120,301.—SIDING-GAUGE.—John Mason, Buffalo, N. Y.

Claim.—The combination of the block A with offset B, curved holder C, pin E, metal slide D with point *a*, and the set-screw *b*, all substantially as and for the purposes set forth.

120,302.—GAS-MACHINE.—Hiram S. Maxim, Brooklyn, N. Y., assignor to Myron H. Strong, same place.

Claim.—1. The retort for vaporizing the liquid hydrocarbon, made with a water-jacket surrounding such retort and heated by the burners *a*, substantially as specified.

2. A water-vessel interposed between the retort for liquid hydrocarbon and the heating flame, in combination with the mechanism, substantially as specified, for regulating the supply of the inflammable material to the flame in proportion to the heat and pressure, substantially as set forth.

3. The supply-pipe *g* for liquid hydrocarbon passing through the retort into the vessel *g'*, in combination with the tube S and dip-pipe 9, for the purposes set forth.

4. The plug h' and strainer, removable, as shown, and applied between the generating-retort and the jet *i*, for the purpose set forth.

5. The air-vave *l'* upon the stem of the jet-valve 15, and allowed a slight movement, so that the two valves act together in the manner set forth.

6. The rock-shaft 16, arm *n*, and spring-finger 17, in combination with the air-valve *l'* and jet-valve 15, substantially as and for the purposes set forth.

7. The valve *m* in the gas-pipe *l* leading from the mixing-chamber k, for the purposes set forth.

8. The lever *r*, arm *o*, and toggle 27 *o'*, constructed and applied substantially as set forth, to give motion to the rock-shaft 16, as specified.

9. The dash-pot *s* and rock-shaft 16, in combination with the valves *l'* and 15 and actuating-toggle and lever *r*, as and for the purposes specified.

10. The gasoline-vessel *i* in the gas-holder, and an air inlet-pipe and outlet-valve for filling the gas-holder with inflammable gas by drawing the same up, substantially as set forth.

120,303.—AXLE-SKEIN.—Lorenzo Mayhew, Rock City Falls, N. Y.

Claim.—The axle-skein, swaged up from a single plate, doubled over the shouldered end of the spindle at C and provided with the concave arms B B, substantially as specified.

120,304.—WRENCH.—Thomas D. McBride, Philadelphia, Pa.

Claim.—The head A a^1 a^2 a^3 a^4 and handle B, constructed substantially as herein shown and described, to adapt them to be used and adjusted in connection with each other, as and for the purposes set forth.

120,305.—WOOD-BENDING MACHINE.—Hiram McDonald, Shortsville, N. Y.

Claim.—1. The combination, with the former A, of the yokes Q R, connecting-pin S, and binding-screw T, substantially as specified.

2. The combination of the said former A with the strap G, bed I, and bending-lever J, all constructed substantially as specified.

3. The arrangement, with the lever J and roller Y, of the slides Z, screws *a*, pinions *d e*, and shaft *f*, substantially as specified.

120,306.—WOOD-BENDING MACHINE.—Hiram McDonald, Shortsville, N. Y.

Claim.—The construction of dies C F of thin plates with a downward and overlapping projection, G, on the top-plate, and a corresponding recess to receive it in the bottom plate, for the purpose of preventing any elongation at the end.

120,307.—LIME-KILN.—John Q. Merriam and Abram J. Dietrick, Fort Scott, Kan.

Claim.—The removable and adjustable sliding bottoms D d^1 d^2, constructed substantially as herein shown and described, in combination with the plates C, lower part A, and flue or chimney E, as and for the purpose set forth.

120,308.—FENCE-POST.—William A. Middleton, Harrisburg, Pa.

Claim.—1. The triple socket B, constructed substantially as shown and described for fencing or other purposes, as set forth.

2. The combination of the ground-post A, triple socket B, and fence-post C D E, constructed and arranged substantially as and for the purposes herein set forth.

120,309.—APPARATUS FOR EXHIBITING CARDS, &c.—Isaac M. Miller, Huntsville, Ala.

Claim.—The combination of the endless belts, the cylinder, the chute, and concave glass front of the case, all substantially as specified.

120,310.—WASHING-MACHINE.—Thomas W. Miller, Montezuma, Ind.

Claim.—1. The wire spring I, constructed as shown and described, and arranged upon the rubber H, substantially as and for the purposes herein set forth.

2. The combination of the levers D D, rubber H, slotted arms J J, and springs K K, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the box A, wash-board C, rubber H, levers D D, arms J J, and springs K K and I, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,311.—STOP-COCK.—Hermann Müller, Vienna, Austria, assignor to Francis Telbinger, same place.

Claim.—1. The construction of a double valve with grooved radial ribs H and axial hubs K K arranged in cavities thereof, as and for the purpose specified.

2. Two internal aligned and internally-threaded hubs, K K, of a two-part valve, F F, combined with a right and-left screw, I, centrally swiveled, and passing through the axis of each cone so as to regulate the extent of opening in the valves, as described.

3. The combination, with a swiveled right-and-left-screw, I, moving the hubs K K of a double valve on the ends thereof, of a worm-wheel, M, double worm-shaft O P, and dial-wheel T, whereby the spacing of the valves apart can be adjusted with absolute exactitude.

4. The combination, with a two-part valve, F F, of a raised valve-case, C E, provided with a removable cap, R, fitted water-tight into an opening, Q, as and for the purpose specified.

5. A stop-cock, provided with conical valves, arranged and operating substantially as herein shown and described, whereby the pipes may be closed and access given to the interior of the stop-cock without emptying the pipes.

120,312.—SHIFTING-SEAT FOR VEHICLES.—Henry Nagle, Carlisle, Pa., assignor of one-half his right to Benjamin Smeltz, same place.

Claim.—The arrangement of the two seats C and B with the grooved sill D *d*, so combined that the hind seat C can be moved to occupy the space of the front seat B, and which latter, with its folding back *b*, so hinged as to turn over and under to form a partition across the forward part of the vehicle, all operating jointly, substantially in the manner shown, for the purpose specified.

120,313.—BURGLAR-ALARM.—Robert William Newbery, New York, N. Y.

Claim.—1. The detonating cracker, furnished with attaching arms or strips, and used as a burglar-alarm, substantially as shown and described.

2. The protecting-shield B applied to the cracker, substantially as and for the purpose herein shown and described.

120,314.—STRAW-CUTTER.—John K. O'Neil, Kingston, N. Y.

Claim.—1. The arrangement of the cutting-knives B B, in combination with the feeding-box C, so as to cut the straw, hay, or stalks in doubly-oblique directions, substantially as and for the purpose herein specified.

2. The two sets of comminuting cutters *a a* and *b b*, one set being knife-edged so as to slit longitudinally, and the other set chisel-edged so as to sever transversely, in combination with the main cutting-knives B B, as and for the purpose herein specified.

3. The pin-disk D, reciprocating ratch-bars E H, ratchet-wheels G I, and retracting-spring *n*, constructed, arranged, and operating in combination with the knives B B and cutters *a a* and *b b*, in the manner and for the purpose herein specified.

120,315.—BED-BOTTOM.—Otis S. Osgood, Mount Pleasant, Iowa, assignor of one-half of his right to S. B. Freeman, same place.

Claim.—The combination of the frame A B, C-shaped springs C C, and bed-bottom D, when said springs are attached to the top of the frame, then pass downward under the same, and then upward, supporting the bed-bottom, substantially as herein set forth.

120,316.—BRAKE FOR RAILWAY CARS.—Joseph Paradis, Brooklyn, N. Y., assignor to himself, William H. Drew, and Charles Parker, same place.

Claim.—The brake-blocks *g h*, applied in pairs to opposite sides of the wheels and suspended by the springs *i* or yielding arms, in combination with the clutch-drum *m* and its lever *t* for bringing the brake-blocks into action, as set forth.

120,317.—SUCTION-AND-BLAST FAN.—Chester R. Patterson, Pittston, Pa.

Claim.—1. A suction-and-blast fan, having a box, C, on either or both sides of the casing, and the fan-shaft bearings on the outside of the entire casing, all substantially as and for the purposes herein set forth.

2. The curved wings H H set backward from the arms of the fan-shaft and concave on their fronts, substantially as and for the purposes herein set forth.

120,318.—FURNACE FOR THE MANUFACTURE OF IRON.—Edgar Peckham, Antwerp, N. Y.

Claim.—1. The combination of the forge B, horizontal flue C, and pit or trap C^1, substantially as and for the purposes hereinbefore set forth.

2. The combination of the retort E, chamber D connected by the openings N N', substantially as and for the purposes hereinbefore set forth.

3. The combination of the hearth K and forge B, substantially as and for the purposes hereinbefore set forth.

4. The combination of the dampers F and G and flues C^2, substantially as and for the purposes hereinbefore set forth.

5. The combination of the doors H, one or more, and the passage I, substantially as and for the purposes hereinbefore set forth.

6. The combination of the retorts E, one or more, and the passage I and table K, substantially as and for the purposes hereinbefore set forth.

7. The combination of the door O and the table K, as and for the purposes hereinbefore set forth.

120,319.—BRIDGE.—Oliver H. Perry and William H. Allen, Beloit, Wis.

Claim.—The coupling clamping-seats D, E, and F, arranged to receive and support the adjacent ends of the arched rods C and form a connection for the brace-rods, thus dispensing with separate or tubular couplings for this purpose, as shown and described.

120,320.—CLOTH-STRIP BRISTLES.—Arthur P. Peyroux, New Orleans, La.

Claim.—The cloth-strip bristles, constructed substantially as herein shown and described, and for the purpose set forth, as a new article of manufacture.

120,321.—MACHINE FOR BENDING WOOD.—John Phillips, Chicago, Ill.

Claim.—Table A, in combination with form B, levers C, patterns D, pins E, H, and I, slots F, and metallic straps G, constructed and arranged substantially in the manner and for the purposes herein set forth.

120,322.—SELF-OPERATING GATE.—William H. Phillips, Staunton, Ind.

Claim.—1. The bell cranks I I, cranks K K and M, and rods J and L, arranged and operating substantially as described, for the purposes set forth.

2. The combination of the hinges G G and guides *q* and R with the bell-crank I, cranks K K and M, and rods J and L, substantially as shown and described.

120,323.—METALLIC CARTRIDGE.—George R. Pierce, Grand Rapids, Mich.

Claim.—1. The cup or striker A, when combined with a cartridge-shell, to operate on an anvil or nipple, and a cap carried by the same, substantially in the manner shown and described.

2. The combination and arrangement of the cup or striker A, movable and adjustable nipple B, and shell, substantially as described.

120,324.—ATTACHMENT FOR PROTECTING SLEEVES AND CUFFS OF GARMENTS.—James C. Reed, Boston, Mass.

Claim.—The within-described new article of manufacture, having a stiff ring, A, a thin and highly-yielding ring, B, and a contractile cord or edge, C, all formed of rubber, and adapted to serve as herein set forth.

120,325.—AIR-ENGINE.—Alexander K. Rider, New York, N. Y., assignor to himself and C. H. Delamater, same place.

Claim.—1. The mode of operation of the valve M to allow the escape of air during a portion of the stroke and to close and compel the delivery of the air through the valve R during the remainder of the stroke, so as to make the main cylinder A^1 and main piston H serve as the compressing-pump for delivering a smaller volume of air than the capacity of the cylinder, as specified.

2. The adjustable pieces P or their equivalent, operated by the engine, and serving to hold open the induction-valve M during a variable portion of the return-stroke, substantially as herein specified.

3. The construction and arrangement of the heater A^4 and the adjacent parts, and tangential passage through which the air is delivered, so that the air shall traverse around in the space provided, for the purposes specified.

4. The passages G, D, and C, arranged, as represented, relatively to the valve F and to the working parts of an air-engine, so that the cool air shall be only partially introduced into the top of the furnace, as specified.

5. The broad flanges a^1 a^3 bearing at or near their outer edges, as represented, to prevent the conduction of the heat between the parts while maintaining a firm union thereof, as specified.

6. The tightening means V, mounted on the sliding bolt U, and the whole arranged to traverse on the hinge-joint *t* and to secure and liberate the door T, substantially in the manner as herein specified.

7. The beam I, links J, connecting-rod K, parallel-motion links J^1, and brackets A^5, arranged as represented, relatively to each other and to the piston-rod *h*, and to the valve-operating means Q *q* P N, for the purposes set forth.

120,326.—SCROLL-SAW.—Isaac R. Ritter, Reading, Pa., assignor to himself and Jacob R. Ritter, same place.

Claim.—1. A tension device for gig-saws, consisting of a coiled spring, J, and of levers L and M, the whole being arranged in respect to each other, and connected together and to the saw by means of straps or their equivalents, substantially as herein described.

2. The combination of the saw-frame, the levers connected to and operating the saw, and the coiled spring J, its spindle K, and pawl and ratchet *m*, all arranged and operating as described.

3. The levers L and M hung to the bar E^1 by means of straps *j* and j^1, substantially in the manner described.

4. The combination, with the straps j^1, of the bolts *r* and adjusting-nuts *s*, all substantially as and for the purpose specified.

120,327.—GALVANIC BATTERY.—Joseph A. Robbins, Medford, Mass.

Claim.—The employment or use of the tin basicle or cylinder B in a galvanic battery, when constructed substantially in the manner as and for the purposes hereinbefore set forth.

120,328.—BLOWER.—Timothy Rogers, Fredericktown, Ohio.

Claim.—The within-described blower, consisting of the casing A with central opening C and outlet-pipe B, fan D E G with cups I I, and the outside suction-pipe J, all substantially as and for the purposes herein set forth.

120,329.—GAS-FITTING.—Gustav Rosenthal, Pittsburg, Pa.

Claim.—The ratchet and pawl, combined with the horizontal stem *e* of the raising and lowering joint, substantially as described.

120,330.—HAIR-CLOTH.—William Rossnagel, Newark, N. J.

Claim.—The invention of a union hair-cloth, consisting of the articles above named, and manufactured substantially as set forth and described.

120,331.—IMITATION HAIR-CLOTH.—William Rossnagel, Newark, N. J.

Claim.—The invention of an artificial or imitation hair-cloth, the filling being composed entirely of Sisal hemp or Manila, and manufactured substantially as herein set forth and described.

120,332.—STREET-CROSSING.—John Schley, Savannah, Ga.

Claim.—The two pairs of cogged tracks G G G G, continuous over the whole arch D, and each pair equally depressed below the other on opposite sides of the arch, so that a vehicle having four cog-wheels may be moved from one end of the arch to the other without stoppage.

120,333.—MEDICAL COMPOUND FOR PURIFYING THE BLOOD.—Paul Henry Schmid, New York, N. Y.

Claim.—The within-described compound, made substantially as set forth.

120,334.—SASH-HOLDER.—Sylvanus H. Shaw, Lynn, Mass.

Claim.—The combination of the case *a*, gear *b*, arm *k*, spring *i*, pawl *f* formed with the arms *n o* and *q q'*, and screw *p*, all arranged as specified.

120,335.—REPLACEABLE PIVOT FOR WATCHES.—Simon B. Simon, New York, N. Y.

Claim.—As a new article of manufacture, a repair-pivot, B, having a tubular socket to receive the end of a watch-spindle or stem, substantially as specified.

120,336.—COAL-HOD.—Charles Smith, Brooklyn, N. Y.

Claim.—The two pieces of sheet metal, each being a counterpart of the other, properly formed and united together by the front and rear joints *a b* and the top spout-joint *c*, to produce the body of the coal-hod, as herein shown and described.

120,337.—LUBRICATING CAR-WHEELS.—Cyrus Smith, Irwin's Station, Pa.

Claim.—1. The three oil-cups B, C, and D, provided with the oil-vessels *a*, perforated plates or pieces *b*, covers *d*, and screws *e*, applied to the sides of a wheel-hub, A, as shown and described, to operate as specified.

2. The combination of the adjustable wedge-shaped clevis H and screw *n* with the lead ring *m* and collar *j*, as and for the purpose specified.

120,338.—METALLIC CARTRIDGE.—William S. Smoot, Ilion, N. Y.

Claim.—A cartridge-case strengthened by means of lead or other similarly soft and pliable metal, pressed and upset into the head and under the flange of the cartridge, as described and represented.

120,339.—DREDGE-BOX.—Charles F. Spencer, Cleveland, Ohio.

Claim.—The body A having the internal bead *a*, in combination with the lid B having the perforated rim C provided with a stop or projection, *h*, as and for the purpose set forth.

120,340.—CORN-PLANTER.—Abraham H. Stark and John C. Mitchell, Nevada, Iowa.

Claim.—1. In corn-planters, the combination of a hopper having a single hole in its bottom P; a measure, *m'*, of the quantity of grain to be planted; a case, K, arranged thereunder, having two holes and a slot in the top, and having one central discharge-hole in bottom; plates M N, rigidly connected, movable together, and having two holes apiece therein; and the tubes L L extending not quite to the bottom of the case, all constructed and arranged as and for the purpose specified.

2. In combination with an adjustable shoe, C, the clasp D' and the arm E', to fasten the said shoe detachably to the frame of the planter and the runner thereof.

120,341.—CAR-BRAKE AND STARTER.—William M. Starr, Washington, D. C., assignor of one-eighth of his right to John A. Rollings and George W. Wright, each of same place, and one fourth of his right to William Penn Clarke, Davenport, Iowa.

Claim.—1. In combination with the ratcheted car-wheels, bar A, pawl C, and pawl P, operated by the driver, substantially as set forth.

2. The combination of the ratcheted car-wheels, bar A, pawl C, hand-wheel E, shaft G, drum F, and chain B, substantially as set forth.

3. The combination of the ratcheted wheels, the bar or frame A, pawls C, hand-wheel E, shaft G, drum F, chain B, and the brakes *a' a' a'*.

4. The combination of the bar A, pawls C, hand-wheel E, shaft G, drum F, chain B, and chains D, substantially as set forth.

120,342.—WATER-GRATE FOR STEAM-BOILERS.—Thomas Stone, Carbondale, Ill.

Claim.—The construction and arrangement of mud-pipe A, placed across the bottom of ash-pit B, the series of curved grate-bars C, and the transverse pipe D, connected together and with the boiler-pipe E, as and for the purpose specified.

120,343.—RAILWAY CATTLE-GUARD.—Samuel Strack, Dover Township, Pa.

Claim.—The improved cattle-guard, consisting of the sectional springs B, central hinged sleeves C C, and flexible fence H, substantially as specified.

120,344, antedated October 21, 1871.—SINGLE HARNESS.—Charles Richard Stuart, Winslow, Me.

Claim.—1. The bar B *b'*, bolt D, bar E, and breast-pads F, when all are constructed and arranged together as and for the purpose specified.

2. An improved harness, formed by the combination of the bar B, pivoted bar E, breast-pads F, supporting or neck-strap G, belly-band H, springs I, and strap J, in combination with each other, to adapt them for attachment to a pair of thills, substantially as herein shown and described, and for the purposes set forth.

120,345.—WATER-WHEEL.—Samuel D. Taylor, Hazleton, Pa.

Claim.—The series of movable arc plates H and arc extensions *d* of stationary chutes D *s*, combined concentrically and closely with the wheel and each other, so that the course of the water will not be changed (as where the chutes move) nor the velocity impeded, after passing the throats, by any adjustment of the gates.

120,346.—WASH-BOARD.—William H. Towers, Boston, Mass.

Claim.—The combination of a frame having mounted within it a series of rolls covered with an apron or belt, substantially as and for the purpose set forth.

120,347.—BALING-PRESS.—Justin D. Towner and General J. Harris, Murfreesborough, Tenn.

Claim.—1. The combination, with the press-case and follower, of the ropes E, pulleys D G, and capstan H, all arranged substantially as specified.

2. The combination, with the follower, of the ropes M, pulleys N, roller L, and hand-crank, when arranged relatively to the press-case and the horse-power apparatus, as described.

120,348.—OIL-BLACKING FOR LEATHER.—O. K. Tripp, Rochester, N. Y.

Claim.—The oil-blacking, composed of the materials in the proportion specified, and compounded in the manner herein set forth.

120,349.—REFINING HYDROCARBON OILS.—Herbert W. C. Tweddle, Pittsburg, Pa.

Claim.—1. The method, substantially as described, of agitating petroleum by the introduction of carbonic-acid gas or other non-inflammable gas into the oil within the agitating-tank.

2. The introduction of carbonic-acid gas or other non-inflammable gas into tanks or vessels containing petroleum, for the purpose of preventing the formation of explosive mixtures of hydrocarbon vapor and oxygen, substantially as described.

3. The agitation of petroleum in an air-tight tank by means of any gas, gaseous fluid, or mixture of gases under pressure, or by means of a vacuum, substantially as described.

120,350.—SCRUBBING-BRUSH.—John N. Valley and John A. Stetson, Jr., North East, Pa.

Claim.—The within-described scrubbing-brush, consisting of the head E with suitable brushes or rubbers, or both, the circular plate D forming an annular groove, the perforated plate B having a handle-socket, A, and the springs G, all as shown and described.

120,351.—HOLDER FOR SCREW-CUTTING DIES.—Benjamin L. Walker, Sing Sing, N. Y.

Claim.—1. The combination of the frame A with its end screws *g g*, the clamping-strips C C with their side-adjusting and clamping-screws *f f*, and the rocker D, adjustable as by screws *i i*, substantially as specified.

2. The frame A, constructed with a swinging opening end piece, *e*, slotted as at *e*, and secured by a bolt or bolts, in combination with the adjustable clamping-strips C C', essentially as herein set forth.

120,352. — COFFER-DAM. — John E. Walsh, New York, N. Y.

Claim.—1. In a coffer-dam, the projecting metal keel or hold-fasts A''' attached to the bottom O, for the purpose described.

2. The combination of the square timber or metal piles C and metal sheet-piles D with the sections A' of a coffer-dam, when constructed to operate as herein described.

3. The adjustable sections or parts A' having the square piles C and sliding piles D thereto attached, in combination with the hinged and removable gates or doors B and B' provided with compartments and piles, in the manner and for the purpose described.

4. The coffer-dam herein described, consisting of the adjustable parts A' having compartments therein, piles C and D, keels or hold-fasts A''', end gates B and B' attached, and rail-tracks G thereon, constructed and arranged to operate in the manner described.

120,353. — VESSEL FOR CARRYING LIQUID CARGOES.—William Gray Warden, Philadelphia, Pa.

Claim.—1. A vessel having its engine and boiler-room between double bulkheads, to which steam or water can be admitted.

2. A space, Y, arranged between the sheathing and inner lining of a vessel and communicating with a steam or water-pipe, as set forth.

3. A tunnel, M, extending from the rear bulkhead E to the stern of the vessel, and formed by two casings to the space, between which steam or water can be admitted, all substantially as specified.

4. A vessel for carrying liquid cargo, in which the deck is lined at the under side and the hatchways are sealed, as herein described, so as to render the cargo space gas-tight, as set forth.

120,354.—COMBINED SEEDER AND CULTIVATOR.—Jacob W. Webb, New Athens, Ohio.

Claim.—The wheel-and-axle frame A, three transverse bars, B, notched plates C D, and spur-wheel M', combined, constructed, and arranged to receive at different times the cultivator, drill, and planting mechanism, in the manner described.

120,355.—PROCESS OF DISINFECTING BUILDINGS, SHIPS, &c.—Henry M. Wells, New York, N. Y.

Claim.—The method of purifying vessels, buildings, &c., by injecting disinfectants in a spray by steam, said disinfectants being atomized and volatilized, substantially in the manner described.

120,356. — HORSE-COLLAR FASTENING.—Caleb Wheeler, Warsaw, Ohio.

Claim.—1. The collar-pieces a b, combined with the hinged folding plates c d, as specified.

2. The plate c, combined with the plate g, springs h h', and lugs j, as described.

120,357.—ANIMAL-POWER.—Myron G. Wood, Church Corners, Mich.

Claim.—The within-described folding power, consisting of the frame A B E, legs C C', disk G, wheels H I, pitman J, cross-head K, and slides L, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,358.—GATE.—Robert J. Wood, Hancock, Mich.

Claim.—1. The tilting-plate C, provided with connecting-stud I, for actuating bar N, at each end, substantially as specified.

2. The prongs E and the tilting-plate, arranged for shifting the latter toward or from the axis of the hinges, substantially as specified.

3. The part J of the hinge, arranged for the attachment of the roller M, substantially as specified.

4. The arrangement of the part J of the hinge and the part F of the bracket, whereby the latter is extended above said part of the hinge for being supported on the end D, all substantially as specified.

120,359.—MEAT-CHOPPER.—Nathaniel True Worthley, Brunswick, Me.

Claim.—1. The combination of the rotary shaft H, wheel I^2, spring I, pitman G, and crank-shaft E, as and for the purpose set forth.

2. The rod F, head-block g, screw k^1, pitman G, and shaft E, in combination with the shaft H, provided with the toothed wheel I^2 and loose collar k, as and for the purpose set forth.

3. The treadle M, hinged to the sill B, and connected to the collar g^2 by the rod N, in combination with the shaft E, pitman G, and rod F, as described.

120,360.—ROTARY STEAM-VALVE AND CUT-OFF.—Hugh Wright, Warren, Ohio.

Claim.—1. The steam-chamber C, valve E, and cylinder-head B, combined and arranged substantially as and for the purpose described.

2. In combination with the valve E, the variable cut-off O, arranged and operating as described, for the purposes set forth.

REISSUES.

4,604.—TUBE-WELL.—Solomon L. Bignall, Chicago, Ill.—Patent No. 92,569, dated July 13, 1869.

Claim.—1. A tube-well, A, provided with a point, G, and wings C, said wings being provided with lips E for loosening the earth and with flanges D for packing the walls of the hole, as set forth.

2. In combination with the tube A the rings M and wire-cloth I, said cloth being formed over the rings and the rings formed to fit the periphery of the tube, to which they are soldered, as set forth.

3. The wire-cloth I, secured to the tube A by a ring of solder, with the wire ring, as set forth.

4,605.—HOSE-COUPLING.—James C. Cooke, Bridgeport, Conn., assignor to Albert F. Allen, Providence, R. I. — Patent No. 22,166, dated November 30, 1858; reissue No. 4,344, dated April 18, 1871.

Claim.—1. The male and female locking devices a a and c c, attached alternately to the connecting faces of a hose-coupling, as and for the purposes specified.

2. The corresponding annular projection and recess m and n, arranged with relation to each other on the holding-band and neck of a hose-coupling, as and for the purposes specified.

3. In combination with the exterior and interior holding annular surfaces between which the hose is compressed, the annular projection m for engaging with the surface of the hose, substantially as described.

4,606.—MANUFACTURE OF ALCOHOLIC LIQUORS FROM THE RHUBARB PLANT.—Joseph H. Deacon, Lumberton, N. J.—Patent No. 86,284, dated January 26, 1869; reissue No. 3,837, dated February 15, 1870.

Claim.—1. The described process of manufacturing an alcoholic liquor from the juice of the rhubarb plant, substantially as set forth.

2. An alcoholic liquor manufactured from the juice of the rhubarb plant, substantially as described.

4,607.—COOLING AND VENTILATING BUILDINGS.—Theodore Krausch, New York, N. Y.—Patent No. 108,707, dated October 25, 1870.

Claim.—1. In a refrigerator-building, an ice-chamber surrounded by an air-space so as to permit a circulation of air around and over the ice-chamber, substantially as described.

2. One or more air-trunks, connecting the several chambers of a refrigerator building with the space surrounding the ice-chamber, so as to distribute the cold air, as set forth.

3. Air-supply pipes m, in combination with the trough g, which receives the water from the ice-chamber, so that the air as it enters is cooled by the waste-water from the ice-chamber.

4. The flue or trunk e passing through the building, and connected, by means of suitable openings, to one or more apartments, and provided with a steam-jet or other equivalent ventilating device, so that the air may be changed in any of the apartments of the building at will, substantially as set forth.

5. The main trunk C, provided with openings and valves on different floors, in combination with ventilating-flues e or their equivalent.

6. The flues k k' with suitable side openings on different floors, so as to circulate the air from the ice-chamber to the several rooms of the building, as described.

7. The method described of arranging the flaps or shutters so that they will close by their own weight, and open automatically by an increase of pressure on their inside.

8. The pipe E, inclosed within the air-trunk C, and communicating with the latter, as described, with the air-space f surrounding the ice-chamber B, said air-space and ice-box being arranged in the top part of the building and operating in connection with the lower rooms, substantially as and for the purpose described.

9. The vertical air-trunks k k', central pipe E inclosed within the air-trunk C, in combination with the air-space f surrounding the ice-chamber B, and operating with reference to the lower rooms, as herein shown and described.

10. In combination, the air-space f surrounding the ice-chamber B arranged in the top of a building, and the central pipe E of a steam-jet, applied and operating as herein set forth.

11. The pipe m with openings n, in combination with stand-pipe p of the waste-chamber, for the purpose of cooling the incoming currents of air.

4,608.—CRUCIBLE FOR MELTING STEEL AND OTHER METALS.—Arthur Pickering, Boston, Charles R. Vickery, Charles R. Atwood, and The Phœnix Manufacturing Company, Taunton, Mass., assignees of George Nimmo.—Patent No. 49,141, dated August 1, 1865.

Claim.—A crucible of the kind known as plumbago crucibles, with a lining of clay or clay and sand, or similar material, for the purpose specified.

4,609.—FURNACE FOR THE MANUFACTURE OF IRON AND STEEL. — Henderson Ross and John H. Clemens, Pittsburg, Pa.—Patent No. 113,279, dated August 22, 1871.

Claim.—1. A furnace so constructed that the flame in its neck and in the lower end of its stack shall be brought in direct contact with water and subjected to its decomposing and mellowing action, substantially as hereinbefore described.

2. A furnace for the manufacture of iron and steel provided with a water-box, substantially as hereinbefore described, and for the purpose set forth.

4,610.—CULTIVATOR.—William S. Weir, Jr., Monmouth, Ill.—Patent No. 37,251, dated December 23, 1862.

Claim.—1. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz.: Two wheels, C C, tongue A, axle B, and two plow-beams, F F, independently hinged to the axle by means of joint-pieces K K so constructed as that the plow-beams, with their gangs of plows, may be moved independently and freely in a lateral or vertical direction, and be retained, during the operation of the plows, in an upright position, without the aid of other connection or support, substantially as and for the purpose set forth.

2. The combination, in a walking straddle-row cultivator, of the following instrumentalities, viz.: Two wheels, C C, tongue A, axle B, and two plow-beams, F F, hinged, as aforesaid, with a bar, D or equivalent device, projected in rear of the axle, by means of which the plow-beams, with their gangs of plows, can be suspended clear above the ground when not in use, substantially as set forth.

3. The joint-pieces K K, constructed as described, with perforated plates b b and bolts c and c, in combination with the plow-beams F and uprights B' of the axle, for the purposes set forth.

4,611.—CASE FOR RIBBONS, LACES, &c.—Samuel Whitaker, Macon, assignor to himself and Aaron Ruth, Decatur, Ill.—Patent No. 113,827, dated April 18, 1871.

Claim.—1. In a case for ribbons, laces, &c., constructed, substantially as described, with a series of springs, washers, and caps on the shaft and between the spools, the washers and caps provided with projections that fit in a slot in the shaft, so that they will revolve with the shaft, and that the material can be wound upon each spool separately or upon two or more of them at the same time without disturbing the other coils, as set forth.

2. In a case for ribbons, laces, &c., constructed, substantially as described, with a series of springs, washers, and caps on the shaft and between the spools, the washers and caps provided with projections that fit in a slot in the shaft, and with a ratchet-wheel and pawl, so that one or more of the coils of ribbon, &c., can be uncoiled at the same time, as set forth.

3. A series of spools, E E, with the points e e, and a series of openings, O O, with the points e' e', substantially as described, and for the purpose set forth.

4. The feeder L, provided with the points l l, for the purpose set forth.

5. The spring tape-measure S sliding in the rod R, for the purpose described.

DESIGNS.

5,320.—LAMP-SHADE.—Charles Binzer, New York, N. Y.

Claim.—The design for a lamp-shade, substantially as described and represented in the drawing.

5,321. — GRATE-FENDER.—George Buchanan, Washington, Pa.

Claim.—The design for a grate-fender, as described and shown in the accompanying drawing.

5,322. — BILLIARD-TABLE. — William H. Griffith, New York, N. Y.

Claim.—The vertical part b and moldings c d, combined, as described, with the ordinarily-inclined part a to form a new design for the side and end pieces of a billiard-table.

5,323.—SHAWL FABRIC.—Joseph Hodgson, Philadelphia, Pa., assignor to Thomas Dolan, same place.

Claim.—The design for a shawl pattern, consisting of plain stripes alternating with plaid stripes, and having illuminating stripes arranged substantially as described.

5,324. — STEAM-ENGINE CYLINDER AND FRAME.—James R. Maxwell, Cincinnati, Ohio, and Ezra Cope, Covington, Ky.

Claim.—The design for steam-engine cylinder and frame, substantially as shown and described.

5,325.—CHAIR.—John G. Strain, Delaware, Ohio.

Claim.—The design for splint-bottom chairs, comprising the back posts made in the form known as the Grecian square and the front posts round.

TRADE-MARKS.

495.—MINERAL-WATER.—George Riker Bishop, New York, N. Y.

496.—LOOM-TEMPLE.—Dutcher Temple Company, Hopedale, Mass.

497.—KNIT GOODS AND FABRICS.—Philip M. Hardee, Philmont, N. Y.

498.—SHIRTING.—William E. Joslin, Nashua, N. H.

499.—MEDICAL COMPOUND FOR CATTLE.—David P. Mathews, Winthrop, Mass.

500.—ADVERTISING MEDIUM.—Kennedy Palmer, Richmond, Va.

501.—FIRE-PLACE HEATER.—Richardson, Boynton & Co., New York, N. Y.

502.—GIN.—Frederick Schuchardt, New York, N. Y.

503.—GIN.—Frederick Schuchardt, New York, N. Y.

504.—SPLIT-BOTTOM CHAIR.—John G. Strain, Delaware, Ohio.

505.—SHEET OR PLATE-IRON.—Alan Wood & Co., Philadelphia, Pa.

EXTENSIONS.

J. D. WEST, of East Orange, N. J.—Letters Patent No. 18,309, dated September 29, 1857.

"Improvement in Pumps."

Claim.—The combination of the air-chamber with two inner cylinders and duplicate foot-valves, substantially in the manner and for the purposes set forth.

SAMUEL DARLING, of Providence, R. I.—Letters Patent No. 18,327, dated October 6, 1857; reissue No. 2,869, dated February 18, 1868.

"Improvement in the Manufacture of Metallic Squares."

Claim.—1. A hardened-edged tongue, united by soldering to a beam, constructed substantially as described.

2. A tongue for squares, which is hardened at the edges and soft in the center, substantially as described.

3. The mode or process described of hardening the edges of the tongue by pressure between plates of cold iron.

4. The mode or process described of hardening the edges of the tongue by confining it between pieces of iron and then heating and tempering, as described.

WILLIAM PLUMER, of Boston, Mass.—Letters Patent No. 18,352, dated October 6, 1857; reissue No. 3,368, dated April 13, 1869.—Division A.

"Improved Rock-Channeling Machine."

Claim.—1. Feeding the cutter laterally in a direction at right angles to the cut, or nearly so, whether the cutting-tool be situated horizontally, vertically, or at any angle, by the devices herein described, or their equivalents, so arranged that the cutter or drill can be turned at right angles to the straight track of the machine, and also the requisite feeding motion be obtained, as set forth.

2. The slotted arms c' d' and e' f', so arranged and constructed as to permit the whole cutting apparatus to be turned at right angles to the cut, and to communicate, when fastened together, the lateral feeding motion to the frame r r.

3. The arrangement of devices herein described, whereby I am enabled to feed the cutter, working vertically, in a circular direction, and set the cutter at any desired distance from the center upon which the machine turns, by which blocks or pillars of any desired diameter can be cut out, as set forth.

4. A stone-cutting or channeling-machine which moves upon a straight track mounted upon a circular track, the standards supporting the drill or drills resting upon a turning plate, all so constructed that the drill or drills may be operated on either side of the straight track in circular lines, or fed forward in parallel lines, substantially as set forth.

5. The arrangement, under a stone-drilling machine, substantially as herein set forth, of flanged rollers for keeping the frame and mechanism in place upon the track, substantially as specified.

WILLIAM PLUMER, of Boston, Mass.—Letters Patent No. 18,352, dated October 6, 1857; reissue No. 3,369, dated April 13, 1869.—Division B.

"Improved Rock-Channeling Machine."

Claim.—1. A stone-channeling or grooving-machine which is constructed to move upon a track, and provided with a reciprocating cutter or cutters so arranged as to cut seams or grooves outside of frame and track and in a line with the track, substantially as herein set forth.

2. A stone-channeling or grooving-machine which is constructed to move upon a straight track, which is provided with reciprocating cutters, which are arranged to cut seams or grooves between the tracks or ways, in the manner set forth.

3. A stone-channeling or grooving-machine which runs upon a track, and which is provided with a cutter or cutters attached to a cutter-holder, which cutter-holder moves freely on standard guides, the holders being operated upon by suitable mechanism for raising the cutter or cutters, substantially as set forth.

4. The arrangement of the cutter-holders with cutter or cutters attached to slide freely on standard guides, confined to a frame or plate, which is hung on trunnions, substantially as and for the purposes set forth.

5. A stone-cutting or grooving-machine, with chisels or drills, that are operated upon a frame and track, when said frame is supported upon trunnions and held by adjustable braces for giving the cutting-instruments any desired angle, substantially as herein set forth.

6. In combination with a stone-grooving or channeling-machine, a horizontal rack-bar, placed either in the inner or outer surface of the track, and a pinion attached to the mechanism of the machine, whereby the same is fed along, substantially for the purposes set forth.

7. Operating the feed-mechanism, as well as the cutting-mechanism, of a stone-grooving or channeling-machine by a crank-shaft and eccentric or equivalent device, substantially as set forth.

8. In a stone-grooving, drilling, or channeling-machine that is moved along upon a track or way, a double-acting pawl, acting upon a ratchet, or their respective equivalents, whereby the pinion is caused to feed into the rack-bar on the track, substantially as set forth.

9. A slotted arm, lever, or elbow, or their equivalents, connected with the feed-mechanism of a stone-drilling, cutting, or channeling-machine, whereby I may regulate the progress of the machine and its cutters on the stone so as to feed the mechanism faster or slower while the cutters are operating, substantially by the means and for the purposes specified.

10. Also, the hanging frame E', which carries the cutters on trunnions, and the adjustable brace Y, or its equivalent, for the purpose of giving any desired angle to the cutters, substantially as set forth and described.

11. Giving a forward or backward movement to the stone-cutting machine at pleasure, and simultaneously with the upward stroke of the reciprocating cutters, and confining said machine positively in position upon its track during the descending stroke of the said cutters, substantially by the means as herein set forth.

12. The employment of an air-cylinder, in a stone-cutting or channeling machine, for the purpose of assisting the force of the cutter or cutters on their descent to the stone, substantially as set forth.

13. The upright screw-shaft Q, arranged upon the frame E', for the purpose of feeding down the frame H and the cutting-mechanism, substantially as specified.

14. The vertical screw-rods O' O', between the standards D D, on each side of the plate C', for the purpose of allowing the frame E', which is supported upon trunnions, to be raised or lowered between the standards, and set at any desired angle by the braces Y Y, or their equivalents, and stationed in position, substantially as herein specified.

ERASTUS B. BIGELOW, of Boston, Mass.—Letters Patent No. 18,320, dated October 6, 1857.

"Improvement in Power-Looms for Weaving Wire-Cloth."

Claim.—1. The mode of constructing and operating the shuttle and combining it with the selvage-forming apparatus, whereby the filling-wire is straightened, the certain action of the shuttle secured, and the width and selvages of the wire-cloth preserved, substantially as specified.

2. The mode of arranging the parts which connect the selvage-forming apparatus with the loom shipper, whereby the loom is thrown out of gear when the filling-wire fails, as above set forth.

3. The mode of giving a double action to the lathe, substantially in the manner and for the purpose specified.

4. The mode of constructing and arranging the parts of the warp-wire stop-motion and combining it with the loom-shipper for stopping the loom when a warp-wire breaks, substantially as specified.

ISSUE OF OCTOBER 31.

PATENTS.

120,361.—FURNACE AND FURNACE-BAR.—Emmet R. Austin, Norwalk, Conn., assignor to N. L. Austin & Co., same place.

Claim.—1. The arrangement herein described of the furnace A, perforated bars B, pipe H, and cone D, all constructed and operating as and for the purpose set forth.

2. The grate-bottom, consisting of the perforated grate-bars B locked in close contact with each other, substantially as shown and described, for the purpose set forth.

120,362.—ATTACHING KNOBS TO THEIR SPINDLES.—Mills W. Barse, Olean, N. Y.

Claim.—The spindle E, formed of two bars, C and C', one of which is provided with a notch, *e*, and the other with a series of notches, *a a*, in combination with the key-pin *e*, knobs A A, and stems B and B', in which are sockets *b b* for the reception of the outer ends of the bars, substantially as shown and described.

120,363.—BOTTLE-FASTENING.—William S. M. Beal, Baltimore, Md.

Claim.—The herein-described bottle-lock, composed of a jointed ring, A, which contains a lock for fastening its sections together, and a yoke, B B C, rigidly connected to one of the sections of the jointed ring, substantially as set forth.

120,364.—DRAWING-STAND.—William Bell, Buffalo, N. Y.

Claim.—1. The combination of the ball B, clamp C, and the adjustable standard or rest D, substantially as and for the purposes described.

2. The collar F, substantially as and for the purposes shown.

120,365.—APPARATUS FOR ELEVATING HAY.—Julius Bolles, Jackson, Ohio.

Claim.—1. The combination of the beam A with the slide-block B, pulley, and ropes, arranged as described.

2. The combination of the main beam A and slide-block B with the auxiliary beam D, the block E, pulleys, and ropes, all constructed and arranged as described.

3. The block E, in combination with the beam D, the former being adapted to be shifted upon the latter, as described.

120,366.—GOVERNOR FOR STEAM AND OTHER ENGINES.—Charles P. Bowen, Silver City, Idaho Ter.

Claim.—1. The adjustable valve, constructed of the two hollow cylinders *b* and *c*, when constructed to move each to and from the other and thus close or open the passage, substantially as herein described.

2. The adjustable valve, constructed in two parts, as shown, in combination with the solid and hollow operating-spindles *f* and *g*, one within the other, together with the arms *j* and *m* of the governor, when the whole is constructed substantially as herein described.

3. The semi-globe or cone *d*, in combination with the vertically-moving double valve *b c*, when constructed to operate substantially as and for the purpose herein described.

120,367.—EARTH-CLOSET.—William J. Bradshaw, Cleveland, Ohio.

Claim.—1. The grating F, in combination with the dispenser A and grate B, substantially as described.

2. In combination with the dispenser A and grate B, the connecting-joints *b b*, as described, and for the purpose set forth.

3. The grating F, dispenser A, grate B, connecting-joints *b b*, bar E, and brackets H, all arranged as described.

120,368.—COMPOSITION TO RENDER FABRICS IMPERVIOUS TO GAS.—George L. Burnham, Providence, R. I.

Claim.—The compound made of the ingredients and in the proportions named, for the purpose specified.

120,369.—MANUFACTURE OF ARTIFICIAL STONE.—Isaac Coleman, New York, N. Y.

Claim.—The composition for the manufacture of artificial stone, substantially as herein described and set forth.

120,370.—WARDROBE.—Anna Davis, Reno, Nev.

Claim.—The folding wardrobe, consisting of the frames A A, ribs *b*, and cover *m*, hinged together as described, in combination with a swiveling-bracket having hinged arms *c c*, substantially as and for the purpose above described.

120,371.—Propulsion of Canal-Boats.—Nathaniel T. Edson, New Orleans, La.

Claim.—1. The combination of the cylinder D, and the timbers A and the wheel B, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the cylinder D, timbers A, and wheel B, of post C, drum and windlass *J* and rope K, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the cylinder D, timbers A, and wheel B, of post C, drum G, and rope H, substantially as and for the purpose hereinbefore set forth.

120,372, antedated October 14, 1871.–Shaft-Coupling.—John Eisele, Philadelphia, Pa.

Claim. — 1. A shaft-coupling produced by the combination of the sleeve *c*, part of whose exterior surface is concentric with its bore and shafts *a a'* and part of it cam-shaped or eccentric, the sleeve *b*, recesses *e e*, shoes *i i* or their equivalents, adjusting-screws K K, and shafts *a a'*, substantially as and for the purpose set forth.

2. A shaft-coupling produced by the combination of the sleeve *c* whose exterior surface is concentric with its bore throughout its whole length, the sleeve *b*, part of whose inner surface is concentric with the sleeve *c* and part of it eccentric, and cams *c' c'*, substantially as and for the purpose herein specified.

3. A shaft coupling produced by the combination of the sleeve *c*, part of whose exterior surface is concentric with the bore, as 6 5 3 7, and part of it cam-shaped or eccentric, as shown by circles 1 2 3 4 and 6, 8, 10, and 9, sleeve *b* having cam-shaped or eccentric and concentric surfaces corresponding with those on *c*, substantially as and for the purpose herein specified.

4. A shaft-coupling produced by the combination of the sleeve *b* whose entire inner surface is concentric, sleeve *c*, part of whose exterior surface is concentric with its bore and part of it cam-shaped or eccentric, cams *c' c'*, and shafts *a a'*, substantially as and for the purpose specified.

5. A shaft-coupling produced by the combination of the concentric sleeves *c* and *b*, circular recess *e*, cam *c'*, and shafts *a a*, substantially as and for the purpose herein specified.

120,373. — Washing-Machine.—Frederick A. Farley, Pine Meadow, Conn.

Claim.—1. The construction shown of the chutes *c d e*, and of the buckets at the top of the agitator, as parts of a washing-machine, and used and operated substantially as set forth.

2. The combination of the parts specified in the immediately-preceding clause with the part-circular end pieces *b b*, substantially as and for the purposes set forth.

3. The combination of the agitator, made substantially as described, with the arm *g*, and the arm *h* jointed thereto, substantially as and for the purposes set forth.

120,374, antedated October 17, 1871.—Sofa-Bedstead. — William Farson, Philadelphia, Pa.

Claim.—1. The combination and arrangement of the double levers H H with the back-board C and catch-levers G G for locking and unlocking the back-board, substantially in the manner and for the purpose above described.

2. The combination of the slip-hinges *a*, composed of the parts 1 and 2 and vertical wire *F*, with the arms B D, the said parts being constructed and arranged to operate substantially as and for the purpose above set forth.

120,375. — Animal-Trap.—Henry S. Frost, Watertown, Conn.

Claim.—1. An animal-trap provided with means for violently striking its support, when sprung, for the purpose of producing a bounding action, substantially as described.

2. A trap provided with a pair of rings actuated by a spring, substantially as described.

3. The trap described, consisting of the rings A A, bar *b*, spring *c*, and bait-platform *d*, the parts being combined substantially as described, for the purpose set forth.

120,376.—Apparatus for Regulating the Speed of Machinery.—William L. Gebby, New Richland, Ohio.

Claim.—The combination of the crank-shaft A provided with the rod E and ball F, the spur-wheel C, pinion D, fly-wheel shaft G, lever H, and strap K, when relatively arranged and operating together as described.

120,377.—Printing-Press.—George P. Gordon, Rahway, N. J.

Claim.—1. Supplying the ink to the form-inking rollers by or with two ink-distributing surfaces, between which the form-rollers shall pass and receive their ink from each distributing-surface in turn for each impression, substantially as described.

2. Revolving in opposite directions to each other, the inking-surfaces placed as shown, for the purposes fully described.

3. The combination of the two opposite ink-distributing surfaces with the movable form roller-bearers, substantially as and for the purposes set forth.

120,378, antedated October, 10, 1871.–Lime-Kiln.—Michael Groh and J. V. Weitz, Cleveland, Ohio.

Claim.—The lime-kiln herein described, consisting of the sheet-iron section A lined with fire-brick and provided with the furnaces C C and chute H, and the upper double section B forming a steam-boiler, and connected by a steam-pipe, J, with the ash-pits F F, when all these parts are constructed and arranged as shown, and for the purpose set forth.

120,379, antedated October 21, 1871.—Motor.—Peter Guzman, Paris, France.

Claim.—Using as a motor the inertia of balancing masses, compensated, as to their weight, by an elastic action, as explained above.

120,380. — Method of Utilizing the Waste Chloride of Zinc in Treating Paper. — Daniel W. Hanna, Pittsburg, Pa., assignor to Edmund S. Hanna.

Claim. — The hereinbefore-described method of saving and utilising the waste or surplus mother-water of the chloride of zinc in the treatment of paper, as described in the Letters Patent hereinbefore referred to.

120,381.—Whip-Socket.—John Heberling, Mount Pleasant, Ohio.

Claim.—1. The sections A B, formed with the curved flaring jaws A' B' and lugs C C, and hinged together by the lugs *a b*, when made in the form and operating in the manner herein shown and described.

2. The strip E, in combination with the bar D for securing the socket to the dash-board, as herein shown and described.

120,382.—Tilting-Chair.—Levi Heywood, Gardner, Mass., assignor to Heywood Brothers & Company.

Claim.—1. The span or spider B with the springs *b b* and stops *c c* and *d d*, when applied to a tilting-chair constructed in the manner and for the purposes hereinbefore described.

2. The application of one or more torsional rod-springs to a tilting-chair, substantially in the manner and for the purposes set forth.

3. The combination of the span or spider B with the springs *b b* and plates E E.

120,383. — Lamp-Burner. — Thomas Hipwell, Camden, N. J., assignor to himself and Henry Coulter, Philadelphia, Pa.

Claim.—The springy bearing-plate *f*, in combination with the axles of the spur-wheels F F and the bottom *a'* of the central air-tube A, substantially as and for the purpose hereinbefore set forth and described.

120,384. — Gang-Plow. — James M. Huie and Elisha Card, San Francisco, Cal.

Claim.—The combination, in a wheel gang-plow, of the frame H H, cross-timber A, pole J, wheels B E, plate M with their guiding-prongs *n n*, shaft *o*, bar *q*, plate *r*, lever *s*, and link *v*, arranged and operating as described.

120,385, antedated October 27, 1871.—Compensation-Pendulum.–Henry B. James, Trenton, N. J.

Claim.—1. In combination with a pendulum-bob, the convoluted or coiled compensator C composed of laminæ of two metals differently affected by changes of temperature, and arranged adjustably on its support, to operate substantially in the manner set forth.

2. The adjustable coiled compensator C, constructed as described, in combination with a weight or weights, C', carried by an extended arm thereof, substantially as set forth.

120,386, antedated October 14, 1871.—Snap-Hook.—Erasmus M. Kinne, Cuba, N. Y.

Claim.—The hook A with recesses *f*, and with the slot C opening directly into the loop, the detachable tongue D, and the detachable spring G, all constructed, arranged, and operating substantially as described, for the purpose specified.

120,387.–Top for Sirup-Pitchers.–George Ph. Lang and Peter Lauster, Allegheny City, Pa.

Claim.—A drain-ring, C, and spout E cast in one piece with the neck B, substantially as described.

120,388.—Gun-Lock.—Thomas James Massie, Arrington, Va.

Claim.—1. The bent or T-lever E, in combination with hammer G, for the purposes hereinbefore set forth, so that, by one single motion or pressure upon the rear end B of the lever, the hammer is raised and secured so as to avoid all practical danger from a premature discharge of the gun.

2. The spring, in combination with the rear end of the lever B, whereby the said lever is thrown upward and held in such position while the gun is at full-cock, to serve as a guard against careless handling of the gun, as herein described.

120,389.—Rein-Holder.—Charles A. Messenger, Syracuse, N. Y.

Claim.—A rein-holder, composed of the upright standard A provided with jaw *a*, pivoted lever B provided with jaw *b* and treadle B', and spring D, the whole being combined, constructed, and arranged to operate in the manner and for the purpose set forth.

120,390. — Lather-Brush. — William H. Miles, Jr., New York, N. Y.

Claim.—As a new and improved article of manufacture, a lather-brush, constructed as shown and described, consisting of the handle A, the bristles B, and the pin C.

120,391.—Not issued.

120,392. — Composition of Madder for Dyeing.—Alfred Paraf, New York, N. Y., assignor to The Madder Color Company, same place.

Claim.—The new article of manufacture hereinbefore described, and denominated alizaride.

120,393.—Dyeing and Printing Madder Colors.—Alfred Paraf, New York, N. Y., assignor to The Madder Color Company, same place.

Claim.—The compound process, substantially as hereinbefore set forth, of applying madder colors in solution to an article and precipitating the color in the said article.

120,394.—Dough-Board.—Nils B. Petterson, McGregor, Iowa.

Claim.—A dough-board, A, constructed with hinged rims B B' B², substantially in the manner and for the purposes set forth.

120,395.—Fire-Alarm and Police Signal-Box.—William J. Philips, Philadelphia, Pa., assignor to J. Bernard Brinton, same place.

Claim.—1. The lever *k* and its arm *l*, said lever projecting through an aperture in the door *p* of the inner box, said arm being inside the box, both lever and arm being arranged on the shaft *m* of the clock-work, as set forth, in combination with the circuit-wheel *a*, circuit-spring *b*, insulated stop *s* throwing-back spring *u*, switch *h*, plate *i*, connecting-wires *c' f' g'*, *k' a' a²*, and signal-key *g* projecting through an aperture in the door *p* of the inner box, substantially as set forth, for communicating alarms of fire and verifying the correctness of the same.

2. The signal-key *g*, the switch *h*, and sounder-magnet *f*, in combination with the connecting-wires *a' g' f'*, insulated stop and binding-post *c*, arm *l*, and connecting-wire *a²*, all arranged as set forth, whereby the apparatus is adapted to the sending and receiving of police and other concerted signals when the door *p'* is open.

120,396.—Permutation Lock.—Oliver E. Pillard, New Britain, Conn., assignor to Frederick H. North, same place.

Claim.—1. The pin *n*, extending from the case F transversely over the edge of the tumblers A to the plane of the outside tumbler, in combination with the index-marks *m m'* and dial G, substantially as described.

2. The key K, provided with shaft P and round neck *r*, in combination with the bridge *u*, substantially as described, whereby the whole of the set of tumblers A is necessarily unlocked and locked simultaneously with each other.

120,397.—Composition for Polishing and Scouring. — Jacob B. Rand, Concord, N. H.

Claim.—The incorporation and combination of ground quartz with pulverized alkali for polishing purposes, substantially as set forth in the specification.

120,398. — Type Setting-and-Distributing Machine.—D. Brainerd Ray, New York, N. Y.

Claim.—1. A series of distributing-keys, E, constructed and arranged so that they will all work or converge to or toward one common point for the purpose of receiving the type therefrom, substantially as shown and described.

2. The trough C, provided with the bent lever D, slide *c*, arm *d*, and spring *f*, in combination with the keys E and incline *h*, substantially as shown and described, and for the purposes set forth.

3. A series of setting-keys, G, constructed and arranged so that they will all work or converge to or toward one common point, for the purpose of delivering the type thereat, substantially as shown and described.

4. The setting-keys G provided with the arms *m*, in combination with the type-holders F F', hinged plate *k*, and spring *o*, substantially as shown and described.

3. The setting-keys G provided with the spring-catch *r*, in combination with the slide *s*, rock-shaft Q, arms *t* and *u*, and spring *w*, substantially as shown and described.

120,399. — BURGLAR-ALARM. — Abbott Q. Ross, Cincinnati, Ohio, assignor to Alfred H. Brooks, Philadelphia, Pa.

Claim.—1. In combination with the hinged frame Z M and alarm-bell mechanism, the finger or pin *a*, match-socket S T, and spring piston-rod and cross-head V U Q, the parts being connected and operating substantially in the manner and for the purpose set forth.

2. In combination with the elements of the preceding clause, the spring-lever and chain P P′ *p* governing the gas-jet, in the manner and for the purpose set forth.

3. In combination with the stretched wires *b* and hinged frame Z, the slides *d*, connected and operating substantially as described, and for the purpose specified.

120,400.—GRAPE-CRUSHER.—Ferdinand B. Schoenstein and August Klein, San Francisco, Cal.

Claim.—1. The semi-circular box A, in combination with the perforated concave B having teeth *d* and toothed cylinder E, substantially as and for the purpose above described.

2. The basket H, composed of bent bars *l l l*, in combination with the hopper M and toothed cylinder E, substantially as and for the purpose set forth.

3. The shaft O with its curved teeth X, in combination with the toothed cylinder E and basket H, substantially as and for the purpose above described.

120,401.—TREADLE FOR SEWING-MACHINES. Henry C. Smith, Cleveland, Ohio.

Claim.—The foot-levers D D, the supports F F′, the oscillating lever G connected by the links A and *i* to the levers D D, when the same are constructed, arranged, and combined to operate substantially as described, and for the purpose set forth.

120,402.—LIFTING-JACK.—Louis P. Smith, Middletown, Pa.

Claim.—1. The rack-cogs *b b* when sunk nearly or quite into the center of the lifting-bar B, substantially as and for the purpose herein specified.

2. The two pawls D E, acting the one before the other, in combination with the lifting-bar B and lever C, substantially as and for the purpose herein set forth.

3. The sliding prop or box H, in combination with the lifting hook or arm G, as specified.

4. The wings *r r*, in combination with the sliding prop or box H having edge projections *s s*, substantially as and for the purpose herein set forth.

120,403.—METALLIC CARTRIDGE. — George R. Stetson, New Haven, Conn., assignor to The Winchester Repeating-Arms Company, same place.

Claim.—The combination, with a cartridge-shell, of a swaged projectile, in which an annular groove is formed and the metal displaced thereby is raised against the end of the shell after the insertion of said projectile, substantially as and for the purpose described.

120,404. — INSTRUMENT FOR MEASURING POWDERS.—William Thomson, Jr., Madison, Wis.

Claim.—The stationary frame A, the movable frame B, the receptacle C, the stopper D, the set-screw E, the bolts F and G, the spiral spring H, the finger-guard I, the cover J, and the guards K and L, all substantially as and for the purpose herein-before set forth.

120,405. — PANEL-RAISING MACHINE. — Dwight F. Walker, Minneapolis, Minn.

Claim.—1. The adjustable perforated guide B having hood B″ attached, in combination with the table B, constructed and arranged to operate in the manner shown and described.

2. The vertically-adjustable presser-foot or guide H, constructed and arranged to operate with relation to the cutter and panel, as herein described.

3. The double cutter-head D having cutters C′ and C″ attached thereto, constructed in the manner herein described, for the purpose set forth.

4. The arrangement of the presser-foot H on the bed G of the outer cutter-head to be opposite to the cut of the cutter on the inclosed cutter-head, and at the same time act as a guide to the finished part of the panel, as shown and described.

120,406, antedated October 27, 1871.—HOT-AIR FURNACE.—George W. Walker, Boston, Mass.

Claim.—In combination with the main combustion-chamber *c*, the auxiliary dome or flue-chamber *d* connecting with the combustion-chamber by pipes *k k* at and only at the front of the fire-pot, and with the main flue by a pipe, *l*, at and only at the rear of the dome, the arrangement being such that all of the volatile products of combustion pass from the main combustion-chamber at the front thereof, traversing the auxiliary dome-chamber and around the air-pipes *m m*, and escaping therefrom only at the rear thereof.

120,407.—HARVESTER. — John D. Wilber, Poughkeepsie, N. Y., assignor to Eureka Mower and Reaper Manufacturing Company, same place.

Claim.—1. The combination of arm E jointed to shoe *f*, and shoe *f′* jointed to arm E′, substantially as described.

2. The stirrups *s*, suspended by a chain, *k*, from a raising and lowering device, in combination with the jointed arm E and frame D, substantially as described.

120,408.—WEEDING-HOE. — Ebenezer Wilcox, East Cleveland, Ohio.

Claim.—The herein-described weeding-hoe, consisting of the blade D, cutting-wings E, and bows C C, substantially in the manner as described, and for the purpose specified, as a new article of manufacture.

120,409.—MANUFACTURE OF ILLUMINATING GAS FROM PETROLEUM. — William C. Wren and George W. Wren, Brooklyn, N. Y.; said George W. Wren assigns his right to William C. Wren.

Claim.—1. The combination of a retort, divided into two or more compartments, with a still or stills, to be used separately, alternately, or together with the retort, each still to be in separate furnaces or fires from the retort, as described.

2. The combination of the safety-valve or valves and condensing vessel with the still or stills, as described.

3. The combination of the condensing-vessel C, the pipes H, the stills A and B, the retort D, and the condenser F, as described.

4. The plug K, with a combination of a screw and a bevel or groove on the flange, for the purpose as described.

5. The partition of a retort, with a curved instead of a straight line, for the purpose as described.

120,410.—APPARATUS FOR MATURING RAW OR GREEN COFFEE. — John Ashcroft, Brooklyn, N. Y., assignor to Sarah Jane Ashcroft, same place.

Claim.—1. In an apparatus for maturing coffee, the openings *d d*, for the purpose as shown and described.

2. The perforated steam-pipes *y c c*, or their equivalents, for the purpose as set forth and described.

3. The rack A′, as shown and described, and for the purpose set forth.

4. The apparatus for maturing and refining the raw or green coffee-berry, substantially as shown and described.

120,411.—ROTARY STEAM-ENGINES.—George V. Atwood, Mount Hope, Ala.

Claim.—1. The piston-wheel J provided with the disks L and pivoted within a revolving cylindrical wheel, in combination with the spiral groove in the cylinder, as and for the purpose specified.

2. The steam-wheel D, cylinder C, and piston-wheel J, combined and arranged substantially as and for the purposes described.

120,412.—TILT-HAMMER.—Patrick Breen, Auburn, N. Y.

Claim.—1. The combination of the cam B, having the long arm K and the short arm L, with the beam C and lever D, for the purpose of arresting and holding up the drop E on its rebound, as specified.

2. The combination of the latch *a* with the jointed pawl I, spring *c*, ratchet-wheel H, notched disk G, cam B, and shaft A, in the manner and for the purpose specified.

120,413. — HARNESS-BUCKLE. — Othniel Brown, Albia, Iowa.

Claim.—The buckle-frame A D having studs or ears F F and tongue B, in connection with the lever E having the longer arm X inwardly curved and the arm G pierced to receive pin B, the whole being arranged and operating in the manner and for the purpose set forth.

120,414, antedated October 17, 1871.—PROPULSION OF VESSELS. — John P. Bruce, Brooklyn, N. Y.

Claim.—The combination and arrangement of the screw D, water-wheels B B, water-tubes F F, and pumps N N on a marine vessel, substantially as and for the purposes described.

120,415.—BELL-PIANO.—Carl Gustav Buttkereit, Toledo, Iowa.

Claim.—1. The sliding pawl D, hook-shaped, and having the recess *f* to operate and move over the lug *i*, substantially as herein shown and described.

2. The combination of the key A, toggles B, and slide D with the oscillating post E, hammers *g*, and spring *h*, substantially as and for the purpose herein shown and described.

3. The damper G and the rod *p* combined with the bell F and key A, substantially as and for the purpose herein shown and described.

4. The slide H carrying the lever f^3, connected with the spring-plate I having the nose *o*, all arranged as described for transmitting motion from the key A rapidly to the hammer g^1 on the lever f^3, as set forth.

120,416, antedated October 14, 1871.—GAS-REGULATOR.—John B. Coolidge, Boston, Mass.

Claim.—1. The combination and arrangement of the adjustable pipe *a* having a valve-seat, *v*, to which is attached the valve *f* and the lever *e*, operating so as to cut off the flow of the gas at the orifice *g*, substantially in the manner and for the purpose described.

2. The steel spring-plate *h* in its connection and arrangement with the flexible metallic top of the chamber *i*, and the lever *e* operating upon the valve *f*, substantially in the manner and for the purpose described.

120,417. — COFFEE-POT. — Joseph Cragg, Baltimore, Md.

Claim.—1. The strainer B having the internal cylinder or partition C, perforated metal D, bevel rim *a a*, arms *c c c*, and handle *b*, substantially as herein set forth.

2. In combination with the foregoing, the pot A, substantially as described.

120,418.—AXLE FOR VEHICLES.—Joseph W. Cremin, New York, N. Y., assignor of one-third his right to George H. Fairchild, Jersey City, N. J.

Claim.—Tubular axles having one or more internal strengthening-webs, *a b*, constructed substantially in the manner described.

120,419.—FASTENER FOR MEETING-RAILS OF SASHES.—James M. Crossman, South Orange, N. J., and George Sam. Rice, Tarrytown, N. Y.

Claim.—The combination of the swinging bolt D, the spring *o*, the plate *e* with upright guides and the push-pin *s*, arranged substantially as described, and for the purpose set forth.

120,420, antedated October 14, 1871.—FIRE-ESCAPE.—John W. Davis and James Vermillion, Washington, D. C., assignors to themselves and George R. Edwards; and said Vermillion assignor of his right to said Edwards.

Claim.—1. The combination of grappling hook or claw B, lanyards L and M, pawl N, spring *n*, staves E and F F F, friction-rollers C C, and stock or body A, substantially as and for the purposes hereinbefore set forth.

2. The combination of pulleys *g g g*, rope G G, chairs or baskets H H with guy-rope *d*, substantially as and for the purposes hereinbefore set forth.

3. The combination of ladder I I, hooks J J, bar *k*, and falls K, substantially as and for the purposes hereinbefore set forth.

120,421.—RAILWAY RAIL-CHAIR.—Thomas Donahy, Empire City, Nev.

Claim.—The chair A, constructed with an opening to receive blocks D between rails B C, and with a detachable piece, a^2, in the side thereof, and with a stop, a^1, so that said pieces D may be removed or inserted, in the manner described.

120,422. — ROCKING-CHAIR. — John W. H. Doubler, Darlington, Wis., assignor to himself and William Logue, same place.

Claim.—The combination of short rockers D D, stool A, and seat C with springs F, in the manner described, to gradually retard the movement of the chair in either direction, finally stop it at the proper point, and then assist, by their stored-up power, in reversing the motion of the chair.

120,423. — WALKING-PLANTER. — Nathan Earlywine, Centerville, Iowa, assignor to himself and Charles A. Davis, St. Louis, Mo.

Claim.—1. The frame, constructed as described, and suspended adjustably from the axle by the bangers D, brackets E, and bolts F, substantially as specified.

2. The plow G, stock H, and weighted metal runner K, combined and arranged with the frame, substantially as specified.

120,424.—CORN-PLANTER.—Thomas M. Edgar, Paris, Tenn.

Claim.—In a grain-planter having two wheels, D D, connecting-arms F, and removable bars *b*, the spring-lever *c*, feed-slide *d*, feed-gauge plate G, spout H, hopper B, plow K, concave coverer L, double ratchet R R, and fenders S S, all as constructed, arranged, and combined, substantially as described.

120,425.—Coffee-Pot Stand.—Oliver Ferris, Pawling, N. Y.

Claim.—The plate D, stays G G, and lever H, substantially as and for the purpose described.

120,426.—Wood-Planing Machine.—Newton C. Freck and Solomon Strock, Millersburg, Pa.

Claim.—The combination of the cutter-heads E F F, guide G, and feed-rollers C of a planing-machine, substantially in the manner herein described, for planing and edging two or more boards simultaneously.

120,427.—Stench-Trap.—Michael Gafney, Newark, N. J.

Claim.—A stench-trap, composed of the large vessel A and the sections of pipe B and C, the said vessel being provided with an opening in the bottom for cleaning it out, and a stopper, D, therefor, substantially as specified.

120,428.—Spark-Arrester for Steam-Boilers.—John Gates, Portland, Oreg.

Claim.—The arrangement of an air-tight well in an opening through the bottom of a steamboat, and connected with the smoke-box thereof, as described, for the purpose of receiving and discharging the coals, water, and mud from the blow-off pipes, in the manner described.

120,429.—Mode of Operating the Brakes of Railroad Cars.—Samuel N. Goodale, St. Louis, Mo.

Claim.—The arrangement herein shown of the steam-chest B, pipe I, couplings E E, connection G, branches T, and hot-air chest C, all constructed and operating substantially as shown and described, for the purpose set forth.

120,430.—Railway Car-Coupling.—William F. Grassler, Muncy, Pa.

Claim.—1. A draw-head in which both the bar A and mouth A′ are constructed with a series of corresponding chambers one above another, substantially as and for the purpose set forth.

2. The combination of the gravitating bar G and sliding plate H, arranged to operate substantially as and for the purpose set forth.

120,431.—Harvester.—George S. Grier, Milford, Del.

Claim.—The studded carrier E F of a self-raking harvester, combined, as described, with a gear-shifting bar, Q, having an inclined end, T, so that the carrier is automatically thrown out of connection with its operative mechanism and thrown in again by the driver at the times and in the manner described.

120,432.—Railway Car-Wheel.—James Baird Handyside, Glasgow, Great Britain.

Claim.—The connecting of the tire and the hub of a wheel by a pair of annular plates bolted together, when such plates are shaped and made to grasp between them ribs formed on the hub and tire or periphery of the wheel, as herein set forth.

120,433.—Milling-Machine.—William Hawkins, San Francisco, Cal.

Claim.—1. The sleeves or tubes K when made as described, in combination with the cutters G and screws H, as and for the purpose herein set forth.

2. The pair of cutters when constructed, as described, with recessed ends, as and for the purposes recited.

120,434.—Friction-Clutch.—George W. Hedges, San Francisco, Cal.

Claim.—1. The disk C with its peculiarly-shaped pawls *d*, in combination with the ratchet-flanges A, substantially as and for the purpose herein described.

2. The pawls *d*, holding alternately on one side and the other of the disk C and the operating ratchet-teeth D, each standing opposite to a space between those on the other flange, substantially as described.

120,435.—Sulky-Cultivator.—Philip Hewitt, Farmland, Ind.

Claim.—1. Fenders, formed of spiral-wire coils R, and attached to plates Q, on the inside of the cultivator-plows, as and for the purpose specified.

2. The combination of frame S provided with levers V V and having slots thereon, the beams I I provided with levers U U passing through said slots, and the frame D having seat F on the rear thereof, all constructed and arranged as and for the purpose specified.

120,436.—Paper-Box Machine.—Henry R. Heyl, Philadelphia, Pa., assignor of one-half his right to C. S. Patterson; and said Heyl and Patterson assign their right to American Paper-Box Machine Company, same place.

Claim.—1. The plunger C, constructed with corner sections 1 1, two or more in number, and with nippers 2 2, operating substantially as and for the purpose set forth.

2. The combination of the plate 3 and slide-bars 4 6 8 for operating the nippers 2, substantially as described.

3. The pasting-wheel E, having an adjustable periphery made up of sections, and provided with a nipper, 21, substantially as described, and for the purpose set forth.

4. The pressing-wheel or roller F, operating substantially as described, to take the wrapper or covering-paper from the pasting device and apply it to the body or sides of the box.

5. The combination, operating as shown and described, of a pasting-wheel, a reciprocating pressing device which takes the covering-paper or wrapper therefrom and applies it to the box, and a support for the said box.

6. The combination of the double belt 33 and pulleys 31 32, operating substantially as described, in connection with a suitable spring to restore the parts to their normal or central position when moved in either direction.

7. The receiving or folding-frame G, adjustable in dimensions, and supported adjustably by screws 35, which are connected so as to move simultaneously, substantially as described.

8. The expanding plunger H, provided with grooved and beveled feet attached to pivoted arms, and operating to catch the upper edges of the wrapper and carry them down within the box, in the manner explained.

9. The combination, operating as shown and described, of an expanding-and-contracting plunger with the beveled frame or receptacle for the box.

10. The combination of the arms 43, expanded by suitable springs, and the contracting devices consisting of the socket 48, hooks 49, and spring-bolt 54, operating in connection with the hollow plunger-shaft 51, substantially as described.

11. The paste-roller J, having two or more grooves, 59, in combination with a lifting-rack, adapted to operate substantially as described, and for the purpose set forth.

12. The lifting-rack L, with the cross-wires 56 56 56, the movable cross-bar 57, and the tension-spring 58, substantially as described, and for the purpose set forth.

13. The platform K with its flexible curved face 47 and the nippers 60 60, substantially as described, and for the purpose set forth.

14. The combination, operating substantially as herein described, of two reciprocating plungers and a receiving or folding-frame capable of being rocked or turned to receive said plungers in succession.

15. The combination, operating as shown and described, of the reciprocating plunger with the vibrating platform and automatic pasting and lifting devices for applying the label.

120,437.—Neck-Tie.—Adolphus Hoffstadt, New York, N. Y.

Claim.—The cross-piece E, loop F, and hook G, in combination with the shield A and flaps B B, substantially as and for the purpose described.

120,438.—Blasting-Plug.—Julius Hopkins Holsey, Butler, Ga.

Claim.—As a new article of manufacture, the hollow blasting-pin A, made in two sections, *a b*, substantially as and for the purpose herein shown and described.

120,439.—Cooking-Stove.—Garrett Z. House, New York, N. Y.

Claim.—1. The dampers O O hinged centrally, and arranged so as to operate as herein described and set forth.

2. The dampers Q Q arranged, in combination with passage N and M and oven I, so as to operate as described and set forth.

3. The cap-door D hinged to the drum C, arranged and operating as described and set forth.

4. The combination of the cap-door D and drop-lid E, as described and set forth.

5. The combination and arrangement of the movable drum C, the stationary drum H, the movable oven I, the cap-lid D, the drop-lid E, constructed and arranged as described and set forth.

6. The combination of fastening-hooks and handle on drop-lid E, arranged to operate as described and set forth.

120,440.—Horse Hay-Fork.—Charles A. Howard, Pontiac, Mich.

Claim.—1. In combination with shanks C C, the crossed coupling-braces D D′, forming the only pivotal connection between said shanks, and adapted to be used in the manner specified.

2. The combination of the parts A B, connecting-bars D D′, the tripping device E, and lever F, substantially as and for the purposes described.

120,441.—Fastener for Meeting-Rails of Sashes.—George M. Hubbard, New Haven, assignor to The Parker & Whipple Company, West Meriden, Conn.

Claim.—A sash-fastener, consisting of the rear plate C and the lower and upper flanges A B, and the lever F, having the seat for the fulcrum of the lever formed by a recess, *a*, in the upper and lower flange, and combined with a spring, F, between the said flanges and in the rear of the said lever, as and for the purpose specified.

120,442.—Dinner-Pail.—Horace C. Ketcham and Willie W. Ketcham, Newark, N. J.

Claim.—1. The curved bolt *a* and loops *b c* on body A, combined with the oil-reservoir B to render it removable, as set forth.

2. The side flue E and passage *h*, when combined with the discharge-flue F, as and for the purpose specified.

120,443.—Clothes-Drier.—Hiram Knight, Westminster, Mass.

Claim.—The clothes-drier composed of the side pieces A A, B B, and G G, and of the rods C, D, E, F, H, and *a*, all arranged and combined as herein shown and described.

120,444.—Adjustable Buggy-Seat.—Daniel Kroninger and Noah Kroninger, Eagle Point, Pa.

Claim.—The backwardly-sliding hind seat *b*, provided with the eyes *f* placed at or near its rear side, and combined with the guide-rods *g* located above the cover, removable standards *i*, nuts *j*, and sloping cover *k*, all arranged as specified.

120,445, antedated October 21, 1871.—Harness, — Arthur W. Lawton, Rochester, N. Y.

Claim.—1. The cross-bar C to which the spring bow-piece D is pivoted, made removable by its connections *a* in the manner and for the purpose described.

2. The flexible or spring bow-piece D, in combination with the removable cross-bar C to which it is pivoted, and the connected cross breast-strap E, as and for the purpose described.

120,446, antedated October 21, 1871.—Earth-Pulverizer and Harrow.—James Lefeber and George W. Shults, Cambridge City, Ind.

Claim.—1. The two sets of star-wheels A B, having straight blades, with their broad ends spread out in planes at right angles to each other, for the purpose specified.

2. In combination with a set of star-wheel pulverizers, A, the rod H and lever I, arranged on the frame, as and for the purpose specified.

120,447.—Drier.—Alfred W. J. Mason, New Orleans, La.

Claim.—1. The combination, with the drying-case A arranged in separate compartments, of the endless carrying-belts, substantially as specified.

2. The separate compartments of the case A, each provided with a supply-conductor and an exhaust-spout, substantially as specified.

120,448.—Planing-Machine.—Charles E. McBeth, Frederick Bentel, and William C. Margedant, Hamilton, Ohio, and Henry Climer, Muscatine, Iowa.

Claim.—1. The arrangement of the spring-pawls with racks *i j*, table-tops *f f′*, and frames *g g′*, as specified.

2. The front table-tops *f f′* placed upon the front frames *g g′*, and locked thereto by the spring-pawls and racks *i j*, as set forth.

3. The longitudinally-adjustable carriages G, carrying the inclines K K, and combined with the front tables F F′, rods *m*, and pivoted tubes *n*, all arranged to operate substantially as herein shown and described.

4. The gainer-frame L, provided with the guide-rest *t* and end-rest *u*, substantially as herein shown and described.

5. The adjustable saw-board M, slotted as described, and combined with the front frames *g g′* and table-tops *f f′*, in the manner specified.

120,449.—Fly-Trap.—Samuel F. McGown, Rockville, Ind.

Claim.—A trap for catching flies, consisting of the revolving wheel C, angular flue E, tank D, and glass top I, when the same are constructed and arranged to operate substantially as described.

120,450.—Self-Heating Sad-Iron.—Joseph Melder, München, Bavaria.

Claim.—1. A self-heating sad-iron provided with the heating-bar *a* and wire-screen *b*, or either, for consuming the products of combustion, in the manner specified.

2. The pocket G arranged on a self-heating sad-iron for receiving and heating the curling-tongs, as set forth.

3. The crimping-irons I J arranged on the cover of a self-heating sad-iron, for the purpose and substantially as herein shown and described.

120,451.—Medical Compound or Salve for the Cure of Rheumatism.—Joseph Mickel, East Birmingham, Pa.

Claim.—The improved salve compound, substantially as herein described.

120,452.—CLOTHES-DRIER.—Daniel Miller, Marietta, Ohio, assignor to himself and Jacob Miller, same place.

Claim.—The board B with slots *b*, overhanging portion *s*, and supporting portion *s'*, in combination with the board A and bar C, with notch *c* and shoulder *c'*, as described.

120,453.—CIGAR-LIGHTER.—Joel B. Miller, Rondout, N. Y.

Claim.—1. The pendent cigar-lighter, consisting of a pivoted wick-tube and oil-reservoir, substantially as herein shown and described.

2. The pin *d* and ratchet-wheel *f*, fastened to the arm D, and combined with the pivoted wick-tube so as to automatically regulate the wick when the tube is swung on its pivot, as specified.

120,454.—MACHINE FOR WIRING BLINDS.—James H. Nelson, Little Falls, N. Y., assignor to himself and Byron K. Houghton, same place.

Claim.—1. The vertical punch E, combined as described with a bifurcated punch, D, working on supporting flange *d* so that one staple will be forced horizontally into the edge of the slat and a second (immediately thereafter) forced vertically down into said slat so as to straddle the first.

2. The common actuating-lever C having strap *h* and circular rack-bar L on the power-arm, the segment *g*, and the rod *f*, combined with the two punches, as and for the purpose specified.

3. The lever L pivoted to the frame of a blind-wiring machine, as set forth, and provided with an angular bar, M, at one end to hold the slat, as described.

4. The click *e* pivoted to the end of lever L, combined with pin *t* of lever C, as and for the purpose specified.

5. The combination, in a blind-wiring machine, of the vertical punch E, horizontal punch D, flange *d*, rails F G, and slat-holder M, operating together in the manner specified.

120,455.—DESK AND CHAIR COMBINED.—Archibald A. Porter, Griffin, Ga.

Claim.—1. The arms C D, swiveled socket E, and spring-catch G H I or equivalent catch, with the chair A and desk F, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the ring or socket B, so constructed as to receive an ink-well, J, with the arms C D and perforated desk or writing-board F, substantially as herein shown and described, and for the purpose set forth.

120,456, antedated October 11, 1871.—THILL-COUPLING.—Thomas W. Porter, Boston, Mass.

Claim.—1. The loop *f*, formed as a constituent part of plate B, substantially as described and shown.

2. The arrangement of tip A, shackle-plate B, elastic buffer J, and screw-bolt *g*, substantially as described and shown in Figs. 1 and 2.

3. The arrangement of shackle-clip C having ears D formed as part thereof, the eye-strap E, yoke H, rubber *n*, and screw-bolt *l*, substantially as described and shown in Fig. 3.

4. In combination with the shaft and shaft-shackle, an elastic shield, arranged to operate substantially as described and shown at I, and for the purposes specified.

120,457.—LIGHTNING-CONDUCTOR.—Othniel Preston, South Dansville, N. Y.

Claim.—1. The tubular lightning-conductor A, constructed of wires B twisted together, substantially as shown and described.

2. A lightning-conductor composed of wires B twisted together in the tubular form, inclosing a metallic tube, C, substantially as shown and described.

3. A tubular lightning-conductor, constructed of wires twisted together either with or without an inclosed metallic tube.

120,458.—FORK-TINE.—William H. Rodden, Toronto, Canada.

Claim.—A fork-tine having the upper half cylindrical and the lower half an acute parabola, as herein shown and described.

120,459.—COOKING-RANGE.—Edward P. Rogers, Chelsea, Mass.

Claim.—1. The division-plate E, between the top of the oven C and the top plate D, in combination with the flues around the oven and the inclined division plate A, substantially as and for the purpose described.

2. A grate-bar, B, provided with projections *d*, and having its area in cross-section larger at its middle than at its ends, substantially as and for the purpose described.

120,460.—SHOE.—James A. Rose and George J. Mason, Prairie City, Ill., assignors to themselves and Adam Harshberger, same place.

Claim.—A shoe having a dirt-excluder, B, of the form shown, attached below the lacing holes or buttons *i i i* by the seam *f f f*, and arranged in relation to the lappel C, as and for the purposes set forth.

120,461, antedated October 18, 1871.—TREADLE.—Al B. Shaw, Medford, Mass.

Claim.—The rack-bar C, operated by the spring foot plate D, in combination with the cog-wheel *e*, pawl *g*, and fly-wheel A, operating substantially in the manner and for the purpose set forth.

120,462.—SHIRT-BOSOM.—Solomon Sibley, Boston, Mass.

Claim.—A shirt-bosom re-enforced or strengthened by the application of stripe *f* of linen, cotton, or other suitable material at the points where the plaits meet, substantially as and for the purpose set forth.

120,463.—OYSTER-DREDGE.—Thomas P. Sink, Fairton, N. J.

Claim.—1. The tooth-bar of an oyster-dredge, constructed with set-screws for the purpose of regulating the pitch of the rake, as herein shown and described.

2. A float fixed to the frame-work of an oyster-dredge, as herein described, and for the purpose set forth.

3. The float J, the set-screws H, and links D, in combination with an oyster-dredge, substantially in the manner set forth and shown by the drawing.

120,464.—CHURN-THERMOMETER.—James Harvey Smiley, Caroline, N. Y.

Claim.—1. The air-chamber I, constructed about the bulb B, extending upward and back of the register-plate F to the upper part of the handle D, where it opens to the atmosphere by the holes H, substantially in the manner set forth.

2. In combination with and constructed within the handle of a churn-cover, the thermometer J B, the register-plate F, the air-chamber I, and the glass face-plate E, substantially as set forth.

120,465.—BLIND-STILE BORING-MACHINE.—Edward H. Smith, Whitestown, N. Y., assignor of one-half his right to Robert Gibson, same place.

Claim.—The frame A, in combination with the table B, the markers *a a*, the movable bar *c*, the levers *d d*, the rods *e*, the lever *f*, the spindles C and boxes D, the rods E E and levers F F, and working-gear G, substantially as and for the purpose hereinbefore set forth.

120,466.—SOLDERING APPARATUS.—Luke Albert Smith, Kansas City, Mo.

Claim.—The combination of the cylinder E, slotted plate G, bar M, and pins L, all being arranged substantially as specified.

120,467.—PRESSING CAST METAL.—John Blake Tarr, Fairhaven, Mass.

Claim.—1. The cylinder and plunger, arranged below the mold-bed B and combined with a movable mold, substantially as described.

2. The cylinder A and its open head A', arranged below the mold-bed B, substantially as described.

3. Pipes *f f b b' d d'* and three-way cocks *e e'*, combined with the cylinder A of the press, substantially as described.

4. The combination of an expansible collar with the plunger C and mold G, substantially as described.

5. The arrangement of an expansible plunger-collar on the upper side of a mold-bed, having a pressing apparatus arranged beneath it, substantially as described.

120,468.—MACHINE FOR SAWING SPOKES.—Thomas J. Tolan, Delphos, Ohio.

Claim.—The combination of the spring P with the disks F and rod D, substantially as specified.

120,469.—APPARATUS FOR LIGHTING GAS BY ELECTRICITY.—John Vansant, San Francisco, Cal.

Claim.—1. The combination, with a single fixed coil, of two tubular magnets, one fixed and the other movable, as set forth.

2. The combination of two magnets, G H, with the single helix I, substantially as herein shown and described.

3. The cap D made larger in cross-section than the empty space around and within it, for effecting an increased motion and pressure of the mercury, as specified.

4. The radiating coils of bad heat-conducting wire, supported by pins V on the insulating-pipe, as and for the purpose specified.

5. The insulated spring *u*, connected with one end of the helix wire, and so arranged as to effect a ground connection when required, as set forth.

120,470.—ROTARY ENGINE.—Gilbert M. Venable, Memphis, Tenn.

Claim.—1. A rotating steam-chest formed within or partially within a rotating piston of an engine, said chest having formed in it steam induction-passages arranged to act as cut-offs for the steam, substantially as and for the purpose set forth.

2. The within-described method of balancing the pistons of a rotary steam-engine by admitting steam to the interior of its pistons, substantially in the manner described.

3. The arrangement of the induction-passages F F with reference to the rotating steam chest and to the abutments D^2, substantially as and for the purpose set forth.

4. The arrangement of the exhaust-passages G G, substantially as and for the purpose set forth.

5. The cavities in the outer ends of the pistons, substantially as and for the purpose set forth.

120,471.—SUPPORT AND ADVERTISING MEDIUM FOR STREET-CARS.—Mahlon Warne, Philadelphia, Pa.

Claim.—The improved hand-support for passenger-cars, formed of the hollow circular frame A, composed of grooved sections, as specified, the endless cord E, and sliding handle F, substantially as shown and described.

120,472.—PERMUTATION LOCK.—Samuel C. Weddington, Jonesborough, Ind.

Claim.—The lever R, spring S, and adjustable block T for varying the pressure of the pulley *q* on the tumbler C.

120,473.—CAR-AXLE BOX.—Christopher Williams, Adrian, Mich.

Claim.—The housing cap E, plate D, and box B, the same being respectively constructed with cavities and projections, as specified, so as to fit together and co-operate, as shown and described.

120,474.—LACE-KNITTING MACHINE.—Henry Williamson, Williamsburg, N. Y.

Claim.—The lace-knitting machine herein described, having its thread-guides all arranged on a single guide-bar, working uniformly with each movement of the needles, and the needles worked independently of each other by Jacquard patterns for forming the pattern of the goods, all substantially as specified.

120,475.—PIPE-WRENCH ATTACHMENT FOR MONKEY-WRENCHES.—Andrew H. Woodruff, Lansing, Iowa.

Claim.—The toothed block A and spring shouldered bars B *b'*, in combination with each other to adapt them for attachment to an ordinary monkey-wrench, substantially as herein shown and described, and for the purpose set forth.

120,476.—LUBRICATOR FOR STEAM-VALVES AND PISTONS.—Almon N. Allen and Rodney H. Dewey, Pittsfield, Mass.

Claim.—The combination of one or more tubular pistons, E E', with oil-cups F F' and cylinders D D', formed in or on the slide-valve of a steam-engine, substantially in the manner herein shown and described.

120,477.—HOLD-BACK FOR SHAFTS OF VEHICLES.—John Armstrong, Newark, Ohio, assignor of one-half his right to Marion G. Decrow.

Claim.—The hold-back, consisting of the wide bearing-loop A, the end braces B, and the center-pin C, all cast in one piece, the ends of the braces being either cast with barbed spurs or provided with holes for the passage of screws or nails, substantially as described, for the purpose specified.

120,478.—COTTON-PICKERS' VELOCIPEDE.—Lewis Monroe Asbill, Edgefield county, S. C.

Claim.—1. The cotton-pickers' velocipede, as described.

2. The basket-holder E or equivalent.

3. The propelling-handles C, convertible into the basket-support.

4. In combination with the above, the umbrella-holder.

120,479.—STEAM-HEATER.—Benjamin T. Babbitt, New York, N. Y.

Claim.—The combination and arrangement of the tapering arms B with the hollow post or stem A provided with an inlet and outlet at or near its opposite ends, substantially as specified.

120,480, antedated October 18, 1871.—SAD-IRON HEATER.—Benjamin T. Babbitt, New York, N. Y.

Claim.—The iron having a hollow body, A, and provided with nozzles *b* and *a* or analogous connections for flexible steam and eduction-pipes, substantially as and for the purpose herein set forth.

120,481.—WOOD PAVEMENT.—William Oscar Barton, Elizabeth, N. J.

Claim.—In combination with the blocks A A provided with recesses *a a*, the key B constructed substantially as described, and for the purposes herein set forth.

120,482, antedated October 21, 1871.—Stone-Dressing Machine.—Thomas W. Baxter, Chicago, Ill.

Claim.—1. In machinery for dressing or facing stone, the devices hereinabove described, or the equivalents thereof, by which the feeding motion is imparted, in combination with a diamond or diamonds, or equivalent cutter or cutters, on a rotating stock, when the diamonds are connected with the rotating stock by chucks or holders which are adjustable thereon, substantially as and for the purpose described.

2. In machinery for dressing stone, the chuck or holder described, or its equivalent, for griping and firmly holding the diamond or equivalent cutter, when combined with the rotating stock, so that it can be adjusted on the rotating stock, substantially as described.

3. In combination with the rotating stock and the means for griping and firmly holding the diamonds or equivalent cutters, the means, substantially as described, for adjusting the diamonds relatively to each other, substantially as described.

4. A series of diamonds or equivalent adjustable cutters set in a rotating stock, arranged substantially as hereinabove described, so that the cut of each shall be adjacent to or slightly overlapping the cut of another one of the said series, as described.

5. The arrangement in a series of two or more of stocks, each armed with a series of cutters, substantially as described, whereby the width of the aggregate cut or the depth thereof may be increased.

6. A series of stocks each armed with a series of cutters, as described, and each independently adjustable in the manner described, so as to regulate the form and extent of the aggregate cut of all the stocks, substantially as set forth.

7. The combination of one or more rotating stocks, each armed with a series of cutters, as described, with the slides and adjusting devices, and the means for holding and moving the material to be operated upon, substantially as hereinabove described.

120,483, antedated October 27, 1871.—Bird-Cage.—George J. Bolz, Michael Grebner, and Julius M. Jagel, New York, N. Y.

Claim. — The drop-bolt *e* having a projecting point sliding up and down on the wires of the cage, in combination with the single fixed loop *d* inside the body of the cage, and the fixed hooks *c*, which are secured to the bottom B outside the body of the cage, all arranged as herein shown and described.

120,484.—Gate.—George C. Bovey, Cincinnati, Ohio.

Claim.—1. As a shiftable support for the lower hinge of a gate, the sliding step-bar G supported on anti-friction rollers, and arranged and operated as described.

2. The catch *c*, latch N, cord O, and staple *e*, when arranged to operate in connection with the shiftable gate A and fixed post B, in the manner herein explained.

120,485.—Photographic Posing-Chair.—Nelson S. Bowdish, Richfield Springs, N. Y.

Claim.—1. The photographic posing-chair made with a metal frame, *a*, to which the wooden legs *b*, sides *c*, and front *d* are attached, as set forth.

2. The arm *e*, attached to the under side of the frame *a* and carrying the adjustable head rest, in combination with the segment *i*, lip 3, and clamp, substantially as and for the purposes specified.

3. The segmental back, supported by and movable upon the bars *l* and segment *n*, in combination with the slides *i*, as and for the purposes set forth.

4. The movable arms *r*, connected when in place by the eyes 7, and hooks to the upper parts of the back legs of the posing-chair, as and for the purposes set forth.

120,486.—Brush-Handle.—Charles Brintzinghoffer and George Eckert, Philadelphia, Pa.

Claim.—The spring C, rigidly secured at one end within the slot H of a brush-back A, and arranged to operate in connection with the handle B formed with the recess A, substantially as and for the purpose set forth.

120,487. — Muff-Tassel. — Samuel Brody, New York, N. Y.

Claim.—The removable muff-tassel provided with the button and loop, as and for the purposes set forth.

120,488.—Car-Truck and Axle.—George B. Bryant, Pottsville, Pa.

Claim. — The combination of the axle A, constructed as described and shown, with a car-truck having the large inner beam *b* and the small outer beam *b'*, and with the bent supporting-bar *f*, all arranged as herein set forth.

120,489. — Railway Car-Wheel.—George B. Bryant, Pottsville, Pa.

Claim.—1. A cast-iron car-wheel having a chamber, *b c*, provided with the feed-opening *c* and outlet *d*, and containing within it a packing of cotton-waste or other fibrous substance, *f*, a plate, *m*, which holds the fibrous substance in place, and a spring, *s*, which presses the plate upon the fibrous substance, all constructed and arranged as and for the purposes described.

2. A cast-metal car-wheel, provided with a lubricating-cavity, *b*, within it, and a re-enforcement of solid metal, *g*, on the outside opposite to the cavity, substantially as herein set forth.

120,490.—Fire-Place Grate.—John Caven, Indianapolis, Ind.

Claim.—1. The divided journal-bearings *h i*, in combination with the hinged sections *b c* of a revolving coal-grate, for the purpose of retaining the sections closed without fastenings while being revolved, as described.

2. The seats D of the extensions A, arranged to form a combination of the journal-bearing seats to support one of the hinged sections of the grate when opened, as described.

3. The combination of the hinged revolving grate *b c* with the divided journal-bearings *h i*, the supporting side frames *a d*, the curved extensions A with their openings B and seats D, the several parts being constructed and arranged for use as described.

120,491. — Milk-Refrigerator. — John Chappel, Chenango Forks, N. Y.

Claim.—1. The arrangement of the lined vat A with its ice-box, division B in said ice-box, the ward C, and water-gauge D, all substantially as shown and described, for the purposes herein set forth.

2. The pan K, provided with the spout G, which is surrounded by the thimble E and packing F, substantially as and for the purposes herein set forth.

3. The pin H and U-shaped wedge I, when used in connection with the spout G, pan K, and vat A, substantially as and for the purposes herein set forth.

4. The combination of the lined vat A with its ice-box, division B, ward C, water-gauge D, pan K, spout G, thimble E, packing F, pin H, and wedge I, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,492.—Hinge for Gates, &c.—Pascal P. Child, St. Louis, Mo.

Claim.—The combination and arrangement of the double-ended pintle F, its two sockets, *b b'*, and the open-ended inclined slot C *c*, allowing the connection and disconnection of the pieces of the hinge when detached from the gate, substantially as set forth.

120,493.—Carriage-Curtain Fastening.—Alvin B. Clark, Richmond, Ind.

Claim.—1. The combination of the spring *b* with the knob A, substantially as and for the purpose set forth.

2. The combination of the knob A, spring *b*, collar *d*, and plate D, substantially as and for the purposes set forth.

120,494. — Coal-Box. — Charles W. Coffin, Pittsburg, Pa.

Claim.—As an article of manufacture, the metal box *a*, having the riveted angle-irons *b* and the bolted handles *c*, as described.

120,495. — Wagon. — Frederick W. Cole, Philadelphia, Pa.

Claim.—1. The semicircular sliders, comprising plate and frame and central standard D, where the same are so constructed and arranged as to extend rearward and serve as a support for the wagon-body, substantially as specified.

2. The combination and arrangement of the bolster F, king-bolt K, sill H, sliders A A' B B', and standards C D E, as shown and described.

120,496. — Combined Flour-Chest and Cupboard. — Thomas Jefferson Corr, Bloomington, Ill.

Claim.—The combination of the flour-chest A, partitions C D, boxes E with lids G, and tills H, sifter L, hooks *b*, dough-tray M, leaf O with bracket P, drawer R, and cupboard S, all constructed and arranged substantially as and for the purposes herein set forth.

120,497. — Cooking-Stove. — Augustus P. Corse, Troy, N. Y., assignor to Eddy, Corse & Co., same place.

Claim.—1. A grate, E, resting within or upon suitable bearings between the upper and lower sides of an ash-pan, D, and capable of a horizontally-reciprocating movement from front to rear, substantially as and for the purpose specified.

2. A sifting-grate, formed of two longitudinal sections hinged together and resting within or upon suitable bearings between the upper and lower sides of an ash-pit so as to be capable of a horizontally-reciprocating movement from front to rear, substantially as and for the purpose shown.

120,498.— Adjustable Bolster.—George Couch, St. Louis, Mo.

Claim.—1. The arrangement of an extension head-pillow, D, in combination with an adjustable pillow, substantially as and for the purpose set forth

2. The arrangement of supporting-rods B B^1 B^2 B^3, sliding rod C, thumb-screw C', in combination with the hinged frames A A^1, constructed to operate substantially as and for the purpose described.

120,499. — Gig-Saddle.—John W. Crouch, Rushville, Ohio.

Claim.—The combination of the screw C, nut-piece D, and plates B with the saddle A, substantially as set forth.

120,500. — Sawing-Machine. — Jacob D. Culver, Catlin Station, Ind., assignor to himself and Samuel D. Carmichael, same place.

Claim.—1. The combination, with the axle B and wheels C C, of the standard A, frame P, shafts S S^1, gears E F, crank *e*, slotted lever M, rod L, and saw P, the whole arranged and operating substantially as and for the purpose herein specified.

2. The tail-piece *p*, formed on the rear end of the saw, in combination with the socket *f* on the rod L, and the hinge-joint *v*, for the purpose of securing the saw and rod rigidly together or allowing them to fold as desired, substantially as herein described.

120,501.—Cut-Nail Machine.—Ferdinand Davison, Liberty, Va.

Claim.—1. The relative arrangement of the pivot which connects the feed-box to the reciprocating slide, and on which said box is free to turn, and the four set-screws *n n* n^1 n^1 for arresting the lateral movement of said box, the former being at or near the middle of the bottom of said box, and the latter located at the two ends and on opposite sides thereof, as described.

2. The combination, as described, with the cutter-head, of the spring-nipper I, adapted to and arranged to have a sliding movement therein, springs *g g'*, and lever H, substantially as specified.

3. The spring A, arranged below the fixed cutter and between the griping-dies of the machine so as to operate, in conjunction with the movable cutter and spring-nipper, in feeding the blanks to the gripers and headers, and so as, also, to serve as an ejector for the finished nail.

120,502. — Stone-Crushing Machine.—Claude Léon Desmolins, Avallon, France.

Claim.—The mortar *a* provided with openings *t t* and a series of denticulations, *a'*, in combination with the pestle *b* provided with a denticulated face, when the same are constructed, arranged, and operate in connection with each other, substantially as described.

120,503.—Stove-Pipe Elbow.—Ferdinand Dieckmann, Cincinnati, Ohio.

Claim.—A pipe-elbow formed of a single piece of sheet metal, bent to a cylindrical form, and subjected to a succession of double-lapped or folded crimps, substantially as set forth.

120,504.—Washing-Machine.—William James Dodge, Syracuse, N. Y.

Claim.—A cylinder with concentric peripheries H H and I I, clothes-chamber A A, trap B, lifters L N, guards N N, and opening O, constructed as and for the purpose herein described.

120,505. — Millstone Dresser. — Henry Dolmetch, Canton, Pa.

Claim.—1. The millstone dress herein described, its V-shaped channels having their inner straight portions tangential to the eye but oblique to the radius, and their outer portions curved, as specified.

2. In combination, the runner B having the dress herein described, and the scrapers and the bed-stone A having a similar dress, and the depressed ledge *k*, as specified.

120,506.—Portable Fence.—Thomas Donehoo, Richmond, Mo.

Claim.—The combination of the sills A, inclined braces C, inclined stationary posts B with brackets I, notched rails 1, 2, and 7, and the loose rails 3, 4, 5, &c., all constructed as shown and described.

120,507. — Walking-Planter. — Andrew Wilson Dunlevy, Fair Play, Ohio.

Claim.—The combination of the frame A B with wheel E, shovels N L, front C, adjustable shovel D, hinged bar O, draft-bar P, seed-box H and its operating mechanism, and standard R, all constructed and arranged substantially as and for the purposes herein set forth.

120,508. — Steam-Boiler Flue-Joint.—Addison C. Fletcher, New York, N. Y.

Claim.—1. The tube-foot of hollow annular construction, substantially as herein described, where

by it forms at the connection which it makes between the tube and tube-sheet an annular space around the end of the tube.

2. The projection of the annular water-space *b* of the flue-foot beyond the outer face of the tube-sheet, substantially as herein described.

120,509.—ARTIFICIAL TEETH.—Thomas Alder Dickson Forster, Philadelphia, Pa.

Claim.—1. An artificial denture, consisting of porcelain teeth mounted on a base composed in whole or in part of oxychloride of zinc, as set forth.

2. An artificial denture in which single plain teeth are embedded in a base consisting of a composition of the character described, and which surrounds the fangs and forms the gum, as set forth.

3. An artificial denture in which the gum or surface of the base above the teeth is coated with enamel, applied as specified.

120,510.—LOOM.—William V. Gee, Philadelphia, Pa.

Claim.—The bar E″, cam B″, cord *i*, link E′, arm *b*′, and pulley I, in combination with the cord *g*, pulleys G′ G″, finger F″, and hook F‴, arranged to operate substantially as described.

120,511. — LIFTING-JACK. — William H. Greenwalt, Strickersville, Pa.

Claim.—The lever D, link E, slide B′, and lock-roller F, constructed and arranged as described, in combination with the adjustable standard B of a wagon-jack, as and for the purpose set forth.

120,512.—CLOTHES-WRINGER.—Luke Hale, Hollis, N. H.

Claim.—In a clothes-wringing machine, the arrangement of the bracket G′ hinged to the wringer-frame, and provided with the roller G, spring H, lever I, and connecting-rod A, constructed and applied in the manner substantially as set forth.

120,513.—BINDER FOR SEWING-MACHINES.—Henry M. Hall, New York, N. Y.

Claim.—As a new article of manufacture, the hereinbefore-described binder, when constructed substantially as and for the purpose specified.

120,514.—SAW-MILL HEAD-BLOCK. — Samuel W. Harris, Jamestown, N. Y., assignor to himself and Josephus H. Clark, same place.

Claim.—1. The arms C C attached to the bail-blocks A A and matching each other, substantially as and for the purposes herein set forth.

2. The combination of the bail-block A, die G with thread *b*, and the lever H with eccentric hook *c*, all constructed and arranged substantially as and for the purposes herein set forth.

3. The within-described double-screw set-works when all its parts are constructed, arranged, and combined to operate substantially in the manner and for the purposes herein set forth.

120,515. — LUBRICATOR FOR AXLES AND OTHER SPINDLES.—Willard H. Harvey, Bangor, Me.

Claim.—The lubricator herein described, having the reservoir E, syringe F, communicating orifice H, and the piston G, as and for the purposes specified.

120,516.—STEAM-BOILER.—Jacob F. Hayen, Buffalo, N. Y.

Claim.—1. The boiler herein described, consisting of the shell A, reservoir B, cast-iron fire-pot B′, vertical flues D, deflecting-plate F, radial water-legs *a a*, and furnace C, all substantially as shown and described, for the purposes specified.

2. The inclined annular deflecting-plate F, in combination with the fuel-reservoir B, upper chamber C′, flues D, and the inner shell of the boiler, substantially as described, for the purpose specified.

3. The damper G, arranged within the upper chamber C′ above the deflecting-plate F, and fuel-reservoir B, substantially as described, for the purposes specified.

120,517.—FOLDING-STEP FOR VEHICLES.—William Henry, New York, N. Y.

Claim.—1. The castings A B, forming the tread and rise of the folding-steps, arranged and operating as set forth.

2. The improved metallic folding-steps for carriages, &c., consisting of the tread A having the rib C, in combination with the rise B provided with the ribs E and arms F F, the said tread and rise pivoted together and arranged to operate substantially as described.

120,518.—WATER-HEATER FOR STOVES.—George Hibberd, Wheeling, W. Va.

Claim.—As a new article of manufacture, the cast-metal water-back for stoves, constituted of an even number of pipes, *a a*, connections *b c d e*, partitions *f f*, and plugs *g*, for the core-support apertures, all substantially as specified.

120,519. — SAFETY AND VACUUM VALVE.—George Hibberd, Wheeling, W. Va.

Claim.—1. The combination and relative arrangement of the connected valves A B, transverse opening *c*, transverse neck M, and pin D, to admit of ready attachment or removal of the valve B, as herein set forth.

2. The valve A A¹, cylinder X, and casing Y, constructed and arranged as herein shown, so that the shoulder *x* at the lower end of the cylinder X will constitute a permanent stop to limit the upward motion of the valve, in combination with the adjusting-screw H to graduate the pressure upon the valve without changing the position of the stop *x*.

120,520.—PEN-AND-PENCIL CASE.—William S. Hicks, New York, N. Y.

Claim.—The herein-described pen-and-pencil case, consisting of the tube or body A with the sliding tube E having the pen-slide F arranged therein, and the pencil-case D secured at the opposite end of the body A, all constructed and arranged to operate substantially as described.

120,521.—MACHINE FOR UPSETTING TIRES. Edgar Hitt and Andrew Lent, Katonah, N. Y.

Claim.—As an improvement in machines for upsetting tires, the arrangement herein described and shown, of the griping-jaws, fitted loosely on transverse slides, the screws by which to adjust one jaw of both pairs toward and from the other to accommodate tires of different breadths as well as to clamp, and the wedges by which to actuate the other jaws of the two pairs, and to supplement the compressing or clamping force of the same.

120,522.—HOISTING-BUCKET.—Edwin James Hulbert and Aimé Nicholas N. Aubin, Portland, Conn.

Claim.—The combination of the detached bottom, suspended by chains or rods, with the supporting-pins eccentrically fixed to the bucket, the whole constructed substantially as and for the purpose hereinbefore set forth.

120,523. — BRUSH. — Daniel W. Lapham, Baltimore, Md., assignor to Josephine M. Lapham, same place.

Claim.—As a new article of manufacture, a brush composed of a handle, A, provided with a series of conical faces, B, for the reception of and in combination with the bristles C, substantially as and for the purpose specified.

120,524.—MACHINISTS' VISE.—Hezekiah E. Long, Decatur, Ill., assignor of one-half his right to Burroughs & Co., same place.

Claim.—1. The trunnion *a* formed on the bottom of the back jaw G, and operating in a corresponding concavity at the center on the top of the bed-plate A, when said trunnion and concavity are constructed with inclined or dovetailed abutting surfaces, substantially as and for the purposes herein set forth.

2. The arrangement of the drop-button H, loosely astride of the neck of the screw E and resting upon the same within a cavity, *b*, prepared for it, substantially as and for the purposes herein set forth.

3. The combination of the back jaw G having trunnion *a*, the bed-plate A with corresponding concavity, said trunnion and concavity being constructed with inclined or dovetailed abutting surfaces, and the stop-button I pivoted in lugs *f f* on the bed-plate A to turn and drop into perpendicular grooves *h h* in the back jaw and bed-plate, substantially as and for the purposes herein set forth.

120,525.—SYRINGE.—Horatio N. Mattison, New York, N. Y.

Claim.—1. The arrangement of two screw-threads of different size in the socket *a* of the bulb A to receive nozzles of different size and shape, substantially as set forth.

2. The arrangement of a screw-thread, *s*, in the end of the nozzle C to receive a corresponding thread on the stem of the nozzle D, substantially as described.

3. The compound nozzle B C D, constructed as shown and described.

120,526.—RAILWAY-CAR COUPLING.—George W. McEuen and Chandler Eves, Millville, Pa.

Claim.—The pendent pin B supported from the roof of the chamber, and the lever L constructed so as to extend across under the draw-head to the side, thence up to the top through the notches or grooves *m m* and over beyond the opposite edge, where it is weighted, as shown at *w*, for the purpose herein specified.

120,527.—BRAKE FOR MACHINERY.—Robert David Napier, Limehouse, England.

Claim.—The combination of the differential lever A with the brake-band B and wheel C, when said lever has its joints or points of attachment *c d* and fulcrum *b* arranged, in relation with each other and the band, substantially as specified, and whereby the strain on the joints is thrown upon different sides of the fulcrum of the lever, and so that the same action that moves the one end of the band round the wheel moves the other end in the same circular direction, but at a different rate, as herein set forth.

120,528.—GRIDIRON.—Charles Noble, Philadelphia, Pa., assignor to Charles Noble & Co., same place.

Claim.—The hearth-plate A, covering the opening in the base-plate of a stove, perforated near its edge, and having an opening, *a*, to which is fitted the covered gridiron B, as and for the purpose described.

120,529. — METALLIC CARTRIDGE. — Alwin Payne, Bridgeport, Conn.

Claim.—1. The combination herein shown of the re-enforced shell A and disk or anvil B, whereby said disk or anvil is firmly secured in place by upsetting or turning the metal of the case over the disk or anvil, substantially as specified.

2. The improved cartridge-shell, having the flange *b*′ to hold the anvil or anvil-re-enforcement B, when said flange is formed from the re-enforcement *a*, for the purpose set forth.

120,530, antedated September 30, 1871.—COMBINED TENT AND COT.—William H. Penrose, Fort Lyon, Col. Ter.

Claim.—1. The combination of the uprights A A, jointed to the cap-plates B, with the folding-bar C, the thimbles G G, and the extension-bars articulated to the thimbles, and connecting the lower ends of the uprights, when constructed to operate substantially in the manner and for the purposes set forth.

2. The combination of the frame above described, consisting of the parts A, B, C, D or F, and G with a bed-bottom supported by the thimbles G, substantially as described.

3. The combination of said frame with the bed-bottom E or L, and the tent-cloth covering the whole, substantially as described.

120,531.—APPARATUS FOR MANUFACTURING SIRUPS OR CREAMS AND SODA-WATER.—Antoine Piccaluga, Paris, France.

Claim.—1. The combination of two cylinders, the inner one I for receiving the ice, and the other K for the reception of the soda-water, the latter cylinder being provided with a tube, M, for introducing the soda-water, and a tube or tap, L, for drawing off the liquid, and a valve, *b*, for the exit of the excess of carbonic-acid gas.

2. The combination, with the two cylinders, of the revolving star-piece H bearing the cylinders N for the reception of the cream or sirup.

3. The combination, with the ice-receiver I, of the conical revolving ice-cutter E, actuated by a thirty-toothed wheel, C, and a seventy-four-toothed wheel, D, by the aid of the fly-wheel X.

120,532.—MACHINE FOR TURNING WOOD.—George Pickering, Janesville, Wis.

Claim.—1. The adjustable chuck, in combination with the hollow revolving mandrel and cutter-head, substantially as described, for the purposes specified.

2. In combination with the sliding blocks I, the knives K, substantially as described, for the purposes specified.

3. The adjustable blocks I, adapted to hold the knives K parallel to the axis of the stick to be turned by means of the set-screw J and the shoulder L around the inner edge of the opening in the cutter-head, substantially as herein shown and described.

120,533.—DOOR-CHECK.—John Pool, Elizabeth City, N. C., assignor to himself and Clinton L. Cobb, same place.

Claim.—As a new and improved article of manufacture, the door-fastener herein described, formed by the combination of the driving spike A provided with a deep slot, *c*, in its head, through which freely passes the arm *e* of the catch *a b* pivoted between the prongs *d d*, as shown and described.

120,534. — MILK-HOUSE. — John A. Price, Beckleysville, Md.

Claim.—The arrangement, within a milk-house, of a chest, C, with a chimney-pipe, D, extending up through the top of the house, and with pipes E extending through the side of the house into and down an adjoining well, and terminating in flaring or conical ends, all substantially as herein shown and described, and for the purpose set forth.

120,535.—BRACELET-FASTENING.— Bethuel Ranger, Brattleborough, Vt.

Claim.—1. The combination of a locking device with the clasp or catch of a bracelet, substantially as set forth.

2. The combination of the cam or cams *d* with the clasp or catch C, substantially as set forth.

3. The combination of the notches *e* of the cams with the pins *c* of the push-piece, to prevent the accidental withdrawal of the cams, substantially as set forth.

4. The arrangement of the slotted cam-slide or

its equivalent with relation to the push-piece and the guides, substantially as set forth.

5. The engagement of the pins *e* with the notches *f* (and their disengagement) by yielding pressure, substantially as set forth.

120,536.—MILL-PICK.—Albert Rasner, Dayton, Ohio.

Claim.—The head A provided with the shoulders *a* and slotted stud D, the perforated cap E, and the wedge F, in combination with each other, substantially as and for the purpose specified.

120,537.—TRUSS.—Samuel S. Ritter, Philadelphia, Pa.

Claim.—1. The shaft D *e*, in combination with the grooved truss-pad B, substantially as described, for the purpose specified.

2. In combination with the shaft D *e*, upon which the pad rotates, the pivoted arm *i* with its projecting end, and the set-screw *j*, substantially as described, for the purpose specified.

120,538. — CURTAIN-FIXTURE. — Anthony Roelofs, Philadelphia, Pa.

Claim.—The combination, with the sectional roller constructed as described, of a shade which is clamped between the flat surfaces of the sections, folded round the outside of one section, and secured by means of the clamps, as set forth.

120,539.—DISTILLING NAPHTHA AND OTHER HYDROCARBON LIQUIDS.—Henry H. Rogers, Brooklyn, N. Y., assignor to The Charles Pratt Manufacturing Company, New York city.

Claim.—1. The apparatus herein described for separating volatile hydrocarbons, composed of a still, a column, and a condensing and separating apparatus, each constructed so as to operate substantially as herein set forth.

2. The column Q, in combination with the condensing and separating apparatus, as set forth.

3. The condensing and separating apparatus, composed of the tank A′, coils D^{d}, pipes I, pipe G, and valves *d*, arranged and combined substantially as set forth and described.

4. The pipes I′, in combination with the auxiliary or cooling-worms J^{1} J^{2} J^{3}, as and for the purpose set forth.

5. The pipe G, in combination with water-tank H and pipes L and L′.

6. The combination of the worm F with the condensing and separating apparatus composed of tank A and coils D^{d}.

7. The combination of the running-pans with the condensing and separating apparatus, as set forth.

8. The pipes D, E^{a}, and E with valves P, R, and R^{1}, arranged to operate as described.

9. The pipe V, connected with apartments C C C, &c., so as to fill and draw off the liquid from the cooler, as described.

120,540.—SASH-HOLDER.—Addison V. Sanford, Binghamton, N. Y., assignor to himself and William P. Pope, same place.

Claim.—The bolt, in the form of an arc of a circle, with extension finger piece in the same vertical plane, and the pivoted arm forming a radius of the same circle, in combination with the case A, finger-rest *b*, and opening *f* of same size as the bolt, substantially as herein described.

120,541.—ALARM-LOCK.—Charles Schnepf, Marietta, Ohio.

Claim. — The construction and combination of the top bar J, central sliding bar K, the upright locking-bars H, bolt B, the lever M, and spiral springs M M M′ M″ with the alarm-bell, when operated by two keys in the manner herein described, for the purposes set forth.

120,542. — SAW-SET. — Duncan Shaw, Cincinnati, Ohio.

Claim.—A set for circular saws, consisting of the adjustable centering and clamping device, in combination with the frame A provided with the beveled anvil B and spring-punch C, all constructed and arranged to operate substantially as described.

120,543.—SASH-BALANCE.—George E. Smith, Fitchburg, Mass.

Claim.—1. The sashes B C provided with the racks D E, in combination with the large spur-wheel F and the pinion G, constructed and operated substantially as and for the purpose described.

2. The locking-bolt H, slotted rack D, and pinion G, in combination with the large wheel F and rack E, substantially as described.

120,544.—COTTON-SEED PLANTER.—James H. Sorey, Flora, Ill.

Claim.—In a cotton-seed planter the tines *d*, constructed as specified, and arranged upon the shaft D, substantially as described.

120,545. — HYDRO-PNEUMATIC MOTOR.—Charles L. Stevens, Galesburg, Ill., assignor to himself and L. B. Flanders, Philadelphia, Pa.

Claim.—A hydro-pneumatic motor, in which water is forced from and a vacuum created in two or more chambers by steam and water-jets, and is caused to actuate continuously a turbine wheel contained in a casing communicating with said chambers, substantially as described.

120,546. — FENCE. — Charles H. Strowger, Webster, N. Y.

Claim.—The stakes A A and B B, notched at their upper ends, and connected with the upper set *b* of wires, in the manner shown and described, whereby the wires are strained and the fence rendered complete, as specified.

120,547.—ADJUSTABLE RAIL-JOINT.—John R. Sullivan, Woodland, Cal.

Claim.—The slotted strap *g* having the knuckle-joint *i*′ in combination with the main rail and the removable splice-pieces h, as described.

120,548.—HYDRAULIC ENGINE.—William J. Tate, Philadelphia, Pa.

Claim.—The combination of the semi-annular or segmental casing A and the revolving ring D carrying disks G adapted to the said casing, and hung to the ring D so that they can be brought flush with or at right angles to the face of the same, all substantially as and for the purpose set forth.

120,549. — CORN-SHELLER. — Ambrose B. Thompson, Owego, N. Y.

Claim.—1. The arrangement, in a corn-sheller, of the double cogged driving-wheel I and of the pinions L M upon the shafts of the shelling and feed-wheels, substantially as described and shown, and for the purpose specified.

2. The supports Q for the clamping-jaws O, constructed in two parts, R R′, as described, each provided with corresponding recesses in their proximate faces, as and for the purpose specified.

3. In combination with the supports Q, the clamping-jaws O O cast with trunnions upon their enlarged heads, substantially as described, for the purpose specified.

4. The arrangement of a weight and spring with the hinged clamping-jaw of a corn-sheller, substantially as described, whereby the force exerted by the weight acts directly upon the spring alone, which spring holds the jaw against the corn, for the purpose specified.

5. In combination with the clamping-jaws O, the spiral springs W′, adapted for adjustment through the short arms of the weighted levers W, substantially as described, and for the purpose specified.

6. In combination with the clamping-jaws O, the weighted levers W, and the adjustable spiral springs W′, the studs X, and nuts Z, substantially as described, for the purpose specified.

7. In combination with the jaw-supports Q and with the clamping-jaws O, the weighted angular levers W, substantially as described, for the purpose specified.

120,550.—TABLE OR STAND.—James Thornton, Oswego, N. Y.

Claim.—The combination of the standard B having spring-cleft C, clamp-screw E, and swivel-joint *g*, with the leaf F having lug *d*, substantially as and for the purpose specified.

120,551. — WHIP-HOLDER. — James Thornton and Emmit G. Latta, Genesee, N. Y.

Claim.—The whip-holder, composed of the parts A and B, constructed and arranged substantially as herein described.

120,552. — RAILWAY FREIGHT-CAR.—Theodore R. Timby, Tarrytown, N. Y.

Claim.—As an improvement in freight-cars, the movable or detached bottom B provided with vertical sides and frame-work D *d* and guards F, the whole working in guides *b* and supported by springs C resting beneath on the timbers of the main car-body, as herein shown and described.

120,553. — GUN-CARRIAGE. — Theodore R. Timby, Tarrytown, N. Y.

Claim.—The shoe C, adapted to rest upon the supporting-rails, and provided with springs D E and followers F, upon which the cheeks of the carriage rest, the whole combined substantially as and for the purposes set forth.

120,554.—BLACKING-BOX.—John Van Santvoord, Mount Vernon, N. Y.

Claim.—As a new article of manufacture, the blacking-box A, formed of a single sheet of material, with the incline D and straight edges *a* and *b*, as and for the purpose set forth.

120,555. — BATHING APPARATUS. — Charles Venn, Kastnersville, Canada.

Claim. — 1. The pipe E having two or more branches, *b b*, in combination with the adjustable roses or nozzles *c*, arranged substantially as set forth.

2. The combination of the tank B, pipe E, arms *b b*, roses *c*, pipe D, and spout *a*, arranged substantially as described.

120,556. — PROCESS OF MAKING WHITE LEAD.—Charles L. Wheeler, Pittsburg, Pa.

Claim.—The process of making carbonate of lead by passing carbonic-acid gas through heated water or a heated solution into a properly-heated stack containing pots charged with acetic acid and metallic lead, substantially as described.

120,557.—PADLOCK.—William Wilcox, Middletown, Conn.

Claim.—The cast-metal skeleton, consisting of the rim *d* and supports for the interior movable parts of the lock, in combination with the wrought-metal front and back plates, substantially as and for the purpose set forth.

120,558.—PORTABLE PHOTOGRAPHIC DARK-CHAMBER. — I. Fletch Woodward, McMinnville, Tenn.

Claim.—The door A, the double window C, and the simple eye-hole B as they are combined and applied to an ordinary trunk or box, in the manner and for the purposes set forth in my specification.

120,559.—ROAD-SCRAPER.—William S. Worley, Arcola, Ill.

Claim.—1. The combination of the bottom A with stripe *b b* and plates *f f*, and the wheels B B with spikes *a a* and rollers *h h*, all substantially as and for the purposes herein set forth.

2. In combination with the above, the rod C, tongue D, brace E, spring G, rubber *d*, lever H, and double catch *e*, all constructed and arranged substantially as and for the purposes herein set forth.

120,560.—SULKY ATTACHMENT FOR PLOWS. John Worrell and James H. Rynerson, Clayton, Ind.

Claim.—The curved rack H and hinge F, in combination with the lever H′, beam E, bar D, and arms C C′, when constructed and arranged substantially as and for the purpose specified.

120,561, antedated October 27, 1871.—TRACE-BUCKLE.—Alvah Worster, Syracuse, N. Y.

Claim. — 1. In connection with the swinging loop D and buckle-frame C, the tongue-plate E having extensions or arms *f f* projecting, between which the strap passes from its rear end, substantially as and for the purpose herein specified and shown.

2. The swinging loop D and buckle-frame C, united by the screw-bolt *g*, when the said screw-bolt also serves to secure the buckle to the hames-tug, substantially as herein described and shown.

120,562.—FEED-MILL.—Zadok S. Cracraft, Ottawa, Ill., assignor to himself and William Stormont, same place.

Claim.—1. The arrangement, in a feed-mill, of a hopper, G, between and feeding two sets of burrs, substantially as herein set forth.

2. The combination of the hubs B B, burrs D D, shaft C, and journals *b b*, all substantially as and for the purposes herein set forth.

3. The combination of the adjustable bars E E moved by the set-screws H H, the hopper G, and burrs D′ D′, all substantially as and for the purposes herein set forth.

120,563.—LOCK FOR SPOOL-HOLDERS.—Nicholas Kenny, New York, N. Y., assignor to himself and Frederick A. Keerspeedt, same place.

Claim.—A spool-holder having a suitable device for locking the spindle, upon which the spool revolves, so that the spool cannot be removed except by the aid of a key, as herein set forth.

REISSUES.

4,612.—Division A.—MANTEL AND FRONT FOR FIRE-PLACES.—David K. Innes and Wesley W. Magill, Cincinnati, Ohio.—Patent No. 117,294, dated July 25, 1871.

Claim.—1. Providing a cast-iron mantel with a shelf composed of slate, marble, or other suitable mineral, as and for the purpose explained.

2. The detached and shiftable wall-plates E E′, when arranged as herein described, and for the object designated.

4,613.—Division B.—MANTEL AND FRONT FOR FIRE-PLACES.—David K. Innes and Wesley W. Magill, Cincinnati, Ohio.—Patent No. 117,294, dated July 25, 1871.

Claim.—1. The provision, in a non-metallic mantel, of the separable cast-iron key C, for the object stated.

2. The combination of the mantel A *a*, separable cast-iron key C, screw-threaded shank D, and nut *d*, for the purpose set forth.

4,614.—WOOD-BENDING MACHINE.—Hiram McDonald, Shortsville, N. Y. — Patent No. 31,182, dated January 22, 1861; reissue No. 4,548, dated September 12, 1871.

Claim.—1. The eccentrics *l m*, sliding plates *o p*,

slides t u, and keyer s, arranged at the outer parts of the lever-beds, as described, to form an improved mode of upsetting the ends of the strips when under the bending operation.

2. A rigid and non-elastic bed-lever, F, holding the blank straight at every point not intended to be bent, connected by strap J with the former C, and provided with free ends that shift the fulcrum of the lever at every point of its movement, as shown and described, and for the purpose specified.

3. A pivoted clamp, E, with friction-roll f between the forks thereof, combined, as described, with a rigid bed-lever, F, as and for the purpose specified.

4. The former-plates D having hooked and slotted ears b b', and the lever-plates g g having hooks k on lower end, combined with straps J having a transverse eye for a removable key at each end thereof, for the purpose of fastening said straps in the manner as shown and described.

4,615.—DREDGE-BOX.—Augustus F. Tripp, Buffalo, N. Y., assignor to Sidney, Shepard & Co.—Patent No. 106,430, dated August 16, 1870.

Claim.—The combination, in a dredge-box, of the lesser flanged cap E, central perforated portion C, and offset c', substantially as and for the purpose hereinbefore set forth.

4,616.—SPRING-MATTRESS.—Edwin L. Bushnell, Poughkeepsie, N. Y.—Patent No. 95,984, dated October 19, 1869; reissue 4,103, dated August 23, 1870.

Claim.—1. A spring for beds, having eyes or loops formed thereon by bending or twisting the wire of the spring, substantially as described.

2. The combination of a series of springs, A, united by connecting their adjoining eyes or loops, substantially as herein described.

3. In combination with the springs A, the cords e and f, arranged substantially as herein described.

4,617.—Division A.—AUTOMATIC BARREL-FILLER. — Seth C. Catlin, Cleveland, Ohio.—Patent No. 99,159, dated January 25, 1870.

Claim.—1. With the barrel-filling apparatus, the combination of the float G, lever F, adjustable rod T, and the tripping-hook L, arranged and operating substantially as and for the purpose described.

2. In combination with the lever F and float G, the balancing-weight W, substantially as and for the purpose described.

3. The orifice k connected with the tube E', and the screw-valve j, in combination with a barrel-filler, whereby liquid may be discharged for testing or other purposes, substantially as set forth.

4. The tubes E' B', collar n, and hollow conical end g, as arranged in relation to each other and the valve I, substantially as and for the purpose set forth.

4,618.—Division B.—AUTOMATIC BARREL-FILLER. — Seth C. Catlin, Cleveland, Ohio.—Patent No. 99,159, dated January 25, 1870.

Claim.—The float G and float-chamber O and discharging-tube A, arranged in such correlation to each other that the said chamber and float are within said discharging-tube and extending above the outlet of the same, substantially as described, and for the purpose set forth.

4,619.—COMBINED GRIDIRON, GRIDDLE, AND FRYING UTENSIL.—Samuel Lee, Taunton, Mass. — Patent No. 118,462, dated August 29, 1871.

Claim.—1. A cooking utensil, composed of a bottomless metallic frame, adapted to fit in or over the pot-hole of a stove, and provided internally with means to uphold a gridiron or other article, as described, placed within, but having no permanent connection with it, in combination with a cover the upper face of which forms a griddle, substantially as herein shown and set forth.

2. The combination with the metallic frame, adapted to carry within it a gridiron or other article, as described, of a cover, connected therewith by a vertical hinge, and formed on its top to serve as a griddle, substantially as herein shown and set forth.

3. In a cooking utensil, substantially such as herein described, the connection of the combined griddle and cover with the frame by means of a vertical pin and socket joint, substantially as and for the purposes set forth.

4. A cooking utensil composed of the bottomless metallic frame, the gridiron, the fry-pan, and the combined cover and griddle, constructed and arranged to operate substantially as shown and described.

4,620.—LOCK AND DETECTER. — John H. Lyon, New York, N. Y. — Patent No. 25,428, dated September 13, 1859; reissue No. 849, dated November 8, 1859.

Claim.—1. In combination with a padlock or other lock provided with a shackle, a supplemental shackle arranged with a lead or soft metal-tube as as to be temporarily secured thereby to the lock-case, and admitting of being released only by severing of said tube, which thereby serves as a detecter, substantially as described.

2. The lock-case A, formed of the two parts a b, with a division-plate, p, between, substantially as and for the purpose described.

3. The soft-metal tube E, in combination with the shackle C, by means of a screw or screws, as, upon which the tube is compressed, whereby the tube may be readily removed by unscrewing it from the ends of the shackle after it has been severed, substantially as described.

DESIGNS.

5,326.—CARPET-PATTERN. — Thomas Barclay, Glasgow, Scotland, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,327.—CARPET-PATTERN.—Joannin Bouët, Kidderminster, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,328. — BILLIARD-TABLE. — Levi Decker, New York, N. Y., assignor to Kavanagh & Decker, same place.

Claim.—A design for billiard-tables in which the curved or concave cove B is combined with the straight sides, substantially in the manner above described.

5,329.—PRINTED CARPET.—Emile Demouy, Paris, France, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,330. — PRINTED CARPET. — Christopher Dresser, London, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,331.—CARPET-PATTERN.—Otto Heinigke, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,332.—CARPET-PATTERN.—Otto Heinigke, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,333.—CARPET-PATTERN.—Otto Heinigke, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,334. — CARPET-PATTERN. — William Mallinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,335. — CARPET-PATTERN.—William Mallinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,336. — CARPET-PATTERN.—William Mallinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,337. — CARPET-PATTERN.—Joseph James Patchett, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,338. — CARPET-PATTERN.—Joseph James Patchett, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,339.—CARPET-PATTERN.—Herbert Robinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,340.—CARPET-PATTERN.—Herbert Robinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,341.—CARPET-PATTERN.—Herbert Robinson, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,342.—TYPE.—Alexander McLeester, Philadelphia, Pa., assignor to Collins & McLeester, same place.

Claim.—The design for printing-type, as shown.

5,343. — CHANDELIER. — Frederick Robt. Seidensticker, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—The design for chandelier, as shown in the accompanying photographic illustration.

5,344. — CHANDELIER. — Frederick Robert Seidensticker, West Meriden, Conn., assignor to Bradley & Hubbard, same place.

Claim.—The design for bracket and lamp-cup, as shown in the accompanying illustration, together or separately, as described.

5,345. — CUPBOARD-LATCH. — William E. Sparks, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for the base or plate of cupboard-latches, as shown and described, and with or without the keeper.

5,346.—CHEST-HANDLE.—William E. Sparks, New Haven, Conn, assignor to Sargent & Co., same place.

Claim.—The design for chest-handle and base, as shown and described, separately or together.

5,347.—SASH-LIFT.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for sash-lift, substantially as described and shown in the accompanying illustration.

TRADE-MARKS.

506. — LUBRICATING-COMPOUND. — George M. Denison, Essex, Conn.

507.—SPECTACLES.—Jacob Diamond, Pittsburg, Pa.

508.—NIPPLE-SALVE.—Jane Lovett, Allegheny City, Pa.

509.—FISH-LINE.—George Henry Mansfield, Canton, Mass.

510.—FIRE-BRICK, TILES, &c.—McConnell Porter & Co., Sciotoville, Ohio.

511.—LIQUID SLATING, &c.—James Davis Wilder, Chicago, Ill.

EXTENSIONS.

FINLEY LATTA, of Cincinnati, Ohio, administrator of the estate of ALEXANDER B. LATTA, deceased.—Letters Patent, No. 18,460, dated October 20, 1857.

"Improvement in Steam-Generators."

Claim.—The application of the pump E to a coiled boiler, in combination with the pipes C and strainers D, the whole being arranged and operated in the manner substantially as described, for the purpose of causing the water to circulate through the coils from the lower part of the water-jacket, and of separating the steam generated in the coils from the water and then conducting it into the steam-chamber or upper part of the water-jacket, and of returning the water unconverted into steam back into the lower part of the water-jacket, as set forth.

STANLEY A. JEWETT, of Cleveland, Ohio.—Letters Patent No. 18,399, dated October 13, 1857; reissue No. 1,658, dated April 19, 1864.

"Improvement in Melodeons."

Claim.—1. The production of a perfect mute, by combining the action of the air-passages m N O, or their equivalents, with the mute-valve L, as herein set forth.

2. The formation of a gradual swell or crescendo and diminuendo by means of operating the swell-valve T, by the contraction and expansion of the bellows or its equivalent, as herein specified.

LAURISTON TOUNE, of Providence, R. I.—Letters Patent No. 18,490, dated October 20, 1857; reissue No. 928, dated March 13, 1860.

"Improved Chain-Machine."

Claim.—1. The combination of a punch, plunger, or other equivalent instrument, with a forming-guide or its equivalent, substantially as described.

2. The combination of a forming-guide, or its equivalent, with the instruments co-operating with said guides or their equivalents, to effect the bending of the arms, substantially as described.

3. The combination of the die *j*, Fig. 6, or its equivalent for giving the first bend to the link, with a forming-guide or its equivalent, substantially as described.

4. The combination of a carrier, on which the link is transported, with a forming-guide in which the link is deposited, or their equivalents, substantially as described.

5. The forming-guide for holding and transmitting the chain during the formation thereof, or its equivalent, substantially as described.

6. Giving to the forming-guide an angular or intermittent rotary movement upon its axis so as to present the chain to the successive links in such positions that the arms thereof will alternately interlock.

7. The slender converging rods *r r*, or other equivalent instruments, for holding down the top link while the arms of the link next beneath are being bent over it, substantially as described.

8. The arrangement and operation of the slides *a a*, or their equivalents, substantially as described, so as to bend the arms of each link successively by pairs and cause the succeeding pair or pairs to overlap the preceding ones, or in case the links have an odd number of arms to cause the succeeding arms of each link to overlap the preceding ones singly, in succession.

T. W. WHITE, of Milledgeville, Ga.—Letters Patent No. 18,482, dated October 20, 1857.

"Improvement in Cotton-Seed Planters."

Claim.—1. The arrangement of the flange, in relation to the hopper and the plow, so that it will follow in the furrow made by the plow and elevate the discharge-opening for the seed above the ground, for the purpose described.

2. In attaching the plow to the frame of the machine by a flexible connection, and also with the seed-coverer by an adjustable link, so that the point of the plow may be directed in accordance with the undulations of the ground, without tipping the frame or changing the line of draft of the seed-coverer, and the pressure on the seed coverer varied so as to cover the seed uniformly in light and compact soil, and also the position of the seed-coverer varied in relation to the plowshare, thereby regulating the depth to which the seed are covered, as circumstances may demand.

GARRY I. MIX, of Yalesville, Conn.—Letters Patent No. 18,513, dated October 27, 1857; reissue No. 4,706, dated August 8, 1871.

"Improvement in Iron Spoons."

Claim.—A metal spoon, having the rivet which unites the handle and bowl made or formed of the same piece of metal with, and forming part of, the handle or bowl, substantially as herein described.

ISSUE OF NOVEMBER 7.

PATENTS.

120,564. — CLEANING COTTON-WASTE AND OTHER FIBROUS MATERIALS.—Haydn M. Baker, Brooklyn, assignor to John Adams, Rochester, N. Y.

Claim.—The process, as herein set forth, for the purpose of simultaneously cleansing refuse cotton-waste and other fibrinous substances, and recovering and refining the oils contained therein by the use of a hot, boiling solution of aluminate of soda or a hot, boiling solution of a mixture of aluminate and silicate of soda, substantially as described.

120,565.—PISTON-PACKING. — George F. Blake, Boston, Mass.

Claim.—As an improvement in pistons for pumps and engines, a piston formed by the insertion, between the inner and outer rings B E of metallic packing, of the rubber ring A, controlled by the adjusting-screws C, in the manner and for the purpose specified.

120,566.—FIRE-TONGS. — John Bradbury, Berlin, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim.—The improvement in tongs herein shown and described, to wit: The combination of the handle B, head C, stud *a*, recess *b*, legs A A′, and rivet *c*, all as and for the purpose set forth.

120,567.—FIRE-TONGS. — John Bradbury, Berlin, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim.—The combination of the handle A, head B, socket C, notches *a a′*, legs E E, cap D, and projection *b*, the whole combined and operating together to produce a cheap and superior tongs-joint, substantially as described.

120,568.—CASTER.—John Bradbury, Berlin, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim.—The improvement in caster-frames herein described, consisting of the cast-metal frame B and stud *a* cast in a single piece around the pin *b*, the said pin extending entirely through the stud and frame, as shown and specified.

120,569.—BIRD-CAGE HOOK. — John Bradbury, Berlin, assignor to Hart Manufacturing Company, Kensington, Conn.

Claim.—A new article of manufacture, consisting of the plate A, hook B, brace C, and boss D, all combined to produce a neat and durable bird-cage hook, as herein shown and described.

120,570.—CLOTHES-HOLDER.—William Z. Brown, Decatur, Ill., assignor to himself and Phineas B. Provost, same place.

Claim.—A non-elastic clothes-holder, consisting of a hollow cylinder, open at each end, divided along one of its sides, and having its inner edges rounded off, substantially as and for the purpose described.

120,571.—GRATE-FENDER.—George Buchanan, Washington, Pa.

Claim.—The fender C, constructed substantially as hereinbefore described, and pivoted with relation to the grate B, in the manner set forth.

120,572.—GANG-PLOW. — Luke Chapman, Collinsville, Conn., assignor to himself and The Collins Company, same place.

Claim.—1. The beam *a*, made reversible, and provided with sets of plows both before and behind the point of suspension, substantially as described.

2. The reversible beam *a* combined with the swivel *b*, sliding block p^1, and standard *d*, and made rotary by means of the worm-gear *e* and worm e^1, substantially as described.

3. The parts as claimed in the immediately preceding clause, combined with the lifting-jack described, substantially as described.

4. The standard *d* having a reversible beam *a* hung therein, and made oscillatory sidewise upon the main axle *g* by means of the bed-plate *f* pivoted to the axle-plate f^1, and the worm f^2 and worm-teeth f^3, substantially as described.

5. In combination with a reversible plow-beam *a*, the gauge-wheel *m*, attached adjustably thereto, substantially as described.

6. A plow-beam, *a*, made reversible by mechanism substantially as described, made adjustable vertically and sidewise by mechanism substantially as described, and the whole hung on a main axle, *g*, permanently sunk below the level of the centers of the supporting-wheels, substantially as described.

120,573.—GATE. — David Creighton, Vacaville, Cal.

Claim.—1. The looped bars D and E, with the operating levers J K and the bails I I′, substantially as and for the purpose herein described.

2. In combination with a gate having one stationary and one movable pintle, as shown, the looped operating bars D and E, and the levers provided with a long arm, J, and a short arm, K, when constructed to operate substantially as and for the purpose described.

120,574.—TORPEDO FOR OIL-WELLS. — Julius C. Dickey, Titusville, Pa.

Claim.—In a torpedo, the combination of the tubes *a*, flexible couplings *g*, and base *k*, substantially as and for the purpose set forth.

120,575.—NURSING-BOTTLE.—Lemuel Pomeroy Dodge, New York, N. Y.

Claim.—The stopple B for a feeding-bottle, perforated at *c*, and provided with a slit ring-valve, *a*, substantially as described.

120,576.—Not issued.

120,577.—INTERLOCKED CONICAL BOLT FOR SAFES.—John Farrel, New York, N. Y.

Claim.—1. A screw-bolt, to be used in the construction of safes having the narrow peripheral grooves shown near the butt thereof, when the body of the bolt is of tapering or conical shape, in order to maintain its holding capacity if parted, substantially as described.

2. In combination with the grooved conical screw-bolt the interlocking-bars or collars, substantially as and for the purpose specified.

120,578.—LETTER-BOX.—John A. Farrington, Brooklyn, N. Y., assignor, by mesne assignment, to himself, E. Parke Coby, and Isaac U. Coles.

Claim.—The combination and arrangement of the openings B and G for the reception of papers and letters, provided with doors or covers C and H, the door I, the revolving shelves D D D D, curved guard F with the main box A, when constructed as shown and described.

120,579.—COMPOSITION FOR MAKING CRUCIBLES, GLASS-MELTING POTS, &c.—William Albert Fischer, Allegheny City, Pa.

Claim.—The compounds herein described for the making and manufacturing of crucibles, glass-melting pots, &c.

120,580.—HINGE.—Robert B. Fouzer, Butler, Pa.

Claim.—A spring, *c*, forming part of or attached to one of the straps of a hinge, and recurved or bent back so as to bear against the other strap, substantially as described.

120,581.—PLOW-WHEEL. — Henry Galentine, Greece, N. Y.

Claim.—1. In combination with the wheel A, the bushing *b* secured in the former by means of the lug *c* locking against the inclined face of the wheel-hub, substantially in the manner set forth.

2. A wheel and hanger combining in their construction the following instrumentalities, viz., The tapering bushing *b* secured in the wheel substantially as set forth, and the sleeve *d* detachable from the fixed stud *i* and prevented from revolving thereon, for the purposes set forth.

120,582.—GRAIN-SEPARATOR. — Charles S. Hall, Rochester, N. Y.

Claim.—1. The relative arrangement of the raddle D, grain-belt C, and straw-carrier E, herein described and shown, whereby the straw is allowed to drop down off the raddle upon the grain-belt, and is then immediately lifted up therefrom and removed by the carrier, substantially as and for the purposes specified and set forth.

2. In combination with the open raddle D and grain-belt C, the guiding strips *g*, constructed and arranged to operate substantially as set forth.

120,583, antedated October 24, 1871.—BRACE OR SUSPENDER.—Marx Harris, New York, N. Y.

Claim.—The straps A A, horizontal brace C, with pockets *a a*, with the detachable belt or band B, which is provided with the hooks or fastenings D D, the whole constructed and arranged to operate as herein shown and described.

120,584.—COMBINED SUSPENDER AND SAFETY-POCKET. — Marx Harris, New York, N. Y.

Claim.—The suspender A, combined with the safety-pocket B, the latter being constructed, arranged, and secured by the former as shown and described.

120,585.—COMBINED CLOTHES DRIER AND PENDENT SEAT.—John Hirons, Buchanan, Mich.

Claim.—1. The combination of pendent seats with a rotary clothes-drier, substantially as described.

2. The combination of the crank-shaft D, wheels J and G, pendent seats F, and rotary arms B, substantially as and for the purposes set forth.

120,586. — PISTON-HEAD FOR STEAM-ENGINES.—Oscar S. Howard, Bangor, Me.

Claim.—The arrangement, in a piston-head without a follower, of expansible rings *c d*, steam-ports *e e*, each having double passages *f g* at right angles thereto, connecting with annular grooves *h i*, substantially as set forth and described.

120,587.—BED-BOTTOM.—Charles Johnson, Chicago, Ill.

Claim.—1. The springs H when provided with a projection, J, and the lower end I curved so as to form a lateral support to prevent tipping, substantially as specified.

2. The springs D, when provided at the lower end with loops or hooks F and at the upper end with the loop or hook G, substantially as and for the purpose specified.

3. The combination of the springs D with the bar or rod K and cover L, substantially as and for the purpose described.

120,588. — OPERATING MACHINE-GUNS.—George O. Kinne, Hartford, Conn., assignor to Colt's Patent Fire Arms Manufacturing Company, same place.

Claim.—The grooved cylinder F, or the mechanical equivalent thereof, in combination with the rotary shaft by which the discharge of the gun is produced, whereby the described lateral reciprocating motion of the gun is obtained from the motion of the parts which effect the discharge, substantially in the manner hereinbefore set forth.

120,589.—PLANING-MACHINE. — Henry A. Lee, Worcester, Mass.

Claim.—1. The combination, with the vertical side-feed roll M, of the slide-bearing N, spring *d*, or

equivalent device, adjusting-standard O, shaft P, and gears M', P', and Q, said parts being constructed and arranged to operate substantially as and for the purposes set forth.

2. The combination, with the lower cutter-head and the bearings of the same, of a slide-piece or plate supporting the said bearings, and arranged to slide in or on the frame transversely to the length of the machine, as shown and described, so that, when desired, the cutter-head may be moved out from the side of the machine, for the purposes stated.

3. The combination, with the bearings R which support the lower cutter-head, of the bearing-plate R', slide-plate S, and adjusting and clamp-screws *h i k*, substantially as and for the purpose set forth.

120,590. — PORTABLE GAS APPARATUS. — George Lowden, Brooklyn, N. Y.

Claim.—The mechanical arrangement of the carbureting-tubes 1, 2, 3, 4, 5, and 6 in separate tiers, so that they may be used separately or combined with each other, in combination with the other working parts of the apparatus, all inside of the case A, or otherwise.

120,591.—FLUTING-MACHINE.—James Weadon Madden, Buffalo, N. Y.

Claim.—1. The roller-frame of a fluting-machine, provided with eyes or projections B' to support the same upon a stove while heating, and to prevent the rollers from coming in contact therewith, as described.

2. The roller-frame above described, when provided with a means of attachment to a permanent base or supporting-frame, as described.

120,592.—RAILWAY SWITCH.—Edward Mercier, Springfield, assignor to himself and Little & Stanton, Huntington, Mass.

Claim.—In combination with the switch D, the metallic frame A, fan F, eccentric V, shaft X, and connecting-rods H and W, the parts being all constructed and arranged substantially as hereinbefore specified.

120,593.—LATHE ATTACHMENT FOR CHASING DESIGNS ON MOLDS.—John Ernest Miller, Birmingham, Pa., assignor to himself and Washington Beck, same place.

Claim.—1. The chuck D with pattern *b* applied upon it, in combination with a tool, *i*, an adjustable stock, *g*, a rest, L, a block, *k*, and a spring, *p*, arranged and combined substantially as and for the purpose set forth.

2. An auxiliary spring, *p'*, applied in a glass mold chasing-machine, substantially as and for the purpose described.

120,594. — DOVETAILING-MACHINE.—Oscar J. Pennell and George Zimmer, Williamsport, Pa.

Claim.—1. The carriage, with its loose rest-lever and pin, in combination with the grooved rails, as shown and described.

2. The cutter B, adapted, substantially as described, to be turned out of action when combined with the carriage, as and for the purposes set forth.

3. A dovetailed and shaping-machine having the adjustable mandrel and cutters and the carriage with its loose rest, the latter operated by the grooved rails, as described.

120,595.—INSECT-TRAP.—Charles E. Penny, Fort Wayne, Ind., assignor to himself and John McCartney, same place.

Claim.—Receiving-chamber A, fluted pan B having offset or ledge *a*, decoy C, springs *c c* subserving the double purpose of securing the receiving-chamber A to the pan B and supporting the decoy C, the whole being arranged, combined, and constructed substantially as described.

120,596, antedated November 4, 1871.—PROCESS AND APPARATUS FOR EXTRACTING ESSENTIAL OILS.—George Gilman Percival, Waterville, Me.

Claim.—1. Extracting the oil from charge in the still-body by water, and the subsequent separation of the oil from this water by distillation in separate vessels or apparatus, or separate parts of same vessel or apparatus.

2. The producing or increasing currents of water in still-bodies by pumps.

3. Exhausting two or more charges in separate vessels at once by the same water, and using but one distilling apparatus.

4. The combination of a single still-body, A, or a series of still-bodies, A A, with a pump, C, or its equivalent.

5. The combination of a single still-body, A, or of a series of still-bodies, A A, with an oil-extractor, B, or its equivalent.

6. The combination of a single still-body, A, or of a series of still-bodies, A A, with a pump, C, or its equivalent, and an oil-extractor, B, or its equivalent.

7. The combination of a series of still-bodies, A A.

8. The combination of a still-body, A, and a spreader D, or its equivalent.

9. The combination of a still-body, A, with a boiler with a labyrinthine bottom, all substantially as and for the purpose specified.

120,597. —HYDRAULIC AIR-COMPRESSER.—William E. Prall, Washington, D. C.

Claim.—1. An air-compressing machine, consisting of the cylinder *a* in which air is compressed by direct application of water from an elevation and the water-supply pipe *b*, water-discharge pipe *c*, and air-supply pipe *e*, air-discharge pipe *d*, and valves *f*, *g*, *i*, and *j*, operating substantially as shown and described.

2. The cut-off valves *f g* placed in the outlet and inlet-pipes *b a*, and operated automatically by the force of the water as it passes through the machine, substantially as set forth.

120,598. — ROAD-WAGON.—Thomas Henry Prushaw, Fredonia, N. Y., assignor to Taylor, Day & Co., same place.

Claim.—1. The sides F of the wagon-body E, made in two parts and pivoted together for the purpose described, in combination with the spring-slats A, elliptic side springs B, and bolsters C C, arranged substantially as described.

2. The wagon-body E' having the sides F F pivoted together and provided with the cross-pieces F¹ F², in combination with the spring-slats A and bolsters C C, substantially as set forth.

3. The elliptical side springs B B, in combination with the reversed upper springs *b b*, the two arranged and operating in connection with the wagon-body E', substantially as described.

4. The wagon-body E' having the sides F F¹ pivoted together as described, whereby the wagon-body is relieved from strain in case unequal weight is applied at either end, substantially as set forth.

5. The central cross-piece D, stiffening-tubes *c c*, blocks *d d*, standards *d*¹, bolts *d*², and seat E, in combination with the side elliptic springs B, slats A, bolsters C C, and the wagon-body E', arranged and operating substantially as described.

6. The seat E mounted upon the standards *d*¹ supported upon the side springs B, which also support the body of the wagon, as set forth.

120,599. — BED-BOTTOM. — Jason H. Sherman, Galesburg, Ill.

Claim.—The conical or conoidal bed-spring C, when constructed with its end *c''* next the base of the cone turned inward and downward toward the center of the coil, substantially as described, and for the purpose set forth.

120,600. — NECK-TIE FASTENER. — Edgar Side, Brooklyn, N. Y.

Claim.—As a new article of manufacture, a neck-tie fastener, constructed as shown and described.

120,601.—JOINT OF BREASTPINS.—Daniel O. Stanley, South Attleborough, Mass.

Claim.—A joint, C, made from a hollow tube, and having two shoulders, *d d*, in combination with the plate A and the pin B, the whole constructed and arranged in the manner substantially as described, for the purposes specified.

120,602.—GAVELING-FORK FOR HARVESTERS —Ora Webster, Murray, N. Y.

Claim.—1. The fork F and arm D, in combination with the rocking frame E, constructed and operating substantially as described, for gathering the gavel at the grain side of the platform, as specified.

2. The combination of the rocking frame E, crown-wheel 2, dog B, and arm 3, by which the gavel is carried in rear of the machine, substantially as and for the purpose specified.

3. The incline *s*, retracting spring 7, and its connections with the arm D, in combination with rocking frame E, by which the gavel is discharged and the fork is elevated and returned, substantially as described.

4. The combination of the crown-wheel with the arm 3, standard C, intermediate ring-pulley, and hinged arm D, operating substantially as and for the purpose described.

5. The combination of the slotted fork-handle with the standard C and arm D, connected and operating conjointly in the manner and for the purpose described.

120,603. — RAILWAY-CAR BRAKE. — Adam Wellshmidt, Albany, N. Y., assignor to himself and Anton F. Waldbillig, same place.

Claim.—1. The combination of the skids D D and flanges *a a* with the beams F F', shoes *f*, rods *r r'*, and buffer G, substantially as and for the purpose set forth.

2. The combination of the frame A, hangers E, beams F, and skids D with the rods *r r'* and buffer G, substantially as and for the purpose set forth.

3. The combination of the buffer G, crank or lever *h*, hand-lever *h'*, ratchet-wheel *i*, and dog *k*, substantially as and for the purpose set forth.

4. The combination of a hinged cow-catcher, J, rod *k'*, and dog *k*, substantially as and for the purpose set forth.

5. The combination of the coiled spring *l*, (or its equivalent weighted lever,) levers *h* and *h'*, buffer G, and suspended beam H, substantially as and for the purpose set forth.

120,604.—DESK AND TABLE.—Adolph Wibbert, Milwaukee, Wis.

Claim.—1. Girts A and legs K, top B, slides C, support E, spring F, and movable edge G, substantially as described.

2. Girts A, top B, slides C, in combination with cord L and weight M, and stops I, substantially as and for the purpose described.

3. Top B, slides C, supports D, held in position by girts A and legs K, substantially as described.

4. Top B, inkstand O, and cover P, substantially as described.

120,605, antedated October 18, 1871.—COMPOSITION FOR PAINTING AND STAINING FURNITURE. — Harmon K. Wilson, Barbourville, Ky.

Claim.—The described paint, composed substantially of the ingredients and in the proportions described, compounded in the manner and for the purpose described.

120,606, antedated October 21, 1871.—TANNING HIDES. — Riley P. Wilson, New York, N. Y.

Claim.—1. A cylinder, as above described, in combination with buckets and water-box, or a fountain supplied with jets, for the purpose described.

2. The above compositions for depilating, coloring, and tanning, as above set forth, and for the purposes specified.

120,607.—SHOVEL-HANDLE.—Frank Alsip, North McGregor, Iowa.

Claim.—The curved hand-piece C attached directly to the handle B of the shovel at its upper end, and projecting downward, and supported at its lower end by the brace D, as shown and described.

120,608. — CONSTRUCTION OF ARCHES.—Frank Alsip, North McGregor, Iowa.

Claim.—In combination with the column A and arches B B, the bearer D and cross-piece E, constructed and arranged substantially as and for the purposes herein shown and described.

120,609.—COUNTING-REGISTER.—Alexander P. Atkinson, Vermont, Ill.

Claim.—The registering mechanism herein described, consisting of a frame, C, and a series of disks, C¹ C² C³ C⁴—the disk C¹ being provided with a pawl or dog in its periphery for giving motion to the remaining ones of the series—springs D D¹ D², flange or disk C⁵, and a dog which passes through the disk C², the parts being constructed and arranged substantially as and for the purpose set forth.

120,610, antedated October 21, 1871.—RAILWAY-CAR COUPLING.—Anson A. Atwater, Trumansburg, N. Y.

Claim.—The combination with the slide *c*, engaging with the weighted elbow-lever *e*, of the pin *g*, link *f*, and weighted elbow-lever *e'*, substantially as specified.

120,611.—LOCOMOTIVE AND TRACTION ENGINE.—Thomas Aveling, Rochester, England.

Claim.—In combination with the fire-box of a boiler, the side horn-plates *a a*, constructed and applied as and for the purpose set forth.

120,612. — COTTON AND HAY PRESSES.—George H. Aylworth, Brighton, Ill.

Claim.—1. The arrangement of the frame A, follower B, pulleys *f*, cords D, and the eccentric pulley E with the sweep G attached, substantially as herein described.

2. In combination with the foregoing, the weight *e* attached to the cords C passing over pulleys *c* and attached to the follower B, all as herein set forth.

120,613, antedated October 28, 1871.—VAPOR-BURNER.—Silas D. Baldwin, Chicago, Ill.

Claim.—The shield *b*, when attached to and supported by the non-conducting envelope E resting upon the collar-cap B, substantially as and for the purposes specified.

120,614.—SEWING-MACHINE.—Adam Barth and Nicholas Barth, St. Louis, Mo.

Claim.—1. The vertical slide F carrying the upper feed-wheel, and attached to the laterally-adjustable bar E, substantially as set forth.

2. The upper wheel H, connected by chain h with the wheel G and combined with the lever *I*, adjustable rod *j*, and crank arbor *l*, as described.

120,615.—MEANS FOR SECURING THE CLOTHING ON CARDING-MACHINE CYLINDERS.—Harrison Bennett, Waterbury, Conn.

Claim.—The combination, with the cylinder of a

carding-machine, of the shafts B, arranged in recesses in said cylinder, and each provided with hooks *a a* and with a holding-mechanism, so that by turning the said shafts the sheets attached thereto may be drawn and held tightly upon the cylinder, substantially as described.

120,616.—BUSTLE.—Isaac W. Birdseye, Birmingham, Conn.

Claim.—The herein-described bustle, consisting of the band A, transverse springs B C D, more or less in number, combined with vertical springs F, one end of which is rigidly secured to the band A, and passing down so as to form a body support, and returning up in connection with the several springs to the upper spring B, and there secured to the band A by a flexible band or strap H, substantially in the manner and for the purpose herein described.

120,617.—MACHINE FOR SHRINKING HAT-BODIES.—Peter V. W. Bishop, Morristown, assignor to himself and Jeptha W. Dunn, Newark, N. J.

Claim.—1. The combination of a grooved roller, H, a series of rollers, C, and a pressure-lever, N, when said grooved roller is arranged for adjustment toward and from rollers C, and suspended by springs, and connected to the pressure-lever also by springs, substantially as specified.

2. The series of rolls H C E, combined, as described, with an endless belt, F, arranged to keep the bodies from drawing down between the small rolls.

3. The combination, with the grooved roller suspended on springs L, of the springs M, lever N, straps P, winding-shaft Q, ratchet and pawl, and crank, substantially as specified.

120,618.—WATCHMAKERS' TOOL.—Leonard C. Butch, Lancaster, and Augustin F. Thoma, Piqua, Ohio.

Claim.—The improved watchmakers' tool, consisting of the stand A, jointed bars C D, slotted arm and clamp-screw O, the said arms being provided with suitable notches, holes, &c., for holding various parts of a watch, screws, &c., all substantially as specified.

120,619. — CHAIN-LOCK. — Levi F. Cahn, New York, N. Y.

Claim.—The pivoted bolt C arranged in the case A, and provided with a projection, *d*, which is above the line of the pivot, to open the lock by pulling on it, substaptially as herein shown and described.

120,620.—FRUIT-BASKET.—Henry Carpenter, Williamsburg, N. Y.

Claim.—An improved fruit-basket formed of the three strips A B B, strengthened at its upper edge by the band C, and in its middle part by the strip or handle D extended around the sides and bottom of said basket, and whether any additional bands be used or not, substantially as herein shown and described, and for the purpose set forth.

120,621. — ADJUSTABLE ELASTIC MEASURING-SCALES.—Baptist Edme Chassaing, Buenos Ayres, Argentine Republic.

Claim. — The improved instrument herein described, formed of the graduated rod A, fixed arm G, movable arm F, set-screw E, head B, nut C, and elastic band R, arranged substantially as specified.

120,622.—APPARATUS FOR CONVERTING MOTION.—Joseph Julien Chenal, Génissiat, (Ain,) France.

Claim.—The combination of the lever *a* provided with slotted frame *d d'* and having racks *e f e' f'*, and the disks *g h g' h'* arranged with their toothed portions contiguous and opposite, as shown and described.

120,623. — CHAIN FOR WATCHES, &c.—George W. Clampitt, Attleborough, assignor to Henry F. Barrows, North Attleborough, Mass.

Claim.—The fastening of the staples B by which the links A are secured together, by bending the ends of said staples over the ends of the links, substantially in the manner described.

120,624. — BEE-HIVE. — William R. Clark, Piqua, Ohio.

Claim.—1. The base A, the bars B fitting in slots thereof and having pins C thereon, the two sides E F G, and the two removable horizontal bars H combined to hold the honey-sections D, as described.

2. The frame W T having pivoted legs U, combined with a two-part hive, as and for the purpose specified.

120,625. — METALLIC CARTRIDGE. — John Webster Cochran, New York, N. Y., assignor, by mesne assignments, to Union Metallic Cartridge Company, Bridgeport, Conn.

Claim.—A metallic cartridge-case, consisting of the case A and the cup C, when the said parts are constructed and arranged substantially as herein shown and described.

120,626.—HAY-TEDDER.—John K. Collins, Hartford, Vt.

Claim.—The pivoted tine-shanks G, the pivoted levers F having pins *b d*, and the rods E having tubular guides H at one end and elongated slots at the other, constructed and combined together in a hay-tedder, as and for the purpose specified.

120,627. — VAPOR-BURNER. — John Cook, New York, N. Y., assignor of one-half his right to G. L. Smith, same place.

Claim.—The vapor-burner, consisting of the tube F provided with disk G, corrugated disk H, holes O O, and slotted cap K having the wire-gauze screen M, all arranged in relation to each other, substantially as shown and described.

120,628. — APPARATUS FOR MAKING BOOT AND SHOE SOLES.—Louis Coté, St. Hyacinthe, Canada.

Claim.—The dies *a b*, having the projections *c d* provided with sockets, the latter being adapted to revolve on any suitable journals, as described.

120,629. — VENTILATOR FOR HATS AND CAPS.—William Dale, New York, N. Y.

Claim. — The hat or cap, constructed with air-tubes C under the sweat-band B, the tubes being formed and arranged substantially in the manner set forth.

120,630. — METALLIC CARTRIDGE.—Charles Felix de Dartein and Jules Edouard de Dartein, Strasbourg, France.

Claim.—1. In a cartridge, the combination with the cylinder or socket H provided with the collar H', of the cap I having the circular inner flange I', as and for the purpose described.

2. In a cartridge, the socket H provided with bits or helical threads for imparting the incipient rotary motion to the projectile, as and for the purpose specified.

120,631. — COMPOUND FOR LUBRICATING AXLES. — George M. Denison, Essex, Conn.

Claim.—1. The combination of the three substances, tallow, sulphur, and soap-stone, or their equivalents, to form a lubricating compound without reference to their proportions.

2. A compound for lubricating purposes, when made of the materials and in about the proportions hereinbefore described.

120,632.—SEAT FOR CHAIRS AND STOOLS.—Fletcher W. Dickerman, New York, N. Y.

Claim.—The bottom A and cover B, constructed and applied together, as described, to admit of the application of the stuffing, in the manner set forth.

120,633.—SAW.—William L. Earing, Oswego, N. Y.

Claim.—The knife-plates C, having knives D provided with a lip in the rear thereof, to prevent the shavings from being left fast to the timber.

120,634. antedated October 20, 1871.—MACHINE FOR CUTTING AND PUNCHING SHINGLE BANDS.—John S. Everitt and Charles H. Avery, Oshkosh, Wis.

Claim.—1. As an improvement in machines for punching and cutting metallic shingle-bands, the combination, substantially as described, of the table C, shaft B, cams A A, bars E E, punches I J, and fixed bar Z, all constructed and operating substantially as set forth.

2. The combination of the table C, longitudinally and vertically-reciprocating feed-bars, with their punches, the holding-bar R, and shear, substantially as described.

120,635. — LUBRICATING APPARATUS FOR CYLINDERS OF CONDENSING STEAM-ENGINES. — William Fletcher, New York, N. Y.

Claim.—1. The lifting-puppet or equivalent valve in a valve-tube open at the lower end, in combination with the oil-cup and with the tube or passage, the open end of which opens into that part of the valve-tube which is above the valve, and the other end communicates with the cylinder of the engine when the apparatus is attached thereto, substantially as specified, by means of which combination, when a vacuum is induced in the cylinder, the valve-tube above the valve is exhausted and the valve lifted by atmospheric pressure, and the lubricating matter forced from the cup into the cylinder of the engine.

2. The set-screw for adjusting the throw of the valve, in combination with the cup, the lift-valve, and the valve-tube, open at its lower end to communicate with the lubricating matter in the cup and the tube, the upper of which is connected with the valve-tube above the valve, and the lower end with the cylinder of the engine when attached thereto, substantially as and for the purpose specified.

3. In combination, the following devices, viz.: the cup for containing the lubricating matter, the lift-valve and the tube in which it works, open at the lower end, the tube or passage which connects the upper part of the valve-tube with the cylinder when attached thereto, and the tube with its valve for the passage of steam from the cylinder to the cup, the combination having a mode of operation, substantially as described.

120,636.—WASHING-MACHINE.—John Fox, Farmersville, Iowa.

Claim.—1. The armed sockets C D, in combination with the legs E and frame B that supports the water-box A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the pivoted rack S and arms T with the water-box A of a washing-machine, substantially as herein shown and described, and for the purpose set forth.

120,637.—FUNNEL. — Bridget French, Rochester, N. Y.

Claim.—The body A, tube C, packing *f*, and enlarged and detachable nozzle B, arranged to operate in connection with each other, as set forth.

120,638.—SPARK-ARRESTER AND CONSUMER FOR LOCOMOTIVES.—George H. Griggs, Worcester, Mass., assignor to Charles F. Pike, Providence, R. I.

Claim.—1. The inverted bell-mouth pipe I, either separately or with a cone, N, or netting *b*, in combination with pipe E and furnace B, all arranged substantially in the manner and for the purpose set forth.

2. The inverted bell-mouth pipe I, either separately or with a cone, N, or a netting, *b*, in combination with the pipes G and F, so arranged with reference to said pipe F that it will receive the cinders, sparks, &c., discharged from said pipe F, in the manner and for the purposes specified.

120,639.—PAPER-FOLDING MACHINE.—Richard R. Gubbins, Troy, N. Y., assignor to himself, Patrick J. Fitzgerald, and Lewis H. Dezouche, same place.

Claim.—The stop *x* and lever *w*, in combination with the folding-knife B, substantially as and for the purpose set forth.

120,640.—THILL-COUPLING.—Joseph Hale, Somerville, Mass.

Claim.—The shaft-coupling or clip, having a construction and arrangement of parts, substantially as shown and described.

120,641.—PIE-WRENCH.—Ira S. Hamilton, Hamilton, Ohio.

Claim.—In combination with the body and claw A *a* and sliding adjustable block B, the cam E, constructed with a claw, F, to arrest the action of the cam at the desired point, substantially as set forth.

120,642.—CUTTING UP AND PUNCHING SOLE-LEATHER.—Lorenzo D. Hawkins, Stoneham, Mass.

Claim.—1. In combination with the vertically-reciprocating platen or follower *k* for imparting a positive movement to the stripper-knife, the cutter-block *h*, having provision for vertical adjustment at its opposite ends, substantially as described.

2. In combination with the bed *f* and follower *k*, the mechanism for stripping and the mechanism for punching, when both are arranged upon the follower to permit either to be brought into or out of action at will, either to cut the leather into strips or to punch soles or other blanks therefrom, substantially as described.

3. The stripper-knife and stock *u v*, combined with screws *w*, shaft a^2, and gears *z x*, to effect the retreat of the knife into the follower or its projection therefrom, substantially as shown and described.

4. The stripper-knife arm n^2 arranged upon the follower, as shown and described, to permit it to be swung down under the follower into position to cut, and up over the follower and out of position, as set forth.

5. The punch-slide e^2, arranged to slide upon the ways or flanges d^2 of the follower, substantially as described.

6. The punch-slide e^2, made with the hangers m^2 arranged to be swung on pins, substantially as and for the purpose described.

7. The rotary punch-disk or wheel g^2, connected with and carried by the slide, and having connected to and rotating with it the punch-stem h^2, substantially as shown and described.

8. The punch-stock i^2 sliding vertically upon the stem h^2, substantially as described.

9. In combination with the vertically-reciprocating punching or stripping mechanism, the described automatic stop mechanism, operated by the finger w^2 when drawn into slot x^2 in the flange, substantially as set forth.

10. In combination with the described stop mechanism, the mechanism for bringing the cutting or punching mechanism into action, consisting of the pedal-board a^2, levers c^2, and arm *f* on rock-shaft i^2, substantially as shown and described.

11. The bed or bed-frame *f* secured to the beam by the screws *i*, which permit of lateral adjustment and removal of the bed, substantially as described.

120,643. — CORN-PLANTER. — Alexander Hearst, Peoria, Ill.

Claim.—In a corn-planter, the auxiliary lever K

provided with notch *m* and foot-board *d*, and pivoted to the rear end of lever I having foot-rest *e*, both levers being arranged to operate in the slot of brace H, in combination with pin *a*, substantially as shown and set forth.

120,644.—BUGGY-REACH.—John Clinton Hilsabeck, Montovallo, Mo.

Claim.—In combination with buggy-axle A, fifth-wheel F, and reach B, the upper strap C having elevated part E for the spring, and the box G, all constructed, arranged, and applied together as and for the purpose specified.

120,645.—CHILD'S CARRIAGE.—Chauncey Holt, Jersey City, N J.

Claim.—A child's carriage having a sliding drawer under the carriage-body, substantially as set forth.

120,646.—PRINTING-PRESS.—Berthold Huber, Williamsburg, N. Y.

Claim.—1. The varying crank E F, in combination with the guide-groove G and the cylinder of a printing-press for driving the bed-plate B with a variable motion, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the levers I J or equivalent with the bed-plate B, variable crank E F, guide-groove G, and cylinder C for connecting the said variable crank with the said bed-plate, substantially as herein shown and described, and for the purpose set forth.

120,647.—DASH-BOARD FOR CARRIAGES.—Artemas B. Hurd, Painted Post, N. Y.

Claim.—1. A dash-board formed of sheet or other metal, of a single thickness and having the edges bent or turned over the marginal bow, in combination with the feet *b*, substantially as described, as a new article of manufacture.

2. In combination with the dash-board A, formed of sheet metal, the rigid whip-socket B and rein-holder C, said parts constituting an integral whole, as herein described.

3. The stiffening and strengthening of the circumferential edges of the dash-board by means of bending or turning over the edges thereof, as herein described.

120,648.—TREADLE-BRACE.—George H. Hurd, Memphis, Tenn.

Claim.—The combination of the screw C, passing through the frame B B B B, and the rubber spring A, when constructed, arranged, and applied to a sewing-machine, as herein shown and described, for the purpose specified.

120,649.—CORN-PLANTER.—Bendix Ingebrigtson, Cambridge, Wis.

Claim.—The tilting-gates G, operated by the tilting-slide O at the end of the return movement of the dropper-slide D and simultaneous with the action of the markers P on the ground, substantially as specified.

120,650.—CAT-BALL.—Thomas H. Joyce, New York, N. Y., assignor to himself and Jacob Cohen, same place.

Claim.—1. An improved toy, consisting of the block A *a'* and ball B, said parts being constructed substantially as herein shown and described, and for the purpose set forth.

2. The ball B, made of cork to adapt it to be played with safety, substantially as herein shown and described.

120,651.—GALVANIC BATTERY.—Edwin J. Leland, Worcester, Mass.

Claim.—The combination of the vessel A, zinc B, porous or carbon cup C, and platinum D with the sulphate of mercury within the cup, all operating substantially as herein shown and described.

120,652.—TWINE-CUTTER.—Charles Carrington Lewis, Gainesville, Ala.

Claim.—1. A twine-cutter, consisting of the frame A, pivoted weight C, knife D, and movable bed E, all arranged to operate substantially as herein shown and described.

2. The spring *i* affixed to the pivoted weight C to bear upon the twine on the movable bed, substantially as herein shown and described.

120,653.—OIL-CAN.—Donald D. Mackay, Whitestone, and Cyrus Butler, New York, N. Y.

Claim.—1. The combination, with an oil-can, of a rotary agitator and a hand-crank for turning it, all substantially as specified.

2. The step for the spindle A, supported on the spring bottom by a spring, substantially as specified.

3. The combination, with the nozzle and the crank-pin, of a catch, L, substantially as specified.

120,654.—DEVICE FOR OPERATING SEWING-MACHINES.—George W. Manson, New York, N. Y., assignor to himself and Samuel Keeper, Orange, N. J.

Claim.—1. The combination and arrangement of the spring and the train of gear-wheels and pinions, the uppermost pinion being directly on the driving shaft, all arranged and constructed with relation to the strength of the spring, substantially as described and shown.

2. The combination of the levers M N, spring pawls *m n*, and ratchet-wheel L, all arranged to operate substantially as herein described.

3. The combination of the train of gear-wheels and pinions, arranged with relation to the strength of the spring, the spring E, levers M N, spring-pawls *m n*, ratchet-wheel L, brake-wheel R, brake S, spring T, rod *r*, and treadle U, all constructed and arranged to operate substantially as described.

120,655.—PUMP.—John Marquis, San Francisco, Cal.

Claim.—1. The arrangement of the passages B B, when placed with reference to the pump, bolted on the plank to the right and left of the cylinder, and divided below the valve-seats by the partition E, as described.

2. The doors I I, covering the valve-chambers, and the guides J J for the valves K K, substantially as described.

3. The lower valve-chamber C C, when constructed as described, with the openings for the door, and the partition M' for dividing the said chambers, as described.

4. The flanges L M for closing one-half of the cylinder, constructed and arranged substantially as described.

120,656.—ORNAMENTING AND LETTERING HARD AND UNEVEN SURFACES.—William Henry McElcheran, Hamilton, Canada.

Claim.—1. The method or process of ornamenting hard or uneven surfaces, substantially as herein described.

2. The flexible pattern-sheet, prepared substantially as herein described, and composed of the ingredients herein described, or their equivalents, for the purpose set forth.

120,657.—BURIAL APPARATUS.—William H. McGavran, Connotton, Ohio.

Claim.—The burial apparatus consisting of the box A, which has the slanting back *a* and the removable front-sections *c*, and of the windlass B, to operate as set forth.

120,658.—MANUFACTURE OF PICKS AND RAMMERS.—Daniel McNally, Mount Savage, Md.

Claim.—A method of re-enforcing the eye of picks, rammers, and analogous articles by welding a transverse piece of metal above and a like piece below said eye, and with its grain across that of said articles, as described, for the purpose of preventing them from cracking or splitting lengthwise thereof.

120,659.—MACHINE FOR ENAMELING MOLDINGS.—Thomas Moore, Boston, Mass.

Claim.—1. The adjustable combination-die, composed of plate P, steel-polishers T T' V, and scrapers U W, made adjustable by means of slots and secured with screw-bolts Z Z Z Z Z or their equivalents, substantially in the manner as and for the purposes hereinbefore set forth.

2. In combination with the foregoing claim, the flanges *s s'* upon the driving-shafts *j j'*, and corresponding grooves in elastic section-pulleys L L', substantially in the manner as and for the purposes set forth.

3. In combination with the above claims, the gear-wheels C and D, combined with gear-wheels E E', F F', and G G', when connected by arms H H' and I I' carrying driving-pulleys K K' and L L', frame *r r'* carrying shafts *j j'*, adjustable in guides or grooves in uprights *k k'* by means of screw-shaft and hand-wheel J, substantially in the manner as and for the purposes set forth.

4. In combination with the foregoing, the rabbet-pulleys *v v'*, in combination with the adjustable yielding rabbet guide-pulleys *w w'*, the frame I *c c'*, and springs *i i'*, when combined and arranged substantially in the manner as and for the purposes hereinbefore set forth.

120,660.—LUBRICATOR.—Daniel F. Mosman, Chelsea, Mass., assignor to himself and Leonard Atwood, New York city.

Claim.—1. In combination with a glass reservoir and metal stem, a contractile band or girth-spring, *i*, substantially as described.

2. The scores or grooves *k* in the glass reservoir for receiving the girth-spring wire, substantially as described.

3. In combination with the oil-reservoir and stopper and the eduction-stem, a valve which closes the stopper-passage when the reservoir is detached from the stem, and is opened by the stem when the reservoir and stem are connected.

120,661.—STEAM-ENGINE.—Jacob Neuert, Sandusky, Ohio.

Claim.—1. An adjustable cut-off valve, F, of angular shape, sliding upon the back of a slide-valve, B, to alternately cover and uncover ports E, E', made at corresponding angles in said slide-valve, substantially as and for the purpose specified.

2. The bearing-surface G, having inclined or angular faces *c c*, in combination with the corresponding angular faces *d d*, substantially as and for the purpose set forth.

3. The inclines or wedges *c c* and *d d*, for adjustment of the valve F, as and for the purpose described, when said wedges *d d* are operated by a fixed lever or governor.

120,662.—SELF-CLOSING TELEGRAPH-KEY.—Jeremiah F. O'Sullivan and Philip W. O'Sullivan, Jackson, Miss.

Claim.—The lever D, spring *c*, and second button C, applied to a telegraph-key, substantially as and for the purpose herein shown and described.

120,663.—BLACKING-BRUSH.—George R. Owen, Utica, N. Y.

Claim.—1. The combination of the movable handle *e* with the spring *d* and bolt *f*, and the brush *a*, as and for the purpose hereinbefore set forth.

2. The blacking-brush *a*, with the additional brush *f* and studs *g g*, in combination with the folding handle, which, when turned back upon the brush, prevents displacement of the blacking-box, substantially as set forth.

120,664, antedated October 21, 1871.—VALVE.—Samuel J. Peet, Boston, Mass.

Claim.—The combination of an auxiliary automatic or self-closing valve, *e*, and its seat and opening in the shell A with the main valve and its adjuncts, the said parts being arranged to operate together in manner as described.

120,665.—BRACKET AND TOWEL-RACK COMBINED.—George W. Peirce, Boston, Mass.

Claim.—As a new article of manufacture, a wall-bracket provided with arms pivoted thereto, as shown and described, to form a rack for towels and other articles.

120,666.—SMOKE AND SPARK ARRESTER AND CONSUMER.—Charles F. Pike, Providence, R. I.

Claim.—1. The combination of the chimney provided with the smoke-arch C, artificial draught or blower N, engines O O, pipes or flues P P and H H, furnace or combustion-chamber B, boiler A of a locomotive, all constructed, arranged, and operating substantially as and for the purpose set forth.

2. The combination and arrangement of the chimney provided with smoke-arch C, register G, artificial draught or blower N, engines O O, pipes or flues P P and H H, furnace or combustion-chamber B, and boiler A, constructed and operating substantially as and for the purpose set forth.

3. The combination of the ash-pan W with the pipes or flues P P and H H, artificial draught or blower N, engines O O, smoke-arch C, register-valve G, chimney and the boiler A, when all are constructed, arranged, and operating as shown, and for the purpose set forth.

4. The arrangement of the chimney provided with the smoke-arch C, register G with the artificial draught or blower N, reservoir M, pipes or flues P P and H H, furnace or combustion-chamber B, boiler A, auxiliary engines O O, exhaust-pipes E and I in a locomotive, when all are constructed and operated as shown, and for the purpose specified.

5. The combination of the chimney having a smoke-box or arch, C, the artificial draught device or blower N, the pipes or flues P and H, the furnace or combustion-chamber B, and the boiler A, all constructed and arranged for operation, substantially as shown and described.

120,667.—APPARATUS FOR COOLING AND PRESERVING.—Charles F. Pike, Providence, R. I.

Claim.—The cooling apparatus herein described, consisting of an ice-receptacle, in combination with a series of metal tubes, so as to utilize both the direct cooling effect of the ice and the water which results from the melting of the ice.

120,668.—STOP-COCK.—Jacob Radston, San Francisco, Cal.

Claim.—A stop-cock constructed of the two pieces or parts A and D, having the screw-threads C G K, slots H, and pin J, with the tube F, and ball L, as and for the purposes herein recited.

120,669.—HARVESTER.—Amos Rank, Salem, Ohio.

Claim.—The extended bent pivot-pin connecting the drag-bar and shoe, constructed as described, and acting as a fulcrum and as a support on which the shoe, the cutting apparatus, the rake, and the platform oscillate, as set forth.

120,670.—CASTER FOR TRUNKS.—Thomas L. Rivers, Newark, N. J.

Claim.—The sheet-metal friction-roller frame A, corrugated in the sides or ears so as to strengthen them, and provided with points *a' a* in combination with the cleat C for fastening it to the bottom of the trunk, substantially as and for the purposes set forth.

120,671.—CLOTHES-RACK.—August G. Schmidt, New York, N. Y.

Claim.—The combination of one or two movable

inclined central bars, A, horizontal cross-bars B, knobs d with a suitable metallic bracket, C, joint-pin a, stop-pin c, and safe-pin b, the whole being arranged to operate substantially as described, and for the purpose set forth.

120,672.—PREPARATION OF MORTARS, CEMENTS, &c. — Henry Young Darracott Scott, Ealing, England.

Claim.—1. A paste or slip, consisting of a liquid mixture of quicklime and sulphate of lime or other equivalent sulphate, or sulphuric acid, in order that the lime may become thoroughly impregnated with the sulphate and thus lose its normal activity for chemical combination with water.

2. A highly plastic and cementitious scientific preparation or compound, produced by agitating, triturating, or rubbing together with water, as above described, quicklime with a small percentage of sulphate of lime or other equivalent sulphate, and combining it with other materials, such as sand, chalk, burnt clay, or other substances for the purpose of producing mortar, as herein set forth.

120,673. — SPITTOON. — Jonathan H. Seymour, Hagerstown, Md.

Claim.—The lid F, the covering G, the slit *e*, the guide *f*, projections *b b'*, the flange *c*, the groove *d*, the knob *g*, stopper *h*, and set-screw *k*, in combination with the spittoon A, the funnel B, flooring C C, valve D, and elbow-lever E, substantially as hereinbefore set forth.

120,674.—UTERINE-SUPPORTER.—James S. Shannon, Lena, Ill.

Claim.—The combination of the slotted zinc ball A and the stem C, which is adjusted and secured in any required position by the nut at F, with the curved wire-braces E E, adjustable in nuts within the ball A, all arranged as described.

120,675.—SPIRIT-LEVEL.—George A. Shelley, Madison, Conn.

Claim.—A spirit-level, consisting of the two parts A B hinged together so as to fold and be set at a right angle, substantially as described.

120,676.—ELEVATOR. — David F. Skinner and Joseph Arnold, Albany, N. Y.

Claim.—The combination of the weighted brake-lever L, the belt-shifter U, and a lever, W, in such manner that the belt-shifter will be actuated by the brake-lever simultaneously with the movements of the brake, or the latter will be actuated for arresting the platform or allowing it to descend without affecting the belt-shifter, at the will of the operator, substantially as specified.

120,677.—OIL-HOLE COVER FOR LUBRICATORS.—Smith A. Skinner, Hoosick Falls, N. Y.

Claim.—The herein-described mechanism for forming an oil-hole cover or protector, viz.: The outer and inner case or cylinder *j i*, stem *f*, spring 2, and flaring ring *n*, constructed, arranged, and operating as and for the purpose described and represented.

120,678.—HORSE-POWER.—Hemphill Smith, Shelby Station, Tenn.

Claim.—1. The draft-rope F and windlass G applied to the frame C of a horse-power, substantially as and for the purpose herein shown and described.

2. The draft-weight H applied to the horse-power, in combination with the rope F, as specified.

120,679. — SPOON. — John Harry Smith, Brooklyn, N. Y., assignor to Florian Grosjean, same place.

Claim.—The combination of the bowl and the hollow-beaded handle of the sheet-metal implement by means of the raised hollow bead upon one of the two entered into a notch in the other of the two, substantially as before set forth.

120,680, antedated November 4, 1871.—APPARATUS FOR FEEDING PULVERIZED FUEL TO FURNACES.—John Y. Smith, Pittsburg, Pa.

Claim.—1. In combination with the injector-hopper B, the cask A provided with the flexible sack-mouth, and arranged to operate substantially as set forth.

2. The barrel C when constructed with a uniform bore, and used in combination with the removable spiral feeder D, substantially as set forth.

3. The spiral feeder D when constructed with the transverse grooves *d*, substantially as set forth.

4. In combination with the spiral feeder D, the lever D' for giving a longitudinal motion to the former while rotating on its axis, substantially as set forth.

5. In combination with the lever D', the plate M, constructed with the segmental and radial slots, substantially as and for the purpose set forth.

6. The spiral feeder D, in combination with the endless screw K, communicating to the feeder a rotary motion derived from the action of the blast on the fan-wheel in the case I, substantially as set forth.

7. In combination with the barrel C and jacket E, the adjustable ring G for regulating the blast, substantially in the manner set forth.

8. In combination with the barrel C and spiral feeder D, the adjustable valve H, arranged to operate substantially as set forth.

9. In combination with a feed-injector, an adjustable mouth-piece O, arranged to operate substantially as set forth.

10. A mouth-piece, O, made of silex, substantially as described.

11. In combination with the feeding device D C and the jacket E, the pipes P', arranged to discharge gases or combustible liquids into the pulverized fuel when mingled with the air or other blast, substantially in the manner set forth.

120,681, antedated October 21, 1871.—COMBINED STEAM AND AIR-ENGINE.—William Mont Storm, New York, N. Y.

Claim.—1. In combination with a steam-engine, the employment of an air-pump (single or double-acting) actuated by a cam or other device, so that its movement shall be accelerated or made intermittent in degree of piston-speed as compared with the stroke of the engine at certain portions, substantially as and for the reason explained.

2. In combination with my air-pump and the given engine, the air check-valve D, whose opening is restrained by means such as described, notwithstanding the exposure of its surface next to the air-pump to a greater pressure than that on its opposite surface next to the engine, by which I make the pump itself, during a portion of its stroke, serve as a reservoir of compressed air, that is to supply, combined with steam, the engine proper on its next stroke, and attain other advantages explained.

3. In contradistinction to the corresponding devices designed for use under my patent of September 23, 1851, the employment of the simple or single auxiliary cut-off, between which and the cut-off next to the conduits of the cylinder the air is to be injected direct from the pump and admitted with the steam, all arranged and operating together substantially in the manner and for the purpose explained.

4. In combination with the auxiliary cut-off, the steam-check valve, for the purpose explained.

5. The reaction check-valve on the exhaust, for the purpose explained.

6. The employment of the lenses in the cylinder-heads, for the purpose explained.

7. The reflectors on the piston, both as reflectors of heat and as auxiliary to the purpose of the lenses, as explained.

8. Electrically insulating or partially insulating the cylinder and its immediate adjuncts, substantially in the manner and for the purpose set forth.

120,682. — BELL-PULL. — Amos L. Swan, Cherry Valley, N. Y.

Claim.—The bell-pull mechanism, consisting of the rod B, levers *b*, *d*, and D, and spring *i*, all arranged to operate substantially as herein shown and described.

120,683.—GAME AND RAT-TRAP.—Benjamin F. Tatem, Memphis, Tenn.

Claim.—The combination of these several parts, arranged and operated substantially as and for the purpose hereinbefore set forth.

120,684.—CULTIVATOR. — Jerome H. Tomlinson, Mount Carroll, Ill.

Claim.—A wheel-cultivator having the end-pivoted beams E E of the plows attached by the described connecting mechanism to the pivoted axles of wheels C C, as described, so that as the plowman moves the handles of his plows laterally both plows and wheels will correspondingly adapt themselves to the sinuosities of the rows and avoid cutting up the plants.

120,685. — LUMBER-MEASURE. — William E. Walton, Chester, assignor to himself, George J. Naylor, and Charles G. Boekenkamp, Philadelphia, Pa.

Claim.—1. The ratchet-wheel E with the guides F G and pawl I, in combination with the roller C, the whole arranged, substantially as set forth, in connection with an indicating apparatus for the purpose of calculating and registering the board-measure feet of lumber that pass through a planing or sawing-machine.

2. The mode herein described, or any equivalent to the same, of arranging the holes *d'* in the plate D, in combination with the lever H and movable-guide G for the purpose of securing the latter in position to leave any desired number of teeth in the ratchet-wheel E exposed to the action of the pawl I.

120,686, antedated November 2, 1871.—SHAFT-COUPLING. — Thomas Aldridge Weston, Ridgewood, N. J., assignor to himself and Franklin B. Colton, Philadelphia, Pa.

Claim.—A shaft-coupling formed of the divided sleeve B B', provided with the collars *c c* fitting into corresponding grooves on the shaft, with the wedge-shaped key-bolt E, the shaft-ends A A being fitted thereto, substantially as set forth.

120,687. — WRENCH. — Alonzo Whitcomb, Worcester, Mass.

Claim.—1. The block or screw-support D having a quill or tube, *d*, extending through the wooden handle E, substantially as described.

2. Said tube provided with an annular recess, *e*, to form a ferrule for the front end of the handle, as shown and described.

3. A monkey-wrench having its bar A made tapering from the fixed jaw *a* backward to the handle, substantially as described.

4. In combination with the tapering grooved bar A, the sliding jaw B provided with the tongues I to work in the said groove and hold the jaw snugly in place, as set forth.

120,688. — CORN-HARVESTER. — John H. Whitney, Rochester, Minn., assignor to himself and W. W. Marsh, Sycamore, Ill.

Claim.—1. The combination of the reciprocating guard *p* with the knife *o*, when arranged to operate as described, whereby the stalks are bent so as to enable the knife to cut them on a slant, as set forth.

2. The arrangement of the screw-shaft D, knife *o* with its guard *p*, and the cutter-bars I, all as herein described.

3. The within-described corn-harvester, consisting of a frame mounted on wheels, with the tongue composed of the two bars T, with the inclined cutter-bars I at their rear end, in combination with the oscillating knife *o* and guard *p*, all constructed and arranged to operate substantially as set forth.

120,689.—FIELD CORN-HUSKER.—John H. Whitney, Rochester, Minn., and William W. Marsh, De Kalb, Ill.

Claim.—1. In combination with the husking-rollers *n*, the breaker-bar *t*, made adjustable, substantially as described.

2. The combination, in a field corn-husker, of the forked tongue T, rubber-covered rollers *n*, screw I, and adjustable breaker-bar *t*, when said parts are constructed and arranged for operation substantially as described.

120,690.—DITCHING-PLOW.—Henry D. Williams, Fairview, Iowa.

Claim.—Bottom cutter G and the two inclined side cutters K K, combined, as described, with the single elongated mold-board L and the base *l'*, to cut, carry, and throw all the dirt on one side of the ditch.

120,691. — WASHING-MACHINE. — Stephen Williams and Henry McNeill, Philadelphia, Pa.

Claim.—1. The combination of the clamps and cams L and N with the radial arms, as described and shown.

2. The construction and arrangement of the spider F, having the bearing E for the shaft C and the bearing for the prop P formed therein, in combination with the removable board B and bearing D supporting the shaft C, as shown and described.

3. The double-armed lever G, having a crank-handle, H, formed thereon, in combination with the prop P, revolving shaft C, and grooved arms J, clamps L, and rubbing-bed of slats O, arranged and operating as hereinbefore described and shown.

120,692. — CULTIVATOR.—William C. Wilson, Brunswick, Ill.

Claim.—1. The shovel *h*, having the pins or bolts *k k* eyed loosely to a strap on the back thereof, in combination with the shoe I provided with the oval slots or holes *m m* and ears with holes *i i* for receiving the bolts or pins, substantially as described.

2. In a wheel-cultivator, the construction and arrangement of the axle B with its braces *c c* and *d d*, holes *e e e e*, tongue C, hounds *g g*, and hooks *n n*, wheels, A A and the beams F F with extensions E E and shovel-stems G H, all as shown and described.

120,693.—OIL-HOLE COVER FOR JOURNAL-BOXES.—Walter A. Wood, Hoosick Falls, N. Y.

Claim.—An oil-hole cover or protector, made of a slotted rubber cap united to a tube or ring, and inserted in or over the oil hole to be protected, substantially as described and represented.

120,694.—RAILWAY SWITCH AND SIGNAL.—John A. Anderson, Lambertville, N. J.

Claim.—1. The indicators *q q'*, constructed substantially as described, and operated automatically, so as to show the relative positions of the rails by the movement which shifts the points, as and for the purpose set forth.

2. The combination of the hand-lever G, toothed connecting-bars K K', and the horizontal rods or shafts I I', constructed with the projections *i* for locking and unlocking the rails, substantially as described.

3. The combination of the hand-lever G, rods or shafts I I', connecting mediums *o* O M N, and the danger-signals P, for the purpose of displaying and withdrawing the latter simultaneously with the unlocking and locking of the rails, and by the same movements, as set forth.

120,695.—ROASTING AND TREATING ORES.—John W. Bailey, San Francisco, Cal.

Claim.—1. The process described of treating ores,

consisting in conveying them by a suction or drawing force until they are sufficiently acted upon by the heat of the furnace or furnaces, and then forcing them against strong pressure into a receiving-chamber, as described.

2. The combination of a furnace, a fan, and a water-tank, connected by suitable pipes, the fan being located between the furnace and the tank and the end of the discharge-pipe being located beneath the surface of the water, as described.

3. The combination of a furnace, a fan, a receiving-chamber, and a water-tank, connected by suitable pipes, the fan being located between the furnace and tank, and the end of the discharge-pipe being located beneath the surface of the water, as described.

4. The combination of a receiving-chamber, fan, and tank, the receiving-chamber being located between the tank and fan, and being connected thereto by suitable pipes, one of which discharges beneath the surface of the water in the tank, as described.

5. The arrangement of the furnace A, fan B, receiving chamber C, and tank D with their connecting-pipes, as shown in Fig. 1.

6. The arrangement of the furnace A, receiving-chamber C, fan B, tank D, and their connecting-pipes, as shown in Fig. 2.

120,696.—Furnace for Roasting Ores.—John W. Bailey, San Francisco, Cal.

Claim.—1. The combination of two or more furnaces of varying temperature, with a suction-fan, as described.

2. The combination of the series of furnaces with the fans E F and pipe I.

3. The pipe I, composed of sections, successively increasing in diameter, as described.

4. The combination of the fans E F, furnaces A B C D, pipes I J, chamber K, and tank M, as described.

120,697. — Paper-Cutting and Scoring Machine.—George Bates, Philadelphia, Pa.

Claim.—The bracket D, with its key F and set-screw *m*, the whole being adapted to the bar B, substantially as set forth.

120,698.—Bee-Hive.—Burt Benton, Wee-saw, Mich.

Claim.—The bee-hive having an angular roof, hinged bottom A, bail H, pivoted to the end walls, and lid B, formed by hinging one of the sides of the roof to the body of the hive, as specified.

120,699. — Hat-Blocking Machine.—Charles H. Berry, Brooklyn, N. Y.

Claim.—1. The hollow perforated block A, heated by steam, as and for the purpose described, in combination with the heating-chamber B, when constructed and arranged to operate substantially as set forth.

2. The combination of the heating-chamber B with the perforated hollow block A and its steam-pipe *a*, substantially as set forth.

3. The arrangement of a detachable crown, C, on the hollow block A, substantially as described.

120,700.—Machine for Sharpening Saws.—Newton H. Bolton, Omro, Wis.

Claim.—The combination of frame B, mandrel C, shaft C′, slide G, rack H, and wheel H′, as described, whereby a longitudinal movement may be imparted to the said shaft C′ simultaneously with a tilting movement of the same, the whole arranged to operate the emery-wheel K, substantially as and for the purpose specified.

120,701. — Still for Spirits. — Anderson Booze, Buchanan, Va.

Claim.—1. The process of evaporating singlings by means of the vapor arising from steamed mash, when the singlings are received in a cap above the still and the vapor passes through a coil of pipe placed within said cap, as described.

2. The combination of the cap *a*, cone *b*, and coil *c*, constructed and operating as specified.

120,702.—Nozzle and Cap for Oil-Cans.—Jabez A. Bostwick, New York, N. Y.

Claim.—1. The within-described tap for an oil-can or other vessel, constructed of a valve, D, provided with a threaded seat, C, to receive the end of a screw, E, projecting from an inner support out centrally through the discharge-aperture of the can, and combined with a lip-plate, F, spanning the corner of the can, substantially as and for the purpose herein set forth.

2. The lip-plate F, in combination with the valve D and discharge-opening of a can, H, substantially as herein set forth.

120,703.—Tool for Setting Hook-Buttons.—Horace C. Bradford, Providence, R. I.

Claim.—1. The movable retaining-clamp C, provided with a projection, *d*, which is fitted to enter the space between the under side of the hook or button and the top of the shank-plate, and arranged to sustain the hook during the setting operation, substantially as described.

2. The retaining-clamp, provided with a stem, spring and thumb-piece, substantially as described.

120,704. — Door-Lock. — James Brady, Branford, Conn., assignor to The Branford Lock Works, same place.

Claim.—The arrangement of the guard G, having apertures *g* and *h* relative to each other and to the spindle F and key-hole *f*, so that by operating the tumblers and shooting the bolt from the interior of the apartment by the cam E on the knob-spindle F the guard G shall be simultaneously operated to close the key-hole on the outside of the door, substantially as described, and for the purpose set forth.

120,705.—Medical Compound or Restorative Balsam.—George H. Brecht, Burton, Ill.

Claim.—The medicinal compound made of the ingredients substantially as specified.

120,706.—Middlings Separator.—John B. Brennan and William Tucker, Paris, Ill.

Claim.—The combination and arrangement of the sieve P, frame F, valves O, inclined chutes N, and sieves C D E, constructed with the perforated and unperforated parts M and L, substantially as shown and described, and for the purpose set forth.

120,707.—Chandelier.—Thomas Buckley, New York, N. Y.

Claim.—1. The frame A of a double cone-reflector chandelier, constructed with the radial supporting-rods or arms rigidly secured by screws or riveting, as and for the purpose set forth.

2. The reflector-frame A constructed with compressing-screws D for the purpose of slightly changing the form of said frame when required, as set forth.

3. The reflector-frame A constructed with its parts united by seaming, as shown in Fig. 4, instead of by solder.

4. The rims and pendent ring *o* of the reflector-frame A, constructed with corrugated hoops M, as set forth.

5. The pendent ring-hoop L, attached by screws to the ends of the radial arms or pipes K, at a distance from the burner-ring J, as and for the purpose set forth.

120,708. — Oscillating Churn. — Ezekiel W. Bullard, Barre, Mass.

Claim.—1. In an organized mechanism for imparting oscillatory movement to a churn, substantially as described, the swinging levers B B′ supporting the churn, and having their leverage made adjustable, in the manner shown and set forth.

2. The combination, with the oscillating-table C B B′, of the cream-receptacle or churn-box D provided with semicircular flanges J, handle L, and downward flange *d*, substantially as shown and described.

3. The combination, with the churn-box D, of the swinging grates M, substantially as and for the purposes set forth.

120,709.—Bee-Hive.—John Burnham, York, Mich.

Claim.—The combination of the box E provided with ingress-pipe *h*, feeding-hole covered by gauze *h′*, and exit-openings *k* with the drawer F provided with opening *i*, when arranged in a bee-hive, substantially as described, and for the purposes set forth.

120,710. — Stove-Pipe Thimble.—Cephas A. Buttles, Milwaukee, Wis.

Claim.—1. Securing the inner band of a stove-pipe thimble by binding its edge over into grooves *c c* formed in the outer surfaces of the heads, substantially as and for the purposes described.

2. The radial ribs *a a* cast in the upper plate *a* of a stove-pipe thimble, substantially as and for the purposes herein set forth.

3. A stove-pipe thimble constructed with upper head strengthened by ribs *a a* and lower head formed convex on its upper side, said heads being connected by a sheet-metal band, C, held by the ribs of the upper and convexity or rabbet of the lower head, and also by a short metal band, D, having its edges turned over the inner edges of the heads, substantially as and for the purposes specified.

120,711.—Ditching-Machine.—Henry Carter, Aylmer, Canada.

Claim.—1. The adjustable lip R, as arranged and hinged to the conductor P, for the purpose specified.

2. The arrangement of the spring K as constructed, standard H provided with a notched plate, *j*, having a point, *e*, and hook L, in combination with the plow F and adjustable handles, J, as and for the purpose set forth.

3. The vibrating frame A, adjustable handles J, when hinged or pivoted to the sides *f′* of the cross-head, and operating conjointly in the manner and for the purpose substantially as set forth.

4. The caster-wheel S, when hinged to the front of the platform in the manner as shown and described, for the purpose set forth.

120,712.—Screw-Die Press. — James H. Clapp, Providence, R. I.

Claim.—1. The combination, with the screw-spindle and cross-head, of the sustaining-screw connecting the cross-head to the spindle, and holding-nut *n*, substantially as described.

2. The combination of the screw-spindle, cross-head, sustaining-screw for connecting the cross-head to the spindle, and holding-nut *n* with the check nut H fitted to the screw-spindle and capable of an independent vertical adjustment, as and for the purposes specified.

120,713. — Locomotive-Engine. — John Clark, London, England.

Claim.—1. Providing for the radiation of the leading and trailing-axles of locomotive-engines, when such engines are passing round curves, by fitting an inner or driving-axle within a tubular axle to which the running wheels are secured, and so connecting these two axles together as to allow the tubular axle to rock and move endwise on the inner axle, as above described.

2. Transmitting to the carrying-springs *e′* of the leading and trailing-wheels that portion of the weight of the engine intended to be borne by them through the double fulcrum-supporting slings *l*, for the purpose of steadying the engine while running on a straight road, and allowing for the free endwise movement of the hollow radial axles when traversing a curve.

3. The means above described for maintaining the parallelism of the inner or driving-axles with the main driving-axle.

4. The means described for avoiding the cross-twist or torsion of the long framing.

120,714.—Water-Elevator. — Alvens J. Clemmons, Aberdeen, Miss.

Claim.—The bucket *a*, combined with the chute *c c′*, valves *c e*, chain *g*, and lever *i*, as described.

120,715.—Gas-Burner.—Theodore Clough, New York, N. Y.

Claim.—The side regulating-screw, in combination with the burner-tube perforated at its base and the surrounding tube for regulating the supply of external gas to the burner, substantially as specified.

120,716.—Boring-Machine. — George F. Cluff, Petersburg, Ill.

Claim.—1. The combination of the jointed legs A and slotted bars C with the frame B that supports the operating mechanism of the machine, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the arm O, toothed rack P, segmental gear-wheel Q, rod R, and lever or handle S with the slotted or grooved shaft M that carries the tool, and with the frame-work of the machine, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the hollow screw T U and adjustable collar V with the grooved shaft M that carries the tool, and with the frame-work of the machine, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the gear-wheels Y Z, shaft A′, and fly-wheel B′ with the shaft I, by which is driven the slotted or grooved shaft M that carries the tool, substantially as herein shown and described, and for the purpose set forth.

120,717.—Washing-Machine. — Margaret P. Colvin, Battle Creek, Mich.

Claim.—In a washing-cylinder the sides of which are built in strip-sections, as at D and E, the combination of the central T-strip F with each plain section D to form two internal buckets, *f f*, and two or more conical discharge-tubes, G G, with each section E flanged at *i i* to form one bucket, said sections being arranged alternately around and constructed and operated substantially as and for the purpose specified.

120,718.—Plow.—Solon Cooley, Clarkston, Mich.

Claim.—1. The beam-plate A, having the parts A^1, A^2, and A^3 of the form shown, all cast in one piece from a solid pattern, substantially as described.

2. The plow-colter J′, provided upon its land-side with a recess which corresponds to and receives the adjustable standard J, in combination with said standard, substantially as and for the purpose specified.

120,719.—Clothes-Drier.—Gabriel Felix Couty, Paris, France.

Claim.—An improved rack for drying clothes, which consists of the clamp *a*, radial arms *d*, folding bars *e*, in combination, substantially as described, the apparatus being so constructed that it can be applied to the pipe of a stove, as set forth.

120,720.—Carriage-Wheel. — Samuel D. Craft, New York, N. Y.

Claim.—1. As a new article of manufacture, the felly-connection A made of malleable metal and having dovetailed chambers or recesses *b*, as and for the purpose set forth.

2. The metallic felly-connection A having the dovetailed chambers *b*, in combination with the dovetailed ends of the wooden fellies, when all constructed and arranged as herein shown and set forth.

120,721. — TREATING INDIAN CORN WITH MALT-EXTRACT. — Mattjas Cziner, New York, N. Y.

Claim.—Making extract from Indian corn by the combined action of a current of steam and of a liquid extract of malt, in the manner substantially as herein shown and described.

120,722.—RUFFLING ATTACHMENT FOR SEWING-MACHINES.—George W. Darby, Cincinnati, assignor to himself and James Harsha, Circleville, Ohio.

Claim.—1. The described arrangement of horizontally-guided gatherer F *f* G, detent L, and peculiarly-formed bracket E E′ E″ E‴, and bent lever H I, for the purpose explained.

2. In the described combination with the above the temper-screw K, for the object designated.

120,723.—FURNACE FOR HEATING TIRES.—James Degree, Hinesburg, Vt.

Claim.—The two series of perforations in the plate D′ and the intervening solid portion of said plate to cause the ascending currents of the products of combustion to impinge upon the quarters and avoid the central portion of the tire, substantially as specified.

120,724.—HOLDER FOR STEREOSCOPIC PICTURES.—John L. Dibble, New York, N. Y.

Claim.—1. A stereoscopic-case, having the bottom near the open end formed with a beveled surface, *a*, adapted to receive and deflect upward the picture being introduced, and to guide it smoothly under the pile, as herein specified.

2. The folding end and half top C B, in combination with the main body A and beveled bottom *a*, the whole adapted to serve as herein specified.

120,725.—WASHING-POUNDER.— Archibald F. Dinwiddie, Columbia, Mo.

Claim.—The construction of the band *a*, connected with the socket for the handle by the conical form *a′*, in combination with cylinders *c* constructed to extend below the band *a*, in the manner shown and described.

120,726.—CAR-COUPLING.—Robert H. Dowling, Fenton, Mich. and Elkanah S. Perry, Clay Lick, Ohio.

Claim.—The hereinbefore-described car-coupling, consisting of the draw-bars A, each provided with a head, A′, containing a recess, B, and the bifurcated hooked bar C, pivoted to or upon the rod *a*, when each of said parts are constructed and combined in the manner and for the purpose specified.

120,727.—METALLIC BAND FOR BALING COTTON, &c. — John Downes, Handsworth, England.

Claim.—As a new article of manufacture, a folding metallic band for baling cotton and like purposes, constructed as herein described, consisting of two or more sections of hoop-iron hinged togeth er, substantially as shown and set forth, to allow of said sections being folded flat together for transportation.

120,728.—COOKING-STOVE.—Paschal P. Ellis, St. Louis, Mo., assignor to Charles H. Buck and Wiley S. Wright, same place.

Claim.—1. The warming-closet for cook-stoves, with its several sections constructed and connected together as described, so as to fold as represented in Fig. 3, and expand and be sustained as represented in Figs. 1 and 2, all as set forth.

2. The hinged portion E, in combination with the several sections of the warming-closet, substantially as described and shown.

3. The combination of the tongue-and-groove joints A and ties *g* with the several folding sections of the warming-closet, substantially in the manner described and shown.

120,729. — DOOR-BOLT. — Lewis J. Evans, Binghamton, N. Y.

Claim.—The door-bolt herein described consisting of the cylindrical case A, the grooved key-spindle B, and the bolt, shaft B′, provided with the toothed recess D, having the depth of the diameter of the key-spindle the length of its developed circumference, and arranged for said key-spindle to pass entirely through from side to side, as specified.

120,730.—DEVICE FOR ARRESTING MOTION. John Everding, Philadelphia, Pa.

Claim.—The combination, with a prime mover for machinery, of a wiper moving longitudinally upon a rotating screw, and a valve placed in the pipe through which the supply of operating fluid passes to the prime mover, the valve being closed by the rotation of the wiper upon the screw at determined points, substantially as and for the purpose set forth.

120,731.—SHUTTLE FOR SEWING-MACHINES. George A. Fairfield, Hartford, Conn., assignor to "The Weed Sewing-Machine Company," same place.

Claim.—1. The screw *c*, at right angles to the axis of the bobbin, with its nick *c′* for allowing the end of the bobbin-spindle to pass through the head, and a shoulder or groove under the head for retaining the bobbin-spindle in place, substantially as described.

2. The tension-spring *d* lying along the side and end of the inside of the shuttle-case, having a fulcrum at the end and regulated by a screw passing through the thick portion of the end of the shuttle-case parallel to its axis, substantially as herein described.

120,732.—CULTIVATOR.—John Faning and Friedrich Legler, Burlington, Iowa.

Claim.—1. The semicircular contrivance J, with its appendages *n* and *g*, constructed and operating as described.

2. The combination and arrangement of the axle B C with its perforations, pins, or bolts *c c*, tubular devices *r r*, beams P P, wheels A A, and parts *b b*, all constructed, arranged, and operating substantially in the manner and for the purposes herein described.

3. The combination of the inner and outer perforated arms of the axle B C, bolts or pins *c c*, and the grooved parts *b b* of the wheels, for adjusting the height of the axle and at the same time maintaining the proper relation of the beams and shovels to the ground, as herein set forth.

120,733.—GRATE-BAR.—Addison C. Fletcher, New York, N. Y.

Claim.—1. In grate-bars, constructed or provided with detachable fuel-bearings or points, the construction of the body A of the bar of a plate or plates having holes *b* in it, in combination with fuel-bearings or points B, formed with hook-shaped extremities for passage through said holes to lock with the body, substantially as specified.

2. The construction of the fuel-bearings or points B with lower side extensions *c*, hooked, as at *d*, with a groove, *e*, on the under side of their upper portions, essentially as herein set forth.

120,734.—SLAT-HOLDER FOR BEDSTEADS.—Frederic G. Ford, Philadelphia, Pa.

Claim.—The metal slat-receiver herein described, as a new article of manufacture.

120,735.—PROPULSION OF VESSELS.—Samuel F. Gard, New Orleans, La.

Claim.—1. A boat made with openings on the sides only, and provided with a track running around the same, in combination with the revolving drum or apron B provided with the wheels *b b*, said apron being operated from within, as set forth.

2. In combination with the revolving drum or apron B and paddles D D, the levers *e e* and guard *f*, or their equivalents, for the purposes herein set forth.

3. The combination of the boat A with track *a*, drum or apron B with wheels *b b*, and chain or rack-bar *d*, the cog-wheels C, and paddles D D, all constructed and arranged substantially as and for the purposes herein set forth.

120,736. — WHEELBARROW. — John Gehr, Clear Spring, Md.

Claim.—1. A wheelbarrow, provided with goosenecks *a*, as specified.

2. The combination of a wheelbarrow with slotted guards *g* and springs *e*, as described.

120,737. — MORTISING-MACHINE.—Dalphon L. Gibbs, Worcester, Mass., assignor to R. Ball & Co., same place.

Claim.—1. The combination with the frame, bearing-piece, treadle, and treadle-rod, of the weight E, pulley F, pulley or pulleys G, pulley K, and the cords, straps, or chains connecting said parts, substantially as and for the purposes set forth.

2. The arrangement of the weight E between ways M in the bottom or lower part of the frame A, as herein shown and set forth.

120,738. — STOVE-LID.—Robert C. Graves, Barnesville, Ohio.

Claim.—An inclined aperture through a stove-lid or other portable section of stove-tops, when used for the purpose of removing said lid or portable sections of stove tops from the stoves or replacing them upon the stoves.

120,739.—ADJUSTABLE CROWN-BLOCK FOR HAT-BLOCKING MACHINES.—William C. Griswold, Newark, N. J.

Claim.—1. A crown-block for blocking-machines consisting of a segmental ring expanded and contracted by slides and levers, substantially as described.

2. In combination therewith, the cam-arms *g′* for preserving the proper relative position of the sides of the oval, substantially as described.

120,740.—ADJUSTABLE BANDING-RING FOR HAT-BLOCKING MACHINES.—George Hayden, Newark, N. J., assignor to William C. Griswold, same place.

Claim.—The adjustable expanding banding-ring, operated by slides and levers, substantially as set forth, and for the purpose herein specified.

120,741, antedated October 24, 1871.—CHEESE-BOX.—John Jeffers Hecox, Lyons, N. Y.

Claim.—A cheese-box composed of the hinged parts A C, having the gauze ventilatura and covers, and the bottom D provided with movable platform B rotating in a guiding-groove and series of ridges, as specified.

120,742. — COTTON-PLANTER.—Richard G. Hobson, Houlka, Miss.

Claim.—1. The seed-plow T to open the furrow, a roller to press down the earth after the seeds are deposited therein, followed by a spring coverer and ridger X, substantially as and for the purpose specified.

2. In combination with the hopper the dividing-bar K, and the feed-shaft provided with the radial feed-arms J, and the two sets of spirally-arranged pins *h h*, substantially as described, for the purpose specified.

3. The feed-shaft, constructed as described, with the central radial feed-arms J, and the two sets of pins *h h*, arranged spirally around and upon said shaft in opposite directions, substantially as described, for the purpose specified.

120,743.—LOCK.—Edmund Dorman Hodgson, London, England.

Claim.—The combination of the slotted and serrated bolt B, its stump *b*, and inclined edges *k* and *m*, the lever D and its serrated projection E, the tumblers C, and the sleeve or curtain *l*, slotted for the passage of the bit of the key, and having an arm, *k*, the whole being constructed and operating as described.

120,744.—CIRCUIT-CLOSER FOR ELECTRICAL BURGLAR-ALARMS AND SIGNALS.—Edwin Holmes, Brooklyn, N. Y., and Henry C. Roome, Jersey City, N. J.

Claim.—1. The circuit-closer, consisting of the permanent magnet D, surrounded or inclosed by the magnetic coil or coils C C, charged by a primary circuit, and operating substantially as described, for the purpose set forth.

2. The combination of the armature I with the circuit-closer L, whereby the synchronous opening of one circuit and the closing of another by the action of said armature is effected, substantially as specified.

2. The combination of the foil spring *s* with the magnet D, essentially as described.

120,745.—FANNING-MILL.—Charlotte Ayer Hutchins, Syracuse, Iowa, administratrix of James Hutchins, deceased.

Claim.—The agitator-bar E when constructed as described and shown, and arranged to operate in relation to the vibrating shoe and hopper-throat of a fanning-mill or grain-separator, substantially as and for the purpose described.

120,746.—RAILWAY CAR-COUPLING.—Lawrence Ibeck, Kickapoo, Ill.

Claim.—In car-couplings, the tube d^1 hinged to the link D, spring d^2, piston E, and lever F, in combination with the dog G and perforated plate I, substantially as and for the purpose described.

120,747. — GLASS GLOBE FOR LAMPS.—George M. Irwin, Birmingham, Pa.

Claim.—A new article of manufacture, viz., a glass globe for lamps, the said globe being provided with a reflector consisting of a series of lozenge-shaped projections on the inner wall of the globe, with corresponding indentations silvered over, as described, and for the purpose set forth.

120,748. — TOP FOR MOLASSES-PITCHERS.—George M. Irwin, Birmingham, Pa.

Claim.—A new article of manufacture, viz., a top for molasses-pitchers, said top consisting of a rim or band, A′, provided with a flange, B, and lip C, covered by a lid, D, constructed as herein described, and for the purpose set forth.

120,749.—HEAD-BLOCK FOR SAW-MILLS.—William S. Jenks, Port Huron, Mich., assignor to himself and Orrin L. Jenks, same place.

Claim.—1. The construction and arrangement of the frame A A′, bearings B B^1 B^2, shafts D D, bevel-geared ratchet-wheels E E, pinion F, lever G, and pawls J for rotating the set-shaft C, substantially as described.

2. In combination with the above-named elements, the perforated quadrant H provided with

2. The metallic felly-connection A having the dovetailed chambers b, in combination with the dovetailed ends of the wooden fellies, when all constructed and arranged as herein shown and set forth.

120,721. — TREATING INDIAN CORN WITH MALT-EXTRACT. — Mattjas Cziner, New York, N. Y.

Claim.—Making extract from Indian corn by the combined action of a current of steam and of a liquid extract of malt, in the manner substantially as herein shown and described.

120,722.—RUFFLING ATTACHMENT FOR SEWING-MACHINES.—George W. Darby, Cincinnati, assignor to himself and James Harsha, Circleville, Ohio.

Claim.—1. The described arrangement of horizontally-guided gatherer F *f* G, detent L, and peculiarly-formed bracket E E' E'' E''', and bent lever H I, for the purpose explained.

2. In the described combination with the above the temper-screw K, for the object designated.

120,723.—FURNACE FOR HEATING TIRES.—James Degree, Hinesburg, Vt.

Claim.—The two series of perforations in the plate D' and the intervening solid portion of said plate to cause the ascending currents of the products of combustion to impinge upon the quarters and avoid the central portion of the tire, substantially as specified.

120,724.—HOLDER FOR STEREOSCOPIC PICTURES.—John L. Dibble, New York, N. Y.

Claim.—1. A stereoscopic-case, having the bottom near the open end formed with a beveled surface, *a*, adapted to receive and deflect upward the picture being introduced, and to guide it smoothly under the pile, as herein specified.

2. The folding end and half top C B, in combination with the main body A and beveled bottom *a*, the whole adapted to serve as herein specified.

120,725.—WASHING-POUNDER.— Archibald F. Dinwiddie, Columbia, Mo.

Claim.—The construction of the band *a*, connected with the socket for the handle by the conical form *a'*, in combination with cylinders *c* constructed to extend below the band *a*, in the manner shown and described.

120,726.—CAR-COUPLING.—Robert H. Dowling, Fenton, Mich. and Elkanah S. Perry, Clay Lick, Ohio.

Claim.—The hereinbefore-described car-coupling, consisting of the drawn-bars A, each provided with a head, A', containing a recess, B, and the bifurcated hooked bar C, pivoted to or upon the rod *a*, when each of said parts are constructed and combined in the manner and for the purpose specified.

120,727.—METALLIC BAND FOR BALING COTTON, &c. — John Downes, Handsworth, England.

Claim.—As a new article of manufacture, a folding metallic band for baling cotton and like purposes, constructed as herein described, consisting of two or more sections of hoop-iron hinged together, substantially as shown and set forth, to allow of said sections being folded flat together for transportation.

120,728.—COOKING-STOVE.—Paschal P. Ellis, St. Louis, Mo., assignor to Charles H. Buck and Wiley S. Wright, same place.

Claim.—1. The warming-closet for cook-stoves, with its several sections constructed and connected together as described, so as to fold as represented in Fig. 3, and expand and be sustained as represented in Figs. 1 and 2, all as set forth.

2. The hinged portion E, in combination with the several sections of the warming-closet, substantially as described and shown.

3. The combination of the tongue-and-groove joints A and ties *g* with the several folding sections of the warming-closet, substantially in the manner described and shown.

120,729. — DOOR-BOLT. — Lewis J. Evans, Binghamton, N. Y.

Claim.—The door-bolt herein described consisting of the cylindrical case A, the grooved key-spindle B, and the bolt, shaft B', provided with the toothed recess D, having the depth of the diameter of the key-spindle the length of its developed circumference, and arranged for said key-spindle to pass entirely through from side to side, as specified.

120,730.—DEVICE FOR ARRESTING MOTION. John Everding, Philadelphia, Pa.

Claim.—The combination, with a prime mover for machinery, of a wiper moving longitudinally upon a rotating screw, and a valve placed in the pipe through which the supply of operating fluid passes to the prime mover, the valve being closed by the rotation of the wiper upon the screw at determined points, substantially as and for the purpose set forth.

120,731.—SHUTTLE FOR SEWING-MACHINES. George A. Fairfield, Hartford, Conn., assignor to "The Weed Sewing-Machine Company," same place.

Claim.—1. The screw *c*, at right angles to the axis of the bobbin, with its nick *c'* for allowing the end of the bobbin-spindle to pass through the head, and a shoulder or groove under the head for retaining the bobbin-spindle in place, substantially as described.

2. The tension-spring *d* lying along the side and end of the inside of the shuttle-case, having a fulcrum at the end and regulated by a screw passing through the thick portion of the end of the shuttle-case parallel to its axis, substantially as herein described.

120,732.—CULTIVATOR.—John Faning and Friedrich Legler, Burlington, Iowa.

Claim.—1. The semicircular contrivance J, with its appendages *n* and *g*, constructed and operating as described.

2. The combination and arrangement of the axle B C with its perforations, pins, or bolts *e e*, tubular devices *r r*, beams P P, wheels A A, and parts *b b*, all constructed, arranged, and operating substantially in the manner and for the purposes herein described.

3. The combination of the inner and outer perforated arms of the axle B C, bolts or pins *e e*, and the grooved parts *b b* of the wheels, for adjusting the height of the axle and at the same time maintaining the proper relation of the beams and shovels to the ground, as herein set forth.

120,733.—GRATE-BAR.—Addison C. Fletcher, New York, N. Y.

Claim.—1. In grate-bars, constructed or provided with detachable fuel-bearings or points, the construction of the body A of the bar of a plate or plates having holes *b* in it, in combination with fuel-bearings or points B, formed with hook-shaped extremities for passage through, said holes to lock with the body, substantially as specified.

2. The construction of the fuel-bearings or points B with lower side extensions *c*, hooked, as at *d*, with a groove, *e*, on the under side of their upper portions, essentially as herein set forth.

120,734.—SLAT-HOLDER FOR BEDSTEADS.—Frederic G. Ford, Philadelphia, Pa.

Claim.—The metal slat-receiver herein described, as a new article of manufacture.

120,735.—PROPULSION OF VESSELS.—Samuel F. Gard, New Orleans, La.

Claim.—1. A boat made with openings on the sides only, and provided with a track running around the same, in combination with the revolving drum or apron B provided with the wheels *b b*, said apron being operated from with-*a*, as set forth.

2. In combination with the revolving drum or apron B and paddles D D, the levers *e e* and guard *f*, or their equivalents, for the purposes herein set forth.

3. The combination of the boat A with track *a*, drum or apron B with wheels *b b*, and chain or rack-bar *d*, the cog-wheels C, and paddles D D, all constructed and arranged substantially as and for the purposes herein set forth.

120,736. — WHEELBARROW. — John Gehr, Clear Spring, Md.

Claim.—1. A wheelbarrow, provided with gooseneeks *a*, as specified.

2. The combination of a wheelbarrow with slotted guards *g* and springs *e*, as described.

120,737. — MORTISING-MACHINE.—Dalphon L. Gibbs, Worcester, Mass., assignor to R. Ball & Co., same place.

Claim.—1. The combination with the frame, bearing-piece, treadle, and treadle-rod, of the weight E, pulley F, pulley or pulleys G, pulley K, and the cords, straps, or chains connecting said parts, substantially as and for the purposes set forth.

2. The arrangement of the weight E between ways M in the bottom or lower part of the frame A, as herein shown and set forth.

120,738. — STOVE-LID.—Robert C. Graves, Barnesville, Ohio.

Claim.—An inclined aperture through a stove-lid or other portable section of stove-tops, when used for the purpose of removing said lid or portable sections of stove tops from the stoves or replacing them upon the stoves.

120,739.—ADJUSTABLE CROWN-BLOCK FOR HAT-BLOCKING MACHINES.—William C. Griswold, Newark, N. J.

Claim.—1. A crown-block for blocking-machines consisting of a segmental ring expanded and contracted by slides and levers, substantially as described.

2. In combination therewith, the cam-arms *g'* for preserving the proper relative position of the sides of the oval, substantially as described.

120,740.—ADJUSTABLE BANDING-RING FOR HAT-BLOCKING MACHINES.—George Hayden, Newark, N. J., assignor to William C. Griswold, same place.

Claim.—The adjustable expanding banding-ring, operated by slides and levers, substantially as set forth, and for the purpose herein specified.

120,741, antedated October 24, 1871.—CHEESE-BOX.—John Jeffers Hecox, Lyons, N. Y.

Claim.—A cheese-box composed of the hinged parts A C, having the gauze ventilators and covers, and the bottom D provided with movable platform B rotating in a guiding-groove and series of ridges, as specified.

120,742. — COTTON-PLANTER.—Richard G. Hobson, Houlka, Miss.

Claim.—1. The seed-plow T to open the furrow, a roller to press down the earth after the seeds are deposited therein, followed by a spring coverer and ridger X, substantially as and for the purpose specified.

2. In combination with the hopper the dividing-bar K, and the feed-shaft provided with the radial feed-arms J, and the two sets of spirally-arranged pins *h h*, substantially as described, for the purpose specified.

3. The feed-shaft, constructed as described, with the central radial feed-arms J, and the two sets of pins *h h*, arranged spirally around and upon said shaft in opposite directions, substantially as described, for the purpose specified.

120,743.—LOCK.—Edmund Dorman Hodgson, London, England.

Claim.—The combination of the slotted and serrated bolt B, its stump *b*, and inclined edges *h* and *m*, the lever D and its serrated projection E, the tumblers C, and the sleeve or curtain *l*, slotted for the passage of the bit of the key, and having an arm, *k*, the whole being constructed and operating as described.

120,744.—CIRCUIT-CLOSER FOR ELECTRICAL BURGLAR-ALARMS AND SIGNALS.—Edwin Holmes, Brooklyn, N. Y., and Henry C. Roome, Jersey City, N. J.

Claim.—1. The circuit-closer, consisting of the permanent magnet D, surrounded or inclosed by the magnetic coil or coils C C, charged by a primary circuit, and operating substantially as described, for the purpose set forth.

2. The combination of the armature I with the circuit-closer L, whereby the synchronous opening of one circuit and the closing of another by the action of said armature is effected, substantially as specified.

2. The combination of the foil spring *s* with the magnet D, essentially as described.

120,745.—FANNING-MILL.—Charlotte Ayer Hutchins, Syracuse, Iowa, administratrix of James Hutchins, deceased.

Claim.—The agitator-bar E when constructed as described and shown, and arranged to operate in relation to the vibrating shoe and hopper-throat of a fanning-mill or grain-separator, substantially as and for the purpose described.

120,746.—RAILWAY CAR-COUPLING.—Lawrence Ibeck, Kickapoo, Ill.

Claim.—In car-couplings, the tube d^1 hinged to the link D, spring d^2, piston E, and lever F, in combination with the dog G and perforated plate I, substantially as and for the purpose described.

120,747. — GLASS GLOBE FOR LAMPS.—George M. Irwin, Birmingham, Pa.

Claim.—A new article of manufacture, viz., a glass globe for lamps, the said globe being provided with a reflector consisting of a series of lozenge-shaped projections on the inner wall of the globe, with corresponding indentations silvered over, as described, and for the purpose set forth.

120,748. — TOP FOR MOLASSES-PITCHERS.—George M. Irwin, Birmingham, Pa.

Claim.—A new article of manufacture, viz., a top for molasses-pitchers, said top consisting of a rim or band, A', provided with a flange, B, and lip C, covered by a lid, D, constructed as herein described, and for the purpose set forth.

120,749.—HEAD-BLOCK FOR SAW-MILLS.—William S. Jenks, Port Huron, Mich., assignor to himself and Orrin L. Jenks, same place.

Claim.—1. The construction and arrangement of the frame A A', bearings B B^1 B^2, shafts D D, bevel-geared ratchet-wheels E E, pinion F, lever G, and pawls J for rotating the set-shaft C, substantially as described.

2. In combination with the above-named elements, the perforated quadrant H provided with

the movable stop L, substantially as and for the purpose specified.

120,750. — BATTERY-CURRENT MANIPULATOR.—Jerome Kidder, New York, N. Y.

Claim.—1. The combination, with the slide C and series of linearly-disposed batteries, of a pole-changer, composed of cogged wheels or devices *m n*, and pole-springs *s t* for operation in concert with the springs which close upon the poles of said batteries, substantially as specified.

2. The elongated springs *b' c'* of either or one of the traveling slides, when arranged in relation with the poles *f g* of the batteries as described, whereby said springs are made to close on a succeeding battery before leaving the other battery on which they were closed, and, when the slide is located, are caused to close upon one pole on each side of the apparatus.

3. The combination of the key *c'* with either of the elongated springs *b' c'* of the slide B or C, to which the latter are applied, essentially as herein set forth.

4. The shifting connector D^1 in combination with the poles *f* and *g* of the batteries, substantially as described.

5. In combination with the slide which closes the poles of the batteries, a helix, D^2, or helices carried by said slide, substantially as and for the purpose herein set forth.

120,751.—PAINT.—Benjamin F. King, Annapolis Junction, Md.

Claim. — The combination of the ingredients herein mentioned, in the manner specified.

120,752. — SHOW-CASE. — William Henry Grove, Philadelphia, Pa.

Claim.—A show-case having at the corners shields B applied so as to cover the joints at the junctions of the strips or moldings, as set forth.

120,753.—RAILWAY CHAIR.—John Lidderd, Manchester, Great Britain.

Claim.—The novel and peculiar construction and arrangement of railway chair shown and described, together with its peculiar adaptation to railway metals or rails for steadying and supporting the same, substantially in the manner hereinbefore described, set forth, and fully illustrated in the drawing attached.

120,754.—ICE-HOUSE.—Charles Liebmann, Brooklyn, E. D., N. Y.

Claim.—1. A dripping-floor for an ice-house, constructed of a series of troughs, which is fastened to the floor-beams by clamping-strips and screws, substantially in the manner set forth.

2. The floor-beams E, constructed substantially as described, with the metallic floor made up of a series of detached troughs, in combination with the ice-chamber and cooling compartment of an ice-house, as set forth.

120,755.—BOTTOM OF BIRD-CAGES. — Otto Lindemann, New York, N. Y.

Claim.—A bird-cage bottom having a seamless inner face, in combination with the foot B, when the two are united together by means of the bead *b*, central depression *a*, and annular recess *c*, the whole constructed as and for the purpose set forth.

120,756. — CLOTHES-DRIER. — Hayden J. Lockwood, Wayne, Pa.

Claim.—A clothes-bar constructed as described, having its main and supplemental wings so connected by staples as that the said supplemental wings, when filled with clothes, may be turned inwardly and held rigidly in such position against the foot of the rack, in the manner and for the purposes herein described.

120,757. — FOLDING CARRIAGE FOR CHILDREN.—Herman Lutz, New York, N. Y.

Claim.—1. The front wheels or runners E secured to detachable or folding standards, in combination with the folding body A of a vehicle, and with the detachable hind wheels or runners F, substantially as described.

2. The braces *r*, in combination with the folding body A of a vehicle and its front and hind wheels or runners, substantially as described.

3. The hinged seat C, in combination with the body A, spring or springs *j*, hinged back-rest B, and hinged foot-rest D, all constructed and operating substantially in the manner herein set forth.

120,758.—WAGON.—Daniel Mater, Jr., Bellmore, Ind.

Claim.—The within-described running-gear for wagons, consisting of the bolsters A, boxes B with rollers *a*, axles C, coupling D with hooks *b c*, eye or loop *d*, fifth-wheel E, and wheels G, all constructed and arranged substantially as and for the purposes herein set forth.

120,759.—TABLE.—Louis Menzer, Goodrich, Mich.

Claim.—The combination of the table A B C A' B' C', leaves D D' and G G', and levers E E or their equivalents, constructed, arranged, and connected together, substantially as and for the purposes herein set forth.

120,760.—EXTENSION-TABLE.—Louis Menzer, Goodrich, Mich.

Claim.—The combination of the drawer C, springs *e e* and *f*, pin *i*, and trigger A, all constructed and arranged substantially as and for the purposes herein set forth.

120,761.—WATER-RAM. — Franklin Miller, Pittsburg, Pa.

Claim.—1. The tube B running longitudinally through the hull of a vessel, and having at its front end a bell-shaped or conical mouth, covered by a grating, C, and at its rear end a spindle-valve, G, substantially as and for the purposes herein set forth.

2. The combination of the tube B, air-chamber D, discharge-pipe B, and valve G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,762.—HINGE. — Jonathan Miller, Watkins, N. Y.

Claim.—1. The spiral pintle A comprising the cylindrical part *a*, the flange *b*, and spiral ribs *c* and *d*, combined with the knuckles H I, when said ribs and the walls of the holes in the knuckles are arranged in the forms substantially as described.

2. In combination with a rising and falling gate-hinge, the locking device herein described, consisting of the projections B and the tapered pintle F on the knuckle I, and the eye in the horizontal and the long rib D on the perpendicular portion of the knuckle G, substantially as set forth.

120,763, antedated October 28, 1871.—FERRULE.—Daniel Moore, Brooklyn, N. Y., assignor to Eugene Bissell, New York city.

Claim.—The cap *d'* formed with a hole to receive the tang *f*, and with a cylindrical recess into which the ferrule is passed, as and for the purposes set forth.

120,764.—GAS-FURNACE AND FORGE.—Joseph R. Morris, Houston, Tex.

Claim.—1. The combination of one or more forges with a furnace which consumes the gases evolved from such forges, and with a boiler in which steam is generated by the combustion of such gases in the furnace, such steam being applied to the driving of machinery of any kind, substantially as specified.

2. The combination of the chimney *b c*, flues A, flaps *g g'*, and forges *a a'*, as described.

3. The combination of the cut-off *t*, elbow-lever p^1, loop p^2, arm q^1, and piston-rod *q*, as set forth.

4. The combination of the anvil *s*, lever *v*, treadles *v'*, connecting-rod *w*, tube *u*, and pipe *o*, as explained.

120,765.—SURFACE-SIZED PAPER FOR PAPER-COLLARS, &c.—William F. Moseley, Brooklyn, N. Y.

Claim.—1. The process herein described for finishing paper, the same consisting in the application of a surface-size of glue and starch, then covering with talc or its equivalent, and afterward brushing the surface, all substantially as set forth.

2. The improved surface-sized collar-paper herein described, either in the form of sheets or made into collars, as set forth, the same being a new article of manufacture.

120,766.—BEE-HIVE. — Abraham Mutersbaugh, Lewinsville, Va.

Claim.—1. Mounting the box upon the perforated sheet-iron plates C, in combination with the cupola likewise perforated, for the purpose of ventilation, while light is excluded from the interior of the hive, the said plates C also serving to insure the hive against depredation by the bee-moth, as herein shown and described.

2. The arrangement of the ingress and egress passages E F of the hive for protecting the swarm against the attacks of robber bees and the depredation of the bee-miller, in combination with the wire-netting I attached to the box and encompassing one of the openings of the hive, the latter to be used as a safety-guard to the escape and destruction of the bees when they emerge in the spring, as herein shown and described.

3. The employment of sheet-iron plates G to break the joints of the sides and top of the hive, in the manner and for the purpose described.

120,767. — PUMP-PISTON. — Wilson Newcomb, Baltimore, Md.

Claim.—The packing-ring E, constructed in segments united at their ends, as described, and provided with the pivoted plates L L, constructed to lap over and protect the joints of the ring, all said parts being combined and arranged substantially as and for the purposes herein set forth.

120,768.—BROILER.—John C. Nobles, Ilion, N. Y.

Claim.—1. The sheet-metal frier and broiler, consisting of two separate pans, A and B, one provided with the bent lip *d* and rim *c*, the other with the annular ledge *a*, substantially as specified.

2. The sheet-metal frier and broiler, consisting of two separate pans, A and B, one provided with the lip *d* and rim *c*, the other with an annular ledge *a*, and both with the center-holes *z* and covers *n*, substantially as specified.

120,769.—CULINARY UTENSIL FOR BROILING AND FRYING.—John C. Nobles, Ilion, N. Y.

Claim.—1. The improved culinary vessel, having the pan A adapted to receive the skeleton frame and gridiron E, the cover A', and the spoon-shaped handle and handle-lid B B' adapted to hold the spoon *a*, fork a^1, and knife a^2, in combination with the flange *b*, lip *b'*, and ring G, as and for the purpose specified.

2. In a culinary utensil having a double spoon-shaped handle, B B', the arrangement of the knife, fork, and spoon, in the manner described.

3. The combination with the pan A, having the cover A' and double handle B', of the combined box-frame and gridiron E and boxes e^2, as and for the purpose specified.

4. The improved travelers' dinner-knife, having the hollow handle D with lid *d*, as and for the purpose set forth.

120,770.—GATE.—William A. Penney, Morrisville, N. C., assignor to himself and Samuel R. Horne, same place.

Claim.—1. The rail *a* provided with the groove *b*, and combined with the spring *f*, elastic bar *g*, catch *i*, and pin *c*, as specified.

2. The slotted post *k* combined with the faced pin *l*, knob *o*, and handle *n*, as described.

120,771. — MANUFACTURE OF ARTIFICIAL SULPHATES OF BARYTA.—Jacob Philip, Hamburg, Germany.

Claim. — 1. The product obtained by treating kieserit or epsom salt with soluble salts of baryta, substantially in the manner described.

2. The product obtained by treating kieserit or epsom salt with caustic lime, caustic baryta, or caustic strontia, in the manner herein set forth.

3. The product obtained by treating kieserit or epsom salt with muriate of lime, produced and applied in the manner described.

120,772. — ELECTRO-GALVANIC CHAINS, BANDS, &c.—Isac Louis Pulvermacher, London, England.

Claim.—1. Metal plates combined with a backing of porous or absorbent material, said backing being provided with a wax or sparadrap, arranged so that they can be used with a self-sustaining and permanent electrical or galvanic action derived from an exciting liquid or by perspiration thrown off from the body of the wearer, substantially as and for the purpose set forth.

2. The arrangement of the devices, constructed as herein shown and described, for applying electric, galvanic, and magnetic currents to the human body, as set forth.

3. The apparatus herein shown and described for charging the bands, chains, garments, or articles of dress, as set forth.

4. The arrangement of the deep trough battery shown in Figs. 65 and 66, operating as and for the purpose set forth.

120,773.—SAW-FILER.—John Adam Rau, Bethlehem, Pa.

Claim.—A block, F, having a transverse opening for the reception of a file-handle, in combination with a guide-bar, C, to which one or both edges of the block are adapted, and on which the block can both slide and rock, so that the file can be inclined either upward or downward, substantially as described.

120,774, antedated November 1, 1871.—CUTLERY.—Henry T. Reeves, Beaver Falls, Pa.

Claim. — The bifurcated tang *a a*, made with barbs *c* and recesses *e*, in combination with a handle grooved on both edges and the end, and a cast filling, *f*, such filling entering the end groove of the handle covering the ends of the tangs and engaging the hooks or barbs *c*, as at *s*, substantially as described.

120,775. — POTATO-DIGGER. — Richard B. Robbins, Adrian, Mich.

Claim.—In a potato-digger having the horizontal bent arms E arranged as described, the standard C, bent at C', as and for the purpose specified.

120,776.—EXPLOSIVE COMPOUND.—Edward A. L. Roberts, Titusville, Pa.

Claim. — 1. The improved explosive compound herein described, produced by combining nitro-glycerine or other highly-explosive liquid with mineral fiber or asbestus, substantially as set forth.

2. The combination of nitro-glycerine, asbestus, and infusorial earth or silica, as set forth.

3. The combination of asbestus and solid explosive compounds, such as herein described, with or without the addition of nitro-glycerine.

120,777. — HARVESTER-RAKE. — John M. Rosebrooks, Hoosick Falls, N. Y.

Claim.—In combination with a rake and its stale,

the former carried around the platform by a chain, *s*, so as to move the grain from the inner toward the outer side of the platform, and the latter turning upon a pivot at *a* near the main frame and almost in rear of the drive-wheel, the pivotal connections *a* and *b* and slide *d* or their equivalents, as shown in Fig. 3, so that they will admit of the slide increasing and diminishing its operative length, substantially as described.

120,778.—WINDMILL.—Asahel D. Ruddock, Berlin, Wis., assignor of one-half his right to T. L. Terry, same place.

Claim.—1. The fans or wings G G, provided with pins *i h*, as described, so as to be pivoted on their edges to the wheel *b d c*, and operated by means of the sliding collar H, cranks *n n*, rods *m m*, and eyes or loops *l l*, all substantially as and for the purposes herein set forth.

2. The combination of the hollow shaft L and the governing-rod *p* with weight J and float K, all constructed and operating substantially as and for the purposes herein set forth.

3. The combination of the governor *m n*, lever *s*, and weight *t*, all constructed and arranged substantially as and for the purposes herein set forth.

120,779. — CHECK-REIN, &c.—John Schofield, Worcester, Mass.

Claim.—1. A harness provided with a check-rein attachment or device, operating substantially, as herein shown and described, to draw up and fasten, without the assistance of the driver, the check-rein, after the horse has finished drinking.

2. The combination, with the check-rein L and saddle or central portion in a harness, of the socket A, stop-block B, elastic cord or strap D, spring-latches G, and latch-cord H or equivalent devices, substantially as and for the purposes set forth.

3. The combination, with the socket-piece A attached to the saddle of the harness, and stop-block B attached to the check-rein, of an automatic-catch device, for the purposes stated.

4. The combination, with the socket-piece A, of the flexibly-attached bolt *a*, substantially as and for the purpose set forth.

5. The combination, with the elastic cord D, stop-block B, and head E, of the screw-thimbles K K′, substantially as and for the purposes set forth.

120,780. — EXTENSION CHAIR. — Ludwig Friedrich Schwenkel, New York, N. Y.

Claim.—1. The sections E F and foot-rest *p*, connected to each other by slip-joints *n*, and attached to the seat A, substantially in the manner herein shown and described.

2. The combination of the extension back-rest C, hinged arm pieces D, seat A, hinged sections E F, foot-rest *p*, and folding-legs *q*, substantially in the manner herein set forth.

3. The chamber-pot B, situated in the interior of the seat A, and supported by a lever, *b*, in combination with the finger-piece *c* and valve *f*, all constructed and operating substantially in the manner and for the purposes herein shown and described.

120,781.—STRAW-CUTTER.—Hugh Sells, Vienna, Canada.

Claim.—The combination of the wooden frame A, iron bed-frame B B¹, cutting-box B², driving-shaft C, cutter-shaft *D*, gears E E′, fly-wheel F carrying the cutters G and cam-plates O, the feed-rolls H and J, ratchets I and I′, lever K, pawls L and L′, and spring M, all constructed, arranged, and operated substantially as described and shown.

120,782.—WHIP-BRAIDING MACHINE.—Emerson Sizer, Westfield, Mass.

Claim.—1. The construction, upon the inside of a globe-machine, of the track B, formed in pieces or sections, for the purpose of enabling one racer to revolve around another traveling upon said section-way, substantially as set forth.

2. The arrangement upon the inner surface of wheels D D, &c., of the racers P P, &c., carrying the working cords, substantially as shown and described.

3. In combination with section-way B and the racers thereon, and the wheels D D, &c., with their racers, the wheel T with its arms W W, &c., with spring-washers *g g*, &c., at their points of attachment to wheel T, the parts being all constructed and arranged substantially in the manner and for the purpose shown and described.

120,783.—CASTER FOR SEWING-MACHINES.—Henry A. Skinner, Worcester, Mass., assignor to himself, Johnothan Luther, and Moses W. Wheeler, same place.

Claim.—The combination of the cams A A A A, each pair coupled by the rods B B, with the single toggle-lever D D operating the casters E E E E by one movement, substantially as shown and described, and for the purpose set forth.

120,784. — STONE-CRUSHING APPARATUS.—Austin H. Smith, Brooklyn, N. Y.

Claim.—1. A hydraulic ram, reciprocated by a reciprocating plunger acting upon the liquid in an inclosed vessel, substantially as set forth.

2. The stone-crushing jaws combined with the ram *l* and reciprocating plunger *r*, substantially as set forth.

3. The stop *o*, ram *l*, rods *g*, and springs *h*, in combination with the moving jaw *d* and stationary jaw *a*, as and for the purposes set forth.

4. The adjustable displacement plunger *t*, in combination with the plunger *r*, ram *l*, and water-vessel *b*, substantially as and for the purposes set forth.

5. The stone-crushing jaws, in combination with hydraulic mechanism, substantially as set forth, for moving one or both such jaws, as set forth.

120,785. — CLOTHES-DRIER.—George Clayton Smith and Charles Henry Dietrich, Middleville, Mich.

Claim.—1. The combination of the arms H, curved plates *h h′*, gudgeon *i*, posts A and C, when constructed and arranged substantially as and for the purpose set forth.

2. The disk *h′*, in combination with the gudgeon *i*, arms H, plate *h′*, and post C, as and for the purpose specified.

120,786. — REVENUE-STAMP PROTECTOR.—Robert M. Smith, Baltimore, Md.

Claim. — The beer or spirit-package revenue-stamp protector, substantially as herein described.

120,787. — CURTAIN-FIXTURE. — William Robert Smith, Seaforth, Canada.

Claim.—The combination, with the curtain-roller B and pulley C, of the end guide *d*, center guide *d′*, and weighted cord D, and curtain E, constructed substantially as specified.

120,788. — BREECH-LOADING FIRE-ARM.—William S. Smoot, Ilion, New York, assignor to himself and E. Remington & Sons, same place.

Claim.—1. The combination of the lever D, with its spring and scar-nose *c*, with the breech-block B and hammer C, as and for the purpose substantially as described.

2. The combination of the inclined surface on the breech-block with the cut-away portions of the extractor and the spring L, as and for the purpose described.

3. In combination with the extractor E, operating as herein described and represented, the enlarged head *e*, corresponding in shape with the rear end of the barrel, as and for the purpose described.

120,789. — CULTIVATOR. — Samuel Snider, Taylorsville, Ky., assignor to himself, A. P. Harcourt, and G. H. Stone, same place.

Claim.—The shovel G, having a central ridge, *d*

e, the slides being sloped and furnished with wings H H, while the upper portion of the shovel is rounded in cross-section, and is gradually widened out above the point at which the wings diverge, as shown and described.

120,790. — CAMERA-STAND. — Charles H. Snively, Millersburg, Pa.

Claim.—1. In a camera-stand, the combination of the box A, table C, posts D D′, rack *d*, and wheel *d¹*, as and for the purpose specified.

2. The clamping-bars F F′ and clamping-screw E, in combination with the adjustable table C supported on posts D, as and for the purpose specified.

3. In a camera-stand, the combination of the adjustable pivoted table H, vertically-adjustable table C, hinged frame I, slotted standards K, and transverse bar L, as and for the purpose set forth.

120,791.—BROOM. — William C. Spellman, Hartford, Conn.

Claim.—1. A broom, composed of corn doubled upon itself and inserted in the head so that both the butts and points constitute the body or brush, substantially as described, for the purpose specified.

2. In combination with a broom and its strengthening-wires or bands, the wooden posts I, substantially as described, for the purposes specified.

3. The broom-head, consisting of the doubled corn inserted in the head, as described, the strengthening-wire or band, and the wooden posts I, as herein set forth.

120,792.—ATTACHMENT FOR WASH-BOILERS.—Charles W. Sterick, Northumberland, assignor to William A. Middleton, Harrisburg, Pa.

Claim.—The combination of the rim A, bottom B raised in the center, plates C C, tubes D D, and rods E E, all constructed and arranged as described to form attachment for wash-boilers, substantially as herein set forth.

120,793.—CORN-PLANTER. — Seth Stevens, North Fryeburg, Me.

Claim.—1. The adjustable roller *e¹* sliding on its shaft, cam-projections *a*, cranks *d² d*, shaft *c′*, and vibrating seed-boxes *f* and slides K, adapted to conjoint operation, substantially as described.

2. The rod E, clutch-arm *e²*, lever D, and crank-shaft *d³*, in combination with the adjustable roller *e¹* and shaft *c* and vibrating seed-boxes, as and for the purpose set forth.

3. The pivoted arms G H, connecting the standards F and *c*, substantially as and for the purpose set forth.

4. The short coverers *I²*, formed with a vertical convex inner surface, in combination with the long oblique coverer *I¹*, curving to the rear and inward, all constructed and arranged in the manner described, and secured to the standards F, as and for the purpose specified.

120,794.—CULTIVATOR.—Alexander C. Taylor, North Fairfield, Ohio.

Claim.—The arrangement, upon the standard C, of the share D, hinged and adjustable wings F, adjustable and reversible wings G, and stay-rod H, as and for the purpose set forth.

120,795.—EGG-CARRIER.—Christopher Tennant, Dublin, Md.

Claim.—An egg-carrier, consisting of a box filled with perforated plates of any suitable material, having on both sides rows of hollows between the holes, and placed one above another with their wide and narrow margins alternately next the same side of the box, substantially as specified.

120,796, antedated October 21, 1871.—SASH-STOP AND LOCK. — Nathan Thompson, Brooklyn, N. Y.

Claim.—1. The combination of the perforated stationary bar D with the sash-bar or strip E having locking-points or cavities *c*, and the screw or movable stop G, essentially as herein set forth.

2. The bar or strip E constructed to form a guide in direction of its length, and provided with centering and locking-points or cavities *c*, in combination with the box or nut F and screw G, substantially as described.

120,797.—WASHING-MACHINE. — Milow L. Tompkins, Wataga, Ill.

Claim.—The hollow shaft I, having a ledge, K, and pinion J, and the disk L, when constructed as described, and arranged to operate with the shaft D, pinion E, disk G, tub B, frame A′ A′, uprights A A, and shaft M with crank *m′* and bevel-wheel *m*, substantially as shown, and for the purpose specified.

120,798.—JAM-NUT.—William H. Van Cleve, Ypsilanti, Mich.

Claim.—As a new article of manufacture, the wooden jam-nut A, hooped or incased with a metallic band, A′, as described.

120,799.—BEE-HIVE.—Fabien Varin, Huntsville, Ala.

Claim.—1. The bee-hive protector, having the drawer E constructed as described, with ribs F and trough B, substantially as described.

2. The drawer E constructed in two parts and furnished with the horizontal shelves K, as and for the purpose specified.

3. The box C having the hinged door D and rod D′, in combination with the drawer E having ribs F, shelves K, and trough B, as and for the purpose specified.

120,800. — BREECH-LOADING FIRE-ARM.—Friedrich Von Martini, Frauenfeld, Switzerland.

Claim.—1. The removable trigger-plate, made with lugs or ears and having faces or abutments, in combination with the breech-receiver or body, fulcrum-pin, and tilting hand-lever, formed with suitably-curved faces or bearing-surfaces, which rest against or work upon the circular faces or abutments of the lugs or ears of the trigger-plate, whose fore-end is secured in position by the axis-pin of the extractor-lever, all as herein shown and set forth.

2. The combination of the cocking-lever, its fulcrum-pin, and the external indicator, with the jointed part arranged to operate in conjunction with the projecting part or extension of the hinge-pin of the breech block, as herein shown and set forth.

3. The combination, with the removable trigger-plate, of the external indicator and its slide, the latter being arranged to operate in conjunction with the projecting part or extension of the hinge-pin of the breech-block, as shown and set forth.

4. The combination of the slotted hand-lever, pivoted in the removable trigger-plate, with the spring-catch arranged within the breech-receiver or body, and operating in conjunction with said hand-lever, substantially in the manner shown and specified.

5. A breech-loading mechanism, constructed with the curved surfaces of the pivoting-joint of the hand or tilting-levers made to take their bearings upon and oscillate around corresponding surfaces on the trigger-plate, so as to relieve the axis-pin of the tumbler or cocking-lever from any strain, friction, or gripe, substantially as and for the purposes set forth.

120,801.—TRANSPLANTER.—John E. Waite, Hatfield, Mass.

Claim.—1. In combination with the frame for holding them and affording a bearing for the lever-handle S, the pipe D, collars H and I, spring *m*, followers *h h*, pieces *k k*, forming in effect, when brought together, an inverted funnel, and the lever-handle S with its connecting-rod, the parts be-

ing constructed and arranged substantially as and for the purpose hereinbefore specified.

2. In combination with the above the wheel W with one or more spurs, *r*, as shown and described.

120,802. — MEDICAL COMPOUND FOR THE CURE OF RHEUMATISM. — Charles F. Washburn, San Francisco, Cal.

Claim.—A mixture composed of the above-named ingredients compounded in about the proportions above described.

120,803.—HEATING-STOVE. — John W. O. Webb, Vinton, Iowa.

Claim.—1. The arrangement, within the interior drum D, of a series of loose sheet-metal tubes, *c*, with their upper ends opening into the chamber which incloses them, and supported in position by contact with each other, requiring no fastenings, and serving to retain the heat of the drum, as shown and described.

2. The sheet-metal tubes *c* of the drum D, made open or split from end to end to allow them to be fitted one against the other in a nest, and admit of their expansion and contraction, as described.

120,804.—LOCK FOR PIANOS, &c.—Elbert D. Weyburn, Pittsburg, Pa.

Claim.—The vibrating bolt B actuated by the bent spring *s*, in combination with the unlocking-cam G and adjustable screw-catch pin F, arranged to operate within the disk-shaped case, as described, and in co-operation with the spring-tube a, substantially as and for the purposes set forth.

120,805.—DUMPING-WAGON.—John I. Wolf, Greenfield, Ohio.

Claim.—1. The combination of the plates B B, chains *a a*, and shaft E, substantially as and for the purposes herein set forth.

2. The pins *c c*, arranged in the shaft E, substantially as and for the purposes herein set forth.

3. The lever G, rod *d*, and lever *f*, or their equivalents, constructed and arranged substantially as and for the purposes herein set forth.

120,806.—REEFING SAILS. — John Edward Worthman, Mobile, Ala., assignor to himself, Orville F. Cawthorn, and Randolph G. Reading, same place.

Claim.—1. The combination, with a sail and yard, of draw-ropes *d e* pulling in opposite directions, reef-points *f f'*, one-half attached to one draw-rope and the other half to the other draw-rope, main block A, lower block B, and halyard B', as specified.

2. The combination, with the foregoing, of the branches d^1 d^2 e^1 e^2, carings *g m*, pendant-blocks *j*, draw-ropes *k l*, and reef-points *n n'*, as described.

3. The combination, with a sail and the draw-ropes herein described, of reef-points passing through the grummets and attached to the loops *q*, as explained.

120,807.—CRUCIBLE FOR MELTING METALS, &c.—Richard Yeilding, Detroit, Mich.

Claim.—A crucible ribbed and grooved to receive and lock the coating thereto, in the manner specified.

120,808. — SKIRT-SUPPORTING CORSET.—Sapphira Young, Elmira, N. Y.

Claim.—1. The arrangement of the eyelet-holes *g* and the suspending-buttons h, in the production of my improved bust-supporting and skirt-suspending corset, substantially as and for the purpose herein set forth.

2. In combination with the eyelet-holes *g* and the buttons h of said corset, the skirt-protecting flap *e*, substantially as and for the purpose herein set forth.

REISSUES.

4,621.—CARRIAGE-TOP PROP-BLOCK. — Sarah L. Barnett and Simon Beery, Urbana, Ohio, assignees, by mesne assignments, of William N. Barnett, deceased.—Patent No. 52,126, dated January 23, 1866.

Claim.—1. A carriage prop-block, when composed of India rubber and having a projecting surface to serve as a cushion, substantially as described.

2. A carriage prop-block, when composed of India rubber having a projecting surface and projecting end pieces, substantially as described.

3. A carriage prop-block substantially as described, when constructed with a square hole longitudinally through the center thereof, to serve as a means of attachment.

4,622.—MANUFACTURE OF IRON AND STEEL. Jacob Jameson, Philadelphia, Pa.—Patent No. 92,054, dated June 29, 1869.

Claim.—The herein-described composition, as a flux, for the manufacture of iron and steel, and likewise the manufacture of iron and steel by the addition to molten iron, while in the furnace, of the herein-described composition in proper proportions.

4,623.—TRANSMITTING MOTIVE POWER.—Roswell T. Smith, Nashua, N. H., assignor to himself, John G. Blunt, William Earl, and J. K. Priest, same place.—Patent No. 59,089, dated October 23, 1866.

Claim.—1. The swinging rod or lever G and its counterbalancing weight in a machine for transmitting motion, substantially as described.

2. The combination of the loaded lever G and swivel-standard A in a machine for transmitting motion, substantially as described.

3. The jointed arm I, in combination with the loaded lever G and turning or swivel standard A in a machine for transmitting motion, substantially as described.

4. The combination, with the pendent swinging arm I, of the stirrup J, pivot-shaft K, and handle O, substantially as described.

5. The belt-pulley E on pivot-shaft C, and the belt-pulley L on pivot-shaft K, in combination with lever G and arm I, substantially as described.

6. The swivel stirrup J on swinging arm I, in combination with cage N, handle O, and shaft *g*, and connecting with the shaft K in the stirrups by bevel-gear or other equivalent means, substantially as described.

4,624.—ROOFING COMPOSITION.—Jacob H. Smyser, Pittsburg, Pa. — Patent No. 113,588, dated April 11, 1871.

Claim.—1. A composition for roofing of vulcanized India rubber or caoutchouc, in connection with the products of a destructive distillation or slow putrefactive change of organic matters, such as coal-tar, pine-tar, bitumens, asphaltum, or other chemically-equivalent vehicle or solvent, substantially as described.

2. Combining or mixing with the above-mentioned vulcanized India-rubber compound a salt of an alkaline metal, or salt of an earthy metal, or a mixture or chemical combination of salts of both, substantially as and for the purpose set forth.

4,625.—HEAD-BLOCK.—Edward H. Stearns, Erie, Pa.—Patent No. 81,837, dated September 1, 1868.

Claim.—1. In head-blocks for saw-mills, the employment of springs, so applied that when the knees are released from the setting mechanism the springs will automatically force the knees back to the required position for the next advancing movement, substantially as set forth.

2. The segment-bars L, constructed, arranged, and applied in the manner shown, or in any equivalent way, for the purpose of limiting the backward movement of the knees, as set forth.

3. The projecting arm *e* on knee C, in combination with the notched segment-bar L, or equivalent devices for stopping the backward movement of the knee, in the manner and for the purpose described.

4. The shaft N, notched cams M, in combination with segment-bar L having lug *r*, in the manner and for the purpose described.

5. The elastic buffer-stop P, composed of arm *e*, spring *n*, plate *f*, and bolt *g*, in combination with the segment-bar L, in the manner and for the purpose described.

6. The shaft G, pulley H, spring J, and chain I, in combination with the knee C of a head-block, in the manner and for the purpose described.

7. The supporting knee-guides B B and B B of two head-blocks with their knees C C, slides D D, and their actuating devices, the notched cams M, and segment-bars L, one on each head-block, in combination with the single extended shaft N and lever O, in the manner and for the purpose shown.

8. The shaft K having a cam on its end to throw the pawls out of gear with the rack, in combination with the shaft G, pulley H, chain I, and knee C, in the manner and for the purpose described.

9. The flanges T on sockets S, for the purpose of carrying and adjusting the dogs Q when they are disengaged from the log, substantially as described.

10. The head-block herein described, having attached thereto and operating therewith a mechanism for setting the knee toward the saw, a device for unlocking the mechanism and forcing it out of contact with the rack on the slide, a device for causing the knee to make a backward movement, and a device for stopping the backward movement at any desired point, constructed and arranged to operate in the manner substantially as describe .

4,626.—FLOUR-PACKER.—Samuel Taggart, Indianapolis, Ind. — Patent No. 24,963, dated August 2, 1859.

Claim.—1. A portable auger packing-machine having a short packing-shaft and a pressure-controlling brake, and the several parts constructed and arranged to occupy a single floor of a mill instead of two or three stories as heretofore, as described.

2. In a machine for packing flour and other substances, having a packing-shaft and auger, the combination therewith of a variable brake for increasing or diminishing the packing pressure upon the flour when required, essentially as described.

3. The combination, substantially as described, of a packing-shaft and auger with means for connecting it with a controllable brake, consisting of the lever C, connecting-rod K, and pinion M, as described.

4. In combination with a friction-weighted brake and a packing-shaft, the hand-wheel L for controlling the descent of the packing-shaft into the barrel, as described.

5. The upper bearing for the packing-shaft and the bearing for the clutch-wheel formed in one and the same fixed plate, as described.

6. The oil-chamber for the clutch-wheel, constructed and arranged to serve also as an annular centering guide thereto, as described.

7. The barrel-lifter, constructed and arranged to have an automatic lateral swinging movement to deliver the filled barrel out of the way of the filling-tube, as described.

8. A barrel-lifter, having a vertical swiveling post connected to the frame by guides to admit of its descent, and an oblique guide arranged to be operated by a fixed projection, by the weight of the filled barrel, to impart thereto a lateral swinging movement from beneath the flour-tube, as described.

9. The combination of the swinging barrel-lifter with the operating cam-lever U V, guide Y, and fixed projection Z, as described.

10. The guide Y and fixed projection Z, constructed and operating to both swing the filled barrel laterally out of the way and arrest the unfilled one centrally with the filling-tube, as described.

4,627. — LAMP-HEATER.—Windsor Newton White, Winchendon, Mass.—Patent No. 108,863, dated Novem'ber 1, 1870.

Claim.—1. The apparatus herein described, consisting of the vessel D provided with recessed bottom, and the shelf C having the central chimney-inlet *a* and the surrounding escape passages *b*, substantially as specified.

2. In a lamp-cooking apparatus a shelf, C, provided with the clamping-passage *d*, constructed to operate automatically on a supporting-rod passing through it, substantially as specified.

3. In lamp-heating apparatus, the combination, with the rod B and vessel D, of the adjustable annular shelf C, having rod-receiving passage *d*, substantially as specified.

4,628.—FASTENING FOR PAINT-CANS, &c.—John K. Chace, New York, N. Y., assignor to Silas A. Ilsey and Charles L. Northrup. Patent No. 101,430, dated April 5, 1870.

Claim.—1. The sheet-metal can, made with a screw at the upper portion of the sides, and an inward offset for the flanged sheet-metal cover, in combination with the screw-ring *d*, substantially as set forth, so that the cover or its packing rests upon the edge of the sheet-metal can, and the flange of the cover intervenes between the offset and the screw-ring, as set forth.

2. The ears *f* and bail *g* in combination with the sheet-metal screw-ring *d*, as and for the purposes set forth.

3. The combination of the sheet-metal screw-ring *d*, ears *f*, and bail *g*, with the rim *a*, inward offset *b*, and cover *c*, as set forth.

4,629.—HARVESTER-REEL.—John H. Keller, Boalsburg, Pa., assignor, by mesne assignments, of part interest to Daniel F. Luse and J. F. Sieberling Reaper Company.—Patent No. 108,912, dated November 1, 1870.

Claim.—1. A jointed adjustable reel-support, as herein described, provided with pulleys *c d e e'*, which bear the endless driving-chain or band of the reel, the same being arranged one upon the reel-shaft, one on a pivot concentric with the joint of the support, one near the latter within the angle of the joint, and one below on the standard of the support, in the manner shown, so as to keep the tension of the said chain or band nearly uniform in all the various positions to which the reel may be adjusted, substantially as herein specified.

2. The pivoted vibratory adjusting prop L, operating by means of a lever, H, connecting-rod *f*, and catch or ratchet-bar *k*, in combination with the jointed reel-support, substantially as and for the purpose herein specified.

3. In combination with the prop L, the vibratory lever H and connecting-rod *f*, the latter being connected with the lever or prop in adjustable positions, so as to vary the extent of the movement of the prop with a given movement of the lever, as specified.

4,630.—EXTRACTION AND MANUFACTURE OF OILS FROM VEGETABLE AND ANIMAL SUBSTANCES. — Thomas Richardson, John James Lundy, and Robert Irvine, London, England, assignors to John H. Wingfield, Milford, Conn. — Patent No. 42,987, dated May 31, 1864.

Claim.—1. The extracting and recovering oils from animal and vegetable substances by means of the solvent properties of the volatile hydrocarbons hereinbefore mentioned.

2. The use of gasoline boiling under 160° Fahrenheit as a solvent in the extraction and recovery of oils, fats, and grease from animal and vegetable substances.

3. The use of petroleum, naphtha, or benzine, boiling under 212° Fahrenheit, for the same purposes.

4,631.—End-Gate for Wagons.—Jeremiah L. Stropes, Bloomfield, Ind.—Patent No. 117,014, dated July 11, 1871.

Claim.—1. The combination of the braces *d*, cross-bar B, and grate D, constructed with cam-sides E, and having spring-latches K attached to said cams, substantially as specified, and for the purposes set forth.

2. The combination, with a wagon-body having the recessed transverse bar B with staples I and braces *d*, of the gate D provided with the latches K, side-pieces E, and hooks *h'*, substantially as specified.

3. The transverse sill-bar B, constructed with the recesses *i* to receive the hooks O when the end-gate is pressed down, substantially as specified.

4. The improved end-gate for wagons, having its cam-sides E cut obliquely from the hooks O to the hooks *h'*, substantially as and for the purpose specified.

5. The braces *d*, constructed with the shoulders *m* adapted to press down the end-gate D, as and for the purpose set forth.

6. The braced catch *d m*, operating in connection with the undulating spring-latch K of the end-gate D, substantially as specified.

4,632.—Electro-Magnetic Engine.—Jacob P. Tirrell, Charlestown, assignor to Edward Gassett, Boston, Mass.—Patent No. 118,561, dated August 29, 1871.

Claim.—1. A series of electro-magnets arranged radially in a frame, B, in combination with a series of radial arms placed on one or both sides of the same, and connected with a shaft, I, which operates a circuit-breaker, substantially as and for the purpose set forth.

2. The frame B with its electro-magnets, made adjustable substantially as and for the purpose set forth.

4,633.—Globe for Gas-Lights.—Toussaint Trudeau, Ottawa, Canada.—Patent No. 117,486, dated July 25, 1871.

Claim.—A shade or globe for gas-burners, having its bottom and top openings and its height of certain adjusted relative proportions, as herein set forth, and so arranged as to bring the narrowest part of its lower opening on or nearly on a level with the tip of the burner for regulating the inflowing currents of air and preventing the flickering of the flame, substantially as described.

DESIGNS.

5,348.—Tongs for Coals, &c.—John A. Ervien, Philadelphia, Pa., assignor to himself and Benjamin R. Myers, same place.

Claim.—1. The design for the enlargements or feet C C, substantially as shown and described.

2. The design for the whole tongs, including the feet C, legs A, and spring-connection B.

5,349.—Heating-Stove.—Robert Scorer and Robert Ham, Troy, N. Y., assignors to J. L. Mott, New York city.

Claim.—1. The design for the urn Z, as described.

2. The representation of a lantern, Y, cast on and with a plate of a stove or heater, as herein set forth.

3. The tablet or background X, in combination with a representation of a lantern, as herein set forth.

4. The design for the upper section W, as herein described.

5. The design for the frame or frames T of the illuminating section, as described.

6. The design for the rim-plate Q, as shown.

7. The design for the open-work section P, as described.

5,350.—Not issued.

5,351.—Fire-Dog.—Adolph Wunder, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for fire-dog, as described and shown in the accompanying illustration.

5,352.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,353.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,354.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,355.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,356.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,357.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,358.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,359.—Carpet-Pattern.—Albert Cowell, Kidderminster, England.

Claim.—The design for carpets, as shown.

5,360.—Carpet-Pattern.—Victor Guéritte, Glasgow, Scotland, assignor to W. Sloane & I. Sloane, New York city.

Claim.—The design for a carpet, as shown.

5,361.—Carpet-Pattern.—Josiah Mark Silcox, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

5,362.—Carpet-Pattern.—Josiah Mark Silcox, Kidderminster, England, assignor to James Humphries & Sons, same place.

Claim.—The design for carpets, as shown.

TRADE-MARKS.

512.—Smoking-Tobacco.—Louis Lee Armistead, Lynchburg, Va.

513.—Kitchen-Ranges.—Bartlett, Robbins & Co., Baltimore, Md.

514.—Cundurango.—Bliss, Keene & Co., New York, N. Y.

515.—Cundurango.—Bliss, Keene & Co., New York, N. Y.

516.—Gentlemen's Boots.—Clement, Colburn & Co., Boston, Mass.

517.—Wines, Liquors, &c.—Irad Fuller, New Haven, Conn.

518.—Lathe Chucks.—Eli Horton & Son, Windsor Locks, Conn.

519.—Wood Carpeting, Wainscoting, &c.—National Wood-Manufacturing Company, New York, N. Y.

520.—Stoves.—Redway & Burton, Cincinnati, Ohio.

521.—Carriage-Makers' Hardware.—H. D. Smith & Co., Plantsville, Conn.

522.—Woven Fabrics.—Sidney J. Solms, Philadelphia, Pa.

523.—Plows.—The Collins Company, Collinsville, Conn.

524.—Tea and Coffee.—The Great New York Tea Company, Baltimore, Md.

525.—Chemicals for Dyeing.—Weeks & Dupee, Boston, Mass.

526.—Blackings.—Charles H. Young & Co., Boston, Mass.

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PATENTS.

120,809.—Washing-Machine.—William Arnold, Pawtucket, R. I.

Claim.—The connection of the boiler E by the pipes G and F, in combination with the machine A, all arranged as shown and described, for the purpose set forth.

120,810, antedated October 26, 1871.—Apparatus for Drying and Finishing Paper.—Hezekiah Dodge, Albany, N. Y.

Claim.—The stationary drying-chests A A or other equivalent, substantially as described, and for the purposes hereinbefore mentioned.

120,811.—Base-Burning Stove.—William Doyle, Albany, N. Y.

Claim.—1. The interposition of a detachable solid plate, A, within the combustion-chamber of a base-burning or fuel-reservoir stove, in combination with open or lattice-work shelves K or J, as and for the purposes herein shown.

2. The combination and arrangement of detachable solid plate A with fuel-reservoir B, and one or more doors, *r r* or *s*, in a base-burning stove, having flues D D and D' D', and an extension-flue, P, in the manner and for the purpose herein described.

3. The combination of revolving shelf K with reservoir B, and heating-chamber F formed by the interposition of detachable solid plate A, as herein set forth.

4. The combination of lattice-work shelves K or J within the combustion-chamber C of a base-burning stove with doors *r r* or *s*, and with or without the interposition of solid plate A, as herein shown and described.

5. The construction of open work or lattice-shelves K and J with solid places *g g* for the protection of irons, as herein set forth.

120,812.—Varnish for Destroying Insect Life.—Thomas J. Elliott, New York, N. Y.

Claim.—The addition to any good commercial varnish of my solution of corrosive sublimate, sal ammoniac, and gum or crude camphor in alcohol and spirits of turpentine, in the proportions stated, and in the ratio of solution to quantity of varnish as set forth, and for the purpose specified.

120,813.—Horseshoe.—David Grim, Pittsburg, Pa.

Claim.—A horseshoe formed with a high central rib, B, provided with indentations *e*, in combination with toe and heel calks *c' c'*, so constructed and arranged as to set astride of said rib and be maintained in place by their inside projections R resting in the indentation of the rib, substantially in the manner shown and set forth.

120,814.—Surgical Bandage.—John G. Groocock, New York, N. Y.

Claim.—As an article of manufacture, the tubular and woven bandage A, with a perforated strap, C, and buckle B with fixed pin D, at the ends, for the purposes set forth.

120,815.—Sewing-Machine.—Thomas J. Harper, Atlanta, Ga.

Claim.—The feeding mechanism herein shown and described, consisting of the slotted reciprocating inclined bar O, feeding-dog M, slotted bell-crank P, link *m*, and adjustable bar N having a pin entering the slot in *m*, all arranged and operating as set forth.

120,816, antedated October 27, 1871.—Inhaler.—Rush B. Heintzelman, New York, N. Y., assignor of one-half his right to Amzi S. Dodd, same place.

Claim.—The described inhaling instrument, consisting of the reservoir A fitted with the valve and perforations as described, the tube B made and applied to the reservoir as set forth, and a flexible tube or tubes, D, fitted with suitable tips and applied to the tube B over a perforated cap, all substantially as shown and described.

120,817.—Ruffling Device for Sewing-Machines.—Elijah Leavitt Howard, Malden, assignor to George Augustus Whiting, Charlestown, Mass.

Claim.—For use with a sewing-machine, the improved ruffling mechanism, as described, consisting of the plate *m* and its adjusting mechanism, the three plates *f g h*, the reciprocating ruffler R, and the upper band-guide *i*, all arranged and constructed in the manner and to operate substantially as described.

120,818.—Broom and Mop Holder.—George B. Isham, Burlington, Vt.

Claim.—The within-described mop, broom, and whip-holder, composed of the angular metal frame A having dowels F F, oblique slots B B with enlarged ends D D, and the smooth friction-rollers C C moving in the slots B B, all as shown and described.

120,819.—Rotary Pump.—Solomon W. Kelly, Nashville, Tenn.

Claim.—1. One or two central inlet supply-pipes or hollow journals, G, forming extensions of the plates of wheel B, in combination with one or more scrolls or wedges, *a*, applied between said plates, substantially as described.

2. The water-checks *g*, as described, combined with the rotary hollow wheel B and *a*, substantially as described.

120,820.—Ratlin Attachment for Rigging.—John C. Knowlton, Providence, R. I.

Claim.—The improvement in shroud-clasps used

in ratlin attachments, which consists in making openings A or a through the same, substantially as described, for the purposes specified.

120,821.—Bottle-Stopper. — Garrett C. Lowe, New York, N. Y.

Claim.—The staves *a a* between the cones *b c* and within the rubber cylinder *c*, in combination with the screw *d* for distending the cylinder *c* of the bottle-stopper, as set forth.

120,822.—Permutation Padlock. — Samuel Loyd, New York, N. Y.

Claim.—The flanged tumblers A A′, fitted one within the other, the outer one of which having the dial marked thereon, in combination with the adjustable curved spring E and the step-shaped notches of the hasp C, substantially as and for the purpose set forth.

120,823.—Propulsion of Canal-Boats.—Joseph M. McMaster, Rochester, N. Y.

Claim.—1. The oscillating valve-segments F provided with valves *g*, and arranged to be adjusted substantially as and for the purposes set forth.

2. The combination of the sets B B′ of double propeller-tubes provided with propellers C, the oscillating valve-segments F and adjusting arms *i*, arranged and operating substantially as and for the purposes set forth.

120,824.—Gas-Machine. — William T. McMillen, Richmond, Ind.

Claim.—1. An automatic gas-machine, composed of the air-blower L and carbureter B, in combination with the auxiliary carbureter and reservoir Q, arranged as herein specified.

2. The combination of cylinder D having buckets E, with the cylinder B with its ribs B′, both being rigidly attached to and revolving with hollow shaft F, substantially as herein set forth.

3. In combination with the generator of a gas-machine the removable jacket V, made in two parts, substantially as herein described and shown.

4. The blower M with its wings C fastened alternately to the ends of its case, and flaring suction-wing openings *a a* reversed at each end, in combination with the case L, substantially as described and set forth.

5. The drum H′, arranged within the pulley H, as herein described.

6. In combination with a gas-generating machine the arrangement of the stuffing-box K, as herein described.

120,825.—Stand for Show-Windows.—Joseph R. Palmenberg, New York, N. Y.

Claim.—The combination of the guides B, upright posts D with movable rods N, sliding-bar F with the movable rods G, supporting-bars *w*, and provided with hinged rods C, substantially as and for the purpose hereinbefore set forth.

120,826, antedated October 27, 1871. — Thrashing-Machine. — Aurelius V. Pitts, Chicago, Ill.

Claim.—1. In combination with the cylinder B the adjustably-rotative fan-case F and its inclosed fan, when constructed and arranged for operation, substantially as described.

2. The fan-case F and its inclosed fan, thrashing-cylinder B, and endless apron *a* provided with the prongs *b*, when combined and arranged to operate substantially as and for the purpose specified.

3. The combination and arrangement of the fan-case F and inclosed fan, apron *a*, cylinder B, and the fingers *t*, as described and shown.

4. In combination with a machine for thrashing grain, the fan-case F with its inclosed fan, when constructed to be removable, substantially in the manner and for the purpose specified.

120,827, antedated November 4, 1871.—Auger for Boring Boxes. — Robert L. Priester, Souder's Station Post Office, Md.

Claim.—The curved and adjustable cutter D with its cutting-edges E and R, when combined and operating on the slotted flange of the cutting-auger C, as herein described, and for the purposes set forth.

120,828.—Grain-Binder.—Moses T. Ridout, Sun Prairie, Wis., assignor to himself and Joseph H. Mann, same place.

Claim.—1. Teeth F and shaft G hinged to frame A, shaft H″ and teeth H, shaft K, teeth L, shaft M, teeth N, and lever U′, arranged substantially as described.

2. Forked piece O, piece K′, spiral spring P, rack Q, pinion R′, shaft S, spool T, shaft Y, treadle Z, tension-wheel A″, twisting-jaws M′, lever U, knife N″″, spring-jaws O′, block Y″, spring Q′, and spring S, forming a twisting device, arranged substantially as and for the purpose set forth.

3. Frame A, wheels B, rim C, pinion D, shaft E, lever X‴, bracket V″, sleeve W′, arm X, lever W, lever Y, sleeve W‴, collar V‴, arm I, sleeve W″″, and shaft H″, arranged substantially as described.

4. Adjustable plates Z′, guards B′, in combination with frame A, substantially as described.

5. Shaft E, standard R, pinion R′, shifter R″, in combination with rack Q, substantially as described.

120,829.—Metallic Roofing.—John Siddons, Rochester, N. Y.

Claim.—A metal roof consisting of sheets of metal permanently united at their ends and sides, and having the body of the sheets curved or raised vertically between their end joints to allow for expansion and contraction and prevent them from being separated or torn loose, substantially as described.

120,830, antedated November 10, 1871.—Cork-Puller.—Charles T. Simpers, Philadelphia, Pa.

Claim.—The stem S, barrel B, and pin P, in combination with the wires W, as and for the purpose specified.

120,831. — Wash-Board. — Alpheus D Smith, Grafton, Ohio.

Claim.—As a new article of manufacture, a fluted or corrugated roller wash-board, constructed and arranged substantially in the manner and for the purpose shown and set forth.

120,832.—Potato-Digger.—Joseph Smith, Ridgeville, Ohio.

Claim.—In a potato-plow, the combination of the straight cutting-edge for penetrating the ground, set at such an angle with the ground as to cause it to enter readily, combined with a set of guide or screw-rods, substantially as set forth.

120,833, antedated October 26, 1871. — Chair.—Peter M. Snell, Oscar Snell, and Ainsworth S. Snell, of Williamsburg, Ohio.

Claim.—Attaching the rear round or its equivalent to the side rounds by having holes near its extremities through which are driven the tenons of the side rounds, they projecting through sufficient for the back to be driven thereon or taken off the seat, being attached to the front, rear, and side rounds, independent of the back, for the purpose described.

120,834.—Kiln for the Manufacture of Artificial Stone.—Daniel M. Sprogle, Annapolis, Md.

Claim.—The portable sectional kiln, constructed substantially in the manner and for the purpose as set forth.

120,835.—Cone for Locomotive Smoke-Stacks.—Dennis B. Strope, Fort Wayne, Ind.

Claim.—Cone A, constructed in sections *a b* and deflectors *c* and *c*, for the purpose and in the manner substantially as described.

120,836, antedated October 28, 1871. — Ditching-Machine. — Franklin Taylor, Indianapolis, Ind.

Claim.—1. The friction-rolls *a* and cog-wheels *e* on shaft F, in combination with the friction-rolls *a′* and cog-wheels *e′* hung in arms G, arranged to operate the spades C C′, substantially as set forth.

2. The arrangement of the rods I attached to the dumping-tables M and to the bent lever J, bent rod *r*, and guides K, constructed as described, in combination with hook S attached to the spade C, substantially as and for the purpose set forth.

3. The cog-bar *g* and bent lever H in combination with cog-wheel *e′* and pin *i* in spade-shaft D, all constructed and arranged substantially as and for the purpose set forth.

120,837.—Paper-Rag Engine.—Newton W. Taylor and Joseph W. Brightman, Cleveland, Ohio.

Claim.—1. The herein-described paper-rag engine roller, consisting of the cast-iron cylinder or shell E, having bars F secured thereto by arranging said bars in the mold in which said cylinder is cast, and the metal thereof allowed to run between the bars, whereby their edge becomes embedded in the face of the cylinder, substantially as and for the purpose set forth.

2. The herein-described bed for a paper-rag engine, consisting of the cast-iron bed-plate or piece G, having corrugated bars H of a uniform thickness secured thereto by arranging said bars in the mold in which said bed-plate is cast and the metal allowed to run between the bars, whereby their edge becomes embedded in the bed-plate, substantially as and for the purpose specified.

3. The shoe I, constructed with sides K and cleats *a*, in combination with the bed-plate G, substantially in the manner as and for the purpose set forth.

120,838.—Machine for Rolling Metal.—Leopold Thomas, Pittsburg, Pa.

Claim.—The combination, substantially as described, of the two rollers, plain surfaced and cylindrical, except at the points *g*, where they are slightly flattened or depressed, and arranged with their axes parallel to one another, the guides B B, and mechanism to rotate said rollers in the same direction, for the purpose set forth.

120,839. — Combined Root-Cutter and Shovel-Plow.—George Trump, Second Fork, Pa., assignor to himself and George William Huntley, same place.

Claim.—The combination of the root-cutters K K with the beam B and adjustable rod E, when the rod E is attached to the curved end of the beam and to the cutters K or plow J, as described, for the purpose set forth.

120,840. — Cooking-Stove. — John W. O. Webb, Cedar Rapids, Iowa.

Claim.—1. The oven E, without bottom, and arranged to receive the hot-air directly from the tubes B, as described and represented in Fig. 1 of the drawing.

2. The openings *d* and their covers *d′*, arranged between the air-heating tubes B for the purpose of regulating the heat of the tubes B, as described and shown in Fig. 3 of the drawing.

120,841. — Pump. — Norman W. Wheeler, Morristown, N. J.

Claim.—The combination of the barrels *a* and *b*, plunger *d*, and ram *e* with the pipes *i* and *j* and valves *l* and *o*, substantially in the manner and for the purposes described.

120,842. — Breech-Loading Ordnance.—Joseph Whitworth, Manchester, England.

Claim.—1. The arrangement for closing the breech of ordnance by a breech-block moved along and held by grooves, the direction of which is inclined to the breech-face of the gun, substantially as described.

2. The method, substantially as described, of forming the screw-thread so that the force of the explosion on the breech-block may not tend to separate the guides, but rather to draw them together.

120,843.—Let-off Mechanism for Looms. Andrew J. Woodman, Indian Orchard, Mass.

Claim.—The combination of the cam *b* and slotted plate F, or their mechanical equivalent or equivalents, with the draw-pawl D and its actuating-lever E, and the ratchet-wheel B, the shaft A, and the worm C thereof, and the worm-gear *h*, the shaft *g*, the pinion *f*, and the gear *e* applied to the yarn-beam G, all being arranged and to operate substantially as explained.

120,844. — Vertical Hoist. — William E. Worthen, New York, N. Y.

Claim.—1. The combination of a secondary or auxiliary rope, *d*, and weight d^1, pulleys d^1, d^2, and d^3, and a brake or brake-block, *f f*, and the platform of a hoist, substantially as herein described.

2. The combination of a secondary or auxiliary rope, *d*, with a pulley or pulleys and a brake or brake-blocks, in the manner substantially as described.

3. The special arrangement herein described of three pulleys, one of which is free to rise and fall, with brake-blocks arranged between them, as represented and described.

4. The apparatus, substantially such as herein described, for unlatching a door or bar by the action of the platform of the hoist.

5. The apparatus, substantially such as described, by means of which the door or bar, when open, locks the "start," preventing it, and consequently the platform, from being moved until the door is shut.

6. In combination with a door, a secondary latch and a main latch, a spring to open the door, whereby the door is open when the platform arrives at the desired height only when the secondary latch is unlatched, the combination being substantially such as described.

7. The connection between the start and the platform, in combination with a spring-door actuating this connection, the combination being substantially such as described, and operating to bring the platform to rest automatically in consequence of the opening of the door.

8. In combination with devices substantially such as described for unlatching the door by the platform, apparatus acting to lock the start when the door is open, substantially in the manner set forth.

9. In combination, devices for unlatching by the action of the platform, for opening the door, and for locking the start, all substantially such as described, so that the platform is the implement whereby the latch is unlatched, the door opened, and the start locked.

120,845. — Hub for Carriage-Wheels.—Edward A. Archibald, Methuen, Mass.

Claim.—In combination with the flange *f*, into-

gral with the box *a* and provided with ring *n*, the removable nut-threaded flange *i* having a plain surface to press against the spokes, and sleeve *k*, formed with the hollow *q*, and secured upon the box by the screw-threads *g h*, substantially as shown and described.

120,846.—PROPELLING-POWER.—Nathaniel B. Baldwin, Chicago, Ill.

Claim.—1. The combination of the ways R and curved plates S with the oscillating steam-cylinders P and stationary steam-pipes T, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the ratchet-wheels L, pawls M, and levers N with the axle or shaft K and piston-rods O of the pivoted steam-cylinders P, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the standard B' and pivoted and slotted cross-bar C' with the levers N and piston-rods O of the pivoted steam-cylinders P, substantially as herein shown and described, and for the purpose set forth.

120,847. — CARRIAGE-WHEEL. — Isaac E. Bower, Bainbridge, Ga.

Claim.—The sheet-metal rim E of a carriage-wheel, triangular in form and having extension shank G, combined with the sockets H to receive spokes, and having necks to receive said shanks, as described.

120,848. — WASHING-MACHINE. — Joseph Brower, James Campbell, and Harvey Campbell, West Alexandria, Ohio.

Claim.—The improved cylinder for washing-machines, having the metallic cylinder-heads *c* constructed with the dovetailed recesses *d'*, and provided with the beveled ribs D, arranged substantially as specified.

120,849. — CHURN-DASHER. — William C. Broyhill and William D. Sperry, Tremont, Ill.

Claim.—1. The dasher-blades, provided with grooves on the under side, substantially as and for the purpose specified.

2. The improved churn-dasher, formed of the radial oval blades C, made of wedge-form in cross-section, and set at an inclination of about thirty degrees to their shaft A, as shown and described.

120,850.—LAYING TILES.—Manly A. Burnham, New York, N. Y., assignor to himself and Tobias New, same place.

Claim.—1. The stone floor E interposed between the "ganged mortar" D and the tile of a tile floor or sidewalk, substantially as and for the purposes described.

2. The continuous stone flooring E, in combination with wood floor C and ganged mortar D, substantially as and for the purposes described.

120,851.—TIN-ROOFING MACHINE. — Orrin W. Burritt, Woodsport, N. Y.

Claim.—The clamping-tool A provided with jaws B and C with projection *e*, in combination with the hinged bar D, plate foot-lever E, and spring *d*, as constructed, and arranged to operate substantially as herein shown and described, for the purposes set forth.

120,852. — SHOE AND GAITER. — Freeman P. Buzzell, Milton Junction, assignor of one-half his right to Oscar D. Rowe, Edgerton, Wis.

Claim.—The quarter B, constructed as shown and described, with the two pieces C C cut out and sewed on, in the manner and for the purposes set forth.

120,853.—WATER-METER. — Camille Campeaux, New York, N. Y.

Claim.—1. The elastic friction slide *l*, connected with the stem *e* of the plug D and bearing against the tube C in order to retain the plug in its respective positions, substantially as herein shown and described.

2. The pin *p* on the wheel *o*, combined with the lever *t* and drop *r* for locking the post E and plug D in the elevated position, substantially as herein shown and described.

120,854.—LINK-JOINT FOR WATCH-CHAINS. Charles B. Carpenter, North Attleborough, Mass.

Claim.—An improved joint for watch-chains, formed by the combination of two rings, B, with each other and with the adjacent ends of two pairs of links, A, substantially in the manner herein shown and described, and for the purpose set forth.

120,855.—BUTTON-HOLE SEWING-MACHINE. William Chicken and Eri S. Moulton, Chelsea, assignors to Amos L. Wood, trustee, Brookline, Mass.

Claim.—1. In combination with the friction-pawl feed mechanism, the pawl-lever *k* hung to the center-pin *g*, and having a fork or slot, *l*, which embraces the pin *m* of the pawl *i*, substantially as shown and described.

2. The slide-bar *j* moving radially on the guide-block *o* hung upon the center-pin *g*, and driven up against the ring *d* by the forward movement of the pawl *i*, substantially as shown and described.

3. The pawl-lever *k*, hung upon the center-pin *g*, and actuated by the link or lever *s*, which is jointed to it by the pin *y*, said link or lever being connected to and driven by the cam-actuated lever *u*, all substantially as shown and described.

4. The reciprocating slide *p*, connected to the lever *s* by the link *r* and controlling the extent of feed movement of the clamp-ring, the extent of movement by the slide being determined by the automatically-located pins *m n*, substantially as shown and described.

5. The rotatively-reciprocating looper-ring *c'*, carrying the thread-carrier *a'* and looper *b'*, substantially as shown and described.

6. In combination with the ring *c'*, looper *b'*, and thread-carrier *a'*, the notch *r'* in the throat and the loop-spreading beak *t'*, substantially as shown and described.

7. The looper, thread-carrier, and loop-spreading mechanism, all controlled or brought into action by the reciprocating bar or slide *i'*, substantially as shown and described.

120,856.—STEAM-GOVERNOR. — George W. Clark, Council Bluffs, Iowa.

Claim.—1. The combination of a shifting re-enforcing-weight, P, a piston, D, and connecting devices therefor, with a governor-lever, M, the piston being subject to the action of the live steam, and the said connecting devices being arranged to cause the weight to shift along the said lever as the steam pressure varies and the piston rises or falls, all substantially as specified.

2. The combination and arrangement of the piston D, lever E, elbow-lever H, notched bar L, weight P, governor-lever M, and springs S, all substantially as specified.

120,857.—APPLE-CORER.—Stephen C. Collins, Oregon, Mo.

Claim.—The apple-corer, consisting of the handle A and trough-shaped conical blade B, substantially as herein shown and described.

120,858.—BEE-HIVE.—Tandy S. Collins and Hiram Senseman, Tremont, Ohio.

Claim.—1. In combination with triangular pieces H H two rectangular pieces, G, edge-flanged, having cap *g* thereon, hinged to base A, and folding together at an angle on top, as described, to admit of thorough protection from the weather by its form, easy access by its unfolding on every side, and of being conveniently fastened by one pair of hooks and eyes.

2. The combination, with flanged sides G and side H, held by said flanges, of base A having the end J removable, as specified, to enable one side, H, to be removed, as set forth.

3. The triangular comb-frame E, provided with a central guide, e^2, substantially as herein shown and described.

4. The central guide e^2 of the comb-frames E, made hollow and with lateral top and bottom openings, substantially as herein shown and described, and for the purpose set forth.

5. The arrangement of the rear-hinged end H and detachable end board J of the base A, in connection with the base A, sides G *g'*, and honey-boxes M, substantially as herein shown and described, and for the purpose set forth.

120,859.—EVAPORATING APPARATUS.—Justus Cook, Wellsville, N. Y.

Claim.—1. The agitators I and J with the sweep-plates or fans M, in combination with an evaporating or heating vessel, arranged and operating as described.

2. The arrangement, in combination with a heater or evaporator, of the shaft P and gear-wheels O E, substantially as and for the purposes herein shown and described.

120,860, antedated November 11, 1871.—COMBINATION-LEVER BRIDLE-BIT.—Henry M. Cornell, Brighton, Ill.

Claim.—The levers B B, forming, when put together, a single round bit, each provided at one end with a loop through which the other passes, and connected with the bars A A, as specified.

120,861. — REIN AND SHAFT SUPPORT.—James P. Crutcher and Thomas Y. Vancleave, Cornersville, Tenn.

Claim.—The rein-holder E, applied to the shafts or poles of vehicles and adjustable thereon, substantially as shown and described.

120,862.—MANUFACTURE OF GUNPOWDER.—Charles William Curtis, London, England.

Claim.—The improvement in the process of manufacturing gunpowder for use in heavy ordnance, such as the so-called "pellet" powder, the said improvement consisting in splitting each grain or pellet into halves, which are afterward stoved and glazed, as described.

120,863. — MACHINISTS' LATHE-CHUCK.—Austin F. Cushman, Hartford, Conn.

Claim.—As an improvement in the construction of chucks, the case or shell, composed of the two parts A and B, as described, jointly with the combination of the pinions and their shafts, the annular and cogged scroll-plate, and the jaws, as set forth.

120,864.—LIFTING-JACK.—Arthur A. Davis, Clark's Green, Penn.

Claim.—1. The friction-catch J and rolls K K, substantially as and for the purposes described.

2. The cams H H, in combination with the lever G, catch J, and friction-rolls K K, as and for the purposes described.

3. The holding-catch L, substantially as and for the purposes described, in combination with cams H H and plate F, as set forth.

4. The lifting-bar E, in combination with the friction-catch J and cams H H, as and for the purposes described.

120,865.—SPRING-BED.—John M. Farnham, Hartford, Conn.

Claim.—1. As parts of a bed, the rocking-frames No. 1 and No. 2, respectively fitted for pivoting to a bed-frame, substantially as described, and for the purposes set forth.

2. A woven-wire fabric, composed of alternate lengths of circular spiral coils and oval spiral coils intertwined, substantially as described.

3. The combination of a pivoted rocking-frame, substantially like either of those described, with a bar, b^4, perforated for a pin, the pin itself, and the rack *e*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

4. In combination with the parts specified in the immediately-preceding clause, the strap *f'* and pin *a'*, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

5. The construction shown for attaching the stretcher to the end rails—to wit, by means of the short slats of metal d^1, hooking upon the hooks d^2, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

120,866.—"EXCELSIOR" MACHINE.—Jacob Felber, St. Louis, Mo., assignor to himself and Andrew Brandenburger, same place.

Claim.—1. The arrangement of a rotating disk, J, carrying cutters *j*, cutter-heads J', and stripping-knives j^3, in combination with feed-boxes and feed mechanism, substantially as and for the purpose described.

2. The combination and arrangement of a cam-guide, K, connecting-lever k^4, anti-friction roller k^5, cutter-heads J', and rotary disk J and its cutter devices, all constructed to operate substantially as and for the purpose described.

3. A cam-wheel, I', cast with cams *i* and secured adjustably to shaft I, cammed lever G, arranged, in combination with the feed mechanism described, to operate as and for the purpose set forth.

4. The arrangement of shaft I, frame castings B with grooves *a*, rotating disk J, its cutters *j*, revolving cutter-heads J' carrying stripping-knives j^3, and slide pieces j^2 having pins j^3, connecting-lever k^4, guiding-cam K, adjustable cam-wheel I, cammed lever G, when all said parts are combined with feed-boxes C, and their gearing and feed devices, to operate substantially as and for the purpose described.

120,867.—REFRIGERATOR.—James W. Fisher, Islip, N. Y.

Claim.—In refrigerators, the combination of slides H O with chambers C G, as and for the purposes specified.

120,868.—HEMMER FOR SEWING-MACHINES. David Forrest, Eastport, Me., assignor to himself and A. H. Bibber, same place.

Claim.—1. The plate A A^1 jointed at C, and having arm A^2 with stud F thereon, combined with gauge E, plates G H I, scroll K, and detachable block M, as and for the purpose specified.

2. The combination, with the hemmer-scroll, of the detachable blocks or tongues M, substantially as and for the purpose specified.

120,869.—FLUTING SAD-IRON.—Edward A. Franklin, Brenham, Tex.

Claim.—The fluting-sad-iron, composed of the body A, roller B, combined roller and handle C, and crank *d*, all arranged substantially as herein shown and described.

120,870.—ASH-PAN FOR STEAM-BOILERS.—John Gates, Portland, Oreg.

Claim.—1. In combination with boiler B and ash-pan A, having damper D operated from the engineer's room, the surrounding-pan C having water-space *a*, stays *b b*, and pipes *d e*, arranged as and for the purpose specified.

2. The escape-pipe *e* extending from the water-space *a*, and discharging a visible stream into the funnel *f*, substantially as and for the purpose herein shown and described.

120,871.—MANUFACTURE OF IRON.—Leven S. Goodrich, Waverly, Tenn.

Claim.—The process above described of forming artificial balls of ground carbon, lime, nitrate of soda, iron ore, and molasses, as and for the purpose specified.

120,872. — ADJUSTABLE MUSIC-STOOL, STAND, AND WORK-TABLE.—George W. Griswold, Factoryville, Pa.

Claim.—In combination with a stool, table, or stand made in two parts, with an interposed friction-pad or spring, so that the upper can be elevated, depressed, or held to or on the under part, a strap, *e*, and suitable fastenings *d e*, all for operating and holding said two parts in their adjusted positions, substantially as described.

120,873.—HARROW.—Elial S. Herrington, Emmett, Ohio.

Claim.—The combination of a harrow and leveling boxes F I J with each other, substantially as herein shown and described, and for the purpose set forth.

120,874.—ELECTRIC LINING FOR SAFES.—Edwin Holmes, Brooklyn, N. Y., and Henry C. Roome, Jersey City, N. J.

Claim.—1. A safe or vault provided with an electric outer lining surrounding or covering it wholly or in part, and insulated therefrom, and protected, substantially as herein shown and specified.

2. The exterior inclosure B, made of the parts *b* and *c*, substantially as herein shown and described, to be applied to a safe or vault, in the manner specified.

120,875. — ELECTRO-MAGNETIC BURGLAR-PROOF CURTAIN.—Edwin Holmes, Brooklyn, N. Y., and Henry C. Roome, Jersey City, N. J.

Claim.—1. A curtain composed in part of metallic conductor of electricity, to be used substantially as herein specified and described.

2. The metallic gudgeons of the curtain, when connected with the battery and with the metallic fabrics *a b* of the curtain, and combined with the metallic lower connections *a b*, substantially as specified.

120,876. — HOG-RINGING DEVICE.—Winfield S. Houston, Mansfield, Ohio.

Claim.—1. A hog-ringing device, consisting of a pair of forceps having the front end of its jaws formed into a semicircle, C, and provided with a semi-cylindrical punch or blade, D, and the rear ends of the same with cutting-blades E, and also having its handles provided with a locking-loop, d, substantially as herein described.

2. The semicircular end C of the jaws B when closed, for the purpose of forming the wire ring thereon when the same is in place upon the snout of the animal, as set forth.

3. The semi-cylindrical punch or blade D, in combination with the semicircular end of the jaws B, when constructed substantially as described, for the purpose of allowing the device to be disengaged from the ring, as set forth.

120,877.—ANIMAL-TRAP.—Nathan S. Howell, Tualatin, Oreg.

Claim.—1. The combination of the platforms C C′, catch-levers D D′, pivoted jaws B B′, and springs E E′ with each other, all arranged to constitute a trap, as set forth.

2. The hook *d*, affixed to the under side of the upper platform C to bear against the under side of the lower platform C′, substantially as and for the purpose herein shown and described.

120,878.—BALANCED VALVE FOR STEAM-ENGINES.—David W. Huntington and William A. Hempstead, South Coventry, Conn.

Claim.—1. The spring D′, combined, as described, with the flanged cylinder C B to hold it down to a slide-valve, A, as specified.

2. A steam-tight exhaust-cylinder, C, arranged on a vertically-exhausting slide-valve, A, provided with a rod, G, to oscillate it, as and for the purpose specified.

120,879. — MEDICAL COMPOUND OR PILE OINTMENT.—Amanda M. Irwin, Brooklyn, N. Y.

Claim.—The compound or remedy herein described, composed of alum, nut-gall, and lard, and called by the name of "Mrs. Irwin's Pile Ointment."

120,880. — MUSIC-STAND. — Willard C. James, Fishersville, N. H.

Claim.—1. The combination of the tubes A B, plug D, elastic rods E, and the folding rack, all constructed and arranged substantially as specified.

2. The folding rack C, hooked spring L, block M, hooks P, bar J, and tube A, all arranged substantially as and for the purpose set forth.

120,881. — SPRING-BED. — John Johnson, Hartford, Conn.

Claim.—1. The equalizing frame, composed of the levers *f* and cross-piece *f′*, pivoted to the bed-frame, and operated upon by the rocking arms *e′* or their equivalent, substantially in the manner and for the purpose set forth.

2. In combination with said equalizing frame, pivoted as described, the springs *i* and the stretcher *d*.

120,882.—GAS-BURNER REGULATOR.—William Jones, Chelsea, Mass.

Claim.—A gas-burner regulator having the main and auxiliary gas-passages arranged and controlled substantially as described.

120,883. — MECHANICAL MOVEMENT.—William F. Jones, Easton, Kansas.

Claim.—1. The driving-wheel A, frame B, arm B′, pinions E, (one or more,) shaft F, and shafts G G, combined and arranged substantially as and for the purposes described.

2. In combination with the driving-wheel A, the socket J in one or more pinions E, as and for the purposes described.

3. In combination with the driving-wheel A, pinions E, frame B, and spider C, the grooves and key-screws H H, as and for the purposes described.

120,884.—TELEGRAPH-INSULATOR.—George W. Kidwell, Elwood, Ind.

Claim.—1. A two-part insulator, B, having cavity E and projection F, to hold the two parts coincident, as specified.

2. A block, A, and tubular insulator, B, constructed and combined with a pin, D, to hold them together, as specified.

120,885. — HONEY-BOX FOR BEE-HIVES.—Ellery Channing Lewis, Glasgow, Mo.

Claim.—1. The hexagonal honey-boxes B, made with slots b^1 b^2 in their lower sides, and with slots b^3 b^4 in their upper sides to adapt them for use in connection with each other and with a bee-hive, substantially as herein shown and described, and for the purpose set forth.

2. The hexagonal boxes B, made with their lower sides movable and secured to the ends of said boxes, substantially as herein shown and described, and for the purpose set forth.

3. The hexagonal boxes B having cross-slots b^4 formed in the upper angle thereof, as and for the purpose specified.

120,886.—DISH-WASHER.—Mary E. Lewis, Mansfield, Ohio.

Claim.—The combination of the wire-basket B, tilting-beam D, ring F, weight E, and standard C, in the manner and for the purposes substantially as shown and described.

120,887. — ATTACHMENT FOR SEWING-MACHINES. — William Henry Lewitt, St. Louis, Mo., assignor to Thomas M. Cochrane, same place.

Claim.—1. The tuck-creaser, with its plate A C *c* c^2 c^3, adapted for ruffling, as described.

2. As an article of manufacture, the described tuck-creaser, ruffler, and hemmer, constructed and arranged as set forth.

120,888.—PISTON-PACKING. — Herschell P. McCarroll, Pittsburg, Pa.

Claim.—1. The circular and expansive spring F, when combined with the ring D, springs *b*, and pin *c*, as and for the purpose specified.

2. The steady-pins *c* applied by the pressure of the springs *b* against the inner periphery of the coiled spring F, as specified.

120,889.—MATCH-BOX.—L. Otto P. Meyer, Newtown, Conn.

Claim.—Match-holders constructed of such size or of such relative proportions to my safety-matches' wooden box-shell that the parts are adapted to be used for one definite end, substantially as and for the purpose hereinbefore set forth.

120,890. — MATCH-HOLDER. — L. Otto P. Meyer, Newtown, Conn.

Claim.—The combination of part A and part B, the plate B serving the purpose of affixing the holder to its place; and also serving, in conjunction with part A, to secure a match-box shell in its place, substantially as and for the purpose hereinbefore set forth.

120,891. — MATCH-HOLDER. — L. Otto P. Meyer, Newtown, Conn.

Claim.—1. The cap F, as shown in the holder D′, substantially as and for the purpose hereinbefore set forth.

2. The combination of the front-plate B with the rear-plate B′, as shown in the support of holder D D, and in connection with a receptacle, substantially as and for the purpose hereinbefore set forth.

120,892.—POCKET MATCH-CASE. — L. Otto P. Meyer, Newtown, Conn.

Claim.—1. In combination with the box A, the lid C, without or with hook E, as shown in match-case G, and without or with flanges F, as shown in match-case H, substantially as and for the purposes hereinbefore set forth.

2. The combination of metallic plate A with grooves and flanges F, with variance in construction, and in connection with the other part, made of material easily pliable, all as shown in match-cases I and K, substantially as and for the purpose hereinbefore set forth.

120,893.—BEDSTEAD-FASTENING.—Thomas W. Moore, New York, N. Y., assignor to Frances N. Moore, same place.

Claim.—A bedstead-fastening formed of the tenon C, mortise D, and flange F, when the latter is placed entirely upon one side of the tenon and the mortise is made to correspond, as shown and described.

120,894.—AGRICULTURAL BOILER. — John Murdock, South Carver, Mass.

Claim.—In a boiler-furnace, A B C D, the flange E having one outlet above and another below it into the discharge-flue G, combined with a sliding damper, H, as and for the purpose specified.

120,895. — APPARATUS FOR FORCING LIQUIDS. — Mancelin E. Ogden, New York, N. Y.

Claim.—The combination of the tank A B, slide C, pipes and valves D *d′* E *e′*, pivoted lever H, connecting-rod J, weighted lever K P, catch N, bent arm M, sliding rod O, rod Q, pipe and stop-cock R *r′*, pipe F′ provided with valve *b′* and stop-cock l^2, and air-tank G provided with stop-cocks g^1 and g^2, the whole being constructed and operating substantially as herein shown and described, and for the purpose set forth.

120,896. — FRAME FOR DIKING-SHEETS.—James S. Pierson, New York, N, Y.

Claim.—A frame, B C D, made of wood or metal, and permanently or detachably attached to a diking-sheet, A, substantially as herein shown and described, and for the purposes set forth.

120,897.—FUR-SET BOX.—Benjamin F. Porter, Nashua, N. H., assignor to George T. Garrison, Boston, Mass.

Claim.—The combination, in a fur-set box, of the movable shelves *a a* with the projecting bottom *a b c*, for the purposes of a fur-set box.

120,898.—FIRE-KINDLER. — Noah Rogers, Thomasville, Ga., assignor to William H. Rogers.

Claim.—The combination of the box A, wheels B C D, and axles E F, strap G, spring H, rod or lever I, pivoted apron J, loop K, spring L, guard M, movable jaw or clamp N, pivoted rod O, sliding plate P, spring Q, spring R, strap S, pins *f′ e′ d′*, and locking-pin *s* with each other, substantially as herein shown and described, and for the purpose set forth.

120,899.—BEE-HIVE. — Martin R. Sanders, Cambria township, Pa.

Claim.—The combination of the movable bar K, fixed bars or cleats K′ K′, and hooks *s s* with the comb-frames L M N, as shown and described, whereby the frames are held in place, as specified.

120,900. — ROOFING. — Robert Sanderson, Cleveland, Ohio.

Claim.—The ribs G, grooved-edged plates or sheets I having side laps and an overturned end, E, and an overturned end, C, tongue H, and paper or other equivalent material, substantially in the manner as described, and for the purpose set forth.

120,901.—BAKERS' OVEN.—Robert Sanderson, Cleveland, Ohio.

Claim.—1. The arrangement and combination of the plates I, wheels F G, worm and pinion K L, guard-plates M N, and oven A, substantially in the manner described, and for the purpose set forth.

2. The two furnaces C D, arranged in relation to the bottom and side of the oven A in the manner substantially as described, and for the purpose specified.

120,902.—FOUNTAIN. — Henry H. Sawtell, Randolph, N. Y.

Claim.—The pan F, combined, as described, with and placed above the top of nozzle H and pipe D, whereby an increased height of column and much greater power are obtained.

120,903.—MACHINE FOR THREADING BOLTS. Charles Schneider, Newark, N. J.

Claim.—The projecting pins *c c* and pivots *d d*, having eyes at their outer ends, combined as described, and applied to the sections of screw-cutting dies, as and for the purpose specified.

120,904.—MOTH-PROOF BOX.—Raphael M. Seldis, New York, N. Y., assignor to Jason Crane, Bloomfield, N. J.

Claim.—The moth-proof box or receptable lined with gutta-percha, as described.

120,905.—PORTABLE HEATING APPARATUS.—William Shaw, Albany, N. Y.

Claim.—1. The arrangement of the heat-conducting drop C with the retort A at the lowest or most depressed portion of the bottom *a*, substantially as and for the purpose set forth.

2. The arrangement of the volatilizing projection D within the retort and over the most depressed portion of the bottom of the same, substantially as and for the purpose set forth.

3. The arrangement of the flue E, having both ends open, with the retort A, when the lower open end of the said flue is placed in position over the most depressed portion of the said retort, substantially as and for the purpose set forth.

4. The arrangement of the vertical flue E, having both of its ends open and its lower open end dropping down over the most depressed portion of the bottom of the retort A, and at a short distance from the same, with the annular space constructed between the sides of the said retort and the said flue, substantially as and for the purpose set forth.

5. The arrangement of the seat *e*, or equivalent projecting lips described, with the retort A, substantially as and for the purpose set forth.

6. The arrangement of the supporting-arms *c c* with the vertical flue E and the retort A, substantially as and for the purpose set forth.

120,906, antedated November 1, 1871. — FEED-BOX.—Winfield S. Shaw and Marcus B. Gould, Buffalo, N. Y.

Claim.—1. In an automatic feed-box, constructed substantially as described, the depression or basin *d*, for the purpose set forth.

2. In combination with a feed-box, constructed substantially as described, the wires *e* arranged within the elevated reservoir *b*, and operated in the manner and for the purpose set forth.

120,907.—BLACKING-BOX.—Thomas R. Sinclaire, New York, N. Y.

Claim.—As an article of manufacture, a blacking-box having beveled sides A, rib B, and flange C, constructed substantially as shown, and for the purpose described.

120,908.—APPARATUS FOR FILTERING LIQUIDS.—Thomas R. Sinclaire, New York, N. Y.

Claim.—In combination with a filtering-vessel and a force-pump, or its equivalent, the perforated tube or receiver I, substantially as and for the purposes herein shown and described.

120,909.—CORN-SHELLER.—Abia B. Smith, Wellsburg, W. Va.

Claim.—1. The arrangement of the spring G in the slot or opening *f* of the hopper E, substantially as and for the purpose herein specified.

2. The arrangement of the feed-wheel D, hopper E, and shelling-disk C, substantially as and for the purpose herein specified.

3. In combination with the feed-wheel D, the pinion H, constructed as described, and arranged to operate substantially as and for the purpose herein specified.

4. The combination and arrangement of the partition-rib or plate I with the hopper F, shelling-disk C, spout *c*, and cob-discharge opening *d*, substantially as and for the purpose herein specified.

120,910.—PIPE-TONGS. — James Stratton, New Haven, Conn.

Claim.—The rotary disk C, applied to the short jaw of a pair of pipe-tongs, A B, as and for the purpose specified.

120,911, antedated October 28, 1871.—HARVESTER.—John S. Truxell, Greensburg, Pa.

Claim.—The combination of the pivoted draft-bar *b*, adjustable at its rear end in the slotted standard *c*, the standard *o*, pin *p*, brace *q*, hinged shoe *k*, and the sickle-bar, substantially as herein shown and described, for the purpose specified.

120,912.—AIR-REGISTER.—Edward A. Tuttle, Brooklyn, N. Y.

Claim.—1. The combination, with the frame A and the slats, of one or more springs receiving and supporting the journals while bearing against them.

2. The spring-plates, one or both, bearing against the ends of the slats, whether supporting them or not.

120,913.—BRIDLE-BIT.—Edward Vanauken, Ludlowville, N. Y.

Claim.—A perforated tubular bridle-bit, having its ends closed by screws formed on or attached to the check-pieces, as and for the purpose specified.

120,914.—ASPHALTIC AND CRUSHED-ROCK PAVEMENT. — Aaron Van Camp, Washington, D. C.

Claim.—The improved asphaltic pavement herein described, made by combining crushed or pulverized rock or stone, asphaltum, and red oxide of iron or iron-clay, with or without the addition of other materials such as herein named.

120,915.—PERMUTATION LOCK. — John F. Vinton and George A. Hines, Brattleborough, Vt., assignors of one-third their right to Seymour Field, same place.

Claim.—1. The lever J, in combination with the pin O upon the driving-wheel and pin *h''* on the dog H, substantially as and for the purpose set forth.

2. The combination of the nut G with the tubular bearing A' and driving-wheel E E', when said nut is arranged in a recess of the latter, as shown and described.

3. The combination of the driving-wheels E E', provided with the circumferential shoulder S, and clamping-screws with heads formed as described, for the purpose specified.

4. In the combination lock herein described, the bolt I, piece H', dog H, lever J, pins O and *h*, wheel E E', nut G, bearing A, grooved spindle C, tumblers F F', and collars *f f*, all relatively constructed, and arranged and operating as shown and set forth.

120,916.—MANUFACTURE OF WHITE LEAD.—Decius Wadsworth, Brooklyn, N. Y.

Claim.—The peculiar arrangement of perforated pipes in grooves of the floor B of a white-lead manufacturing apparatus, for the purpose of enabling gas to be forced therethrough into the tank, as described.

120,917. — FIRE-PLACE GRATE.—Miles S. Watkins, Memphis, Tenn.

Claim.—The tubes passing through the cross-bar of the grate and extending back into the air-chamber in the back of the fire-place, the air-chamber and the tubes passing thence into different apartments, constructed substantially as described, and for the purposes set forth.

120,918. — BEE-HIVE. — John Wheeldon, Greensburg, Ind., assignor to himself and J. C. St. John, same place.

Claim.—The outside and inside walls C D C D C' D' C' D', stationary fronts B B' with the side and rear walls hinged thereto and opening in the rear center, so that the comb-frames can be removed and others replaced independently, all substantially as herein described and shown.

120,919.—DENTISTS' AND BARBERS' CHAIR.—Otis C. White, Hopkinton, Mass.

Claim.—1. In combination with a chair having a seat to be raised and lowered, a metal spindle, D, having a vertical series of gear-teeth, *e*, on the spindle, the points of the teeth being flush with or sunk below the outer surface of the spindle, substantially as described.

2. The combination, with the movable frame for the seat, of a spindle, D, having a vertical gear-rack thereon, a worm-wheel, E, engaging with the teeth of said rack, and a worm, I, on the actuating-shaft F, as shown and described.

120,920.—BARREL AND OTHER CYLINDRICAL PACKAGES.—Henderson Willard, Grand Rapids, Mich.

Claim.—A cylinder for barrel or other circular package, with two series of vertical staves arranged to break joints, substantially as and for the purpose set forth.

120,921.—FOLDING CHICKEN-COOP. — Edward J. Willcox, Ivy Mills, Pa.

Claim.—The combination of the bars A B, roof or cover C, pivoted bars D, board E, cross-bars F, side bars G, keepers H, and spring-catches I with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

120,922. — VACUUM-BRAKE FOR RAILWAY CARS. — Robert J. Wilson, Pittsburg, Pa.

Claim.—The combination of air-pump *e*, vacuum-chamber C, and cylinder D, said parts being connected through the medium of pipes, and the whole used for operating car-brakes through the medium of a vacuum, as hereinbefore described.

120,923. — BOTTLE-STOPPER. — Wendell Wright, Phœnicia, N. Y.

Claim.—A stopper for bottles, jars, &c., with the groove B, extending from the top of the stopper in the direction of the grain of the wood, substantially as shown and described.

120,924.—FOLDING-BED.— Wendell Wright, Bloomfield, N. J.

Claim.—The bottom A, pivoted head B D, pivoted foot C D E, pivoted and shouldered legs H I J, springs L, and cross-pieces K, constructed, arranged, and combined with the rails, as and for the purpose specified.

120,925.—AUTOMATIC RELIEF-VALVE.—Albert F. Allen, Providence, R. I.

Claim.—1. The relief-valve and hydraulic-lever connected within the walls of the main chamber, as and for the purposes specified.

2. The curved-faced lever D, in combination with the relief-valve, as and for the purposes specified.

3. The combination of the relief-valve with the independent valve-holding device for confining the valve to its seat and cutting off communication with the pump during the operation of drawing water, substantially as described.

4. The combination of the valve-stem, screw-spindle, and hydraulic lever, by which the lever may be set at any desired angle by turning the valve-stem, substantially as described.

5. The stem of an automatic relief-valve, its surrounding sleeve and the annular recesses combined and arranged substantially as described, for the purposes specified.

120,926.—CORN-PLANTER.—David Altman, Nashville, Tenn.

Claim.—1. The scraper D, having the elastic standards, as described, made adjustable by means of the screw D' and nut D'', substantially as specified.

2. The toothed slide *f* arranged to vibrate the hopper L, in combination with the gate or guard *g*, as and for the purpose set forth.

3. In a corn-planter, the combination of the adjustable inclined feeding-slide with the lever H, studded spokes *i*, spring G, and auxiliary locking slide L, substantially as specified.

120,927.—ADJUSTABLE WEIGHT FOR SCALES. Hiram Andres, Troy, N. Y., assignor to himself and Stephen R. Andres, same place.

Claim.—In combination with the weight C and lever D connected thereto, and projecting therefrom into convenient position to be seized and manipulated by the user, the beam-bar *a*, and notch *b* in the weight or lever, so that when said weight or lever is moved into suitable position the beam-bar will take up and suspend upon itself or let down said weight, as and for the purpose described and represented.

120,928.—CHURN-DASHER. — Ezra J. Ashton, Utica, Ind.

Claim.—A churn-dasher, consisting of the bell-shaped portion C and the cap D, when constructed and arranged for operation, substantially as herein described.

120,929. — BLOWER. — William H. Bailey, Mahanoy City, Pa.

Claim.—A fan composed of a series of large wings, B B, and a series of smaller ones, C C, constructed as described, and arranged alternately to operate substantially as and for the purposes herein set forth.

120,930.—BOILER AND ENGINE FOR STREET-CARS.—William Baxter, Newark, N. J., assignor to himself, A. J. Halsey, and William Baxter, Jr., same place.

Claim.—1. The mode herein described of accumulating the power needed to start the car by the employment, in connection with the steam-cylinders operating together as described, of a steam-chamber into which the excess of steam generated by the boiler during the stoppage of the engine is received and from which, when the engine is again started, it is fed to the second cylinder, or that cylinder which receives the exhaust steam of the first cylinder, substantially as shown and set forth.

2. The combination, with the steam-chamber, boiler, and steam-cylinders operating together, as specified, of the pipes and safety-valve connecting the first cylinder and the boiler with the steam-chamber, substantially as shown and described, whereby the steam-pressure in the said chamber is automatically increased upon stoppage of the engine, and after the engine has again started is reduced to its original or normal state, for the purposes set forth.

3. The combination of the steam-cylinders, steam-chamber, and boiler with connecting and exhaust-pipes and valves under the arrangement substantially as shown and described, whereby steam from the boiler may be used in said cylinders under the four conditions herein specified.

4. The arrangement of the steam-chamber or space around the boiler, substantially as herein shown and described.

120,931.—MACHINE FOR TURNING HUBS.—William G. Beach, New Haven, Conn., assignor to the New Haven Wheel Company, same place.

Claim.—The hub-turning machine, consisting of the cutter-cylinder A and device for rotating the block, in combination with mechanism, substantially such as described, for imparting an alternately slow and quick movement of the said cutter-cylinder.

120,932.—GATE.—Alfred H. Betts, Cleveland, Ohio.

Claim.—The wheel-irons I, weighted-levers J, quadrants *l*, and rods M, in combination with the cranks G, rod F, and swing-levers D, arranged and operating substantially as and for the purpose set forth.

120,933, antedated November 13, 1871.—RAILWAY CROSSING.—George W. Billings, Chicago, Ill.

Claim.—The bed-plate C provided with grooves or channels, throat-plate F, and guard-rails E, constructed and arranged in relation to the rails E', substantially as and for the purpose set forth.

120,934.—REFRIGERATOR.—William Bogk, Milwaukee, Wis.

Claim.—The ice-chamber *d*, shelves *k*, and racks *l*, as arranged in relation to the water-reservoir *i*, and lids *m*, *n*, and *o*, and doors, as herein set forth.

120,935.—RAILWAY CAR-TRUCK.—George E. Brown, South River, and William Bell, Perth Amboy, N. J.

Claim.—1. The construction of a car-truck frame, each wheel thereof contained within a frame, and each of said frames being pivoted to the main frame of the truck, substantially as described, so that said truck shall automatically adjust itself through the change of direction of the wheels on a curve.

2. The hollow car-axle, arranged in connection with an orifice leading thereto at the outer bearing of the axle, substantially as described, so as to introduce oil at the same time to the outer and inner bearings from the outside of the truck.

120,936.—COFFEE-POT.—Robinson Brown and Edwin A. Blaisdell, Goffstown, N. H.

Claim.—The combination of the separate tea or coffee and hot-water compartments C E with the central removable perforated holding-tube D, the separate valves *c d* with their stems *e f*, and the divided spout F, the several parts being constructed and arranged for use, as described, and represented in the accompanying drawing.

120,937. — STEAM-GENERATOR. — William Byers, Philadelphia, Pa.

Claim. — The steam-generator herein described, formed of plates, each provided with equal and alternating convexities and concavities, and united by stay-rods or bolts *d* so as to leave a water and steam-space between them, as and for the purpose specified.

120,938.—COFFEE-POT.—Simon I. S. Cawthon and Abel F. Tatom, Troy, Ala.

Claim.—1. In a coffee-pot, the perforated tubes F, in combination with the central upright flue E, substantially as and for the purpose described.

2. In a coffee-pot, the combination, with the flue E, of the perforated tube F and box G, substantially as and for the purpose specified.

120,939.—WASHING-MACHINE.—John Randolph Cazier, Hemlock, Mich.

Claim.—1. The combination of the frame A A provided with slot *a*, hook *a*, notches *b'*, rollers C D, springs G and I, regulating nut *b*, and rods *a a*, all constructed and operating substantially as set forth.

2. The combination of the frame A A, rubber-covered rollers C D, rods *a a*, springs G I, rods A, gudgeon *i*, holder S, and flanged screw *k* with thumb-nut *n*, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the sides K K, bent wooden bottom L with rubber backing between it and the sides, and the under connecting screw-bolts *p p*, all substantially as set forth.

4. The combination, with a tub-tank K L, of the removable partitions N N, provided with rubber packing *z* on their edges, and forming compartments O^1 O^2 O^3, all substantially as set forth.

5. The rinsing-table P^4 provided with rubber strip *z*, and supported in the middle compartment O^2 of the washing-tank L L by the rod *w*, and operated by means of the lever S and rod *y*, substantially as and for the purposes herein set forth.

6. In combination with the above-described washing-machine, the tables P^1, P^2, and P^3, made removable, all constructed substantially as set forth.

120,940.—PULLEY-BLOCK.—Henry Cherry, Birmingham, England.

Claim.—The combination of the bevel-wheel E, pinions F and J, and eccentric boss or pin H, operating together substantially as and for the purpose hereinbefore described.

120,941.—MACHINE FOR BORING POSTS.—William Franklin Cline and Philip David Weaver, Bendersville, Pa.; said Weaver assigns his right to said Cline.

Claim.—The slide B, with its clamping-lever C moved lengthwise by the shaft E, cords D, and crank F, and moved laterally by the pulley-cords and treadles, in combination with the auger H, substantially as set forth.

120,942.—BALING-PRESS.—Thomas J. Corning, San José, Cal.

Claim.—The single elongated follower B with its operating arm C, in combination with chains D, pulleys E, and the horizontally-moving lever H, operating substantially as described, for the purpose herein set forth.

120,943.—CORE FOR DIKES.—John P. Culver, Jersey City, N. J., assignor to the Union Pipe Company, New York city.

Claim.—1. A core or core-section, constructed of a perforated inner sheet, plate, or board, incased by a covering of plastic substance arranged to pass through the perforations in the sheet, and which when set is hard and impervious to water, substantially as and for the purpose or purposes herein set forth.

2. The inner perforated core B, having flanges *b b* at its edges, in combination with the covering C of cement or plastic substance, essentially as described.

3. The combination of the trusses *c c* with the perforated core B and covering C of cement or plastic material, substantially as specified.

120,944.—BEE-HIVE.—Samuel Cuplin, Iowa Falls, Iowa.

Claim.—1. A bee-hive capable of changing the form of its brood-chamber from a broad shallow one in summer time to a deep narrow one in winter, said change being effected by means of the partition-boards H H, secured by the strips I I and buttons J, substantially as herein set forth.

2. The combination of partition-boards H H with frames G G, hive A, and cap C, substantially as set forth.

120,945.—TEA AND COFFEE-POT STAND.—Thomas D. Currier, Waldoborough, Me.

Claim.—1. In a stand for holding a tea-pot, the combination of the standards C, expansible pivoted ring E, and bent arm F, substantially as described.

2. The combination of the pivoted ring E and standards C with a suitable tilting-crank or handle, when said ring is adapted to hold a tea-pot, as described.

3. The arm *g*, bent to hold the bottom of the vessel A, in combination with the ring E, as and for the purpose set forth.

120,946, antedated November 1, 1871.—HOG-LIFTING MACHINE.—Joseph Dagley, Gosport, Ind.

Claim.—1. The combination of the frame A, wheels B, vertically-sliding post D with hook-arms G, hinged tongue H, and caster B', substantially as specified.

2. The trough C, applied to a hog-carrier, in combination with a sliding post, D, having hooks G, substantially as and for the purpose specified.

3. In a machine for carrying and hanging hogs, a vertically-sliding post, D, having hook-arms G, substantially as and for the purpose described.

120,947.—WRENCH.—Augustus Ball Davis, Philadelphia, Pa.

Claim.—The detachable and reversible toothed plate *f*, in combination with the permanent or movable jaw of the wrench, and arranged in respect to the inclined face of the opposite jaw, as specified.

120,948. — MACHINE FOR CUTTING SOLID LEATHER BELTING.—Theodore J. Dickerson and Oliver B. Warren, Auburn, N. Y.

Claim.—1. In a machine for cutting solid leather belting, the divided cutters A B, constructed and operating as and for the purpose described.

2. In combination with the cutters A B, the cap C, as and for the purpose described.

120,949. — BAND SAWING-MACHINE.—William H. Doane and William P. McKee, Cincinnati, Ohio, assignors to J. A. Fay & Co., same place.

Claim.—1. The frame A A' A'', in combination with the lower arbor-bearing, said frame being constructed, as herein described, with a depression, A''', permitting the ready removal of the arbor, as explained.

2. The arrangement of frame A A' A'' A''' and of the horizontally and vertically-adjustable arbor-bearing C D D' E E' G H A.

3. The arrangement of step or saddle K and its contained box or bearing L L'.

4. In combination with the upper arbor L', the lower arbor-bearing E, adjustable both vertically and horizontally, as shown and described, and for the purpose set forth.

5. In combination with the lower arbor, the upper arbor-bearer, adjustable in a vertical plane by means of the screw M, nut T, and spring O, as and for the purpose designated.

6. The combination of the slotted standard A' *a*, saddle K *k*, arbor-bearing L, L', *i*, and T, screws M N, and spring or cushion O, as shown and described, for the purpose set forth.

7. The arrangement of spring S, drum U, strap R, saw-guide P, and set-screw Q, for the purpose set forth.

120,950.—FIELD-ROLLER.—George H. Dow, Freeport, Ill.

Claim.—The combination of frames D D and bar A^3, the latter being slotted as described, and the former being provided with bolts, *a a*, connected together by suitable mechanism so as to be adjusted to or from each other from the driver's seat, substantially as set forth.

120,951.—HOISTING-GEAR.—George Duerre, Williamsburg, N. Y.

Claim.—The within-described hoisting-gear, consisting of the frame C D, axis B, tube R, windlass K, ratchet-wheel A, bifurcated lever G pivoted to the arm *e* and pawl I, and the long pawl L pivoted to the arm J of the elbow-lever, all constructed and arranged to operate substantially as and for the purposes set forth.

120,952, antedated November 6, 1871.—STILTS.—John Emmert, Dunleith, Ill.

Claim.—The spiral spring in combination with the movable step and standard, substantially as described, for the purpose specified.

120,953.—ANIMAL-TRAP.—Oscar S. Ewing, Rome, Tenn.

Claim.—1. The combination of the box A, yielding-floor *b*, tongue *c*, levers *d e*, springs *f l*, crank *m*, shaft *i*, and teeth *k*, as specified.

2. In combination with the elements of the above claim, the trigger *g* and arm *g'*, as described.

120,954.—CHUTE OF WATER-WHEEL CASES.—John T. Fanning, Norwich, Conn.

Claim.—1. A series of chutes contiguously arranged, and having their effluent or inner ends adapted to discharge the water to the wheel in the same general plane, and their influents ends located alternately, either in groups or individually, in different planes, substantially as described.

2. A series of chutes having their influent ends arranged alternately in different planes, and each set of such ends provided with its independent annular gate, as described.

120,955.—MECHANICAL MOVEMENT.—Peter Ferguson, New Haven, Conn., and Francis G. Bates, Springfield, Mass.

Claim.—The cylinder A fixed upon the shaft B, provided upon its interior with the two cut rings H and their lever L, and combined with the heads E F, each actuating the lever upon its cylinder, and combined with a reciprocating device to impart a movement to the said heads when the said heads are arranged so that a movement in one direction engages one of the rings and the other head the other ring in the opposite direction, substantially as described.

120,956.—COMPOSITION FOR PAVEMENTS.—Lewis S. Filbert, Philadelphia, Pa.

Claim. — The improved composition for pavements and other purposes, constructed substantially as above described and set forth.

120,957. — DRIVING-GEAR FOR PORTABLE FORGES.—Lewis R. Fitch, Chicago, Ill., assignor to Napoleon Dubrul, same place.

Claim.—1. The combination and arrangement of the friction-pinion K, the wheel I, the pulley *i*, and the internally-geared friction-pulley A, substantially as specified and shown, for the purpose of transmitting power, as described.

2. The combination and arrangement of the driving-pulley A, and standard B placed outside of said pulley, and constructed to act as a guard or shield to the pulley in the manner specified, and as set forth and shown.

3. The combination, with the pinion K, of an inner band or layer of rubber, *c*, and an outer covering or layer of leather, *c'*, substantially as specified.

120,958. — AUTOMATIC RELIEF-VALVE.—James Garland, Providence, R. I., assignor, by mesne assignments, to himself and Heber Le Favour, same place.

Claim.—The combination of the valve B, arranged to work under an equilibrium of pressure, the cylinder and piston appropriate to operate such valve, and the safety-valve opening by the pressure to be relieved, and enabling such pressure to work the relief-valve, the whole constituting an automatic relief apparatus, substantially as described.

120,959. — STEAM-BOILER FEED-WATER HEATER. — Benjamin Garvin, Oshkosh, Wis.

Claim.—The construction and arrangement of the coils or pipes A A A A with injection-pipe B, connection-pipes C and D, stop-cocks E and F, and check-valve O, when used in combination with a steam-boiler, as described, and for the purposes set forth.

120,960.—SEATED URINAL. — Dwight Gibbons, Rochester, N. Y.

Claim.—1. As a new article of manufacture, the urinal or bath A, of oval or elliptical form, constructed and arranged as herein described.

2. The seat B, consisting of the concave or dishing flanges *b b* and intermediate slot *c*, when combined with the urinal A or its equivalent rim or bathing-vessel, as herein described.

3. In combination with the seated urinal A, the cover D, with its flange *f* resting outside the rim of the vessel, as herein described.

120,961.—BIDET OR HIP-BATH. — Dwight Gibbons, Rochester, N. Y.

Claim.—1. As a new article of manufacture, the bidet or hip-bath, constructed, arranged, and operating as herein described.

2. The separate chair-back G, combined with the bed or frame A and cover C, in the manner and for the purpose specified.

3. The angle-irons *g g* and pads *h h*, combined with the chair-back and bed, in the manner and for the purpose specified.

120,962.—RIGGING-CLAMP.—James H. Gillis, Washington, D. C., assignor to Joseph J. Walton, Newark, N. J.

Claim.—1. The two-part clamp *a b* locked together by means of the eyes *c* and horns *i i*, substantially as and for the purposes set forth.

2. The links *f f* connecting the two-part clamp *a b* to the ring *g*, in combination with the horns *i i* and eyes *c c* for connecting the clamps *a b* to each other, substantially as and for the purposes set forth.

120,963, antedated November 9, 1871. — MODE OF EXPLODING TORPEDOES.—Edwin Gomes, New York, N. Y.

Claim.—1. A torpedo, combined with a ball, to be driven lengthwise of the case by the explosion of powder in a chamber, said ball making an opening through the powder for the fire which follows the same, so that the charge will be ignited, as set forth.

2. The nipple *e* or tube made with a tapering end to enter the folds of the fuse *r*, and to which it is united, as specified.

120,964.—BRUSH.—James Alexander Grant, Ottawa, Canada, assignor to Robert Charles Wilkins McCuaig, same place.

Claim.—As a new article of manufacture, the clothes and table brush, consisting of the stock and handle A B and the thin blade of sponge C, held one edge in a groove or split by screws D, substantially as shown and described, for the purposes set forth.

120,965.—KILN FOR BURNING BRICK, LIME, &c.—William P. Hall, Piqua, Ohio.

Claim.—1. A kiln having a movable back-wall with car attached upon which to move the mass to be burned in and out, substantially as herein set forth.

2. The combination of the movable back H with the aperture *i* and flue I, the car G, and flues J J with apertures *m m*, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of an arched closed-top kiln, A B, with furnaces at the front end, flat bottom with track *f*, and a movable back-wall, H, with car G, all substantially as and for the purposes herein set forth.

120,966.—GUIDE FOR SEWING-MACHINES.—William H. Halladay, Chicago, Ill., assignor to himself and Daniel A. Kimbark, same place.

Claim.—The combination and arrangement of the guide-plate A, rod B, sleeve C, spring D, slotted bar E, bar F, pressure-plate G, and spring H, substantially as specified and shown.

120,967. — CORSET.—Caroline L. Hamlin, New York, N. Y.

Claim.—A new article of manufacture, consisting of a corset, skirt-supporter, or similar article of wearing apparel, in which the stiffening is composed of interlayers of textile fabric stitched to and forming a component part of the garment, substantially as described.

120,968.—CLOTHES-WRINGER. — James W. Hampton, Mt. Pleasant, Iowa.

Claim.—The combination of the slotted posts or standards B B, rollers C C, caps *a a*, rods D D with loops *b b*, levers E E and G, and treadle H, all constructed and arranged as and for the purposes herein set forth.

120,969.—HEMMING AND BINDING ATTACHMENT FOR SEWING-MACHINES. — Milo Harris, Jamestown, N. Y.

Claim.—The guide E, in combination with the double scroll B, all constructed as and for the purpose set forth.

120,970.—POSTAGE-STAMP HOLDER.—George Cliffe Hatch, Calcutta, India.

Claim.—The lining of reels with a fabric or other material, when employed for holding stamps or labels, in the manner and for the purposes hereinbefore shown and described.

120,971.—WINDOW-SHADE FIXTURE.—Louis Christian Hoffmeister, Jr., Philadelphia, Pa.

Claim.—1. The combination, substantially as described, of a friction-box with a shade-roller, or with its grooved pulley or operating-cord, for the purpose specified.

2. The friction-box H, adapted for the reception of the grooved pulley or flanged end of a shade-roller, and having lugs or rollers arranged to bear upon the same or upon the operating-cord, and a spring-bar, J, arranged to bear against one of the trunnions of the roller and to force the latter and the friction-block together, all substantially as specified.

3. The combination, with the friction-box and its spring-bar J, of the bracket B with its recess *d* and socket *d'*.

4. The bracket B, when constructed as shown in Fig. 3, with recesses *x* in place of the usual screw-holes.

120,972, antedated November 4, 1871.—ORE-CRUSHING MACHINE.—Samuel Hughes, Charleston, S. C., assignor to himself and James J. Grace, same place.

Claim.—1. The shell A and cone B, provided respectively with ribs F and D set obliquely to the axis of the machine, when constructed and arranged substantially as shown and described.

2. The inclined ribs F secured in place or to the shell A by the lugs J K and flanges L M, as specified.

3. The improved ore-crushing machine herein described, consisting essentially of the shell A, ribs F, cone B, ribs D, bearing G, and legs F', each of said parts being constructed and arranged as specified.

120,973.—PUMP.—Aaron J. Hull, Sterling, Ill.

Claim.—The combination of the pump-section B and the pump-section A, fitting into the section B and forming an interior annular shoulder, hollow valve-seat C with rims *a* and *b*, valve E, and ball D, all substantially as set forth.

120,974.—FISHING-SEINE.—Robert Jeffrey, Gloucester, Mass., assignor to himself, James L. Shute, and William T. Merchant, same place.

Claim.—1. The improved seine, as provided with the netted projection or bottoming B, arranged with the body portion A, in manner substantially as shown and described.

2. The combination and arrangement of the two sets of main and branch pursing-lines with the body portion A and the extension or bottoming B, when arranged together as set forth.

120,975.—HYDRAULIC MOTOR.—John Henry Jenninga, New Bedford, Mass.

Claim.—The improved motor, consisting of the wheel C with buckets B and shaft D, and the exterior case A having adaptations for the application of water above, as through the pipe H', and beneath, as through the pipe L, substantially as shown and specified.

120,976, antedated November 1, 1871. — MOTH-PROOF CLOTHING-CHEST.—Ralph S. Jenninga, Philadelphia, Pa.

Claim.—The combination of the chest A with the cedar lining *y* and rubber stripe *c*, folded and attached as described and specified.

120,977.—APPARATUS FOR LIQUEFYING NITROUS OXIDE AND OTHER GASES.—Wilbur F. Johnston and William A. Johnston, Brooklyn, N. Y.

Claim.—The condensation or liquefaction of gaseous or aeriform matter by pressure transmitted from a pump by means of a liquid to the matter it is desired to condense.

120,978. — METHOD OF COMPRESSING AND LIQUEFYING NITROUS OXIDE AND OTHER GASES.—Wilbur F. Johnston and William A. Johnston, Brooklyn, N. Y.

Claim.—1. The combination of a hydraulic pump with one or more tanks, substantially as described, and for the purposes set forth.

2. In apparatus for condensing gas or aeriform matter, the use of a series of tanks of varying strength, substantially as and for the purposes set forth.

120,979.—DEODORIZING APPARATUS FOR WATER-CLOSETS.—Augustus Jordan, Washington, D. C.

Claim.—1. In combination with the reservoir D and the bowl and water-pipe of a water-closet or urinal, an automatic injection-valve and pipe, arranged to cause a small quantity of water from said water-pipe to be injected into said reservoir after the flow through said supply-pipe is shut off, substantially as and for the purpose set forth.

2. The shut-off valve C and weighted or spring-valve F, arranged to be overcome by the water-ram upon closing of said valve C, combined with the reservoir D and the bowl of a closet or urinal, substantially as set forth.

120,980. — RAILROAD-CAR VENTILATOR.—Daniel C. Justison, Wilmington, Del.

Claim.—1. The sash B, hinged at its lower edge and provided with the hinged sill-plate D, operating under the pins *a a*, substantially as and for the purposes herein set forth.

2. The side plates E E, attached to the sides of the sash B and provided at their outer edges with rubber stripes *d d*, substantially as and for the purposes herein set forth.

3. The combination of the frame A, sash E, sill-plate D, side plates E E with rubber stripes *d d*, notched bar G, and spring-catches C H, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,981.—LADY'S DRESS. — Austin Kelley, New York, N. Y.

Claim.—A dress-waist having one or more elastic stripe, B, concealed by loose portions or plaits of the dress-fabric or by attached trimming, substantially as and for the purposes herein specified.

120,982.—ENGINE-GOVERNOR. — Benjamin S. Lawson, Brooklyn, N. Y., assignor to himself and Handren & Ripley, New York city.

Claim.—1. The quick-acting governor, having a valve, A, in a suitable case controlled by the friction-wheel A', subjected to the influence of loaded levers I, revolved around it by the action of the engine and inducing friction thereon, tending to close the valve, while an opposing force B tends to open the valve, all substantially as herein set forth.

2. In connection with the above, the frictional pieces J and adjusting means *j*, arranged and operating relatively to each other, the levers I, and friction-wheel A', controlling the valve A, all substantially in the manner and for the purposes herein set forth.

120,983.—GRAIN-SEPARATOR.—Samuel Lesig, Sr., Reading, Pa.

Claim.—The combination and arrangement of the blast-regulator *k* and the pivoted separator *l* with each other and with the fanner of an apparatus for separating grain from straw and chaff, substantially as herein set forth.

120,984.—BRONZE ALLOY.—George Montefiore Levi, Brussels, and Charles Maurice Klinzel, Liege, Belgium, assignors to Charles James Adolph Dick, Philadelphia, Pa.

Claim.—1. The within-described process of producing the alloy specified—that is, by combining with the metal a prepared alloy of phosphorus and tin or copper when the said prepared alloy is so proportioned to the metal, and when the ingredients of said alloy are so proportioned to each other, that the product shall not contain more than 2.5 per cent. of phosphorus and fifteen per cent. of tin.

2. The process of casting the alloys specified in molds prepared by the application of petroleum or its equivalent, substantially as set forth.

120,985.—RAILWAY CAR-WHEEL.—Henry C. Lockwood, Baltimore, Md.

Claim.—The improved railroad car-wheel, having the elastic packing B and separated fellies C arranged within the groove A', in connection with the movable screws D, keys D', and nuts E', or their equivalents, substantially as described.

120,986.—GRAFTING-TOOL.—John Maddy, Clearfield, Pa.

Claim.—The combined tool, consisting of a saw, knife, and wedge, all combined and arranged substantially as specified.

120,987.—GRAIN-CLEANING, SCOURING, AND DECORTICATING MACHINE. — James A. Maloney, Georgetown, D. C., assignor of two-thirds his right to J. Q. Larman and Riley A. Shinn.

Claim.—1. In combination with a grain-cleaning and separating machine, the grain-spout L, when constructed and arranged to operate in the manner described, and for the purpose set forth.

2. In combination with the scouring-shell D of a smut-machine, the scouring-cylinder described, when composed of the series of outwardly and inwardly burred and perforated cones G and the burred and perforated vertical beater-blades F, substantially as and for the purpose described.

3. In combination with a grain-cleaning and decorticating machine, constructed substantially as herein described, the sieve or sieves W, as and for the purpose specified.

120,988. — WATCHMAKER'S CHUCK. — Job Mansir, Richmond, Me.

Claim.—The combination, with the perforated chuck-plate B, of the face-plate A, screws *a a*, thumb-nuts K K, and back-spring D, substantially as specified.

120,989. — FENCE. — Benjamin F. Meare, Washington, Ind.

Claim.—The sections of a portable fence combined with the crossed stakes placed at the junctions of the sections, and with the cap pieces *d* connecting the middle stakes of the sections, and with the riders *f*, all arranged as specified.

120,990. — METALLIC CARTRIDGE. — Henry Metcalfe, New York, N. Y.

Claim.—A center-fire metallic cartridge for magazine fire-arms, combining a centrally-recessed pocket, primed from the inside, with a bell so flattened or formed about its forward end that, when brought in contact with or jostled against the head of a preceding cartridge, it may not reach the fulminate or crush the base of the shell, and thereby induce explosion, while, with a properly-arranged firing-pin or other like device, said fulminate may be ignited and the cartridge fired when in that part of the fire-arm thereunto designed, substantially as set forth.

120,991.—SOLDERING APPARATUS— Frederick L. Miller, Brooklyn, N. Y.

Claim.—1. The revolving soldering-bed, arranged in an inclined position, substantially as and for the purpose herein set forth.

2. The construction of such inclined revolving-bed with two or more seats arranged one within another for the reception of cans of different sizes, substantially as herein described.

3. The hollow shaft D, having perforations *e e* near its upper end, in combination with the inclined revolving-bed E, substantially as and for the purpose herein specified.

120,992, antedated November 3, 1871.—STOVE-GRATE.—Reos Moes, Philadelphia, Pa., assignor to himself and Silas H. Emery, same place.

Claim.—1. A circular grate, having plain and inclined teeth A and A' and intervening spaces *c*, arranged substantially as specified, in combination with devices substantially as herein described, whereby the said grate may be either revolved or reciprocated.

2. The pawl D hung loosely to the pivot-pin *a* of the said grate, adapted to the ratchet-teeth *b'* of the latter, and otherwise arranged to be operated, substantially in the manner described, by a key, F, or its equivalent.

3. The reversible key F with its pin *m* adapted to the socketed end of the pawl, to the slots *p* and *p'* of the same, and to the projections and recesses of the grate, all substantially as and for the purpose specified.

120,993. — MORTISING-MACHINE.— Edward Myers and Samuel R. Smith, Cincinnati, Ohio, assignors to Lane & Bodley, same place.

Claim.—1. The reversing mechanism of a mortising-machine having the following elements, to wit: The mandrel A, latch O, shafts L and *p*, clutches K and J, sleeve B, double eccentric D *d* D' *d'*, wheels G and H, bolt E, arm P, and spring F, the whole being combined and operating to produce an interrupted rotation of the mandrel in one direction, as and for the purpose designated.

2. In connection with the elements of the preceding claim, the nuts U V upon the screw-threaded part *e* of the sliding bolt E.

3. In connection with the elements of the first claim, the spring R, for the purpose explained.

120,994. — LAWN-MOWER.—Joseph S. Oakley, Passaic, N. J., and Oscar D. Wood, Newburg, N. Y.

Claim.—1. The combination, substantially as described, of the stationary and separately-detachable knives H with the pivoted knives I, when the stationary knives are held upon the knife-bar solely by the overlying pivoted knives, and are kept from lateral displacement by means of pins *b* projecting from the knife-bar and engaging with openings in the stationary knives.

2. The combination of the lugs *f f* on the wheels D D, the levers K L with projections *k* A, spring *m*, connecting-rod M, L-shaped lever N, and pitman O, all constructed and arranged to operate substantially as and for the purposes herein set forth.

120,995.—DINNER-PLATE COVER.—Mary M. J. O'Sullivan, New Haven, Conn.

Claim.—As an article of manufacture, the herein-described dinner-plate cover, consisting of the plates A B with the chamber C formed between, and having a cavity in the plate B so as to receive the plate F, and provided with the cover E, all constructed in the manner and for the purpose substantially as described.

120,996.—PREPARED GLUE.—Jolan Fr. Petting, Rochester, Ind., assignor to himself and Joseph Weidner, same place.

Claim. — The prepared glue, substantially as herein described.

120,997.—CURTAIN-FIXTURE.—Phineas W. Phillips, Salem, Mass.

Claim.—In a shade-roller, the detent D, for the purpose of stopping the upward movement of the shade, as shown and described.

120,998.—CUTTING BOOT AND SHOE COUNTERS.—Sylvanus C. Phinney, Stoughton, Mass., assignor to S. C. Phinney and J. C. Phinney, same place.

Claim.—1. Adjusting the gauge J by a rack-and-pinion movement, substantially as shown and described.

2. The clamp R, ring S, and spring T, arranged to operate upon the cutting-knife, substantially as and for the purpose set forth.

3. The arms O and *q* and screw P, arranged substantially as and for the purposes described.

4. The combination of the feed-rolls B B, apron I, gauge J, and knife M, when the same are arranged to operate substantially as and for the purposes described.

120,999. — DRAIN-PIPE MACHINE.—Mason R. Pierce, New York, N. Y.

Claim.—1. An apparatus for molding drain-pipes and other analogous articles, composed of a mold-case and core, constructed and operating without a core-socket, as described, in combination with a stationary or movable support for the mold-case and with a separate stationary or movable support for the core, the whole combined together to enable the core to be discharged from the case after a pipe has been molded without requiring the case to be removed from the support which sustained it during the molding operation, and without the use of a core-socket, substantially as herein set forth.

2. The arrangement of the "mixing-table" and "mixing-plows" relatively to the molds, substantially in the manner set forth.

121,000. — BUTTON. — Clark M. Platt, Waterbury, Conn.

Claim.—1. As a new article of manufacture, a button of the class mentioned, having the edges of the hole through which the rivet or eyelet passes strengthened by means of a washer fitting into the hub, as shown and described.

2. As a new article of manufacture, a button of the class mentioned, having the edges of the hole through which the rivet or eyelet passes strengthened by rolling back said edges, in the manner shown and described.

121,001.—STOVE-PIPE DRUM.—Lewin Racine, Hillsdale, Mich.

Claim.—Chambers A in combination with pipe B, oven C, dampers F, and frame G, constructed substantially as described, for the purpose specified.

121,002.—LIFTING-JACK.—William L. Rayment, Union City, Mich., assignor to himself and Ralph A. Day, same place.

Claim.—The ratchet lifting-bar D, in combination with the pendulous lifting-pawl bar *p* H, retaining-foot operating spring-pawl G *g*, and hand-lever E, the whole secured to operate properly between suitable standards A *a* and on a proper platform, B, upon which said standards and connected operating devices are mounted, substantially as and for the purposes set forth.

121,003. — HARROW. — William Rennyson, Norristown, Pa.

Claim.—The draft-bar G, the casting E with its segmental flanges *b* and *b'*, and the arm H provided with a roller on its outer end, when the same are so arranged and constructed that by the raising of the draft-bar pressure is thrown upon the arm H in whatever position it is placed, thus using a pressure from said bar as an auxiliary to the weight for revolving the harrow, substantially as herein set forth.

121,004.—MAIN-SPRING ATTACHMENT FOR WATCHES.—Charles E. Rice, Jersey City, N. J.

Claim. — A coil-spring, A, when provided with the arm *a*, projecting in an opposite direction to the coil of the spring, and arranged within the barrel B, substantially as described, so that the power of the spring bears the arm *a* toward its connection with the barrel, for the purpose set forth.

121,005.—HARVESTER.—Eli B. Rice, Madison, Wis., assignor of one-half his right to John H. Garnhart, same place.

Claim.—1. The combination of the endless rake-apron with the elevating-apron of a harvester, each composed of two or more parts moving parallel to each other, the front part of each moving at a greater speed than the rear parts, substantially as described, for the purpose specified.

2. In combination with the grain-platform and the compound rake-apron, the removable frame W, substantially as described, for the purpose specified.

3. In combination with the sickle, the double-inclined angular projections D', arranged as described, for the purpose specified.

4. The arrangement of the laterally-swinging binders' tables J' at each end of the concave Y, and of the hinged platform F', as herein described, for the purpose specified.

5. The binders' tables J', constructed as described, and hung upon uprights J' at each end of the concave by means of the socketed studs K' and brace-rods L, substantially as described, for the purpose specified.

121,006. — LINE-HOLDER.—John D. Sater, Greensburg, Ind., assignor to Sater & Son, same place.

Claim.—The combination of the box A having corrugations *c c* and openings *d d*, with the pivoted lever B having pointed end *b*, all substantially as and for the purposes herein set forth.

121,007.—SAW.—David Sattler, Napoleon, Ohio.

Claim.—A saw provided with scoring-teeth *a*, routing-teeth *c*, and rakers *b*, constructed and arranged as herein shown and described.

121,008.—LAMP.—William Scarlett, Aurora, Ill.

Claim.—1. The guide K arranged in the body of the lamp adjacent to the filling-hole L, and adapted to guide the float M *m*, as and for the purpose specified.

2. The bright cap *m* on the float M, so mounted in a lamp as to be conspicuously seen in looking down into the filling-hole L and to warn when the filling is nearly completed, as shown.

3. The perforated cylinder B in the hollow stock or shaft of the lamp, arranged as shown, so as to receive air freely below and discharge it gently into the space around, to be thence conducted upward, through the annular space C, to the burner, all as herein set forth.

121,009.—WELDING COPPER.—Christian L. Schurr and William G. Rehbein, Baltimore, Md.

Claim.—1. As an article of manufacture, a welded copper chain.

2. The process of welding copper herein described.

121,010.—FEED-REGULATOR FOR LIQUIDS.—Hermann Seyter, Vaihingen, Wurtemberg.

Claim.—1. In combination with the float *i*, the arm *f g* with its regulating-screw *h* and check-nut *h'*, movable around the hinge *e*, as and for the purpose set forth.

2. The combination of the valve-plate *k*, guides *m m*, valve *l*, holes *o o* with the supporting hooks *n n* and guiding-hook *p*, as and for the purpose set forth.

121,011, antedated October 28, 1871.—FIRE-ESCAPE.—William A. Sharp and George Hollenbeck, Tama City, Iowa.

Claim. — The links A A, having their upper rounds convoluted or coiled and their lower ones embraced by the latter, substantially as and for the purpose set forth.

121,012, antedated November 1, 1871. — CORN-PLANTER. — David J. Sheets, Belmont Wis.

Claim.—The corn-marker herein shown and described, operating in the manner and for the uses and purposes as set forth.

121,013.—RAILWAY CAR-BRAKE.—William F. H. Smith, Milwaukee, Wis.

Claim.—1. The combination of the shaft *z*, eccentrics *d*, rings *p*, shackles *c*, brake-blocks *a* having grooves *s* and flanges *t*, the connecting-bars A, springs B, lever C, and chain D, all constructed and arranged so that the brake-blocks may be used as ordinary friction-brakes, or may be lowered in front of the wheels to raise them up from the rails, substantially as herein set forth.

2. In combination with a shaft, *z*, from which the brake-blocks are suspended, the ratchet-wheels *f f* and pawls *h h*, substantially as and for the purposes herein set forth.

121,014.—Binding-Guide for Sewing-Machines.—William T. Smith, West Zanesville, Ohio.

Claim.—1. The combination of the forming-shoe with the adjustable braid gauge-plate, both constructed and arranged in connection with each other, substantially as described.

2. In a braid-binder for sewing-machines, the combination of the shoe A, guide-loop a, holding-stem b, and arm d with the adjustable gauge-plate B B′, with its gauge-lips n n and holding ends e e, the several parts being constructed and arranged to operate as described.

121,015.—Snap and Buckle Combined.—Philip A. Snyder, Butlerville, Ohio, assignor of one-half his right to Samuel Gustin, same place.

Claim.—The snap-hook C, provided with the buckle, consisting of the frame B having the bars a b c d, with spaces e′ b′ c′, and tongue e, arranged substantially as described.

121,016.—Pump.—George Steck and Franklin Arnold, Hughesville, Pa.

Claim.—The relay-pump herein described, consisting of the stocks G G′, the open vessel A divided into two compartments, as described, the boxes and valves herein described, the plunger-rods P P′, the racks R R, the guides F F, the wheel W constructed with the socket, as described, and the vertical handle L, all arranged and operating in connection with each other substantially as herein set forth.

121,017.—Thimble for Making Attachments to Steam-Boilers.—Allan Talbott, Richmond, Va.

Claim.—The bushings or thimbles with solid bottoms, screwed or riveted into boilers, substantially as and for the purpose set forth.

121,018.—Rotary Steam-Valve.—Julius F. Tallant, Burlington, Iowa.

Claim.—The oscillating steam-valve, having the induction-port F, the projecting arch E, the steam-chamber D, the open exhaust H, the steam-ports G, and the oscillating cylinder A with its connecting grooves B, all constructed, arranged, and operated as specified.

121,019.—Stove-Lid.—William Teamer Evansville, Ind.

Claim.—A stove-hole cover having a hole to which is adapted a plate rendered self-closing, substantially in the manner described.

121,020.—Fishing-Reel.—Silas B. Terry, Waterbury, Conn., assignor to Terry Clock Company, same place.

Claim.—1. The principal head A of a reel constructed with an internal flange, a, having a spool-head arranged therein, substantially as described, in place of the plate or cap usually employed.

2. The lever L, extending through the head A, and provided with a spring, f, to act in connection with the pinion d, substantially as and for the purpose specified.

3. The lever N arranged within the chamber of the head, extending therefrom to afford a means of operating, and provided with a jaw, n, to engage with the pinion D, substantially as and for the purpose set forth.

4. The frictional device for fishing-reels, consisting of the projection m, to extend through the head of the reel, and combined with an adjustable spring-pressure, substantially as and for the purpose specified.

121,021.—Harrow.—Colin Tharp and George P. Tharp, Bryan, Ohio.

Claim.—1. The teeth D^1 D^2 D^3 attached to bars D D D, in combination with the rocking-bars E E′, connected together by suitable means, and operated by the mechanism F F′, as and for the purpose described.

2. The improved harrow herein described and shown, consisting of the platform A a a, knives G G′, trucks i i, and the mechanism E E′ F F′ for operating the bars D D D, all in combination substantially as shown and described.

121,022.—Harness-Mounting.—Charles H. Thornton, Newark, N. J.

Claim.—Covered harness-mountings, when the seam or seams thereof on the outside of the same are covered and protected by a metallic strip or beading, as a new article of manufacture.

121,023.—Railroad Spike.—Theodore R. Timby, Tarrytown, N. Y.

Claim.—The rearward projection E, formed of a double bevel, with an obtuse angle below the point to which the spike is intended to be driven.

121,024.—Railway Car-Basket.—Morton Tower, Boston, Mass.

Claim.—Applying a hollow tube or outer cylinder to the two exterior rods or supports of a car-basket and connecting or fastening the wires thereto, substantially in manner and for the purpose set forth.

121,025.—Hub for Carriage-Wheels.—Holland E. Vick, Alliance, Ohio.

Claim.—1. The collars or thimbles A B provided with radial lugs C and flanges e, forming recesses in the ends thereof, into which are received the head G of the axle-box and screw, collar or thimble E, in combination with the wooden core A′, axle-box H, and screw, collar, or thimble E, substantially in the manner as described, and for the purpose set forth.

2. The axle-box H having a screw end, J, head I provided with a female-screw, I, in combination with the collars or thimbles A B of the hub and screw-thimble E, in the manner substantially as and for the purpose specified.

3. The two-part nut K provided with an external or male screw, K′, recess D′, and ring L, as arranged in relation to and in combination with the collar C′ of the axle B′ and head G of the axle-box H, in the manner substantially as described, and for the purpose set forth.

121,026.—Writing Apparatus for the Blind.—Arthur Von Briesen, New York, N. Y., assignor to himself and Victor E. Mauger, same place.

Claim.—1. A writing-tablet for the blind, provided with an automatically-adjustable hand-guide, which is held at one end only, substantially as and for the purpose set forth.

2. The combination of the adjustable hand-guide E, notched rod D, and spring-click c or its equivalent with the paper-holder C and tablet A, substantially as set forth.

121,027, antedated October 28, 1871.—Wrench.—Nelson Warren and James C. Stock, Wilmington, Del.

Claim.—The plate D, block E, and ferrule F, constructed, arranged, and secured in position substantially in the manner and for the purposes shown and described.

121,028.—Planing-Machine.—Andrew J. Watson, Lyons township, Mich.

Claim.—1. The combination of the board-gauge L, brought into and held in action by its weight N, with the chip-breaker H, to which it is pivoted in the manner and for the purpose described.

2. The combination of the chip-breaker H, held in action by its weight K, and arranged on the frame of the machine, as described, the board-gauge L, the straight-edge F provided with a chip-breaker at its forward end, and the grooving and tonguing tools E E′, the whole constructed, arranged, and operating as herein described.

121,029.—Tile.—David H. Watts, Philadelphia, Pa., assignor to himself and W. C. Sharpless, same place.

Claim.—A tile having dovetailed grooves, substantially as described.

121,030.—Wagon-Jack.—James Weathers, Greensburg, Ind.

Claim.—The within-described wagon-jack, composed of the leg A with notches b b, leg E, lever C, and bar D with tang or pin e, the lever and legs being pivoted together by one bolt, a, all substantially as herein set forth.

121,031.—Loop-Banding Machine.—George W. Weeks, Clinton, Mass.

Claim.—1. The revolving head W, with gears b and d d and twisting-hooks G G, constructed and arranged as shown and described, and operating in combination with the stop I, substantially as and for the purposes herein set forth.

2. The stops M M′ to control the oscillations of the rods S T, in combination with said rods and their arms, substantially as herein set forth.

3. The stop-motion arms L L′, adjustable upon the rods S T, in combination with said rods, their arms, and stops, substantially as and for the purposes herein set forth.

4. The slide J, with cams or inclined planes K K′ and loop-hook H, constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The adjustable collars O O, slide-rods U U, and weight Q, arranged to operate in combination with the slide J, substantially as and for the purposes herein set forth.

121,032.—Elastic Car-Wheel.—James M. Whiting, Providence, R. I.

Claim.—The sections A B, the latter being provided with the axle or hub F and the former with the tread D and cylinder G, an elastic packing C being interposed between the two, substantially as described.

121,033, antedated November 9, 1871.—Hank for Sails.—George C. Williams, Boston, Mass.

Claim.—The within-described hank, composed of two parts, a and b, hinged at c, with the portions which hold the leach formed as sister-hooks, held in position by the pin d or its equivalent, substantially as and for the purpose described.

121,034.—Iron Folding-Chair.—George Wilson, Chicago, Ill.

Claim.—1. The combination of the cams J, pivoted bars G, and rigid bars H, substantially as specified.

2. The combination of the foot-frame C, curved rack-bars O, cross-piece P, shaft Q, tongue S, handle R, and arm-lever L attached to the seat-frame, substantially as specified and shown.

3. The combination and arrangement of the arm-levers L, arcs M M′, lever N, and spring n, substantially as specified and shown.

121,035.—Horse Hay-Rake.—James E. Wisner, Friendship, N. Y.

Claim.—1. The combination of the sliding clutches J, connecting-rods L, the catch-bar M, and the cam-guides for the purpose of positively holding the clutches engaged with the wheels until the proper moment of discharge, substantially as described.

2. In combination with the spring catch-bar M and the cam-guide having the inclined face and the recessed flange, the hand-lever P, substantially as described, for the purpose specified.

3. In combination with the spring catch-bar M, hand-lever P, and the cam-guide, the slotted and shouldered frame O, substantially as described, for the purpose specified.

4. In combination with the hand-lever P, the catch-bar M, and the slotted and shouldered frame O, the spring s, substantially as described, for the purpose specified.

5. The slotted loops E, constructed as described, with the arms f and slotted raised base H, for attaching the teeth to the axle or rake-head.

REISSUES.

4,634.—Machine for the Manufacture of Lozenges.—Oliver Rice Chase, Boston, Mass., assignor to Chase & Co.—Patent No. 39,196, dated July 7, 1863.

Claim.—1. The combination of the extra delivering-apron F with the main delivering-apron G, the sugaring and redoing apparatus, and mechanism for stamping out or cutting the lozenges from the paste, substantially as and for the purpose hereinbefore set forth.

2. The combination of the delivering-apron G, the cutter-board H, and the series of cutters I, substantially as and for the purpose hereinbefore set forth.

3. The combination of the delivering-apron G, the cutter-board H, the series of cutters I, and the discharging-apron N, substantially as and for the purpose hereinbefore set forth.

4. The combination of the surface-changing apron I, the cutter-board H, and the series of cutters I, substantially as and for the purpose hereinbefore set forth.

5. The combination of the delivering-apron G and a receiver or discharging-apron N with the surface-changing apron I, the cutter-board H, and the series of cutters I, substantially as and for the purpose hereinbefore set forth.

6. The combination of the comb-plate O with the cutters I, and the cutter-board or device for supporting the paste while being acted on by the cutters, substantially as and for the purpose hereinbefore set forth.

4,635.—Sediment-Collector for Steam-Boilers.—Collins Wood Deane, Philadelphia, Pa.—Patent No. 113,405, dated April 4, 1871.

Claim.—1. A mud-trap having the within-described slotted filtering-plates, arranged within a steam-boiler so that the entire surface-current may traverse the same in passing from end to end of the boiler.

2. The mud-trap B with its filtering-plates, the whole extending across or nearly across the shell of the boiler, as set forth.

3. The surface mud-trap C with its slotted filtering plates extending across or nearly across the boiler, in combination with the perforated discharge-pipe I.

4. The within-described combination and arrangement of the two mud-traps B and C with their filtering-plates.

5. The combination of one or more depressions, r, in the trap B with a corresponding number of suspended discharge-pipes.

6. The combination of a trap with two or more independent suspended discharge-pipes communicating with a larger pipe, by which the mud is discharged from the boiler, as set forth.

4,636.—Machine for Shearing and Punching Shingle-Straps.—Theodore E. Harris, Green Bay, Wis.—Patent No. 67,429, dated August 6, 1867.

Claim.—1. A machine-cut-and-punched shingle-strip or bale-fastening, made from sheet-iron, substantially in the manner described.

2. The combination of the table D provided with holes n n, the punches G G adjusted to the holes,

and the cutting-blade E, arranged to operate at the edge of the table in connection with the punches, and mechanism to reciprocate said blade and punches, substantially as described, for the purposes specified.

3. The combined machine herein described, consisting, essentially, of the frame H, table D, blade E, operating mechanism L, and adjustable punches G G, substantially as and for the purposes specified.

4,637.—VISE.—John Simpson, Cleveland, Ohio.—Patent No. 119,658, dated October 3, 1871.

Claim.—1. The box *a* provided with the rack C, and having its rear end contracted and mouth more or less flaring, substantially as and for the purposes herein set forth.

2. In combination with the box *a* having its rear end contracted, and provided with the rack C, the box *b* and screw E, constructed and arranged substantially as and for the purposes herein set forth.

DESIGNS.

5,363.—BURIAL-CASE.—Samuel Stein, Rochester, N. Y.

Claim.—The design for a burial-case, in which the mouldings A B C D constitute a border for the sides, inclosing the glass panel I, ornamental woodwork E *e*, and tablets F, substantially as above described.

5,364.—HAND-STAMP.—William N. Weeden, Boston, Mass., assignor to William B. Gorham, same place.

Claim.—A design for a linen or other marker, substantially as shown and described.

TRADE-MARKS.

527.—TEAS.—Allen, Shapleigh & Co., Boston, Mass.

528.—WAGONS.—S. N. Brown & Co., Dayton, Ohio.

529.—CORSETS.—M. Cohn & Co., New York, N. Y.

530.—SEWING-MACHINE ATTACHMENTS.—Domestic Sewing-Machine Company, Toledo, Ohio.

531.—GIN.—Gill & Lootz, Boston, Mass.

532.—MEDICINES.—John J. Haley, San Francisco, Cal.

533.—PINE-APPLE BEER.—Quincy A. Hooper, Attleborough, Mass.

534.—MEDICINE.—Andrew J. Hopkins, Providence, R. I.

535.—FERTILIZER.—Joshua Horner, Jr., Baltimore, Md.

536.—BILLIARD-TABLES.—Kavanagh & Decker, New York, N. Y.

537.—BREAD.—John F. Kohler, New York, N. Y.

538.—COTTON SHEETINGS, &c.—The Jackson Company, Nashua, N. H.

539.—CORSETS, SKIRTS, &c.—Thomson, Langdon & Co., New York, N. Y.

540.—SKIRTS.—Thomson, Langdon & Co., New York, N. Y.

541.—CORSETS.—Thomson, Langdon & Co., New York, N. Y.

542.—CORSETS.—Thomson, Langdon & Co., New York, N. Y.

543.—SKIRTS AND CORSETS.—Thomson, Langdon & Co., New York, N. Y.

544.—GIN.—C. & W. A. Waters, Boston, Mass.

EXTENSIONS.

JOHN P. MANNY, of Rockford, Ill.—Letters Patent No. 18,510, dated October 27, 1857.

"Improvement in Mowing-Machines."

Claim.—Suspending, elevating, and lowering the cutter-bar of mowing-machines in a horizontal position by means of flexible connections, such as cords or chains, attached to each of its ends, when the same are arranged in relation to and used in combination with independent rigid frames, substantially in the manner and for the purposes herein described.

DANIEL LOVEJOY, of Lowell, Mass., and ELIZABETH S. BUTTERFIELD, of Rockingham, Vt., administratrix of GEORGE F. BUTTERFIELD, deceased.—Letters Patent No. 18,509, dated October 27, 1857.

"Improved Grinding and Polishing Machine."

Claim.—Giving the plate R, or other article to be ground, a vertical reciprocating motion tangentially with the plane of motion of the stone or wheel D, or parallel therewith, and also a vibrating lateral motion, for the purpose set forth.

HOSEA WILLARD AND ROBERT ROSS, of Vergennes, Vt.—Letters Patent No. 18,562, dated November 3, 1857; reissue No. 1,775, dated September 27, 1864.

"Improvement in Harvesters."

Claim.—1. The combination of the grain-platform G, or its equivalent, with a hinged coupling-arm E', and a rear connection, which allows of an up-motion of the platform, independent of the main frame, substantially as described.

2. Supporting the rear delivery side of the platform G, or its equivalent, by a yielding connection from the main frame, in combination with supporting the front delivery side by a leading-wheel, F'', or its equivalent, substantially as described.

3. The combination of the rear of the grain-platform, raker's seat G', and arm G''', or its equivalent, with the inner side of the main frame, substantially as set forth.

4. Connecting the front of a grain-platform of a two-wheeled harvesting-machine to a finger-beam, which is, in turn, hinged by a free hinge to a hinged coupling-arm, whereby the platform is free to conform to the inequalities of the ground, substantially as and for the purposes set forth.

5. The combination of the independent supporting and driving-wheels B B' with ratchets *b b'*, levers C C', gears D D' and *d d'*, substantially as and for the purposes set forth.

6. The combination of convex pulley J' with concave ratchet-wheel *k'*, substantially as set forth.

HOSEA WILLARD and ROBERT ROSS, of Vergennes, Vt.—Letters Patent No. 18,562, dated November 3, 1857; reissue No. 1,776, dated September 27, 1864.

"Improvement in Harvesters."

Claim.—1. The combination of a knuckle, or the equivalent thereof, with the joint which connects the finger-beam and coupling-arm, for raising the hinged finger-beam of a mowing-machine off of the ground to pass obstructions.

2. The combination of a lever with a hinged finger-beam and coupling-arm, as herein described, in such a manner that while the finger-beam on either end is free to conform to the inequalities of the ground while in operation, the finger-beam can be raised or elevated to pass over obstructions, as set forth, by simply raising the coupling-arm, substantially as described.

3. The combination, with the joint which connects the finger-beam and coupling-arm, of a knuckle and adjusting-screw or bolt, or their equivalents, for regulating the upward deflection of the heel-end of the finger-beam.

HOSEA HILLARD and ROBERT ROSS, of Vergennes, Vt.—Letters Patent No. 18,562, dated November 3, 1857; reissue No. 1,780, dated September 27, 1864.

"Improvement in Harvesters."

Claim.—1. The combination of a leading-wheel with the inner shoe hinged to a coupling-arm, substantially as and for the purposes herein described.

2. The combination, with said shoe and leading-wheel, of an adjustable arm, for the purposes set forth, substantially as and for the purposes herein described.

3. The combination and relative arrangement of a wheel *g''*, arm *g'*, finger-beam F', shoe F, and curved coupling-arm or finger-bar extension piece E', substantially as described.

HOSEA WILLARD and ROBERT ROSS, of Vergennes, Vt.—Letters Patent No. 18,562, dated November 3, 1857; reissue No. 1,781, dated September 27, 1864.

"Improvement in Harvesters."

Claim.—The combination, with the finger-beam or bar and the main frame of a two-wheeled machine, of an adjustable hinged coupling-arm, substantially as and for the purposes set forth.

EARLE HARRY SMITH, of Bergen Heights, N. J.—Letters Patent No. 18,605, dated November 10, 1857.

"Improvement in Sewing-Machines."

Claim.—The discoidal shuttle, constructed as set forth, and made to control the loop of needle-thread, substantially in the manner described and represented.

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PATENTS.

121,036.—STEREOTYPES.—Frank H. Aiken, Franklin, N. H.

Claim.—Forming a stereotype-plate with a wooden back by placing said back, suitably perforated or grooved, within a mold and pouring therein to molten metal, which fills the holes or grooves in the wooden back and forms the metal face, substantially as herein specified.

121,037, antedated November 4, 1871.—REFRIGERATOR.—August W. Almqvist, Long Island City, and Eugene G. Conradson, Brooklyn, N. Y.

Claim.—1. The water-chamber C formed by the combination of an interior heat-conducting metallic wall, B, and an exterior porous and water-absorbing wall, A, on the outer surface of which latter wall the water evaporates, substantially as and for the purpose hereinbefore set forth.

2. The ice-plate D, constructed as described, in combination with the water-chamber C, substantially as and for the purpose hereinbefore set forth.

3. The combination of the recessed platform G, serving as bottom to the box, and the door J hinged thereto, substantially as and for the purpose hereinbefore set forth.

121,038.—PREVENTING MILDEW IN CANVAS.—Theodore Bathy, Smith's Creek, Mich.

Claim.—The compound for preventing mildew in canvas and similar fabrics, composed of the ingredients herein set forth.

121,039.—DEVICE FOR TIGHTENING LOOSE TIRES.—Hiram Beckwith, Grass Lake, Mich.

Claim.—The combination of the standard A provided with the claw-foot *a*, the nut *b*, and the clamp G with the screw B provided with the swivel-bearing *c*, and the screw D, all constructed, arranged, and operated substantially as described and shown.

121,040, antedated November 2, 1871.—JOURNAL-BOX.—John D. Beers, Philadelphia, Pa.

Claim.—1. The combination of the journals of the axle P with the wheels C C, and the combination of said wheels with the rollers F and stationary axles H H, when the said parts are constructed and arranged in relation to each other and geared together, substantially in the manner and for the purpose above set forth.

2. The curving of the shoulders of the shaft P and the corners of the wheels C C in relation to each other, and also the shoulders of the journals of the rollers F and the corners of the rings E in like manner, substantially as and for the purpose specified.

121,041.—PRINTER'S GALLEY.—John F. Bronson, Waterbury, Conn.

Claim.—In a printer's galley the arms F F', pivoted at their outer ends, respectively, to the galley-edge B and the side-stick D, and at their other ends pivoted to the longitudinal bar E, substantially as specified.

121,042.—WASHING AND WRINGING MACHINE.—George R. Clarke, New York, N. Y.

Claim.—1. The combination of the revolving perforated disk *m* and pressure-roller or rollers *f*, whereby the clothes, by a continuous movement, are automatically subjected to immersion in water and to a squeezing action, substantially as described.

2. In combination with the perforated disk, the series of buckets shown in Figs. 4 and 5, substantially as and for the purpose specified.

3. The arrangement of tub *a*, frame and movable arms *c* and *d*, and hinge or pivot *b*, substantially as and for the purpose specified.

121,043.—THREAD-RACK FOR SPOOLING ATTACHMENTS OF SEWING-MACHINES.—John L. Demarest, Elmira, N. Y.

Claim.—The combination, with the sewing-machine table, of the hinged rack provided with the guiding-arm B D, the pins K for receiving the spools, and the washers for holding the ends of the thread, and arranged for operation with the spooling device, as set forth.

121,044, antedated November 4, 1871.—COMPOSITION FOR SOAPS.—Julius Edmund Dotch, Washington, D. C.

Claim.—A disinfectant, deodorizing, and antiseptic soap or saponaceous compound wash or ointment, made of the ingredients as above set forth.

121,045. — FELTING-MACHINE. — Rudolph Eickemeyer, New York, N. Y.

Claim.—1. The combination and arrangement of a stationary yielding platen with a jiggering platen placed beneath, and supported upon fixed bearings, substantially as described.

2. In combination with a stationary yielding platen, adjustable links connecting the platen and frame, whereby the platen may be firmly and accurately held against the lateral thrust of the jiggering platen.

3. In combination with the jiggering platen, the adjustable supporting rocking columns, supported upon a fixed base, substantially as and for the purpose described.

4. In combination with the stationary platen of a felting-machine, a jiggering platen having a gradually-diminishing throw, substantially as described.

5. In combination with the jiggering platen and the crank or eccentric from which it derives its motion, the intervening vibrating lever and link-connection placed upon a shifting fulcrum, and operating to gradually diminish the throw of the jiggering-platen, substantially as described.

6. In combination with the jiggering platen and the mechanism for moving it with a gradually-diminishing throw, the lifting-toe or cam and the yielding worm-shaft, whereby said mechanism is released from connection with the power of the machine, and the gradually shortening of the throw by the automatic action of the machine caused to cease at a determined time without stopping the reciprocating action of the jiggering platen.

121,046.—HEMMER FOR SEWING-MACHINES. Henry A. Ellis, Albany, N. Y., assignor to himself and George S. Weaver, same place.

Claim.—1. The guide B', constructed with an oblique edge, *a*, extending beyond the rear of and in combination with the hook *b* of the folder, substantially as described.

2. The combination, with the above, of the pressure-stretching spring E, when constructed and arranged as described to bear directly in line with the feed of the machine and leave a wide space between itself and the guide B', substantially as described.

3. The combination of the inverted scroll D with the guide B' having an oblique edge, *a*, and the hook *b*, substantially as described.

4. The combination of the spring E, as described, with the inverted scroll D *y*, as described, for the purpose set forth.

121,047.—CAR-COUPLING.—John M. Enos and Joab Enos, St. Joseph, Mich.

Claim.—The hooks C provided with elongated ends D, mortised toggle-slide I, shafts F provided with lifters H, in combination with buffers A A and standards U B, substantially as described.

121,048. — HORSE-POWER. — Luther R. Faught, Philadelphia, Pa.

Claim.—1. In lever-powers, the squared or splined extension B' of shaft B, in combination with a conformingly-shaped sleeve or socket O on the king-post M, the whole arranged and operating in the manner and for the purpose set forth.

2. In horse-powers having an internal driving wheel on the first shaft, the hollow shaft F and its pinion E, in combination with the stationary spindle G and support A, all arranged and operating in the manner and for the purpose set forth.

3. Securing the bevel-wheel J on the shaft F by means of the tapered screw or ping *h* and transverse incision *g*, in the manner and for the purpose set forth.

4. In combination with pinion K and shaft L, the tapered key *q* and set-screw *r*, all relatively arranged, and operating as set forth.

121,049.—CIGAR-LIGHTER.—Moses F. Gale, New York, N. Y.

Claim.—1. The combination of screws A and B fixed in a bird or other ornamental device, when used for the purposes set forth.

2. The combination of the parts A, B, C, S, and T.

121,050. — BRUSH. — Hayward A. Harvey, Orange, N. J., assignor to Manhattan Brush Manufacturing Company, New York city.

Claim.—1. A bunch or tuft of bristles or fibers looped into a ferrule or eyelet, indented as described, in combination with a brush-stock.

2. The combination of a brush-stock with a corrugated ferrule or eyelet containing a bunch of bristles or fibers, substantially as set forth.

121,051.—CAR-COUPLING.—John B. Heverling, Greenville, Ohio.

Claim.—The combination of the hook A having the points B and D, and the shank slotted at *c*, with the slide C, for the purposes and in the manner above described.

121,052.—PROPULSION OF MARINE TORPEDOES. — John Adams Howell, United States Navy.

Claim.—The combination of the fly-wheel and torpedo for the purpose of propelling the latter, as hereinbefore set forth.

121,053. — COOKING-STOVE. — Seymour Ketchum, Macon, Ill.

Claim.—The division of the long center piece of a stove in two pieces, B B', flanges *b b'*, in combination with the mortises *d d'*, standard D, and plate E, substantially as described.

121,054.—PLATFORM OR HANDLE FOR FRUIT-BASKETS.—Joseph Knapp, Coloma, Mich.

Claim.—A removable platform or handle for fruit-baskets, consisting of the parts A B, hold to the basket by wires *c* so as in part to hold the netting in place, as set forth.

121,055.—LUBRICATOR FOR STEAM-ENGINES. Charles Lynch, Detroit, assignor to himself, Daniel A. Mathews, Ypsilanti, and Henry McGraw, Detroit, Mich.

Claim.—1. The arrangement of the guard F, gauge-tube I, and packing-rings *e* within the reservoir B, as described.

2. The arrangement of the condenser C and pipe A' with relation to the hollow standard A and within the reservoir B, as shown and set forth.

3. The automatic lubricating device, consisting essentially of the hollow standard A, reservoir B, condenser C A', guard F, glass gauge-tube I, valve G, feeding-pipe H, check-valve *b*, filling-cup J, and drain-cock K, constructed, arranged, and operating substantially as described.

121,056, antedated November 3, 1871. — KITE.—Oscar Maddaus, Brooklyn, N. Y.

Claim.—The curved upper bar A' of the kite, in combination with the cord B, upon which the apron vibrates, substantially as herein shown and described, and for the purposes set forth.

121,057. — MACHINE FOR BENDING TUBE-SKELPS.—George Matheson, Boston, Mass., assignor to The National Tube Works Company, same place.

Claim.—The combination of the jaws *b b'* having slots *m*, flanges *t t'*, slots *u u' v v'*, screws *n*, pins *q*, dies *s s'*, and frames *w w' o o'*, arranged as specified.

121,058.—BENT CUTTER-BENCH AND KNEE. Edward Milner, Strathroy, Canada.

Claim.—The bench A A'' and knees A' when bent from a single piece of timber, as described.

121,059.—TOOL FOR BORING CIGAR-MOLDS. Heinrich F. Moeller and Hermann P. Brandt, Davenport, Iowa.

Claim.—The within-described cigar-mold cutter, tapering toward both ends, as an article of manufacture.

121,060.—SCREW-BOLT. — Frederick Mutimer, Rockford, Ill.

Claim.—The screw-bolt herein described, composed of the head A, square part B, part C having the projecting ribs *h*, round part D, and screw part E, as a new article of manufacture.

121,061.—HARVESTER.—Peter Nicola, Massillon, Ohio.

Claim.—1. The combined bevel and spur-wheel L X, in combination with the bevel driving-wheel M, the spur-wheel train K H, and the rotary sickle J, the several parts being arranged substantially as and for the purpose specified.

2. In a rotary reaping-machine, the combination of the following elements, to wit: A frame, A A D R E F, driving-wheels O O, bevel driving-wheel M, combined bevel and spur-wheel X L, spur-wheel train K H, supporting-disk G, rotary sickle J, and caster-wheel U, the several parts being arranged and operating, and the whole being impelled and guided, substantially as is herein specified.

3. The rake-fingers *d d d*, in combination with the revolving sheath-gatherers *b c b c*, the several parts being arranged for joint operation, substantially as specified.

4. The holder-head *f* and revolving sheaf-holder *g f*, in combination with the revolving sheaf-gatherers *b c b c*, the said parts being arranged for joint operation, substantially as specified.

5. The swinging bar *n* with its stop-arm *p*, in combination with the holder-head *f* journaled on the shaft P, the several parts being arranged and operating substantially as specified.

6. The hinged binding apron A, in combination with the swinging holder-head *f* and revolving sheaf-holder *g f*, the several parts being arranged as and for the purpose specified.

7. The combination, in a gathering and binding mechanism for a reaper, of the following elements, to wit: A series of rake-fingers for gathering the cut grain, a revolving sheaf-gatherer for taking the sheaves from the rake-fingers, a revolving sheaf-holder for receiving the sheaves, holding them while being tied up and discharging them to the ground, and a binding-apron operated by the binder's foot and serving to control the movements of the sheaf-holder, the several parts being arranged substantially as is herein described.

8. The pivoted lever *q*, and link *s* with treadle-bar *t*, in combination with the hinged binding-apron A, the several parts being arranged and operating substantially as and for the purpose specified.

121,062.—SMOKE-STACK FOR ENGINES, &c. Thomas B. Phoebus, Memphis, Tenn, assignor of one-half his right to John F. Titus, same place.

Claim.—1. The combination of the stack, the deflector, the guide-rods, and the adjusting lever, substantially as described, so that the deflector may be easily and quickly adjusted, for the purpose specified.

2. The combination of the stack, the deflector, the enlarged drum, and its narrow throat, these members being constructed to operate in combination, substantially as hereinbefore set forth.

121,063. — ROOFING. — Osborne J. Pierce, Worcester, Mass.

Claim.—1. The method of laying slate and other roofing material herein described by the employment of pieces A so formed and laid in courses as to cover the joints and leave the central portion of each slate or piece exposed, the slates or pieces in each course being arranged with spaces between them laterally, substantially as and for the purposes set forth.

2. The combination, with the larger pieces A, formed as shown and described, of the auxiliary pieces B, substantially as and for the purposes set forth.

121,064. — STEAM-ENGINE. — Edward H. Rees, Mansfield, Ohio.

Claim.—1. The hollow cylindrical rotating valve F provided with a solid head, *e*, longitudinal exhaust-recess *f*, and one or more ports, *g*, constructed, arranged, and operating within the valve-chest E, against the bonnet *i* thereof, with relation to the steam and exhaust-ports of a steam-engine, substantially as described.

2. The combination, in a trunk-engine, of the two cylinders A and A' having the exhaust-belt *a* between them, and the steam-valve F, the several parts being constructed and arranged as described and shown, for the purposes set forth.

3. The construction and arrangement of the cylinders A A', passages *a a' d*, piston B, trunk C, cylindrical steam-chest E, hollow cylindrical valve F provided with head *e*, exhaust-recess *f*, and port *g*, the spindle G, curved arm H, and set-screw I, substantially as and for the purposes set forth.

121,065.—WINE-FILTER.—August F. Schmidt, Davenport, Iowa.

Claim.—1. The projecting ring *b* on the bottom of the vat *a*, substantially as and for the purpose hereinbefore set forth.

2. The application of the compressing screws *t t t t* from the top of the filter, substantially as and for the purpose hereinbefore set forth.

121,066, antedated November 2, 1871.—TONIC AND DIATONIC MUTATION SCALES. James H. Scott, Kickapoo, Ill.

Claim.—1. The bars B C, with notches *a a* to facilitate the removal and adjustment bars *h i j k*, &c., in combination with the musical staff A, substantially as and for the purpose set forth.

2. The bar B, provided with spring *d* for retaining hinged strip D over the bars *h i j k*, &c., when adjusted in the proper notches *a a*, in combination with the musical staff A, substantially as and for the purpose set forth.

121,067.—PERCH FOR FOWLS.—Lewis Thayer Stetson, Randolph, Mass.

Claim.—A fowl-roost, as constructed with the jointed uprights *b b*, water-cups *c c*, detachable cross-bar *g* with its poisonous cloth A and bar *f*, in the manner and for the purpose as herein set forth.

121,068.—EARTH-CLOSET.—Robert R. Strain, San Francisco, Cal.

Claim.—1. In combination with the hopper B, the sliding receptacle, consisting of the plate *l* and hinged jaws *o p*, arranged and operated substantially as and for the purpose above described.

2. The sliding plate *l* with the hinged jaws *o p*, in combination with the levers *t*, bell-cranks *t*, spring *w*, and roller *u*, substantially as and for the purpose above described.

3. The hinged jaws *o p*, having their sides united by a pin and slot when the rear edge of the lower jaw is curved downward, in combination with the roller *u*, bell-crank *t*, and spring *w*, substantially as and for the purpose above described.

4. An automatic device for supplying a quantity of earth in earth-closets, consisting of the slotted board E, slotted side plates A, sliding plate *l*, jaws *o p*, roller *u*, bell-cranks *t*, levers *t*, and spring *w*, the whole constructed and arranged to operate substantially as and for the purpose above described.

121,069.—BLACKING-BOX.—Albert M. Utley, Watertown, N. Y.

Claim.—A blacking-box, composed of a blacking-box proper, (with or without a handle, removable or not, as preferred,) and a hinged cover having

a water-receptacle on its under side, and arranged for operation, substantially as shown and described.

121,070. — School-Desk and Seat. — Wiley Watson, Visalia, Cal.

Claim.—1. The platform A, in combination with the adjustable desk F and adjustable seat B, substantially as and for the purpose above described.

2. The desk F, having the legs G G, provided with the tongue K and pawl f, in combination with the grooved posts or standards C with their racks E, substantially as and for the purpose above described.

3. The box N and sliding block O, with their pawls q and racks X, in combination with the seat R provided with the single leg or standard, the whole combined so as to form a revolving seat, adjustable in height, substantially as and for the purpose above described.

4. The adjustable revolving seat above described and claimed, provided with the strap X', in combination with the slotted platform A and pin W', substantially as and for the purpose above described.

121,071.—Tea-Kettle.—Abraham F. Wolf, Beaver Falls, Pa.

Claim.—A concave lid for tea-kettles, constructed as herein described, and for the purpose set forth.

121,072, antedated November 13, 1871.—Tuyere. — Alfred M. Worthing, Reno, Nev.

Claim.—The box A, having a sliding bottom, B, and provided with the parallel slots d on its upper surface, in combination with the adjustable slides g and water-pipe i, substantially as and for the purpose above described.

121,073. — Fire-Place Fender. — Charles C. Algeo, Pittsburg, Pa.

Claim.—The fender, provided with the flange B having holes for the caster-spindles, also with the cavities D above the holes, and the caster-spindles fitted in the said holes and cavities and secured by pins G, all substantially as specified.

121,074.—Boring-Machine.—Frank S. Allen and Charles F. Ritchal, New York, N. Y.

Claim.—1. The combination of the sliding frame F that carries the pulley E and crank-wheels G I, the sliding plate or frame L that supports the forward parts of the cranks K and their attached nuts P with the frame A, swiveled screw Q, stationary guide-plate N that guides the boring-tools, and stationary rest O that holds the work, substantially as herein shown and described, and for the purpose set forth.

2. The boring-tools M, made elastic, and arranged in the guide-frames or plates L N so as to converge, as shown and described, for the purpose specified.

121,075. — Railway Car-Wheel.—Albert G. Barrett, Barrett, Kan.

Claim.—1. A car-wheel having a hub suspended from the rim by means of elastic spokes, substantially as described.

2. A wheel provided with a polygonal strengthening-girdle, as described.

121,076.—Carriage-Curtain Fastener.—Henry M. Bidwell, New Haven, Conn., assignor to himself and Stillman Moore, same place.

Claim.—As an article of manufacture, the herein-described fastening for carriage-curtain, consisting of the two jaws C D, constructed and applied to close onto the neck of the knob, in the manner substantially as described.

121,077. — Hammer-Flange Butt of Piano Actions.—Dominic L. Bollermann, Mount Vernon, assignor to Jesse J. Davis, Brooklyn, N. Y.

Claim.—1. The extended metallic arched spring I, arranged between the parts A and B of the hinge-butt, and adapted to serve relatively thereto and to the screw E and hammer H, substantially in the manner and for the purposes herein set forth.

2. The chamber J, recessed between the parts A and B, arranged as shown relatively to the spring I, and adapted to serve therewith and with the adjusting-screw E and hammer H, as and for the purposes specified.

121,078, antedated September 7, 1871.—Tire-Machine. — William Bowden, White's Corners, assignor to Richard Bowden, Hamburg, N. Y.; said Richard Bowden assignor of one-half his right to George Abbott, same place.

Claim. — The arrangement of the hollow bed-plate A, movable clamp-blocks B B', following-block or blocks F, hook-heads c c', and cams D b b', the whole constructed as described, and operating conjointly in the manner and for the purpose specified.

121,079. — Steam-Generator. — Alvan D. Brock, Washington, D. C.

Claim.—The steam-generator B, composed of a series or coil of tubes, connected with the steam and water reservoir A, the outlets C C of said generator entering said reservoir near its water-level, substantially as and for the purpose set forth.

121,080. — Chair-Seat Frame. — Henry Buchter, Louisville, Ky.

Claim.—The piece E, constructed as described, and applied in the manner and for the purpose set forth.

121,081. — Lifting-Jack.—Walter S. Burgin, Washington, Vt.

Claim.—The combination of the handle D, link e, and lever C with the sliding elevator B and supporting case A, all arranged to constitute a jack, as specified.

121,082.—Asphalt Pavement.—Cornelius Burlew, Washington, D. C.

Claim.—A concrete composition for pavements and floors, composed of equal parts of sand, gravel, coal-ashes, pulverized stone, and marl, combined with about five per cent. of hydraulic cement, and saturated with the within-described solution of roofers' pitch, coal-tar, gum asphaltum, and nitrous acid.

121,083.—Wrench.—Luke Chapman, Collinsville, Conn.

Claim.—1. The method of manufacturing a monkey-wrench by slipping the movable jaw B upon the shank A and then welding the step d onto said shank, as set forth.

2. The washer f, interposed between the step d and screw C for retaining the upper end of said screw in the movable jaw, as specified.

3. The lip h on the ferrule d, applied under the step d for retaining the pin g in place, as specified.

121,084. — Drawing-Knife. — Thomas M. Clarke, Winsted, Conn.

Claim.—As an article of manufacture, a drawing-knife in which the blade is formed from thin metal corrugated longitudinally, substantially as set forth.

121,085.—Fanning-Mill.—Daniel Collins, Zanesfield, Ohio.

Claim.—1. The arrangement of trough A in relation to plate H and suction-tube f, as and for the purpose specified.

2. The vibrating and perforated plate E and the fixed plate H, combined as described with trough A, tube f, and screen F, for the purpose specified.

121,086.—Dump-Cart.—George L. Collins, Trenton, N. J.

Claim.—The strap or bar C, spring D, and reversed catches e e, when arranged and constructed as described, substantially as and for the purpose herein set forth.

121,087. — Baling-Press. — Joel S. Cook, West Groton, Mass.

Claim.—1. The combination of the windlasses g, chair f, follower e, bottom d, joists h, and chains i, constructed and arranged to operate as specified.

2. The press-box herein described, consisting of the pivoted end pieces a, strips k, braces c, sills b, cross-pieces e, and side-boards m n, constructed as described.

121,088. — Spirit-Level.—Leonard Leroy Davis, Springfield, Mass.

Claim.—The arrangement, in the stock of a spirit-level or plumb recessed as described, of the bubble-case B having the studs b b and axial bearing C, in combination with the holding-plate E, and the bearing D having the eccentric socket d formed therein, the whole constructed and arranged substantially as described.

121,089.—Lamp-Bracket for Sewing-Machines.—Robert S. Dennison, Winsted, Conn.

Claim.—The lamp-bracket H arranged upon the post F, the said post made adjustable in the clamping device B C D, and by means of which clamping device the bracket is secured to the table, substantially as set forth.

121,090.—Binder's Table for Harvesters. — Patrick M. Donohoo, St. Rose, Wis.

Claim.—The combination of frame A, shaft B, platform H, uprights G, disk C, gear D, pinion D', shaft E, and wheel F, substantially as and for the purpose described.

121,091. — Revolving Urn and Spice Stand.—William John Evans, New York, N. Y.

Claim.—1. The foot or pedestal A B C, spice-stand d^1 d^2, perforated hollow cylinder F, ring-plate J, notched plate K, washer M, glass-stand N, and plate O, in combination with each other, substantially as herein shown and described, and for the purpose set forth.

2. The drip-chamber E and hot-air chamber G formed in the revolving spice-stand D, substantially as herein shown and described, and for the purposes set forth.

3. The pipes e^1 e^2 leading from the drip-chamber E, in combination with the revolving spice-stand D, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the base P, washer Q, and urn-stand R T with the flanged plate O, glass-stand N, washer M, plates K J, spice-stand D, and foot A B C, substantially as herein shown and described, and for the purpose set forth.

5. The springs H attached to the drawers and spice-boxes of the revolving spice-stand D, provided with the pins d^2 to keep said drawers and spice-boxes in place in said stand when revolving, substantially as herein shown and described.

121,092.—Skate-Fastening.—Edward Lawson Fenerty, Halifax, Canada.

Claim.—1. The plate A a^1 a^2 a^3 and plate C c^1 c^2, constructed and operating in connection with each other and the skate-iron B, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the lever D with the plate A a^1 a^2 a^3, plate C c^1 c^2, and skate-iron B, substantially as herein shown and described, and for the purpose set forth.

3. The plate E c^1 c^2 and plates F f', constructed and operating in connection with the skate-iron B and heel-fastening A a^1 a^2 a^3 C c^1 c^2 substantially as herein shown and described, and for the purpose set forth.

121,093.—Machine for Boring and Mortising Blind-Slats.—Thomas Flesher, Dunkirk, N. Y.

Claim. — The combination and arrangement of the machine as a whole, consisting of the curved standard B holding vibrating frame e, pivots f f, the mandrel H, also the hanger or arm C supporting shaft D, with slotted crank I, connecting-rod J, and the pulleys E a b j, operating in the manner and for the purpose specified.

121,094.—Rocking Apparatus.—John N. Fowler, New York, N. Y.

Claim.—1. The folding-seats M^1 M^2 on the rocker B, in combination with the stand A, and arranged to operate thereon, as and for the purposes specified.

2. The yoke-piece B^2, formed and arranged as represented, to act on guide-pulleys C^1 C^2, and to serve relatively to the rocker B and seats M^1 M^2, as and for the purposes specified.

3. The spring E and adjustable fastening e, arranged and adapted to operate relatively to the rocker B and seats M^1 M^2, working on the stand A, as specified.

4. The extensible base pieces A^4 A^4 on the rocker-stand A, arranged to serve as represented relatively to the rocker B and seats M^1 M^2, for the purposes specified.

5. The entire combination of the rocker B with its folding-seats M^1 M^2, and yoke B^2 with the stand A, extensible feet A^4, guide-pulleys C^1 C^2, and springs E G, as specified.

121,095. — Windmill. — Hans Heinerich Frank and Peter Hansen, Richton, Ill.

Claim. — 1. The combination of the wheel C, having the side frames d provided with the pivoted blades e attached to its arms c, with the sliding shaft k, weight w, and the intermediate connecting mechanism, when constructed and arranged substantially as and for the purpose set forth.

2. The combination of the wheel D, pinion J, and intermediate connecting mechanism with the cog-teeth L and wheel C, when constructed and arranged to operate substantially as and for the purpose set forth.

121,096. — Key for Sewing-Machine Looms.—Edward L. Gaylord, Bridgeport, Conn.

Claim.—The key A, having two elastic prongs beveled inwardly at the ends thereof, as and for the purpose specified.

121,097. — Stove-Grate. — William A. Greene, Brooklyn, N. Y., assignor to John H. Burtis, same place.

Claim.—In combination with the central cone C having a fluted surface, the correspondingly-serrated collar B, substantially as and for the purpose set forth.

121,098.—Sash-Holder.—John C. Hanna, Rossville, assignor to C. W. Harvey, Tama county, Iowa.

Claim.—The plate c, when hinged to the plate b, and provided with the flange d, or their equivalents, substantially as described.

121,099.—Post-Office Letter-Stamping Apparatus.—Thomas C. Hargrave, Boston, Mass.

Claim.—1. In a post-marking and canceling-machine, having cylinders F F', the endless band E driven by gears C D D' from shaft *b*, and guide-boards *a a*, substantially as described.

2. The reversed printing-cylinder F, *b*, in combination with the movable types *c*, plates *f*, and armed washer R, all constructed, arranged, and operated substantially as and for the purpose set forth.

121,100.—Stud-Fastener.—Adolph Hartmann, New York, N. Y.

Claim.—As an article of manufacture, a double-shanked stud provided with levers B B pivoted to said shanks, and coil-springs *a a* arranged on the pivots of said levers, as shown and described.

121,101.—Cooking-Stove.—Levi Hermance, Lansingburg, N. Y., assignor of one-half his right to Pelatiah J. Marsh, same place.

Claim.—The combination of the back plate A, oven-plate E, and plate I, when constructed as described, with reservoir L, the whole arranged to operate substantially as and for the purpose herein described and set forth.

121,102.—Printing-Telegraph.—Richard Herring, Canonbury, England.

Claim.—1. The combination of levers *f f*' and styles *f*² *f*³, armatures *f*⁴ *f*⁵, and magnets *d d*', substantially as specified.

2. The combination of clamp *e*, composed of stamp *m*, pad *n*, and spring-lever *m*', with the lever of a telegraphic-printing apparatus, substantially as shown and described, for the purpose specified.

3. The combination of clamp *e*, levers *f f*', styles *f*² *f*³, and the disk *l*, connected with its shaft by a spring to allow of intermittent rotary motion, substantially as specified.

4. The combination of the keys *c* and *p* of the sending instrument with the armature *v* of the relay instrument, and levers *f f*', and the connected magnets, as specified.

121,103.—Piston.—William H. Holland, Boston, Mass.

Claim.—1. The beveled segment *l*, formed with a curved back and permanent alternate triangular projections *i k* on the face, in combination with the rings *d d c c*, spring *m*, and piston *a*, substantially as specified.

2. The spring *m*, in combination with the beveled segment *l*, rings *d d c c*, and piston *a*, substantially as specified.

3. The rings *d d c c* arranged with beveled recesses *f f' g h h'*, tongues *c c c c*, and flanges *p p p p*, &c., in combination with beveled segment *l*, spring *m*, and piston *a*, substantially as specified.

4. The combination of the piston *a*, formed with the boxes *b b b b*, with the spring *m*, rings *d d c c*, and beveled segments *l l l l*, substantially as specified.

121,104.—Stove-Pipe Elbow.—George W. Howell, Covington, Ky.

Claim.—1. The parts A B, when constructed as herein described, adapted to packing for shipment, substantially as herein set forth.

2. The parts A B when constructed to form sections of stove-pipe elbows, substantially as herein set forth.

3. The elbow, composed of the parts constructed substantially as herein set forth.

121,105.—Shingle-Machine.—Elisha Hughes, Gowie, Canada, assignor to G. Miller Aylesworth, same place.

Claim.—1. The combination of the saw A, carriage C, and turn-table E, all substantially as specified.

2. An apertured and traveling carriage, C, a vertically-moving turn-table, E, and a bifurcated lever, K, combined, as described, in a bolt-sawing machine, with a stationary saw, as and for the purpose specified.

121,106.—Lining Oil-Barrels.—Merritt G. Huntley, Grand Rapids, Mich., assignor to himself and Harvey Bissell, same place.

Claim.—The herein-described method of rendering barrels or other wooden vessels impervious to oil by separate and successive applications of glue and shellac, substantially in the manner set forth.

121,107.—Adjustable Reel and Cut-off for Harvesters.—John H. Keller, Boalsburg, and Daniel F. Luse, Centre Hall, Pa.

Claim.—1. The connecting-rods K L, moving in different and variable directions, and the pivoted directing-arm M, when arranged on a harvester, in combination with the cut-off arm and reel, which have a simultaneous height and lateral adjustment so as to make the cut-off rod self-adapting in its movements to the adjustments of the reel, substantially as herein specified.

2. The combination of the connecting-rods K L, directing-arm M, cut-off rod G, movable arm D of the reel-support, adjusting-lever N, and ratchet-bar O, arranged and operating together substantially as herein set forth.

3. The combination of the connecting-rods K L, directing-arm M, cut-off rod G, movable arm D, standard C, pulleys Q R and S T, spring V, and endless driving chain, belt, or cord P, as and for the purpose herein set forth.

121,108.—Excavating-Cart.—Jesse King, Oswego, N. Y.

Claim.—1. The horizontal paddle-wheel M, arranged within the upper part of the earth-box, combined with a rotary bucket-carrier discharging the soil over one side of the box, as described.

2. The arrangement of chain Q and pulleys P E S, as and for the purpose specified.

121,109.—Steam-Engine Governor.—Aaron K. Kline, Readington, N. J.

Claim.—1. The combination, with the governor-shaft A provided with pivoted and weighted arms B, and with rod C raised and lowered by said arms, of the gears D D E, when the overlapping wheel E has a beveled face, G, but little more than half way round its inner projecting surface, so that, by turning the said face G, the wheels D and E may be disconnected at pleasure.

2. The combination, with governor-shaft A provided with pivoted and weighted arms B, movable rod C, and wheels D D, of the overlapping wheel E when supported in adjustable bearing K to allow the gears to be moved up, the arc traveled over by the weighted arms to be increased, and the throw of the valve-crank I to be augmented, as specified.

3. The shafts A P, their connecting gear, the pulley on the end of said shaft P, the belt O which passes over said pulley and another pulley driven by the engine, when said shaft P is arranged in open bearings and only held therein by the said belt O, as described, so that when the said belt breaks or runs off the governor will cease to operate.

4. The combination, with governor-shaft A and its driving-shaft P arranged in open bearings, of the loose collar U on said shaft P, the belt S, and the pulley R on the shaft of wheel E, as described, so that when said governor shall cease to operate the said wheel E will be turned to close the valve.

5. The combination, with wheel E, of the spring X, arranged to bear thereon with sufficient friction to prevent the said wheel being carried by its acquired momentum beyond its proper distance, as described.

121,110.—Mechanical Dice Apparatus.—Adolph Klingenburg, Baltimore, Md., assignor to Herman C. Drexel, same place, and D. Lamont, Jr., of Wilmington, Del.

Claim.—The herein described apparatus, consisting of the rotating disks, in combination with the actuating-lever G, mounted in a suitable frame, and arranged to operate substantially as described.

121,111.—Bed-Bottom.—Morris Kohn, Hartford, assignor to himself and Albert L. Munson, New Haven, Conn.

Claim.—A spring bed-bottom composed of longitudinal and transverse spiral springs interlaced, substantially as described.

121,112.—Chair-Seating.—Morris Kohn, Hartford, assignor to himself and Albert L. Munson, New Haven, Conn.

Claim.—The herein-described seating, consisting of strands of wire of the form described, and interlaced substantially in the manner herein set forth.

121,113.—Hoisting-Machine.—Samuel L. Lord, New York, N. Y.

Claim.—A compound machine for hoisting light or heavy weights, consisting of parts F G H I J, when combined to operate in the manner described.

121,114.—Cultivator.—Abram M. Manny, Lena, Ill.

Claim.—1. The combination of the beams E, having bent rods E' pivoted on the under side of the tongues *e* to bolt *d*, vibrating lever D having hook *d*'' at its rear end, segmental supporting-bar D', and chains *b b*, constructed and arranged to operate in the manner described.

2. The arched adjusting-rod G, having auxiliary rod *g*' attached thereto, in combination with the hook *g* on tongue *e*, in the manner and for the purpose described.

3. The combination of the inclined handles H, beams *e*, chains *b*, and vibrating lever D having hook *d*'', constructed in the manner and for the purpose of raising and holding the beams at any point vertically, as described.

121,115.—Cultivator.—Abram M. Manny, Lena, Ill.

Claim.—The rigid frame of the cultivator, composed of the bent pieces C C, cross-girts *c* and *c*', and curved metal part C' bolted at its forward ends to pieces C, and clamped to the upright part of the arched axle B by clamps *a*, in the manner described.

121,116.—Corn-Planter.—Jeremiah Matthews, Lincoln, Ill.

Claim.—The frame H, provided with bar U having a friction-roll on each end, (by which the levers are actuated,) and pivoted to the axle, as and for the purpose specified.

121,117.—Machine for Cutting and Assorting Playing-Cards.—Victor E. Mauger, New York, N. Y.

Claim.—1. The graduated plate E, applied to a cutting-machine to receive on its several steps the pieces, respectively, that are cut from a sheet or strip, as specified.

2. The sliding finger or fingers *e* applied to the graduated plate E for conveying the strips, cards, or pieces deposited thereon from the higher to the lower steps, and thereby arranging them in regular succession one above the other, as specified.

3. The sheets *b b*, combined with the graduated plate E for depositing the pieces that issue from the cutting apparatus upon the steps of the said plate E, respectively, substantially as herein shown and described.

4. The vertically-adjustable receptacle G, applied to the lower end of the graduated plate E, substantially as herein shown and described.

121,118.—Cement, and Appliances for Preparing and Using the Same.—James McKenzie and J. Monroe Stebbins, Philadelphia, Pa.

Claim.—1. The composition of sand, ashes, decarbonized tar, hydraulic cement, and resin in about the proportions and for the purpose specified, and to be called or known as "Paris cement."

2. The portable furnace A, provided with kettle E and tilting smoke-stack H, substantially as and for the purposes described.

3. The portable hand-heater, Fig. 3, composed of furnace F and receptacle Q, combined as and for the purpose specified.

4. A closed chamber or receptacle, B, in combination with the roller D, as and for the purposes specified.

5. The furnace A, provided with compartment B and kettle E, as and for the purpose specified.

6. The portable mill, composed of the jacketed cylinder J, in combination with revolving shaft K, dashers L, and inclined floor O, as and for the purpose specified.

121,119.—Ornamenting and Dressing Glass and Metal Surfaces, &c.—George F. Morse, New York, N. Y.

Claim.—1. One or more hoppers, E, and tubes F, combined, as described, with a suitable receptacle thereunder for the article to be dressed or ornamented, as and for the purpose set forth.

2. A compound formed of coarse particles of corundum and emery intimately mixed and applied, as and for the purpose set forth.

121,120.—Rock-Drilling Apparatus.—Lycurgus Nelson, Smyrna, Tenn.

Claim.—The drilling apparatus, consisting of the frame A, shafts C, D, E, and F, beam G, and lever L, all combined to operate substantially as herein shown and described.

121,121.—Cotton and Hay Press.—John Day Nix, Noble, Ill.

Claim.—1. The combination, with the catch-bars U and cross-bars W, of the friction-rollers X, substantially as specified.

2. The combination, with the catch-bars U and cross-bars W, of the catches Y and Z, substantially as specified.

121,122, antedated November 6, 1871.—Feed-Water Regulator.—Nicholas Nolan, New York, N. Y.

Claim.—The vertical water-chamber C, valve-seated at E, held fixedly within the water of the boiler, and connected with a valve-rod passing therethrough, and also having a float, I, at the upper end thereof adjusted to the water-line of the boiler, for the purpose of automatically feeding water to the boiler, as described.

121,123.—Track-Clearer for Harvesters.—Charles N. Owen, Salem, Ohio.

Claim.—1. In combination with a track-clearer attached to the finger-bar or shoe of a harvester by two pivots, one vertical and the other horizontal, substantially as described, a spring, applied to and acting upon that part of the joint or connection which vibrates in a horizontal plane, as set forth.

2. In combination with a track-clearer attached to the finger-bar or outer shoe of a harvester by a vertical pivot, the coiled spring E, substantially as set forth.

3. In combination with the pivoted clearer C, the spring E and adjustable stop *d*, substantially as set forth.

121,124.—DEVICE FOR SLITTING AND LOOPING RAGS FOR CARPETS.—Leoman C. Palmer, Howard, Pa.

Claim.—1. The blade B provided with the overhanging guard B', in combination with the chambered block A and screw-spindle C, substantially as set forth.

2. In combination with the chambered block and pivoted knife B, the sliding cover A' provided with the notch *a'*, substantially as set forth.

121,125, antedated November 4, 1871.—WINDMILL.—Lewis Patric, Springfield, Ohio.

Claim.—1. In combination with the weight, wind-wheel, and friction-stop, the trigger K and connecting devices, operating substantially as set forth to stop the wind-wheel, as described.

2. In combination with the pawls H H, the sliding bar D^1, operated substantially as set forth to raise the pawls and permit a reverse motion of the ratchet-wheel G, as described.

3. The combination of pawls H H *g* and operating devices, substantially as set forth, with ratchet-wheel G, whereby, after the power has been communicated by the action of the wind, it (the power) may be either stored or immediately expended by the automatic action of the mechanism.

4. In combination with the weight, wind-wheel, and friction-stop, the trigger K' and connecting devices, substantially as described, whereby the wind-wheel is set in motion when the accumulated power has been expended, as described.

5. The combination of wings E', links *e*, disks F F^1 F^2, and movable shaft D, substantially as set forth.

121,126, antedated November 20, 1871.—COFFEE-POT.—James Willard Patterson, New York, N. Y., assignor to John Ashcroft and Sarah Ellen Patterson, same place.

Claim.—1. The combination of an open removable bottom or steam-generator, G, with a jacket having an open bottom, *i*, a surrounding chamber, *b*, communicating with said generator, and a suspended pot, *a*, as and for the purpose described.

2. The perforated collar *e* for suspending the inner pot, and forming a communication of the top chamber *d* with the surrounding chamber *b* and the steam-generator, as described.

3. In a coffee-pot having a separate removable bottom or steam-generator and a jacket with an open bottom, the water-joint A *i* to seal the steam-generator with the jacket and form a closed chamber therewith, as described.

4. The combination of the removable bottom or steam-generator G, the jacket, the sealing-joint A *i*, the inner suspended vessel *a*, perforated collar *e* with the upper chamber and closed covers *c* and *d*, the several parts being constructed and arranged as described.

121,127.—CLOTHES-DRIER AND IRONING-BOARD.—Martin Power, Chicago, Ill., assignor to himself and Henry McLaughlin, same place.

Claim.—1. The combination of the folding-board A, folding-legs H, flat-iron rack F, and disk B, for supporting arms J, as set forth.

2. The combination of the upper disk *d* for supporting arms I, standard C, disk B, ironing-board A, folding-legs H, and flat-iron rack F, as shown and described.

121,128.—MODE OF PRODUCING DESIGNS FOR KNIT AND WOVEN FABRICS.—Isaac Rehn, Washington, D. C.

Claim.—1. The combination of photographic delineations and a determined scale in the origination of designs from which to manufacture ornamented fabrics, as set forth.

2. The process described for producing designs from which to manufacture ornamented fabrics.

121,129.—ROAD-DRESSER.—Samuel D. Reynolds, Rochelle, Ill.

Claim.—1. The combination, in a road-dresser, of inclined timbers B and plates C, attached and operated together in the manner and for the purpose specified.

2. The scraper-platform A having keeper G, combined, as described, with the roller-platform frame E, hinged to the middle thereof, to enable the roller to be adjusted at different angles.

3. The combination of the roller and scraper-frames, when the former projects over and is attached near the middle of the latter, as described, to enable the driver to bring his weight to bear in the manner and for the purpose specified.

121,130.—MANUFACTURE OF PAPER-PULP FROM STRAW, &c.—Julius A. Rothe, Philadelphia, Pa., assignor to Simon J. Stine, Lebanon, Pa.

Claim.—The process herein described for treating fibrous material in the manufacture of paper-pulp, the same consisting in boiling the material in water or in a solution of sal soda, and then treat with ammonia, as set forth.

121,131.—LET-OFF MECHANISM FOR LOOMS.—Charles Schilling, Auburn, N. Y.

Claim.—The levers A, weights B, crossed cords C, pulleys H I, friction-straps C, pinions K, toothed bar L, lever M having arm Q and weight P, all arranged and operating in the manner described, thus preventing the levers from bounding and the band that leads from lever to yarn-reel from slipping on its pulleys.

121,132.—LIFE-PRESERVER.—Thomas R. Scott, New York, N. Y., assignor to Mary A. Scott, West Hoboken, N. J.; said Mary A. Scott assignor to herself and Adaline M. Ingersoll, Brooklyn, N. Y.

Claim.—The cork life-preserver with openings in the covering so that the cork can be examined, as set forth.

121,133.—HAY AND COTTON PRESS.—John J. Sivley, Clarksville, Tex.

Claim.—In combination with a racked-follower, C L, and lever M, a pawl, P, when connected with said lever by a cord, Q, as and for the purpose specified.

121,134.—DEVICE FOR FILLING BARRELS.—Frederick Stitzel, Louisville, Ky.

Claim.—1. The combination of the cylinder J K, washer L, hollow stem M, rod P, and nut *s*, the float V, pawl T, lug U, trigger-lever S *a*, partition R, and rod Q, all arranged within the casing B H I N N, and operating substantially as herein described.

2. The combination of the cock A B, connecting-pipe D, bolts and nuts F, and cross-bars E with the casing B H I N N having openings Y Y and perforations W W, the cylinder J K, washer L, hollow stem M, rod P, and nuts *s*, the float V, pawl T, lug U, trigger-lever S *a*, partition R, and rod Q, all arranged and operating substantially as herein described.

121,135.—CLOTHES-LINE REEL.—Charles H. Staffin, Boston, Mass.

Claim.—The clothes-line reel when constructed as set forth, consisting of the frame B provided with the dovetail D and friction-plate N, and holding the bobbin A, substantially as described, and for the purpose set forth.

121,136.—COMBINED WASHER AND BOILER.—George C. Taylor and John B. Crisman, Port Jervis, N. Y.

Claim.—1. The holder I J K L, constructed substantially as herein shown and described, in combination with the box or water-chamber A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the detachable rack H with the holder I J K L, substantially as herein shown and described, and for the purpose set forth.

3. The water-chamber or box A, legs B, flange *e*, double-walled cylinder C, pipes D E, ash-chamber F, and grate G, constructed and arranged, in connection with each other, substantially as herein shown and described, and for the purpose set forth.

121,137.—WATER-WHEEL.—De Witt C. Teller, Fort Plains, N. Y.

Claim.—1. The combination, with flanges I, of swiveled screws J, short cranks K, frame L, shaft M, and lever N, as a means of adjusting vertically the gate of a turbine-wheel.

2. The combination, with notched flanges I, of the gate and notched flange B, of guide-boards O, arranged in said notches at a tangent to a circle larger than but concentric with the wheel, and so as not to overlap each other, whereby the water is allowed a free passage to and from the wheel and temporary obtructions readily removed.

3. The arrangement of the packing P, in connection with the grooved or channeled case A and gate H, to adapt it to be held out against the said gate H by the pressure of the water, substantially as herein shown and described, and for the purpose set forth.

121,138.—SASH-HOLDER.—Charles T. Tessier, New York, N. Y.

Claim.—1. A sash-fastener comprising the sliding bolt C, elastic roller H, shifting plate L, elbow-lever F, and a spring, G, all combined substantially as specified.

2. A sash-fastener comprising the elastic roller H, shifting plate L, and an elbow-lever, F, all substantially as specified.

121,139.—SHEET-METAL CAN.—Lancaster Thomas, Philadelphia, Pa., assignor of one-half his right to Joshua Pusey, same place.

Claim.—As a new article of manufacture and trade, a sheet-metal can, constructed as herein specified.

121,140.—RAILWAY CAR-BRAKE.—Israel Townsend, Capeville, Va.

Claim.—The combination of the auxiliary shoe B and rod E for actuating the brake when the shoe B is hinged to the common brake-shoe A, substantially as herein described.

121,141, antedated November 17, 1871.—PRESERVING WOOD.—James Grover Voorhees, Aqueduct Mills, N. J.

Claim.—A tank or building for preserving wood, constructed with double walls G H, which are lined with roofing-felt or its equivalent in the intervening space, and packed with earth and asphaltum, substantially as set forth.

121,142, antedated November 4, 1871.—DOOR-LOCK.—Nelson Warren, Wilmington, Del.

Claim.—The tumbler G, constructed as shown and described, in combination with the rests 1 and 2, so that either end may be lifted while the other remains comparatively at rest, as set forth.

121,143.—STONE-CRUSHER.—Peter Wood, Jersey City, N. J.

Claim.—1. The jaw F, having recess for the face-plate beveled at *f*, combined, as described, with a beveled strip, L, and bolts *m* to embody a new mode of attaching the face-plate to the jaw.

2. The back-grooved face-plate I and front-grooved jaw F, combined with the soft-metal filling cast therein, as and for the purpose specified.

121,144.—SAWING-MACHINE.—William M. Wright, Galesburg, Ill.

Claim.—1. The vertical saw-sash B, having a vertical slot, in combination with the adjustable saw-sash C, vertical slot *k*, and adjustable fastening *i*, substantially as and for the purposes described.

2. The combination of the sash B and C with the saw D and its blocks *l l*, substantially as and for the purposes described.

3. The saw D, when constructed with the blocks *l l*, the slot *m*, the slide *n*, pivoted socket *q*, in combination with the spring *s* and feed-frame E with its pivot *a* and cross-bar *f s e*, substantially as described.

4. In combination with the sash B, the oscillating bar *b*, slides *d d*, pitman-rod *c'*, and frame A, substantially as and for the purposes set forth.

121,145.—RAILWAY CAR-SEATS.—James M. Allen, Washington, D. C.

Claim.—1. The head-rests F, of the described construction, hinged and arranged so that when folded they will form a supplementary front to the back and allow either to be unfolded while the other lies flush with and forms a part of said back, as described.

2. A hinged head-rest frame, made of elastic bars *e* and wire filling *f f* to admit of being bent to conform to the curve of the back or to be bulged out to either side, whether said head-rests be folded or unfolded upon their hinges, as described.

121,146.—MANUFACTURE OF PAINT.—Damon R. Averill, New Centreville, N. Y.

Claim.—1. A process for combining the materials to form a paint, consisting in wetting the base or body with a solution of a metallic salt, and then combining the wet material with oil or its oleaginous equivalent to form a paint, substantially as described.

2. The herein-described compound, when composed of the ingredients and combined in the order and manner set forth, for the purpose specified.

121,147.—MANUFACTURE OF PAINT.—Damon R. Averill, New Centreville, N. Y., and Josiah Browning, Newburg, Ohio.

Claim.—The addition of water to pigments and oil in the order and in about the proportions, substantially as described, and for the purpose set forth.

121,148.—BUCKET FOR CHAIN-PUMPS.—Aaron Bauman, Toledo, Ohio.

Claim.—1. The bucket A, having a central hollow screw or tube, B, swiveling it to the link C, substantially as set forth.

2. The combination of the hollow screw B, loop D, plates *a*, rubber *b*, and link C, substantially as and for the purpose specified.

121,149.—MACHINIST'S VISE.—Jonas D. Beck, Liberty, Pa.

Claim.—1. The jaw D' having the chambers D'', in which are the dogs *d'* and key *e*, as and for the purpose specified.

2. The pin L, spring L', key *m*, and rod M, in combination with the jaw G and bar A, as and for the purpose set forth.

3. The friction-plate A, in combination with the laterally-adjustable jaw G, screw B, nut H, and bar A, as described.

121,150.—CAR-BRAKE.—John Frederick Brede, Memphis, Tenn.

Claim.—The combination of the inclined screw D, collar *a*, box *b*, brake-bar G, shoes *e*, guide-rods *d*, and spring *f*, constructed and arranged substantially as and for the purpose specified.

121,151. — METHOD AND APPARATUS FOR CASTING PIPES.—Anthony T. Brodie, Robert R. Smith, and John T. Tyler, Pittsburg, Pa.

Claim.—The method of casting pipe by means of a metallic mold made in two sections, which are hinged together by lugs B, pivoted and secured to the walls of the mold-pit through the medium of lugs C and pintle D, and combining with said sections and a metallic core a sand-ring, E, for the purpose of forming a pouring gate or gates, substantially as hereinbefore described.

121,152, antedated November 9, 1871. — COMPOSITION-STOPPER FOR VESSELS.—Morgan W. Brown, New York, N. Y.

Claim.—1. A chemically-prepared stopper, made of glycerine and glue mixed, with or without an alkali, substantially as described.

2. A cork stopper coated with a composition of glycerine and glue mixed, with or without an alkali, substantially as set forth.

121,153.—PLOW.—Luther E. Burdin, Lexington, Ky.

Claim.—1. The combination of the double beam D D, suitably connected at its forward ends, clamps E E′, handles G G′, standard C, mold-board A, and land-side B, all constructed substantially as set forth.

2. The combination of the double beam D D with guide *d*, draft-rod J, standard C, clevis H, and pivoted hooks *a a*, all substantially as set forth.

121,154.—MILK-CAN. — Durnant Burnett, Bedford Station, assignor to H. W. Shepard and Robert Seaman, New York city, N. Y.

Claim.—As a new article of manufacture, the arched plate C, outside collar C′, and cylindrical hoop D encircling the cylinder, all so formed together out of a single piece of metal as to produce a seamless breast for milk-cans, substantially as described.

121,155.—MILK-SAFE.—James W. Case, Ypsilanti, Mich., assignor of one-half his right to John Gilbert, same place.

Claim.—The combination of the octagon safe A, central post B, shelves C, D, E, G, and H, rollers I I, and portable shelf J, all constructed and arranged substantially as shown and described, and for the purposes herein set forth.

121,156.—BOX.—Joseph Cohn, New York, N. Y.

Claim.—The arrangement of the metallic corner pieces provided with spurs *d*, in combination with the several parts constituting a box, said parts being perforated for the reception of the spurs *d*, substantially in the manner herein shown and described.

121,157.—LAND-ROLLER.—John Cole, Fredericksburg, Iowa.

Claim.—The combination of the frames A and B B, bars E E, and rods G G and H H, and the rollers C D D, constructed and arranged as described, and for the purposes herein set forth.

121,158.—RAILWAY SWITCH.—Charles Lee Cooke, Shortsville, N. Y.

Claim.—The combination and arrangement of the wheel-flange supporter B formed of wood and plate-iron, fitted to the section rail C and the main rail A, and guard-rails *a a b b*, also made of sections of rails, all in the manner and for the purpose herein described.

121,159.—HORSE HAY-RAKE. — Lucian A. Crockett, Wythe county, Va.

Claim.—An improved horse side-rake, consisting of the runners B, frame J, arms I, rake K L, handle F pivoted in bracket H, lever D, and connections E M, all arranged as and for the purpose described.

121,160.—DRAIN-PIPE MACHINE.—Albert J. Davis, Newark, N. J.

Claim.—1. The arrangement, herein shown, of the screw B, revolving clamp-nut D E, box C, and bevel-gear G, as and for the purpose described.

2. The arrangement, herein shown, of the hollow screw B, shaft J, clamp-nut D E, box C, and bevel-gear G, as and for the purpose set forth.

3. The combination of the hollow screw B, shaft J, box C, friction-collar and rollers, and gear G, constructed and arranged to operate as set forth.

4. The combination of the hollow screw B, shaft J, piston N provided with valve O, case M, and die L, when constructed and operating as and for the purpose set forth.

121,161. — LOOM.—Henry G. Davis, Worcester, Mass.

Claim.—1. The combination, with the crank-shaft B B′ and lay C C′, of the double connecting-arms E H and swinging staffs F, substantially as and for the purposes set forth.

2. The combination, with the connecting-arms E and H, of the adjustable staffs F and adjustable studs G, substantially as and for the purposes set forth.

3. The combination, with the crank-shaft B and frame A, of the rectangular bearing-box D and set-screw K, substantially as and for the purposes set forth.

4. The combination, with the hand-rail N, of the shuttle-guard, composed of the obliquely-hinged arms M and cord L, substantially as shown and described.

121,162.—TREATING FATTY MATTERS.—Leó Louis Aimé Elie Picot de la Peyrouse, Paris, France.

Claim.—1. The employment of mixtures of alkaline carbonates, (monocarbonates, sesquicarbonates, bicarbonates,) of oxides of sodium, potassium, or ammonium, with some alkaline or earthy chlorides, such as chlorides of sodium, potassium, magnesium, aluminium, dissolved and put in contact by ebullition with the fatty matters which it is proposed to melt or purify, in manner substantially as herein described, and thereby to effect the melting and treating of fatty matters without the use of acids or the production of greaves, while at the same time the fatty matters separated from their membranes and so treated are neutral and inoxidizable.

2. As a new article of manufacture, fats treated as above described, adapting them for use for culinary purposes in lieu of butter, lard, and raw suet, and to envelop fresh meat and other animal and vegetable substances for the purpose of preserving them, in manner substantially as herein described.

3. The manufacture, with the alimentary fats treated according to my invention, of solid or concrete soups by the mixture of such fats with flour of peas, beans, lentils, and other farinaceous substances, and fecula, and with dry meat or with fresh vegetables, in manner substantially as herein described.

121,163.—PROPELLER FOR VESSELS.—Lewis de Lill, Phœnix, N. Y.

Claim.—The hub and arms E *e*, with buckets D D hinged thereto, and coupled together with links *f f* and ring *o*, oblique bearing C, and cam *m*, all constructed and operating substantially as and for the purpose described.

121,164.—COOKING APPARATUS.—Nicholas Gorgen, Buffalo, N. Y.

Claim.—The construction and arrangement of the stove, consisting of the central fire-cylinder C, the partitions *b b b b*, forming the cooking chambers *a a′ a″ a‴*, or their equivalents, the removable

dome or cover B or its equivalent, and the pipe E, in combination with the outer case A and pipe D, substantially as hereinbefore specified.

121,165. — LAMP-POST.—Lyman A. Gonch, Yonkers, N. Y.

Claim.—The combination of the upper internal flange *b* and lower internal flange *c* of different diameters, formed in the upper portion of the base part A of the post, with the tapering stem *d* of the upper part B of the post arranged to fit within said flanges, substantially as specified.

121,166. — PROCESS AND APPARATUS FOR THE MANUFACTURE OF ROOFING, FLOORING, PIPES, &c. — James Kent Griffin, Waterdown, Canada.

Claim.—1. A centrifugal condenser, L, provided with tapering ends or necks, for the purpose of receiving and intermixing wood or other fiber, substantially as set forth.

2. A centrifugal condenser for receiving and intermixing wood or other fiber, in combination with holding, drawing, and pressing rollers, substantially as set forth.

3. A centrifugal condenser, L, in combination with one or more band-saws, D, and a conductor, K, operating as set forth, for the purpose specified.

4. One or more band-saws, arranged as described, in combination with the revolving table G and centrifugal condenser L, substantially as set forth.

5. Rope produced from wood fiber, as an article of manufacture.

6. The screw-core N, made hollow for the passage of blasts or currents of cold air or water to regulate the heat produced in the manufacture of wood or other fibrous pipe.

7. The loose thimble, arranged upon the screw-core N, for the purpose specified.

8. A hollow conical-shaped pressing-and-forming cylinder, O, having internal spiral corrugations or ribs, substantially as and for the purpose set forth.

9. The combination of the screw-core N and conical-shaped pressing-and-forming cylinder O, arranged and operating substantially as set forth.

10. A stationary or revolving knife, cutter, or saw, R, for dividing pipe produced from wood or other fibrous material, when operating in connection with a core, N, and cylinder O.

11. The funnel Y and plunger Z, constructed and operating as and for the purpose set forth.

12. The rubber packing, or its equivalent, arranged upon the sides of the saws.

13. The gear C^1 for operating the screw-core, in combination with the gear C^2 for operating the pressing-and-forming cylinder.

14. One or more band-saws mounted upon pulleys C C, arranged for cutting fiber lengthwise from logs, substantially as herein shown and described, and for the purpose set forth.

15. Fiber-stone, produced by intermixing the fiber of wood, manufactured as described, with pulverized artificial or natural stone, mineral, or cement with an adhesive compound, or their equivalents, substantially as and for the purposes set forth.

121,167.—CLOTHES-LINE HOLDER.—Joseph B. Habecker, Newport, Pa.

Claim.—The combination of the posts A, guides B, bars C, the spring-bolts G or their equivalents, holes *a* with their grooves, and the handles *b*, all constructed and arranged to operate substantially as and for the purposes herein set forth.

121,168. — MILK-CAN HANDLE.—John W. Hannan, Elyria, Ohio.

Claim.—The herein-described can-handle, consisting of the plate A, hook-eye B, handle-ing C, extension *b*, and stop *c*, all cast in one piece for the reception of the hinged handle D, as a new article of manufacture.

121,169. — SPRING BED-BOTTOM. — Hanson Hard, Akron, Ohio.

Claim.—1 The bars B, Fig. 4, made each of two pieces, overlapping, with their dowels and corresponding countersinks E, substantially as and for the purpose hereinbefore expressed.

2. The combination of the bars A and B, the rods C, loops D D *d*, the dowels and corresponding counterSinks E, springs F in number and arrangement, and hooks G, substantially as and for the purpose as before represented and set forth.

3. The combination of the bars A and B, the rods C, loops D D *d*, and dowels and corresponding counterSinks E, springs F in number and arrangement, hooks G, links I with or without indentations H, substantially as and for the purpose heretofore described.

121,170, antedated November 6, 1871.—GAS-HEATER.—David Greene Haskins, Cambridge, Mass.

Claim.—1. The outside cap or chimney N, flattened at the mouth, with perforated or closed sides, when used as and for the purpose specified.

2. The perforated metal casing or cylinder D, in combination with a perforated metal or incised baked-clay cap E or, their equivalents, and outside perforated or closed chimney N, substantially as and for the purpose set forth.

3. The tube S, when used in combination with the cylinder D, cap E, and outside chimney N, as and for the purpose described.

4. The combination of the apertured sockets A, the perforated frustum C, the cylinder D, the cap E, and outer chimney N, substantially as described.

121,171.—SHOW-CASE FOR WATCHES.—Isaac S. Huckins, Wenona, Mich.

Claim.—1. The combination of the frame A, plate-glass B, glass door C, and interior removable sash D with plate-glass E, the plates B and E being provided with suitable hooks, substantially as and for the purposes herein set forth.

2. A glass plate for a show-case, provided with small holes through which is passed a metallic single or double hook, *a*, having a head or flange, *b*, and secured by a flanged nut, *d*, all as shown and described.

121,172.—MACHINE FOR MAKING AXES.—Henry H. Parsons, Hoosick Falls, N. Y., administrator of the estate of Edwin F. Hurd, deceased.

Claim.—1. In combination with the carrier G and bed E, the arms H and K, the first for driving the punch through the ax-blank and the other for releasing the blank from the punch, as described.

2. In combination with the carrier G and support E′, the scoring or slotting-cutter *f*, as and for the purpose described.

3. The arrangement upon the same bed and frame, and with a single carrier, G, of a series of anvil and of drop-dies, so that an operator on each side of the machine may at one and the same time put an ax-blank under the several successive operations to form it into an ax without interfering with each other, as described.

121,173. — ELECTRO-MAGNETIC ENGINE.—Solomon Jones, New Orleans, La.

Claim.—1. The forked or V-shaped armatures C C, when arranged so as to operate substantially as described.

2. The current-breaker arms E E and rod or wire E^2, when arranged in connection with the bar D having plates *d d* attached, substantially as described.

3. The vertical lever C and current-breaker arms E E, when the same are so combined and arranged as to operate substantially as described.

121,174.—VULCANIZING RUBBER FOR DENTAL-PLATES, &c. — Cyrus M. Kelsey, Mount Vernon, Ohio.

Claim.—1. An improvement in the method and manner of vulcanizing India rubber, the use of a

sand-bath, combined with a flask, in the manner heretofore and herein substantially set forth.

2. In combination with a sand-bath and flask for vulcanizing India rubber, the employment of a thermometer, substantially in the manner herein and heretofore set forth.

3. In combination with a sand-bath and flask for vulcanizing India rubber, the employment of tubes or conductors, substantially and especially herein set forth.

4. In combination with a sand-bath and flask for vulcanizing India rubber, the employment of a thermometer and tubes or conductors, substantially and particularly in the manner herein described, including also a reservoir of water, attachable or detachable, combined with a heating apparatus and thermometer.

121,175.—LOCK-NUT.—Salem T. Lamb, New Albany, Ind.

Claim.—In combination with a cast nut, *c d*, a projection or extension, 3, thereon, for the purpose of forming a support for the fastening 4, which passes between the bars thereof, by which said nut is prevented from turning or becoming loose on the bolt, as described and represented.

121,176.—LOCK-NUT.—Salem T. Lamb, New Albany, Ind.

Claim.—The combination of the bolt, nut, cap, and the key, pin, or screw, applied from the exterior, so as to hold the bolt, nut, or cap from turning or becoming loose, one upon the other, substantially as described.

121,177. — SHAFT-TUG FOR HARNESS.—Charles C. Lee, Falls Church, Va.

Claim. — The metallic shaft-tug A constructed with stationary loops D D and tongue E, and provided with friction-rollers B C, as described and shown.

121,178.—SASH-PULLEY.—Antoine Le Page, Woodhaven, N. Y.

Claim.—The combination, with the pulley-case, of the spurs *c c* and oblique or spiral-threaded button D, substantially as and for the purpose herein described.

121,179. — BRICK-KILN.—Thales Lindaley, New York, N. Y.

Claim.—1. The drying-chambers A A and burning-chambers B C D, &c., when placed in juxtaposition and otherwise constructed and arranged, as shown and described.

2. The doors and door-frames to a drying-chamber, provided with ribs and grooves, substantially as and for the purposes set forth.

3. The track draw-bridge with lever w^4, ways w^5, rollers w, cam-roller w^2, and band or chain w^1, in connection with the doors and removable rails, all substantially as and for the purposes described.

4. In combination with a burning-chamber, the furnace *e* with flue-damper *v*, furnace-door g^1, and the tumbler-valve *e*, constructed and operating substantially as described.

5. The combined buttress and cycloidal fuel-bin, the latter being provided with throat-feeding damper, all constructed and operating as indicated.

6. The combination and arrangement herein shown of the fire-chamber, dampers *v*, and co-operating flues, for the purpose set forth.

7. The brick car, shown at A, Sheet 2, provided with shelves divided into two wings, each wing revolving laterally upon vertical stay-rods.

8. In the kiln described, the combination of devices and appliances, as set forth.

9. The traction-truck with curved handle f^1, wheels *w*, and arms *l* provided with the beveled hooks l^1, constructed as shown, and for the purposes set forth.

121,180.—METHOD OF FINISHING CHILLED ROLLS. — George Granville Lobdell and Jarrett Megaw, Wilmington, Del.

Claim.—The within-described process of finishing a chilled roll—that is to say, first turning the body of the roll, then turning the journals while the turned body revolves in bearings, and, finally, grinding the body of the roll while its journals revolve in bearings.

121,181.—GATE. — Washington L. Ludlow, Cleveland, Ohio.

Claim.—The boards *f f*, secured together and confining the pivoted ends of the bars *d d*, and arranged and guided within the weight-cylinder provided with the top and bottom plates *g g*, and operating in connection with the bars *d d*, as herein set forth.

121,182.—TROLLING-SPOON.—John Henry Mann, Syracuse, N. Y.

Claim.—In fishing-tackle, the loose glass washer or bead *d*, applied to the stem A, in combination with the trolling-spoon D, substantially as specified.

121,183.—ARCH FOR LIME-KILNS.—Alexander McBride, Lowell, Mich.

Claim.—In the lime-kiln herein described, the solid partition G, in combination with the perforated arch E, inclined jaws *a a*, and convex grate H, when constructed and arranged substantially as and for the purposes herein set forth.

121,184.—TRAVELER FOR CART AND DRAY SHAFTS.—William B. McClure, Alexandria, Va., assignor of two-thirds his right to John C. Graham and H. O. Claughton, same place.

Claim.—A traveler provided with friction devices, as described.

121,185.—BASE-BURNING FIRE-PLACE HEATER. — William L. McDowell, Philadelphia, Pa.

Claim.—1. A movable top or crown, A, constructed and applied to a fire-place stove, substantially as and for the purposes hereinbefore set forth.

2. The two pairs of shield-plates E E, constructed as described, in combination with the two respective upper and lower continuous grooves 5 5 and 6 6, and arranged to operate therein in relation to the illuminating plates D D, as and for the purposes hereinbefore set forth and described.

3. The movable, perforated, or skeleton screen-plates H H H, having tenons h'' h'' projecting from their respective lower edges to correspond with the respective mortises h''' h''' in the front part of the bottom plate of the hot-air chamber B, and their respective upper edges constructed to slip up into the groove h' of the under side of the top plate of the hot-air chamber B when being applied thereto, all substantially as and for the purposes hereinbefore set forth.

4. The loose-flanged short hollow cylinder f', when constructed and applied to operate in relation to the fuel-cylinder or fire-box of a stove and the top plate of the hot-air chamber or space around the said fuel-cylinder or fire-box, substantially as and for the purposes hereinbefore set forth and described.

121,186.—SEWING-MACHINE. — Lincoln A. Merriam, New York, assignor to himself and Elisha P. Wheeler, Middletown, N. Y.

Claim.—1. The pulley E''', cranks E' and E'', and cams *e e'*, when constructed, as described and shown, to operate the needle-shuttle and feed.

2. The arms C and H, slotted, as described and shown, and arranged to be operated by the cranks E' and E'', and connected and combined with the needle-bar and pivoted shuttle-carrier K, as set forth.

3. The presser-bar F, having the internal spring F''' and one or more feed-rollers F', located as shown.

4. The combination of the above with the feed-dog F, mounted on the adjustable fulcrum-pin G', for the uses set forth.

121,187, antedated November 9, 1871.—CONSTRUCTING AXLES.—James Montgomery, New York, N. Y.

Claim.—As an improvement in the method of manufacturing axles set forth in the patent No. 28,004, granted to me April 24, 1860, for improvements in railroad axles and other shafts, jointly, the mode of and mechanism for welding the ends of the stave-shaped bars together and forming the journals thereon, as herein described.

121,188.—GATE.—James D. Morrison, Richfield, Ill.

Claim.—1. The duplex weight *f f'* to operate a gate, in connection with the curved shoulder *c*, cords *d d'*, and pulleys *a a'* when the weights singly are lighter, and together are heavier, than the end of the gate, as specified.

2. The fixed latch *o* and reversed notch *p*, operating in combination with the slotted upper hinge *m* and the curved shoulder, cords, pulleys, and weights, as and for the purpose specified.

3. In combination with a swinging gate the curved shoulder *c*, cords *d d'*, pulleys *a a'*, equal weights *f f'*, cords *i i'*, and levers *g g'*, substantially as and for the purposes specified.

121,189.—TUYERE-IRON.—John Nelson, Oswego, N. Y., assignor to himself and Robert T. Morrow, same place.

Claim.—The combination, with the hollow ball-valve C having the two series of apertures, and the supporting axle and crank G, of the spring or yield-support E, all constructed and arranged as set forth.

121,190.—STEP-LADDER.—Joseph S. Oakley, Passaic, N. J.

Claim.—1. The stiles A A, grooved longitudinally along their inner sides to receive the panels B B, substantially as herein set forth.

2. The steps D D, having their ends grooved on the upper and lower sides to receive the ends of the panels B B, substantially as herein set forth.

3. The combination of the stiles A A, panels B B, blocks C C, and steps D D, substantially as and for the purposes herein set forth.

4. The boxes E E, constructed and applied as described, with flanges *a a*, substantially as and for the purposes herein set forth.

121,191.—PORTABLE BOOK-HOLDER.—Herman A. Oesterle, Philadelphia Pa.

Claim.—The combination of two bars, A and A', strap B, and a handle, D, hinged to the upper bar, and constructed substantially in the manner described, so as to serve the threefold purpose of a handle, strap-tightener, and strap-retainer.

121,192.—RIDDLE OR SIEVE.—William Page, Epsom, assignor of one-half his right to John Smith, Carshalton, England.

Claim.—1. A riddle, sieve, or screen with a double bottom, or a bottom formed of two perforated plates or sheets, made adjustable in such a manner that the holes or perforations therein are opened or closed by moving one plate upon the other, and provided with a screw or other device for adjusting and retaining them in any required position.

2. A cylindrical screen or sieve consisting of an inner and outer perforated cylinder, fitted together and adjustable with regard to each other, and provided with a screw or other device for adjusting and holding them, as hereinbefore specified, and with or without the interior screw or worm.

121,193.—HOLLOW BUILDING-BLOCK.—Mason R. Pierce, New York, N. Y.

Claim.—1. As a new article of manufacture, a building-block having an unbroken wall around two or more spaces or perforations in the block in such a manner that when one block is placed upon two others a proper "bond" will be obtained and continuous air-flues will be formed without any vertical joint or joints in the wall surrounding the flues, substantially as described.

2. A building-block composed of two or more parallel upright columns, of a cylindrical or other equivalent geometrical shape, connected together at the point where their peripheries meet, substantially as set forth.

3. The combination, with the wall or walls of a hollow brick or building-block, or one containing spaces or perforations as set forth, of plates of metal or other materiel or their equivalent so as to form a channel way or recess for a window or door to slide in, substantially as shown and described.

121,194. — COMBINED WISP AND FLASK.—Louis T. Pyott, Philadelphia, Pa.

Claim.—The combination of a clothes-wisp and flask, substantially as herein shown and described.

121,195.—WATER-WHEEL. — Willis Read, Patterson, N. Y.

Claim.—The combination of the wheel D, having vertical curved buckets *d*, with case A having openings *a*, annular gate B with opening *b*, and projecting chutes *b'*, and arranged to be operated in the manner and for the purpose described.

121,196.—ADVERTISING SHOW-CASE.—William H. Reiff, Philadelphia, Pa.

Claim.—1. The combination of the show-case, a longitudinal roller, *c*, adapted to receive and retain a series of cards, gear and cog-wheels *d d'*, and shaft *h*, all being arranged as specified and operated by a turbine, E, or its equivalent, to impart a continuous rotary motion to the roller, as specified.

2. The combination of the motor E, its shaft and wheel *d'*, pin *y*, gears, and the spindle *r*, pin-wheel *t*, and lever *m*, for regulating the operation of the music-box, as set forth.

121,197.—FLOUR-SIFTER. — Charles Richardson, Philadelphia, Pa.

Claim.—1. The box A provided with the partition B and hopper E, in combination with the crushing-rolls F F, reciprocating sieve *s*, and operating-gear described, or its equivalent, all arranged and operating substantially as and for the purpose set forth.

2. The box H, in combination with the detachable receptacle I, having at the bottom a sieve, *s*, for the purpose specified.

121,198, antedated November 18, 1871.—PHOTOGRAPH-CUTTER. — Stillman W. Robinson, Champaign, Ill.

Claim.—The combination and arrangement of the dull-edged roller A, the shank B C provided with the annular groove, the set-screw E, socket D, and handle F, forming a photograph-trimmer to operate by detrusion or pressure, in combination with the pattern or guide, all as herein shown and described.

121,199.—REVOLVING FIRE-ARM. — Jacob Rupertus, Philadelphia, Pa.

Claim.—1. The combination of the cylinder, notched at its front end, with the locking and releasing devices herein described, or any equivalent to the same.

2. The bolt J, adapted to notches *h* in the front end of the cylinder, acted on by a spring or spring-pin, *m*, and having a combined sliding-and-turning movement upon the supporting-pin *i*, imparted to it by a lug on the hammer, all substantially as specified.

3. The pins *m* and *m'* contained within a recess of the frame and acted on by a single spring, *q*, by which they are forced in opposite directions into

recesses of the bolt J and breech-pin D, all as herein set forth.

121,200.—PLATFORM-SCALES.—Elnathan Sampson, (Amanda A. Sampson, administratrix,) Nassau, assignor to himself, Stephen R. Andres, and Hiram Andres, Troy, N. Y.

Claim.—1. In combination with the beam D, the adjustable yoke or bridge *y*, screw-shaft A^3, and counter-balance, arranged as and for the purpose described and represented.

2. The beam D, so constructed as that its main portion shall vibrate in an inclosed chamber or box and its graduated portion outside thereof, and in a horizontal or inclined position so as to be easily seen and read, as described and represented.

3. In combination with the beam and beam-box E, a series of graduated weights in said box furnished with recesses and projections, by which they may be connected to or detached from the beam at the will of the user, as and for the purpose described.

4. The combination of the long skeleton A-shaped main beam-lever and the skeleton short beam-lever B, with their knife-edge pivots, supported at both ends, and connections, as at *j k l m n*, substantially as described.

5. In combination with the platform C, frame A, and the long and short beam-levers, the friction-blocks *t t'* and shoulders *r* on the platform, the notches *s s* in the frame, and the knife-edge bearings *f f* on the levers, so that the platform may be readily adjusted, removed or replaced, and be held to the frame without actually touching it, as described and represented.

6. The weights formed with the notches x^1 x^2 and the cavity *p'*, and provided with the weight-lever or cam *o'*, in combination with the bridges s^1 s^2 and cross-bar *r'* of the beam, arranged and operating as herein represented and described.

121,201.—BOTTLE-FAUCET.—James Sargent and Lyman F. Munger, Rochester, N. Y.

Claim.—1. In a bottle-faucet the valve-screw C provided with the conical end *d*, when combined with the stem A having the passage *a*, perforations *c c*, and with a seat to correspond with said conical end, as herein described.

2. A bottle-faucet constructed with the passages *a p* extending respectively through the stem of the faucet and the valve-screw without the interposition of other parts, and communicating by the perforations *s s*, the whole arranged as described.

3. The depressed neck *f* of said faucet, sunk below the threads, and having the perforations *c c*, as and for the purpose specified.

4. In a bottle-faucet the conical boring-end *k* of the stem A when cut with screw-threads clear to the point, as and for the purpose specified.

121,202.—AUTOMATIC CHECK-REIN ATTACHMENT.—John Schofield, Worcester, Mass.

Claim.—1. The holding-terret F, provided with a locking-plate, G, substantially as and for the purposes set forth.

2. The hollow-headed check-bar I I^1, substantially as and for the purpose described.

3. The combination, with the saddle A and check-rein B, of the terret F, locking-plate G, check-bar I I^1, spring or elastic cord D, and tripping-cord E, substantially as and for the purposes set forth.

121,203.—WASHING-MACHINE.—Joseph J. Schroyer, Springfield, Ill., assignor of one-half his right to Elijah C. Matheny, same place.

Claim.—1. The combination, with the boiler A, of the rotating cylinder G having transverse openings, corrugated and perforated inner cylinder or casing B, and valves H, substantially as specified.

2. In combination with the boiler A, the perforated bucket C, forming a wall inside the casing B of the cylinder, said wall extending to or nearly to the center of said cylinder, substantially as specified.

3. The combination, with the boiler A, of a rotating cylinder provided with buckets Z and valves H, substantially as specified.

121,204.—CORN-PLANTER.—Levi Scofield, Watertown, Wis., assignor to himself and Justin B. Wait, Farmington, Ill.

Claim.—1. In combination with the adjustable side rods E, the adjustable scraper-shaft I^2 and the adjustable scrapers O^2, substantially as described, for the purpose specified.

2. The seat G^2, in combination with the scraper-rod I^2 and the axle A, substantially as described, for the purpose specified.

3. The adjustable sockets K^2 of the seat in combination with the scraper-shaft I^2, stop L^2, and the socket of the scraper-lever M^2, substantially as described, for the purpose specified.

4. The runners and their attachments, jointed to the rear portion of the machine by means of the side rods E and the shaft Q, by which the seeding mechanism is driven, substantially as described, for the purpose specified.

5. The flanged plates K, constructed as described, for the reception of the adjustable hoppers L and the seed-tubes J, substantially as specified.

6. The driving-shaft Q suspended from the parallel bars M by means of the adjustable brackets O, constructed as described, for the purpose specified.

7. The seed-tubes J, constructed as described, with their lower ends enlarged in the form of an inverted truncated pyramid, and provided with openings upon opposite sides above said enlargement, in combination with the valves *v w*, substantially as described, for the purpose specified

8. The dropping valves, constructed as described, with the central portion *v* and the detachable wings *w*, substantially as and for the purpose specified.

9. The compound interchangeable dropping plates W' M^1 in combination with the hoppers L made adjustable on the plates K to receive the dropping-plates, substantially as and for the purpose specified.

10. In combination with the dropping-valves, the lateral pins *z* and the star-shaped grooves in the face of the wheel A^1, substantially as described, for the purpose specified.

11. The combination of the ratchet Y^1 and its operating mechanism with the shaft Q, cam gear-wheels A^1, seed-plates M^1, and the dropping-valves, substantially as described, for the purpose specified.

12. The recessed seed-plates M^1 and supplemental plates W' in combination with the flanged plates K, substantially as described, for the purpose specified.

13. The flanged plates K, constructed with recessed seed-openings *u* v^1, substantially as described, for the purpose specified.

14. The supplemental plates W', constructed with the recessed seed-openings *x'* and the pins *y'*, substantially as described, for the purpose specified.

15. The seed-plates and the dropping-valves, adapted for simultaneous operation, either continuously from the driving-wheel or intermittingly from a hand-lever, by the means substantially as herein shown and described.

16. The arrangement of the bounds R of the machine with relation to the rod H, parallel rods M, shaft Q, and the axle of the driving-wheels, as herein described, for the purpose specified.

17. The combination of the sliding reach S^2 and adjustable spring T^2 with the bounds R and a suitable support upon the rear portion of the machine, substantially as described, for the purpose specified.

18. The combination of the jointed foot-lever with the bounds R, sliding reach S^2, and adjustable spring T^2, substantially as described, for the purpose specified.

19. The seeding-machine in which the runners or coilers which carry the seeding mechanism are held in contact with level or uneven ground by a pivoted foot-lever, P^2, whose force is applied to the bounds R of said runners with a yielding pressure, substantially as described, for the purpose specified.

20. In combination with the clutch-pulley C^1 the slotted and shouldered rod *f'* and the cam-lever *j'*, both mounted upon the sleeve B D, substantially as described, for the purpose specified.

121,205.—MEDICAL COMPOUND FOR THE CURE OF CUTANEOUS DISEASES.—Elizabeth Angeline Shewell, Boston, Mass.

Claim.—The said medicinal compound, made of materials and in the manner substantially as hereinbefore explained.

121,206.—COFFIN-RECEPTACLE.—James H. Shields, Louisville, Ky.

Claim.—The within-described coffin-receptacle, composed of the body A, molded or otherwise made in one piece, of cement and sand, and provided with a set-off, *a*, entirely around its upper edge, into which is fitted the lid B, which rests on the interior shoulder thus formed, all substantially as shown and described.

121,207.—STUBBLE-TURNER FOR PLOWS.—George B. Smith, Shopiere, Wis.

Claim.—In the herein-described stubble-turner A, the angular shank *a a'*, in combination with the strap *b* and bolt *c*, the angular shank, together with the strap and bolt, forming the locking device whereby the bar is secured to the plow-beam.

121,208.—CLOTHES-DRIER.—Obadiah S. Smith and Clark R. Hopkins, Middletown, Conn.

Claim.—The stand *a*, adjustable extension-tubes *i*, swivel-flange supports *b*, arms *f*, substantially as and for the purpose set forth.

121,209.—PUMP.—Hatherly Spear, Portland, Me.

Claim.—1. A system of chambers, C C^x, separated by valves b^1 b^2, and all except the upper one containing an elastic diaphragm, *f*, when combined with an exhaust and with connecting-pipes D and cocks G G^1, operating as herein described.

2. The atmospheric relay-pump herein described, consisting essentially of the base A, the chambers C C^x, the valve-chambers B B^1, the diaphragms *f f*, the valves *b* b^1, the pipes D D, the cocks G G^1, the exhaust E, the pipes P P^1, the outlet I, and the valves *v v'*, all combined and operating substantially as and for the purposes herein set forth.

3. The tubular diaphragms *f*, in combination with the chambers C C^1, when arranged in the manner and for the purpose specified.

121,210.—COMBINED CORSET AND SKIRT SUPPORTER.—Linda Spigelmyer, Easton, Pa.

Claim.—As a new article of manufacture, a combined adjustable waist, skirt, drawers, and stocking supporter, constructed and arranged as herein shown and described.

121,211.—LIQUID-METER.—D. Brainard Spooner, Syracuse, N. Y.

Claim.—1. The beveled collars or packing-rings H and collars *g g*, having beveled or convex faces toward the diaphragm, and the beveled bearing-surface of the walls E, in connection with the flexible diaphragm and tight wall E, substantially as and for the purpose specified.

2. The discs *a a*, placed loosely on the ends of the bolts G so that the disks will adjust themselves correctly to the face of the diaphragm A, as and for the purpose specified.

3. The combination of the anti-friction carriage J *j* with the apex F', valve F, and actuating-roller K, substantially as and for the purpose described.

4. The valve-frame M, constructed with projections *m m*, as shown in Fig. 4, in combination with the carriage J *j* F', as and for the purpose herein specified.

5. The valve F, when made with beveled leading edges that engage with the frame M at the end of the stroke to hold the valve to its seat against back pressure, and making connection with the jaws *n* of the carriage J *j* F' by a beveled joint, as and for the purpose specified.

6. The yoke *f*, when made with the guards N N and open center S, as and for the purpose described.

7. For operating the apex-carrier and valve F, a weight, L, when so arranged as to have its weight increased by impact of the current from the pipe O, as and for the purpose specified.

8. The valve F, made separate from the apex F', and connected therewith by a loose joint, as and for the purpose described.

9. In a fluid meter, a molded vulcanized rubber diaphragm having a flat rim and a concavo-convex or corrugated center, as and for the purpose described and represented.

121,212.—RAILWAY STOCK-CAR.—William Stark, White Pigeon, Mich., and Joseph G. Fisher and Simeon Fitch, Toledo, Ohio.

Claim.—1. In stock-cars the spring-buffers O, substantially as described and shown, for the purposes set forth.

2. In stock-cars the sliding panels Q, constructed and arranged substantially as described and shown, for the purposes set forth.

3. In stock-cars the movable frame P, substantially as described and shown, for the purposes set forth.

4. The combination of the partitions M and the doors N N, substantially as described and shown, for the purposes set forth.

5. The combination of the compartments L, the partitions M, doors N N, and the separate feed and water boxes *c* and *d*, all constructed and arranged substantially as described and shown, for the purposes set forth.

121,213.—RAILWAY STOCK-CAR.—William Stark, White Pigeon, Mich., and Joseph G. Fisher and Simeon Fitch, Toledo, Ohio.

Claim.—1. The combination of the separate compartments G and the movable or permanent continuous water-troughs I, constructed and arranged substantially as described and shown.

2. The combination of the water-reservoir *a*, the pipe K, and the sprinklers F and F', constructed and arranged substantially as described and shown.

3. The combination of the air-chambers *b* and the water-reservoir *a*, constructed and arranged substantially as described and shown.

4. The compartment-car A, provided with a fixed middle deck, B, permanent partitions G', and continuous water-troughs I, constructed and arranged substantially as described and shown.

121,214.—APPARATUS FOR FEEDING AND WATERING STOCK IN CARS.—William Stark, White Pigeon, Mich., and Joseph G. Fisher and Simeon Fitch, Toledo, Ohio.

Claim.—1. A system of pipes or tubes having suitable connections with reservoirs or other sources of supply, and arranged for the simultaneous supply of food or water to the cars of a stock-train, substantially as set forth.

2. The combination of the elevated reservoir A, the main pipe B, and the branch pipes C or D, substantially as described, for the purposes set forth.

3. The combination of the series of grain-bins H and the boxes G or standards F, constructed and arranged substantially as described, for the purposes set forth.

121,215.—COMPOSITION SADDLERY GOODS.—Jacob Straus, St. Louis, Mo.

Claim.—1. As a new article of manufacture, a

saddle-tree, stirrup, or other similar articles of saddlery goods composed of molded plastic material, substantially as and for the purpose specified.

2. The hereinabove-described plastic composition for use in forming articles of saddlery goods, substantially as shown.

121,216.—CLOTHES-WASHER.—David P. Sulouff, Milton, Pa.

Claim.—The diaphragm *b* having holes *c*, and sloping from the center toward the sides and ends, in combination with the radial ribs *f*, flange *g*, central pipe, *d*, and rose-head *e*, all arranged as described.

121,217.—CLOTHES-WASHER.—David P. Sulouff, Milton, Pa.

Claim.—The concave diaphragm *c d*, having the flange *b* and slot *e*, and combined with the shelves *f*, slats *h*, pipes *i*, and rose-heads *j*, as specified.

121,218.—ALARM FOR LETTER-BOXES.—Alfred Taylor, Brooklyn, N. Y.

Claim.—The combination, with the hinged door A of a letter-depository, of the hooked lever C fixed firmly thereto, catch J, spring I, rod S, elbow-lever D, bell F, hammer E, and spring H, all constructed substantially as set forth.

121,219.—VAULT FOR SEWERS.—Louis D. Tredway, St. Louis, Mo.

Claim.—1. In a slop-vault, the combination of a removable receiving-vessel, D, with the conducting-trough K and hand discharging-screw L, as described.

2. The interior projecting flanges *e* partially inclosing the stench-trap F, and the perforated sides *d* upon and by which the receiving-vessel D is supported, both made removable with said vessel, and serving to protect the trap F from choking, as described.

3. The arrangement of the waste-water pipe M so as to enter the chamber E near the bottom of the receiving-vessel D and deliver the waste-water against the solid side D' thereof, as and for the purpose described.

4. In a slop-vault, the combination of the removable receiving-vessel D with its inclosing and supporting flanges *e* and open sides *d*, the conducting-trough G or K, hand discharging-screw L with the fixed vessel C and stench-trap F, the whole constructed and arranged as shown and described.

121,220.—THRASHING-MACHINE.—Parley Upton and Jacob B. Lobdell, Battle Creek, Mich.

Claim.—1. The arrangement of the rock-shaft A, arms *f f* and *g g*, pinion *b*, wheel B, pitman C, and lever *d* with the sleve D and board G, all substantially as shown and described.

2. The combination of the board G, connecting-rods *m n*, bent lever *p*, and bottom board I, substantially as and for the purposes herein set forth.

121,221.—TAG.—Theophilus Van Kannel, Cincinnati, Ohio.

Claim.—A shipping-tag composed of a single paper web, A, split at one end, and having a patch, B, inserted and cemented within said split, as and for the purpose set forth.

121,222, antedated November 11, 1871.—GRAFTING INSTRUMENT.—David S. Wagener, Pultney, N. Y.

Claim.—The instruments for preparing the cion and cutting the kerf to receive it, when they are made substantially as specified, and used for the purpose herein set forth.

121,223.—DRILL-BIT AND REAMER.—Peter M. Ward, Cow Run, Ohio.

Claim.—The combination, with the drill-shaft D provided with the expansion *e* and dovetail channels *u u*, of the sleeve F and screw-collar G, when constructed substantially as and for the purposes shown and described.

121,224.—EYELETING-MACHINE.—Gennaro Wunderlich, Philadelphia, Pa., assignor to himself and Lewis H. Manch, same place.

Claim.—1. The combination of the sliding box G, carrying within it a feeding device, operating substantially as described, the post *c'* or its equivalent, and the cutting and punching devices, substantially as set forth.

2. The two sets of punches *e e'* and *s s'*, and the sliding platform G, so operated in respect to each other that the punches shall remain in contact with and hold the work during the rearward movement of the said platform.

3. The combination and arrangement, substantially as herein described, of the sliding platform G, its recessed arm *i'* acted on by a spring and carrying the serrated plate *i*, the pivoted dog *k*, and the pin *k'* of the post *c'*.

4. The combination of the said sliding platform and its feeding devices, a scroll-cam, *h*, and a lever, *g*, substantially in the manner described.

5. The combination of the eyelet-feeding and compressing devices, a weighted lever, *q*, the devices connected therewith or their equivalents, and a treadle, F, arranged, substantially as described, so as to operate the other portions of the machine.

6. The combination, with the eyelet-feeding devices described, and the latch *w*, of connecting-rods *v v*, levers *v²* and *q*, and the treadle F, as set forth.

121,225.—LINK FOR CHAIN-COUPLINGS.—Salem T. Lamb, New Albany, Ind.

Claim.—A chain-coupling, composed of links A with depressions *a a*, and links B with an opening or gap, *b*, made and united in the manner and for the purpose herein described and represented.

REISSUES.

4,638.—CLOTHES-WRINGER.—Robert B. Hugunin, Cleveland, Ohio, assignor to Albert H. Spencer, Providence, R. I.—Patent No. 75,425, dated March 10, 1868.

Claim.—1. The spiral cog-wheels herein described, whether they be made single or double, and whether placed at one or both ends of the rollers, with the means to prevent their becoming disconnected, in combination with the elastic rollers of a wringing-machine, substantially as and for the purpose specified.

2. The combination of the supporting-frame C C', elastic pressure-rollers A A', and single or double spiral cog-wheels B B', substantially as and for the purposes specified.

4,639.—MECHANISM FOR CUTTING AND SEWING OVAL SEAMS.—Agur Judson, Newark, N. J.—Patent No. 68,828, dated September 10, 1867.

Claim.—1. The arrangement, in connection with a sewing-machine, of rotating shears adapted to cut the material presented to them in oval or elliptical form, and so that the material so cut can be afterward presented to the sewing mechanism for the purpose set forth.

2. Mechanism, substantially as described, for guiding material in oval or elliptical forms, when combined and arranged with mechanism, substantially as described, for cutting the said material and for sewing it.

3. The revolving plate *r*, constructed and operating substantially as described.

4. The radially-slotted disk *s*, applied and operating as and for the purpose set forth.

5. The combination of the plate *r* and slotted disk *s* for joint action, substantially as set forth.

6. The combination of the adjustable slide V with the disk *s*, as and for the purpose set forth.

7. The plate B, provided with sockets for the reception of cork or other substance, as and for the purpose set forth.

8. The combination of plate B, constructed as described, with the top plate or piece D, as and for the purpose set forth.

9. The combination, with frame or bed-piece A, of a scale for indicating the size of the oval to be described.

10. The combination, with such frame or bed-piece, of a scale for indicating the change in the form of the oval to be described.

4,640.—VARIABLE CUT-OFF GEARING.—John E. McKay, New York, N. Y.—Patent No. 118,958, dated September 12, 1871.

Claim.—The combination of a cut-off valve or valves, the intervening angular lever *f*, link *h*, and governor *k*, all constructed and operating substantially as and for the purpose set forth.

4,641.—BOLT-HEADING MACHINE.—James Minter, Lowell, Mass., assignor to himself, Jonathan Hope, and Robert H. Butcher, same place.—Patent No. 43,521, dated July 12, 1864; reissue No. 2,093, dated October 17, 1865.

Claim.—1. The combination of the vertical heading-die and the side dies, acting in pairs, substantially as described.

2. The heading-die for upsetting the metal in line with the axis of the bolt, in combination with the side dies, acting in pairs, and the jaws, substantially as and for the purposes set forth.

3. The side dies P, P', Px Px', and *d*, in combination with their respective carriages and adjusting-screws or their equivalents, whereby they are adjusted to make heads of different sizes and shapes.

4. The combination of the vertical carriages and side carriages with mechanism to reciprocate said carriages and their adjustable dies, substantially as described.

5. The mechanism herein described, by means of which the heading-dies of a bolt-heading machine may be made to operate at regular or irregular intervals, at the will of the operator, substantially as herein set forth.

6. The spring-dogs O O' Ox Ox', carriages *s*, with their shoulders and their dies P P' Px Px', in combination with the piece *k* or its equivalent, and the foot-lever *c*, when constructed and operating substantially as set forth.

7. The combination of the elastic plate *p* with the dog *n* and the heading-die *d*, as set forth.

8. The lever *q* and cam *r*, in combination with a foot-lever *c* and the forming mechanism, as described, so that said cam shall control the time of action, as set forth.

9. The combination of the hand-lever *d'*, swivel-arm *b'*, and movable jaw *a'''*, when constructed and operating substantially as and for the purposes set forth.

4,642.—HUB FOR CARRIAGE-WHEELS.—Almon Warner, Hampden, assignor, by mesne assignments, to Elihu Hall & Co., Wallingford, Conn.—Patent No. 61,900, dated February 5, 1867.

Claim.—The combination of the ring B, formed with its mortises *a* and flanges *c c*, with a mortised wooden hub, A, substantially as described.

4,643.—STEAM-HEATING APPARATUS.—Samuel F. Gold, Englewood, N. J., and William A. Foskett, New Haven, Conn., assignors, by mesne assignments, to The Union Steam and Water Heating Company.—Patent No. 36,000, dated July 29, 1862.

Claim.—1. A steam-chamber, C, for radiating heat, studded with a series of projections, *p*, extending from its outer surface at intervals from each other along the side of said chamber or radiator to divide or partially divide the current of air, substantially as hereinbefore set forth.

2. The steam-chamber C for radiating heat, studded with projections *p*, arranged alternately, substantially as hereinbefore set forth.

3. The steam-chamber C for radiating heat, studded with projections *p*, having vertically-inclined surfaces, substantially as set forth.

4. Two or more steam-chambers or radiators, C, connected by a central opening, *d*, extending through two or more of said chambers, and also opening into the side passages, substantially as herein set forth.

5. The combination, with a steam-chamber, C, of a diaphragm, D, substantially as hereinbefore set forth.

6. The arrangement contiguous to each other of two or more steam-chambers or radiators, C, studded with projections *p*, having vertically-inclined surfaces, or arranged alternately, substantially as hereinbefore set forth.

7. The arrangement contiguous to each other of two or more steam-chambers or radiators, C, studded with projections *p* to divide the current of air, substantially as set forth.

4,644.—MODE OF REGULATING THE DRAUGHT OF HOT-AIR FURNACES.—Albert H. Mershon, Philadelphia, Pa. — Patent No. 55,138, dated May 29, 1866.

Claim.—1. Mechanism, operating substantially as described, for enabling persons on any floor of a building to regulate the fire of a furnace without passing to the place of location of said furnace.

2. A gauge or indicator, applied in combination with mechanism for operating the draught-door, substantially as and for the purpose described.

3. The chain F and weight J together, substantially as described, operating with a draught-door in the manner and for the purpose set forth.

DESIGNS.

5,365.—BADGE.—Isaac Bedichimer, Philadelphia, Pa.

Claim.—The design for a badge, substantially as described, and as represented in and by the accompanying drawing.

5,366.—BUTT-HINGE.—Frederick W. Brocksieper, New Haven, Conn., assignor to Sargent & Co., same place.

Claim.—The design for butt-hinge, substantially as shown in the accompanying illustration and described.

5,367.—SHAWL FABRIC.—Samuel Byrom, Philadelphia, Pa.

Claim.—The design for fabric, as shown.

5,368.—BARN-DOOR HANGER.—John Herald, Unadilla, N. Y.

Claim.—The design for a barn-door hanger, as shown.

5,369.—MANGER.—James L. Jackson, New York, N. Y.

Claim.—The design of the open-work lattice cast-metal side of the manger, substantially as shown in the drawing.

5,370.—MANGER.—James L. Jackson, New York, N. Y.

Claim.—The design of the open-work lattice manger of cast metal, substantially as described and represented.

5,371.—PICKLE-JARS.—John Jepson, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The design for pickle-jar, as shown in the accompanying illustrations, and as herein described.

5,372.—CARPET-PATTERN.—John H. Smith, Enfield, assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,373.—LOCK-CASE FOR SATCHELS, &c.—Bernard Steinmetz, Paris, France, assignor to Raphael Neumann & Co., New York city.

Claim.—The design for a lock-case, representing a monitor, substantially in the manner above described.

5,374.—PICKLE-JARS.—Horace C. Wilcox, West Meriden, Conn., assignor to The Meriden Britannia Company, same place.

Claim.—The design for a pickle-jar, as shown in the accompanying illustration, and as herein described.

5,375.—CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawing.

5,376.—CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawing.

5,377.—PEN OR PENCIL CASE.—Ephraim S. Johnson, New York, N. Y.

Claim.—The design of a barrel of a pen or pencil case, made of ivory, wood, rubber, or other suitable material, ornamented, substantially as shown.

5,378.—IRON POST.—Melville D. Jones, Boston, Mass.

Claim.—The design for an iron post, as shown.

TRADE-MARKS.

545.—MEDICINES.—William A. Bishop, Dodgeville, Wis.

546.—MUCILAGE.—Carter Brothers & Co., Boston, Mass.

547.—BRANDY.—Ives, Beecher & Co., New York, N. Y.

548.—BRANDY.—Ives, Beecher & Co., New York, N. Y.

549.—BRANDY.—Ives, Beecher & Co., New York, N. Y.

550.—WHISKY.—Charles H. Ross & Co., Baltimore, Md.

551.—GIN.—Thomas L. Smith, Boston, Mass.

552.—SEWING-MACHINE.—The Remington Empire Sewing-Machine Company, Ilion, N. Y.

ISSUE OF NOVEMBER 28.

PATENTS.

121,226.—PROCESS FOR THE MANUFACTURE OF IRON.—Charles Adams, Philadelphia, Pa.

Claim.—The manufacture of iron direct from the ore, without the use of a blast-furnace, by the process of melting the ores in the cupola-furnace, and the use and operation of carbon or hydrogen, separately or combined, or carbonic oxide, applied to the molten ore in a highly-heated condition—that is to say, at a temperature of not less than 600° Fahrenheit—and which, being brought into contact with the molten ore maintained at the high temperature, in which it comes from the cupola, by the reheating-furnace, thus deoxidizes and purifies the ore and separates it suitably for balling, substantially as described.

121,227.—OYSTER-DREDGE.—William Cornelius Baker, Baltimore, Md., assignor to himself and Jacob F. Cook, same place.

Claim.—1. The plows *b b* on an oyster-dredge, substantially as and for the purpose described.

2. The skeleton arched frame, formed of the bars A A and C D D′, for supporting the rake B, the open net-work *g*, bail J, and edge *e*, all constructed substantially as shown and described.

3. The runner-shaped guards G G, applied on the arches A A of the cage outside of the netting, for allowing the cage to glide easily over the sides of the boat, substantially as described.

121,228, antedated November 17, 1871.—CULTIVATOR AND HORSE-HOE.—John W. Blake, Jefferson, Wis.

Claim.—1. In a cultivator, the central adjustable standard *a*, pivoted to the beam A, and connected to the clevis-bolt by means of the draft-rod D, whereby the pivot of the standard is relieved of strain, substantially as described, for the purpose specified.

2. The brace or plate E, in combination with the shovels and standards, to re-enforce the points of the shovels, as herein shown and described.

3. The combined braces and handles M M sliding loosely upon the cross-head B, in combination with the pivoted adjustable central standard *a*, as herein shown and described, for the purpose specified.

121,229.—STOVE-PIPE ELBOW.—James P. Brace, Springfield, Ohio, assignor of one-half his right to Edward G. Danforth, same place.

Claim.—The circular stove-pipe elbow herein described, constructed with sections A and rings *c* united by means of flanches and rivets, as described, substantially as specified.

121,230.—PLANING-MACHINE ATTACHMENT.—Louis C. Brastow, and Alphons M. Zwiebel, Wilkesbarre, assignors to L. B. Flanders, Philadelphia, Pa.

Claim.—The within-described attachment, consisting of a stationary frame, B, secured so as to be detachable to the base-plate of a planing-machine, and carrying a face-plate operated by the reciprocating bed through the medium of a rack, E, and wheel D, or equivalent mechanism, as set forth.

121,231, antedated November 10, 1871.—STUD FOR SHIRTS.—Ernst Bredt, New York, N. Y.

Claim.—A shirt-stud made of two disks, with their respective necks, in the manner specified, and united together by a connection that passes through said necks, as and for the purposes set forth.

121,232, antedated November 10, 1871.—CLAMP FOR FRUIT-JARS.—Ira Buckman, Jr., Williamsburg, N. Y.

Claim.—A clamp for securing caps or covers upon fruit-jars, struck up from sheet metal, and having its arms corrugated, as set forth.

121,233.—SPONGE-CUP.—Seth C. Catlin, Cleveland, Ohio.

Claim.—The herein-described pen and sponge-holder, consisting of the cup or stand A, having arranged around the inside thereof a series of vertical chambers or niches, B, lining or curb C reaching partially or wholly to the floor of the well D, and having in the lower edge thereof a series of openings, *a*, whereby said chambers are put in communication with the well or sponge-cup D, substantially in the manner as and for the purpose set forth.

121,234, antedated November 16, 1871.—ILLUMINATING APPARATUS.—Gustavus Cuppers, Brooklyn, E. D., N. Y.

Claim.—1. The ring-bracket A supporting the suspended cup C, in combination with the gas-burner extending horizontally over the cup, substantially as and for the purpose described.

2. The slotted arm *a* on the ring-bracket, in combination with the cup C and burner *c*, as set forth.

121,235.—FLUTING-MACHINE.—Edward Mortimer Deey, New York, N. Y.

Claim.—The combination of the lower roll *d′* with the clutch-coupling N O *n′* and crank-handle, arranged with the chimney B C, as shown and described.

121,236.—STOVE-GRATE.—William Doyle, Albany, N. Y.

Claim.—1. A circular rotating grate, constructed with either curved or straight arms, having one raised or cutting-edge, *l*, substantially as and for the purpose herein shown and described.

2. The combination and arrangement, with a circular grate, D, of a helically-grooved or ribbed center-pin, A, and a correspondingly ribbed or grooved hub, *g*, of grate-bar or rest C, substantially as and for the purpose herein shown and specified.

121,237.—SEWING-MACHINE FOR BOOTS AND SHOES.—William Duchemin, Boston, Mass., assignor to himself, George B. Bigelow, William Edson, and John Bigelow, same place.

Claim.—1. The work-supporting arm P P¹ working in a segmental slide, in combination with the standard P², all operating substantially as and for the purpose described.

2. In a machine for sewing turned shoes, a reciprocating pressing device, operated by a cam or its equivalent, substantially as described, to retain the upper in close contact with the sole while the needle is entering and being withdrawn from the sole and upper, and which is released when the feed takes place.

121,238.—COVER FOR FRUIT-BASKETS.—Aaron S. Dyckman, South Haven, Mich.

Claim.—1. The improved cover, constructed of the hoop or band B, provided with cross-slats *c*, in combination with the adjustable hoop C, as and for the purpose herein described.

2. The combination of the top or cover B *c*, adjustable hoop C, and netting D with a fruit-basket, as shown and described.

3. The combination with the cover B *c*, hoop C, and hooks *i i*, with a fruit-basket, as shown and described.

121,239.—PAPER-CUTTING MACHINE.—Frank A. Fletcher, Newark, Del.

Claim.—The application and use of the flexible metallic plate I, substantially as and for the purpose hereinbefore set forth.

121,240.—STUDIO EASEL.—John Charles Forbes, Toronto, Canada.

Claim.—1. The combination of the crank-handle C, worm-screws D, pinion E, cross-spindle F, spur-wheel G, vertical racks B, for the purpose of raising and lowering the canvas-holder, substantially as and for the purpose specified.

2. The combination of the crank-handle I, vertical spindle J, pinion L, rack M, for the purpose of altering the inclination of the canvas-holder, substantially as specified.

121,241.—LANTERN.—Alonzo French, Philadelphia, Pa.

Claim.—1. A screw-thread, arranged on and between the ends of the globe of a lamp or lantern.

2. A detachable skeleton stand for lanterns, constructed with catches or equivalent devices, operating as and for the purpose described.

3. A skeleton stand for lamps or lanterns, constructed so as to be detachable, substantially as above described.

121,242.—CURTAIN-FIXTURE.—Joshua Gray, Medford, Mass., assignor to Arthur W. Gray and Charles H. Haftshorn, same place.

Claim.—1. The balls or slides *b*, in combination with a tube, C, operating substantially as described, for the purpose specified.

2. The combination of the balls or slides *b*, the tube C, and the curtain D, operating substantially in the manner and for the purpose set forth.

3. In combination with the tube C and the balls or slides *b* the curtain D and the closet E, as and for the purpose specified.

121,243.—STALL-FLOOR.—Frank Elmer Hall, Bridgewater, Mass.

Claim.—In the construction of stall-floors, the arrangement of the metallic bed-plate, the inclined gutters, and the wooden floor-bars, when constructed substantially as shown and described.

121,244, antedated November 9, 1871.—HAY-PRESS.—Finlay F. Hamilton, Green Bay, Wis.

Claim.—1. The arrangement of the doors I hinged to and swinging under the cross-bars J of the case, the hinged blocks M, and cross-bars N in the frame B, as herein described, for the purpose specified.

2. The arrangement of the four separate following-ropes adapted to be attached and detached in sets over the follower, in the manner herein described, for the purpose specified.

121,245.—PREPARING IRON CHIPS, SHAVINGS, &c., FOR MELTING.—Ernest C. Haserick, Lake Village, N. H.

Claim.—1. The aggregation of chips, shavings, turnings, filings, or other small pieces or particles of iron into blocks or masses by means of a substance which will cause them to cohere, and also will shield them from burning up in the melting furnace, substantially as and for the purpose herein specified.

2. The aggregated masses or blocks, as above described, when formed with perforations in the manner and for the purpose herein specified.

121,246.—REED ORGAN.—Albert K. Hebard, Boston, Mass.

Claim.—A slide, E, or its equivalent, arranged in connection with the reed or reeds of an organ and connected to the bellows thereof for operation, substantially as and for the purpose described.

121,247.—HARVESTER-RAKE.—John Heuermann, Wilhelm Sternberg, and John Stuhr, Davenport, Iowa.

Claim.—The combination of the slotted platform A, rake B with carriage *b*, chains and pulleys, levers C, connecting-bar D, lever E, rod F, arm G, crank H, and cam I with the connections described, as and for the purpose set forth.

121,248.—ATTACHMENT FOR PLANERS.—Alonzo S. Hewlett, Sebastopol, Cal.

Claim.—The presser-foot A with its shank B and spindle C, said spindle passing through a barrel, E, and held in place by a spring, *f*, in combination with the plate D provided with a recess, *e*, and having the clasp *j*, all constructed and arranged to operate substantially as and for the purpose above described.

121,249.—OYSTER-DREDGE.—Ezra B. Lake, Mauricetown, N. J.

Claim.—The combination of beams B and C, paddle-wheel D, levers G, F, and H, with pulleys E, K, and L, substantially as and for the purpose hereinbefore set forth.

121,250.—MEN'S DRAWERS.—Killian V. R. Lansingh, Jr., Albany, N. Y.

Claim.—Cloth drawers, as a new article of manufacture, having the front and back portions, which form the legs thereof, cut or shaped as hereinbefore set forth.

121,251, antedated November 13, 1871.—SLEIGH.—Whitman Leslie, Gray, Me.

Claim.—A sleigh constructed with a sheet-metal body, A, and a bottom, B, both secured together by and through bars C, and stiffened by uprights L, substantially as described.

121,252.—CAR-COUPLING.—Henry H. Morgan and Albert Gerry, San Francisco, Cal.

Claim.—1. The interlocking-bumpers B, consisting of the vertically-slotted leaves or jaws *c c'*, in combination with the horizontal sliding bolt *e*, substantially as and for the purpose described.

2. The vertical shaft *i*, connected with the bolt *e* by an arm, *j*, and having the bent end *l*, in combination with the tripping-bar *k*, substantially as and for the purpose above described.

121,253, antedated November 18, 1871.—COMBINED LATCH AND LOCK.—John H. Morse, Peoria, Ill.

Claim.—The form of round bolt D, with its flattened part D *e*, pin *f f*, cross-bar *g*, in connection with tumblers E, all inclosed in a round metal case, C B, with stays *m m*, and operated with knob-rod *b*, with arms *d d*, and flat key F, all working in the manner and for the purpose herein specified.

121,254.—CRUTCH.—Eugene T. Pearl, Milwaukee, Wis.

Claim.—1. A crutch, when constructed with head A, springs B B, side pieces C C, ferrules D D, sockets E E, rods F F, and keepers G G, substantially as described.

2. Crutch-head A, spring B, side pieces C, rods F, keepers G with oblong orifices, and strap L, substantially as described.

121,255.—ARM FOR RAILWAY CAR-SEATS.—Anton Prier, Milwaukee, Wis., assignor to Loeffelholy & Prier, same place.

Claim.—1. Arm-plate A, arm B, pivot C, recess E, stop F, and screw H, all in combination, substantially as described.

2. Arm-plate A, arm B, pivot C, screw D, recess E, stop F, cap G, and screw H, arranged substantially as described.

121,256.—PRINTING-PRESS.—George W. Prouty, Charlestown, Mass.

Claim.—1. The arrangement and combination of the pinion C, spur-gear D, connecting-rod E, segmentary gear F, and pinion *d* with the shafts A and G, the chain-wheels H, and inking-roller carriage K, all constructed, combined, and operating in the manner and for the purpose specified.

2. The combination of the gear D, the connection E, the segment F, the connecting-rod I, and plates J, as herein described.

121,257.—FEATHER-RENOVATOR.—Solomon B. Shoemaker, Willoughby, Ohio.

Claim.—1. In connection with a revolving jacketed drum, C, mounted on a hollow perforated shaft, D, and with a steam-generator, A B, the application of a cylindrical chamber or cap, H, to the end of the drum around the shaft D, as shown, the same being combined with side valves *v v* and openings I I leading into the steam-space C^1, and with a removable plug-valve, *w*, all constructed and arranged as shown.

2. In a rotary drum, C, mounted on a hollow perforated shaft, D, and adapted to the curing and renovating of feathers by steam, the arrangement of lifting-spikes *s s* around the concave wall of the drum, substantially as and for the purposes specified.

121,258, antedated November 13, 1871.—MACHINE FOR MAKING LOOM-HARNESS.—Joseph Sladdin, Lawrence, Mass., assignor to himself and John Lord, same place.

Claim.—1. The presser-lever J^3, having arm K^1 in combination with grooved stationary needle N and spring L^3, all arranged and operating as described, and for the purpose set forth.

2. The loose-rods Q^3 Q^4, having the within-described rotary movement, substantially as and for the purpose set forth.

3. The gear-wheels T^1 Z^3 D^4, sector-gears U^1, arms V^1, and cams X^3 Y^3, in combination with the loose-rods Q^3 Q^4, substantially as and for the purpose described.

4. The rocking temples W, arranged and operating substantially as described, for the purpose set forth.

121,259.—HINGE FOR SEATS.—William A. Slaymaker, Atlanta, Ga.

Claim.—The frame A, with ear *a* having the slot *a'*, and recess *b* with notch *b'*, in combination with the arm C having the recess *c*, ear c^1 with projections c^2 c^3, as and for the purpose set forth.

121,260.—STEM WINDING AND SETTING WATCH.—Harry R. Smith and Rufus Folsom, Cincinnati, Ohio.

Claim.—The described arrangement of the intermediate wheel D, revolving parallel and shiftable perpendicularly to the dial-plate, said wheel remaining permanently in gear with the contrate wheel C that meshes with the pinion F upon the winding stem, and being capable of being placed in gear with either the winding-wheel E or the hand-pinion R by means of the shifting mechanism J K L N O or its equivalent, for the objects stated.

121,261.—MANUFACTURE OF GUARDS FOR HARVESTING-MACHINES.—John Edson Sweet, Syracuse, N. Y.

Claim.—The method hereinbefore described of determining the shape and area in cross-section of the blank bar jointly with the production of such bar, of shape and area so determined by rolling, and the reduction of said bar to blanks by cutting or punching, in the manner described and illustrated, as my improvement in the art of making guard-fingers for harvesters.

121,262.—LOOM-SHUTTLE.—Frederick O. Tucker, Stonington, Conn.

Claim.—The guard or arm *a*, in combination with the pawl *d*, trigger Z, and spring-wire *g*, relatively constructed and arranged within a shuttle-body at one side of same for operation of the guard *a*, substantially as and for the purpose described.

121,263, antedated November 13, 1871.—CONVERTING ARTICLES MADE OF WROUGHT-IRON INTO STEEL.—Louis La Breche-Viger, Montreal, Canada.

Claim.—1. The cementation or conversion into steel of articles made of wrought-iron by immersing them in a bath of molten cast-iron after they have been partially worked into their respective shapes, whereby the heaviest parts of the work are accomplished upon wrought-iron and not upon steel, and the operation of welding steel to iron is dispensed with.

2. The cementation or conversion into steel of articles made of wrought-iron by immersing them in a bath of cast-iron in fusion in such a way as to convert only the surface of such articles to the required depth, leaving the interior in its orignal state of malleable iron, thereby producing articles externally as hard as those made of pure steel, with the toughness dependent on that part of their substance retaining the nature of malleable iron, and free from the inconvenience of imperfect welding.

3. The use of furnaces to effect such conversion on a large scale, as set forth.

4. The lining of crucibles or furnaces with a brasque of pure carbonaceous matters and nitrogenous substances to keep the bath of cast-iron to its normal degree of carburization and to supply nitrogen to the steel.

5. Composing the bath of pure cast-iron necessary for such conversion by melting wrought-iron or blister-steel in a cupola-furnace with pure fuel, and recarburising said bath by returning the cast-iron to said cupola-furnace whenever required, the whole as above described, and for the purposes set forth in the foregoing specification.

121,264.—MACHINE FOR CUTTING WEDGES.—Norman Warner, Jasper county, Ind.

Claim.—A wedge-cutting machine, composed of the several parts herein shown and described, constructed and arranged as and for the purposes set forth.

121,265.—NOZZLE.—Thomas Watson, Nevada, Cal.

Claim.—A hose-pipe nozzle having a double truncated cone near its connection with the hose, and narrowing by a more obtuse line of contraction from the extremity of such truncated cone to the point of delivery, all as shown and described.

121,266.—CASTING FEMALE SCREWS.—William D. Alford, Cuyahoga Falls, Ohio.

Claim.—The core I, having a central point or stem J, and provided with the plate or flange I'', as arranged, and in combination with the sections of the core-box A B and plate E, as and for the purpose substantially set forth.

121,267.—CULTIVATOR.—John Ansley and George W. Ansley, Marengo, Mich.

Claim.—The plank platform A carrying the pole B and cultivating-teeth *a a a*, &c., or equivalent plows, in combination with the runners C C, with or without tracking-wheels, connecting fulcrum-bar D, and handle-levers E E, constructed, connected, and operated substantially in the manner and for the uses set forth.

121,268.—SADDLE-GIRTH.—Seth W. Baker, Providence, R. I.

Claim.—As a new article of manufacture, a textile band for horses, woven with several sets of warps and filling, and having its edges unselvaged and forming a compact mass of one set of threads only.

121,269.—BLOWING APPARATUS FOR ORGANS.—John F. Barker, Springfield, Mass.

Claim.—1. The pipes F and E, the vessel A whether made movable or fixed, and the vessel B either with or without the chamber D therein, in combination with the wind-chest or reservoir of an organ, substantially as and for the purposes described.

2. The pipes F and E, and the vessels A and B either with or without the chamber D therein, in combination with the wind-chest or reservoir of an organ, substantially as and for the purpose described.

121,270.—ATTACHING WHEELS TO AXLES.—John Williams Beal, South Scituate, Mass.

Claim.—My improved wheel and axle connection, the same consisting of the sliding catch-plate *e* provided with a spring, *f*, in combination with the conical head *a* and annular groove *b*, the whole being arranged and applied together and to the journal and hub of a wheel so as to operate in manner and for the purpose set forth.

121,271, antedated November 18, 1871.—BUTTON FOR DOORS.—George F. Beardsley, Binghamton, N. Y.

Claim.—The combination of the face-plate A, back flanged plate B, latch F with offset *h* and lip *i*, said latch being operated by spindle *s*, all arranged as and for the purpose described.

121,272.—INSECT-DESTROYER.—John M. Bennett, Jaynesville, Iowa.

Claim.—The catcher D I combined with the trough *b d a* and beater S S, when said parts are combined and arranged as and for the purpose set forth.

121,273.—FLAT-IRON HOLDER.—Frederick Bruns, Cleveland, Ohio.

Claim.—The combination of the cylindrical-shaped hinged pieces A A and lugs B B with guides C C, and the grooves E E conforming to handle D D, substantially as and for the purpose hereinbefore set forth.

121,274.—MACHINE FOR MAKING SHOVEL-HANDLES.—Henry R. Butterfield, Vassalborough, Me.

Claim.—As an improvement upon the machine for making the hand part or head of shovel-handles patented by Russell D. Bartlett March 14, 1854, the combination, with the shaft E^2 and pin *e*, of the worm-clutch collar B, the worm-clutch D', and the forked lever C with the cam Z of said machine, substantially as and for the purpose specified.

121,275.—LIFE-RAFT.—Hervey C. Calkin, New York, N. Y.

Claim.—1. In a life-raft, the cylinders K, consisting of the cone-shaped ends A, the short cylindrical sections B and heads L, when constructed, arranged, and united in the manner and for the purpose herein shown and described.

2. The combination of the cylinders K, angle-irons *b*, cross-pieces D, and braces E, when constructed and arranged substantially as and for the purpose set forth.

3. In combination with the cylinders K, the angle-irons *a*, and bars or timbers H, when constructed and arranged substantially as and for the purpose set forth.

4. In combination with the cylinders K, angle-irons *b*, cross-pieces D, and braces E, the open floors or bottoms G, when constructed and arranged substantially as and for the purpose set forth.

121,276.—STAND-PIPE OF GAS-RETORTS.—Moses Coombs, Jr., Youngstown, Ohio.

Claim.—The combination, with the stand-pipe

of a gas-retort, of a cylinder or jacket surrounding the same, which is kept filled with water of a temperature lower than that of the gas evolved from the retort, all substantially as set forth.

121,277.—MACHINE-GUN. — Louis Christophe and Joseph Montigny, Brussels, Belgium.

Claim.—In combination with the box *g*, within which are arranged the percussion-hammers A in proper relative position to the several barrels, the lever *f* for moving the said box, and trigger-plate *p* for discharging the hammers, all arranged and operating substantially in the manner specified.

121,278.—DOVETAILING-MACHINE.—Asahel Davis, Lowell, Mass.

Claim.—The adjustable tables K K′ provided with gauge L, in combination with the adjustable cutters F F′, and a suitable carriage and supporting frame, constructed substantially as herein shown and described.

121,279.—BED-BOTTOM.—Loton L. Deming, Andrew J. Deming, and Rinaldo Alden, Erie, Pa.

Claim.—The shaft with arms extending therefrom, and friction-rollers placed in the ends of the same, as set forth, in combination with the lever and ratchet, when the same are arranged as and for the purposes set forth.

121,280.—REFRIGERATOR.—Joseph F. Dick, New Orleans, La.

Claim.—The refrigerator herein described, having one or more glass openings, B and B′, and the interior revolving ice-receptacle D, with arms, pins, or hooks F, substantially as described, for the purposes set forth.

121,281, antedated November 24, 1871.—MODE OF FASTENING HORSE-POWERS.—Hiram Charles Drew, Jamestown, Mich.

Claim.—1. The mode of constructing and applying levers or braces to powers for the purpose and in the manner described.

2. The mode of holding the stake upright by the mortise J, in connection with the braces or levers A and B and the pivot G, and the plates C and D, and ratchets F F′, all in the manner and for the purposes specified and set forth.

121,282. — SADDLE-TREE. — Edward H. Dunn, Portland, Me.

Claim.—The method of attaching the water-hook, having the shank, as described, to the saddle-tree by means of the slot *b*, key W, and screw K, substantially as and for the purposes set forth.

121,283.—LOCOMOTIVE. — Richard S. Gillespie, New York, N. Y.

Claim.—1. The poppet-valve *b* and its spring, in combination with the steam-chest of a steam-engine, constructed to operate in the manner and for the purpose described.

2. The valves *b*′ that close the exhaust nozzles and safety-valves *c*, in combination with the steam-cylinder of a steam-engine, in the manner and for the purpose described.

3. The combination of the poppet-valve *b*, valve *b*′, and safety-valve *c* with the steam-cylinder of a steam-engine, constructed and arranged to operate in the manner and for the purpose described.

121,284.—COATING CONCRETE AND CEMENT FLOORS, PAVEMENTS, &c. — Charles C. Hallock, Brooklyn, N. Y., assignor of one-half his right to Asa Hoyt, same place.

Claim.—1. A composition composed of powdered stone, linseed-oil, gum copal or shellac, and litharge made in substantially the manner herein specified.

2. The method of producing a stony surface on a concrete or cement pavement or floor, substantially as herein described.

121,285. — WASH-BOILER. — Abraham S. Herr, Bainbridge, Pa.

Claim.—In steam wash-boilers, a single central tube, A, when permanently closed on the top, and provided with perforations around its circumferences from below upward, said tube affixed to a portable bottom, B, which is centrally convex, and provided with a flat projecting rim, C, the whole supported on feet D, in the manner and for the purpose specified.

121,286.—HAND-STAMP.—Benjamin B. Hill, Springfield, Mass.

Claim.—1. In a hand-stamp the friction-bearing or stop, substantially as herein set forth, as a means of securing the revolving head C in the desired position for printing.

2. The combination of the latch *e*′ with the detent *e*, when applied to a hand-stamp, substantially in the manner and for the purpose specified.

3. The collar *a*, having a free rotary movement with the spindle A′, and having a pin or projection therein which engages with a guide-slot in the vibrating part of the stamp, and operating to keep said vibrating part and collar *a* always in the same relative position with each other.

4. In a hand-stamp the spindle-socket, constructed and arranged in two parts, B and N′, in combination with the collar *a*, and secured together substantially as and for the purposes specified.

121,287, antedated November 11, 1871.—SCHOOL-DESK AND SEAT. — Wendell P. Hood, Winona, Minn.

Claim.—1. The combined folding-desk and seat, constructed and arranged to operate substantially as described.

2. The spring *f*, applied to the standard A, in combination with the rearwardly-projecting arm J of the seat, arranged and operating substantially as herein set forth.

3. The socket E, or its equivalent, arranged upon the standard A for receiving and holding the ink-well, substantially as set forth.

121,288.—COVERED BUCKET. — Francis D. Kellogg and George N. Ives, New Haven, Conn.

Claim.—1. The packing *a*, of India rubber or other material, arranged in a rabbet around the upper edge of the bucket, upon the outer surface, and secured in place by the hoop B, substantially as and for the purpose described.

2. The shaft D, constructed with cams at its ends and arranged across the top of the bucket, combined with ears E F fixed to the bucket, and operating in the manner substantially as described.

121,289, antedated November 18, 1871.—APPARATUS FOR DEVELOPMENT OF THE MUSCLES OF THE HANDS. — Helena P. De Bruyn Kops, New York, N. Y.

Claim.—The instrument or apparatus constructed with indented edges and perforations, substantially as and for the purpose set forth.

121,290. — GRAIN-BINDER. — Sylvanus D. Locke, Janesville, Wis.

Claim.—1. The combination of the pinion G, plate H, and pawl I with the arm J and flange *f*, to operate as set forth.

2. In combination with the compressing and carrying arms M O P, the cam T and pin S, cam-plate Y, and pin W, substantially as described, to effect the acceleration of the motion of arm O to discharge the gavel.

3. The apron B′, divided longitudinally, and the parts separated, as described, in combination with the binding-arm M, substantially as and for the purpose set forth.

4. The take-up pulley F, constructed with an inclosed take-up spring, the friction-roller *e*′, and the orifice *f*′, to receive the binding-wire at or near the center of revolution, as and to operate in the manner set forth.

121,291.—COPY-HOLDER.—Alpheus B. Manard, Rockford, Ill.

Claim.—The combination of the hinged bent lever *a*′, hinged plate *a*, support B, and springs *b* with the bar C and pointer-rule D, constructed and arranged in the manner described.

121,292. — COFFEE-ROASTER. — Daniel D. Martin, Cincinnati, Ohio.

Claim.—The herein-described case *a* for supporting and inclosing the coffee-cylinder, constructed with widely-projecting flange *a*″, concavo-convex projections *a*′, and downward projection *a*‴, as and for the purpose specified.

121,293. — ATTACHMENT FOR SEWING-MACHINES. — Sarah O. Matteson, Chicago, Ill.

Claim.—The plate A, folded to form the parts D C, in combination with the notches *d b* and conical part E, as shown and described.

121,294. — CONCRETE PAVEMENT.—George H. Moore, Norwich, Conn.

Claim.—In a pavement formed of sections of plastic material, powdered steatite interposed between the sections for forming a separable joint.

121,295.—CARRIAGE.—Earl C. Newton, Batavia, Ill.

Claim.—1. The sliding of the seat B and seat-riser C on an inclined plane, substantially as and for the purpose hereinbefore set forth.

2. The combination of sliding one end and jumping the other end of the seat-riser C and seat B, substantially as and for the purpose hereinbefore set forth.

3. The folding of the seat D, substantially as and for the purpose hereinbefore set forth.

4. The connecting of the reach I with the cross-spring H, substantially as and for the purpose hereinbefore set forth.

121,296, antedated November 11, 1871.—APPARATUS FOR AMALGAMATING GOLD IN TAILINGS.—Thomas A. Pratt, Marysville, Cal.

Claim.—The vessel A, provided with the hopper-shaped spout B, in combination with the adjustable stirring-wheel, composed of the disks *h i*, with their angular wings *m n* and vertical dividing wings *g*, all constructed and arranged to operate substantially as and for the purpose above described.

121,297.—TRAMWAY-SADDLE.—Joshua Clayton Robinson, Hamilton, Nev.

Claim.—The combination of the hinged levers D D with the jaws F F and pulleys G G, also, the head of the frame A from the dotted line upward, substantially as and for the purpose hereinbefore set forth.

121,298, antedated November 11, 1871.—CIGAR-MACHINE. — Socrates Scholfield, Providence, R. I.

Claim.—1. The combination, with a bunch-forming apparatus or device constructed to produce an elongated bunch or filler, of a cutter or cutters, G, formed to divide and taper the bunch, substantially as specified.

2. The combination of the cutters G and H with a bunch-forming and binding apparatus, essentially as described.

3. The intermittently-moving apron D provided with strips or projections *e*, in combination with the bunch-forming apparatus and cutters G H, substantially as specified.

4. The drawer K, constructed and arranged to receive an intermittent movement alternately, in reverse directions, along paths or ways *l*′ *l*², arranged the one below the other, and connected by drop-grooves *u*, essentially as described.

5. The combination, with the drawer K arranged to operate as described, of the conveying-apron D and the guides *k k*, substantially as specified.

6. The combination, with an apparatus for forming cigar-bunches and putting on the binders, of devices for cutting, conveying, and packing the bunches, arranged for operation in an automatic manner, subject to the action of a clutch controlled by the opening and closing of the apparatus which forms and binds the bunches, essentially as and for the purposes herein set forth.

121,299. — MACHINERY FOR HANDLING LOGS IN SAW-MILLS.—Edward H. Stearns, Erie, Pa.

Claim.—1. The combination of the track-ways B″ B‴, either with or without the grooves in their top sides, and having the idle-sheaves *d d*, the endless chains J² J², and the working-sheaves M′ M′, constructed and arranged substantially as and for the purpose described.

2. The combination of the endless chain N′ (both having the same construction as J² and N′) and the jack-way B′, having the idle-pulleys M″ and working-sheave M, with the track-ways B′ B′ and chains J², constructed and arranged substantially as and for the purpose described.

121,300. — TRACK-CLEARER FOR MOWING-MACHINES.—James Timms, Malta, Ohio.

Claim.—1. The track-clearer D, applied to revolve by contact of a portion of its base with the ground upon an axis inclined from its base inward toward the frame of the machine, substantially as herein described and shown.

2. The track-clearer D, applied as described and shown, in combination with the curved divider C, as set forth.

121,301, antedated November 17, 1871.—APPARATUS FOR LIGHTING AND EXTINGUISHING GAS BY ELECTRICITY.—Jacob P. Tirrell, Charlestown, assignor to George F. Pinkham, Boston, Mass.

Claim.—1. The within-described mechanism for automatically breaking the circuit through the electro-magnet and causing the current to pass to the next apparatus, the said mechanism consisting essentially of the ratchet-wheel G operated by the electro-magnet, in combination with the shaft *c*, lever *g*, cylinder J with its insulated plates, and the springs *p q v b*′ *c*′ and wires connected therewith, operating substantially as set forth.

2. The ratchet-wheel G, with its pins 13 14 15-16, in combination with the lever *g* for operating the gas-valve *e*, substantially as described.

3. In an electrical apparatus for lighting and extinguishing gas the circuit-breaker N, operated by the armature of the electro-magnet and placed in close proximity thereto, substantially as and for the purpose set forth.

4. The combination of an auxiliary burner, S, with the main burner I and an electric spark-generating mechanism, substantially as and for the purpose described.

5. The arrangement of the primary coils P within the apparatus and in close proximity to the burner, substantially as and for the purpose set forth.

6. One or more springs, *g*′ *g*′, attached to the insulated post Q and connected with one pole of the battery, in combination with the pin *i*′ connected with the opposite pole of the battery for producing the sparks, substantially as described.

7. The rod *k*′, in combination with the valve *b*′, auxiliary burner S, pin *i*′, and one or more springs, *g*′ *g*′, operating substantially as described.

121,302, antedated November 17, 1871.—APPARATUS FOR LIGHTING AND EXTINGUISHING GAS BY ELECTRICITY.—Jacob P. Tirrell, Charlestown, assignor to George F. Pinkham, Boston, Mass.

Claim.—1. The two electro-magnets B C, operated alternately, in combination with a mechanism connected therewith for operating the gas-valve A, and a switch, K, or equivalent device, for breaking the electric current through either one of the electro-magnets and causing the current to pass to the next apparatus, substantially as described.

2. The electro-magnets B C and pawl T with its releasing device in combination with the rod O, pin n', one or more springs m' m', and the auxiliary burner S with its valve p', all operating substantially as and for the purpose set forth.

3. The combination of the electro-magnets B C, the rock-shaft D, and connecting-rod e, for operating the gas-valve A, substantially as described.

4. The combination of the lever k with its toothed segment 17, operated by the electro-magnets B C, the pinion l, shaft m, loose wheel p, brake r, friction-clutch q, and the fast wheel J with its pins for actuating the switch K, all constructed to operate as and for the purpose set forth.

121,303, antedated November 16, 1871.—CLOTHES-PIN.—Hiram J. Wattles, Rockford, Ill., assignor to Henry W. Price, same place.

Claim.—A spring-clamp constructed as described, and provided with an auxiliary leg, as and for the purpose set forth.

121,304.—BASKET-SPLINT.—Irving F. Wilcox, Streetsborough, Ohio.

Claim.—As an article of manufacture, a basket-splint produced in the manner specified.

121,305.—NAIL FOR SECURING WEATHER-TILING AND SIDING.—William E. Worthon, New York, N. Y.

Claim.—A weather-tiling fastening, composed of the bushing d and nail a', constructed in the manner and for the purpose described.

121,306. — APPARATUS FOR CONTROLLING THE VELOCITY OF STEAM-ENGINES. — William E. Worthen, New York, N. Y.

Claim.—The exhaust-pipe d, brake-valve e, and lever e, in combination with the steam-chest of a steam-engine, substantially in the manner and for the purpose described.

121,307.—WASHING-MACHINE.—James Abbot, Fitchburg, Mass.

Claim.—The combination of suds-box A having inclined sides a and concave perforated bottom b, the longitudinal trough d having faucet e, the dasher B made of rods attached between perforated bars g g, and the balance-handle i, all arranged in a washing-machine, as and for the purpose set forth.

121,308.—ELECTRIC GAS-LIGHTER.—Almon N. Allen and Rodney H. Dewey, Pittsfield, Mass.

Claim.—The combination of a galvanic battery with a lamp-post and with a flexible diaphragm which controls the admission of gas to the burner, and the mechanism for opening and closing the circuit of the galvanic battery, substantially in the manner herein shown and described.

121,309.—FASTENING FOR WINDOW-BLINDS.—Isaac Amos, Bel Air, Md.

Claim.—The pintle B, provided with the finger-hold b' and stud b, and combined with the leaves A A, having notches, as specified, whereby the pintle may be operated to unlock and swing the shutter, as set forth.

121,310.—BIN FOR WAREHOUSES.—Frederick W. Aufderheide, St. Louis, Mo.

Claim.—1. The hoppers constructed as described, in combination with conveyer E and discharge-spouts d D, when arranged to discharge grain, as and for the purpose set forth.

2. The grain-bins, consisting of hopper-boards a a' a² b b' C C' c c', in combination with joists B, conveyers E e', and discharge-spouts d D, substantially as and for the purpose set forth.

121,311.—COMPOUND FOR FILLING OR STUFFING SURFACES TO BE PAINTED OR VARNISHED.—Damon R. Averill, New Centreville, N. Y.

Claim.—The compound as herein specified, for the purpose set forth.

121,312. — SHOE-QUARTER, &c. — Samuel Babbitt, Brasil, Ind.

Claim.—The rear portion of a shoe crimped in one piece, and provided with stays, as described.

121,313. — STREET-WASHER. — George C. Bailey, Pittsburg, Pa.

Claim.—1. The pipe d', branching on one side into a water-discharge, d'', and on the other into a swivel-socket, e, when combined with a hydrant-valve below and a swivel-stem, e', above, arranged and operating substantially as described.

2. The discharge-pipe d', branching at its upper end into a water-discharge, d'', on one side, and a head or arm, e, on the other, in combination with a removable valve or cock-hydrant and stop-cock, all inclosed in a single case, f, substantially as described.

121,314. — CHEESE-CUTTING MACHINE.—John Gulick Baker, Philadelphia, Pa., assignor to "Enterprise Manufacturing Company of Pennsylvania."

Claim.—1. The combination of a handle, M, serving also as a pointer, stationary graduated index, and table H' with mechanism for imparting motion from the said handle to the table.

2. The combination of the table and its circular rack with the bevel-wheel J and its spiral rib, f, bevel-pinion K, and crank-shaft L.

3. The guided rack D and its blade E, in combination with the inclined disk H and its spiral rib or ribs.

4. The table H', the position of which may be determined by a pointer and index, substantially in the manner described, in combination with a blade, E, which derives its motion from a source independent of that which actuates the table.

121,315.—ROCK-DRILLING MACHINE.—Nathan Ball, East Palestine, and Joseph A. Stansbury, Salem, Ohio; said Stansbury assigns his right to said Ball.

Claim.—1. The pipe A, threaded exteriorly upon one end, and provided at its opposite end with the head B, the interiorly-threaded sleeve C fitted over the end of said pipe, and the bar D fitted within said pipe and sleeve and connected to or with the latter by means of the pin E, the whole forming the drill-standard, substantially as specified.

2. The shaft H, the plate I, the box K, the pipe O, and the holes o, in combination with the drill-head F and with the drill-stock L, substantially as and for the purpose shown.

3. The rack-bar P, pinion Q, shaft q, and crank R, when the several parts are constructed as described, and combined with the drill-stock L and drill-head F, substantially as and for the purpose set forth.

121,316. — MOTIVE POWER AND BALANCE CAR. — Joseph Rayna, San Francisco, Cal.

Claim.—1. The treadles M M hinged to the platform C, and the cranks e e and connecting-rods O, together with the wheels A and B, when the whole is constructed to operate substantially as described.

2. The device, consisting of the gear-wheels H and I, mounted independently, as shown, and the pinion K with its operating-lever J, constructed and operating substantially as herein described.

121,317.—COTTON-PRESS.—Charles J. Beasley, Petersburg, Va.

Claim.—1. The combination of the followers A B, arms C, fulcrum-rods E, and connecting-rods D, as described, for the purpose of causing the lower follower, as it descends, to raise the upper follower.

2. The combination of the followers A B, arms C, fulcrum-rods E, connecting-rods D, cords N, and winding-shaft H, as specified.

3. The lever J, provided with the slot *f* and rigid projection *b*, and arranged in relation to the ratchet I on the shaft H, as set forth.

121,318. — METALLIC COLUMN. — Charles Bender, Phœnixville, Pa.

Claim.—1. A metallic sectional column whose segments are united by means of ribs or bulbs, clamp or channel pieces, and rivets or bolts, combined, and operating to draw together the segments, substantially as herein shown and described.

2. In a column composed of metallic segments united together, the use of metallic dowels or pins placed in the seams between the segments and extending from the exterior to the interior of the columns, substantially as shown and described.

3. The mode herein described of putting up a metallic sectional column—that is to say, binding the segments together in their proper positions to form a column, with or without the aid of a core or form, then drilling and riveting together the segments while thus supported and held, and then removing the core or form, if one be used, substantially as set forth.

4. A metallic column composed of segments whose contiguous edges are drawn together and united by a clamp connection located inside the column, substantially as herein shown and set forth.

121,319.—PRUNING-SHEARS. — Georg Bergner, Washington, Mo.

Claim.—The box-plate C, provided with the raised curved rim *k* and hooked projection *o*, when pivoted on the screw *d* and operated upon by the spring *e* in the combination, substantially as shown and described.

121,320.—VALVE FOR DIRECT-ACTING ENGINES.—George F. Blake, Boston, Mass.

Claim.—1. The slide-valve C, constructed as described, and operating both the plunger and piston, thus performing the function usually performed by two valves, as fully set forth and shown.

2. The combination and arrangement of the slide-valve C, rod K, yoke H, ports *a b c d e*, plunger B, and flat pin G with the main piston of a direct-acting engine, all constructed and operating in the manner and for the purpose specified.

121,321.—PROCESS FOR RESTORING WRITING OR PRINTING ON CHARRED PAPER.—James V. Z. Blaney, Chicago, Ill.

Claim.—The use of the soluble compounds of silver and of copper for the restoration, temporarily or permanently, of writing or printing on paper which has been wholly or partially charred by fire, such charring having rendered such writing or printing wholly or partially illegible.

121,322, antedated November 11, 1871.—WASHING-MACHINE. — Jacob A. Boyce, Altoona, Pa.

Claim.—The rubber C, rollers B B, rod *c c*¹, spring D¹, cross-bar D, and uprights D², in combination with the lever I, pitman *g*, connecting-rod G A, and parts F E, all constructed and arranged to operate substantially as shown, and for the purpose set forth.

121,323. — WASHING-MACHINE. — David Bradley and Asa Doney, Saratoga Springs, N. Y.

Claim.—1. In a washing-machine, an endless belt of rubbing-rollers and a reciprocating rubber, when the former is adapted to impart motion to the clothes or to hold them in a fixed position, substantially as described, for the purpose specified.

2. In combination with the endless belt of rubbing-rollers, the holding device for the clothes, by which they are adapted for reversal upon the rollers to receive the action of the reciprocating rubber upon both sides, substantially as herein shown and described.

3. In combination with the endless belt of rollers and the reciprocating rubber, the corrugated inclined guide-board H, substantially as described, for the purpose specified.

4. In combination with the gear-wheels M and the shaft of the endless rubbing-apron, the toothed wheel P and pawl Q, whereby said apron is adapted to be thrown in and out of operation during the movements of the reciprocating rubber, substantially as described, for the purpose specified.

121,324.—ANIMAL-TRAP.—Milton D. Brown, Newburg, Tenn.

Claim.—A trap-door, H, and bait-hook F combined, as described, with a lever, E, which holds the bait with one arm and the trap-door with the other, as described.

121,325. — BUCKLE. — John Buche, Apple River, Ill.

Claim.—1. The body C of a breech-buckle, having hinged tongue E carrying the pin *g* applied crosswise thereto, as and for the purpose specified.

2. The ring D and the body C, having hinged tongue E with pin *g*, constructed and arranged as described, to form a new article of manufacture.

121,326.—TEA AND COFFEE POT.—Edwards M. Burchard, Washington, D. C.

Claim.—1. In combination with the inner end of the discharge-spout of a tea or coffee pot, the strainer C, provided with locking-springs D for the purpose of retaining the same in position, substantially as set forth.

2. As a new article of manufacture, a semi-spherical metal strainer, C, provided with locking-springs D, substantially as and for the purpose shown.

121,327.—STREET LANTERN.—Alois Burger, New York, N. Y.

Claim.—The circular rings B F, flanges D G, cross-bar C, globe O, and inside bolts H, in combination with the hinged cover L, spring-catch N, and projecting flange E, all arranged and operating substantially as and for the purpose set forth.

121,328.—SEWING-MACHINE ATTACHMENT FOR BUTTON-HOLES.—William Burnam, Pana, Ill.

Claim.—The arrangement, with presser-foot *a* and needles *m* and *n*, of the wheel *d*, bar *g*, spring *i*, carrier *j*, and hinged tooth *e*, as shown and described, whereby they are adapted to operate in connection with said needles, as set forth.

121,329.—STOVE-PIPE THIMBLE.—Cephas A. Buttles, Milwaukee, Wis.

Claim.—The stove-pipe thimble, herein described, consisting of an upper head, A, constructed with the parts *a e i*, as represented, in combination with the lower head B and the bands C D, substantially as and for the purposes specified.

121,330. — PAINT. — Walter J. Byrne, Russellville, Ky.

Claim.—Paint prepared by uniting dissolved In-

dia rubber with lime, or any of its salts, and oil, substantially as herein described.

121,331.—SHOVEL.—Robert Calhoun, Allegheny City, Pa., assignor to himself and James C. Lindsay, same place.

Claim.—1. The improved shovel, the blade of which is corrugated, as shown, and which is attached to the handle by straps d d', which straps taper from the blade upward, as at e, such parts e being riveted together above the blade, substantially as set forth.

2. The back strap d', V-shaped at its lower end, in combination with a V-shaped corrugation, a', the edges of the strap being turned into the hollow of the corrugation, substantially as described.

121,332.—EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.—William Carpenter, Lawrence, Kan., assignor to himself and Samuel Pool, same place.

Claim.—1. The combination of the lever E operated by a suitable mechanism from the needle-bar, the stationary notched and grooved plate G, the pivoted and notched plates J and J' which carry the embroidery-threads, when constructed, arranged and operating substantially as herein set forth.

2. The combination of the plate B with the angular lever C, vertical arm D, spring d, lever E, stationary notched and grooved plate G, and a pivoted and notched plate, to which is connected movable arms which alternately act and feed the thread to the cloth, all connected to the extremity of the presser-foot bar and operated substantially as herein set forth.

121,333.—SWINGING RAILWAY FOR LOADING VESSELS.—James L. Cheeseman, Gardiner, Me., assignor of one-half his right to Henry C. Cheeseman, same place.

Claim.—1. The swinging railway in connection with the stationary railway and platform-car, constructed substantially as and for the purpose set forth.

2. The combination of platform A and its stationary rails C C, pivoted post P P and their arms E E, and hinged bars e e with car K and its hinged planks S S and hooked rod H, substantially in the manner and for the purpose set forth.

121,334.—UPRIGHT PIANO.—Charles F. Chickering, New York, N. Y.

Claim.—1. The upright piano-forte having its hammers arranged on a curve, substantially as and for the purpose herein shown and described.

2. The arched rails B, C, and D of the action-frame, arranged as described to permit the application of the hammers on a curved line, as specified.

3. The damper-frame having the arched rail F, substantially as and for the purpose herein shown and described.

121,335.—AUTOMATIC FLY-BRUSH.—William H. Chipley, Libertytown, Md.

Claim.—1. The combination of a clock-work, crank-wheel B, pitman C, arm D, upright rocking shaft or bar G with notches or offsets b b and one or more brush-holders, all substantially as and for the purposes herein set forth.

2. The brush-holder, consisting of the bar H with fork I, projection d, pawl f, spring e, and socket h, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination of the shaft k, handle m, arm n, and spring i, all constructed and arranged substantially as and for the purposes herein set forth.

121,336.—CAKE-STIRRER.—Sarah M. Clark, Beaver Dam, Wis.

Claim.—1. The vessel A, brackets B, screws C, bars D G E, set-screw F, gear-wheels K M, shaft H, arms N, and vertical plates O, all combined and arranged substantially as specified.

2. The bar D, having the slot J, in combination with the ears B B', also having slots to facilitate the attaching and detaching of the vessel, substantially as specified.

121,337.—WATCH-ESCAPEMENT.—Abel Coombs, Burlingame, Kan.

Claim.—1. The lever having the pallets d e arranged relatively to the pivot and the escape-wheel, and arranged with the roller and roller-pin on the balance-staff for increasing the leverage and stopping the train only once for the beats of the balance, all substantially as specified.

2. The arrangement of the lever, roller, roller-pin, banking-pin, and banking-notch, for operation substantially as specified.

121,338.—MEDICAL COMPOUND.—Jules Leon Augustin Creuse, Brooklyn, N. Y.

Claim.—A medical compound, formed by the combination of sesqui-iodide of iron and vegetable salts, substantially as herein described.

121,339.—KNIFE-POLISHER.—William H. Cummings, Oxford, Mass.

Claim.—A knife-polisher, consisting of the cylinder A, closed at each end by a perforated ring, B, with or without a facing, C, as herein shown and described.

121,340.—CHUCK FOR SCREW-CUTTING.—Charles Deane, New York, N. Y., assignor to The Archer & Pancoast Manufacturing Company, same place.

Claim.—The combination of the mortised body C, the pivoted jaws D D, the sliding collar E with its projections b b, the ring F, and yoke-lever G, the whole arranged for operation substantially as and for the purpose set forth.

121,341.—STOVE-PIPE ELBOW.—Ferdinand Dieckmann, Cincinnati, Ohio.

Claim.—A pipe-elbow, produced by means of a succession of flat crimps or seams, B, in the form and manner herein represented and described.

121,342.—CURTAIN-FIXTURE.—Charles Eaton, New York, N. Y.

Claim.—The combination of the spring-roller A, strip B, brackets C C, stop-pulleys E E, and cord D, when arranged as described, and for the purposes set forth.

121,343.—MACHINE FOR BLACKING BOOTS AND SHOES.—Nathan Eisenmann, New York, N. Y.

Claim.—1. The combination of the brushes O P Q, shaft P, pedestal N, and wires L M with each other, with the box A, and with a clock-work, B C D E G H I J K, or equivalent train of gearing, substantially as herein shown and described, and for the purpose set forth, whether the said clock-work be driven by hand or spring-power.

2. The combination of the swiveled socket S with the crank R to adapt it to receive a long handle, T, substantially as herein shown and described, and for the purpose set forth.

121,344.—FOLDING COMMODE.—Roscoe G. Elder, New York, N. Y.

Claim.—The commode-seat A, combined with the hinged cover B, the hinged leg-frames G H, and hinged curtain pieces I I, substantially as described.

121,345.—LIBRARY-STEP AND HOLDER FOR BLACKING IMPLEMENTS COMBINED.—Roscoe G. Elder, New York, N. Y.

Claim.—1. The hinged cover C of a library-step provided with a rigid foot-rest, D, arranged substantially as and for the purpose set forth.

2. The hollow step B of a library, having a hinged cover, C, and hinged back I, constructed and arranged substantially as and for the purpose set forth.

3. In combination with the hollow steps of a library the hinged cover C and back I, the former carrying the foot-rest D and the latter the box-holder H, all arranged substantially as and for the purpose set forth.

121,346.—CANAL-BOAT.—James English, Syracuse, N. Y., assignor to himself and Jonathan M. Roberts, Burlington, N. J.

Claim.—1. A tug-boat, having an open space, B, provided with an inclined surface, a, located below the water-line and in rear of the propeller for the purpose of directing the water displaced by the propeller in a downward direction, in order that its force may be expended without great surface agitation, as described.

2. The tug-boat described, provided with the compartments A A, hull C, deck E with inclined portion a, open space B tapering slightly outward from the bow to the stern, and the propeller, all combined and arranged as described.

121,347.—BULLETIN-BOARD.—Andrew M. Ernsberger, Danville, Ill.

Claim.—The frame A, holding the movable boards C, grooved cleats D, hinged plates E, and latches F, or equivalents, substantially as and for the purpose set forth.

121,348.—NUT-LOCKING DEVICE.—James L. Estill, Salem, Ohio, assignor to himself and Daniel Koll, same place.

Claim.—1. A malleable sheet-metal slip having one end clamped by, or by and between, the fish-plate and the rail, and the other end between the nuts to be locked, as and for the purpose described.

2. The malleable-metal lock-plate intervened between the rail and the fish-plate to cushion the latter and form a space between the rail and said fish-plate, as described.

3. The tough malleable-metal lock-plate a, held in position to lock and unlock the nuts by means of the fish-plate, as described.

4. The lip c of the malleable-metal lock-plate for holding its nut-locking end away from the fish-plate, as and for the purpose described.

121,349.—CLOTHES-DRIER.—Jabez B. Fellows, Augusta, Mo.

Claim.—The collar G, constructed with the lug G', and holding the plate g and adjusting-screw h, when applied to a clothes-drier having movable arms E, in the manner and for the purpose set forth.

121,350.—TRACE-COUPLING.—James R. Finley, Delphi, Ind.

Claim.—A trace-coupling, consisting of the ferrule A, slotted joint B, and fastener D, of the form shown, when constructed and arranged together for operation, as described.

121,351.—MIXER AND HEATER FOR PREPARING CONCRETE FOR PAVEMENTS, &c.—Henry Franke, Brooklyn, N. Y.

Claim.—1. The mixing-drum A having mounted on its ends the wheels B B, and being connected to a draft-pole or push-handle, substantially as and for the purpose described.

2. The heating-jacket E, in combination with the mixing-drum A, wheels B B, and pole or handle D, substantially as set forth.

3. The furnace F suspended from one or more springs, in combination with the jacket E, drum A, wheels B B, and pole or handle D, substantially as set forth.

121,352.—METHOD OF MAKING HARNESS-PADS.—Conrad Gabr, Newark, N. J.

Claim.—1. The dies A B E combined, applied, and relatively constructed, as described, so that the leather shall be successively shaped and stuffed in the same female die and by the mode of operation above set forth.

2. The two dies A B, combined, constructed, and applied, as described, to form on the leather a flange, a, to be riveted, as well as the cavity to be stuffed.

121,353.—CORNSTALK-CUTTER.—Thomas A. Galt and George S. Tracy, Sterling, Ill.

Claim.—In a cornstalk-cutter having the cutting-reels C and the transverse beams or stop-bars z, the bent levers g pivoted about midway between the stop-bars z, and bearing at the ends of their lower or curved arms the carrying-wheels G, substantially as specified.

121,354.—DEVICE FOR CONVERTING RECIPROCATING INTO ROTARY MOTION.—George L. Gavett, Sandstone, Mich.

Claim.—The rack-frame A, racks a a', studs a², spring E, wheel F, and slots D, when arranged, constructed, and operating together, as described.

121,355.—OSCILLATING-ENGINE.—Thomas W. Godwin, Norfolk, Va.

Claim.—1. The valve B and oscillating seat, herein described, in combination with the steam-chest D, substantially as set forth.

2. The oscillating valve-seat and valve, constructed as described and shown, in combination with the steam-chests D and H with intervening steam-pipes E K K'.

3. A stationary steam-valve with projecting hollow arms at irregular distances, for the purpose of conducting steam to the piston-cylinder or exhausting it therefrom, substantially as described.

4. The arrangement of the hollow valve-stem B', hollow trunnions A¹ A², steam-chest D, and valve B having hollow arms, all constructed and operating substantially as shown and set forth.

121,356.—BINDER FOR SEWING-MACHINES.—Bernard Goldsmith, Newark, N. J., assignor to Jenny Goldsmith, same place.

Claim.—As an article of manufacture, the binder herein described and shown, provided with slots e and projection g, as and for the purpose set forth.

121,357.—CORN-PLANTER.—Henry Gortner, Nashport, Ohio.

Claim.—1. The combination of the frame F F I J G G with the frame A A, tongue C, and hook j, adapted to receive either the plows or planter, substantially as described, and for the purpose set forth.

2. The combination of the frame F F with the lever-fulcrums G G, and levers [illegible]D, and supports E E, and the rollers a a, and pivot f, substantially as set forth and described.

121,358.—STEAM-VALVE.—William F. Gould, Davenport, Iowa.

Claim.—The combination of the valve, roller, piston, and intermediate connecting mechanism with the cross-bar E, screw-stems G, and check-nuts f, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

121,359.—LOOM PICKING MECHANISM.—Elijah D. Gove, Holyoke, Mass.

Claim.—The case C, block F, rocker B, and bed A, all combined, constructed, and arranged substantially as and for the purpose described.

121,360.—SOLDERING APPARATUS.—John Gracie, Pittsburg, Pa.

Claim.—1. A covered melting-pan, with a dip-

ping-trough arranged in the cover, substantially as and for the purposes set forth.

2. In connection with the covering devices of a melting-pan an adjustable dipping-trough, *e*, arranged therein, substantially as and for the uses described.

3. A dipping-trough, *e*, arranged in connection with a floating cover or other equivalent device, whereby the trough *e* shall always contain a uniform depth of solder, substantially as described.

4. The combination of trough *e*, cover-plate *d*, pipes *s*, and nuts *u*, substantially as above set forth.

5. The cover *c*, carrying hollow posts *c'*, when combined with an adjustable dipping-trough, *e*, by adjustable connections *s*, substantially as and for the purposes set forth.

121,361.—BASE-BURNING STOVE AND FURNACE.—Clark B. Gregory, Beverly, N. J.

Claim.—1. A furnace in which air passes through a mass of ignited fuel contained in a combustion-chamber at the base of a fuel-magazine, and in which the products of combustion are met at or near the surface of the ignited fuel with jets or volumes of air which pass with the said products of combustion to a contracted opening or openings at the top of the combustion-chamber, all substantially as set forth.

2. The slabs M and M', situated at the top of the combustion-chamber, one or both of the said slabs being adjustable for the purpose specified.

3. The arrangement, substantially as described, of the combustion-chamber J with its contracted opening, the magazine F, tile E, and grate H.

4. The combination of a reservoir, F, and a chamber formed by the front plate E and side plates A A, when the said chamber is provided with a falling grate hinged at the rear, and so arranged as to support a body of the fuel between the plate E and the reservoir, as specified.

5. The magazine, separated into two compartments by a partition, *b*, substantially as described.

6. The combination of the hinged grate H with the supplementary sliding grate I or its equivalent, operating as set forth.

121,362.—CARRIAGE-SEAT JOINT.—John A. Hanna, Bel Air, Md.

Claim.—1. The improved carriage-seat joint formed of the movable part A having the tongue *a*, and the fixed part B provided with recess *c* for reception of the tongue, both said parts having abutting shoulders on the sides and back, as shown and described, for the purpose specified.

2. The rubber tube D having the projecting flap E, applied to the seat-joint of a vehicle, as and for the purpose described.

121,363.—STOVE-GRATE.—Thomas Hartley, Bridgeport, Ohio.

Claim.—1. In a fire-grate the stationary part B *b*, in combination with the movable part B', substantially as shown and described.

2. The sliding rim E, in combination with the fluted or scalloped rim F, when arranged with reference to a fire-grate, substantially as herein shown and described, and for the purposes specified.

3. The combination of the sliding rim E and folding door G, as shown and described.

121,364.—STEAM-ENGINE.—Arden A. Heath, Mercer, Pa.

Claim.—1. The annular steam-chest, annular valves, and the ports H, arranged substantially as specified.

2. The arrangement, with the annular space D, of the annular exhaust-spaces F and passages G, substantially as specified.

121,365.—COTTON-GIN.—William Lindsay Henderson, Comrawatte, The Berars, Western India.

Claim.—In cotton-gins of the class above described, a reciprocating knife, C, having alternate diagonal or oblique ribs and openings, in combination with a revolving-roller and fixed knife, and operative substantially in the manner and for the purposes set forth.

121,366.—ATTACHMENT FOR SEWING-MACHINES.—Albert H. Hewitt, Batavia, N. Y.

Claim.—The slide-plate D having tongue *e* adapted to bear against the presser-foot, the longer tongue *f* curved on its lower side and projecting as far as the side of the hemmer, and the longest tongue *g* curved on its upper surface, in a higher plane than the others, and receiving the trimming between it and the other tongue, the thus-constructed plates and tongues being combined with a cloth-gauge, A B, having the holes *a b c*, as and for the purpose specified.

121,367.—GAITER-PATTERN.—Samuel Hodgins, St. Louis, Mo., assignor to himself and Ferdinand Meyer.

Claim.—The herein-described gaiter-pattern, having the instep part cut with the openings and slits *a a'*, substantially as and for the purpose set forth.

121,368.—TELEGRAPH-INSULATOR.—Minard Y. Holley, Washington, D. C.

Claim.—A telegraph-insulator having the triangular form, as and for the purpose set forth.

121,369.—SEWING-MACHINE.—John O. Hough, De Witt county, Ill.

Claim.—The frames A A and B B, constructed as described, drive-wheel D, pinion H, crank-shaft G, and saw J, when arranged to operate with the carriage O, rack-bars Q Q, pinions S S, crank T, pulleys U U U U, dog V, and lever L, substantially as described, and for the purpose set forth.

121,370.—WASH-BOILER.—Maria C. Hubbard, Troy, N. Y.

Claim.—The frame B and rods D E, combined, as described, with boiler A F, as and for the purpose set forth.

121,371.—CLOTHES-DRIER AND AWNING COMBINED.—Charles E. Hyde, Oswego, N. Y.

Claim.—The standards *a a*, cross-bars *b b*, cords *c c* and *e e*, awning *f*, cords *g g*, and loops *i i*, arranged, as shown and described, to form a combined clothes-drier and awning, as specified.

121,372.—PIPE-WRENCH.—Henry A. Hyle, Shamburg, Pa.

Claim.—The pipe-wrench herein described, consisting of the handle A, serrated jaws H C, set-screw G, and spring F, when the serrated surfaces of the jaws are arranged so as to grasp the pipe on two diametrically-opposite sides, all as shown and described.

121,373.—SCROLL-SAW GUIDE.—Samuel Ide, Medina, N. Y.

Claim.—1. The two independent guide-bars B B, grooved guide-plate L arranged in a socket of the arm A, and provided with the clamp and temper-screws K and F, as shown and described.

2. The combination of the oil-cups G, plates H, guide L, and clamp-screw K with the saw and the arm A, substantially as specified.

121,374.—IRON GIRDER.—Peter H. Jackson, New York, N. Y.

Claim.—1. The within-described girder, formed of separate castings A^1 A^2, with a tie or ties, B, constructed and combined substantially as herein specified.

2. The separate castings A^1 A^2, in combination with each other and the tie B, with soft metal confined between the abutting surfaces and serving therewith, as specified.

3. In an iron girder having a tie-rod, B, to receive the tensile strain, and two separate castings, A^1 A^2, to receive the compressive strain, the partially-cylindrical form a^2 of one abutting surface, and the corresponding concave form a^1 of the opposite abutting surface, adapted to yield downward and relieve one casting from most of the transverse strain while keeping each other firmly abutted and supporting the incumbent masonry, as specified.

121,375, antedated November 13, 1871.—COMPOUND FOR COLORING LEATHER.—Gottfried Jäger, Indianapolis, Ind.

Claim.—1. The application of the solution of oxalic acid and salt of tin to the leather, and in the proportion and the manner and way as herein set forth.

2. The application of the solution of potash for the purpose of coloring, as herein set forth.

3. The combination of oxalic acid, salt of tin, and potash with nutgall and sulphate of iron, substantially as and for the purpose specified.

121,376.—STEAM AND WATER INJECTOR.—Samuel S. Jamison, Jr., Saltsburg, Pa.

Claim.—The double conical piece *a*, in combination with an injector, as specified.

121,377.—THRASHING-MACHINE.—Frederick P. Jaquith, Hoosick Falls, N. Y.

Claim.—1. In combination with the thrashing-cylinder and its shaft, a series of arms or teeth loosely placed on said shaft, and having spring-joints in them, as at *a*, and passing through slots in the shell of the cylinder, as and for the purpose described and represented.

2. In combination with a thrashing-cylinder and its spring-arms and beaters, as described, the driving mechanism consisting of the shafts, pulleys, and belts, substantially as described, and for the purpose set forth.

121,378, antedated November 18, 1871.—WAGON.—Jesse Jenkins, Sligo, Md., assignor of one-third his right to Abner C. P. Shoemaker, Brightwood, D. C.

Claim.—The within-described vehicle, consisting of the box D, springs E E attached under the box, and provided with loops at each end, which encircle the front and rear bounds C C', rear spring G, and axle A A', connected by the perches B B, all substantially as set forth.

121,379.—POTATO-DIGGER.—Moses Johnson, Three Rivers, Mich.

Claim.—1. The separator B, composed of the side pieces *b* united by angle-irons *b' b'*, and the separable point B' secured by means of plates *d*, said separator having its sides tapering and without lateral curve, and employed in connection with a fingered wheel, substantially as specified.

2. The wheel C, constructed with a circular imperforate dividing-wall extending from the periphery to or nearly to the hub or center, and provided with the bent gathering-fingers, substantially as specified.

121,380.—MONUMENT.—Francis Marin Jones, Independence, Miss.

Claim.—The tombstone or monument constructed of perforated wood A, covered with cement B, as and for the purpose set forth.

121,381.—CULTIVATOR.—W. Thomas Jordan, Newnan, Ga.

Claim.—The plowshare E and slotted foot F having the grades *n n*, when forming a cycloidal curve, in combination with the adjustable arms or braces G G and curved rod D with its setting and adjusting mechanism, consisting of the movable semi-collars K L, bolt *o*, perforated plate I, hand or clamp screw *e*, and clamp-plate *h*, constructed to operate substantially as set forth.

121,382, antedated November 17, 1871.—PLOW.—Horace M. Keith, Commerce, Mich.

Claim.—As an improvement upon my former patent dated October 18, 1870, the standard B with vertically-slotted arm *b*, in combination with the concave edger A having elongated bolt-holes *a a*, and washer *c*, substantially as and for the purpose set forth.

121,383.—NICKEL-PLATING.—Nathaniel Shepard Keith, New York, N. Y.

Claim.—Plating solutions made by the addition of the acid or neutral salts, formed by the union of organic acids with a base or bases, to the solutions of the salts of nickel, substantially as specified.

121,384.—CORN-PICKING AND HUSKING-MACHINE.—Silas R. Kenyon, Greenville, R. I., assignor to himself and William D. Vernam, Elizabeth, N. J.

Claim.—1. The adjustable cross-bar or plate *c* combined with the picker-cylinder *b* and roller *c* in the manner and for the purposes set forth.

2. The roller *c*, placed, as shown, toward the feeding side of the machine above the picker-cylinder *b*, and in combination with the same, so as to break the stems of the ears, as and for the purposes set forth.

3. The plate *f*, combined with the roller *c* and picker-cylinder *b*, as and for the purposes set forth.

4. The clearing-bar *l*, applied to and combined with the picker-cylinder *b*, as and for the purposes specified.

5. The shield *n*, placed over the journal-boxes of the rollers *o o p p* of the corn-husking-machine, as and for the purposes specified.

6. The journal-boxes 5 of the husking-rollers, made with the projecting lips 4, and provided with the clamping-screws and adjusting-screws 8 8, for the purposes specified, the parts being arranged as set forth.

7. The adjustable cover *r*, provided with the flaring ends for the reception of the ears, and connected by the slotted ears *s* and screws, so as to sustain the same in the proper position relatively to the husking-rollers, as set forth.

121,385.—FURNACE FOR SMELTING LEAD AND OTHER ORES.—Winfield Scott Keys and Albert Arents, Eureka, Nev.

Claim.—The method of tapping or withdrawing molten lead or other metals from a smelting-furnace by means of the basin B and tube or connection C, in combination with the furnace, substantially as shown and described.

121,386, antedated November 18, 1871.—HOISTING APPARATUS.—Theodore Krausch, New York, N. Y.

Claim.—1. The clamp for a hoisting-machine, consisting essentially of the pivoted arms *a a'*, the swiveled jaws C carrying friction-rollers *g* in the arms *e*, the links *f f*, and the clamping-screw *k*, substantially as described, for the purpose specified.

2. In combination with the clamp A and swivel-jaws C, the elastic pads *d*, substantially as described, for the purpose specified.

121,387, antedated November 13, 1871.—MALT-HOUSE.—Theodore Krausch, New York, N. Y.

Claim.—1. In a malt-house, the arrangement of an air-trunk, I, steam-nozzle N, and pipes J K L, substantially as described.

2. The air-channels *f* and air-space *d*, surrounding the ice-chamber B, in combination with malt-bins C, air-pipes J K L, air-trunk I, and steam-nozzle N, substantially as described.

3. The air-trough *l* and water-pan *o*, in combination with the air-channels *f*, malt-bins C, pipes J K L, air-trunk I, and steam-nozzle N, substantially as set forth.

4. The sprinkling apparatus, composed of a water reservoir, D, fan-blower E, air-chamber F, and hose H, substantially as set forth.

5. The steam-pipe P, in combination with the sprinkling apparatus, constructed as described.

6. The steam-pipes P Q, in combination with malt-bins C, air-pipes J K L, air-trunk I, and steam-nozzle N, substantially as set forth.

121,388. — Engine and Pump. — Oscar P. Lewis, Cincinnati, Ohio.

Claim. — 1. The compound engine and pump, composed substantially of the cylinder A A′ with the three pistons $p\ p^1\ p^2$ and the heads A h arranged to receive and guide the rods $r\ r^1\ r^2$, as herein set forth.

2. The three pistons $p\ p^1\ p^2$, cylinder A A′, heads A h with the stuffing-boxes $s\ s^1\ s^2$, when constructed and combined substantially as herein set forth.

3. The combination and arrangement of the pistons $p\ p^1\ p^2$, rods $r\ r^1\ r^2$, cross-heads $i\ i^1$, pitmen $m\ m^1\ m^2$, and cranks $k\ k\ k\ k\ k\ k$, substantially as described.

4. The three pistons $p\ p^1\ p^2$ with metal exteriors and wooden or other linings, arranged within the cylinder A A′, substantially as and for the purposes set forth.

5. The arrangement of the passages $c\ c\ q\ q$ above and beneath the cylinder A A′, in combination with suitable engine-pistons, substantially as herein set forth.

6. The combination of the piston-chamber A A′ with the condensing-chamber C^2, substantially as and for the purpose herein described.

121,389.—Machine for Rolling Leather. Newton Linsley, Lena, Ill., assignor to himself and William Clement.

Claim.—In combination with the concave roller D, journaled within the upper extremities of the standards A′, the convex roller D′ provided with sliding journals within the slots of the standards, and moved up and down by means of the pins n, levers I, shaft m, rod k, treadle G, and springs h, all arranged upon the frame A B, substantially as and for the purposes herein set forth.

121,390.—Motor for Tremolos of Musical Instruments.—John R. Lomas, New Haven, Conn., assignor to R. Shoninger, same place.

Claim.—A rotary tremolo having cranked journals b d, and a wind-instrument, C, combined, with connecting mechanism e f, as and for the purpose specified.

121,391.—Infant's Head-Dress. — Louise E. Love, New York, N. Y.

Claim.—An infant's cap of crotcheted silk, as a new article of manufacture.

121,392. — Wind-Wheel. — Giles Mabie, Dixon, Ill.

Claim.—1. The bisected metallic frame C c d e f g which perfectly and efficiently embraces and supports the main wind-wheel shaft i and the several parts of the machine that are combined therewith, substantially as herein set forth.

2. The combination of the wheel-shaft i with the sectional wind-wheel supporting-frame, substantially as and for the purpose herein set forth.

3. The combination of the pitman r with the wheel-shaft i by means of the sectional head k and the crank-pin s, substantially as and for the purpose herein set forth.

121,393.—Whiffletree-Clip. — William John McMaster, Dixmont, Pa.

Claim.—An improved whiffletree-clip having a rib, B, formed upon the outer surface and a groove, C, upon the inner surface of its body A, and a wing or flange, D, upon one or both its side edges, substantially as herein shown and described, and for the purpose set forth.

121,394.—Lamp-Burner. — Rufus S. Merrill, Boston, Mass.

Claim.—The combination, substantially as shown and set forth, with a screw-threaded base and two wick-tubes having a draught-passage between them, of a single-slotted deflector, a chimney-rest and air-distributer e, and a guide-tube removable from the wick-tubes, and constructed substantially as described to allow air to pass through the air-distributer into and up through the passage or space between the wick-tubes, for the purpose stated.

121,395.—Sectional Steam-Boiler.—John H. Mills, Boston, Mass.

Claim.—1. A cast-iron steam-generator composed of one homogeneous casting, consisting of the pipes $a\ b\ c\ d\ e\ f\ g$, arranged as described, and the elevated grate-surface q erected on the lower water-pipe b, substantially as shown and set forth.

2. A steam-generator composed of sections formed each of a single casting, with a fire-space, a grate-bar erected on and elevated above the lower water-pipe, and flanges to form air-pockets, so that when said sections are placed side by side together the furnace or fire-box, elevated grate surface, and air-pockets will be formed without further fitting, substantially as herein shown and described.

3. The air-pockets n with orifices p formed in the side walls and between the sections of the generator, substantially as and for the purpose set forth.

4. The steam-generator provided with passages arranged, as described, so that the products of combustion shall first divide and pass laterally from the furnace into and through combustion-chambers formed on each side thereof, thence upward in rear of the bridge-wall and over the furnace, effecting one or more traverses of the entire length of the generator before escaping into the chimney, substantially as set forth.

121,396.—Sawing-Machine. — Joseph K. Milnor, Baltimore, Md.

Claim.—The combination and arrangement of the wagon-box A with its axles and wheels, pulleys C D d d upon their respective shafts, saw e, table E, and standards G G, all substantially as shown and described, and for the purposes herein set forth.

121,397. — Composition for Pavements, &c.—George H. Moore, Norwich, Conn.

Claim.—1. Combining and intermixing crushed or powdered steatite with the various other ingredients employed for molding or forming blocks, tiles, pipes figures, &c.

2. Combining and intermixing powdered steatite with coloring material, as and for the purpose set forth.

3. The combining of steatite cement and sand with or without gravel and coloring material, as and for the purpose set forth.

121,398. — Steam-Boiler Furnace for Draught-Regulators. — Thomas H. Moore, Alexandria, Va.

Claim.—1. The valves e, adapted to open and close automatically under the action of the exhaust, and operating to regulate the draught and prevent the escape of gas from the furnace, substantially as described.

2. A partition, G, situated between the front flue-sheet and the exhaust pipes, and provided with openings covered by valves adapted to open and close automatically under the action of the exhaust, substantially as herein described, for the purpose specified.

3. In combination with openings and valves b e in the partition G, an opening, f, in the upper part of said partition, and provided with a door, g, arranged and operating substantially as described, for the purpose specified.

4. A deflector, h, constructed and arranged substantially as shown and described with relation to the partition G, its openings and valves, and the flue-sheet and flues, for the purposes set forth.

121,399, antedated November 13, 1871.—Pepper and Spice Box.—Bernard Morahan, Brooklyn, N. Y.

Claim.—A series of cutting-flanges attached to a knob by a rod through the perforated cover of a pepper-box, when the rod is left sufficiently long and loose in the cover that the shaking of the pepper-box vertically will produce an alternate blow of the cutters and knob upon the perforated top of a pepper box, substantially as and for the purpose set forth.

121,400. — Process of Manufacturing Shoe-Bindings. — Charles E. Morrill, Deering, Me.

Claim.—The improved process of manufacturing leather shoe-bindings, consisting essentially in cutting the skins of hides into strips, coloring the latter in the center, uniting them at the ends, and finally separating them through the center of the colored portion, substantially as described.

121,401.—Watch-Escapement. — Don J. Mozart, New York, N. Y.

Claim.—1. The arbor D, having the pronge b c and intervening cavities d e, to be moved by constant contact with the escapement-wheel and aid in impelling the staff, as set forth.

2. The staff C provided with recessed faces r p engaging with revolving detent arms, and the shoulder g having end surface h, combined with the escapement-wheel A, as and for the purpose set forth.

3. The revolving arms of arbor D having ruby-pins j k on the ends thereof, combined, as described, with projection f of the staff C, for the purpose set forth.

4. The detent arms affixed to the arbor D, which carries the second-hand to abut against the staff and produce quarter-seconds, as set forth.

5. An escapement, composed of the wheel A, pronged arbor D, which carries the ruby-pins j k, and the detents, and of the staff C, having the stops f and g, as set forth, all operating as specified.

6. The staff C having notches p r of different heights and angles, combined with two pairs of revolving radial arms of the arbor D, as and for the purpose described.

121,402.—Apparatus for the Manufacture of Ice.—A. Mühl, San Antonio, Tex.

Claim.—1. In machinery for making ice or for refrigerating substances, organized and operating substantially as described, a worm or liquefactor, for condensing the vapor received from the pump, composed of pipes or conduits of gradually-decreasing diameter or section, substantially as and for the purpose set forth.

2. The said liquefactor or worm constructed as herein described, in combination with the reservoir, freezing vessel or vessels, and pump or pumps, and their connections, substantially as shown and set forth.

121,403.—Wagon.—William Arthur Nichols, Zionsville, Ind.

Claim.—1. The wagon-body, constructed with convex plates D having flanges d, together with blocks F having dovetailed recesses for holding the springs F′, substantially as specified.

2. The hinged coupling-brace G connecting the wagon-body A with the India-rubber springs F′ resting on but not attached to the bolsters B, substantially as described.

3. The hinged wagon-coupling G notched at its forward end, as described, in combination with the plate g having the slotted eye g^2, as and for the purpose specified.

121,404. — Clothes-Drier. — Richard L. Normando, Higginsville, N. Y.

Claim.—The within described adjustable and portable clothes-bars, consisting of the hooked rod A, stationary collars $a^1\ a^2\ a^3$, adjustable collar a^4, movable collars $b^1\ b^2\ b^3$, arms $d^1\ d^2\ d^3$, bars C C, braces D D, and notched ring E, or their equivalents, all constructed and arranged substantially as and for the purposes herein set forth.

121,405. — Belt-Fastener. — Marcellus Olmstead, Alum Creek, Tex.

Claim.—The two frames A A B B, fastened together by a hinge-joint, as specified, and operating in the manner and for the purpose set forth.

121,406.—Bench-Plane.—Sidney W. Palmer and Elliot G. Storke, Auburn, N. Y., assignors to William J. Moses, same place.

Claim.—1. In metallic bench or other planes a pivoted cap, provided upon its lower side with a central longitudinal rib, substantially as and for the purpose specified.

2. The cap I, pivoted loosely at or near its transverse center, substantially as and for the purpose shown.

3. The arrangement of the lugs or bearings H upon the stock A, substantially as shown, and for the purpose described.

4. The stock A, provided with the bearings H and f, arranged substantially as and for the purpose set forth.

5. In combination with the bearings H and f and a suitable bit, the cap I, pivoted at or near its transverse center, substantially as and for the purposes specified.

121,407.—Capsuling Bottles.—James Paterson, Edinburgh, North Britain, assignor to William Betts.

Claim.—1. The within-described process of applying metallic capsules to bottles—that is, by the pressure of a fluid acting upon an elastic diaphragm so constructed as to inclose the neck of the bottle and its metallic covering.

2. The combination of the cylinder a, ram or plunger d, chamber b, and elastic chamber e, arranged and operating substantially as and for the purpose hereinbefore described and illustrated by the drawing.

121,408.—Baling-Press. — William H. H. Peairs, Olathe, Kan.

Claim.—1. The fingers h h, in combination with the follower H, as and for the purpose herein set forth.

2. The levers E F, in combination with the ratchet-wheels E E, pulley G, rope or chain g, and followers H H′, arranged substantially in the manner and for the purpose set forth.

3. The combination of the levers F F with the pulleys k l l, drums L L, pulley G, rope g, and followers H H′, and press-box B, all constructed and arranged substantially as and for the purpose set forth.

121,409.—Wagon-Body.—James D. Pettit, Rochester, Ind.

Claim.—1. The combination of the bottom B and side pieces A A with the hooked iron standards I I fastened to the inner surface of the side pieces near the ends of the wagon and the stout curved standards N N fastened to the outer surface of the side pieces at the middle of the wagon, said middle standards N N extending down through the projecting beam M, and being provided with an eye below the beam so as to be fastened by keys a a beneath it, substantially as described, for the purposes specified.

2. The staples s s, when applied to the wooden cross-bars C C′, and employed in combination with

the hooked standards I I at the ends of the wagon, in the manner and for the purpose described.

3. The end gates and dovetail sockets, in combination with the bent rocking-rod R, the central loop of which forms a handle, while the ends project through the sockets W W into the dovetail tongue of the gates to hold them in place, substantially as described, for the purpose specified.

121,410.—DECORATING IN GILT UPON JAPANNED-METAL SURFACES.—Horace Petrie, Chicago, Ill.

Claim.—1. The process of lettering, printing, and etching upon gilded japanned-metal surfaces, substantially as specified.

2. The process of matching the gilding upon japanned surfaces, substantially as described, for the purpose specified.

121,411.—MODE OF BALANCING PULLEYS.—Ebenezer W. Phelps, Elizabeth, N. J.

Claim.—The flange C provided with holes or apertures *c*, more or less in number, in combination with a pulley or other revolving body, when used substantially as and for the purposes herein shown and described.

121,412.—FRUIT-BOX.—Samuel W. Phelps, Sandusky, Ohio.

Claim.—The wire loop and fastening A A and C C, constructed as shown, for the purpose described.

121,413.—COAL-CHUTE.—William E. Phelps, Elmwood, Ill.

Claim.—The aprons E and G, constructed as described, in combination with the box B and door C, arranged to operate substantially as and for the purpose set forth.

121,414.—HEMP-DRAWING MACHINE.—George W. Pittman, Dartmouth, Canada.

Claim.—The strick-cylinder with the teeth in one or more groups or sections, in combination with a cylinder or belt of teeth from which the strick of fiber is taken, and with a cylinder or belt upon which the strick is received, substantially as and for the purposes set forth.

121,415.—REVERSIBLE FLOCK-CUTTING MACHINE.—James Pitts, Millville, Mass., Robert Aldrich, Slatersville, R. I., and Edwin T. Marble, Worcester, Mass.

Claim.—1. In combination with a cylinder for cutting flock, the cover or cap *x*, with openings *a a* and slides *c c*, (or their equivalents,) by means of which the stock may be fed to either end or part of the cylinder, substantially as and for the purposes described.

2. The discharge-orifices H H, arranged with respect to the openings *a a* in the cap *x*, and the hopper F, as and for the purpose specified.

3. The combination of the cam-groove R, shaft S, lever U having fulcrum W, cylinder L, and bolt T, all constructed, arranged, and operating as shown and described, for the purpose specified.

4. In combination with the bed B', the adjusting-screw D and stop-screw E, as and for the purposes shown and described.

5. The lags *g* and set-screws A, in combination with the blades *f*, as and for the purposes described.

6. The clamp-screws J and plate K, in combination with the lags *g* and blades *f*, as described.

7. The adjustable plates O and springs P, in combination with blades *a* of a flock-cutting cylinder, substantially as and for the purposes described.

8. In combination with a flock-cutting cylinder, the reversible hopper F and the cap *x*, when the same are constructed and arranged substantially as and for the purposes described.

121,416.—APPARATUS FOR FEEDING WHITE LEAD, &C., FROM THE MIXING-TUB TO THE MILLSTONES.—James B. Pollock, Port Richmond, N. Y.

Claim.—1. The combination of a feeding-tube, B, grooved cylinder or plug C, case B', and scraper G, substantially as specified.

2. The combination, with the scraper G, of an adjustable stop device for varying the dip of the said scraper in the groove of the cylinder, substantially as specified.

3. The plug C, provided with a groove, T, in combination with the scraper H, substantially as specified.

4. The combination, with the above-described feeder, of the revolving disk J and scraper H, substantially as specified.

121,417.—WOOD-LATHE.—Albert Price and Henry Arnd, St. Louis, Mo.

Claim.—The combination of feed-carriage B, having gearing devices constructed as described, with a series of adjustable frames, E E', each pivoted by a screw-bolt, J, provided with an adjustable slotted bridge-tree, F, and supporting an adjustable pulley, arbor, and cutter, the whole being constructed and arranged in the manner and for the purpose set forth.

121,418.—GAUGE FOR STAVE-JOINTERS.—Washburn Race and Sherman D. Hooper, Lockport, N. Y.

Claim.—The combination of the cross-piece B, part C, and arm F, and accompanying devices, substantially as and for the purpose hereinbefore set forth.

121,419.—SWITCH-STAND.—Ezekiel F. Reynolds, St. Joseph, Mo.

Claim.—The combination of the lever A, pivoted upon the tie B, and the quadrant D D', the several parts being constructed, arranged, and operated substantially as described and shown.

121,420.—MACHINE FOR GRADUATING SCALE-BEAMS.—William Wells Reynolds, Brandon, Vt.

Claim.—1. The adjustable bearing *m*, with oscillating block *i*, in combination with the lever *f*, eccentric A, notched cylinder *k*, and tool-bar G, substantially as described.

2. The tool-bar G, grooved on its under side and provided with the inclined plates *x x*, in combination with the bent or elbow-levers *d d* and bar *b*, substantially as specified.

121,421.—FIRE-SHIELD.—Henry Rieger, Beaufort, N. C.

Claim.—The platform A, raised above and projecting over the wheels, the stanchions D, connected at the top E, and provided with hanging pulleys F, the corner rods G curved, forked, and provided with pulleys H and braces I, the crank pulley-shafts K M, and pendent plates O, all combined, constructed, and arranged as described to form an improved fire-shield.

121,422.—FURNACE FOR THE MANUFACTURE OF IRON AND STEEL.—Jonathan M. Roberts, Burlington, N. J.

Claim.—1. The crucible E, constructed, as described, of the slabs F F, held at the bottom by the hearth R and at the top by the tiles L L, as described.

2. The centrally-arranged and circularly-formed crucible E entirely surrounded by the heating-chamber D, as described.

3. The combination of the fire-chamber A, heating-chamber D, and crucible E.

4. The furnace described, provided with fire-chamber A, heating-chamber D with tile L, crucible E with cover I, contracted throat U, and stack H, all combined and arranged as described.

121,423.—FAIR-LEADER FOR STEERING-RODS OR CHAINS.—Augustus W. Robinson, Providence, R. I.

Claim.—In combination with a guide-roller or pulley, an auxiliary or compressing-roller, acting in conjunction therewith and upon the steering-rod or chain, as and for the purpose specified.

121,424.—FIELD-ROLLER.—Andross Rogers, Freeport, Ill.

Claim.—The buttons J J, bar K, lever L, in combination with bolster D, front frame G G', substantially as shown.

121,425.—Not issued.

121,426.—STEAM-BOILER.—James Shand, 75 Upper Ground Street, Blackfriars, England.

Claim.—The combination of the eccentric water-space or chamber F with the inclined water-tubes H, arranged in successive transverse layers, essentially as described.

121,427.—STEAM OR WATER ENGINE.—Lorenzo D. B. Shaw, Boston, Mass.

Claim.—1. A steam or water engine having cylindrical valves C D and valve-seats G H, when operating in the manner and for the purpose set forth.

2. The combination, in a steam or water engine, of cylindrical valves and valve-seats with the piston P, and partition Q, and pipes J and K, when operated by the induction and eduction of steam or water alternately through ports *a d* and *b c*, substantially as described.

3. The combination, in a steam or water engine of cylinders E F, heads A^1 A^2, supply and exhaust valves, and piston P, when operating in the manner and for the purpose set forth.

121,428, antedated November 23, 1871.—FLUTING-TONGS.—Edwin R. Shepard, Binghamton, N. Y.

Claim.—The yoke A or its equivalent when applied to the shanks *c*, as hereinbefore described, for the purpose set forth.

121,429.—HYDRANT.—James Small, Washington, D. C.

Claim.—The bracket *f* and screw-cap *i*, in combination with the spring *g*, the valve *e*, and the pipes *a b d*, substantially as set forth, for the purpose specified.

121,430.—FAUCET.—Alpheus D. Smith, Grafton, Ohio.

Claim.—A faucet the gate-seat of which is lined with a soft elastic substance, and having concentrically within this a hard spring or yielding metal lining, which shall always hold its just relation to the gate by the action of the adjoining soft elastic lining, and by which the imperfections caused by shrinking or swelling or from the natural wear may be compensated for, substantially in the manner and for the purpose set forth.

121,431.—STAIR-ROD.—Eldridge J. Smith, Washington, D. C.

Claim.—The triangular rod A provided with the shouldered arm D secured by the rotary screw-hook G, all arranged as described.

121,432.—METALLIC COLUMN.—Frederick H. Smith, Baltimore, Md.

Claim.—1. A hollow metallic column, composed of angle-bars placed together substantially as herein described, with a metallic backing or support in each of the angles formed by the junction of any two of said bars, the bars and their metallic backing or supports being united by rivets or bolts, substantialy as shown and set forth.

2. A hollow wrought-metal corrugated column, composed of angle-bars laid back to back so as to break joint, and united substantially as herein shown and described.

3. The combination, in a hollow metallic column, of external wrought-metal angle-bars placed together so as to form a corrugated surface, as described, and internal cast-metal thimbles placed in the angles formed by the junction of the bars and united with the same by riveting or bolting, substantially as shown and set forth.

4. The manufacture of hollow metallic corrugated columns of angle-bars or angle-irons, substantially as herein set forth.

121,433, antedated November 11, 1871.—BASE-BURNING STOVE.—August Spitzmiller, Buffalo, assignor to himself and Norman H. Galusha, Rochester, N. Y.

Claim.—The jacket-space *d* formed between the pipes G and H, with the passages *f f*, smoke-pipe B, and damper I, in combination with the base-chamber C, drum D, division-plate O, and tube *w* extending into the pipe G, when the said several parts are constructed and operate in connection with a stove, in the manner shown and described.

121,434.—COMBINED POTATO-MASHER, STEAK-POUNDER, AND ICE-BREAKER.—Henry P. Stichter, Pottsville, Pa.

Claim.—The household implement herein described, constructed with handle D, semi-cylindrical head A, and metallic plate *b*, having projections *b'* so formed that the points thereof shall describe the arc of a circle, substantially as and for the purposes specified.

121,435.—MACHINE FOR MAKING SHEET-METAL SCREW-NECKS AND SCREW-CAPS FOR CANS.—John H. Stone, Hamilton, Canada West, assignor to himself and J. M. Williams, same place.

Claim.—1. The annular cutter E and flat washer 4 connected to the screw-threaded mandrel A jointly with the annular groove in the die G and the internally screw-threaded die G, as and for the purpose set forth.

2. The annular cutter D and beveled washer 3 connected to the screw-threaded mandrel A jointly with the annular groove in the screw-threaded die F, as and for the purpose set forth.

121,436.—STUMP-EXTRACTOR.—John D. Troyer, Goshen, Ind.

Claim.—1. The combination of the frame A B, shafts C C', pulleys D D', ratchet-wheel E, pawl G, ropes *a b*, and chains *d e*, all constructed and arranged substantially as and for the purposes herein set forth.

2. In combination with the above, the supports H H and brace-rods I I, substantially as and for the purposes herein set forth.

121,437.—BED-BOTTOM.—John C. Walker and William Lapish, Burlington, Iowa.

Claim.—The combination, with a spring bed-bottom, of the levers G G and G' G', constructed and arranged to operate substantially as and for the purposes herein set forth.

121,438.—METALLIC ROOFING.—John C. Wands, Nashville, Tenn.

Claim.—The fastening herein described, consisting of the upper plates *c*, lower plates *d*, and center pieces *e*, applied to the corrugated roof, as specified.

121,439.—CULTIVATOR.—William M. Watkins, Talcott, Va.

Claim.—1. The combination of the shank E, wing G, and point H, when said parts are constructed and arranged substantially as and for the purposes herein set forth.

2. The within-described cultivator, consisting of

the frame A A, B B, C, and D D, metallic sockets *a a*, shanks E E, wings G with flanges *b b*, and grooved points H H, all constructed and arranged substantially as set forth.

121,440.—Breast-Pin.—Auguste Weiller, New York, N. Y.

Claim.—As an article of manufacture, a thermometer-pin, composed of thermometer B, plate A, and pin C, as and for the purpose set forth.

121,441.—Hydraulic and Pneumatic Motor for Sewing-Machines.—James Hampton Welch and Rosia Washington Welch, Georgetown, D. C.

Claim.—The oscillating engine E having stationary trunnion D, constructed substantially as described.

121,442.—Self-Acting Gate.—James A. Wood, Crosswicks, N. J., assignor to himself, John Brinslin, and Charles D. Lippincott, same place.

Claim.—1. The combination of the sliding bar H with the arm or arms *d* of the crank-spindle F.

2. The sliding bar H, limited in its movements by fixed pins *g g*, which enter slots *f f* formed in the said bar.

3. The said slots *f f* of the sliding bar, when made partly straight and partly inclined, substantially as and for the purpose specified.

4. The combination of the slotted bar H, the forked arm or arms *d* of the spindle F, and a cord, wire, or chain, J, passing around pulleys A and A', and by which the said bar H is operated, substantially in the manner described.

5. The combination of the arm *i* having a hub with shoulders *z z*, and the crank-spindle having projections or pins *z z*, and arranged and operating with the arm *i*, as set forth.

6. The combination of the latch P, its internal ratchet *l*, and sliding pawl *m*, all arranged upon a gate-post, and the stop *s* upon the gate, substantially as described.

121,443.—Construction of Rolls.—John V. Woodhouse, Mine La Motte, Mo., assignor to himself, Radcliffe B. Lockwood, and William A. Scott, same place.

Claim.—1. A roll or roll-sleeve, composed of a series of transverse sections constructed to lock with each other by means of the projections *b* and recesses *c* on or in their faces, and bolted or united together, substantially as specified.

2. The combination of the grooves *g* in the hub A with the tongues h on the inner periphery of the sleeve-sections and their locking-keys *f*, substantially as described.

121,444, antedated November 26, 1871.—Coffee-Pot Holder.—Joseph Thatcher Woods and Ernest Henry Leseman, Toledo, Ohio.

Claim.—The within-described coffee-pot holder as a new article of manufacture, consisting of the plate A, clamp B, and screw C, the clamp having a downward curve, *a*, substantially as and for the purposes herein set forth.

121,445.—Steam-Boiler Sediment-Collector.—Albert Zipser, Biala, Austria.

Claim.—1. A vessel, A, open at top, having pipes B opening through its bottom and discharging downward in said vessel, combined with a steam-boiler by suspending or supporting the same therein, substantially as described.

2. The vessel A, constructed and applied as described, in combination with a perforated lid, substantially as described.

121,446.—Overshoe.—Augustus O. Bourn, Providence, R. I.

Claim.—The improved binding for cloth-and-rubber gaiter overshoes herein described, consisting of the rubber binding-strip B partially interposed between the united surfaces of the exterior fabric and the lining, and also partially folded down upon the exterior surface of the outer fabric, substantially as described.

REISSUES.

4,645.—Refrigerator.—Andrew Fuller and Louis P. Reichert, Buffalo, N. Y.—Patent No. 74,813, dated February 25, 1868.

Claim.—1. The combination, with a refrigerating chamber having no communication with the external air, and an ice-box, of a fan or other equivalent air-forcing apparatus, whereby the air is forced to pass in a circuit over or in contact with the ice, and through the refrigerating compartment, substantially as hereinbefore set forth.

2. The combination, with such closed refrigerating compartment, ice-box, and air-forcing apparatus, of a vessel or chamber containing charcoal or other purifying substance in such a manner as to cause the air as it is forced to circulate within said refrigerating compartment to pass successively in contact with the ice and purifying substance substantially as hereinbefore set forth.

3. The combination, within a closed refrigerator provided with an air-forcing apparatus and a purifying-chamber, of an ice-box, and air-pipe K, whereby the air, as it circulates, is compelled to pass through said purifying-chamber, substantially as shown and described.

4. The combination and arrangement within a closed refrigerator, provided with a fan and ice-box, of the water drip-pipe O O', purifying-chamber M, and air-pipe K K', whereby the water which drips from the ice is compelled to pass through the purifying material before it escapes from the refrigerator, as hereinbefore set forth.

4,646.—Printing-Press.—Merritt Gally, Rochester, N. Y.—Patent No. 97,185, dated November 23, 1869.

Claim.—1. In a printing-press, such a construction of the ways, in or on which the wheels or guides of the inking-rollers run, as shall raise such inking-rollers free from the distributing-cylinder or cylinders when approaching or leaving the same, substantially as and for the purpose described.

2. The traverse-cam C, whether attached to crank-pin as a cap or forming part of the crank-wheel, when used in connection with the stud or pulley G, for the purpose set forth.

3. The mechanism described, or its equivalent, for imparting to the inking-rollers a positive motion in both directions over the form, combined with the mechanism or its equivalent for stopping the inking-rollers at the will of the operator without stopping the press.

4. The positively-moving lever L and lever K and connection M, combined for the purpose of giving motion to the inking-rollers, substantially as described.

5. The lever N *g*, combined with the connection M, for the purpose of disconnecting the levers L K, substantially as explained.

6. The mechanism described or its equivalent for stopping the inking-rollers, combined with the mechanism or its equivalent for preventing the inking-rollers from being set in motion at an improper time.

7. The latch P, combined with the levers L K, for the purpose of holding lever K and hook-connection M in position for reconnection and preventing the release of lever N at an improper time, substantially as specified.

8. A curved wedge or sleeve, i^2, combined with the freely-moving bearing M^2, which sustains the force of the impression, and so arranged that the said wedge or sleeve may be set in different positions to produce varying degrees of impression, substantially as set forth.

9. The wedge or sleeve i^2, combined, as described, with the adjusting-bar T.

10. The set-latch L' W, combined with a handle, V, as and for the object explained.

11. In combination with such set-latch, the projection X or bar T of the wedge or sleeve i i^2, as and for the end specified.

12. The use of rubber packing or other elastic material for the purpose of relieving the cut-off of the ink-fountain from the direct pressure of the set-screws, substantially as set forth.

13. The additional lug S placed on the lever-projection of support R, in combination with the flange Y, as and for the purpose described.

14. The type-bed B, inclined backward at any angle between the vertical and forty-five degrees, in combination with the vibrating, rocking, or oscillating platen A, constructed substantially as herein set forth.

15. A hollow bed, divided into chambers by means of internal partitions, substantially as described.

16. A frisket-finger provided with a hole or holes, *u*, substantially as and for the purpose specified.

4,647.—Whiffletree.—George Gibbs and William Gibbs, Canton, Ohio.—Patent No. 75,408, dated March 10, 1868.

Claim.—1. The combination of a pair of disconnected steel spring-arms with the ends of a non-elastic draft-bar, said draft-bar with its spring-arms being arranged to turn on a central bearing, and being used with respect to the direct draft and the resistance of the load, substantially as is herein specified.

2. A bar-steel spring-arm for a draft-bar having an open draft-link secured in a turned eye at its end, substantially as and for the purpose herein specified.

3. The combination of a non-elastic draft-bar and two steel spring-arms having open draft-links secured in turned eyes at their ends, said arms being arranged at the ends of said draft-bar, and said draft-bar being arranged to turn on a central bearing, substantially as and for the purpose specified.

4. In combination with a draft-link secured in the end of a spring-arm on the end of a draft-bar, and encircling the end of said bar, a stop-pin or projection in the draft-bar for preventing said link from being swung off from said draft-bar, substantially as herein specified.

5. In combination with a draft-link or connection at the end of a spring-arm for a draft-bar, a scale of indexes marked on said link, and an indicator secured on the draft-bar for the purpose of showing the amount of draft applied by the team, substantially as is herein specified.

4,648.—Fare-Box for Vehicles.—John B. Slawson, New York, N. Y.—Patent No. 105,005, dated July 5, 1870.

Claim.—1. The combination of the cover or hood G, mouth F, and horizontal shelf H, as arranged for the purposes described, with the diagonal plate I, as set forth.

2. In combination with the shelf H, arranged as described, the vertically-arranged diagonal plate I, for the purpose set forth.

3. In combination with the shelf H and plate I, the inclined plate J and shelf U, for the purpose described.

4. The combination of the plates K and N, when moved at the same time in reverse directions, as and for the purpose specified.

5. The combination of racks *a* and *a'*, pinion O, shaft P, spring T, and driver's strap R, as arranged, for the purpose specified.

4,649.—Machine for Covering Cords.—John Turner, Norwich, and Isaac E. Palmer, Montville, Conn.; said Palmer assignor to said Turner.—Patent No. 38,190, dated April 14, 1863; reissue No. 3,345, dated March 30, 1869.

Claim.—The combination of a laying-up mechanism, two or more twisting-spindles for twisting the several strands, and a corresponding number of covering devices for covering the several strands before being laid together, when the covering devices rotate independently of the twisting-spindles.

4,650.—Wood-Incased Can.—Orrin S. Camp, Grand Rapids, Mich.—Patent No. 118,904, dated September 12, 1871.

Claim.—The wood-incased metal can, consisting of the can A provided with the external horizontal flange B, and of the case B' provided with the inwardly-flanged hoop E, covering the upper edge of the case B', and soldered to the flange B, substantially as specified.

4,651.—Division A.—Broiler.—David E. Roe, Elmira, N. Y.—Patent No. 106,210, dated August 9, 1870.

Claim.—The combination, with a broiler-frame provided with a horizontal groove, of a removable grate or gridiron for supporting the food to be broiled.

4,652.—Division B.—Broiler.—David E. Roe, Elmira, N. Y.—Patent No. 106,210, dated August 9, 1870.

Claim.—1. The combination, with an inner and outer ring, of radiating arms, which hold the two rings together by being hooked or clinched upon them, substantially as described.

2. The combination, with the outer hooked ends *a*, of the arms when radiating from a common center of the outer ring B, substantially as described.

3. A supporting device for broilers and for other purposes, the parts of which are combined together, substantially as shown and described.

4,653.—Fluting-Machine.—Samuel G. Cabell, Quincy, Ill., assignor, by mesne assignments, to Flora B. Cabell and Susan R. Knox.—Patent No. 83,924, dated November 10, 1868.

Claim.—1. The cap-plate F, when constructed and arranged substantially as herein described, for the purpose of furnishing a support and bearing for the cylinder or cylinders I, as set forth.

2. In combination with a stationary fluted cylinder and one or more movable fluted cylinders, a lever and eccentric for raising, holding in position, and depressing the movable cylinder or cylinders, constructed and arranged to operate substantially as and for the purpose described.

3. The cap L and bolt *g*, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

4. In combination with the cylinder H, the cap M on the end of the crank N, constructed substantially as herein described, and for the purpose set forth.

5. In combination with the cylinders I, the covers O and thimbles P when constructed and arranged substantially as described, and for the purpose set forth.

6. The fluting-rolls for fluting-machines, constructed with ogee-fluting of the form herein described, and shown in Figs. 4 and 5.

DESIGNS.

5,379.—Carpet-Pattern.—Joseph Barrett, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawing or photograph accompanying this specification.

5,380.—Carpet-Pattern.—Alexander Beck, Philadelphia, Pa.

Claim.—1. The design for the body A of the carpet, substantially as shown and described.

2. The design for the border B, substantially as described and illustrated.

3. The design for a carpet-pattern, in which the body A and border B are combined.

5,381.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,382.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,383.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,384.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,385.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,386.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,387.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,388.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,389.—CARPET-PATTERN.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic prints accompanying this specification.

5,390.—CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawing.

5,391.—CARPET-PATTERN.—Alfred Heald, Philadelphia, Pa., assignor to McCallum, Crease & Sloan, same place.

Claim.—The design for a carpet-pattern, substantially as described, and as represented in and by the accompanying drawing.

5,392.—CARPET-PATTERN.—Otto Heinigke, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawing or photograph accompanying this specification.

5,393.—OIL-CLOTH PATTERN.—James Paterson, Elizabeth, N. J., assignor to Page, Wilder & Co., Hallowell, Me.

Claim.—The general conformation of the design herein shown with the present or other colorings of the same.

5,394.—STOVE.—Robert Scorer and Robert Ham, Troy, N. Y., assignor to J. L. Mott, New York city.

Claim.—1. The design for the body-sections A B C, as herein described, in combination with the design for the base of the stove, as shown in Fig. 1.

2. The design for the fender-ring G, as described.

3. The design for the top plate H, as set forth.

4. The word "Flash," composed of letters shaped and arranged together upon and forming a part of the ornamental design of a plate of a stove, as herein described.

5,395.—PARLOR-STOVE.—Robert Scorer and Robert Ham, Troy, N. Y., assignor to J. L. Mott, New York city.

Claim.—1. The design for the urn A, as described.

2. The design for the cover B, as described.

3. The design for the top plate G, as set forth.

4. The design for the plate J, as described.

5. The design for the rim-plate K, as described.

6. The design for the frame or frames L, as set forth.

7. The design for the rim-plate M, as shown.

8. The contour of the fire-pot casing N, as set forth.

9. The combination of ornaments on the casing N, as described.

10. The design for the base plate W, as set forth.

11. The design for the ash-pit cover Z, as described.

12. The design for the leg Y, as shown.

13. The word "Sirius," composed of letters shaped and arranged together upon and forming a part of the ornamental design of a plate of a stove, as herein set forth.

TRADE-MARKS.

553.—COFFEE.—John Ashcroft, Brooklyn, N. Y.

554.—MEDICINE.—Cloud, Akin & Company, Evansville, Ind.

555.—SOAP.—William Dreydoppel, Philadelphia, Pa.

556.—PLAYING-CARDS.—Victor E. Mauger, New York, N. Y.

557.—HYDROCARBON OIL.—Rufus S. Merrill, William B. Merrill, and Joshua Merrill, Boston, Mass.

558.—SMOKING-TOBACCO.—Charles R. Messinger, Toledo, Ohio.

559.—SMOKING-TOBACCO.—Charles R. Messinger, Toledo, Ohio.

560.—GIN.—I. D. Richards & Sons, Boston, Mass.

561.—YEAST.—Elisha T. Smith, Hartford, Conn.

562.—SCYTHES.—The Dunn Edge-Tool Company, West Waterville, Me.

563.—SCYTHES.—The Dunn Edge-Tool Company, West Waterville, Me.

564.—SHEET AND PLATE IRON.—Alan Wood & Company, Philadelphia, Pa.

EXTENSIONS.

ALBERT FRANKLIN, of Genoa Cross Roads, Ohio.—Patent No. 18,579, dated November 10, 1857; reissue No. 3,310, dated February 23, 1869.

"Improvement in Seeding-Machines."

Claim.—1. The combination of a hopper-bottom having triangular openings, with a revolving seed-cylinder, when said openings are arranged in such relation to the cylinders that the revolution of the latter draws the seed to the apex of the former, as and for the purpose described.

2. The combination of the hopper-bottom having triangular openings, with a revolving seed-cylinder, having cells, or recesses, upon its surface, when said combination is provided with a passage-way between the hopper and cylinder, as and for the purpose described.

RICHARD M. HOE, of West Farms, N. Y.—Letters Patent No. 18,640, dated November 17, 1857.

"Improved Mode of Operating Fly-Frame of Printing-Presses."

Claim.—Operating the fly-frame I, by means of cam-shafts C, placed one at each end of the machine, and provided with cams D E F, and used in connection with arms *j m p*, rods *i l o*, arms K, and springs M or an equivalent device, whereby the cams are made to actuate the fly-frames in a more direct manner, and consequently insuring a more perfect operation of the same than heretofore.

ALEXANDER S. NEWTON, of Brandon, Vt.—Letters Patent No. 18,646, dated November 17, 1857.

"Improved Machine for Turning Wooden Boxes."

Claim.—1. The use of the combination of the grooved rod, and bevel-wheel on the end thereof, with the wheel Q and cam T, substantially as set forth.

2. The use and combination of the grooved rod, and bevel-wheel on the end thereof, with the wheel R, and cams X and Y, substantially as set forth.

3. The use and combination of the cam X with the lever Z, cutter-lever b^3, and discharging-bar f^3, or their equivalents, separately or collectively, for the purposes set forth.

4. The cam Y, in combination with the lever k^2 and rack r^2, or equivalents for the said parts, substantially as set forth, and for the purposes hereinbefore described.

WILLFORD H. NETTLETON, of Bristol, Conn., CHARLES RAYMOND, of Guelph, Canada, and ANSON HATCH, of New Haven, Conn., Letters Patent No. 18,661, dated November 17, 1857; reissue No. 3,489, dated June 8, 1869.

"Improved Machine for Turning Pillars for Clock-Movements."

Claim.—1. The combination, substantially as described, of the wire to be operated on; the straightener and its sliding carriage or support; mechanism for drawing the wire, and with it the straightener and its carrier; mechanism for holding the wire in a fixed position after each successive drawing or feed forward; and mechanism for gradually forcing the straightener and its carriage back to their original positions after each movement forward, for the purposes of straightening the wire and feeding it up to the cutters and jaws.

2. The compound levers *i* and 19, made and acting in connection with the feeding-slide *h* and clamp 14, substantially as and for the purposes specified.

3. The holding-jaws *k* and 26, constructed and combined substantially as described, in combination with the screws 28 and 29 and the cam *n*, substantially as and for the purpose set forth.

4. The holding-jaws *k* and 26, constructed and combined substantially as described, in combination with the screws 28 and 29, cam *n*, and turning-tools 32, substantially as and for the purpose set forth.

5. The combination of the feeding-device *h*, hopper 37, jaws *k* and 26, and the turning tools 32, as and for the purpose set forth.

ORSON W. STOW, of Plantsville, and AUGUSTUS BARNES, of Southington, Conn. Letters Patent No. 18,713, dated November 24, 1857.

"Improvement in Candle-Snuffers."

Claim.—The snuffers A B struck out of sheet metal, the legs formed with and constituting a portion of the wing-blanks, and cutter-wing B, bent as set forth, so as to form a good cutting-edge, all as described.

WILLIAM PRATT, of New York, N. Y.—Letters Patent No. 18,704, dated November 24, 1857.

"Improvement in Safety-Lamps."

Claim.—1. Protecting the orifices of vessels used in holding, pouring, and burning inflammable liquids with a volute of ribbed metal wound upon itself, or made of strips of plain and corrugated metal wound together—these, so formed, making most economically a series of regular tubes of great stability and conducting power, together with freedom of pouring through them the liquids used, and also presenting great facility of cleaning from any accidental obstruction.

2. The arrangement of the feeder-tube and cap and the wick-tubes and cap, either by the intersection of their peripheries or stops suitably placed in such a manner that the removal of the wick-cap cannot take place till that which covers the protected orifice for replenishing the lamp is first taken off.

J. W. RIGGS, of Brooklyn, N. Y.—Letters Patent No. 18,708, dated November 24, 1857.

"Improvement in Trusses."

Claim.—The construction of the pad with a knob bed or noduled face, substantially as herein described, so that it shall press upon several distinct points or intervals around and upon the tissues

concerned in hernia and not have a continuous bearing, and operate as herein set forth.

PIERPONT SEYMOUR, of East Bloomfield, N. Y.—Letters Patent No. 18,774, dated December 1, 1857.

"Improvement in Machines for Spreading Lime and other Fertilizers."

Claim.—The combination and arrangement of a series of vibrating plates or distributers, *d*, attached to and working upon the face of an inclined plane or distributing-surface, C, by means of the rod E or any equivalent connection that will give the required motion to one end of said plates while another portion is stationary upon the board or plane, substantially in the manner and for the purpose herein described.

JOHN GRIFFIN, of Phœnixville, Pa.—Letters Patent No. 18,773, dated December 1, 1857.

"Improved Pile for Rolling Beams."

Claim.—The manufacture of wrought-iron I or T girders and bars by forming the pile of grooved pieces, in combination with the intermediate welding, arranged and combined in the manner substantially as above described.

WILLIAM SELLERS, of Philadelphia, Pa.—Letters Patent No. 18,775, dated December 1, 1857; reissue No. 656, dated February 8, 1859.

"Improved Machine for Threading Bolts."

Claim.—1. The use of rotating dies, in combination with cams or their equivalents, when both are so arranged as to be capable of revolving about a common center at different velocities for the purpose of opening and closing the dies, substantially as described.

2. The arrangement of cams with open spaces between them, in combination with the die-box and dies, substantially as described, to facilitate the changing of the dies.

3. The mode of attaching the tap-holder to the revolving die-box, substantially as described.

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PATENTS.

121,447.—CUTTER FOR MOLDING-MACHINES. Edwin Benjamin, Chicago, Ill.

Claim.—The combination of the tools E and clamping devices D G H with the sleeve A provided with the disks B C, adjusting screw K, and nuts I J, substantially as and for the purpose set forth.

121,448.—FENCE.—Cortland E. Brown, Pamelia, N. Y.

Claim.—1. The combination of the boards A and the staples with which they are provided with posts B and the transverse pins for supporting the boards, said parts being set up and arranged in panels, as herein shown and described.

2. In combination with the boards A, provided with staples fitting the posts B and resting on pins projecting from said posts, the intermediate posts C and staples *c*, substantially as herein shown and set forth.

121,449.—BRICK-MOLD.—George Carnell, Philadelphia, Pa.

Claim.—A brick-mold having an inside lining, D, of hard brass, faced with a steel edge, *g*, as herein described.

121,450.—BRICK-MACHINE.—Jacob Cooke, Muncy, Pa.

Claim.—1. The radial arms a^1 a^2 a^3 a^4 provided with adjustable presser-blocks *s s s s*, in combination with the base-plate E, rods 5 6 7 8, and shaft C, substantially as and for the purpose described.

2. The combination and arrangement of the shaft C with the cam *c*, bar *d*, links *e e*, bell-crank *d*, adjustable rod *f*, rock-shaft *t*, connecting-rods *o o*, bars *s s*, pusher-bar *m*, and weight *n*, when used to operate the molding-boxes *i*, substantially as described.

3. The drop-latches J J, in combination with the mud-tub A, brick-molds *i*, and bar *m*, substantially as shown and described.

4. The radial arms a^1 a^2 a^3 a^4, constructed as described, provided with the adjustable presser-blocks *s s s s*, as and for the purpose specified.

121,451, antedated November 20, 1871.—DIRECT-ACTING STEAM-ENGINE.—Charles P. Deane, Springfield, Mass.

Claim.—1. The secondary valve I, constructed for a continuous movement, substantially as described, and operating to admit steam alternately to opposite ends of its cylinder B, and the secondary piston C, connected with the main valve D, substantially as shown, and without intervening stuffing-boxes, in combination with a constant mechanical connection from the main piston to the secondary valve, whereby a continuous movement of the latter is derived from the reciprocating movement of the engine without an intervening rotary motion.

2. The secondary valve E and its seat, constructed and having ports, chambers, and passages arranged thereto, substantially as described, so as to act conjointly with the main valve, as and for the purpose set forth.

3. The arrangement of the main valve D with the continuously-moved secondary valve and its piston C, and a constant mechanical connection from the main piston to the secondary valve in such manner, substantially as described, that the secondary piston is reversed by the operation of the secondary valve, admitting steam to one end and opening the exhaust to the other end of the cylinder B, and is then brought under the joint control of the secondary and main valves, substantially as and for the purpose set forth.

4. The combination of the secondary piston C and secondary valve I or E with the arm *f*, and the constant connection thereto from the main piston, substantially as and for the purpose set forth.

5. The arrangement of the oscillating eccentric *m*, Fig. 2, with the secondary valve I or E in the manner shown, the eccentric forming a part of the connection from the main piston to the secondary valve, and, like the valve, moved continuously during the whole stroke of the piston.

121,452.—FASTENING DRIVING-BELTS.—Jean Chrysostome Desumeur, Celestin Dudin, Edouard Dudin, and Louis Delacourt, Guise, France.

Claim.—A fastening for driving-belts, composed of the rivet-plate E with wedge-box D, and the perforated wedge H I, the several parts being constructed, arranged, and operating substantially as set forth and described.

121,453.—CHILD'S CARRIAGE.—Edwin Falkingham, San Francisco, Cal.

Claim.—1. The supporting-stand F and the movable body G, mounted as shown, together with the bolding-strap H and the eyes I, substantially as and for the purpose described.

2. The prop or standard J with its inwardly-projecting shaft K for the bows, and the screw-loop M passing into this arm, substantially as and for the purpose described.

121,454.—BINDING-POST SAFE.—Daniel Fitzgerald, New York, N. Y.

Claim.—1. The use of a post with flanges in the construction of safes, in the manner above described.

2. The combination of the flanged post with a safe, or refrigerator, or desk, in the manner above described.

121,455, antedated December 2, 1871.—SUBMARINE ORDNANCE.—Daniel Fitzgerald, New York, N. Y.

Claim.—1. The mortar B, hung on trunnions or stationary in the bottom of the vessel A, so as to be partially submerged in water while it is being discharged, substantially as and for the purposes herein set forth.

2. In combination with the mortar B, the cylinder C, constructed as described, and the space between the two filled with water, substantially as and for the purposes herein set forth.

3. The combination of the mortar or gun B, one or more cylinders, C, and the tube D, provided with a zigzag or corrugated flange, E, all constructed substantially as specified.

4. The arrangement, with the vessel A, of the mortar or gun B, one or more cylinders, C, and the perforated bow *f*, forming an elongation of the gun, all substantially as set forth.

5. The gun herein described, composed of a series of conical or zigzag rings surrounding a central core, substantially as set forth.

121,456.—STREET GAS-LAMP POST.—Simon W. France, Brooklyn, N. Y.

Claim.—1. In combination with a lamp-post constructed substantially according to either of the forms herein described, the bent discharge-pipe *c*, to carry off the drippings without permitting the escape of gas, substantially as shown and described.

2. The lever *e*, cord *f*, and spring *s*, substantially as and for the purpose described.

121,457.—OSCILLATING ENGINE.—Alfred Goulding, Worcester, Mass.

Claim.—1. The arrangement of the cylinder C, the cross-bar E, the end pieces G G, rollers F F, rings M M, and springs N, all constructed and operating as shown, and for the purpose set forth.

2. In combination with the cylinder C, the cross-bar E, the end pieces G G, and rollers F F, substantially as and for the purposes hereinbefore set forth.

121,458.—BRUSH AND BROOM HOLDER.—Solomon G. Groff, Voganaville, Pa.

Claim.—The arrangement of the broom or brush-handle holder A *a*, spring wire and bearings for the rollers in a continous piece, B, in combination with the anti-friction rollers E *e*, suspended and operating substantially in the manner and for the purpose specified.

121,459.—DUMPING-WAGON.—Anthony Iske, Lancaster, Pa., assignor of one-half his right to Hilaire Zaepfel, same place.

Claim.—1. The arrangement of the bearings E E D, hinged to the bolster B of a wagon, in combination with the horizontal shaft L bearing a pawl, H, and pinion K, to operate the ratchet G and rack I, which latter have a raised edge or flange, *i g*, for a slotted head, N, or hook ends on the band M, which embraces the bearings and keeps them in position, all constructed and operating substantially in the manner specified.

2. In combination with said described hoisting device the fulcrum-bolt *a* and bearings *b*, by which the box is hinged to the hind portion of the running-gear of the wagon, in the manner and for the purpose set forth.

3. The arrangement of the end-gate A', hinged above by means of the plates *r* R, with its projecting eye for a pin or key, the catches S on the vertical rails O, the small central gate P hinged to Q, adjusting hooks *p p* for the hanger I on the folding trough, in combination with the catches S S S, the sliding bolt U, staples T, jointed bar V, lever W, adjusted holder *s*, all in relation to each other, substantially in the manner and for the purpose mentioned.

4. In combination with the adjustable hooks *p p* on the central rail O of my hinged end-gate A, the hinged hanger I, connected to the folding trough with its bolt *q* and catch *p*, all arranged and operating in the manner and for the purpose specified.

121,460.—SEWING-MACHINE.—Michael Heinrich Kernaul, Berlin, Prussia.

Claim.—1. The spindle A', conical nuts M M' attached to the ends of the spindle A' and made adjustable, as described, and uprights S S' when arranged, operating together, and applied to a sewing-machine, as and for the purposes set forth.

2. The pressing-finger h^1, when combined and operating in connection with the bobbin *g'*, as and for the purposes described.

3. The pressing-finger h^1 actuated by means of a rod, *h*, operating in combination with the spring h^2 and notched or recessed rim on the driving pulley, substantially as and for the purposes set forth.

4. The notched regulating bush *x*, the pressing-finger h^1, and pin *c*, combined substantially as set forth.

5. The segment B^2 of the loop-check brush, when secured by means of a screw, b^2, having a head fitting into an under-cut groove, L^2, in the standard L, and operating substantially as set forth.

121,461.—WASHING-MACHINE.—Charles Larrabee, Haywood, Cal., assignor of three-fourths of his right to John Yule, same place.

Claim.—The elongated box A provided with the transverse strips or corrugations C, as described, when mounted upon the rockers H, and constructed to operate substantially as herein described.

121,462.—METALLIC HUB FOR WHEELS.—John Monk, Norwich, Conn.

Claim.—1. The construction of a metallic hub with its sleeve-collars, wooden center, screw-cap, and flanges, substantially as shown and described, as and for the purpose hereinbefore set forth.

2. The devices for dishing spokes in wheels with metallic hubs, and giving to them the requisite bearing by means of beveled mortises and beveled spokes corresponding thereto substantially as described, as and for the purpose herein set forth.

121,463.—HOISTING APPARATUS.—Jesse Nicholson, Monticello, Ind.

Claim.—1. The coal-box A when constructed in two parts and hinged at the top, as and for the purpose described.

2. The combination of said coal-box and the hoisting apparatus above described, when constructed substantially as described and shown.

121,464.—DETACHABLE DRAFT-HOOK.—Jesse Nicholson, Monticello, Ind.

Claim.—1. A detachable hook, when constructed and operating substantially in the manner described.

2. In combination with the frame or plate A, the hook B, arm or frame C, and roller D, when operating substantially as and for the purpose specified.

121,465.—EDGE-PLANE FOR BOOT-AND-SHOE MAKERS.—Aron James Parker, Lynn, Mass.

Claim.—1. The stock C, constructed of a block, *a*, and guard F, in combination with the knife D secured diagonally upon said stock and interlocked with the guard F, substantially as described, for the purpose specified.

2. The outer guard E, constructed and arranged substantially as described for being adjusted and for self-adjustment to the varying thickness of boot or shoe soles, as and for the purpose specified.

121,466.—Circular-Saw Mill.—Lewis C. Pattee, Lebanon, N. H.

Claim.—1. Giving the movement to the log upon the carriage by the movable rail F, operated by the treadle H, the friction-wheel G, the shaft A, and pinion *e*, the shaft *a* and pinions *b d d*, the racks *c c* operating the standards E, and the dogs K, all constructed and operating substantially as described, and for the purpose specified.

2. The combination, with a movable rail, friction-wheel, and setting-blocks, constructed and operating as described, of the vertical roller M for arresting and governing the movement of the log as it is fed to the saw, substantially as described and specified.

121,467. — Medical Compound or Eye-Wash. — Philipp Paul, Black Earth, Wis.

Claim.—The combination of sugar of lead with sugar and the white of an egg, forming a mixture as a medicine for diseased eyes, substantially as above described.

121,468. — Animal-Trap. — Henry Polley San Francisco, Cal., assignor to himself and Isaac Jessup, same place.

Claim.—1. The spring D and the notched bell-crank lever E F, together with the holding-plate, substantially as herein described.

2. The pins *a a*, with the connecting-spring I above the rods, substantially as and for the purpose described.

3. The arms *c' c'* on the rods A A, and the operating lugs *d* for closing and holding the prongs, substantially as described.

4. An animal-trap having the parallel rods A with their prongs C or equivalent devices, together with the opening and closing mechanism for the holding-prongs, as shown, and the setting and springing device, the whole constructed and operating substantially as herein described, and for the purpose set forth.

121,469.—Propulsion of Canal-Boats.—William E. Prall and John D. Defrees, Washington, D. C.

Claim.—1. The movable lug *c* or its equivalent, forming a bearing for the valve on either side, substantially in the manner and for the purpose specified.

2. The combination of the valve *b*, movable lug *c*, and tube *a*, substantially as described.

121,470.—School-Desk and Seat.—James S. Rankin, Minneapolis, Minn.

Claim.—1. The bracket C, formed with the slots *e e* and catch *g*, in combination with the standards A, rack *a*, and bolt *k*, constructed and arranged to operate substantially as and for the purpose described.

2. The bracket E, slots *e e*, bolt *g*, rack *h*, and seat F, in combination with the standard A and bracket C, all constructed and operating substantially as and for the purpose set forth.

3. The bracket C, slots *e e*, and catch *c*, and bolt *k*, in combination with the bracket E, slot *e*, bolt *g*, and rack *h*, operating in connection with the standard A formed with the rack *a* and a^3, for the purpose described.

4. The base piece B, in combination with the standards A A, substantially as and for the purpose specified.

121,471. — Device for Supporting and Connecting School-Desks.—James S. Rankin, Minneapolis, Minn.

Claim.—The central beam B, formed of a series of sections by the combination of the upper lengths *b* and the under lengths *c*, constructed, substantially as described, for supporting and connecting a series of school-desks, as set forth.

121,472.—Water-Wheel.—Benjamin Redding, Kentville, assignor to David M. Dickie, Canning, Canada.

Claim.—A hollow cylinder for admitting the water to the wheel, having a stationary bottom and hinged sides which answer for gates when closed and for guides when open, in combination with the barrel and chains for opening the gates, and a revolving wheel, open in the center, to admit said cylinder, for the purposes hereinbefore set forth.

121,473.—Bed-Bottom.—Reuben A. Smith, East Weare, assignor of one-half his right to Thomas R. V. Bradley, Manchester, N. H.

Claim.—The suspending devices, consisting of the brace D, stirrup E, bar C, and loop G, as applied to the rails of a bedstead, substantially as and for the purpose shown and described.

121,474.—Machine for Making Watch-Cases.—Charles Louis Thiery, Boston, Mass.

Claim.—The herein-described receiver, for purposes above stated.

121,475. — Mode of Applying Tints to Photographs.—Henry Vander Weyde, New York, N. Y.

Claim.—The use of pulverized pumice-stone, emery, or its equivalent, for the purpose substantially as described.

121,476.—Station-Indicator.—Francis F. Warner and James W. Benham, Chicago, Ill.

Claim.—1. The disks A A', provided with inner radial grooves and circular flange for supporting the inner edge of the cards, the ribs between the grooves not extending to the flange, in combination with the plates C, and the guard D arranged with its slot for the cards to pass through beneath the disks, substantially as and for the purposes specified.

2. The riders *e*, the vertically-vibrating bar F supported upon a spring, in combination with operating levers, and arranged beneath the disks so that the cards will simply rest upon them, all substantially as and for the purposes described.

3. The combination of the pawls J J', the sliding bar K, cams *k k'*, when so constructed and arranged that when one pawl serves to turn the card-holder the other pawl serves as a stop, as and for the purposes set forth.

4. The adjustable stop *m*, in combination with the sliding bar K, cams *k k'*, pawls J J', for the purpose of automatically reversing the motion of the machine at any desired point, substantially as described.

121,477.—Sewing-Machine.—John N. Wilkins, Chicago, Ill.

Claim.—1. The presser-foot B arranged to move the fabric laterally to the line of its edge and alternately forward in the line of stitch by the automatic movement of the needle-bar, substantially as and for the purpose described.

2. In combination with the presser-foot B, the plate A, lever C, cam D, and spring E and I, arranged in connection with pivot *h* of the needle-bar, substantially as described.

121,478.—Manufacture of Paints.—Damon R. Averill, New Centreville, N. Y.

Claim.—The method of uniting the bases or bodies of paints with watery solutions, oils, and pigments, the same consisting in first wetting the oxide of zinc, carbonate of lead, or other material to form the body of the paint with either or several of the solutions herein named, and then adding a drying oil or oleaginous compound so as to form a paint, substantially as set forth.

121,479.—Engine Operated by Heated Liquids.—James S. Baldwin, Newark, N. J.

Claim.—The arrangement and combination of the cylinder A, piston B, valve-chest E, and valves controlling the passages *g* and K, substantially as described, and for the purpose of constituting an apparatus for controlling the temperature of liquids, as herein set forth.

121,480.—Engine Operated by Heated Liquids.—James S. Baldwin, Newark, N. J.

Claim.—The arrangement and combination of cylinder A having piston B, cylinder P with wire-gauze K, tubes C and D, and valve-chest Q with valves, as an apparatus for controlling the temperature of liquids, substantially as set forth.

121,481. — Engine Operated by Heated Liquids.—James S. Baldwin, Newark, N. J.

Claim.—The combination of cylindrical vessel C with the jackets D and E, pipe A, and valves B and F, arranged substantially as set forth, as an apparatus for controlling the temperature of liquids.

121,482. — Apparatus for Forcing Liquids by the Expansion and Condensation of Gases.—James S. Baldwin, Newark, N. J.

Claim.—The accumulator, constructed and operated, as described, by means of carbonic-acid or equivalent gas in both the gaseous and liquid state, substantially as set forth.

121,483.—Pipe and Cigar Holder.—Virgil A. Bond, Cotton Gin, Tex.

Claim. — The bowl A, chamber B with orifice shaped for the reception of a cigar, shank C, and sponge E, when the same are so connected, by channel D and openings *a b c*, that the smoke escaping at the lower section of the bowl shall enter the chamber above the upper surface of the sponge so that the latter may arrest the nicotine on its upper surface while its lower surface shall in like manner arrest the saliva, the whole being combined and arranged so as to operate substantially as described.

121,484. — Cultivator.—Daniel W. Bowman, Tippecanoe City, Ohio.

Claim.—In combination with a single shovel-plow, A B C, the secondary beam and shovel F F', when pivoted to the main beam at *f* and adjustably connected therewith at the rear end by means of the link G and perforated or slotted plate or bracket H, substantially in the manner set forth.

121,485.—Safety-Pin.—William H. Brock, Bridgeport, Conn.

Claim.—The safety-pin, constructed and operating as described, consisting of the hooks B B hinged to the plate A, and locked or released by the plate *c* or its equivalent, as specified.

121,486.—Car-Seat Frame.—George Buntin, Boston, Mass.

Claim. — As a new manufacture, the herein-described metallic cap-plate for arm-rests of railway-carriage chairs.

121,487.—Faucet.—Marshall Burnett, Boston, Mass.

Claim. — The combination and arrangement of the chamber B and its hole *h* with the valve C, the stem B, the valve-seat *i*, the elastic diaphragm D, and body A, and induct *a* of the faucet, all being substantially and to operate as described.

121,488.—Tuck-Folding Attachment for Sewing-Machines. — Richard G. Bush, Jamestown, N. Y.

Claim.—The plates B and C when used in combination with the vibrating slotted adjustable plate A, in the manner substantially as described, and for the purposes set forth.

121,489.—Earth-Closet.—Dennis B. Collins, Richmond, Va.

Claim.—The cylindrical service-box D, having a crank attached to one end, and provided with a suitable cord or chain, and stops *e e*, so that it can be operated before rising from the seat, substantially as described.

121,490.—Head for Rectangular Can.—Edward T. Covell, Brooklyn, N. Y.

Claim. — Unbroken seamless corners, formed substantially as herein described, in combination with the within-described hook-shaped flange formed upon the edges of a rectangular plate to receive the edges of the sides of a rectangular can and form a joint therewith, substantially as and for the purpose herein set forth.

121,491.—Construction of Packages of Pins. — Chauncy O. Crosby, Milford, Conn.

Claim.—A package of pins formed by coiling, winding, or folding a strip of material previously stuck in the manner described, and having the lower edge of the strip turned over the points, when the said package is constructed and secured in form substantially in the manner described.

121,492.—Case for Pin-Packages.—Chauncy O. Crosby, Milford, Conn.

Claim.—The herein-described box as a case for the arrangement of pins, substantially as set forth.

121,493.—Machine for Sticking Pins.—Chauncy O. Crosby, New Haven, Conn.

Claim.—1. In combination with the longitudinal or angular grooved feeding device I constructed with transverse grooves, the shoe L constructed with ribs corresponding to the said annular or longitudinal grooves to form the crimps in the paper to receive the pins, substantially as set forth.

2. In combination with the grooved slide D, the cut-off E, and follower F, the longitudinal or annular grooved feeding device, the shoe L constructed with ribs corresponding to the said annular or longitudinal grooves to form the crimps in the paper to receive the pins, substantially as set forth.

3. In combination with the subject-matter of the second clause of claim, the guide P, constructed to turn one edge of the paper, substantially in the manner and for the purpose described.

4. A continuous strip or ribbon of material having longitudinal crimps through which pins are transversely stuck, and having the edge of the strip turned up over the points, substantially in the manner and for the purpose specified.

121,494. — Chuck for Metal Turning-Lathes.—Austin F. Cushman, Hartford, Conn.

Claim.—1. The shell A having the pinion C inserted from the inside and held in place by the sleeve *g* and screw *h*, the said parts being constructed and arranged substantially as described.

2. In combination with the outer shell A and body B, the screw *e* when inserted, as described, for the purpose of holding the parts in place.

3. The combination of the outer shell A, thimble *g*, pinion C, and screws *h* and *e* with the scroll-plate D, jaws E, and body B, constructed substantially as and for the purpose set forth.

4. The combination of the shell A, pinion C, and key or wrench, all constructed and arranged to operate as set forth

121,495. — Eyeleting-Machine. —Adolph Delkescamp, New York, N. Y., assignor of one-half his right to John North, same place.

Claim.—1. The anchor movement or escapement, constructed and operating as described, and attached to the lower end of the semicircular conductor to deliver the eyelets singly and place them properly on the spindle, and die for setting, as herein set forth.

2. The combination of the semicircular grooved conductor D, hopper E, the lever G, link-plate H, and stop I with the vertical plunger C, spindle *a*, die *b*, and escapement F provided with a nipper, *d*, and stop-pin *i*, for automatically setting eyelets.

3. The check-spring *q*, stops *m n*, pin *o*, and vertical stop I, in combination with the plate D, lever G, and standard A, as set forth.

121,496, antedated November 18, 1871.—Butter-Mold. — Anthony J. Derrick, Sheridan, Nev.

Claim.—A butter-mold, composed of the stationary walls C C, movable walls D D, connections F G, pounds-weight marks E E, packer H, and scraper K, all arranged and operating as and for the purposes described and set forth.

121,497. — Vapor-Burner. — Truman P. Doane, New York, N. Y.

Claim.—The wick-tube A provided with orifice C, in combination with the rotary case or cap B provided with orifice F, the tube and case or cap having bearing-points *d* E, constructed and arranged in the manner and for the purpose substantially as described.

121,498.—Knuckle-Protector for Washing Clothes.—George W. Doty, Wooster, Ohio.

Claim.—The knuckle-protector for use in washing clothes, as herein described, with its uneven surface C as applied to the shield, the peculiarly-shaped handle A by which the shield is secured to the fingers, and the attachment of the cushion B which protects the knuckles from contact with the metal, the whole being constructed and arranged to operate in the manner and for the purpose specified.

121,499. — Breech-Loading Fire-Arm.—William H. Elliot, New York, N. Y.

Claim.—1. In combination with a breech-block pivoted at its rear end in a line with the bore of the barrel, whose front end falls or is drawn downward into the receiver in the act of opening the chamber and is forced upward to close the same, the globe-shaped cartridge-rest, whereby a uniform support is provided for the cartridge-head and the opening in the receiver in which the breech-block swings is kept at all times closed, substantially as specified.

2. The auxiliary lever *n*, in combination with the retractor *m* and breech-block *b*, when operating substantially as specified.

3. The combination of the trigger, with its arm *t*, with the double pawl *e* and *e'*, when operating substantially as and for the purpose specified.

4. The combination of the retractor *m* with the hinged guard-strap *v*, whereby it may be brought out of the receiver, substantially as and for the purpose set forth.

5. The arrangement of the swivel-base on the guard-strap opposite to the cut *w'*, as shown and described.

6. The combination of the breech-block *b*, pawl *e* with its stop-shoulder *u* cut at the angle described, and hammer *d* with its point *w'* and catch *s*, all operating for unloading the drum, substantially as set forth.

7. The combination of the locking-shoulder *w* and hammer-rest *w'* with the double pawl *e* and *e'*, whereby the hammer is made to assist in giving the proper movements to the pawl while manipulating the arm, as described.

121,500. — Ice-Pitcher.—Conneillous Englebert and Joseph S. Von Nieda, Philadelphia, Pa.

Claim.—The combination of the vessel A' with the pitcher A by means of a permanent and smooth connection at or near the mouth of the pitcher, there being an ice-chamber, *a*, below and around the vessel A' and the bottom B of the pitcher, having an opening, *b*, and cover C, substantially as and for the purpose above set forth.

121,501. — Broom. — Thomas R. Evans, Blacksburg, Va.

Claim.—The broom-head, consisting of the beveled case A provided with the arms F and one or more bands, D, and with the interior plate C supporting the socket B, substantially as described, for the purpose specified.

121,502.—Toy-Toad.—James Fallows, Philadelphia, Pa.

Claim.—1. The hooked spring-tongue *c'* in the open mouth of the toad C, the said parts being constructed and arranged to operate in combination with the penny *x* and the holder *a''*, substantially as and for the purpose hereinbefore described and set forth.

2. The holder *a''*, when constructed and secured upon the outside of the arched upper side of the case A, substantially as and for the purpose hereinbefore described and set forth.

3. The toad C, the swinging-bar D, and weight *d'*, in combination with the case A, penny-holder *a''*, and den B, the said parts being constructed and arranged to operate substantially as and for the purposes hereinbefore described and set forth.

121,503. — Safe.—Daniel Fitzgerald, New York, N. Y.

Claim.—The combination, with the inner strong box F, the outer shell A, and the filling described, of the interposed compound plate of welded steel and iron, protected within and without by said filling, for the purposes and substantially as set forth.

121,504.—Cast-Metal Desk.—Daniel Fitzgerald, New York, N. Y.

Claim.—The cast-metal desk as a new article of manufacture, substantially as described.

121,505. — Machine for Cleaning and Finishing Silk and Thread.—Christopher L. Frink, Vernon, Conn.

Claim.—1. The thread-polishing roll L, formed with a conical-shaped barrel and a flange at its smaller end, the two meeting in a curved line, substantially as and for the purpose set forth.

2. The stop mechanism for the heads, consisting of the combination, with each set of polishing-heads, of a drop-rod, X, and its stop-wire 11, spring-latch *w* having a notch for each rod, and an arc to disconnect the heads from the mechanism which actuates them, the parts operating as described.

3. The stop mechanism for each set of receiving-spools, consisting of the drop-rod X and its stop-wire 11, actuated by the head K, lever Y, and gear-spindle R, the whole operating substantially as described.

4. In combination with the devices enumerated in the last-preceding claim, the padded brake-lever Z, substantially as and for the purpose described.

5. In combination with the traverse-rod and its actuating cam, the yoke-bar 18 19 having an adjustable piece 23 to vary the leverage and adjust the length of the traverse.

6. In a machine having thread-finishing, stretching, or winding mechanism at opposite sides of the frame, the construction and arrangement of the devices which drive the heads, so that those on one side or on the opposite sides, or both, shall move in opposite directions, substantially as and for the purpose shown and described.

121,506. — Auxiliary Air-Chamber for Stoves. — John H. Goodfellow, Troy, N. Y.

Claim.—1. A portable ash-receiving box, A, provided with a hinged bottom, D, and door *c*, arranged and combined substantially as herein described and set forth.

2. Providing an ash-receiving box such as described with a window, B, for permitting the operator to inspect his work without incurring the liability of ash-dust getting into the room, substantially as herein described and set forth.

3. The shield H, or any equivalent therefor, for containing a horizontal opening or slot, E, at or near the top or upper edge thereof, constructed and applied or used in the manner and for the purpose substantially as herein described and set forth.

4. The employment of the auxiliary air-chamber I, constructed, arranged, and operated in combination with the fire-grate P and fire-chamber or chamber of combustion S, in the manner substantially as hereinbefore described and set forth.

5. The arrangement and combination of the opening or elongated slot E, or any equivalent thereof, with the auxiliary air-chamber I, by means of which atmospheric air is admitted to the fire in the combustion-chamber S so as to promote and facilitate combustion and economy in the use of fuel, substantially as hereinbefore described and set forth.

121,507.—Door-Spring.—William M. Gray, Brooklyn, N. Y.

Claim.—1. The exteriorly prismoid bolt B, in combination with the spring S, and arranged to slip up and down on the same.

2. The bracket K, provided with a socket of prismoid form interiorly, in combination with the corresponding prismoid bolt B and the spring S, the bracket being arranged to be secured to the door and sustain the bolt B.

121,508.—Door-Spring.—William M. Gray, Brooklyn, N. Y.

Claim.—1. The hinged clamp C, arranged to clasp and hold the angled barrel B of a door-spring.

2. The hinged clamp C, secured by the button B', and holding the barrel B.

121,509. — Suspender.—Henry C. Griggs, Waterbury, Conn., assignor to himself and Louis D. Griggs, same place.

Claim.—The herein-described improvement in suspenders, consisting of the two parts A A' and B B', interlaced or folded together, substantially as described.

121,510. — Gluing-Table. — Samuel P. Groocock, Clifton, N. J., and Walter J. Brassington, Brooklyn, N. Y., assignors to The National Wood-Manufacturing Company of New Jersey.

Claim.—1. The combination of the adjustable sliding lock-pins P P, bolts *s s*, tongue *t*, and extension bars A A, substantially as and for the purpose hereinbefore set forth.

2. The combination of the duplex inclined planes H A, radial bars I I, and side rods R R, substantially as and for the purpose hereinbefore set forth.

121,511.—Machine for Manufacturing Horseshoe-Nails.—George L. Hall, Boston, Mass., assignor to Globe Nail Company, same place.

Claim.—1. In combination with rolls for drawing out and shaping horseshoe-nails, and a die and punch for trimming the edges of the nail as formed by the rolls, mechanism to transfer the nail from the rolls to the die and to hold it vertically in proper position in front of said die until the punch in its forward movement shall come in contact with the nail, and then release its hold that the punch may force said nail into the die, substantially as set forth.

2. The combination of the drawing or shaping mechanism, the seizing, carrying, and holding mechanism, and the punching mechanism automatically co-operating to roll the nail-shank and turn its edges, substantially as described.

3. Jointly, the two sets of rolls *f g* and *o n*, each roll being constructed as described, the roll *o* being a plain frictional roll and larger than the roll *n*, as and for the purpose set forth.

4. The combination of the devices shown and described for successively drawing, pointing, surface-finishing, straightening, and edge-trimming a nail-blank.

5. The reciprocating griping-nippers or levers *s x*, stationary die-plate *v'*, and reciprocating punch *t'*, combined and operating substantially as described.

121,512. — Swaging-Tool for Boiler-Tubes. — Ira S. Hamilton, Hamilton, Ohio, assignor to himself and Owens, Lane, Dyer & Co., same place.

Claim.—The improved tool, constructed substantially as described.

121,513, antedated November 25, 1871.—Tool for Expanding and Cutting off Boiler-Tubes.—Ira S. Hamilton, Hamilton, Ohio, assignor to himself and Owens, Lane, Dyer & Co.

Claim.—1. As my improvement in flue-expanders, the construction herein described of the head A with slots therein for the reception of the rollers of equal length with the rollers, and with concave walls that shall at the same time support the rollers and prevent their displacement from the slots, and, jointly therewith, cylindrical rollers without journals.

2. The combination of the tapering mandrel C, sliding cutter G, band F, and cutter F' revolving in stationary bearings, substantially as set forth.

3. The combination and arrangement of the mandrel C C', nut D, and dog or stop E, substantially as and for the purpose set forth.

4. The combination of the sockets A A', rollers B B B', mandrel C C', nut D, and dog or stop E, substantially as and for the purpose set forth.

121,514.—Flue-Expander.—Ira S. Hamilton, Hamilton, Ohio, assignor to himself and Owens, Lane, Dyer & Co., same place.

Claim.—The combination of the tapering mandrel B, swaging-rollers A A', constructed as described, and arranged to form a belt around the mandrel for mutual support, and the sockets C C', substantially as and for the purpose set forth.

121,515.—Ejector for Forcing Liquids.—John T. Hancock, West Roxbury, Mass.

Claim.—1. The combination of the conical steam-jet or tube *a* with the tube *d*, when said tube *d* is continuously enlarged from its orifice in the chamber outward.

2. The combination of the chamber *b* with the tubes *a* and *d* and the tube *c* having upon it the valve *e*.

3. The combination of the tubes *a*, *c*, and *d* with the chamber *b*, all constructed in the manner and for the purposes described.

121,516.—Hemmer and Binder for Sewing-Machines.—Milo Harris, Jamestown, N. Y.

Claim.—The combination, with the double hemming-scroll, of the guide and stop C, when arranged to operate in the manner and for the purpose specified.

121,517.—Spinning-Machine.—George H. Hathorn, Bangor, Me.

Claim.—The arrangement of the wheel L revolv-

ing in a plane at right angles, or nearly so, to the plane of revolution of the spindle, inclined standard C, horizontal pulley E on the top, and vertical pulley D on the side of the same, band M passing over and around said wheel and pulleys, as described, to the pulley K, wire-guide I, screw-button *f*, and retaining-pin *g*, as herein set forth and specified for the purposes described.

121,518.—MACHINE FOR PACKING SUGAR.—Cornelius E. Haynes, Boston, Mass.

Claim.—1. In a device for packing sugar, the combination of one or more revolving sloping blades with an upright shaft, to which the same are applied, sliding vertically in suitable bearings, the whole being as and for the purposes shown and set forth.

2. In combination with the blades E E, shaft B, pulley G or its equivalent, and the traveling carriage D, the carriage being mounted upon the guides P P, and the whole operating as and for the purposes herein stated.

3. In combination with the blades E E, shaft B, and carriage D, or its equivalent, the weights *a' a'*, for the purposes stated.

121,519, antedated November 25, 1871.—DEVICE FOR FASTENING WAGON-SEATS.—Garet G. Heermance, Claverack, N. Y.

Claim.—The combination of the pins *c* and *d* in the seat and the hooks *c'* and *e* upon the seat, and staples or pins upon the wagon or sleigh-body, for the purpose of securing the seat to the wagon or sleigh-body, substantially as described herein and set forth.

121,520. — DEVICE FOR CUTTING WHALEBONE.—Frank E. Hibbard, Boston, Mass.

Claim.—1. In a whalebone cutting-machine two or more knives, G H, in combination with the spring C, as set forth.

2. In a whalebone cutting-machine one or more knives, G H, having a curved cutting-edge, constructed as described, for the purpose set forth.

3. The knife G, in combination with the knife H operated by the screw-shafts I, and the spring-gauge B operated by the screw-shaft C, and the block A, substantially in the manner and for the purpose described.

121,521, antedated November 18, 1871.—LAMP.—Mark Wiggins House, Cleveland, Ohio, assignor to Cleveland Non-Explosive Lamp Company, same place.

Claim.—1. The combination of the interior draught-tube and its longitudinal groove, the wick-sleeve, and the interior turning spiral-threaded tube, the whole constructed to operate substantially as before set forth.

2. The combination of the exterior spiral-threaded tube, operating upon the exterior of the wick-sleeve, with an external stationary tube constructed with an enlarged head, substantially as before set forth.

3. The combination of the interior draught-tube and its longitudinal groove, the wick-tube, the exterior spiral-threaded tube, the wick-sleeve, and the fount, substantially as before set forth.

4. The fount constructed with an expansion-chamber extending above the level of the filling-hole, and also with a vent from said chamber, substantially as before set forth.

5. The combination of the movable spiral-threaded tube with the fount by means of a locking device so as to prevent the upward movement of the threaded tube when it is turned, substantially as before set forth.

121,522.—APPARATUS FOR MOLDING DENTAL-PLATES.—John W. Hyatt, Jr., and Isaiah Smith Hyatt, Albany, N. Y., assignors to Albany Dental-Plate Company.

Claim.—1. The arrangement, with the flask-press A, of the heating-vessel C cast with recesses *c* or equivalent construction to receive and hold the press against turning, substantially as hereinbefore set forth.

2. The recess D and flanges *d* cast with the flask-heating vessel A, and forming a receptacle for the thermometer, as hereinbefore set forth.

121,523.—MEDICAL COMPOUND FOR CURE OF HOG CHOLERA. — Charles L. Jones, Pedler township, Va.

Claim.—The compound for cure of hog cholera, composed of the ingredients and in about the proportions hereinbefore set forth.

121,524.—PAVEMENT.—John Stafford Kelly, New York, N. Y.

Claim.—1. The extension of the iron bands C C, forming flanges and lugs, and the double interlocking by the lugs or tangs D D and socket or groove E, for the purposes herein set forth and described.

2. A pavement formed of wooden blocks and iron bands, with extensions, constructed as aforesaid, and held together by lugs and sockets, as exemplified in drawing and specification.

121,525. — FOOT-POWER. — George Byron Kirkham, New York, N. Y.

Claim.—1. A double pitman, B B', operating alternately against opposite sides of the wheel A, as and for the purpose hereinbefore set forth.

2. The arrangement of the grooved or beveled wheel A and arms B B', also grooved or beveled, the bearings C C', and pitman-arm I, as and for the purpose hereinbefore set forth.

3. The lever E F and wheel D, also the arm G and slide H, as and for the purpose hereinbefore set forth.

4. The arrangement of the bearing J and slide L, spring N, arm K, and standard M, as and for the purpose hereinbefore set forth.

5. The arrangement of the arms B B', bearing C C', and wheel Q, and also the slides O P O P, as and for the purpose hereinbefore set forth.

121,526.—MACHINE FOR SEPARATING AND TREATING ORES.—Stephen R. Krom, New York, N. Y.

Claim.—1. The poppet-valve D, faced with soft material, operating in combination with an ore-bed and constant blowing means, as specified.

2. The arrangement of the valve D along the bottom of the slender space P, communicating directly with the bed so as to work the valve in close contact with the bed, as specified.

3. The hammer F, operating, as represented, to open the valve D by percussive action, as set forth.

4. The spring O, arranged and operated, as represented, relatively to the valve D and to an ore-bed and suitable blowing means.

5. The chamber U between the pipe U' and valve D, in combination with an ore-bed and blowing means, as specified.

6. The oblique back of the delivery-passage J, in combination with the ore-bed I and means for puffing air up through the same, as specified.

7. The overhung front H of the delivery passage J, in combination with the ore-bed I and means for puffing the air, as set forth.

8. In combination with the bed I and means for puffing air through and feeding forward material to be separated therein, the wheel L^2, pawl *l*, and adjustable crank-pin *b*, operating to allow a delicate adjustment of the velocities, as specified.

9. The employment of two or more independent delivering devices, L, and their connections, mounted in a single frame, the one serving to discharge the denser portions of the material, which is unaffected by the other, as specified.

10. The double ore-bed mounted at different levels, the second and lowest receiving the material thrown over from the first in the same manner as the first receives it from the elevated hopper, as and for the purposes specified.

11. The curve or lip, extending forward from the lower edge of the delivering-gate N on the hopper into and under a quantity of the material on the bed, as and for the purposes specified.

12. The backward curve or overhang of the delivery-gate K at the front of the ore-bed, extending into and covering a quantity of the material on the bed, as and for the purposes specified.

13. The dampers *i i* mounted on the single shaft *f'*, and arranged to serve within the hollow bars of the ore-bed, as and for the purposes herein set forth.

121,527. — FEEDER FOR AMMONIACAL-GAS ENGINE. — Emile Lamm, New Orleans, La.

Claim.—The combined tender and injector into one single instrument, in connection with a boiler of liquefied ammoniacal gas, as set forth and specified, or its equivalent.

121,528.—BRIDLE-BLINDER FOR HORSES.—John B. Low, Homerville, Ohio.

Claim. — In combination with a headstall, the blinders B with apertures occupied by sieve-wire, constructed and arranged as herein set forth, for the purpose specified.

121,529.—BAG-HOLDER AND FILLER.—William F. Lum, Waterloo, Wis.

Claim.—1. The scoop B, having a removable head, B', and bail-hand B'', when the same is constructed and arranged to operate as described.

2. The scoop B, with side-staples b^1, and without the head B', in combination with the projecting hooks a^4 and frame-support A, in the manner shown and described.

3. The open scoop B, as seen in Fig. 2, having band b^2 surrounding it, with hooks or ears *d* thereon, in the manner and for the purpose described.

4. The open scoop B, having band b^2 with hooks *d* thereon, in combination with the bag C and spring-holder or fastener C, in the manner shown and described.

121,530, antedated November 24, 1871.—REFRIGERATING-CAR.—Azel Storrs Lyman, New York, N. Y.

Claim.—1. The combination of the fan driven by the wind-wheel on its spindle with the reservoir of cooling material and the descending cold-air flue, in the manner substantially as and for the purposes specified.

2. The combination of the injector or receiving-cowl with the reservoir of cooling material and the descending cold-air flue, substantially as and for the purposes specified.

121,531.—SASH-HOLDER.—William W. Lyman, West Meriden, Conn.

Claim.—The herein-described sash-fastener, consisting of the bolt A, the pull B or its equivalent, and the chambered post D having a headed spindle, over which the said post works, substantially as described.

121,532.—MOTOR FOR SEWING-MACHINES.—James A. Macauley, Wheeling, W. Va., assignor to himself and John Macauley, Sr., same place.

Claim.—The spring B, wheels D, E, G, H, L, K, M and N, in combination with each other, and in combination with brake O and driving-wheel R, constructed and operated as described.

121,533, antedated November 18, 1871.—PNEUMATIC WATER-ELEVATOR. — Philip W. Mackenzie, Blauveltville, N. Y.

Claim.—The combination of the compressed-air chamber A and a supply apparatus, B, with the jet-pipe K H and suction-pipe C, all arranged for operation substantially as specified.

121,534.—MEDICAL COMPOUND FOR CURE OF CANCER.—Nathan McKelfresh, Elizabeth, Ind.

Claim.—The manufacture or preparation and use of a compound for the cure of cancer of the ingredients, in their several proportions, as above described, and for the purpose hereinbefore set forth.

121,535.—SHOVEL-PLOW.—Thomas Meikle, Louisville, Ky.

Claim.—The combination of the beams A and B of a double-shovel plow, tie-bolt E', and brace E, when the latter is constructed at each end with projections or flanges *e e* for embracing the edges of the beams, substantially as and for the purpose set forth.

121,536.—COMPOUND FOR CLEANSING THE HAIR.—Alexander Miles, Toledo, Ohio.

Claim.—The combination of borax, French castile soap, rain-water, and solution of salts of tartar with any appropriate perfume and the glair of an egg, substantially in the proportion named, and for the purpose described.

121,537. — SCISSORS-GRINDING ATTACHMENT FOR SEWING-MACHINES.—Russell S. Morse, East Dixfield, Me.

Claim.—An apparatus for grinding scissors and other blades, arranged with an adjustable slotted bar, *b*, adjustable curved arms *n* and *q* or stationary single arm *i*, gauge piece *s*, bar *d*, standards *e* and *e'*, in combination with a sewing-machine or other frame, *a a a*, and grinding-wheel *g*, substantially as specified.

121,538. — ELEVATED RAILWAY. — John B. Newbrough, New York, N. Y.

Claim.—1. The frame or post I having two parallel rails, *g g'*, lower parallel rails for wheels *i* of suspended cars, and arranged to revolve, as set forth.

2. The car B with its inclined grooved wheels *d d* adapted to the inclined face of an upper rail, and wheels *i* bearing upon or against a lower rail arranged at the side of a series of posts, as specified.

3. A suspended car provided with horizontal driving-wheels arranged below the bottom of the car and bearing laterally on rails secured to the sides of a series of posts, as described.

4. The combination of the posts, the rails or bars connecting said posts, and the supplementary detachable rails, all as specified.

5. The combination of a post, the two rails fitted thereto, and a bolt passing through both rails and the post, and securing all together.

121,539.—CAR FOR ELEVATED RAILWAYS.—John B. Newbrough, New York, N. Y.

Claim.—A car for elevated railways in which the ends of the superstructure consist of girders so constructed as to brace the shallow frame E, from which the lower cages *c c* are suspended, substantially as described.

121,540.—CAR-STARTER.—John North, New York, N. Y., assignor of one-fourth his right to Amos J. Osgood, Cumberland, Me., and of one-fourth his right to George S. Plympton, Jersey City, N. J.

Claim.—1. The levers O O, eccentrics B B, shaft D, connecting-rope or chain F, slotted hook X, in combination with the car-wheel A, for the purposes described.

2. The catch-hook *g*, in combination with eccentric B and pin *i*, for the purposes described.

121,541.—FOLDING PLANT-STAND.—Benjamin B. Nourse, Westborough, Mass.

Claim.—The hinged supporting-frame, composed of two side standards hinged to one edge of a mid-

die one, in combination with the removable shelves of a flower-stand, when constructed in the manner and for the purposes above set forth and described.

121,542.—Process of Constructing Water and Steam Valves.—Samuel J. Peet and Joseph W. Willis, Boston, Mass., assignors to Samuel J. Peet, same place.

Claim.—The process of uniting dissimilar metals, as above set forth, the same consisting in casting one of such metals upon a solid piece of the other having interposed between the surfaces to be so united a flux consisting of the single ingredient, as above stated.

121,543.—School-Desk.—Isaac Newton Peirce, Philadelphia, Pa.

Claim.—The combination, in a school-desk, of the frame A, desk-brace B having the slots *e* and *f*, the chucks C, and springs L, when combined and arranged with the other parts of the desk, as herein shown.

121,544.—Wooden Pavement.—Robert C. Phillips, Cincinnati, Ohio.

Claim.—A wooden pavement composed of blocks of any desired wood, cut from the trunks or branches of trees or saplings, of any desired length, in their natural form, the bark only being removed, placed with their fibers vertical, upon a bed of broken stone and gravel, or sand, or either of them, the spaces between the blocks being filled with gravel or sand, the whole made compact by ramming, rolling, or other proper method, as herein shown and described.

121,545.—Oil-Can.—Gilbert Stewart Prior, Boston, Mass.

Claim.—An oil-can having the tunnel and guard-cones B C, annular spout D, and escape-spout E, substantially as and for the purpose set forth.

121,546.—Nut-Locking Device.—Hadwen L. Purdie, deceased, Buffalo, N. Y., (John Purdie, administrator.)

Claim.—The slot C, provided with notches, as described, in combination with the spring F for locking the dog D, substantially as set forth.

121,547.—Nut-Locking Device.—Hadwen L. Purdie, deceased, Buffalo, N. Y., (John Purdie, administrator.)

Claim.—The combination of the hollow washer with a spring and a pivoted dog swinging through the plate of the washer in an opening, as set forth.

121,548.—Nut-Locking Device.—Hadwen L. Purdie, deceased, Buffalo, N. Y., (John Purdie, administrator.)

Claim.—The above-described pivoted dog or dogs, so arranged that, by the rotation of the nut forward, they are forced into the hollows or recesses until the nut is screwed home, when the dog or dogs fall or swing, by gravity, by the side of the square of the nut, thus preventing the rotation of the nut backward when in a suspended position.

121,549.—Nut-Locking Device.—Hadwen L. Purdie, deceased, Buffalo, N. Y., (John Purdie, administrator.)

Claim.—1. A washer having a dog hinged to the side thereof, in combination with a spring and catch for locking the dog in place by the side of the nut, substantially as set forth.

2. A washer provided with a pivoted dog having the parts D and D′, substantially as and for the purposes set forth.

121,550.—Lamp-Burner.—Fayette S. Robinson, Boston, Mass.

Claim.—1. The adjustable tube A, in combination with a lamp-burner, arranged substantially as described, for the purpose set forth.

2. The combination of the screw D, base B, link N, and movable tube A, substantially as described, and for the purpose set forth.

3. The base-ring K, standards *k k*, and draught-plate E F provided with chimney-fastenings Q Q and P, in combination with the plate H H′ provided with fastenings M and L, substantially as described, and for the purpose set forth.

121,551, antedated November 27, 1871.—Mortising-Machine.—Enoch J. Rowe, Eureka, Cal.

Claim.—1. The combination and arrangement of the bed-pieces A and A¹ and their operating parts, when constructed as shown and described, the two bed-pieces being united by a pivot or bolt, substantially as and for the purpose set forth.

2. The combination of the spring or springs P, lever I, and the tool-stock, substantially as and for the purpose set forth.

3. The combination of the adjustable table E, the head-blocks C C¹, and the yoke E¹, substantially as and for the purpose set forth.

4. The adjustable head-blocks, in combination with the shafts D and D¹, when one of such shafts is provided with a dial-plate, substantially as and for the purpose set forth.

121,552.—Dumping-Wagon.—Lexor B. Snow, Cleveland, Ohio.

Claim.—The combination of the tilting planks C C, lever G, spring-rod J, and catch L, in the manner as described, and for the purpose set forth.

121,553.—Photographic Camera.—John Stock and Jacob Stock, New York, N. Y.

Claim.—1. The arrangement of the ways D in suitable grooves or recesses n made in the sides of the frame C, substantially as and for the purpose hereinbefore set forth.

2. The lever P, lever Q, plates *c* and *d* provided with suitable holes or their equivalent, in combination with the camera-box B and plate-holder slide M, substantially as and for the purpose hereinbefore specified.

3. The combination of the cross-piece G, screw J, and slides F F with the box A of a camera, substantially as and for the purpose hereinbefore set forth.

121,554.—Process of Amalgamating Gold and Silver Ores.—Percival T. G. Stockman, Brooklyn, N. Y.

Claim.—The process of amalgamating the precious ores, as specified, by first forming a paste with water, then expanding by heat, and so introduce the quicksilver in a condition to promote affinity, stirring the whole to hasten amalgamation, the chemicals specified to be used as occasion may require to overcome impurities of ores.

121,555.—Water-Wheel.—Jesse S. Teed, Guilford, N. Y.

Claim.—1. A water-wheel the buckets of which are of greater length than the case, in which it is inclosed, such buckets being constructed substantially as shown and described, as a consequence of which a portion of the water which propels it may be discharged at each end of each bucket and a portion through the center of the wheel, substantially as and for the purpose set forth.

2. The buckets D D, constructed with their central portions and inward edges in the form of a plane or flat surface while their ends and outer edges are curved, substantially as shown, in combination with a diaphragm or spiders for holding them in position, substantially as and for the purpose set forth.

3. The combination of the gates A¹, which are operated by mechanism, and the independently-moving gates or chutes A² with the plates or rims of the case, substantially as and for the purpose set forth.

121,556.—Bridge.—Joseph B. Tracy, Lincoln, Del.

Claim.—The combination of the chords A and B, inverted braces D D′, and bolts E, the parts being constructed and arranged substantially as and for the purposes set forth.

121,557, antedated November 20, 1871.—Lubricator for Car-Journals.—Stephen Ustick, Philadelphia, Pa.

Claim.—1. The combination and arrangement of the pads D′ D′ with the bearing B and journal E, the said pads being held in position by means of bars or supports C, substantially in the manner and for the purpose above set forth.

2. The combination and arrangement of the absorbent strips D with the pads D′, and bars or supports C, the said absorbent strips being arranged and operating in relation to the journal E and oil-reservoir, substantially in the manner described, and for the purpose specified.

121,558.—Culinary Steamer.—Charles E. Wahlgren, Galesburg, Ill.

Claim.—1. The cylinders A and D, constructed as described, and arranged to operate with the vessel J, substantially as described, and for the purpose specified.

2. The catches E E, springs G G, hooked rods I I, and handle *d*, when combined and arranged to operate with the cylinders A and D, substantially as described, and for the purpose specified.

121,559.—Butter-Worker.—Edward L. Walker, Twin Grove, Wis.

Claim.—The combination of the frame B, vertical rollers *e e*, hinged cap D, cross-bar F, and nock E, substantially as specified.

121,560.—Churn.—John Stockton Ward, Plattsburg, Mo.

Claim.—The dasher suspended in the barrel, as shown, and constructed of the vertical shaft A provided with the arms B, to which are secured in a vertical position the air-tubes C having their lower extremities reduced in diameter and curved backward, substantially as shown and described.

121,561.—Telegraph-Signal.—William Henry Ward, Auburn, N. Y.

Claim.—1. The herein-described system of signaling by means of two flags, lights, or their equivalents, one of which is stationary while the other is a working one, the signals being indicated by the relative movement of the latter toward the former, as set forth.

2. In the above-described system of signaling, lanterns so constructed each with its separate slides and operating halyards, that, when permanently arranged above each other in a vertical line, either and all of them may be changed from one spot and by the same operator to stationary or working lanterns, as and for the purpose described.

3. In signal-lanterns, the chamber D at the bottom and chamber *g* at the dome, substantially as and for the purpose described.

4. In combination with the chamber *g*, the curved flange *s*, acting as a draught-deflector, substantially as described.

121,562.—Method of Riveting Latch Knitting-Needles.—Charles P. S. Wardwell, Lake Village, N. H.

Claim.—The herein-described improved method or process of securing the latch in latch knitting-needles, namely, spreading the slot of the needle, inserting the latch and rivet in place, and then closing the sides of the slot toward the latch in the act of riveting or heading down the rivet, substantially as and for the purpose herein specified.

121,563, antedated November 18, 1871.—Jump-Seat.—Nelson Warren and Thomas Underwood, Wilmington, Del.

Claim.—1. The parallel swinging arms E, with fingers F, in combination with the bearing-plate or ear *b* of the plate C, as and for the purposes hereinbefore set forth.

2. The bearing-plate C, forming pivot bearings for the arms E and a rest for the fingers F of said arms, when constructed substantially as herein shown and described.

3. The automatically-operating spring-bar I, constructed and operating substantially in the manner and for the purposes set forth.

4. The swinging block J, constructed as shown and described, and pivoted to plate G, in combination with the supporting-pins *k k*, either as an auxiliary or independent means of supporting the seat, as hereinbefore set forth.

121,564.—Bleaching Wool.—Jules Watteau, Antwerp, Belgium.

Claim.—The method herein described of bleaching wool by the application of a suitable bleaching-gas to it by means of atmospheric pressure obtained by an exhausting or condensing fan or centrifugal machine, substantially in the manner described.

121,565.—Machine for Pulling Wool from Skins.—Jules Watteau, Antwerp, Belgium.

Claim.—1. The revolving elastic plates *l*, in combination with the bar C, substantially as described, to pull the wool from a pelt down between them.

2. The bar C′ or C″, substantially as described, for the purpose described.

121,566, antedated November 16, 1871.—Cooking-Stove.—Jeremiah A. Weakley, Indianapolis, Ind.

Claim.—A removable solid fender, E, combined with the opening C in the front plate B of a cook-stove, substantially as herein set forth.

121,567, antedated November 25, 1871.—Plow.—William Yost, Goshen, Ohio.

Claim.—The plow described, consisting of the bar A, carving standards *a a′*, shares B B′, share-bars C C′, and handles D D′, the parts being relatively arranged, as described.

121,568.—Whip-Socket.—Frank Adams, Middlebury, Ohio.

Claim.—1. The combination of the spring-jaws with the cylinder A, substantially in the manner and for the purpose specified.

2. The arrangement of the jaws with relation to the supplementary cylinder B, as shown and described, whereby the whip may be supported and held without being locked, as set forth.

3. The arrangement of the cross-bar transversely of the cylinder A, between the spring-shanks of the jaws and above the key-hole, as and for the purpose hereinbefore specified.

4. The combination of the main cylinder A, the supplementary cylinder B, the spring-jaws C C, and bar D, as set forth.

121,569.—Process and Apparatus for Drying and Preserving Animal and Vegetable Substances.—Charles Alden, Newburg, N. Y.

Claim.—1. The within-described process of maturing and preserving animal and vegetable substances, in part through evaporation and in part through chemical binding of their organic moisture, by exposing the same to a blast of heated and humid air, increasing in humidity and decreasing in heat as the evaporation proceeds, or screens moving in a tunnel or tower, said current of air moving in the same direction with the screens containing the articles to be treated, substantially as herein set forth.

2. The arrangement of a fan-blower, H, air-chamber G, heating-coil F, and tunnel A containing a series of rising-and-falling screens, E, substantially as shown and described.

121,570.—MODE OF ATTACHING SPRINGS TO VEHICLES.—Truman H. Allen, Corry, Pa.

Claim.—The combination of the springs C, springs I, studs G, cross-rail F, cross-bar *e*, and braces A', pivoted to said cross-bar *e*, as described, substantially in the manner as set forth, and for the purpose specified.

121,571, antedated November 20, 1871.—WAGON AND SLEIGH BOX.—Anson R. Ambrose, Chicago, Ill.

Claim.—1. The cleats E E, hinged to the end board D, substantially as described, and for the purposes set forth.

2. The bevels *a b* on the top of end board D and bottom of top-box board C, substantially in the manner described, and for the purposes set forth.

3. The pin *d*, attached to the end board D and fitting in the mortise *c*, substantially in the manner shown and described, and for the purposes set forth.

4. The cleats K K, with shoulders L L, on the side boards B B, made in one or more pieces, substantially as shown, and for the purpose set forth.

5. The blocks O O, fastened at the lower ends of the cleats K K, substantially as and for the purposes herein set forth.

121,572.—RAILWAY-CAR AXLE-BOX.—William S. Auchincloss, Wilmington, Del.

Claim.—The arrangement on an axle-box of a strap or straps, C, embracing the body of the box and the lug which forms the bearing for the pivot of the equalizing-beam, substantially as set forth.

121,573.—BAKER'S OVEN.—George E. Bailey, Mansfield, Mass.

Claim.—1. The combination of the oven B and fire-pot E, when the fire-pot is below the oven, with an air-space between them, and is connected to the oven by flues or pipes N, substantially as described, for the purpose specified.

2. The combination of the fire-pot E, oven B, and chamber F about fire-pot E, said chamber F being in communication with the fire-pot and having an inclined floor G, substantially as and for the purpose described.

121,574, antedated November 25, 1871.—AXLE FOR VEHICLES.—Ephraim Ball, Jr., Canton, Ohio.

Claim.—The combination of a T or angular-shaped axle, A, and the bisected bearings B B having their under sides shaped to fit said axle, and connected together and to the axle by bolts or rivets *s s*, substantially as herein set forth.

121,575.—LUBRICATOR FOR CAR-AXLES.—Joseph Barber, Bridesburg, Pa., assignor to himself and Richard B. Duncan, same place.

Claim.—The plate F, carrying the spirally-grooved roller C mounted in spring-bearings, and arranged in connection with and attached to the under side of the axle-box, as shown and described, for the purpose specified.

121,576.—SCRAPER.—George W. Bayly, Stuyvesant, N. Y.

Claim.—1. The self-adjusting platform N O, in combination with the scraper A B, wheels and axle L J, and adjustable connecting-bar I, substantially as herein shown and described, and for the purpose set forth.

2. The adjustable U-shaped connecting-bar I, in combination with the scraper A B and wheels and axle L J, substantially as herein shown and described, and for the purpose set forth.

3. The cutter R S, in combination with the scraper A B, substantially as herein shown and described, and for the purpose set forth.

121,577.—APPARATUS FOR PRESERVING AND FORCING BEER WITH COLD AIR.—Franz Blueher, Mascoutah, Ill.

Claim.—1. The crank *k*, arbor *j*, segment *i*, and double-rack *h*, combined with a piston-rod *e*, as and for the purpose specified.

2. The cylinder *a*, piston-rod *e*, and pipes *f g* of an air-pump combined with valve-chambers *b b* and valves *c d*, arranged as described, for the purpose specified.

3. The cone-shaped enlargement *l* with perforated bottom, and filled with charcoal, when applied to pipe *f*, as and for the purpose specified.

4. The combination of mechanism *h i j k*, an ice-box A, and the particular air-pump *a b c d e f g* arranged in said ice-box, as and for the purpose specified.

121,578.—BROOM-HEAD.—Cornelius Blom, Jr., and John Aling, Holland, Mich.

Claim.—A broom-head formed of the clamp B, straps C C, and casing-plates D D, arranged substantially as described.

121,579.—TAP FOR OIL-CANS.—Jabez A. Bostwick, New York, N. Y.

Claim.—The combination of a cap-plate, A, with a bottom plate, D, so that a lip on the latter shall project through an aperture in the former and the two form a valve-chamber and tap for oil-cans and other vessels, substantially as herein described.

121,580.—FOUNTAIN.—Henry Broezel, Manston, Wis.

Claim.—The flexible water-reservoir F, plunger E provided with the toothed bar *f*, the pinions *b b*, and racks *d d* arranged within the pillar D carrying the top C having pipe G, as and for the purpose specified.

121,581.—APPARATUS FOR TESTING CANS, BARRELS, &c.—William D. Brooks, Baltimore, Md., assignor to Mary C. Brooks, same place.

Claim.—1. The combination of the hinged and spring-supported arm *d*, treadle *k m*, pump *a*, flexible tube *b*, and pipe *c*, as shown and described, and for the purpose specified.

2. The combination of the pump *a*, hinged arm *d*, gauge *j*, flexible tubes *b* and *i*, pipe *c*, ball *g*, and treadle *k m*, as shown and described.

121,582.—PLOW.—John Butler, Huff township, Ind.

Claim.—The combination of the standard *d*, the plate G, the reversible plate C, the plows F F' and H, and the beam A, constructed substantially as described, for the purposes set forth.

121,583, antedated November 20, 1871.—LAMP-BRACKET OR SUPPORT.—Henry Campbell, San Francisco, Cal.

Claim.—A lamp-support, consisting of clamp composed of the top plate *a*, edge plate *b*, under plate *d*, and hinged claw-bar *c*, and of the socketed standard *m*, standard *g*, and the disk *i* having the curved arms *j*, all constructed and arranged substantially as and for the purpose set forth.

121,584.—TICKET-HOLDER.—William James Campbell, St. Louis, Mo.

Claim.—A ticket-holder having partition D with stop *d*, cover B with stop M, and shaft C with springs L L, combined to operate upon a holding plate K, as and for the purpose specified.

121,585.—FLOUR-BOLT VIBRATOR.—Charles Edwin Canan, Coldwater, Mich.

Claim.—The arrangement of the springs D and stirrups E on a bolting-reel, with relation to the lever C, provided with the offset *c* and strap C', adjustably hinged to the bolting-chest, as and for the purpose set forth.

121,586.—PURIFYING ACETIC ACID.—John F. Cavarly, Flushing, N. Y.

Claim.—The treatment of acetic acid with any of the compounds known in chemistry as the alcohols, as above stated, substantially as and for the purpose above described.

121,587.—VALVE-INDICATOR.—John C. Chapman, Waltham, Mass.

Claim.—The rack B, in combination with the worm-gear D and valve-shaft A, substantially as and for the purpose set forth.

121,588.—GRAIN-DRIER.—Charles F. Chichester, Brooklyn, N. Y.

Claim.—1. The furnace for a grain-drier, made with the double-side walls *c c*, arch *f*, and opening *g*, for mixing atmospheric air with the products of combustion and passing the same directly into the drying apparatus, as set forth.

2. The arrangement of the flues *h h*, bin *l*, ranges of tables *i o*, and pipes *r s* leading to the chimneys *t u*, as and for the purpose set forth.

3. The sheet-metal tables for a grain-drier, made as an inverted trough, with ribs in the sheet metal near the edges, for the purposes and as set forth.

121,589.—WRINGING-MACHINE.—James M. Clark, Lancaster, assignor to Franklin L. Clark, Clarksville, Pa.

Claim.—The wringing-machine herein described, consisting of the frame A *a a'*, rollers D E, pulleys F, elastic bands G, bar B, connecting-heads H, and adjusting-screws I, all constructed and combined to operate substantially as and for the purpose set forth.

121,590.—ROCK-DRILLING MACHINE.—Thomas H. Coate and Lewis A. John, Pleasant Hill, Ohio.

Claim.—1. In a drilling-machine, the dogs H and spring I, in combination with the sliding blocks G g^3, pulley g^1, rope *b'*, pitman or crank-arm f^2, and studs J, substantially as described.

2. In a drilling-machine, the combination and arrangement of the pulleys *b b*, rope *b'*, windlass D, pulley g^1, sliding blocks G g^2, dogs H, and studs J, as and for the purpose specified.

121,591.—COTTON AND HAY PRESS.—Edwin S. Collins, Trenton, Tenn.

Claim.—1. In a press for cotton, hay, or other material, the combination of the bar E, interchangeable pendent fulcrums K L M N *e*, lever G, and follower *g*, as and for the purpose specified.

2. The bracket *e*, having the inclined tail-board F, in combination with the lever G, adapted to work on the interchangeable fulcrums K L M N, as described.

3. The hinged arm g^1, applied to the press-lever G, in combination with the bracket *e* and bar g^2, as and for the purpose specified.

4. The rack H, pinion h^1, and crank h^2, in combination with the press-lever G, adapted to work on interchangeable fulcrums, as and for the purpose specified.

121,592.—CHERRY-STONER.—Abner M. Comstock, Galesburg, Ill., assignor to Agnes A. Comstock, same place.

Claim.—1. The shaft B with cranks B'' and B''', the pitman E, and lug *e*, the cylinder G, constructed as described, and the lugs I I I I I I, when arranged to operate substantially as described, and for the purpose set forth.

2. The cylinder K, when combined and arranged to operate with the cylinder G, shaft B, crank B''', cam *n*, lug *f*, and spring M, substantially as described, and for the purpose specified.

3. The cylinder K, cylinder G, and forks D, when arranged to operate substantially as described, and for the purpose specified.

4. The combination of the frame A A, grooved plate P, apron R, cylinders K and G, head C, forks D, plate J, pitman E F, shaft B, cranks B'' B''', and spring M, when arranged to operate substantially as described, and for the purpose specified.

121,593.—THILL-COUPLING.—Henry S. Cox, Franklin, Mich.

Claim.—The combination of the elongated hook C with the elongated or flattened pin B of a clip, A, provided with a recess, *b*, when the several parts are constructed and arranged to operate substantially as and for the purposes herein set forth.

121,594.—LADY'S HAIR-NET.—Joseph Dalton, New York, N. Y.

Claim.—A head or hair-net composed of a main set of meshes fabricated of coarse thread combined with an auxiliary set or sets of meshes fabricated of fine thread, substantially as described.

121,595.—MANUFACTURE OF BLEACHING-POWDERS, SULPHATES, &c.—Henry Deacon, Appleton House, Widnes, England.

Claim.—The employment, in the manufacture of bleaching powder and of sulphate of soda and of sulphate of potash, of inclined shelves, with spaces left above or between the said shelves, through which spaces the chemical gases pass and act on the solid materials during their passage over and along such inclined shelves, as hereinbefore described, and illustrated by the drawing.

121,596, antedated November 24, 1871.—EXTENSIBLE FURNITURE.—Joseph Mason Dennis, Galesburg, Ill.

Claim.—1. The combination of the levers *a* and the boards or sheets *b*, as and for the purpose specified.

2. The combination, with the levers *a* and the boards or sheets *b*, of the frames *c*, substantially as and for the purpose specified.

121,597.—BEE-HIVE.—Aaron F. Dickey, Benford's Store, Pa.

Claim.—The comb-sashes E, suspended by their upper arms upon seats *a b* formed within the upper front extension of the frame, and their vertical bars supported by the notched seats M M' on the inner sides of the frame, so as to allow them each to be held in position without fastenings and be removed when desired, as shown and described.

121,598.—WASHING-MACHINE.—Oscar L. Dorr, South Walpole, Mass.

Claim.—The combination, with frame A *a*, rolls C, and alternately-rotating rods *d*, of the axle *f*, having its bearings arranged in blocks provided with springs *h h*, as and for the purpose set forth.

121,599.—DENTAL FORCEPS.—Nephthali A. Durham, Duquoin, Ill.

Claim.—The beak B, constructed with a rectangular curved shank, *b*, in combination with the jaw A, constructed with a rectangular curved socket, *a*, adapted to receive the shank *b*, substantially as set forth.

121,600.—SUSPENDER.—Robert Henry Eddy, Boston, Mass., assignor to A. G. Eddy, same place.

Claim.—1. A suspender as composed not only of a single shoulder-strap and a button-strap connected by a slide or buckle, as set forth, but also of a branch button-strap connected with or applied to the shoulder-strap above its connection with the first button-strap.

2. The improved suspender, made substantially as described, viz., as composed of the long shoulder-strap A, the single adjustable button-strap C, the slide or buckle G, and the branch-strap leading from such slide G, and composed of a single

strap, D, or two straps, D E, connected by a buckle, all being arranged essentially as explained.

121,601. — MACHINERY FOR PERFORATING PAPER FOR TELEGRAPHIC PURPOSES.—Thomas A. Edison, Newark, N. J., assignor to himself and George Harrington, Washington, D. C.

Claim.—1. Two ranges of punches for perforating telegraphic paper with holes representing dashes, or dashes and dots, substantially as set forth.

2. A strip of telegraphic paper perforated in two lines, with the perforations arranged so that the long pulsation in transmitting is obtained from perforations in both lines, substantially as set forth.

3. A series of perforating-punches, arranged in two or more lines and supported in heads that are perforated in the line of the opening in the die, substantially as set forth.

4. The die-plate *n*, hinged so as to be opened, in combination with the punches, for the purposes set forth.

5. The springs *o* combined with the punches *i*, and arranged in the manner specified to retract the punches from the die-plate *n*, as set forth.

6. The combination of the sliding punches and sliding plates *k* with the actuating-levers *e*, substantially as set forth.

7. The punches *i* reduced at the end next the slide-plates *k*, for the purposes set forth.

8. The finger-keys *a a'*, in combination with the bars *c*, slide-plates *k*, and levers *e*, substantially as and for the purposes set forth.

9. Mechanism actuated by one movement of a key, substantially as specified, for punching in two rows telegraphic characters consisting of dots and dashes.

10. The finger-keys, cam-rods, levers, and cams arranged between the frames *d'*, in combination with the punching and feeding mechanism operating upon the strip of paper running parallel or so with the finger-keys, as set forth.

11. The paper-feeding mechanism having a reciprocating movement of varying length, according to the character perforated, and acting to grasp the paper and carry the same forward, but not to catch or hold such paper on the return movement, substantially as set forth.

12. The paper-feeding clamp *t* moving upon the slide *s*, in combination with the pawl *u* and mechanism for reciprocating such clamp, substantially as set forth.

13. The rack-bar *v* with inclined teeth, in combination with the pawl *u* and finger 9, substantially as and for the purposes set forth.

14. The holding-pawl 10 operated by the rack-bar *v*, substantially as set forth.

15. The clamp *t*, pawl *u*, and fence *s*, in combination with the rack-bar *v* and pawl 10, substantially as set forth.

16. A reciprocating paper-feed in which the clamping device is lifted off the strip of paper on the backward movement and pressed upon the same on the forward movement, substantially as set forth.

17. The combination of a reciprocating paper-feed with finger-keys that operate the punches, and with mechanism connecting the said finger-keys to the paper-feed in such a manner that the movement given to the paper will be the amount required for the letter or character perforated, substantially as set forth.

18. The slide-rods *e*, pins 15, and cam-fork *s'*, in combination with the rock-shaft *v'* and reciprocating paper-feed, substantially as set forth, for varying the feed according to the position of the pins 15 or their equivalents.

19. In a instrument for punching paper for telegraphic purposes, a series of cams each adapted to operating the mechanism that moves the punches and then releasing such punches during the downward movement of the key, substantially as set forth, so that said punches may be out of the paper before the feed takes place.

20. The paper-reel, in combination with the surrounding stationary pins contiguous to the base of the reel, for the purposes set forth.

121,602.—MACHINE FOR PRINTING MAIL-TAGS.—George H. Fayman, Washington, D. C., assignor to De Vere Burr, same place.

Claim.—1. The combination of a series of independent printing-rollers, C, arranged in a circle and having a movement together to present any one of their series for work, with a pressure-roller, E, and a feeding-table, F, essentially as described.

2. In combination with a printing-wheel, the operating rollers whereof having both an independent and a united movement, the self-adjusting inking-rollers G H, arranged upon the fixed shaft B within the circle of motion of said printing-rollers, essentially as described.

3. The system of printing-rollers C, arranged upon a fixed central shaft, B, in combination with an index-disk K, arranged outside of said rollers and having a movement therewith upon said shaft, as described.

4. The printing-rollers provided with separate and distinct printing-bands, arranged between annular inflexible supporting-surfaces *c*, for the purpose of printing tags separately, in continuous strips, or in sheets of separate printed rows, as described.

5. The spring guide-strips *d* of the feeding-table F, to accommodate tags of different widths, as described.

6. The socketed journal N of the printing-roller C, in connection with the opening *k* in the frame and the removable square-shanked crank-handle P, for the purpose described.

7. The hinged brush Q, in combination with an independent-moving printing-wheel having a series of independent printing-rollers, C, as and for the purpose described.

121,603.—FIFTH-WHEEL.—Amaziah Finley, Bainbridge, Ind.

Claim.—The connection of the reach to the front gear by the pin K, plate L, and center-piece M, all arranged substantially as specified.

121,604. — CHURN. — Miles Fisk, Adrian, Mich.

Claim.—The radial ribs or flanges C, plates D, inclined wedge-shaped blocks E, teeth F, and long teeth or braces *f'*, constructed and arranged in connection with each other and with the cylindrical case or body A, substantially as herein shown and described, and for the purpose set forth.

121,605. — RAILWAY. — Daniel Fitzgerald, New York, N. Y.

Claim.—1. The combination, with the wheels of the continuous line of car-trucks, of the rapid-moving or transit cars propelled by frictional contact with the peripheries of said wheels, substantially as described.

2. The construction and arrangement of the main line of cars as connected with the continuous line of trucks, as described, in combination with the transit cars propelled by the peripheries of the wheels of such trucks, as aforesaid, whereby the same trucks are employed for separate lines of cars traveling at different rates of speed, substantially as described and represented.

3. In combination with the rapid or transit cars propelled as aforesaid, the traveling platforms or platform-cars forming part of the continuous line of trucks, to enable passengers to reach the cars of either line while the main line is under way, as herein described.

4. Propelling the main line of cars or trucks by means of driving-wheels E, arranged and operating substantially as set forth.

121,606.—METALLIC CARTRIDGE.—Sullivan Forehand and Henry C. Wadsworth, Worcester, Mass.

Claim.—A cartridge-shell composed of the metal head A and paper charge-tube B when said parts

are constructed and united together to form a smooth and continuous exterior, in the manner herein shown and set forth.

121,607. — BUNG.—Vincent Fountain, Jr., West New Brighton, N. Y.

Claim.—1. The bush A, provided with pins or points *a*, in combination with the bung B of a barrel, cask, or keg, likewise provided with pins or points for the cancellation of revenue stamps, in the manner and for the purpose described.

2. The cancelling pins or points *a* of the bush and bung attached to barrels, casks, &c., inclosed by a rim, C, whereby the removal of the stamp is prevented, as herein described.

3. The bush A, provided with the rim C and pins or points *a*, in combination with the bung B, likewise provided with pins or points, and with a double tapering hole for the insertion of a cork on the inside and a faucet on the outside, the whole arranged and operating to cancel and mutilate the revenue stamp placed thereon to prevent its double use, as herein described and shown.

121,608.—ANIMAL-TRAP.—Dudley M. Francisco, Three Rivers, Mich.

Claim.—The flaring-pan A, provided with tilting bottom B and weight or ball *h*, all constructed substantially as described, and for the purposes set forth.

121,609.—TREMOLO FOR REED ORGANS.—Levi K. Fuller, Brattleborough, Vt., assignor to J. Estey & Co., same place.

Claim.—The combination of the stop-lever J, connecting-rod *h*, and slide E with the spur *b*, or its equivalent, for controlling the motion of the fan-shaft D in parlor organs, substantially as set forth.

121,610. — TREMOLO FOR REED ORGANS.—Levi K. Fuller, Brattleborough, Vt., assignor to J. Estey & Co., same place.

Claim.—The spur G on the fan-shaft D, acting in combination with the stop or projection F for controlling the tremolo attachment of parlor organs, substantially as set forth.

121,611.—LUBRICATOR. — William T. Garratt, San Francisco, Cal.

Claim.—An oiler for steam-engines, provided with a steam-heating coil having a pipe connection with the boiler or other steam-supply and a regulating-cock at the discharge, all substantially as specified.

121,612.—GRAIN-CAR. — Alphonso E. Gordon, New Brunswick, N. J.

Claim.—1. The improved car, herein described, for transporting grain, constructed with a flat roof and convex bottom and sides, and provided with receiving and discharge orifices closed by suitable valves, as described.

2. In combination with a car, A, having a convex bottom, the valves C and E arranged to slide in opposite directions, substantially as specified.

121,613.—CULTIVATOR. — Marquis L. Gorham, Rockford, Ill.

Claim.—1. The combination of the beams C and cross-brace D with the plate *a* and hammer-strap *b*, constructed in the manner and for the purposes as shown and described.

2. The combination of the slotted adjusting-plate *e* and stud P having a recess to receive the plow-standard with the standard O, constructed as shown and described.

3. The combination of the angular beams T bearing upon axle B with the adjusting screw-bolt *f* and beam C, constructed and arranged in the manner and for the purpose shown.

4. The hangers E with sockets *e* connected to vertical sockets F by stud *d*, arms I, and links *c*, in combination with the lifting-levers J and L and fulcrum-bracket K, all arranged to operate in the manner described.

5. The sway-bar S and rollers *v*, in combination with the slotted adjustable plates R and beams or drag-bars H, constructed and arranged in the manner as described.

6. The lever L having lip *i* and button *k* thereon, in combination with lever J and fulcrum-bracket K, as described.

7. The shields W pivoted to the forward end of beams H, and suspended and adjusted by cords *x* passing through the beams T, and by which cords the shields are raised at the will of the operator and independently of the beams H and of each other, as described.

121,614.—SIGN FOR STREET-LAMPS.—William Graham, William Snyder, and Patrick O'Brien, Pittsburg, Pa.

Claim.—The hinged perforated frame A with its glass backing B, central clasp *c*, and radial arms *n n*, in combination with a lamp-post, T, and its lamp R, in the manner shown, for the purposes hereinbefore set forth.

121,615.—PAPER-FOLDING MACHINE.—Richard R. Gubbins, West Troy, assignor to himself, Thomas W. Holmes, same place, and Achille J. Rousseau and Louis H. De Zouche, Troy, N. Y.

Claim.—1. The combination, with the folding knife and rollers K, of a rotating feeder, whether in cylindrical or other form, and adapted for receiving the papers from one or more tables, all substantially as specified.

2. The folding-knife G, arranged within the cylinder, and the latter provided with the opening in the shell for allowing the knife to act upon the paper through said opening, all substantially as specified.

3. The arrangement of the folding-knife G on a sliding plate at the end of the cylinder, and in combination with an actuating cam thereon, as and for the purpose specified.

121,616.—BURIAL-CASE.—Joseph Hackett, Louisville, Ky.

Claim.—The casting C riveted to the sheet-metal side A of a burial-casket, and the piece H resting in recess G thereof and soldered to said side, as specified.

121,617.—CAR-COUPLING. — Albert S. Hallett and Hervey H. Hallett, East Abington, Mass.

Claim.—The coupler E, the self-operating gate or catch C, and the turn-button D, constructed, arranged, and combined with the chambered draw-bar or bars A B, all substantially in manner and so as to operate as described.

121,618.—BEE-HIVE.—Jasper N. Hieronymus, Fairbury, Ill.

Claim.—The center column B, provided with the lateral openings D, and arranged between the frames E E of the hive A, substantially as set forth, for the purpose specified.

121,619.—SELF-OPERATING GATE.—Albert N. Holmes, Tyrone, Mich.

Claim.—The combination, with the latch F, of the weighted latches P and guard N, substantially as specified.

121,620. — ELECTRIC INDICATOR FOR ELEVATORS.—Edwin Holmes, Brooklyn, N. Y.

Claim.—1. The combination of an elevator, which contains an indicator, C, with a series of flexible or movable metallic conductors, which connect the wires $a\ a^1\ a^2\ a^3$, &c., on the elevator with the wires $b\ b^1\ b^2\ b^3$, &c., in the building.

2. The combination of a movable elevator with an

indicator moved by electrical impulse from stationary floors of a building.

121,621. — ROTARY HARROW. — Cornelius Hood, Seneca Falls, N. Y.

Claim.—The arrangement and combination of the wheel-track C, draft-beam D, bale E, weight I, extra weight J, arm D, and balance-bar P provided with a track, A, all operating together, as and for the purpose described.

121,622.—ELECTRO-MAGNETIC SEWING-MACHINE.—George M. Hopkins, Albion, assignor to himself and George H. Shattuck, New York, N. Y., assignors to Henry G. Thompson, Milford, Conn.

Claim.—1. The combination of the helices D D with the needle-bar B of a sewing-machine, substantially as shown and described.

2. The combination of the helices D D with the rod E, or its equivalent, and the shuttle-carrier or looper of a sewing-machine, substantially as and for the purpose hereinbefore set forth.

3. The gearing F, in combination with the above devices, as shown and described.

121,623.—WAGON-BODY AND RACK.—Isaac N. Hoyt, Wayland, Mich.

Claim.—1. The combination of the cross-ties B provided with lugs A and the movable straps a, all constructed substantially as described and shown, for the purpose of fastening a rack to a wagon-box, as set forth.

2. The combination of the cross-ties B, provided with openings D and the pockets b, all constructed substantially as described and shown, for the purpose of securing the wings C of a hay-rack to a wagon-box in either a vertical or an inclined plane, as set forth.

121,624. — TILE FOR ROOFING. — John B. Hughes, Terre Haute, Ind.

Claim.—The plate A, formed with the upturned edges D D, raised part B, of the form shown, hollowed out at d, in combination with cap E constructed with parallel sides, all arranged to form a roofing-tile, as described.

121,625.—PARASOL.—James Louis Jacquin, New York, N. Y.

Claim.—1. The wire-spring tips, in combination with the cover and the frame ribs of a parasol or umbrella, as described.

2. The wire coils i, arranged to have a movement on the ribs for interlocking with rings or loops at the seams of the cover as a means for holding the ribs at proper distances apart and beneath the seams whether the fixed lining is used or not, as described.

121,626.—PNEUMATIC MOTOR.—Thomas B. Jeffery, Chicago, Ill., assignor to Horace Wickham, Jr., same place.

Claim.—A cylinder and plunger or piston, the latter operated so that a vacuum produced beneath it by its elevation shall afford a continuous motive-power when combined with a system of gearing, substantially as specified.

121,627.—ORNAMENTING PENCIL-CASES.—Ephraim S. Johnson, Jersey City, N. J.

Claim.—As an article of manufacture, a pencil or pen-case made of a metal tube with flat surfaces, receiving slabs of mother-of-pearl attached and finished, as set forth.

121,628, antedated November 30, 1871.—MACHINE FOR ENAMELING MOLDINGS.—John Johnson, Boston, Mass., assignor to himself and Thomas Moore, same place.

Claim.—1. The adjustable guide-way E, rabbet-scraper R, and back-edge scraper S, substantially in the manner as hereinbefore set forth.

2. The combination of the sectional elastic adjustable pressure-rolls H H′ with the adjustable guide-way E and scrapers R and S, when combined and arranged so as to operate substantially in the manner as hereinbefore set forth.

3. The combination of the adjustable feed-rolls s s′ and pulleys u u′ with the adjustable guide-way E and scrapers R and S, when combined and arranged substantially in the manner as and for the purposes set forth.

4. The combination of the stationary reservoir L, surrounded with a steam-jacket, M, adjustable delivery-spout J y y′, with the adjustable guide-way E, scrapers R and S, when combined and arranged substantially in the manner as hereinbefore set forth.

5. The combination of the hinged adjustable brushes T T′ with the adjustable guide-way E, and scrapers R and S, when combined and arranged substantially in the manner as and for the purposes hereinbefore set forth.

121,629.—COMBINED PULVERIZER AND CORN-MARKER.—Thomas Brown Jones, Hiawatha, Kan.

Claim.—The hereinbefore-described pulverizer and corn-marker, consisting of the runners A, connecting-planks and pulverizers B, strap C, tongue D, and clevis E, when said parts are constructed and combined substantially as and for the purpose specified.

121,630.—GLOVE.—Harvey Z. Kasson and Alexander J. Kasson, Gloversville, N. Y.

Claim.—The thumb of a glove or mitten, composed of two pieces, cut, as herein shown and described, so as to be applied either to a round or oblong hole of a glove or mitten.

121,631.—MEDICAL EXTRACT FROM HEMLOCK BARK.—Simon H. Kennedy, Johnstown, N. Y.

Claim.—As an article of manufacture for medicinal purposes, a fluid extract obtained from hemlock bark and other barks containing a large percentage of tannin, by the process substantially as herein described.

121,632.—DEVICE FOR POINTING WIRE.—Robert Kent, Brooklyn, N. Y.

Claim.—An adjustable wire-drawing machine, consisting of the rollers B, having grooves c of gradually-diminishing depth and width, geared together, and provided with a holding-bar, D, for operation as herein described.

121,633.—CHIMNEY-TOP.—Thomas Ketchen, New York, N. Y.

Claim.—The arrangement of the shutters E and wings D in a chimney-top, as shown and described, for the purpose set forth.

121,634.—STENCILING APPARATUS.—Henry Kimball, Poughkeepsie, N. Y.

Claim.—1. In combination, two sector-shaped blocks pivoted together, one bearing the inking-cushion and the other bearing the stencil-plate, substantially as specified.

2. The improved instrument for stencil-printing, having the handle B, stencil-plate A, pivoted block C, and inking-cushion D, as and for the purpose set forth.

121,635, antedated November 25, 1871.—CAR-STARTER.—Charles P. Leavitt, New York, N. Y.

Claim.—1. The fusee C, in combination with the car-axle d, cord Y, and spring R, substantially as described, and for the purpose set forth.

2. The friction-wheels S, in combination with the strap H, the drum C′, and fusee C upon the car-axle d, substantially as described, and for the purpose set forth.

121,636.—SAWING-MACHINE.—Ira B. Lewis, Belvidere, Ill.

Claim.—1. The construction and arrangement of the straps A, wheel B, frame standard C, vibrating frame D, rods F, saws E, saw-frames E′, the clamping parts G, H, I, J, K, L, and M, or their equivalents, the shafts O R, gears P Q, fly-wheel S, pitman T, and handles U U′, substantially as and for the purpose set forth.

2. The spring-hooks f, as and for the purpose specified.

3. The hinged or folding handles U U′ and legs V, when constructed, arranged, and operating in the manner and for the purpose set forth.

121,637.—WATER-ELEVATOR. — Thomas J. Lovegrove, Philadelphia, Pa.

Claim.—1. A centrifugal liquid elevator, in which are combined an enlarged cylindrical base, A, a column, B, of smaller diameter, and a tapering or conical casing, C, between the said base and column, all substantially as specified.

2. The combination, substantially as described, of the chambers E and F, conical casing C, and column B.

3. The blade H′ secured to the shaft G, and having one or more enlargements, H, adapted to a chamber or chambers, F, communicating with the column B.

4. The combination of the blades H and H′ secured to the shaft G and adapted to the chamber F, casing C, and column B, substantially as herein set forth.

5. The combination of the partition or flange b between the chambers E and F with the blade H revolving in the latter of the said chambers.

6. The combination of the blade H with the spiral flange K′ arranged within the conical casing C, and forming a continuation of the spiral flange K of the column B.

121,638.—MOTOR FOR SEWING-MACHINES.—George W. Manson, New York, N. Y., assignor of one-half his right to Samuel Keefer, East Orange, N. J.

Claim.—1. The combination, with the coiled spring-case F and the train of gears to operate a sewing-machine, of the worm gear-wheel g and worm g′ on the vertical shaft G, the latter being operated by a removable crank-handle L and short gear-shaft J, the parts being arranged and operating substantially as described.

2. The brake k, provided with inclined slots q, spring l, and the arm s of the standard E having pins r, in combination with the brake-wheel e on the shaft C, arranged and operating substantially as and for the purpose described.

3. In combination with the brake k, arranged as described, the spring l and brake-wheel e, the rods n o, double rack-arm m, and treadle p, all arranged to operate as herein described and shown.

121,639.—VENTILATOR.—Ambrose Marriott, St. Louis, Mo.

Claim.—1. The ventilator, consisting substantially of the pivoted plate F, in combination with the automatic regulating device I J K, as set forth.

2. In combination with the elements E F I J K, the adjusting device M N, as set forth.

121,640.—PRESERVING EGGS.—William S. Marsh, Raymond, Wis.

Claim.—The method of preserving eggs by the successive application thereto of alum and sulphur, in the manner described.

121,641.—STAIR-ROD. — Henry C. Marston, New York, N. Y., assignor to himself and Franklin W. Brooks, same place.

Claim.—The stair-rod fastening herein described, consisting of a screw, A, and a pair of leaves, B, forming the button or head thereof, united by sleeves x y and pintle C, substantially as shown.

121,642. — APPARATUS FOR FITTING AND LAYING OUT GARMENTS. — William H. Mayer, Newark, N. J.

Claim.—An apparatus for fitting and laying out garments, consisting of sections 1 2 3 4, with eyelets a, screws b, screw-nuts c, strap B, button A, and hinged plate provided with slots e, the whole constructed, combined, and operated as shown and set forth.

121,643.—TRAVELER FOR VESSELS.—George Melville McClain, Rockport, Mass.

Claim.—The traveler as made with the stirrup or yoke to receive and hold the slide-block, and with the eye for connecting the traveler to a jib, all as described, in combination with the said slide-block, arranged with and notched upon the yoke, as set forth.

121,644. — STIRRUP FOR CART AND DRAY SHAFTS.—William B. McClure, Alexandria, Va.

Claim.—A stirrup provided with friction devices, substantially as described.

121,645.—COMPOUND FOR HARDENING IRON AND STEEL.—John McDonald, Kankakee, Ill.

Claim.—The above compound, as and for the purposes described.

121,646. — FASTENING FOR MAIL-BAGS.—Thomas McGrane, New York, N. Y.

Claim.—The ring B and strap D, with a strap, C, having staple E, keeper F, and key G thereon, when all are arranged and applied to a mail-bag, as and for the purpose specified.

121,647.—BED-BOTTOM.—Alonzo D. McMaster, Rochester, N. Y.

Claim.—The combination of the arched ends A, having the gains b and rounded projections b′, in combination with the India-rubber straps B, board D, and slats C, substantially as shown and described.

121,648. — GRAIN-DRILL. — Daniel E. McSherry and Jacob H. Landis, Dayton, Ohio; said Landis assigns his right to said McSherry.

Claim.—1. The hoe L hinged to the plate, and provided at the front with the flange or arm g having the laterally-projecting ribs formed thereon, said hoe being secured to the beam, as herein shown and described.

2. The funnels k pivoted to the seed-cups, and having the spouts R secured by means of the lug j and pin i, whereby the spouts can be arranged at any desired angle, and will also adapt themselves to the varying positions of the beams as the latter are adjusted, as set forth.

3. The brackets M, constructed and applied as described, whereby the hopper is supported underneath upon the handles D, as set forth.

121,649.—CORN-PLANTER. — Edwin James Myers, Onawa, Iowa.

Claim.—The axle C, bent so as to form cranks parallel to each other or on opposite sides of the axle, in combination with the slotted levers E E and F F, for the purpose of operating the slides H H, substantially as and for the purposes set forth.

121,650.—WINDOW-AWNING.—Charles Carroll Moore, New York, N. Y.

Claim.—The jointed or hinged bar E, in combination with the lower ends of the triangular pieces

D and the central piece B, substantially as herein shown and described, and for the purpose specified.

121,651.—INLAYING PLASTIC PAVEMENT.—George H. Moore, Norwich, Conn.

Claim.—1. Inlaying a plastic block of concrete in the position in which it is to remain with a colored plastic material.

2. Inlaying a plastic concrete block while in position with a colored plastic material, in the manner and by the means substantially as described.

3. Inlaying or inserting a previously-prepared figure or ornament into a plastic block of concrete molded in the position in which it is to remain.

121,652. — PICTURE-FRAME HANGER. — Charles H. Moulton, Des Moines, Iowa, assignor of one-half his right to Charles Hast, same place; said Hast assignor to Conrad Brotchi, same place.

Claim.—The combined hook and buckle C, to operate in connection with the plate A A, substantially as described, and for the purposes specified.

121,653.—MACHINE FOR ROLLING HARROW-TEETH.—Samuel C. Murdoch, Pittsburg, Pa.

Claim.—The series of die-grooves *s* and *t*, each groove rectangular in cross-section and having converging walls or bounding surfaces, and the series of tongues or projections *u v*, each tongue rectangular in cross-section and in length and breadth corresponding accurately to the die-grooves, and with eccentric peripheries jointly with the rolls and with the adjustable guides and stops, said series of grooves and tongues, two or more of each in number, being from first to last of diminished area, and used for the gradual reduction of the bar to a taper form, in the manner herein set forth.

121,654. — GATE.—Vincent Campbell Newland, Sparta, Wis.

Claim.—The platform A, gate B, posts C, pulleys E, ropes *d* and *d'*, levers L, and bar M, when combined and operating together, as described.

121,655.—REFRIGERATOR.—John P. Oeth, Canton, Mo.

Claim.—The perforated or wire-gauze cylinder E, provided with the discharge-faucet D, and arranged in the suspended and removable ice-receptacle B, and all combined with the case A, and constructed as herein shown and set forth.

121,656, antedated November 20, 1871.—DRAFT-POLE FOR HORSE-CARS.—Samuel A. Otis, Boston, Mass.

Claim.—The combination of the adjusting screw eye-piece H with the pole A, standard E, and coupling-pin K, substantially as described, and for the purpose set forth.

121,657.—CLOTHES-WRINGER.—Sidney W. Palmer and J. Foreman Palmer, Auburn, N. Y.

Claim.—1. The wooden roller H, constructed as described, and secured upon its shaft I, in the manner substantially as shown.

2. The cam-lever O, provided with the cam O' and flattened portion *e*, in combination with the box D, with the connecting-link, and with the spring M, substantially as and for the purpose set forth.

3. The cam-lever O, the links M, and the spring N, combined substantially as and for the purpose shown and described.

4. The boxes B and D, the cam-lever O, the links M, and the spring N, when the several parts are constructed and combined, substantially as and for the purpose specified.

5. The spring-holder T, provided with the flanges U, notches *u*, and studs *t*, in combination with the spring N, substantially as and for the purpose shown.

6. In combination with the spring N and holder T the adjustable tension-screw V, substantially as and for the purpose set forth.

7. The wooden bar G, provided with the beads or flanges *g*, and combined with the spring N and its attachments, substantially as and for the purpose shown and described.

8. The bolt P, the clamp or jaw Q, and the set-screw R, when constructed and combined with each other and with the frame A, substantially as and for the purpose specified.

9. In combination with the bolt P, jaw Q provided with the hooked end *r*, set-screw R, and frame A provided with the hook *r'*, the rubber band S, substantially as and for the purpose shown.

10. In combination with the frame end A, provided with the lugs F and *w*, and with the rollers H and K, the guards W, when constructed substantially as and for the purpose shown.

121,658.—STEAM-PUMP.—Albert Perry, New Philadelphia, and George W. Perry, Mahanoy City, Pa.

Claim.—1. The plunger *e*, in combination with the pump *b* and fixed tube *i*, constructed and arranged as specified.

2. The arrangement of the tube *s*, rod *t*, spring *u*, blocks *w*, latches *x*, wedge *y*, arm *p*, rod *o*, arm *r*, cranks *u l*, their connecting rock-shaft, and the plunger *e*, combined as described.

121,659. — SAFETY-VALVE FOR STEAM-BOILERS.—Andrew J. Prescott, Catawissa, Pa.

Claim.—1. The combination of the nut H, notched or recessed on its outer side, the catch-spring G with projection *a*, screws *b b*, wire or wires *d*, and seal *e*, all substantially as and for the purposes herein set forth.

2. The combination of the ball-and-taper valve A, cup B, concave cap C, cage E, spring-case D, nut H, and catch-spring G, all constructed and arranged substantially as and for the purposes herein set forth.

121,660.—CAR-COUPLING.—George W. Putnam, South Glens Falls, N. Y.

Claim.—1. The combination of the slide C D with pin *i*, hinged plate E, side arms G G, and pin H, all substantially as and for the purposes herein set forth.

2. The combination of the draw-head A with flaring mouth B, slide C D, spring *a*, guides *b b*, pin *i*, plate E, side arms G G, and pin H, all constructed and arranged substantially as and for the purposes herein set forth.

121,661.—WATER-GAUGE.—Jean Elie Richard, Columbia, S. C.

Claim.—The combination of the plug P with the cylindrical portion D and its cap G, whether said plug be constructed as in Figs. 1 or 2, substantially as shown and described.

121,662. — SPRING FOR VEHICLES.—Lewis Righter, Salem, Ohio.

Claim.—The combination of the springs A and B, crossing each other at right angles at their centers, and provided with the elastic blocks *a a* between each end of each spring, all substantially as set forth.

121,663, antedated November 25, 1871.—TIRE FOR WHEELS OF VEHICLES.—Lewis Righter, Salem, Ohio.

Claim.—A tire, D, provided with an inner central groove, *a*, and inner-projecting flanges *b b*, either with or without a corrugated or fluted exterior surface, substantially as described.

121,664.—SAW-MILL CARRIAGE.—Titus H. Russell, Lebanon, N. H.

Claim.—The friction driving-roller T and movable pressure-rail or rails U, acting in combination with the carriage B and set-beam E of a saw-mill, substantially as and for the purpose herein specified.

121,665.—MEDICAL COMPOUND OR COFFEE-ANTIDOTE.—E. Delmar de Hays Saint Cyr, Lowell, Mass.

Claim.—The coffee-antidote or medical compound, made of the ingredients or their equivalents mixed together in the proportions substantially as described, for the purpose specified.

121,666.—LIFE-DETECTER FOR COFFINS.—Theodore A. Schroeder and Hermann Wuest, Hoboken, N. J.

Claim.—The lid *a* and tube A, provided with spring-catch *b*, all constructed and arranged as shown and described, whereby said lid will open by its own gravity when the catch is operated, and thus simultaneously admit fresh air to the tube and display a signal, as specified.

121,667.—STOVE-BOTTOM. — Daniel Schuyler, Titusville, Pa.

Claim.—The combination of the perforated stove-bottom B with its slide S and handle H, together with the pipe P, substantially as and for the purposes above set forth.

121,668.—HAT OR BONNET.—David Scrymgeour, Foxborough, Mass.

Claim.—1. The process of manufacturing hats and bonnets in imitation of straw, Leghorn, Panama, or similar goods, from paper-pulp and fabric combined, substantially in the manner herein set forth.

2. A hat or bonnet made of paper-pulp and fabric combined in imitation of straw, Leghorn, Panama, or similar goods, substantially in the manner herein shown and described, as a new manufacture.

121,669.—FRUIT AND VEGETABLE PARER.—Theodore Searing, South Norwalk, Conn.

Claim.—The herein-described paring implement, consisting of the handle A, ferrule B, guard C, and the two-edged pointed blade D, constructed, arranged, and operating substantially as described.

121,670.—WHEEL-CULTIVATOR.—Thompson C. Sebring, Milford, assignor to Byron G. Stout, Walter D. King, and Algernon S. King, Pontiac, Mich.

Claim.—The metallic shovel-standard J, having a vertical groove at its rear end, flattened at the top, bent in a semicular form, and braced to the frame, and secured to the circular shaft C by means of the semicircular bolt *d*, which is passed through an opening in the standard below the shaft and clinched, and by the nut *f* above the shaft, substantially as and for the purposes set forth.

121,671.—PAPER-FILE.—John A. Shannon, Perrysburg, Ohio.

Claim.—The construction and arrangement of the angle-rod A having the strip A' hinged thereto, and provided with the pins *b*, the elastic bands D, and the cord or tape E, with or without the covers C, as and for the purpose set forth.

121,672.—WASHING-MACHINE.—Thomas F. Shaw and John Bringman, Tiffin, Ohio.

Claim.—1. In a washing-machine constructed substantially as herein described and where the water is passed and repassed through the clothes, sponge or other filtering material arranged so that the water must pass through the same each time after going through the clothes, for the purposes set forth.

2. The pipe or reservoir D inclosing sponge or other suitable filtering material, and connected by pipes G and M with the steam-generator H and vessel B, respectively, substantially as and for the purposes herein set forth.

3. The valve *d* situated in the pipe G within the steam-generator H, substantially as and for the purposes herein set forth.

4. The combination of the furnace A, vessel B, reservoir D with filtering material E, pipes G, M, steam-generator H, pipes I J, false-bottom K, and horizontal pipe L with spouts *b b*, all constructed and arranged substantially as and for the purposes herein set forth.

121,673.—SLED-KNEE.—Albert L. Shears, Flint, Mich.

Claim.—A metallic sled-knee, consisting of the wrought rods A and B welded together at the bottom, and having the cast-iron cast thereon in such a manner as to form the foot-plate I, the body C, and the top-plate D, all in a single rigid piece, substantially as described.

121,674.—IMITATION HAIR-CLOTH.—Charles Sherriff, Newark, N. J.

Claim.—An artificial or imitation hair-cloth composed entirely of cotton, manufactured and prepared substantially as herein set forth and described.

121,675.—COUPLING FOR VEHICLES.—Lewis C. Sims, Martinsburg, Ohio.

Claim.—1. The reach A, made round, with a square part, *a*, mortised for the circle B to pass through, in combination with said circle, the spring C, and set-pin or screw *b*, all substantially as and for the purposes herein set forth.

2. The coupling-pin *d* and bar *d'*, attached to the front axle by the clips E, substantially as herein set forth.

3. The box *f* and bar *f'* attached to the hind axle by the clips E', substantially as herein set forth.

4. The combination of the reach A, circle B, springs C, axles D D', pin *d*, box *f*, and braces H H with swivels *h h*, all constructed and arranged substantially as and for the purposes herein set forth.

121,676.—PLOW.—Justin Malancen Smith, Haddam Neck, Conn.

Claim.—1. The combination of the share, provided with the downwardly-convex cutting-edge and concave upper surface, with the convex mold-board, as and for the purpose specified.

2. The plow-share having the downwardly-convex cutting-edge, and the concave upper surface at and above the said cutting-edge, but changing to a flat surface, or thereabout, at the junction with the mold-board, substantially as specified.

3. The improved colter, having self-sharpening teeth formed by grooves F, alternating on opposite sides of the same, as specified.

121,677.—ROTARY-VALVE. — Daniel Snowhill and John D. Bown, Spottswood, N. J.

Claim.—The cylinder C having the steam-chest cast therewith, and provided with steam-passages *d a b h*, in combination with valve B having ports *e f g*, all constructed and arranged substantially as and for the purpose specified.

121,678.—BELLOWS.—John H. Snyder, Rockford, Ill., assignor to himself and George Hepburn, same place.

Claim.—In combination with the reservoir C, the feeders D D', rock-shaft G, lever G', brackets I, links I', cross-head E, and ways F, arranged within the case A B, and operating substantially as set forth.

121,679.—MANUFACTURE OF ILLUMINATING-GAS. — Theodore G. Springer, Fayette City, Pa.

Claim.—1. Feeding hydrocarbon liquids into a

vacuum or partial vacuum formed in a retort heated to a sufficient degree to decompose the liquid and form a fixed gas, substantially for the purposes herein set forth.

2. Feeding hydrocarbon liquids directly into a vacuum or partial vacuum formed in a retort heated to a sufficient degree to decompose the liquid and form a fixed gas, and withdrawing said fixed gas from the retort in the same ratio as the liquid is fed in, by means of a vacuum or partial vacuum created and maintained in the retort by continual suction, substantially as herein set forth.

3. In a decomposing-chamber or retort heated sufficiently hot to convert hydrocarbon liquids into a fixed gas, producing a vacuum or partial vacuum, and continuing the same while the liquids are being introduced by creating a constant suction on said chamber or retort, substantially for the purposes herein set forth.

4. Feeding hydrocarbon liquid to a gas-retort by hydraulic pressure, substantially as herein set forth.

5. The combination of the furnace A, retort C with caps *b b* and nozzle *a*, all constructed and arranged substantially as and for the purposes herein set forth.

6. The mixing-tube N with end of coil J, air-inlet *d*, outlet O, and tube P connecting with the retort C, all constructed and arranged as described to create and maintain a vacuum in the retort and mix the fixed gas with the vapor-gas, substantially as herein set forth.

7. The combination of the furnaces A H, retorts C I, tanks G K L, coil J, mixing-tube N, and connecting-tubes E M P, all constructed and arranged substantially as and for the purposes herein set forth.

121,680.—LOCK.—Thomas Stewart, Philadelphia, Pa.

Claim.—The combination, with a lock, of a key-hole guard, H, caused to slide by and with the bolt when the latter is operated by a key inserted through the inner key-hole *e'*, and to act as a supplementary tumbler for the said bolt when the latter is operated by a key inserted through the outer key-hole *e*, all substantially as specified.

121,681. — FLOUR-BOLT. — Roswell H. St. John, Bellefontaine, Ohio, assignor to himself, Jacob Pim, and John Marshall, same place.

Claim.—1. The pivoted tripper C constructed with cam-faces *o* and *n*, in combination with the stops *m l*, the former adjustable and of the form specified, for the purpose set forth.

2. The levers *s*, bell-cranks *q*, and links *r*, in combination with the springs *u*, for operating the hammers *y* through pull-rods *w*, all constructed and arranged substantially as described.

121,682.—NAIL-HAMMER.—Hector M. Stocum, Painted Post, N. Y.

Claim.—The cap B, combined with the head of the hammer A, substantially as herein shown and described, for the purpose set forth.

121,683.—UNWINDER FOR BOOKED TOBACCO.—George Storm, New York, N. Y., assignor to Straiton & Storm, same place.

Claim.—The apron, drums, and friction-rolls for unwinding booked tobacco, combined, as described, with a dampening roll, substantially in the manner and for the purpose described.

121,684. — DEVICE FOR ADMINISTERING PILLS.—John Sullivan, Thornton, Canada.

Claim.—The device for administering pills, consisting, essentially, of the vessel A provided with handle B and spout C, the latter being extended to form the inclined nozzle D and mouth-piece E, intersected by the inclined pill-chute F, substantially as described.

121,685. — WRENCH. — George C. Taft, Worcester, Mass., assignor to John H. Coes, same place.

Claim.—1. The combination, with the handle B, ferrule F, and bar-shank A', of a screw-thimble or nut I, substantially as and for the purposes set forth.

2. The combination, with a wood handle in a screw-wrench, of an adjustable screw-thimble or nut, for the purposes stated.

121,686.—SOUNDING-BOARD FOR PIANOS.—Edward L. Taylor, Jersey City Heights, N. J.

Claim.—A sounding-board platform, A B C D E, constructed substantially as herein shown and described, to adapt it to receive a piano, as and for the purpose set forth, whether the center-board be used or not.

121,687.—CALCULATING-MACHINE.—Robinson, Teasdale, Alberton, Ga.

Claim.—1. The combination of the cams W X, bars S, segments P, and springs Z, substantially as specified.

2. The disks D, having a notch G, stop H, notched bar L, tripping-pawl M, and the shifting frame, all combined and arranged substantially as specified.

121,688.—APPARATUS FOR SUPPORTING AND LOWERING COFFINS.—Charles A. Thompson and James O. Coleman, Hopkinsville, Ky.

Claim.—1. The bars A A, end pieces B C, shaft F, worm-gears G H, and belts L L, when the same are arranged to operate substantially as and for the purposes described.

2. The folding legs D, arranged in combination with the bars A A and end pieces B C, as described.

3. In combination with the revolving bars A A, the supports O O, as and for the purposes described.

4. The adjustable pulleys E and stirrup N, in combination with a lowering apparatus for coffins, substantially as described.

5. The brackets J and legs D, in combination with the ends B C of the lowering apparatus, substantially as described.

121,689.—PADDLE-WHEEL.—William Thomson, Madison, Wis.

Claim.—The combination of the filling F, channel E, and valve-opening G, substantially as and for the purpose described.

121,690. — CAR-COUPLING. — Theodore B. Tremper, Rockland Lake, N. Y.

Claim.—1. The combination, with the draw-heads D, of the socketed connecting-bar A, hooks F, springs I, and the triangular coupling-pin G, substantially as specified.

2. The said coupling-pin G, having the triangular extension K arranged as described, and the elbow-lever L combined with the draw-head, substantially as specified.

121,691. — GARDEN-HOE.—Frederic Trigalet, Astoria, N. Y.

Claim.—The hoe constructed with a cross-blade, *a*, oblique blades *b b*, and parallel blades *c c*, substantially as and for the purpose herein set forth.

121,692.—TRUSS-BRACE FOR AXLE-SKEINS.—Oliver Vanorman, Fond du Lac, Wis.

Claim.—The hooks on the ends of the truss-brace, together with the holes in the under side of the thimble or skein, substantially as and for the purpose set forth.

121,693.—LAWN CANOPY.—Frank H. Vick and William H. Vick, Rochester, N. Y.

Claim.—1. In combination with the frames A B C the roller *a*, for the purposes set forth.

2. The roller *a*, provided with double-grooved pulley *f* and cords *g* and *g'*, substantially as and for the purposes set forth.

3. In combination with the posts B, arms C, and roller *a*, the canvas D, arranged to be folded up, substantially as set forth.

4. The folding canopy A B C D, provided with roller *a*, tie-rods *b* and *d*, and folding-cords *g g'*, when the parts are arranged to be detached, substantially in the manner set forth.

121,694. — CARRIAGE-WHEEL HUB. — Holland E. Vick, Alliance, Ohio.

Claim.—1. The thimbles C D, having rims or flanges *c d* in the chambers thereof, in combination with the wood hub A and axle-box H, provided with a head, J, at one end, and a screw, I, at the other, as and for the purpose substantially set forth.

2. The thimbles C D having mortise notches E therein, lugs G G, and webs F, and provided with a rim or flange, *c d*, in combination with the core A inclosed within said thimbles, and secured together by means of the pipe-box and screw thereon when the spokes are in place, as and in the manner substantially described.

121,695. — SASH-HOLDER. — Felix Walker, New Orleans, La.

Claim.—1. The sharp point *d* formed on the eccentric catch C, substantially as and for the purposes herein set forth.

2. The eccentric catch C provided with a swell or bulge, *b*, and pivoted in the bracket A B so as to have a large part of its weight below the pivot, substantially as and for the purposes herein set forth.

121,696. — ORNAMENTATION OF GLASS.—William George Webb, Wordsley, Great Britain, assignor to William Langdon Libbey, New Bedford, Mass.

Claim.—1. For the purpose of engraving and ornamenting glass-ware, the combined processes of printing and etching, substantially as hereinbefore specified.

2. In the process of etching glass, submitting the latter to the intermittent action of the acid, substantially as and for the purpose set forth.

121,697.—CONDENSED-STEAM EXHAUST FOR STEAM-ENGINES. — William H. Wheatland, Newark, N. J.

Claim.—The combination, with the cylinder of a steam-engine, of the exhaust-tube A, valve C, and springs D, the said tube being provided with a valve-seat, B, and the valve being arranged to close thereon by the steam-pressure and to be lifted off by the spring, all substantially as specified.

121,698. — SHINGLE-MACHINE. — Julius P. Wilder, Tonawanda, N. Y.

Claim.—The combination, with the knife of a lumber-cutting machine, of a marking-tool, arranged to mark the block at each downward stroke of the knife, substantially as hereinbefore shown and described.

121,699.—TUCK-FOLDER FOR SEWING-MACHINES.—Oscar D. Woodbury and Edwin C. Woodbury, New York, N. Y.

Claim.—1. The combination of a loose gauge and folder for operation within the fold or tuck with a folder-holder on the outside of the cloth, when said devices are constructed to admit of the travel of the folded cloth between them, substantially as specified.

2. The folder A, constructed of a plate, *b*, and slide *c*, provided with stops *d d e* and an overhanging tongue or wing, *f*, essentially as described.

3. The folder-holder B, constructed of a plate, *k*, bent or raised in front, as described, and formed with loops or eyes *o o*, in combination with the adjustable finger or slide *l*, substantially as specified.

4. The combination of the folder A having an overhanging tongue or wing, *f*, with the folder-holder B having a forwardly-projecting finger or slide, *l*, for operation in relation with the wing *f* and cloth or fabric interposed between them, substantially as specified.

121,700.—REED ORGAN.—George W. Woodruff, Hartford, Conn., assignor to John Farris, same place.

Claim.—1. The bar *e* for dividing the air entrance into two parts, *c* and *d*, substantially as herein described.

2. A reed-chamber with two upper or entrance apertures, one for the reed, covered by the removable flap *f*, and the other for the air, covered by the valve *i*, substantially as described.

REISSUES.

4,654. — MACHINE FOR MANUFACTURING CORKS.—Mary F. Crocker, West Winsted, Conn., administratrix of estate of William R. Crocker, deceased.—Patent No. 13,714, dated October 30, 1855.

Claim.—1. The combination of the cylindrical cutter constructed and cutting as described, and having a revolving motion, with a rod operating substantially as described to aid in ejecting the cork after the cork is cut by said cylindrical cutter.

2. The slitted cylindrical cutter, substantially as described.

3. The combination of the cylindrical cutter with a rod contained within the same, the latter being connected to and operating with the sliding shaft for bringing up the block of cork-wood to be cut, substantially as described.

4,655.—GOVERNOR FOR STEAM-ENGINES.—Junius Judson, Rochester, N. Y.—Patent No. 33,743, dated November 19, 1861.

Claim.—The combination of the swivel-collar A with the governor-balls C C, and with the rod *b* connecting said balls directly with the valve, as herein described.

4,656.—Division A.—REVOLVING CASTER.—Cyrus H. Latham and John S. Lugg, Lowell, Mass., assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham.—Patent No. 116,722, dated July 4, 1871.

Claim.—As a new and improved article of manufacture, a revolving castor constructed of twisted or other wire, the parts of which are screwed together and capable of being readily disconnected, nested, and packed in small compass for shipment, substantially as described, and for the purposes specified.

4,657.—Division B.—REVOLVING CASTER.—Cyrus H. Latham and John S. Lugg, Lowell, Mass., assignors to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham.—Patent No. 116,722, dated July 4, 1871.

Claim.—1. Uniting a series of wires which form part of a holder for bottles and other like articles of domestic use to the collar or part *b* by casting them thereto, substantially in the manner and for the purposes set forth.

2. Constructing the handle C of twisted wire, substantially as described and specified.

3. The combination, with the part D united to the collar or nut *b*, handle C, and screw *a*, of the revolving plate E provided with bottle-rings B, constructed and operated substantially in the manner described and specified.

4,658.—LUBRICATOR.—John B. Wickersham, Philadelphia, Pa. — Patent No. 70,058, dated October 22, 1867.

Claim.—1. Securing the glass fountain to the metallic socket, in the manner specified.

2. A movable stem, *e*, constructed as set forth, in combination with the glass fountain and metal socket *g*, as set forth.

3. The wire covered with fibrous material and applied, in the manner specified, to a lubricator, for the purpose set forth.

4. A glass fountain, with a neck on the lower end, secured to a metal socket and rendered oil-tight by sealing-wax melted between the parts.

5. A lubricator with a glass reservoir and metallic connections, made of white metal or pewter, for the purpose and substantially as set forth.

6. A lubricator with a glass reservoir, having a contracted neck at the lower end and a metallic cap attached thereto and receiving a tube of white metal, substantially as set forth.

4,659.—MACHINE FOR MAKING TIN CANS.—Eliphalet W. Bliss, Brooklyn, assignor to Charles Pratt, New York, N. Y.—Patent No. 82,481, dated September 29, 1868.

Claim.—1. In a machine for uniting the heads or ends to the bodies of sheet-metal cans, the combination of two or more clamping-jaws adapted to be moved against the edges of the can-head, a center piece or anvil to support the can, and suitable means for holding the can in place, substantially as and for the purpose specified.

2. The clamping-jaws and anvil, constructed with beveled pressing-faces, substantially as described, and for the purpose specified.

3. In combination with the anvil and clamping-jaws, a clamping device for holding the can and head upon the anvil while the jaws are being operated, substantially as described, for the purpose specified.

4. In combination with the anvil and the clamping-jaws, the levers F and sliding cam H, substantially as described, for the purpose specified.

5. The square or pyramidal cam-slide, in combination with the rigid central guide, the cam-levers, and the clamping-jaws, substantially as described, for the purpose specified.

6. The combination of the cam-slide with the connecting-rods M and treadle L, substantially as described, for the purpose specified.

7. The arrangement and combination of the cap O, lever P, connecting-rod K, and treadle S, substantially as described, for the purpose specified.

4,660.—LAMP.—Halvor Halvorson, Nashua, N. H., assignor, by mesne assignments, to Rufus S. Merrill, William B. Merrill, and Joshua Merrill.—Patent No. 25,506, dated September 20, 1859; reissue No. 4,413, dated June 6, 1871.

Claim.—1. The combination, in a lamp-burner, of the following elements, namely: Two wick-tubes, with a draught-passage between them; a single-slotted deflector, through which the flames from the two wicks pass in the form of a single flame; appliances for holding the lamp-chimney in place; and a screw-threaded base, substantially as herein shown and described.

2. In combination with the elements named in the preceding clause, a perforated air-distributer for steadying the draught, substantially as described.

3. A lamp-burner containing the following elements, namely: a screw-threaded base, a perforated air-distributer, two wick-tubes with draught-passage between them, a single-slotted deflector, appliances for holding the lamp-chimney, and means for adjusting the wicks, substantially as herein shown and described.

4. In a lamp-burner in which two wick-tubes with a draught-passage between them are combined with a single-slotted cap or deflector, in the manner herein described, the combination, with said wick-tubes and the base by which they are carried, of the said deflector, the air-distributer, and the chimney-rest, when arranged to be removable from and adjustable upon the other portion or portions of the burner bodily and together, substantially as shown and described.

5. The combination, in a lamp-burner, substantially such as described, of the two wick-tubes and the valve for regulating the supply of air which passes between said tubes to the flames, substantially as shown and set forth.

6. The combination, in a lamp-burner, substantially such as described, of the two wick-tubes, the valve regulating the supply of air passing up between said tubes to the flames, and the dome adjustable to a greater or less height above the wick-tubes, substantially as shown and set forth.

7. The arrangement of the wick-raising devices, substantially as shown and described, so that one or more of the wheels or pinions on the one shaft may gear into or engage directly with a corresponding pinion or pinions on the other shaft, for the purpose stated.

4,661.—IRON TENDER-FRAME.—Benjamin W. Healey, Providence, R. I.—Patent No. 103,878, dated June 7, 1870.

Claim.—The improved frame for railway carriages, consisting of the parallel longitudinal exterior and interior bars of channeled iron, united by end bars and braced laterally at right and oblique angles, substantially as and for the purposes specified.

4,662.—FINISHING VULCANIZED-RUBBER BELTINGS.—Charles McBurney, Boston, Mass.—Patent No. 115,880, dated June 13, 1871.

Claim.—The within-described process of successively heating, stretching, and cooling rubber belting after it has been vulcanized, substantially as and for the purpose set forth.

4,663.—SEWING-MACHINE NEEDLE.—Charles H. Willcox, New York, N. Y., assignor, by mesne assignments, to The Willcox & Gibbs Sewing-Machine Company.—Patent No. 31,757, dated March 19, 1861.

Claim.—An eye-pointed sewing-machine needle, the same forming a new article of manufacture, having combined with its round shank a slot or groove, substantially as and for the purpose or purposes herein set forth.

DESIGNS.

5,396.—LADY'S DRESS-COMB.—Willard O. Capron, New York, N. Y.

Claim.—The design for ladies' dress-comb, substantially as herein shown and described.

5,397.—HARNESS SADDLE-BRACKET.—James L. Jackson, New York, N. Y.

Claim.—The design of the shape and configuration of the harness saddle-bracket, substantially as described.

5,398.—MANGER.—James L. Jackson, New York, N. Y.

Claim.—The design of the shape and configuration of the manger, as described and represented also, the sectional shape of the top plate *c*, as shown.

5,399.—HOOK FOR HARNESS.—James L. Jackson, New York, N. Y.

Claim.—The design and shape of the configuration of the hook *a* with the bracket portions *b*, as represented.

5,400.—SADDLE AND BRIDLE BRACKET.—James L. Jackson, New York, N. Y.

Claim.—The design of the shape and configuration of the saddle-bracket, the plate sustaining the same, and the open-work arch for the bridle, substantially as described and shown in the drawing.

5,401.—BOTTLE.—Nehemiah Sleeper, Burlington, N. J.

Claim.—The design for a bottle, substantially as described and illustrated.

5,402.—CARPET-PATTERN.—James Edward Stone, Kidderminster, England, assignor to Arnold Constable & Co., New York city.

Claim.—The design for a carpet, as shown.

5,403.—BUCKLE.—Andrew T. Thayer, New York, N. Y.

Claim.—The design for the sheet-metal buckle, as described and represented.

5,404.—TOY BUILDING-BLOCKS.—Rodney G. Britton, Springfield, Vt.

Claim.—The design for toy building-blocks, as herein shown and described.

5,405.—DOOR-HANDLE.—George Munson, Purnort Bradford, and Charles H. Bradford, New Haven, Conn, assignors to Sargent & Co., same place.

Claim.—The design for the handle, base, and other parts, as shown in the accompanying illustration, whether separately or collectively.

5,406.—HANGING-VASE.—John Runey, Somerville, Mass.

Claim.—The design for ornamenting a hanging-vase, as described and shown.

5,407.—SEWING-MACHINE FRAME.—Jerome B. Secor, Chicago, Ill.

Claim.—The design for a sewing-machine, consisting of the goose-neck and cloth-plate, as shown and described.

TRADE-MARKS.

565.—BOOTS AND SHOES.—Francis & Mallon, Boston, Mass.

566.—OIL-CANS.—John P. Haines, Irvington, N. Y.

567.—HARNESS.—James R. Hill & Co., Concord, N. H.

568.—SHAWLS, CLOAKINGS, BEAVERS, &c.—Home Woolen Company, Hartford, Conn.

569.—WEARING APPAREL FOR PROTECTING LUNGS, &c.—Peter Lear, Boston, Mass.

570.—CHEWING-TOBACCO.—Charles R. Messinger, Toledo, Ohio.

571.—CUTTERS FOR HARVESTERS, &c.—Sweet, Barnes & Co., Syracuse, N. Y.

572.—FLOUR.—W. H. Tenney & Sons, Georgetown, D. C.

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PATENTS.

121,701.—SASH-SUPPORTER.—William Hammond Brown, Bangor, Me.

Claim.—The combination of the rack *h* and pinion *g*, provided with means, as set forth, for operating the latter with the window-frame A, the sash B, the parallel bars C D, their spring *e* and connecting-links *b b*, all arranged in manner and to operate as described.

121,702, antedated November 22, 1871.—TOY STEAM-ENGINE.—Alexander Buckman, Brooklyn, N. Y., assignor to himself and John W. Huffington, same place.

Claim.—The arrangement of the two cylinders A A′ in reversed position, and having their trunnions connected by a single interjacent spring, S, and ports so arranged as to rotate their shafts P P′ in opposite directions, substantially as herein set forth.

121,703.—DOOR-PLATE.—William A. Caron, Springfield, Mass.

Claim.—As a new article of manufacture, a door-plate having letters illuminated by a stick of phosphorus pressed against it and air supplied in such small quantity as to preclude active combustion, while causing the phosphorus to evolve sufficient illuminating-gas to make the letters visible in the dark, the parts being arranged and constructed for that purpose, and substantially in the manner shown and described.

121,704.—HALTER.—Junius Carpenter, Wilmington, Ohio.

Claim.—1. The improved halter, having the continuous adjustable crown and throat-strap D D¹, buckles B with square part *b* and ring part *b*¹, buckles C composed of the parts *b*⁴ *b*⁵, cheek-straps A, and continuous nose and chin-strap E, all arranged as described.

2. The improved halter-buckle B, having the ring part *b*¹, and cheek-piece holder *b* having the plates *b*² *b*³ with studs *c*, as and for the purpose set forth.

3. The buckle G, having the plate *f*, stud *g*, and loop *g*′, as and for the purpose set forth.

4. The improved halter-buckle C, constructed with the united frames *b*⁴ *b*⁵, plates *c*¹ *c*³, studs *c*² *c*⁴, and bar *d*, all arranged as shown and described.

121,705.—LAWN-MOWER.—Dexter H. Chamberlain, West Roxbury, Mass.

Claim.—1. The arrangement of the rotating knives and their connections, movable around a spindle that has only one support in a frame, *c*, at one end of said rotating knives, as fully set forth and described.

2. The arrangement of the rotary cutters A A attached to the disks *i i i*′ and hollow spindle *k*, rotating around the dead spindle *l*, in combination with only one frame, *c*, on one side of the cutters, as and for the purpose as herein set forth and described.

121,706.—BOX FOR CARRIAGE-WHEELS.—William A. Clark, Westville, Conn.

Claim.—1. The pipe-box F, having the band or flange *n* formed thereon to fit over the end of the hub, substantially as described.

2. The box F provided with the groove *e*, in combination with the screw-cap D held in place on the axle by the collar B, all constructed and arranged to operate substantially as herein described.

121,707.—HOLLOW AUGER.—William A. Clark, Woodbridge, Conn.

Claim.—The stop A having the beveled slotted shank *c*, constructed and arranged to operate in connection with a hollow auger, as herein set forth.

121,708.—Flour-Bolting Machine.—John C. Cookson, Lancaster, Pa.

Claim.—The side elevators P P and spouts R and S, in combination with the double flues or suction-chambers C, substantially as shown, and for the purpose specified.

121,709.—Cattle-Guard for Railways.—William Darrah and Jacob Cutshall, Coshocton, Ohio.

Claim.—The arrangement of a series of horizontal bars, D D D, in combination with a series of rafters, A A A, and a railway track, substantially as herein shown and described, and for the purposes set forth.

121,710.—Safe.—John Farrel, New York, N. Y.

Claim.—The construction of the safe, consisting of the shell, having its four sides formed of the same sheet of metal, supported and braced within by angle iniside sustaining bars, in combination with a book-case of wood, having its wooden door affixed to the door of the safe, all substantially as specified.

121,711.—Bolt for Safe-Doors.—John Farrel and Jacob Weimar, New York, N. Y.

Claim.—The arrangement and combination, with the double lock or with two locks, of the independent bolts worked by a suitable frame carrying the frog, and operating in connection with the stationary fork and the latches of the locks, substantially in the manner and for the several purposes specified.

121,712.—Propulsion of Canal-Boats.—Harvey Fowler, Washington, D. C.

Claim.—The side wheels A A, with the curved springs C C projecting from the periphery of each, substantially as and for the purpose described.

121,713.—Propulsion of Canal-Boats.—Harvey Fowler, Washington, D. C.

Claim.—1. The foot, composed of its several parts, substantially as described, in combination with the stilt or setting-pole *f*, for the propulsion of boats or land vehicles.

2. The flexible swinging or oscillating bar *g* in connection with said stilt or setting-pole, substantially as and for the purpose set forth.

121,714.—Propulsion of Canal-Boats.—Harvey Fowler, Washington, D. C.

Claim.—1. The horizontal weighted bar or beam B and the vertical oscillating weighted spring standard D connected with the pendulums *c' c'*, substantially as described.

2. The supporting platform E and guard *e*, rollers, casters, elastic ligatures, and other spring-braces, or their equivalents, substantially as described.

3. The foot with its projecting teeth hinged or otherwise, in combination with the setting-pole; also the brace *o* and the reversible paddle connected with the flexible oscillating bar K, substantially as and for the purpose indicated.

121,715.—Photographic Background.—Albert R. Gould, Carrollton, Ohio.

Claim.—1. A revolving background for photographic purposes, combining in its construction two disks, adjustable with reference to each other, the rear one of which presents a surface of alternate black and white sectoral fields, and the front one alternate black sectoral fields and sectoral open spaces, substantially as and for the purpose set forth.

2. The spring E, pulley F, belt G, pulley H, clutches I and K, and lever L, with the disks C and D, when constructed and operating substantially as and for the purpose set forth.

121,716.—Hydrant.—Patrick H. Griffin, Albany, N. Y.

Claim.—1. The combination of the cock B and intermediate crank-duct C' with the coupling D, when all are constructed and arranged substantially as and for the purpose set forth.

2. The arm G attached to the key B or discharge-pipe F, and the catch H attached to the upper side of the cock B, in combination with the crank-duct C and coupling D, substantially as and for the purpose set forth.

3. The combination of the detachable guard M, detachable cover N, and box K with the discharge-pipe F provided with the arm G, cock B provided with the catch H, and the crank-duct C placed between the said cock and coupling D, substantially as and for the purpose set forth.

121,717, antedated December 9, 1871.—Electric Fire-Alarm. — Edward A. Hill, Chicago, Ill.

Claim.—1. The combination of the electro-magnets or cores *a* with the pivoted permanent magnet J and curtain I, substantially as and for the purpose specified.

2. The combination of the pivoted magnet J and curtain I with the sliding bar K provided with projections *m*, substantially as and for the purpose specified.

3. The combination of the plaster shell, or shell made of like material, *c*, with the tube *b* of a mercury-connector, as and for the purpose specified.

121,718. — Bottle-Wrapper.—William A. Hinman, New York, N. Y.

Claim.—In a wrapper for bottles, made of Cuba bast, the outer sheet A, split in the manner described, and applied to the bottle by being tied at both ends, in combination with the inner sheet B, arranged as described, and for the purpose specified.

121,719.—Apparatus for Mixing Air and Gas.—Thomas C. Hopper, Philadelphia, Pa.

Claim.—1. The plain continuous flat-surfaced partitions *a'*, in combination with the cylinders of the drums A and B of a mixer, substantially as and for the purposes hereinbefore set forth.

2. In a mixer the drums of which are provided with the plain continuous flat-surfaced partitions *a'*, as described, the arrangement and mode of operation whereby the gas-drum A and the air-drum B are driven by a motive power applied outside of their respective water-cases and the gas-drum caused to act exhaustively in relation to the retorts and supply main, substantially as and for the purposes hereinbefore set forth.

121,720.—Machine for Pressing Cloth.—Patrick Howe, Boston, Mass.

Claim. — In combination with the goose *f*, spindle *g*, and the pressing-arm *a*, the cylindrical end *e*, sleeve *d* provided with the slot-hole *h*, and hub *c* with its hole *f*, as and for the purpose set forth.

121,721, antedated December 9, 1871. — Lifting-Jack.—Isaac D. Johnson, Kennett Square, Pa.

Claim.—1. The trunnion-pin F with the projection or lug P on its posterior side, substantially as and for the purpose described.

2. The combination of the short arms of the levers I and J with the supporting-bar C and the adjustable fulcrum E, when arranged and operating substantially as and for the purpose described.

121,722.—Clothes-Drier.—George Augustus Keene, Lynn, Mass., assignor to himself and Martin C. Heald, same place.

Claim.—1. The arrangement of the clothes-frames *a a' a''*, hung upon cords *b*, and having spreaders *d'* and *d*, of which *d* is longer than *d'*, in combination with a suitable suspending attachment, substantially as described.

2. The arrangement of the drier, consisting of the clothes-frames *a a' a''* strung upon cords *b* and having spreaders *d d'*, with wall-sockets *h*, substantially as and for the purpose described.

121,723.—Mattress. — Jacob Maas, Westfield, Mass.

Claim.—In combination with the mattress A, the cord B and worked or eyelet-holes *b b*, the parts being arranged and constructed substantially as hereinbefore specified.

121,724. — Device for Locking Nuts.—John Maitland, Newburg, Ohio.

Claim.—The splice-plate or fish-bar F when constructed with a rib or flange, G, as described, and key H, all arranged in relation to the rails and bolts substantially as set forth, and for the purpose specified.

121,725.—Link.—Joseph H. McIntire, Crestline, Ohio.

Claim.—The link A A', supplied with the fastening consisting of the bolt *a*, upright projections a^1, and horizontal plate a^2, constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

121,726.—Bedstead-Fastening.—William H. McPherson, Nashville, Tenn., assignor to James E. Stacy and Merrill G. Phillips, same place.

Claim.—As a bedstead-fastener, the combination of the hook A and slotted wedge B, both constructed, arranged, and used as specified.

121,727.—Machine for Pressing and Finishing Leather, Skins, &c.—Nathan D. Morey, Saratoga Springs, N. Y.

Claim.—1. The swinging board G and roller H, in combination with table B and roller F, as and for the purposes set forth.

2. The combination of swinging board G and table B with the stretching-rollers H F and pressing-rollers C D, as and for the purposes specified.

121,728. — Bed-Bottom. — Elias P. Read, Chicago, Ill.

Claim.—1. The clamp-piece C provided with an angular or curved groove, *c*, in combination with the bolt *b*, nut b^1, arm c^1, and spring A, substantially as shown and described.

2. The angular or curved projection *a* in the wire constituting the last coil of the spring A, in combination with the clamp-piece C constructed as described, and for the purpose set forth.

3. Providing a clamp-piece for securing a bed-spring with an arm c^1, for the object described.

121,729. — Bed-Bottom. — Elias P. Read, Chicago, Ill.

Claim.—1. A clamp-piece, C, provided with a straight, curved, or angular groove, *c*, in combination with a bolt, *b*, and nut b^1, for the purpose specified.

2. The connecting-cord D, formed into a loop, *d*, in passing each slat, which loop is inserted, through a hole, b^2, in the slat, and is prevented from being again withdrawn from said hole by bringing the cord around the slats and passing it through each loop in succession, in the manner shown and described.

121,730, antedated December 2, 1871. — Striking Mechanism of Clocks.—Carlton W. Roberts, Chicago, Ill.

Claim.—1. The wheel E of the striking movement, arranged to revolve intermittently once each hour, and provided with quarter pins *e*, in combination with the bell-hammer H', substantially as and for the purpose specified.

2. The combination of the stop-bar L, wheel J, and lever A, substantially as and for the purpose specified.

3. The combination of the quarter-striking wheel E, four-leaved cam F, and lever A, furnished with the arc B and pin *b*, arranged to strike the hour at each quarter, substantially as specified.

121,731, antedated December 9, 1871.—Cattle-Pump. — Giles Bolivar Roe, Ogle county, Ill.

Claim.—1. The platforms B and D, so arranged that the dead-weights I and the weight of the animal, or a moving weight, may be combined to elevate water, substantially as described.

2. The dead-weights I, combined, with a suitable water-elevator in such a manner that their weight may be used for raising water, substantially as set forth.

3. The drums L, pipes K, platforms B and D, water-troughs O and T, and pipes P, when all are combined to form a cattle-pump, as specified.

121,732.—Railway Rail. — Rufus S. Sanborn, Rockford, Ill.

Claim.—An elastic railroad rail provided with a separate elastic base united to the body of the rail in the manner specified, and for the purpose set forth.

121,733.—Stove-Grate.—Watson Sanford, Brooklyn, N. Y.

Claim.—1. The conical or tapering center-piece, together with an outer and a central ring, when all are constructed and arranged so that the center piece and middle ring slope and form a continuous declination in an opposite direction to the outer ring, substantially as described.

2. The angled or saw-edge grate-surface when the serrations run in opposite directions a short distance alternately, substantially as described.

3. The socket *g*, constructed and arranged with the upper side nearly uncovered so as to enable the holder to be more readily released therefrom in the act of dumping, substantially as described.

121,734. — Bedstead. — Samuel Springer, Chicago, Ill.

Claim.—The combination, in a bedstead, of the elongated tenons, keys E, recess *a*, rod *b*, and canvas D, substantially as and for the purposes specified.

121,735, antedated November 22, 1871.—Joint for Folding Furniture. — Nathan Thompson, Brooklyn, N. Y.

Claim.—The hinge-joint for folding furniture and other articles, constructed of halves or portions A B provided with arms or projections *a b* for attaching them to the surfaces the joint is designed to be applied to, and arranged to work, the one upon and within the other, by means of the circular flange *d*, the boss *e*, and the recesses *f* and *g*, in combination with the pivot *c*, substantially as shown and described.

121,736, antedated December 1, 1871. — Mold for Casting.—Nathan Thompson, Brooklyn, N. Y.

Claim.—A female die or matrix, divided at its sides and bottom or one end in directions or planes at right angles to each other or thereabout, substantially as specified.

121,737.—Ditching-Machine.—John Valentine, Buffalo, N. Y.

Claim.—1. An adjustable mouth-piece, combined with the fixed discharge-spout of a ditching-machine in such a manner as to allow the inclination of the mouth-piece to be changed as the ditching progresses, substantially as and for the purpose set forth.

2. The combination of the mouth-piece H' and spout H of a ditching-machine with the bolts and slots A^1 A^2, or equivalent device, by which the former is secured to the spout and rendered longitudinally adjustable, substantially as hereinbefore set forth.

3. The vertical ways B of a ditching-machine, provided with ribs *i*, in combination with the sliding gate C provided with lips or projections *k*, substantially as and for the purpose hereinbefore set forth.

121,738.—PROPULSION OF VESSELS. — Edward Whitehead, Cincinnati, Ohio.

Claim.—In combination with the hull A, constructed with a divided channel, B D E, the rollers G H, band or chains J J, and swinging-paddles I, when the parts are constructed and operate substantially in the manner and for the purpose specified.

121,739. — THRASHING-MACHINE. — Robert S. Williams, Norristown, Pa.

Claim.—The combination of the shaft D, springs E, and beaters H, when the middle parts of the springs are rigidly connected with the shaft and the ends of the former have a like connection with the inner ends of the beaters, substantially in the manner and for the purpose set forth.

121,740.—HORSE-POWER.—Aaron Wissler, Brunersville, and Jacob Gamber, Petersburg, Pa.

Claim.—1. The shouldered sliding segment or segments T T', which carry the box or boxes I' for the upper shaft K with its belt-wheel M and pinion L, arranged and operating substantially in the manner specified.

2. The concentric circles J R with their projecting base *j r*, in combination with the sliding segments T T', bolts *t w*, and cross-bars or spider O having slotted adjustable ends, jointly arranged and operating in the manner and for the purpose substantially as shown and mentioned.

3. The combined crown-wheel P and pinion G, in combination with the vertical shaft S, mounted in the manner shown, so as to be operated by the driving-wheel H and impart motion to the adjustable pinion L at any point of the circle, all arranged substantially in the manner and for the purpose described.

121,741. — HEATING-STOVE.—Henry Zahn, Philadelphia, Pa.

Claim.—1. The apertures P P, arranged one above the other, and operating as described.

2. The arrangement of the radiator immediately above the throat of the furnace.

3. The combination, operating as described, of the boilers F, steam-pipes H, conduits J opening below the throat of the furnace, and apertures P P above the said throat.

4. The dome-shaped conduits J, opening below and near the throat of the furnace and communicating with the external atmosphere, as shown and described.

5. The pan T, so arranged as to throw one or more jets of steam into the furnace above the throat.

121,742.—SPRING PERCH FOR BIRD-CAGES. Edward Aldom, New York, N. Y.

Claim.—1. The perch A and spring B combined with a bird-cage, substantially as specified.

2. The plate D, provided with hooks *e e* and fingers *f f*, in combination with the perch A and spring B, as and for the purpose specified.

121,743.—BOLT AND NUT-THREADING MACHINE.—Frank S. Allen and Charles F. Ritchel, New York, N. Y.

Claim.—1. The multiple crank-shafts A B, plates E E, wrist-gears G H, pinions M M, and driving-shaft L, combined, as described, for the purpose of operating the two sets of bolt or nut-threaders S T alternately, as described.

2. The transversely-sliding and multiple blank-holders U W, containing receptacles for two or more feeds, arranged and applied in a bolt and nut-threader, as and for the purpose set forth.

3. In bolt and nut-threaders, a sliding blank-holder, open at the rear to receive the blanks, and combined with a guide-frame, R, recessed sufficiently to receive each tool, but forming a rigid back for the blank, as described.

4. A cutter-head, X, having socket Y at the rear, clearing slots Z in the middle, and cutting-dies Z' in front, all constructed and arranged as set forth.

121,744.—OILING APPARATUS FOR CRANK-PINS.—John F. Allen, Mott Haven, N. Y.

Claim.—1. The arrangement of the radiating-plate E on the back of the crank, and connected through suitable channel-ways *m n*, with the surface of the crank-pin to be oiled.

2. The above-described radiating-plate E, in combination with an oil-cup attached to a stationary part of the engine, and provided with a projecting nozzle, *w*, or its equivalent, constructed and operating substantially as and for the purpose hereinbefore set forth.

121,745.—MOTIVE-POWER FOR SEWING-MACHINES. — Harvey S. Barnes, Augusta, Wis.

Claim.—1. The combination of the spiral springs F F', shafts E E', gears H H', pinions O O', winding-shaft M, and clutch P, when arranged and operating in such a manner that either spring may be wound independently of the other, as described.

2. The arrangement of the gears H H', idler-wheels I I', pinions K K', spring tappets L L', train S S' T U V W X, wheels *a b c d*, shaft *f*, and lever *p*, when operating together, as and for the purposes described.

121,746. — APPARATUS FOR DRYING SAND AND GRAVEL.—Allen H. Bauman, Mapleton, Pa.

Claim.—The apparatus herein described for drying gravel or sand, consisting of the fire-chamber, flues, heating-pipes, and case, all constructed and arranged substantially as set forth.

121,747. — KNIFE-CLEANER. — William S. Beebe, Joseph T. Baynes, and Abraham A. King, West Troy, N. Y.

Claim.—1. The combination of the polishing-rollers A and B and holding apparatus therefor, adapted to hold them, in such manner that the article will be polished on one side when forced in between them and on the other side when pulled out, all substantially as specified.

2. The combination, with rollers A and B, of the powder-holding trough I, substantially as specified.

121,748.—APPARATUS FOR WARMING BUILDINGS WITH STEAM.—James H. Blessing, Albany, N. Y., assignor to himself and Frederick Townsend, same place.

Claim.—1. The tripping-lever *g* and segment *f* applied on the stem of valve-lever W, in combination with the gravitating-rod *e'*, the slotted rod F, and the diaphragm-rod P, substantially as described.

2. The segment *f* fixed to the stem *e* and notched at *f'* to receive one arm of an angular lever, *g*, which is applied loosely on said stem *e*, substantially as and for the purposes described.

3. The combination of a check-valve with the exhaust-valve passage of the valve-box D, substantially as and for the purposes described.

4. The valve-lever W and its stem *e*, in combination with inlet and outlet valves *n n'* in valve-box D, a tripping device, and a vertically-movable diaphragm-rod, P, all substantially as described.

5. The passages b b^3 constructed in the section A' of the diaphragm-case, substantially as and for the purposes described.

6. The inlet and outlet check-valves b^1 b^2, in combination with the chamber L' of the diaphragm-case A A', substantially as described.

121,749.—PROPULSION OF CANAL-BOATS.—Thomas James Burke, Virginia, Ill.

Claim.—The propelling apparatus for a canal-boat, formed of the chains M M provided with projections, and the rollers N N, in combination with the endless chains and buckets E, all arranged in connection with the boat, as specified.

121,750.—AUTOMATIC FLY-BRUSH.—Hiram C. Chandler, Peru, Ind.

Claim.—The combination, with the plates A A, of the wheel C operated by the spring D therewith connected, and the wheel F, the connecting-rod G, crank E, shaker H, and shaft I, to which the brushes are attached, all constructed and operated substantially as described and shown.

121,751. — REFRIGERATOR. — Andrew J. Chase, Boston, Mass.

Claim.—The metallic ice-trough B C D, having its sides B C C D at right angles to each, and inclined as shown, so located within the chamber as to allow of a free circulation of air about it, substantially as described, and for the purpose set forth.

121,752, antedated November 25, 1871.—FENCE.—John Wesley Cherry, Carthage, Ill., assignor to himself, Jesse B. Quinby, and Thomas Logan.

Claim.—The fence, as formed, with the parts A B, C D, E F, and parts G H with their center portions enlarged to act as pivots, all substantially as specified and shown in Figs. 2 or 3.

121,753. — WASHING-MACHINE.—James F. Chesebro, Trenton, N. J.

Claim.—1. The combination of spring-binder S and spring pivot *i k* with the gear C J, as and for the purpose described.

2. The spider L of a washing-machine, provided, as described, with grooved arms P, set at different distances from the center of motion, for the purpose set forth.

3. The corrugated and perforated lining, combined with strips T attached to the box, to form a chamber, *a*, above said strips, open at the top, and through which the water is caused to pass, as and for the purpose described.

4. The combination, with the hinged cover having pieces U U, of a pair of slotted and sliding braces V V, arranged as and for the purpose described.

121,754. — DRAUGHT-COCK. — William P. Clark, Medford, Mass.

Claim.—1. In combination with the valve-spindle *e*, the adjustable valve-ring *x*, operated substantially as described.

2. The valve-stem or spindle *e*, sleeve *z*, ring *x*, and spring b^3, combined and arranged substantially as shown and described.

3. The inlet-passage *h*, outlet-passages *j*, outlet-passages *q* having their upper orifices in one plane, covered by the single flexible valve *t*, substantially as shown and described.

4. In combination with the flexible valve *t*, valve-spindle *e*, and valve-ring *x*, the cylinder or ring *v* extending from the valve to the screw-cap *d*, and forced by the screw-cap against the valve to pack it, substantially as shown and described.

5. In combination with the valve-ring *x*, the openings in the cylinder or ring *v* and in the faucet, to make the ring accessible to hand, substantially as described.

6. The removable outlet-tube *u*, formed as a tapering plug, to be slipped into the spreader *o*, substantially as shown and described.

121,755.—CHURN.—John Cochran, Jr., Auburn, Mo.

Claim.—The combination of the bevel-gear C and clutch-gears *c c*, sliding toothed sleeve F, spring-catch *f'*, dasher-rods D D', and dashers E and E^1, as shown and described, whereby said dashers may be set parallel and revolved together or at right angles to each other, as specified.

121,756.—DEVICE FOR MAKING BALE-TIES. Marion N. Coe, Madison Parish, La.

Claim.—The combination of the handle B, hinged arm F, stock G for holding the type-block, spring A, and the beveled and dart-shaped tongue C, all constructed and arranged to operate substantially as described.

121,757. — SHOE-FASTENING. — Frederick Coeller, New Haven, Conn.

Claim.—The herein-described shoe-fastening, consisting of the lever or levers C, one end of which is pivoted to one part of the shoe, passing through or in connection with the securing device *f* on the other part, its other end locked or secured to the same part of the shoe to which the first end is pivoted, substantially in the manner described.

121,758.—BASKET.—Elisha B. Cole, Huntington, Mass.

Claim.—The basket A, constructed of woven splits of wood, and re-enforced by the metallic corners B, securely riveted to the same, substantially as shown and described.

121,759.—PISTON FOR PRINTING-PRESSES.—Calvert B. Cottrell, Westerly, R. I.

Claim.—1. A flexible packing, D D', clamped between disks and expanded by a flat spring, G, coiled around the disk F, as described, for the purpose set forth.

2. The flexible packing D D', the flat spring G, the spring-pins L, and the auxiliary springs H, all combined and applied together as and for the purpose set forth.

121,760.—REST FOR CLOTH-SHEARING MACHINES. — Michael Craven, Dedham, Mass.

Claim.—1. The roll A and brush C, combined in a cloth-shearing machine, as and for the purpose described.

2. The combination, with roller A, of the frame *a b* B, provided with tongue *d*, as and for the purpose set forth.

121,761.—COVERING FOR WHIPS.—Velenus W. Crowson, Westfield, Mass.

Claim.—A whip-stock covered by strips of raw gutta-percha, substantially in the manner specified.

121,762.—BLAST-FURNACE.—Henry Davies, Newport, Ky.

Claim.—1. The series of pendent and movable chambers D, perforated near the bottom, combined in a blast-furnace, with and resting upon the sides of an inverted conical hopper, B, as described, so that heat can be first applied to said chambers to raise the temperature of the ore therein, the products of combustion then be passed through said ore, and the said chambers then lifted to drop the ore into the furnace.

2. In a blast-furnace the series of fire-places Q, the flues P R, and the chamber E, arranged and applied to the chambers D, as and for the purpose set forth.

3. The steam-lifting device, arranged upon circular track X, and provided with a detachable and pendent catch to connect and disconnect with chambers D, as described.

4. The central fuel-inlet J, provided with a pen-

dent and downwardly-movable cone K, to be let down to open said inlet to fuel for the furnace, and to be raised to close said inlet.

3. The process of first heating ore and then passing the products of combustion therethrough, as and for the purpose specified.

121,763 — TINMEN'S-TONGS. — Samuel T. Dickinson, Jr., Belvidere, N. J., assignor to himself and Ezra De Witt, same place.

Claim.—1. The jaws A B, chamfered to form a hollow space, F, and slotted at H, combined as described, with a gauge, G, having lug I and guide-arms L L adjustable in said inner space F, as described, and for the purpose specified.

2. The combination, with said slotted jaws A B—of which one is grooved on the side-edges—and said gauges G L L L, of the set-screws K K, applied as and for the purpose set forth.

3. The lug I and index-pin J, arranged substantially as and for the purposes described.

121,764.—SCREEN FOR COAL-GAS PURIFIERS.—Edward Duffee, Haverhill, Mass.

Claim.—In a screen for dry coal-gas purifiers, composed of crossed or interlaced thin strips of wood reeved through and supported by a wooden frame, as shown and described, forming the bars A and C with projecting abutments, and the bars B D with extensions, as and for the purpose set forth.

121,765. — STAMP-CANCELER. — Daniel E. Eaton, Boston, Mass.

Claim.—The device for canceling postage and other stamps, constructed and operated substantially as described.

121,766.—TOOL-HOLDER FOR GRINDERS.—Edward F. Edgecomb, Mechanic's Falls, Me.

Claim.—The improved tool-holder for grindstones, consisting of the stand A, cross-bar B, bearings C, holder I, oscillating beam E, arm F, adjusting-screw and binding-screw L, the holder I being pivoted to the oscillating beam, and all combined and arranged and adapted for application to a grindstone, substantially as specified.

121,767.—BAGATELLE GAME AND APPARATUS. — William Evers, San Francisco, Cal.

Claim.—In combination with the table A, having a sheet-metal top, the triangular corner-boxes F, having the notched counting-blocks *g*, arranged to be operated by the horizontal push-pin *j*, and spinning-top K with its rubber-band *l*, substantially as and for the purpose specified.

121,768.—KEY-BOARD FOR REED AND PIPE ORGANS.—Carl Fogelberg, Boston, Mass.

Claim.—The series of reed-organ pipes or pipe-passages *g*, formed by the walls or boards *b c* and the cross-partitions *f*, and covered or controlled by the valve *e*, substantially as shown and described.

121,769.—COMBINED LATCH AND LOCK.—Vitruvius Frazee, San Francisco, Cal., assignor to himself and William L. Boyer, same place.

Claim.—1. The tumblers *a* and *c* provided with the curves *x* and *x'*, in combination with the pin *p* and lever *d* or *d'*, substantially as and for the purpose hereinbefore set forth.

2. The slide *e* and lever *d* pivoted thereto, in combination with the tumblers *a* and *c* and curves *x* and *x'*, substantially as and for the purpose hereinbefore set forth.

3. The lever *d* and tumblers *a* and *c*, in combination with the slide *e*, bolt R, and curved portions *t t* of the key, substantially as and for the purpose hereinbefore set forth.

121,770. — CULINARY BOILER. — Bridget French, Rochester, N. Y.

Claim.—The boiler, constructed with the square body A and cylindrical bottom B, said body being provided with the sliding lid C and pitcher-spout G, in the manner and for the purpose specified.

121,771.—HYDRANT. — Jacob Fricker, Cincinnati, Ohio, assignor to himself and Americus Warden.

Claim.—1. In combination with the shoe C of the stock formed with main valve-seat *c'*, guides *c''*, and waste-outlet *c'''*, constructed substantially as described, the valve D, when formed with wings *d'''*, and fitted with vent-valve E, operating substantially as and for the purpose specified.

2. In combination with the elements of the preceding clause the prolonged vent-valve E, adapted in the manner described, to close the vent *c'''*, whether the valve *d* be open or closed.

121,772.—WAGON-BRAKE.—John A. Gerhart, Easton, Pa.

Claim.—The lever H having its shorter arm connected with the brake-bar by rod G and its longer arm with the opposite end thereof by the rod I and lever J, to which the operating rod or cord K is attached, all constructed, arranged, and operating as shown and described.

121,773.—MACHINE FOR SAWING STONE.—Henry S. Gillette, New Preston, Conn.

Claim.—In combination with the crank-shafts T U and gears A' A', the adjustable slotted bearings V, bearings W, and standards X provided with slotted flanges Y, all arranged as herein shown and described, for the purpose specified.

121,774.—LIFTING-JACK. — Alfred E. Goddard, Essex, Conn.

Claim.—In a lifting-jack for vehicles, the combination of the lifting mechanism, either with or without an adjustable bracket, as described, and for the purposes set forth.

121,775.—CORDING ATTACHMENT FOR SEWING-MACHINES.—Harry C. Goodrich, Chicago, Ill., assignor to Nelson Barnum, same place.

Claim.—In a cording attachment for sewing-machines the part B, consisting of a piece of elastic sheet metal folded its entire length and fastened at its rear end to the end of the arm A, the upper and lower sides *a* and *b* of the fold forming an open channel or groove along the whole length of the same and the lower side *b* terminating in a curved lip, *c*, all as herein described, and for the purpose set forth.

121,776.—ENDLESS ROPE-WAY.—Andrew S. Hallidie, San Francisco, Cal.

Claim.—1. The combination of the herein-described pulley A with the herein-described pulley B, substantially as and for the purposes hereinbefore set forth.

2. The arrangement in an endless rope-way, as herein described, of the pulleys I^1 or I^1 I^2 in a vertical plane passing through the approaching part of the rope, substantially as and for the purposes herein set forth.

3. The combination of the pulleys I with the swinging or adjustable bracket K, substantially as herein described, and for the purposes herein set forth.

121,777.—HAY-LOADER.—Henry W. Hamilton, Brandon, Vt.

Claim.—1. The arms or frame H, provided with pulleys I, in combination with the two parts G F of the elevator-frame and with the elevator P Q R, substantially as herein shown and described, and for the purpose set forth.

2. The elevator-frame, made in two parts, F G, and pivoted to the axle C at their adjacent ends to enable the lower end of the elevator to adjust itself to the surface of the ground, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the short-frame G, supported upon shoe S, with the arms M, teeth J, spring N, frame H, elevator P Q R, and frame D, as shown and described.

121,778.—KEY-BOARD FOR MUSICAL INSTRUMENT. — Emmons Hamlin, Winchester, assignor to Mason & Hamlin Organ Company, Boston, Mass.

Claim.—The two parallel sets of reed-valves *f h*, connected (so as to be simultaneously operated by one set of keys) by means of rocker-rods or shafts *s*, each having arms *r v*, the arm *v* being depressed by the key, and the arm *r* pressing down the pin or stem *o* and opening the valve *h*, substantially as described.

121,779. — LUBRICATOR FOR STEAM-ENGINES. — James Harper, New Haven, Conn.

Claim.—In combination with the chamber A and passage T with its valve, the chamber L connecting with the said chamber A, and provided with a single opening, P, to allow the steam to enter and return by the same passage, substantially as set forth.

120,780.—PAPER-PULP ENGINE.—Jonathan Hatch, South Windham, Conn., assignor to Smith, Winchester & Co., same place.

Claim.—1. The male grinder as constructed with the dovetailed grooved metallic ribs *c* to receive the knives *d*, and with the wooden bars *e* driven between and against the knives and notched upon the ribs *c*, all being substantially as specified and represented.

2. The female grinder as constructed with the internal and longitudinal ribs *g*, and as provided with the knives *h* and the wooden voussoirs or arch-bars *i* arranged and held between and by such ribs by one or more keys, *k*, all being substantially as explained and represented.

3. The female grinder as provided with one or more intercepting-chambers or pockets, D, arranged with it, essentially as and for the purpose described, and the combination of such pocket or pockets with the male and female grinders, arranged as described or shown.

121,781.—BELT-FASTENING.—John W. Hicks, Laurel, Md.

Claim. — The above-described clamp or clasp, consisting of two plates, A A', provided with the oblique catches B, the teeth C C', and the slots D, substantially as set forth.

121,782. — TIME-LOCK. — Stephen William Hollen, Cincinnati, Ohio.

Claim.—1. The combination of the lock A and clock D with the disk F, provided with notch *d*, lever G, dog C, and spring *a*, when constructed and arranged substantially as and for the purpose set forth.

2. In combination with the above, the rock-shaft H and spring *e*, when constructed and arranged substantially as and for the purpose set forth.

121,783. — MINER'S SQUIB.—John Holmes, St. Clair, Pa.

Claim.—As a new and improved article of manufacture the squib A, substantially as and for the purposes described.

121,784. — HARVESTER. — Harvey L. Hopkins, Eaton, N. Y.

Claim.—1. The combination of the frame, hinged tongue, cranked shaft B C D, and link E, substantially as and for the purpose set forth.

2. The combination of the cutting apparatus, swiveling-bolt I, lever H, brace M, intermediate lever P and cam-lever O, all arranged and operating substantially as set forth.

121,785.—SASH-HOLDER.—Thomas R. Hubbard and William L. Hubbard, Brooklyn, N. Y.

Claim.—As an improved article of manufacture the device herein described, consisting of the screw-plate A, diagonal-slotted ball-socket or cylinder B, closed at its upper end and open at its lower end, as and for the purpose specified.

121,786.—TRUNK LID-SUPPORT.—George H. Johnson and Fred. Bottner, Bridgeport, Conn.

Claim.—The peculiar construction and arrangement of the grooved and offsetted plate D, and hinged rod C, as and for the purpose specified.

121,787. — MANUFACTURE OF SOAP.—William Johnson, New York, N. Y.

Claim.—As an improved article of manufacture, the soap made of the ingredients and in the manner herein described.

121,788. — MATCH-BOX. — Albert D. Judd, New Haven, Conn.

Claim. — The herein-described match-box, consisting of the divided base A' B', secured to the base-plate C by a tenon of dovetail form on one or both of the said parts, combined with a key or wedge, *d*, in the manner substantially as described.

121,789. — PITMAN-CONNECTION. — Amos Ketchum, Estherville, Iowa.

Claim.—A crank-pitman, provided with prongs and pointed screws D' B' at one end, and bolt E *b* and tube D at the other, combined, as described, with sickle-bar C and crank-wheel A, all being constructed and arranged so as to operate in the manner set forth.

121,790.—CHIME FOR REED AND PIPE ORGANS, &c.—Carl Lehnert, Boston, Mass.

Claim.—A metal chime for pipe and reed organs and other instruments, flanged at the edges, substantially as specified.

121,791. — TRANSPARENT CORNUCOPIAS.—William Lohse, New York, N. Y.

Claim.—1. As a new article of manufacture, a cornet or cornucopia made of transparent gelatine, as set forth.

2. The transparent gelatine cornucopia or cornet provided with the paper-tips *b* and upper lining *c*, substantially as specified.

121,792.—SHIPPER-SADDLE.—Llewellyn D. Lothrop, Dover, N. H.

Claim. — 1. The improved shipper-saddle, constructed substantially as described, for use as set forth, viz: as composed of the two separate parts, *a a*, the joint pieces *f f*, the ears *c c*, connecting-screw *b*, pivot *g*, and oil-passage *h*, all being arranged essentially as shown and explained.

2. The improved shipper-saddle, arranged in the groove and to encompass the neck, provided with the oiling-passage *i* arranged in such groove, substantially as described.

121,793.—ROTARY PUMP OR WATER-ELEVATOR.—Thomas J. Lovegrove, Philadelphia, Pa., assignor of one-half his right to Henry S. Lansing, same place.

Claim.—A water-elevator, consisting of a cylindrical vessel having an internal spiral web and a central rotating shaft provided with vanes, and operating substantially as described.

121,794.—CULTIVATOR.—James Mallon and Henry Von Phul, Jr., Holly Wood, La.

Claim.—The combination of the slotted plates H O, clutch *y*, flange K, and standard of shovel G, as set forth.

121,795.—FRUIT-DRIER.—Charlie H. Martin, Chapinville, N. Y.

Claim.—The combination of a caloric-engine with a fruit-drier or evaporator in such manner that the former will exhaust into the latter, as specified.

121,796.—PORTABLE FIRE-ESCAPE.—George D. McCullen, New Orleans, La.

Claim.—The car or chair F, wheels H L M, axles G J K, flexible or jointed connections I, bails or chains N O, and rope or chain P, constructed substantially as herein shown and described and arranged to operate in connection with the rollers C D E of the box A B, as and for the purposes set forth.

121,797.—FENCE.—Ross B. Meeker, Sandford's Corners, N. Y.

Claim.—1. The base-pieces E E, frame A B C D, vertical bars F, and poles G, constructed and combined as and for the purpose set forth.

2. The combination of the inclined blocks or braces D with the posts A B C, substantially as herein shown and described, and for the purpose set forth.

121,798. — SEPARATING METALS FROM A MIXTURE OF METALLIC AND ALKALINE SULPHATES.—Alfred Monnier, Philadelphia, Pa.

Claim.—The treatment of mixed metallic and alkaline sulphates for the purpose of separating them, substantially as described.

121,799.—TREATING METALLIC AND ALKALINE SULPHATES TO SEPARATE COPPER, &c.—Alfred Monnier, Philadelphia, Pa.

Claim.—The treatment of mixed metallic and alkaline sulphates for the purpose of separating them, substantially as described.

121,800.—PAPER-CALENDERING MACHINE.—Stephen Moore, Sudbury, Mass., assignor to himself and Thomas Rogers, same place.

Claim.—1. In combination with the calender-rolls or cylinders *c d*, the presser and gauge-bar *f*, automatically held above the roll *d* by a spring or springs and forced down to the surface thereof by the treadle, substantially as shown and described.

2. In combination with the rolls *c d*, the guide-fingers arranged to conduct the edge of the calendered sheet to or toward the front of the machine, substantially as shown and described.

121,801.—PAINTER'S TRESTLE.—David Moritz, Carmansville, in the city of New York, N. Y.

Claim.—The combination of the forked catch *i* and lever *j* with the shaft F and arms *g*, substantially as set forth.

121,802.—PLATE FOR ARTIFICIAL TEETH.—George Morrison, Palmyra, Wis.

Claim.—The movable pivoted cap, lying within a circular recess in the top of the plate, substantially as described.

121,803.—DIE FOR MAKING CARRIAGE-STEPS.—Francis B. Morse, Plantsville, Conn., assignor to H. D. Smith & Co., same place.

Claim.—The dies B C, constructed in the manner described for forging coach or platform steps.

121,804. — JOURNAL-BEARING. — Eliza D. Murfey, New York, N. Y.

Claim.—1. A journal-bearing consisting of a strip of paper or its equivalent wound spirally and impregnated, as set forth.

2. A bearing of impregnated paper or its equivalent, having an internal groove, *e*, for the purpose specified.

3. A bearing of paper or its equivalent, having internal depressions or recesses, as and for the purpose set forth.

4. The combination, with the said perforated bearing, of an outer covering of paper or its equivalent.

121,805. — MATERIAL FOR PACKINGS AND BEARINGS.—Eliza D. Murfey, New York, N. Y.

Claim.—As an improved article of manufacture, a packing and bearing material consisting of sheets of paper and canvas or its equivalent, impregnated, and combined as set forth.

121,806.—PACKING OR BEARING FOR JOURNALS, &c.—Eliza D. Murfey, New York, N. Y.

Claim.—A packing or bearing consisting of wire or thin metal strips covered with impregnated paper or equivalent material, and formed into sheets, rings, or ropes, either with or without other materials, as specified.

121,807. — DIE FOR MAKING BLANKS FOR STOVE-PIPE ELBOWS. — Edwin Norton, Chicago, Ill.

Claim.—The dies, Figs. 1, 2, and 3, having the curved cutting-faces, as described, and when used for cutting the blanks of metal C, D, and E, for forming curved elbows for stove-pipes and other purposes.

121,808.—METALLIC CARTRIDGE. — Alwin Payne, Bridgeport, Conn.

Claim.—1. A cartridge-case wherein the head thereof is re-enforced by metal cut and punched or driven down from the wall of said case, substantially as described.

2. A cartridge-case in which the anvil is formed and the base thereof re-enforced by the metal driven down, substantially as above described.

121,809.—SEEDER.—Thomas L. Peirce and George Peirce, New Providence, (Union Post-Office,) Iowa.

Claim.—In seeders, the oval-shaped buttons E pivoted on cut-away ends of the conducting-spouts B, as described, to admit of scattering the seed to a greater or less extent, as set forth.

121,810.—PENDENT READING-DESK.—George F. Perkins, San Francisco, Cal.

Claim.—In a pendent reading or writing desk, the upright P′ fastened to a chair or bedstead by means of the strap S and handle H, in combination with the socket Q, curved pendent pieces P, and reading-desk D, substantially as and for the purpose hereinbefore set forth.

121,811.—BRUSH.—George Pirrung and Felix Pirrung, Chicago, Ill.

Claim.—The improved brush, formed of the head A, bent handle C, brush H, cleat or piece D, wires F, and end clasps E, all constructed and arranged as shown and described.

121,812.—WASH-BOILER.—John W. Plouff, Gloucester, Mass., assignor to Israel C. Mayo, same place.

Claim.—1. The combination and arrangement of the horn B, the teat C, and their base-plate D, all being for application to a boiler, as and for the purpose set forth.

2. As an improved manufacture and of my invention, a boiler or vessel, A, provided or combined with a horn, B, and teat C, as described, arranged together and with it, as and for the object or purposes as specified and represented.

121,813, antedated December 9, 1871. — OIL-CAN.—Fredric W. Read, Marquette, Mich.

Claim.—The ball or float E, rod D d^1 d^2, and frame C, in combination with the body and nozzle of an ordinary oil-can, substantially as herein shown and described, and for the purpose set forth.

121,814, antedated November 25, 1871.—WASHING-MACHINE. — Oliver J. Rider and John C. Bryant, Wellington, Mo.

Claim.—1. The combination of the hollow slatted beater D, with concave surfaces, and the slatted convex boards B B, when constructed and arranged to operate substantially as described.

2. The combination of the dowel-pins *b* and gum-elastic springs C with the boards B B, as and for the purposes described.

3. The combination of the hollow beater D, the convex boards B B, springs C, lever F, and connecting-rod G, all constructed and arranged to operate as and for the purpose set forth.

121,815. — COTTON-PLANTER. — Henry A. Ridley, Jacksonport, Ark.

Claim.—In cotton-planters, a bottomless hopper, C, provided with notches on the lower edge of rear side, combined, as described, with a revolving cylinder, D, serving as bottom of hopper, and provided with spirally-arranged pins d^2 to produce an unbroken and continuous delivery of seed into the spout.

121,816.—CLAMP FOR HOLDING TIMBER.—Peter Scholl, Cashtown, Pa.

Claim.—The combination of the post A and bolt C with the link D and lever E, the links serving as a jaw for holding the timber against the post, as specified.

121,817.—SULKY.—Thomas S. Seabury, St. James, N. Y.

Claim.—A sulky, constructed throughout substantially as described and shown.

121,818. — RIDING-SADDLE. — Francis M. Simpson, Pittsville, Mo.

Claim.—The bars E F and bow D attached to and arranged with the springs B B connected with the saddle-tree A A, as shown and described, whereby said parts are adapted to operate as specified.

121,819.—GRINDING-MILL.—John B. Smith, Bowensburg, Ill.

Claim.—1. The spindle A, with the hollow portion I′ and orifices N N, arranged substantially as described.

2. The hand-wheel J, sleeve-screw K, hopper H, and yoke L, arranged as described, whereby said hopper may be adjusted vertically.

3. The spindle A, constructed as described, in combination with the hopper H and tube or neck I, substantially as specified.

4. The nut *q*, in combination with the hollow spindle A, as shown.

5. The combination of the bed-stone B, runner C, and spindle A, when provided with the hollow portion I′ and orifices N, substantially as and for the purposes set forth.

121,820.—STONE-PULLER.—George Sprinkel, North Leverett, Mass.

Claim.—The combination of the sliding tongue C with the draft-chain E, elbow-lever G, and lifting-chain H, all arranged to operate substantially as herein shown and described.

121,821. — CORE-RETAINER FOR TUBULAR ROCK-DRILLS. — Charles J. Stevenson, Hazel Green, Wis., assignor to himself and Martin H. Duckworth, New York city.

Claim.—The spring-jaws applied within a tubular rock-drill, substantially as and for the purposes herein shown and described.

121,822. — ELEVATOR.—Henry S. Stewart, Yreka, Cal.

Claim.—The endless chains F, formed by the combination of the links f^1, links f^2, and bolts f^3, made with a solid round head at one end and a solid cross-head at the other end, substantially as herein shown and described, and for the purpose set forth.

121,823.—CAR-COUPLING.—Joseph B. Tracy, Lincoln, Del.

Claim.—1. The lever E and slide D, in combination with the jaws and bumpers, constructed and arranged substantially as and for the purpose herein set forth.

2. The arrangement of the bumpers B B′, having pieces *b b′*, springs *c*, and pieces C, the pivoted jaws A A′, the slide D, and lever E, when all these parts are constructed and operated substantially as and for the purpose set forth.

121,824. — RAILWAY SWITCH.—Edward A. Trapp, San Francisco, Cal.

Claim.—1. The shaft A with its pulleys *d* and arms *f*, in combination with the operating levers G, substantially as and for the purposes above described.

2. The inclined levers G, consisting of a long and a short arm at right angles with each other, substantially as and for the purpose above described.

3. In combination with the levers G provided with pins *i*, the box *j*, constructed in the manner and for the purpose specified.

121,825. — BRICK-MACHINE.—John Treadway, Haverstraw, N. Y.

Claim.—1. The arm J and bar K provided with notches L, in combination with connecting-rod M, pin N, slotted plates P P, and shifting-bar O, substantialy as and for the purposes set forth.

2. The joint-box *d*, in combination with the guide-rod *c* and presser-plate X, substantially as and for the purposes described.

3. The cam R′, rack S′, sector-wheel T, pulley P′, and pin U, arranged to operate substantially as and for the purposes described.

121,826.—FIRE-ESCAPE.—James J. Treanor, New York, N. Y.

Claim.—1. The door C, provided with the ladder *e*, reel D, braces *b*, and guide *d*, when said door is so hinged to the interior of the wall as to be capable of being turned over on the window-sill to form a platform, in the manner and for the purpose herein shown and described.

2. The links *a a* of the hinges, securing the door to the wall, said links being curved so as to form braces for securing the door to the sill when in use, substantially as shown and described.

3. The combination of the door C, ladder *e*, reel D, links *a*, and hinges and braces *b*, arranged as shown and described.

121,827.—APPARATUS FOR AMALGAMATING ORES.—John Tunbridge, Newark, N. J.

Claim.—A mercury-chamber, A *f*, and an ore-supply pipe, B, connected with a forcing machine of some kind, combined with a vessel, C, provided

with a series of screens covered with amalgam balls, as and for the purpose described.

121,828.—TABLE AND TREADLE FOR SEWING-MACHINES. — Simon W. Wardwell, Jr., St. Louis, Mo., assignor of one-half his right to George W. Shaw, same place.

Claim.—1. The gears *h e k*, radial arms *m m'*, and rings *o o'*, with the springs *w w'*, in combination with a crank-shaft, substantially as shown and specified.

2. The combination of the gears *h e k*, radial arms *m m'*, springs *w w'*, rings *o o'*, crank-shaft D with its ball *b*, pitman C, treadles B, plate G, and rings *t u*, all constructed and arranged substantially as and for the purpose shown and specified.

3. The combination of a sewing-machine table and cover P formed of leaves *p p'*, &c., when constructed and operating substantially as shown and specified.

4. The combination of the cover P with the revolving plate G and table A, as and for the purpose shown and specified.

5. A sewing-machine table combining a revolving plate, G, and operating mechanism in the manner described, so that said plate and the sewing-machine connected therewith may be made to revolve in a horizontal plane at the will of the operator without interfering with the action of such mechanism.

121,829.—HAT-SWEAT FROM WATER-PROOF PAPER. — William M. Waterbury, New York, N. Y., assignor of two-thirds of his right to John A. Cooke, same place.

Claim.—As a new article of manufacture, sweat-bands made from paper treated substantially in the manner hereinbefore described.

121,830. — LOOM-SHUTTLE. — Charles H. Waters, Groton, and William ORT, Jr., Clinton, assignors to Clinton Wire-Cloth Company, Clinton, Mass.

Claim.—1. The combination of the bobbin, the brake, and the delivery-rolls, substantially as described.

2. The grooved delivery-rolls, constructed and set substantially as described, for the purpose specified.

121,831. — MACHINE FOR MAKING WIRE-NETTINGS.—Frederick C. Charles Weber, Brooklyn, N. Y.

Claim.—1. The stationary cylinder C, provided with the spiral groove or thread *d*, for the purpose of producing convolutions in wire, substantially as herein shown and described.

2. The rotary rod D, fitted through the stationary cylinder, having the spiral groove or thread *d*, substantially as and for the purpose herein shown and described.

3. The method herein described of forming wire-netting by pushing the wire-strands from the winding apparatus through the strands last finished, as specified.

4. The combination of the friction-rollers *a a*, oil-cup *b*, and guide *c* with the stationary cylinder C, spiral thread or groove *d*, and rotary blade or rod D, substantially as herein shown and described.

121,832, antedated December 9, 1871.—GLOVE.—William W. Whitaker, Gloversville, N. Y.

Claim.—As an article of manufacture, a glove consisting of a back or outside portion cut or formed of a single piece, the inner or palm portion consisting of two pieces cut or formed as shown in Fig. II, so that the seam, which unites the thumb-piece to the other palm-piece, shall terminate in the slit formed in the palm of the glove, as shown and described.

121,833.—GLOVE.—William W. Whitaker, Gloversville, N. Y.

Claim.—The parts B and C of a glove, constructed as shown and described, and combined with the outer part A, for the purpose set forth.

121,834.—BUNG ATTACHMENT TO BARRELS. Anton Wieners, Williamsburg, N. Y.

Claim.—The bung attachment composed of the tube B, pipe C, cup *a*, and bell D, all arranged substantially as herein shown and described.

121,835.—SWIVEL-LOOP FOR FIRE-ARMS.—Oliver F. Winchester, New Haven, Conn.

Claim.—The swivel-loop for fire-arms, inserted in the band-plate or other part of the trimmings of the arm, substantially in the manner described, and retained in position by the portion *d* of the metal in the ear of the band or plate, as specified.

121,836. — RAILWAY CROSSING. — Joseph Wood, Red Bank, N. J., assignor to himself and Edwin R. Bennet, New York city.

Claim.—1. The combination of the intersecting rails of a railroad crossing with each other by means of the corner fish-plates arranged in the manner and for the purpose substantially as described.

2. The combination of the intersecting rails of a railroad crossing with each other by means of the corner fish-pieces and bottom plates, all arranged in the manner and for the purpose substantially as described.

3. In a railway crossing, the contracted gauge and spaces for the wheel-flanges to pass, as shown and described.

121,837.—BEE-HIVE.—Elvin S. Armstrong, Jerseyville, Ill.

Claim.—1. The diaphragm F, constructed as described, in combination with the wire-screen, as and for the purpose set forth.

2. The entrance-block B, provided with a central rib and circuitous passage, as described, for the purpose set forth.

121,838.—LOOM SHUTTLE-BOX MECHANISM. John Ashworth, North Andover, Mass., assignor to George L. Davis, John A. Wiley, Joseph M. Stone, George G. Davis, Joseph H. Stone, and James H. Davis, same place.

Claim.—1. The combination and arrangement of two or more eccentrics, substantially as described, to operate a series of shuttle-boxes.

2. In combination with two or more eccentrics and the series of shuttle-boxes, constructed substantially as described, the devices shown, or their equivalents, by which a joint or separate action may be given to either eccentric under the control of the pattern-chain.

3. The inclined yielding catch O in combination with the two parts *m* and *n* of the driver M, constructed and operating substantially as described.

121,839. — BAKING-OVEN. — Adam A. Anll and John A. Anll, Bellefontaine, Ohio.

Claim.—1. The front flue or flues *e*, combined with the furnace or furnaces E, substantially as and for the purposes specified.

2. The combination of the perforated furnaces E, perforated revolving bread-table C', and front flue or flues *e*, arranged and operating substantially as and for the purposes set forth.

121,840.—BEE-HIVE.—Henry A. Bathurst, Clearfield, Pa.

Claim.—The inclined lighting-board *c'* and door *G*, in combination with the comb-frame apartment B and honey-box apartment C, relatively arranged as set forth.

121,841.—FASTENING CARRIAGE-WHEELS.—Bernhard Berndt and Franz Barsch, Williamsport, Pa., assignors of two-thirds of their right to William P. Reiley and Thomas Maitland, same place.

Claim.—1. In combination with the spindle-head A provided with a lug or lugs, *a*, the cap C provided with the plane or planes *f* and stop or stops *g*, substantially as set forth.

2. The cap C provided with the hinged cover D, substantially as set forth.

3. The cover D provided with the stop or stops *h*, in combination with the lugs *a* of the spindle-head, substantially as set forth.

4. The combination of the cap C, cover D, and spring E, substantially as described and shown, for the purposes set forth.

121,842.—HARNESS MECHANISM FOR LOOMS. James Booth, Pottstown, assignor to John Dobson, Philadelphia, Pa.

Claim.—1. In a loom-harness mechanism, the combination of the lever B and straps *i* and *n* for the purpose of throwing the rollers R^1 and R^2 out of action, as above described.

2. The combination of the spiral springs 5 and 6, cords H and *g*, and rollers R^1 and R^2 for raising the heddles, as described, for the above purpose.

121,843.—PUMP.—Henry E. Braunfeld, Philadelphia, Pa.

Claim.—1. The combination and arrangement of case A, buckets B, and shut-off C, substantially as shown and described.

2. The combination and arrangement of case A, buckets B, and shut-off C with the main cylinder E and piston F, substantially as shown, and for the purpose described.

121,844.—WASHING-MACHINE.—Robert M. Bruce, Camp Point, Ill.

Claim.—The movable frame B B, arranged with the stay-rods E E, India-rubber springs K K, catch and lock R, and hooks and eyes P P, as attached to the wash-board H, with the grooved cylinder L, when combined and connected together so as to be attached to any ordinary tub, and operated as herein described, and for the purposes set forth.

121,845. — CEILING ORNAMENT. — Erastus T. Bussell, Indianapolis, Ind.

Claim.—The plate A provided with the perforations *b*, secured to the rod C having the eye D, and with or without the small plate E, in combination with the arms F having the eyes G secured by the cord or wire H, substantially as and for the purpose hereinbefore set forth.

121,846.—DITCHING-MACHINE.—Erastus T. Bussell, Indianapolis, Ind.

Claim.—The concavo-convex rim-disks A and B, supported on the axis D in opposed positions, right oblique and left oblique to the line of draft, the concave sides of the rims C and C' facing each other, substantially as described, in combination with the chute J, scroll-shaped fender L, dirt-shed M, endless apron G, cylinders H and O, wheels K on the axle I, and the vibrating frame F, arranged relatively one to the other, for the uses and purposes hereinbefore set forth.

121,847. — GRAIN-DRIER, COOLER, AND SCOURER. — Lewis S. Chichester and Charles F. Chichester, Brooklyn, N. Y., assignors to Charles F. Chichester.

Claim.—1. The vertical bins of perforated material, into which the grain is supplied, in combination with the slats *c d*, that cross said bins and partially sustain the weight of the grain and agitate the same as it descends, as set forth.

2. The balance-valves *l l* in the diaphragms of the air-chamber *f*, in combination with the bins *a* of perforated material, as and for the purposes set forth.

3. The yielding regulating-platform *g* connected to the valve *i*, in combination with the bins *a*, for the purposes and substantially as set forth.

4. The scouring mechanism, composed of a revolving cylinder below a stationary cylinder or feeding device, as and for the purposes set forth.

5. The revolving disk, connected to the scouring-cylinder by its shaft, and receiving the cleaned grain previous to its delivery, as and for the purposes set forth.

121,848.—CONNECTION FOR IRON AND STEEL BRIDGES.—Thomas C. Clarke and Adolphus Bonzano, Philadelphia, Pa.

Claim.—1. The combination of the lower-chord pins of a bridge-truss with a segmental wrought-iron column, the lower plate and its cylindrical thrust-piece, and the compound suspension-washer, substantially as and for the purpose described and represented.

2. In combination with the post and lower chord, an interposed plate, R, with a projection, *i*, for a thrust-piece for the floor-beams and for holding the floor-beams at any desired angle, substantially as described.

3. The washer S, composed of the beams *d d*, plate *e*, and angle-irons *f*, riveted or bolted together, substantially as and for the purpose described.

121,849. — CHAIN-MACHINE. — Alveus J. Clemmons, Aberdeen, Miss.

Claim.—The combination of the bench *a*, lever *d*, lugs *c*, and clevis *h* having the pins *k*, all arranged as specified.

121,850.—DIVIDER.—Albert A. Cook, Milford, Mass.

Claim.—In a pair of dividers, the combination of the cylindrical extension C and the leg A, provided with a semi-cylindrical groove upon its inner side, with the slit *a a*, with the ears *n n*, and with the thumb-screw D, all constructed, arranged, and operated substantially as described and shown.

121,851. — CLAMP. — Theodore O. Cornish, Woonsocket, R. I.

Claim.—The frame A, provided with rectangular flanches Z and arms B B, in combination with the movable jaws D and clamping-screws G, when constructed and operated in the manner and for the purpose described.

121,852. — SASH-HOLDER. — John Court, Memphis, Tenn.

Claim.—The combination of a window-sash, having notches or ratchet-teeth in one of its edges, with a pawl oscillating with a spindle provided with a shank which operates the tumbler and retains it in any desired position by locking with a suitable notch in the window-frame, these members being constructed and operating substantially as hereinbefore set forth.

121,853.—WINDMILL. — Joseph Cushman, Thomson, Ill.

Claim.—1. The hollow shaft B and rod F provided with the supports *c c'*, in combination with the regulating-wheel G and rudder-wheel E having the pins *n* and fans *o*, substantially as shown and described.

2. The fans C provided with the rods *m*, connecting them with the regulating-wheel G, in combination with the rod F, arranged and provided substantially as shown and described.

3. The fans C provided with the rods *m*, connecting them with the regulating-wheel G, in combination with the rod F and hollow shaft B, eccentric-wheel *p* provided with the band *i*, arranged and operated substantially as shown and described.

4. The combination and arrangement of the hollow cylinder *b* and *c*, with the bars *a a'* of the frame A, substantially as shown and described.

121,854. — APPARATUS FOR TRANSMITTING AND APPLYING POWER.—Thomas Damon, Thompsonville, Conn.

Claim.—The mechanism hereinbefore described, for transmitting and applying power, the same consisting of the combination of the lever C, roller E, and inclined plane D, substantially in the manner and for the purposes set forth.

121,855. — FENCE. — Benjamin G. Devoe, Fredericktown, Ohio.

Claim.—1. The combination of the grooved post B, having a hollow base filled with cemented stone or other suitable material, the grooved post C, the stirrup *d*, creased washer D, and knob or tap *e*, all substantially as and for the purposes herein set forth.

2. The within-described fence, consisting of the corrugated sheet-metal rails A A, grooved posts B C with stirrups *d*, creased washers D, and knobs or taps *e*, all constructed and arranged substantially as and for the purposes herein set forth.

121,856.—SCROLL-SAWING MACHINE.—William H. Dobson and William H. Doane, Cincinnati, Ohio, assignors to J. A. Fay & Co., same place.

Claim.—1. The differential pulley D, connected by segment pulley E and strap F with the saw, and by one or more flexible connections, L L' *l l'*, with the described or other suitable springs K K', for the purpose set forth.

2. The bolts M, nuts N-N' O, and brackets P P' for securing and adjusting the springs K K', substantially as described.

121,857. — CARRIAGE-HUB. — William T. Dole, Peabody, Mass.

Claim.—1. The metallic cap F, the wooden cap-holder E, the screw-bolts and nuts *f g*, and the metallic spoke-carrier A with its projections B C and chambers *d e*, all arranged essentially as set forth.

2. The arrangement of the dust-guard H (fastened to the axle) with the parts A and C of the hub, in manner as shown and described, so as to form, in appearance, part of the hub.

3. The arrangement of the induct *s* and groove *r* with the wheel-journal and the dust-guard H, in manner as shown.

4. The dust-guard H, constructed as described, viz., the hollow frustum H, the socketed projection *k*, and the clamp-receiver *l*, arranged as set forth.

121,858.—DENTAL FORCEPS.—Nephthuli A. Durham, Duquoin, Ill.

Claim.—A jaw, A, constructed with the socket *a* formed in the side or edge of said jaw, combined with the beak B with projecting shoulders *d*, substantially as and for the purpose set forth.

121,859.—MANUFACTURE OF JAPANNED OR ENAMELED HORSE-COLLARS. — George Duxon and Henry Duxon, Brooklyn, N. Y., and Henry Perry, Newark, N. J.

Claim.—1. The process, substantially as herein described, of making japanned or enameled horse-collars.

2. As a new article of manufacture, a horse-collar made of unenameled leather, and japanned or enameled after being made up, substantially as described.

121,860.—PAPERING OR PUTTING UP NEEDLES.—David Evans, Studley, England.

Claim.—The combination of the needle-holder with the flap of the envelope, wrapper, or case, so that the act of raising or lowering said flap will draw the needles out of or allow them to pass into, or partially so, the pocket of said envelope, wrapper, or case, substantially as described.

121,861. — BELT-SHIFTER FOR SPINNING-JACKS.—Albert Fox, Edinburg, Ind.

Claim.—The combination of the lever C, cams D D, and slotted wedge-shaped key or regulator I, all constructed and arranged to operate substantially as and for the purposes herein set forth.

121,862. — BURGLAR-ALARM. — William Fitch Gardiner, Bethany, Canada.

Claim.—1. The pivoted arm E, carrying a match, N, upon one end, and a cord attached to the trigger of the gun at the other, in combination with the detent M, substantially as and for the purpose set forth.

2. The arrangement of the trigger-wire C, disk and rings D, elastic band F, detent M, plate G, cord and weight J, windlass I, and connecting-rod L for operating the pistol B, match-lever E, shaft N, and bell K simultaneously, substantially in the manner described.

121,863. — HARNESS-PAD.—James H. Garrett, Greencastle, Ind.

Claim.—The combination, with the welt pieces *b* placed edgewise on the base leather B, of the housing-leather *b'*, and the binding-strips *b²* folded around the sides and doubled over the edges of the housing-leather to form supports for the welt-flanches, substantially as specified.

121,864.—METHOD OF OPERATING LOCOMOTIVE STEAM-ENGINES.—Gothelf Gürtner and Charles Diebold, Lebanon, Pa.

Claim.—The employment, as motive power in propelling cars, boats, or other portable steam apparatus, of steam contained in receivers entirely disconnected in the generator, substantially as and for the purpose specified.

121,865.—BARREL-FASTENING.—Edward T. Gilmore, New York, N. Y.

Claim.—1. The hoops made in sections, which are connected together by T-shaped links and hooks, and which are tightened up by right-and-left screws, substantially as shown and described.

2. The combination of sectional hoops, as described, with a barrel, A, substantially in the manner set forth.

121,866. — ROCK-DRILL. — Henry B. Gingrich, Bradford, Ohio.

Claim.—The rack J, pawl N, bar M, loop *h''*, pin *d*, and cam D, in combination with the drill I, as and for the purpose set forth.

121,867. — GRAIN-CARRIER. — Ovid Miner Gould, Montreal, Canada.

Claim.—1. A carrier-frame, traveling on the main carrier, substantially in the manner and for the purposes set forth.

2. The novel combination and arrangement of the carrier-frame *g*, mounted on flanged wheels *f*, with friction-wheels *i i'*, drum *h*, tension-pulley *k*, hopper *l* with reversible bottom, or their equivalents, all working together in combination with carrier-frame *a*, drums *b* and *c*, and belt *d*, substantially as and for the purposes set forth.

121,868.—INDIA-RUBBER SUPPORTERS FOR THE ANUS.—Hiram Greentree, Baltimore, Md., assignor to himself and Thomas N. Webb, same place.

Claim.—The slotted rubber band *a*, with the anus-pad A forming an integral part thereof, as described.

121,869. — TIN CAN. — Schuyler E. Gunn, Chicago, Ill., assignor to Frank Sturges & Co., same place.

Claim.—Stamping or pressing the top or cover and bottom of a tin can, so as to form an annular rib or flange, *a*, and soldering the same to the inside of the body or case, substantially as specified.

121,870. — ELECTRO-MAGNETIC SIGNAL-HOUSE.—Thomas S. Hall, West Meriden, Conn.

Claim.—The railroad electro-magnetic signal and battery-house provided with two or more non-conducting chambers or spaces surrounding the battery-chamber and an inclosed signal-cupola, substantially as described.

121,871. — BRICK-MACHINE.—Daniel Hess, Des Moines, Iowa.

Claim.—1. In combination with the posts A and 9 of the machine, the hopper H_9 with its flange *h*, when placed under the conic or inclined top T and over the revolving table H, in the manner shown, and for the purpose described.

2. The revolving top T, constructed as described, in combination with the cogged gear on the same, the pinions M and conic rollers N with their bearings in the hub R on cross-piece B and bearings O P S with the scraper S, all arranged to operate substantially as described.

3. The elbowed pressing-lever Y, with its shouldered pressing-block and pulley-head *y*, connected by a pivot-post with a curved arm, *g*, under the table H, in combination with the spring-rod *e*, post *p*, and arm *f*, to operate the same in their revolution, in the manner and for the purpose set forth.

4. The pressing device W, with its slotted base and pulley *w*, in combination with the fixed slotted guide-post V and headed bolt *v*, all arranged and operated in the manner and for the purpose specified.

121,872. — MANUFACTURE OF IRON AND STEEL, AND FURNACES FOR THE SAME.—Thomas Callender Hinde, Fownhope, near Hereford, England.

Claim.—1. The treatment of iron ores for the manufacture of iron and steel in the manner or by the processes hereinbefore described, whereby the said ores are completely reduced, without fusion or agglutination, in the form of fine metallic particles or dust before being bloomed or welded into wrought-iron or melted into cast-iron or steel.

2. The furnaces and apparatus, constructed and arranged for operation substantially as hereinbefore described, and illustrated in the accompanying drawing, to be used in the manufacture of iron and steel, or in the roasting or calcining of ores other than iron ores, as set forth.

3. The gas-generator or furnace hereinbefore described, and illustrated in Figs. 9 and 10 of the accompanying drawing.

121,873.—IMPLEMENT FOR HANDLING BOXES AND PACKAGES.—Carl Hoffman, New York, N. Y.

Claim.—The package-hook herein shown, consisting of the handle B, protecting-head C, claw D, and point *a*, constructed substantially as and for the purpose described.

121,874. — HORSE-POWER FASTENING.—Hiram B. Hoesler, New Berlin, Ohio.

Claim.—1. In combination with the stake-rod G or its equivalent, and the inclined stake J, the brace H extending from the frame A B to the upper end of stake J, substantially as and for the purpose specified.

2. The combination of the power-frame A B A B, tie-rods F F with hooks *b*, stake-rods G G with eyes *d* and *e*, and inclined stakes J J, said tie-rods extending from a point below the top of one frame piece over the top of the opposite frame piece, and the several parts being arranged and connected substantially as specified.

3. The stay-pin *i* in the frame A B, in combination with the tie-rod F, substantially as and for the purpose specified.

4. The tie-rod F, with hook *b* at its end, having the vertical end *e* thereon, in combination with the power-frame A B A B, substantially as and for the purpose specified.

5. The combination of the power-frame A B A B, tie-rod F with hook *b* and vertical end *e*, stake-rod G with eyes *d e*, inclined stake-J, and brace H with holes *a* therein, the several parts being arranged and connected substantially as and for the purpose specified.

121,875.—WRECKING-FROG FOR RAILWAYS.—Sylvester M. Hudson, St. Louis, Mo.

Claim.—The wrecking-frog, consisting of the pivoted skid H and clamping-bars D C, constructed substantially as described, and secured by a pin, F.

121,876. — COOKING-STOVE. — William J. Keep, Troy, N. Y.

Claim.—1. A stove-grate provided upon its upper side with a series of transverse ribs, which is raised above the surface of its longitudinal bars, substantially as and for the purpose shown and described.

2. The means employed for preventing the grate from dumping while being shaken, consisting of the shaker N provided with the lug *n'* and connected to or with the outer end of the spindle or pivoted bearing M, in combination with the lug *c* secured to and projecting horizontally outward from the side plate C, or their equivalents, substantially as shown and described.

3. A metal lining for a fuel-chamber, so constructed as that the expansion caused by a high degree of temperature shall increase its vertical dimensions without changing its length, substantially as and for the purpose specified.

4. A metal lining for a fuel-chamber, consisting of an imperforate rear wall, O, and a perforated front wall, O', meeting at their upper edges, and from thence extending downward and apart so as to form an air-space, *o'*, having its lower side within the fuel-chamber, substantially as and for the purpose specified.

5. A water-back, constructed with a lower front channel for receiving and containing the water to be heated, and a rear upper channel for the reception and passage of said water when heated, substantially as and for the purpose shown.

6. The water-back P, having its front edge serrated so as to form the projections *p*, substantially as and for the purpose shown and described.

7. The rearward extended portion *d* of the rear end plate or casing D of the center vertical flue, in combination with the contiguous portion of the reservoir Q, and with the heating-chamber R surrounding the lower part of said reservoir and extending below the top oven-flue, substantially as and for the purpose specified.

8. The diving-flue R', situated in front of the lower portion of the reservoir Q and between the same and the rear casing D of the vertical flues, when its upper end and the lower side of its only opening into such flues are upon such a line as to cause the heated escaping products of combustion to enter said flue at the same point and angle, whether the direct or reversed draught is employed substantially as and for the purpose shown.

9. A heating-chamber for inclosing the lower portion of a water-reservoir situated in rear of the vertical flues, and with its bottom below the oven-top when the passage thereto for the entrance of the heated escaping products of combustion is upon a line with said oven-top, substantially as and for the purpose set forth.

10. The chamber R, provided with the rabbet *r* formed within its exterior vertical side walls for containing the upper edge of the warming-closet U, in combination with said closet, substantially as and for the purpose specified.

11. The means employed for securing the warming-closet to or upon the heating-chamber, consisting of one or more lugs, V, projecting horizontally outward from said chamber and passing through corresponding openings within the contiguous por-

tion or portions of said closet, substantially as shown and described.

121,877.—Stove-Pipe Damper.—William J. Keep, Troy, N. Y.

Claim.—1. A register-collar fitted from within into an opening in a pipe, substantially as and for the purpose specified.

2. A register-collar fitted from within into an opening in the pipe and held in position by means of outward pressure, substantially as and for the purpose shown.

3. In combination with a register-collar provided with a central opening, a register having a central boss which corresponds to and fits into said opening, substantially as and for the purpose set forth.

4. A register placed upon or against the inner side of the collar and held in position by the outward pressure of the damper, substantially as and for the purpose shown and described.

5. The register E provided with the central opening *f*, in combination with the damper G provided with the axial bearing H, substantially as and for the purpose specified.

6. In combination with the register E and damper G, the lugs *e*, substantially as and for the purpose shown.

7. In combination with the register E and damper G, the crank L, connected with and operating both of said parts, substantially as set forth.

8. The hereinbefore-described device, as a whole, consisting of the collar B provided with the face or seat C, openings D and *e*, and flange *b*, the register E provided with the boss F, central opening *f*, and lugs *e*, the damper G provided with the bearings *g* and H and the crank L, when the several parts are constructed as shown, and combined with each other and with the pipe, substantially as and for the purpose specified.

121,878. — Lathe. — Benjamin Lawrence, Lowell, Mass.

Claim.—1. The combination of the cutter-head or its operative parts, consisting of a pulley, *a*, slotted plate K, tool-holders G and cutters, and a removable bushing, *b*, all constructed, arranged, and operating substantially as and for the purpose specified.

2. The rest or guide J, consisting of a roll, *g*, and arms and segmentary gears, arranged and operating in connection with the feed-rolls N and P, in the manner and for the purpose specified.

121,879.—Guide for Silk Winding.—John N. Leonard, Rockville, Conn.

Claim.—1. The guide-roller C, held and adjusted in position upon the traverse-rod B by means of rollers E and packing F, substantially as and for the purpose set forth.

2. The combination of the conical rollers E E with the roller C and rod B, substantially as and for the purpose set forth.

121,880.—Stocking for Horses.—William Lewis, Astoria, N. Y., assignor to himself and David T. Way, same place.

Claim.—1. In combination with a laced elastic horse-stocking, the tendon pads E, extending up the sides of said stocking from the ankle to the top, substantially as set forth.

2. The stocking A, of soft vulcanized India rubber, molded to fit the ankle and leg of a horse, and constructed to lace up in front, and with perforations C, longitudinal ribs D, and tendon pads E, as set forth, and for the purpose described.

121,881, antedated November 30, 1871.—Harvester-Gearing.—John P. Manny, Rockford, Ill.

Claim.—1. The combination of the endwise-moving rotating shaft, the wheel mounted on said shaft and beveled on both faces with two bevel-gears of uniform size, mounted on independent parallel shafts carrying spur-wheels of differing sizes gearing with each other, all these members being constructed and operating as described to vary the speed of the cutters.

2. The combination of the endwise-moving shaft, the swinging eccentric skeleton shipper, and its spring detent, all these members being constructed, arranged, and operating as described.

121,882.—Horse-Power.—Marion H. Marmaduke and Benjamin F. Stewart, Santa Fé, Mo.

Claim.—The arrangement of the spur-wheel *b* on boss of large wheel B, the beveled pinion *d*, shaft D, and miter-wheel *d'* on the end of shaft D, frames C C above the shaft or lever-arm A, and the pinion *e* on the vertical shaft E, to form a convenient multiplying mechanism, as specified.

121,883.—Washing-Machine.—Gideon H. Miller, Belvidere, N. J.

Claim.—In a brush-holding cylinder of a washing-machine, the double continuous brushes L, bent and arranged in a radial manner within the recesses *f* of the cylinder F, and secured in place by means of the slats M, substantially as described.

121,884.—Lightning-Rod. — Stephen H. Miner, Winona, Minn.

Claim.—As an article of manufacture, a lightning-rod constructed of the plates *a b* and having the central rib *c* and beads *d*, as specified.

121,885.—Glossing and Fluting Iron.—Charles W. Monroe, Chicago, Ill., assignor to Susan M. Monroe and Julia H. Monroe.

Claim.—A combined glossing or calendering and fluting iron, consisting of the top B and bottom A, corrugated plates *a* and *b*, hinges C, lug *b'*, and button a^3, the several parts constructed and arranged substantially as herein shown and described.

121,886, antedated December 2, 1871. — Desk, Table, and Shelf Combined.—Levi H. Morrill, Falmouth, and Elbridge G. P. Smith, Portland, Me.

Claim.—1. The combination of the divided shelf *d*, hinges *p*, plate *a*, hook *e*, slotted brace *f*, and brace *h*, as herein set forth, the same made rigid, when extended, by means of hooks and studs *r s*, as described.

2. The combination with the divided shelf *d*, having braces *f h*, and upheld as set forth, of the drawers *t t'*, as described.

121,887. — Skiving-Machine. — Jacob H. Madgett, Lynn, Mass.

Claim.—The curved-edged cutter *g*, constructed as described, in combination with the socket C and the bur-wheels B of an ordinary skiving-machine, operating in the manner and for the purpose set forth.

121,888. — Ice-Machine. — Andrew Mühl, Waco, Tex.

Claim.—1. The mode herein described of cooling the pump-cylinder by causing the return ether to surround it before entering the interior of the said cylinder, substantially in the manner shown and set forth.

2. In ice-making machinery such as specified the use of glycerine to lubricate the pump-cylinder and piston-rod, substantially as shown and set forth.

3. The combination, with the pump and pipe or pipes leading therefrom to the condenser, of the exhaust-valves and traps connected with said valves for receiving and carrying off the impurities discharged with the gas or vapor from the pump, substantially as shown and set forth.

4. The use of the return-ether vapor to more effectually cool and hasten the condensation of the other passing from the pump to the freezing-vessel, substantially as herein shown and set forth.

5. The combination of the pump, the two condensing-worms, (one surrounded by a worm through which the return ether passes,) the reservoir, and the freezing-vessels, said parts being arranged and connected together for joint operation, substantially as shown and set forth.

6. The freezing-vessel connected with the pump, as described, in combination with the system of pipes and cocks whereby the liquid and other impurities which collect in its hollow partitions and walls may be discharged therefrom, substantially as shown and set forth.

121,889.—Manufacture of Steel in Crucibles.—Charles Motier Nes, York, Pa.

Claim.—1. The manufacture of steel from pig or cast iron and Codorus ore in a crucible, substantially in the manner herein described.

2. The manufacture of steel from old horseshoes or other wrought-iron and Codorus ore in a crucible, substantially as herein set forth.

121,890. — Outhaul Band for Booms.—George Nevenger, Philadelphia, Pa., assignor to Harvey J. Mitchell, same place.

Claim.—The combination, with the outhaul band B, of the clevis D, bolt and key F, all constructed and operating as described.

121,891.—Steam-Engine. — Ezra Nicholson, Cleveland, Ohio, assignor of two-thirds of his right to Charles B. Stilwell and John J. Clause, same place.

Claim.—1. The frame A, having pillars *b b'*, journals *c c'*, and ports *i i' i''*, when constructed as herein shown and described.

2. The crank-wheel F, having wrist-pin *d* and groove F', in combination with the engine herein described, as and for the purpose set forth.

3. The combination of the frame A, cylinder C, shaft H, balance-wheel B, and crank-wheel F, when constructed and arranged substantially as set forth.

121,892.—Gate for Swing-Bridges.—Alonzo D. Northway, Kenosha, Wis.

Claim.—1. The combination of the gate F G H I jointed to the roadway, the locks K O, cam *f*, roller W, lever T, and roller N, as set forth.

121,893.—Mechanical Movement.—Thomas H. Percival, Harper's Ferry, W. Va.

Claim.—The combination of a double spur-gear, *a b*, with a double lantern-wheel, *e f*, as specified.

121,894. — Bridge. — Charles Pfeifer, St. Louis, Mo.

Claim.—In combination with a bridge-arch composed of two arched members, C C' D D', the abutment-girders or cables E E' extending in direct line from the upper member at one end to the lower member at the other end, substantially as and for the purpose set forth.

121,895, antedated December 2, 1871. — Vise.—Rufus Porter, Bristol, Conn., assignor to himself and G. W. and H. S. Bartholemew, same place.

Claim.—1. The particular construction and combination, herein described, of the slotted hub F, bar G, pawl H eccentrically pivoted in said hub, extension B of jaw A, and the jaws A C, as set forth.

2. The particular construction and the arrangement relatively to one another of the bar B and the open-bottomed saddle D, in virtue of which either jaw may be made stationary or immovable, as herein described.

121,896.—Sewing-Machine.—George Rehfuss, Philadelphia, Pa., assignor to American Button Hole, Overseaming, and Sewing-Machine Company, same place.

Claim.—1. The combination of the eccentric G and eccentric-rod and a vibrating shuttle-driver, arranged substantially as described, so that the said eccentric-rod can be connected to the driver when the latter is moved to either of the two positions illustrated and described.

2. The portion *b* of the eccentric-rod, the spring *d*, and set-screw *c*, by which the said portion *b* is connected to the rod.

3. The perforated ring I interposed between the eccentric and eccentric-rod, as set forth.

4. The thumb-nut *h* adapted to the pin *f*, and having a projection, *k'*, adapted to a segmental recess, *i'*, which is concentric with the rounded end of the slot *i* of the eccentric.

5. The movable race-plate D having a spring-pin, *x*, or its equivalent, by which the said race-plate is made self-locking in either of the two positions to which it has to be adjusted.

121,897.—Stuffing-Box.—Phillip W. Richards, Boston Highlands, Mass

Claim.—1. The sectional rings D and E having square joint *a*, substantially as shown and described.

2. A sectional ring constructed so as for the one section to pass by the line of its split with the next section, and to lie within the same, substantially as described, for the purpose specified.

121,898. — Manufacture of Nitro-Glycerine.—Edward A. L. Roberts, Titusville, Pa.

Claim.—1. The combination of movable and immovable parts, by which the nitro-glycerine is made on a surface kept cool by cold applications on the opposite side, substantially as hereinbefore described.

2. The revolving cylinder, with the parts or attachments effecting the cooling and mixing process, substantially as hereinbefore described.

3. The mixing of the acids and glycerine in a tube so constructed as to produce the tumbling or cascading of the liquids within, substantially as hereinbefore described.

121,899.—Refrigerator.—Jeremiah Rohrer, Lancaster, Pa.

Claim.—The arrangement of the ice-box K with its ledge I for the ice-supporting bars H, double series of inclined draining-slats R R', when centrally connected over a trough, T, in combination with the ledge M, vessel N, and draining-tube O, all, in relation to each other and a vertical case, substantially in the manner and for the purpose shown and described.

121,900.—Addressing-Machine. — Jonathan K. Rukenbrod, Salem, Ohio.

Claim.—1. The arrangement of the adjustable feeding-arm K upon the rod I, between the prongs of the lever F, and in such relation to the ratchet-teeth *e* and the loose flexible shield M as to be operated by the movement of the hand-lever F directly beneath the shield, which is held by said feeding arm above the type and conforms to the movement of said arm, as shown and described.

2. The arrangement of the rod I with respect to the pivots of the hand-lever F, and the stop N, located upon the box A in the rear of said pivots, as to utilize the same device which carries the feeding-arm to also limit the ascent of the hand-lever, as shown and described.

121,901.—Signal for Railroad Trains.—David Louis Schönberg, New York, N. Y.

Claim.—The platform A provided with lugs *a a* and clamping-screws *b*, as and for the purpose described, in combination with the worm-wheel *c*,

worm *j*, shaft K, racks *f f*, pinion *d*, slides *g g*, lazy-tongs B, and signal C, all arranged and operating substantially as set forth.

121,902.—Preserving and Using Hops in Brewing.—Jacob Seeger and John Boyd, Baltimore, Md.

Claim.—1. As a new article of manufacture and trade, hops ground or pulverized and incased in air-tight packages, as and for the purpose set forth.

2. As an improvement in the process of brewing, the described method of using hops—*i. e.*, in a ground or pulverized condition—as set forth.

121,903.—Apparatus for Separating Fatty Matters from Vegetable Substances.—Thomas Sim, Baltimore, Md.

Claim.—1. In combination with vat A B and a still, a steam-jet vapor-exhauster, operating substantially as described.

2. The vat A B, mounted on trunnions upon a traversing carriage, by which it is made presentable at the various stations, substantially as and for the purpose described.

3. The arrangement of several vats on a circular or other track upon a carriage or carriages, or in a series, so as to be consecutively presented in the charging, operating, and discharging situations, for the purpose described.

4. The general arrangement of the vats A B, &c., reservoir E, still H, condenser K, vapor-eduction P, reservoir R, and general reservoir L, substantially as described and represented.

121,904.—Medical Compound for Treating Constipation, &c.—Cicero A. Simmons, Waldo, Fla.

Claim.—The medicine herein described, compounded of the ingredients, in the manner and for the purposes specified.

121,905.—Valve for Steam-Engines.—Charles B. Smith, Newark, N. J., assignor to himself and Lysander Wright, same place, and William L. Chase, New York city.

Claim.—The cut-off valve D, made flat on its face with curved ends *m m*, and arranged to have a reciprocating independent motion on or over the back of the main valve; also pivoted, as at A, for adjustment about an axis which is at right angles to the line of travel of the main valve, in combination with the curved outer orifices of the ports *e e* in the latter, substantially as specified.

121,906.—Potato-Digger.—Malcolm Stewart, Southfield, Mich.

Claim.—1. The spurred rods or teeth H H, in combination with alternate curved rods or teeth G G projecting rearwardly from the scraper A of a potato-digger, substantially in the manner and for the purpose herein set forth.

2. The scraper A, curved bars E E, and braces F F, in combination with each other and with the handle-beams B B, when arranged and constructed substantially as and for the purpose herein set forth.

121,907.—Loom Shuttle-Box Mechanism.—Joseph M. Stone, North Andover, Mass., assignor to himself, George L. Davis, John A. Wiley, George G. Davis, Joseph H. Stone, and James H. Davis, same place.

Claim.—1. The combination of the two eccentrics upon one side of the loom with the corresponding eccentrics upon the opposite side by means of the two concentric shafts, substantially as described.

2. In combination with the eccentrics the shuttle-box levers, formed with forked or slotted ends that embrace the outer eccentrics, substantially as described.

121,908.—Ironing-Machine.—Gilbert F. Taylor, New York, N. Y.

Claim.—1. The end of the spring G arranged in the slot *n*, and provided with guide-rollers *l* engaging with the annular groove in the pressing-roller E, substantially as set forth.

2. The smooth pressing-rollers D E, heating plugs H H, slotted standard C, guide-rollers *l* and *e*, with the slide-box *g* upon the standard B, combined, arranged, and operating substantially as and for the purpose set forth.

3. The rollers *l d* operating in the groove of the rollers *d e*, as described, in combination with the slotted standard C, spring G, slide-box *g*, and standard B, all constructed and operating substantially as described.

121,909.—Ammonia-Engine.—Charles Tellier, Paris, France, assignor to Leopold Bouvier, New York city.

Claim.—1. The application of ammoniacal gas as a means of producing motive power by means of its liquefaction and subsequent absorption in water, substantially as described.

2. The combination of surfaces by means of the inner reservoir A, (Plate 1,) the outer reservoir D, the coil H, and pumps G, or any other similar arrangement for the purpose of securing a perfect and complete exchange between the caloric of condensation and the caloric of vaporization, and thus insure the constant working of the machine, substantially as above described.

3 The general features of the apparatus shown in Plate 2, including the single driving-wheel, the mode of direction, &c., forming a practical application of the ammonia motor as a locomotive for common roads, substantially as above described.

121,910.—Hoisting Apparatus.—Theodore Terrell, Yonkers, N. Y.

Claim.—1. The combination, with the car or traveling platform, of pawls or stops controlled by springs or weights, or both, when said stops are arranged in the base of said platform, substantially as specified.

2. The combination of the pawls D D and springs *c c* or weights *d d*, or both, with the rods *e e* and levers *f f*, with which the lifting-rope C connects, when said devices are arranged in relation with the base B and head B¹ of the car or traveling platform, essentially as described.

3. The combination, substantially as herein described, with the car or traveling platform of a hoisting apparatus, of a governor attached to and carried by said car or platform, and deriving motion through the descent thereof, and a tripping device forming a connection between the hoisting-rope and the stop mechanism applied to the car or platform, said governor operating, as herein set forth, on said tripping device to release the stop mechanism from the rope.

4. The combination of the governor F and its lever *r* with the link *g*, the lifting-rope hook *b*, the levers *f f*, the rods *e e*, and the pawls D D, substantially as specified.

121,911.—Fire-Place.—Rees P. Thomas, Sciotoville, Ohio.

Claim.—1. The fire-place, consisting of a cast-iron front, A, and a fire-clay back, B, molded in a single piece and attached to the front by rods *a a* and nuts *n*, substantially as and for the purposes set forth.

2. The back B, molded of fire-clay in a single piece, with holes to receive the rods *a a*, and with the side grooves *f f* and the dust-holes *e e*, substantially as and for the purposes herein set forth.

3. The damper C provided with the front recess *s* and adjusted by means of rods *c c*, substantially as and for the purposes set forth.

121,912.—Weather-Strip.—John Thomson, Aledo, Ill.

Claim.—In combination with the frame A′, sill B, door H, and rod I, the spring E, secured to the frame A′ and bent into the form shown, for the purpose of operating the strip D in the manner set forth.

121,913.—Disinfecting Compound.—Henry A. Tilden, New Lebanon, N. Y.

Claim.—The compound herein specified, prepared and employed substantially as and for the purposes set forth.

121,914.—Combined Water-Gauge and Cock.—Thomas Todd and William Todd, Schenectady, N. Y.

Claim.—The combination of the screw-barrels A B C with their gauge-cocks D K L, side valves E G, glass tube F, bottom valve H, and top set-screw I, all constructed and arranged to operate substantially as and for the purposes herein set forth.

121,915.—Drier.—James Turner, Chicago, Ill.

Claim.—1. The inlet air-pipe *a*, cap *f*, with its opening *i*, and one or more air-pipes, *h*, in combination with the cylinder C, all constructed and operating substantially as set forth.

2. The combination of the inlet air-pipe *a*, the air-pipes *h*, and outlet air-pipe *a′* with the cylinder C, substantially as and for the purposes specified.

121,916.—Tubular Frame of Wheelbarrow and Truck.—Beckwith W. Tuthill, New York, N. Y.

Claim.—The combination, with the side tubes A A, transverse tubes B or B′, and tie-rods C C, of the cast-metal thimbles or sockets D or D′, constructed to fit or clip the side tubes and to receive the ends of the transverse tubes within or over them, substantially as specified.

121,917.—Broiler.—Cornelius Walsh, Newark, N. J.

Claim.—1. The combination of the gridirons A and D within a reversible curb, which is so constructed as to adapt it either for the fire exposure or for a lid, substantially as described.

2. A reversible broiler, composed of a single annular casing, B, having an attached gridiron, A, and a detachable gridiron, D, provided with a brace, F, having a projection, *f′*, and heel *f″*, all constructed and arranged substantially as and for the purposes specified.

121,918.—Pump.—Zera Waters and Sylvester Bradley, Bloomington, Ill.

Claim.—The cylinder A, heads D D, double-valves E E, connecting-rods G G, guards F F, guide M, handles L L, and bar N, when combined and operating substantially as herein described.

121,919.—Preparing Rattan for Chair-Seats, &c.—Gardner A. Watkins, Gardner, Mass.

Claim.—1. The process of splicing strands of rattan by removing the enamel from the surface of the same and scarfing the ends thereof.

2. The process of splicing the ends of rattan strands together by immersing the scarfed ends thereof in cement, and afterward liquefying the cement deposited thereon, and subjecting them to pressure.

121,920.—Fare-Box.—James F. Winchell, Springfield, Ohio.

Claim.—Lighting the interior of a fare-box at night by light obtained from the head-lamp of the car, thrown by the reflector I through an opening, H, in the head-lamp box, into the chamber for the temporary detention of the fare for inspection, substantially in the manner and for the purpose set forth.

121,921.—Shampooing Apparatus.—Mark L. Winn, New York, N. Y.

Claim.—1. The rubber bottom B forming part of a bowl or basin for holding water or other fluid on and in contact with the head, substantially as herein described.

2. In combination with the helmet A, the flanged rubber bottom B provided with the strap *a′*, and adjusted for use by the straps *b″* and buttons *b′*, substantially as hereinbefore shown and described, and for the purpose set forth.

3. The band or hoop C constructed as described, in combination with the rubber bottom B and the helmet A, substantially as and for the purpose set forth.

4. The bar D and bracket E, in combination with the helmet A and also with the standard F, the latter consisting of the parts *f f′ f″*, *g g′ g″*, and H *h h′ h″*, all attached, operating, and supported substantially as hereinbefore shown and described, and for the purpose set forth.

5. In combination with the collar J, the safety-trough I, constructed and applied in the manner and for the purpose substantially as hereinbefore set forth.

6. The detachable sprinkler M, consisting of the rubber attachment N, in combination with an ordinary sprinkler constructed and attached to a pitcher, substantially as herein shown and described, for the purpose set forth.

7. The hair-drier O, so constructed and arranged that the human hair, when wet, may be dried on the surface thereof by the application of heat, substantially as hereinbefore set forth.

121,922.—Carriage-Door.—Alexander Wright, Wilmington, Del.

Claim.—1. The use of the iron frame E, substantially as and for the purpose hereinbefore mentioned.

2. The curtain strip F, substantially as and for the purpose hereinbefore mentioned.

3. The combination of the iron frame E and the curtain strip F, substantially as and for the purposes hereinbefore set forth.

121,923.—Advertising-Lantern.—Thomas L. Wright, New York, N. Y.

Claim.—The transparency or lantern, as a new article of manufacture, of polygonal form, and constructed of the wire frame, to fold, substantially as and for the purpose set forth.

121,924,, antedated November 27, 1871.—Knitting-Machine and Process of Knitting.—Nathaniel Clark, Malden, Mass.

Claim.—1. In combination with the parallel rows of needle-beds and needles, the jack made detachable, and fastened in position by the spring *l* or its equivalent to enable the jack to be slipped into or out of position, substantially as shown and described.

2. The jack made in two parts, jointed together and so as to open and close, substantially as described.

3. The process, substantially as described, of narrowing a tubular or flat web at three or more points along the web.

REISSUES.

4,664.—Cotton-Gin.—Daniel Pratt, Prattville, Ala.—Patent No. 17,806, dated July 14, 1857; extended seven years.

Claim.—1. The ledge *e* secured or placed within the hopper-box E, as shown, so as to close the central portion of the lower end of the hopper or box, and cause the cotton, when fed into the box as described, to be fed spirally to the saws from the con-

ter of the box toward each end for the purposes described.

2. The slide G, provided with the ledge *d* and swinging on pivots *e* placed in rear of the longitudinal vertical central plane of the saw-shaft B, substantially as shown and described.

3. The swinging hopper E, provided with the adjustable wedge-shaped rests *x x* in combination with the side G, provided with the shoulder *d* and pivoted, as shown substantially as described and specified.

4. The adjustable slotted wedge-shaped rests *x*, when arranged and used substantially as shown and described.

4,665. — CULTIVATOR. — Flavius J. Underwood, Rock Island, Ill., assignor to Basil D. Buford, same place. — Patent No. 85,412, dated December 29, 1868.

Claim.—1. In combination with the plow-beams E and round axles C, a coupling-joint, G, which, encircling the axle, turns around it as a center.

2. In combination with the elements last aforesaid, a joint upon which the plow-beams may swing horizontally as well as have a vertical oscillation.

3. The studs *i* upon the axle, in conformation with the plow-beams and grooved boxes *g* forming part of the joint coupling G.

4. A series of studs, *i*, arranged along the axle C, in combination with the plow-beams and adjustable grooved couplings.

5. The coupling G, including in its construction the parts *g*, *p*, *h*, and *f*.

6. In combination with the bent beams E and shanks F, the bolts *a*, boxes *b*, and plates *c* for adjustably connecting the shanks and beams.

7. In combination with the shanks F and a device substantially such as set forth for connecting them, the bent beams E, when made round at their lower ends so that the shovels may be adjusted to throw the earth to either side and be raised or lowered to regulate the depth of plowing.

8. In combination with the plow-beams E, a frame, B C, to which the said beams and the wheels are attached, and a frame, A, adjustably connected with one another so that the frame A can be raised or lowered without affecting the position of the plow-beams and plows, substantially as set forth.

9. The parts last aforesaid when adjustably connected horizontally in relation to one another, substantially in the manner set forth.

10. The axles C C and bar B, when respectively so constructed that the axles may be attached or detached, substantially as set forth.

11. The bar I and plow-handles in combination when so arranged as to limit the distance to which the handles may be separated, but leaving them free to be approached at the will of the operator.

4,666.—LUBRICATING BOLSTER FOR SPINNING-MACHINES. — Moses P. Wilmarth, North Providence, R. I., assignor to Alvin F. Jenks, Stephen A. Jenks, John R. Fales, and Francis J. Rabbeth. — Patent No. 39,190, dated July 7, 1863.

Claim.—1. A close-bottom oil-chamber, *c*, with a tapering inner wall formed in the head of a bolster, D, in combination with a spindle-bearing, substantially as described.

2. The combination of the above-described oil-chamber *c*, the fibrous absorbent E, and the spindle-bearing, substantially as specified.

3. The combination of the cap C, the absorbent E, the oil-chamber *c*, and spindle-bearing, substantially as described.

4,667.—ANIMAL POKE.—Harlow F. Chapin, Rochester, N. Y.—Patent No. 112,546, dated March 14, 1871.

Claim.—1. In combination with an animal poke, a connecting-strap, *d*, which is capable of engagement and disengagement, for the purpose specified.

2. The combination of the cushioning-pad *c* with a strap, *d*, and bars A A, for the purpose specified.

3. In combination with the pins *i i* and cross-girts *e g*, the spiral springs *s s*, arranged and operating substantially as and for the purpose set forth.

4,668.—EXPANSIVE BIT.—William A. Clark, Wellsville, Conn.—Patent No. 20,192, dated May 11, 1858; reissue No. 3,516, dated June 22, 1869; reissue No. 3,733, dated November 16, 1869.

Claim.—1. The arrangement of the stationary lip C and the adjustable lip B, substantially as described, whereby all the chips made by the instrument are delivered upon one and the same side of the shank, thereby allowing the back side of the shank of the bit to be left entire, as set forth.

2. The formation of a V-ledge, *a*, in the recessed shank, and a correspondingly-shaped recess in the adjustable cutter back of or above its cutting-edge, to fit the ledge in the shank, substantially as and for the purpose set forth.

3. The combination, with the recessed shank and adjustable cutter, in which a V-ledge and a correspondingly-shaped recess are respectively formed, as specified, of the follower and screw for driving home the cutter against the V-ledge, which forms its lower bearing and binds it to the shank, substantially as shown and described.

4,669.—TREADLE ATTACHMENT FOR SEWING-MACHINES. — Warren Glover, Millbury, Mass., assignor to Ai B. Shaw. — Patent No. 232, dated January 29, 1861.

Claim.—1. A clutch applied to driving-shafts of sewing and other machines, and connected with the treadle by the means shown or any equivalents thereof, for the purposes described.

2. Connecting a clutch with the treadle by the means shown or any equivalents thereof, for the purposes set forth.

4,670. — CAR-SPRING. — Albert Hebbard, Cambridge, Mass., assignor to himself and John P. Onderdonk, Philadelphia, Pa.—Patent No. 53,222, dated March 13, 1866; reissue No. 4,335, dated April 11, 1871.

Claim.—A nest-spring of concentric spirals, open or uninclosed at the sides.

4,671. — MACHINE FOR PREPARING SISAL GRASS AND LIKE SUBSTANCES. — George E. Hopkins and William B. Shedd, Boston, Mass.—Patent No. 110,237, dated December 20, 1870.

Claim.—1. In machinery for crushing, scraping, and cleaning the leaves and stalks of fibrous plants, the combination, with rolls for crushing and expressing liquid or semi-liquid matter from the plant, of scrapers for separating the pulp or pith from the fiber, and drag-rollers for drawing the plant through said scrapers, substantially as herein shown and described.

2. In machinery such as specified, the combination of the scrapers which separate the pulp or pith of the plant from the fiber with drag-rollers to draw the plant through said scrapers, substantially as herein shown and set forth.

3. The movable scraper N and stationary scraper M, constructed and operating in connection with each other, substantially as herein shown and described, to clean the fibers as the crushed leaves or stalks are drawn between them.

4. The combination of the crushing-rollers B, scrapers M N, rubber rollers H, and revolving brush K with each other and with the frame A, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the endless apron R with the revolving brush K, rubber rollers H, scrapers M N, and crushing-rollers B, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the rack or frame X, spring E', shaft Y, ratchet-wheel Z, and pawl D' with the band B' and endless apron R, substantially as herein shown and described, and for the purpose set forth.

4,672.—Division A.—HARVESTER.—Ketchum Harvesting-Machine Company, assignee, by mesne assignments, of William F. Ketchum, deceased.—Patent No. 8,724, dated February 10, 1852; reissue No. 259, dated February 28, 1854; reissue No. 466, dated June 2, 1857; extended seven years; reissue No. 3,033, dated July 14, 1868.

Claim.—1. A shoe, F K, for the support of the finger-bar, when constructed so as to act as a shield or cover for the protection of the cutting apparatus against clogging, and as a finger against which to cut, and when provided with a slot, *h*, to act as a guide-way and passage for the cutter-bar and blade, substantially as set forth.

2. The shoe F K projected forward and upward from the heel of the finger-bar, and connected with the frame, substantially as and for the purposes specified.

4,673.—Division B.—HARVESTER.—Ketchum Harvesting-Machine Company, assignee, by mesne assignments, of William F. Ketchum, deceased.—Patent No. 8,724, dated February 10, 1852; reissue No. 259, dated February 28, 1854; reissue No. 466, dated June 2, 1857; extended seven years; reissue No. 3,034, dated July 14, 1868.

Claim.—1. The finger-bar C, supported by means of one or more arms or braces extending from the heel of the finger-bar to the front and rear of the frame so as to leave a clear space for the operating mechanism, substantially as set forth.

2. In combination with the arms or braces extending from the heel of the finger-bar, as aforesaid, the brace H, extending from the outer end of the finger-bar upward and backward to the extended cross-bar G, for the purpose set forth.

4,674.—LOCK.—Lyman F. Munger, Rochester, N. Y.—Patent No. 23,040, dated February 22, 1859.

Claim.—The cam D formed with the bits *g h* arranged opposite to each other and out of the same plane, and operating in connection with the tumblers *e* and bolt B, whereby, when the key is inserted and the cam turned in either direction, the bit *g* will raise the tumblers before the bit *h* leaves the notch *f* of the bolt.

4,675.—HAND-STAMP.—Thomas J. W. Robertson, Washington, D. C.—Patent No. 18,249, dated September 22, 1857; extended seven years.

Claim.—1. In combination with a handle and a series of printing-wheels or their equivalents for printing dates, a fixed type-form or printing-die for dating purposes, substantially as described.

2. A hand-stamp having a permanent inscription-form or die provided with an aperture through which the type-wheels work, when so arranged that the said type-wheels may be turned for changing the dates without shifting the fixed form or die, substantially as specified.

3. A hand-stamp having a series of type-wheels provided with holes to receive a locking-pin E, substantially as specified.

4,676.—DITCHING AND GRADING MACHINE.—William J. Wanchope, Brookfield, Ill.—Patent No. 62,171, dated February 19, 1867.

Claim.—1. The carrying-belt G, mounted in a frame having its end next the plow, suspended from and made adjustable in relation to the main frame or rigid supports located at or near the end aforesaid, substantially as described.

2. The combination of the conveyer G with the fixed roller H, roller I, and the adjustable frame or platform L having its movements independent of the main frame, substantially as described.

3. The arrangement of the longitudinally-adjustable bars J within the endless apron G with the rollers I and lever *a*, substantially as and for the purpose specified.

4. The combination of a plow, S, having a side delivery, with a transverse carrying-belt, G, when said plow and the receiving end of the carrying-belt are arranged in line with or nearly in the vertical plane of the main frame or wheels at the side of the machine where the plow is attached, substantially as described.

5. The combination of the plow-beam M and roller or lug *n* with the vertical bars X' for keeping the plow in proper position when changed in height, substantially as set forth.

6. The combination of an independently-adjustable plow having a side delivery with an independently-adjustable transverse carrying belt, arranged to operate substantially as set forth.

DESIGNS.

5,408. — ARRANGEMENT OF GEOMETRICAL FORMS. — Charles Baillairge, Quebec, Canada.

Claim.—The design for a stereometrical tableau, as shown.

5,409. — CARPET-PATTERN.—James Wade, Palmer, Mass.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawings or photographs accompanying this specification.

5,410. — CARPET-PATTERN. — James Wade, Palmer, Mass.

Claim.—The configuration of the design hereunto annexed, when applied to carpeting in the form similar to the drawing or photograph accompanying this specification.

5,411.—THREE-BOTTLE CASTER.—George D. Dudley, Lowell, Mass., assignor to Edward P. Woods, Daniel Sherwood, and Cyrus H. Latham, same place.

Claim.—The design for a caster or stand, substantially as shown in the accompanying photographic illustrations.

5,412.—SHAWL.—Herrmann Erbs and John Barth, Philadelphia, Pa.

Claim.—The design for a shawl, substantially as illustrated and described.

5,413.—SHOW-CARD FOR HAIR-NETS—Thomas Hall, Jersey City, N. J.

Claim.—The design for a show-card for nets, as shown.

5,414.—HARNESS-BRACKET.—James L. Jackson, New York, N. Y.

Claim.—The design of the harness-bracket, substantially as shown and described.

5,415. — HOOK TO HANG HARNESS ON.—James L. Jackson, New York, N. Y.

Claim.—The design of the hook for harness, substantially as shown and described.

5,416.—HOOK FOR HANGING HARNESS ON.—James L. Jackson, New York, N. Y.

Claim.—The design of the hook for harness, substantially as shown and described.

5,417.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,418.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,419.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,420.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,421.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,422.—CARPET-PATTERN.—Archibald McCallum, Halifax, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

5,423.—RACK FOR ROBES.—Michael Nuhn, New York, N. Y., assignor to James L. Jackson & Brother, same place.

Claim.—The design of the castings for the robe-bracket, as described and represented.

TRADE-MARKS.

573.—CAST-STEEL AND CASTINGS.—William Butcher & Co., Lewistown, Pa.

574.—MEDICINE.—Edward Chiles, Philadelphia, Pa.

575.—ALCOHOL.—Chester H. Graves, Boston, Mass.

576.—CLOCKS.—E. Ingraham & Co., Bristol, Conn.

577.—CLOCKS.—E. Ingraham & Co., Bristol, Conn.

578.—CLOCKS.—E. Ingraham & Co., Bristol, Conn.

579.—CLOCKS.—E. Ingraham & Co., Bristol, Conn.

580.—BITTERS.—William H. Knoepfel, New York, N. Y.

581.—CIGARS.—Pincus Pohalski & Co., New York, N. Y.

582.—RUBBER-PAINT.—Rubber-Paint Company, Cleveland, Ohio.

583.—BOOTS AND SHOES.—The Ventilating Water-Proof Shoe Company, Boston, Mass.

584.—BOOTS AND SHOES.—The Ventilating Water-Proof Shoe Company, Boston, Mass.

585.—CEMENT.—Wendt & Rammelsberg, New York, N. Y.

EXTENSIONS.

GEORGE W. PENNISTON, of North Vernon, Ind.—Letters Patent No. 18,766, dated December 1, 1857.

"Improvement in Cotton and Hay Presses."

Claim.—Connecting each of the ropes, which operate the toggle to work the press and draw back the plunger, to separate and independent capstan barrels, arranged to turn freely on the same shaft, provided with a device to lock either of them to said shaft, when desired, substantially as described, so as to save three-fourths of the time heretofore required to retract the press, and the time and labor of reversing the horse twice for each bale pressed.

ISAAC HAYDEN, of Lawrence, Mass.—Letters Patent No. 18,742, dated December 1, 1857.

"Improvement in Long Trunks for Cleaning Cotton."

Claim.—Covering the partitions of an elongated trunk or box, for cleaning cotton and other fibrous substances, with woven wire having the scores formed by the weft crossing the warp of said wire screen, filled with metal or cement, the whole combined in the manner and for the purposes set forth in the foregoing specification.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 831, dated September 27, 1859; reissue No. 1,007, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—1. Hinging the right end of the coupling-arm R to the lugs R' R', in combination with curving up the coupling-arm as it extends toward the machine, substantially as shown and set forth.

2. The combination of the shoe or brace bar, which supports the heel of the finger-beam, with the hinge by which it is drawn, arranged above the plane of the cutter and in advance of the heel of the finger-beam, substantially as set forth.

3. Connecting the coupling-arm to the shoe by a hinge, whose axis of motion is on a line with that of the draft-hinge of the finger-beam, in combination with so arranging said hinges, as respects the main-frame, as that the strain due to the draft or drawing of the finger-beam forward will be borne by one end of the main frame and on one side of the axes of the driving and bearing wheels, while the lateral strain through the coupling-arm will be borne by the other end of the main-frame and on the other side of the axes of the driving and bearing wheels.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 831, dated September 27, 1859; reissue No. 1,008, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—1. Extending and hinging the coupling-arm R to the shoe which supports the heel of the finger-beam, outside of the frame, in combination with the draft-hinge of the shoe; also outside of the main frame, whereby the finger-beam and cutting apparatus can be first raised up bodily until the coupling-arm strikes against the under side of the frame, and then the outer end thereof turned up toward the frame, substantially as setforth.

2. Mounting the two driving-gear wheels and main-gear wheel on separate axles, in combination with a ratchet-wheel for each driving-gear wheel, each ratchet-wheel being fitted with a pawl that can be made to stand in gear by the forward motion of the machine, and out of gear by the backward motion of the machine, the whole arranged and operating substantially as set forth.

3. The combination of a ratchet-wheel, a pawl, a spring acting on the pawl, and a case with one or both ends of the shaft of the main-gear wheel, whereby the case is made to perform four duties—namely, a support to the pawl, a support to the spring, a cover to protect the pawl, spring, and ratchet, and the connection by which motion is communicated to the shaft of the main-gear wheel, substantially as set forth.

4. The combination of a shield E'', with each of the cases G G, and ratchet-wheels H, substantially as set forth.

5. The combination of balance-wheel L, with shaft K and gear-wheels I J, whereby the balance-wheel is made to perform not only the function of a balance-wheel to regulate the motion of a crank-shaft, but also that of a guide or guard, and shield to keep the gear-wheels I J in their proper and relative positions, substantially as set forth.

6. The combination of a balance-wheel with each end of the crank-shaft and its hangers or bearings, substantially as set forth.

7. Making the pitman in two parts, N N', in combination with uniting said parts, substantially as set forth.

8. The combination of a hinged cutting-apparatus, with a pitman or connecting-rod, swiveled at both ends, substantially as set forth.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 831, dated September 27, 1859; reissue No. 1,009, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—1. The combination of the hangers which support the crank-shaft and coupling-arm, with the central pieces A' A', whereby the hangers are made to perform the additional function of braces to the main-frame, substantially as set forth.

2. So constructing and combining a hinged finger-beam with a main frame, as that no part of the finger-beam will project by the rear of the main-frame; nor any part of the main frame by the rear of the finger-beam, whereby an attendant can freely approach the finger-beam from the rear and raise up the outer end thereof to avoid an obstruction, while the heel of the finger-beam is free to rest on the ground and to conform to the inequalities thereof, independently of the up-and-down motions of the main frame, substantially as set forth.

3. The combination of the coupling-arm and finger-beam, with the slotted metallic part S, whereby the finger-beam and cutting apparatus, when turned up toward the main frame to avoid and pass obstructions, will be prevented from falling over against the main frame, substantially as set forth.

4. The combination of the finger-beam, with the coupling-arm and a stop, whereby a portion of the weight of the finger-beam, as it is raised up bodily, after the outer end has been turned up to pass an obstruction, will rest on the left hinges of the coupling-arm, substantially as and for the purposes set forth.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 832, dated September 27, 1859; reissue No. 1,010, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—1. The combination, with the main frame of a mowing-machine, of two independent driving-wheels, and a hinged cutting apparatus, whereby the cutters are kept in operation, when the machine is turned either to the right or left, while the cutting apparatus, or either side thereof, is free to conform to the inequalities of the ground, independently of the up-and-down motions of the main frame, substantially as set forth.

2. Hinging one end of the coupling-arm R to lugs on the shoe, which supports the heel of the finger-beam and cutter-bar, in combination with hinging the other end on a line with the longitudinal center of the crank-shaft, which operates the pitman and cutters, substantially as set forth.

3. The combination of the heel of the finger-beam P, and one end of the coupling-arm R, with a strong metallic draft-shoe, substantially as set forth.

4. So hinging the shoe, which supports the heel of the finger-beam to the main frame, as that it will permit the heel of the finger-beam, to which it is rigidly attached, to move freely in the arc of a circle, as it rises and falls, so as not to cramp or bind the joints of the coupling-arm R, or its equivalent, substantially as set forth.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 832, dated September 27, 1859; reissue No. 1,011, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—The combination, in a mowing-machine, of the following elements—namely, a rigid tongue to draw and steady the machine by; a frame to support and carry the driver and gearing; two independent driving and bearing or supporting wheels to carry the frame and give motion to the cutters, and a short finger-beam, so hinged to the main frame that its progressive movement over the ground will be controlled by the main frame, and the upward and downward movements of the entire finger-beam, or of either end thereof, independently of the other, by the undulations of the ground over which it is drawn.

EPHRAIM BALL, of Canton, Ohio.—Letters Patent No. 18,788, dated December 1, 1857; reissue No. 832, dated September 27, 1859; reissue No. 1,012, dated July 17, 1860.

"Improvement in Mowing-Machines."

Claim.—1. The combination of the finger-beam and the main frame, with a single yielding brace-bar or shoe, whereby the progressive movement of the finger-beam over the ground will be controlled by the main frame, and the free upward and downward movements of the entire finger-beam, or of either independently of the other, and of the up-and-down movements of the main frame, by the undulations of the ground over which it is drawn, substantially as set forth.

2. The combination of a yielding brace-bar or shoe, Q, and a yielding coupling-arm, R, with the main frame, substantially as set forth.

3. The combination of the short finger-beam with the yielding connection with the main frame, substantially as set forth.

HUGH W. COLLENDER, of New York, N. Y. Letters Patent No. 18,805, dated December 8, 1857; reissue No. 799, dated August 23, 1859; reissue No. 2,510, dated March 19, 1867.

"Improvement in Billiard-Table Cushions."

Claim.—Billiard-table cushions composed of vulcanized India rubber or allied gum with a layer rendered less compressible than the body or back by the incorporation of fibrous or equivalent substances, the said layer and back or body having been united in the green or plastic state and together vulcanized, as and for the purpose specified.

ISSUE OF DECEMBER 19.

PATENTS.

121,925.—Apparatus for Curing Meat.—William Gibson Bell, Boston, Mass.

Claim.—1. In combination with a metallic smoke-house, *b*, the dead-air chambers *c c c*, and non-conducting material *d d*, and frame-work *a a a*, for the purpose set forth and described.

2. The construction and arrangement of the smoke-pipe *m*, surrounded by the heater *p*, in combination with a smoke-house, for the purpose of heating and drying the damp air descending from a smoke-house, as fully set forth and described.

3. The improved hook A for hanging articles of food to be dried or smoked, constructed in a manner as herein fully set forth and described.

121,926.—Fruit-Box. — Charles A. Blair, New Britain, Conn.

Claim.—A fruit or berry box in which the bottom consists of one wide solid splint, A, and narrow transverse splints B B' B, substantially as shown and described.

121,927.—Boot and Shoe.—Mellen Bray, Newton Centre, Mass.

Claim.—1. A boot or shoe having a detachable heel, the outer sole of which is cut short at the rear end, as set forth, and having a heel-plate for securing the heel, formed substantially in the manner shown and set forth, whereby the larger portion thereof rests upon the upper and inner sole and is secured thereto, while the forward part incloses the rear end of the outer sole and is firmly secured to said sole, substantially as described.

2. The heel-plate D, formed, as set forth, with the recess *c* to receive the rear end of the outer sole A, substantially as described.

121,928.—Baggage-Truck.—William Hammond Brown, Bangor, Me.

Claim.—The platform-supporter or two-wheel truck composed of the connection-levers or shafts A A, the wheels C C, hooks *c c*, and pendulous lifter D, arranged in manner and to operate substantially as described, with a platform provided with hooks to project from it, in manner as shown.

121,929.—Pipe-Coupling.—Christian Burger, Reading, Pa.

Claim.—The clamps D, in combination with the screw H and connection E, when combined as shown, and for the purpose set forth.

121,930.—Liquid Soap. — Dominick Cardullo, Titusville, Pa.

Claim.—A liquid soap compounded of the within-named ingredients, substantially in the proportions and for the purposes set forth.

121,931, antedated December 2, 1871.—Addressing-Machine.—William H. Clague and Robert B. Randall, Rochester, N. Y., assignors to themselves and Ezra R. Andrews, same place.

Claim.—In combination with the feed-ratchet *d*, arm *f*, and feed-lever *h*, the knife B, provided with the lifter *n*, constructed and arranged to operate substantially as and for the purposes set forth.

121,932.—Horse-Power. — William Deering, Louisville, Ky.

Claim.—The stationary center or spindle of the master-wheel C when it is projected through the master-wheel for the support of one or more counter-shafts, and when there is added to it the character of a column for the support of a house or frame-work, substantially as and for the purposes hereinbefore set forth.

121,933.—Steam-Boiler Furnace.—George H. Diehl, Chicago, Ill., assignor to himself and Thomas H. Ricketts, same place.

Claim.—1. The steam-pipes U placed inside of the air-pipes L K, and provided with tubes R, in combination with the short pipes T for combining superheated steam and hot air as they enter the fire-box, as set forth.

2. The hot-air chambers D E for concentrating heat at two points back of the fire-box, when combined with steam-pipes P and escape-tubes R, substantially as described.

121,934.—Head-Block.—Thomas Douglass, Warren, Ohio.

Claim.—1. The lever G, dog or head J, as arranged, in combination with the adjustable triangular frame E having notches I therein, and sleeve H, in the manner substantially as described, and for the purpose set forth.

2. The movable standard F, pivoted to the base A, and arranged in relation to and in combination with the frame E and lever G, in the manner substantially as and for the purpose specified.

121,935.—Steam-Engine.—Edward Evans, North Tonawanda, N. Y.

Claim.—The combination, with a tight cylinder, two oppositely-moving pistons, central port L, end ports K K', of the valve M, and partition *i*, substantially as shown and described.

121,936, antedated December 3, 1871.—Toy Monument.—George W. Fisher, Rochester, N. Y.

Claim.—1. A toy monument, consisting of several courses of blocks divided vertically, and suitably connected together within the periphery or outline of the made-up sections, for the purpose set forth.

2. A toy monument having its several sections sustained in a vertical position by means of a base, *d*, and rod *b*, with or without the pediment *e f*, substantially as and for the purposes set forth.

121,937.—Meter.—Valentine Fogerty, Boston Highlands, Mass.

Claim.—1. In combination with the main cylinder and its two induction and eduction ports at its opposite ends, the auxiliary and parallel induction and eduction cylinders, each having a reciprocating piston in line with the inlet or outlet of the cylinder, and each piston being arranged to operate at each movement as a valve to close entrance into one chamber of the induction or eduction cylinder, and open entrance to the other chamber thereof, substantially as described.

2. In combination with the auxiliary induction and eduction cylinders, the valve-seat tubes *u*, substantially as described.

3. In combination with the induction and eduction cylinders, valve-seat tubes *u*, made adjustable, substantially as described.

4. In combination with the induction and eduction cylinders and main cylinder *a* and the ports *p q* thereof, the cap-ports *w*, each communicating with the adjacent eduction-cylinder, substantially as described.

5. The combination of the pistons *h i*, stems or rods *r*, and levers or rocker-beams *s t*, arranged and operating substantially as shown and described.

6. The register-pin f^3, extending through the main-cylinder-head when packed, substantially as shown and described.

121,938.—Sign for Street-Lamps.—John T. Foley, New York, N. Y.

Claim. — The portable directory-frame A, the transparent slides B B, the grooves *a a*, the clamps C C, projections *c c*, and metal strips E E, all arranged and combined substantially as and for the purpose hereinbefore set forth.

121,939.—Grain-Thrasher and Separator.—Charles S. Hall, Rochester, N. Y.

Claim.—1. The endless raddle A, composed of slats *b*, constructed and arranged substantially as described, in combination with a suitable agitator, *a*, whereby the grain is permitted to pass between the slats above and below said raddle when thrown out of line by the agitator, for the purpose set forth.

2. In combination with the thrashing-cylinder B, the grating C having a smooth upper surface, and provided with openings running parallel with the line of rotation of the cylinder, for the purposes set forth.

3. The grating C, constructed substantially as shown and described, and made adjustable vertically by means of regulating-screws *p* or their equivalents, substantially as and for the purposes set forth.

121,940.—Needle-Sharpener. — Thomas Harris, Cote St. Paul, Canada.

Claim.—A turning mandrel, A, provided with the slot *a*, cap *b*, pad 3, and needle-hole 2, substantially as and for the purpose described and represented.

121,941, antedated December 1, 1871.—Reclining and Folding Chair.—E. Warren Hastings, Boston, Mass.

Claim.—1. The construction and arrangement of the rocking-lever *t*, in combination with the connecting-rods *s* and *u* connected to the back and foot board, for the purpose set forth.

2. The construction and arrangement of the brace *w* or its equivalent, in combination with the rocking-lever *t*, connecting-rod *u*, and foot-board *i*, for the purpose as herein set forth and described.

3. The construction and arrangement of the hinge-pin plates *m m* attached to the back *k*, and provided with the pivot *l*, shoulder *q*, circular slot-hole *n*, in combination with the set-screw *o*, for the purpose of confining the back in any desired position.

4. The construction and arrangement of the shoulders *q q* attached to the hinge-pin plates *m m*, for the purpose of raising or lowering the seat *h* automatically, as herein fully shown and described.

121,942.—Air-Register. — Henry F. Hayden, Washington, D. C.

Claim.—A register for hot or cold air, consisting of the ring or base A, the disk or second plate B with its shank or shaft D, and the top or cover C, all constructed and arranged to operate substantially as described.

121,943.—Coffin. — Michael M. Hersman, Delavan, Ill.

Claim.—An interior soft-metal coffin, A, with shoulder or recess *a* for the reception of the lid B, and a soft fusible metal flange, *c*, for turning down over said edge.

121,944.—Hemmer for Sewing-Machines. William Johnson, Haverhill, Mass.

Claim. — The hemmer herein described, made from a single piece of metal, shaped and folded as set forth.

121,945.—Rocking-Horse.—Ernst Kirsch, South Amesbury, Mass.

Claim.—A rocking-horse made of the bent stock, constructed, connected, and relatively arranged, substantially as described.

121,946. — Colored Paper. — George La Monte, George G. Saxe, and Charles H. Clayton, New York, N. Y.

Claim.—A colored paper superficially dyed in the sheet in or immediately after the process of sizing, during the course of manufacture, and with colors which are fugitive under the action of the acids and alkalies employed for the fraudulent removal of writing, for the purpose of affording a double means of disclosing the alteration of written documents, whether effected by erasure or by the use of chemicals, as specified.

121,947.—Rotary Engine.—Rufus Leach, Bangor, Me., assignor to himself and Michael Schwartz, same place.

Claim.—1. The combination and arrangement of the cams J K and cam O with the collar B, piston D, cylinder C, and pivoted lever E, all constructed and operating substantially as herein set forth.

2. The combination and arrangement of the cams J K, arms E E, pivoted, as described, to the standards F F, rods G G, and abutments H I, operating as herein set forth.

3. The combination of the valve N, rods *d d*, levers *e f* on shaft *e'*, rod *g*, and cam O or O', when arranged and operating as herein specified.

4. The combination of the valve *j*, passages *k* and *m*, and ports *p* and *q* in the abutments H I, when constructed and arranged as shown, and for the purpose set forth.

5. The combination of the piston D, abutments H I having ports *p q* therein, exhaust L, and escape-pipe *i*, when arranged as set forth.

121,948.—Removing Tin from Tin-Scrap. Charles Lennig, Philadelphia, Pa.

Claim.—1. The recovery of tin from tinned metallic surfaces, in the shape of stannate of soda or potash, or as a metallic tin, by the use of caustic alkalies and air alone, oxidizing the tin by the absorption of oxygen from air direct when moistened with alkaline solutions, by the process substantially as herein described.

2. The process of making stannate of soda or potash from tin adhering to tinned metallic surfaces as well as from tin direct, by the use of caustic alkalies, by oxidizing the tin directly with the oxygen of the air, substantially as herein described.

3. The recovery of tin in metallic form from tinned metallic surfaces, by the process substantially as herein described.

121,949.—Lawn-Sprinkler.—Joseph Lessler, Buffalo, N. Y.

Claim.—The combination of the stand and nozzle-holder A D with the nozzle B and flexible hose H, forming a portable water-fountain and sprinkler, substantially as hereinbefore set forth.

121,950.—Saw.—Caleb V. Littlepage, Austin, Tex.

Claim.—A planer and saw-tooth combined in one piece, substantially as shown and described.

121,951. — Method of Forming Saw-Teeth. — Caleb V. Littlepage, Austin, Tex.

Claim. — Saw-teeth produced according to the rule herein laid down.

121,952.—Piano-Forte Action.—Lorenzo Matt, Boston, Mass.

Claim.—The combination of the auxiliary jack or fly *o*, its operative spring *d'*, and mechanism for effecting back movement of the said jack, with the oblique bar or lever I, the two keys A B, and the separate jack-levers C C, combined or arranged with jacks and hammers, as set forth, the said mechanism for effecting back movement of the auxiliary jack consisting of the bar K, the links *e' e'*, and the tri-armed lever L, its spring *h'*, and lever M to be actuated by a pedal or other proper device, all being substantially as explained.

121,953. — Clothes-Rack.—Daniel Miller, Marietta, Ohio, assignor to himself and Jacob Miller, same place.

Claim. — The rack described, consisting of the parts A *a a b'*, in combination with the arms C having the pins *c* c^1 c^2, as and for the purpose set forth.

121,954.—Whip-Stock.—William H. Millikin, Baltimore, Md.

Claim.—The revolving sleeve or collar D, carrying a loop, G, and turning upon a ferrule, B, in

combination with an end screw or cap, F, substantially as and for the purpose herein set forth.

121,955, antedated November 29, 1871.—Crockery and Lamp-Chimney Mop.—Charles S. Moore and Harland P. Boyd, Worcester, assignors to Washington Whitney, Winchendon, Mass.

Claim.—The sliding-sleeve *d*, fixed stem or wire *b*, and disks or holding portion B D, arranged, as represented, relatively to each other, and to the spring C and handle A, and adapted to allow the spring C to be compressed by the force of the whole hand applied on the sleeve *d*, as herein set forth.

121,956. — Mode of Securing Railway Rails to Iron Ties. — Jason Newton, Marengo, Mich., assignor of two-thirds of his right to Henry Moore, and Charles B. Moore.

Claim.—The serrated key E and serrated clamp D, operating in suitable grooves in the iron tie or chair B to secure the inner side of the rail A, in combination with the tapering fish-bar C and end flange *b* of the tie B, supporting and securing the rail's outer side, substantially in the manner and for the purpose set forth.

121,957. — Potato-Planter. — Albert E. Payne, Jonesville, Mich.

Claim. — The endless-belt potato-dropper, as described, in combination with furrow-opener H and coverer K, pivoted to the frame and connected by bar L, operated by the levers M and N, substantially as and for the purpose set forth.

121,958. — Hay-Tedder.—John G. Perry, Kingston, R. I.

Claim. — 1. The combination of the revolving crank-shaft *g* and its supports B with the jointed pieces *f f*, stocks *a a*, axle A, and open wheels S S, as and for the purpose set forth.

2. The arrangement of the revolving crank-shaft *g*, the stocks *a a*, the pieces *f f*, (pivoted one end to the axle and the other end to the stocks *a a* above the crank-shaft gears *m t*,) and open wheels S S, as herein described, and for the purpose set forth.

121,959, antedated December 9, 1871.—Whip-Socket.—George M. Peters, Columbus, Ohio.

Claim. — 1. As a new article of manufacture, a glass whip-socket to be attached to carriages, it being constructed substantially as herein described.

2. The clamp B, when constructed substantially as and for the purpose set forth.

121,960.—Water Cut-Off.—Philip B. Peters, Marietta, Ohio.

Claim. — The combination of the movable diaphragm D, constructed specifically as described, with the plate *d*, shaft d^1, and sides d^2 with the fixed partitions *b* and internal case b^1, the sides of the diaphragm being adapted to move behind the sides of the case, and the catch E F, as described.

121,961.—Device for Supporting Pipe-Cores.—Charles J. C. Petersen, Port Chester, N. Y.

Claim.—The compress F, having inclined bearings *e* and *e'*, bars E, and set-screw *d*, in combination with the handles of a flask, as and for the purpose described.

121,962. — Automatic Steam-Trap.—William Edgar Prall, Washington, D. C.

Claim.—1. The friction-bar and clutch A, when operating so as to prevent the too easy movement of the diaphragm, in the manner and for the purpose set forth.

2. The arrangement of the pipes *l l* connecting the cylinders *a a*, and provided with valves *m* and stop-cocks *n* to regulate the flow of water, as shown and described.

121,963.—Manufacture of Belt-Knives. Benjamin F. Radford, Hyde Park, Mass.

Claim.—The described method of trimming the edges of endless or belt knives or bands.

121,964.—Manufacture of Cutters for Barbed Nails.—Edward Riley, Cleveland, Ohio.

Claim.—The herein-described method of forming the serrations in the cutters for cutting barbed nails by cutting said serrations in the edge of the cutters, substantially in the manner set forth.

121,965. — Sewing-Machine. — Jerome B. Secor, Chicago, Ill.

Claim.—1. The cam-wheel A, shaft D, and inclosing-case E, arranged above the sole-plate of the machine, the shaft D carrying the cams *e* and *e'*, and combined with and operating the feed-bar f^1 and connecting-rod f^2, all substantially as and for the purposes set forth.

2. The needle-actuating arm S^2, its roller F, composed of the shell S and sleeve S^1, in combination with the cam-wheel A and slotted covering case E, all constructed and arranged substantially as and for the purposes described.

3. The shaft D, the cams *e* and *e'*, the feed-bar f^2, the slotted link *l*, and the connecting rod l^1 and screw l^2, when all are constructed and arranged in a sewing-machine, as and for the purposes specified.

121,966.—Check-Lever for Sewing-Machines.—Jerome B. Secor, Chicago, Ill.

Claim.—The slotted, headed, and shouldered pin C, screw S^2, and spring S^3, when arranged within a recess or chamber in a goose-neck of a sewing-machine, and combined with the check-lever B, all constructed as described, and operating as and for the purposes specified.

121,967. — Needle-Holding Device for Sewing-Machines. — Jerome B. Secor, Chicago, Ill.

Claim.—The combination of the needle-bar N, the ring or band N^1, the set-screw N^2, and presser N^3, when constructed and operated as and for the purposes described.

121,968, antedated December 2, 1871.—Governor.—Henry F. Shaw, West Roxbury, Mass.

Claim.—The automatic expanding-pulley G G G G H, in combination with the belt T, operating substantially as described, and for the purpose set forth.

121,969. — Mode of Cutting Boot and Shoe Soles.—Samuel J. Shaw, Marlborough, Mass.

Claim.—1. As a new article of manufacture, a boot or shoe sole formed by uniting, by a lap-joint in the shank, two pieces of leather of different qualities, substantially in the manner and for the purpose set forth.

2. The patterns A B, of different qualities of leather, to be divided and formed into soles, substantially in the manner and for the purpose set forth.

121,970. — Paper-Pulp Engine.—Charles Smith, South Windham, Conn., assignor to Smith, Winchester & Co., same place.

Claim.—The male grinder, as constructed with each of its blades or knives beveled or rounded at each or either of its ends, such being substantially as and for the purpose as specified.

121,971. — Protective Electric Telegraph.—Joseph W. Stover, Boston, and Moses G. Crane, Newton, Mass.

Claim.—1. The combination of a local circuit, a clock mechanism, and a main circuit, the clock mechanism being the means of communication between the local circuit and the main circuit and having a rotary main-circuit breaking-and-closing wheel, which at each break of the local circuit is caused to intermittently break and close the main circuit, and by such breaking and closing to effect an alarm at the central office, substantially as described.

2. A signal-box containing a local-circuit magnet, an armature effecting connection and disconnection between such magnet and the gear or clock-train, (the armature being normally closed against the magnet,) a gear-train actuated by a spring or weight and set in motion by release of the armature, and a rotating main-circuit breaking-and-closing wheel actuated by the gear-train.

3. In combination with the local circuit, normally closed, the main circuit and the gear-train and main-circuit breaking-and-closing wheel, the cut-out switch or switches, substantially as shown and described.

4. In combination with the local and main circuits and connecting mechanism, arranged substantially as described, the test-circuit and the gong struck by the hammer projecting from the test-magnet armature-lever, substantially as shown and described.

5. In combination with the local circuit, normally closed, and the main circuit and gear-train, and the rotary main-circuit breaking-and-closing wheel, the stop on the armature-lever and the stops on the gear-wheel *y*, so arranged that by the breaking of the local circuit the gear-wheel is liberated and rotates, but at the end of one rotation is arrested, substantially as shown and described.

6. The general construction and arrangement of the system, substantially as shown and described.

121,972, antedated December 12, 1871.—Flower-Stand for Windows.—Francis W. Test, Chicago, Ill.

Claim.—The construction and arrangement of the bars D, D', and F, slide-bars E, stops *b*, pins *a*, brackets G, and shelves H, substantially as and for the purpose set forth.

121,973, antedated December 1, 1871.—Boiler for Domestic Purposes.—Franklin Till, Reading, Pa.

Claim. — 1. The combination, with a stove or range, of a tubular boiler provided with supply and discharge water-pipes, and arranged within a flue so as to be heated by the waste products of combustion from the stove or range, substantially as set forth.

2. The combination of the subject-matter of the preceding claim and a heating-pipe, L, extending from the boiler into the stove-pipe.

3. The said boiler, in combination with a stove or range, as described, and arranged within a chamber or flue provided with registers *f* and *f'*, as set forth.

121,974.—Hand-Protector.—John Turnbull, Simsbury, Conn.

Claim.—1. The hand-protecting device for holding and manipulating a cord, substantially as herein described.

2. The combination of a hollow handle with a griping device for holding or releasing a cord by the pressure of the hand, substantially as herein set forth.

3. The combination of a hollow handle with a griping device and a knife, substantially in the manner herein described.

121,975, antedated December 9, 1871.—Ice-Machine Using Ammonia.—Alexander C. Twining, New Haven, Conn.

Claim.—1. The combination of the transfer-pump or any equivalent apparatus with the absorber and the refrigerator of an ammonia ice-machine, or the description of machine referred to herein, to cut off pressure or tension of gas in the absorber from the refrigerator and transfer the ammoniacal gas, with such tension, from the refrigerator to the absorber, in manner and use substantially as described.

2. In the same or like machine, the combination of an induction-pipe common to different refrigerators with the transfer-pump or any equivalent thereof, and an absorber or absorbers, substantially as and for the purpose described; and in like manner and form, the combination of an eduction-pipe common to different absorbers with the transfer-pump and with a refrigerator or refrigerators.

3. The combination of the essential parts, or of any substantially the same, in the above-described apparatus or process for transferring ammonia from the poor-liquor channel or conduit to the liquefier; also, the conservator, whether used as part of said combination or employed by itself, to conserve the power or regulate the current of the poor liquid, as described.

4. The use, in combination, of the essential parts, or any competent number of them, or of any substantially the same, in the above-described apparatus or process for supplying ammoniacal gas to the machines; and, also, in the above-described apparatus for procuring or producing pure or concentrated aqua-ammonia from impure or weak liquor.

121,976.—Treadle for Sewing-Machines. John B. Winslow, Charlestown, Mass.

Claim.—The arrangement of one or more treadle-levers, *i*, made in one piece, with the cog-segment *i* rocking around the fulcrum *u* and operating the pinion *g* and jointed pawl *r* either on the inside or outside of a smooth drum, *e*, as and for the purpose set forth.

121,977.—Incubator.—Erastus Woodward and Nathaniel J. Millett, Charlestown, Mass.

Claim. — 1. The combination of the flexible diaphragm, 1, with a gas or oil-lamp, to be acted upon by the expansion or contraction of air or gases, as and for the purpose set forth.

2. The arrangement of a chimney, *k*, connected to one or more horizontal flues, *l l*, passing through the water-tank *m*, for the purpose of increasing the heating surface of the apparatus, as herein set forth and described.

3. In combination with a flexible diaphragm, 1, the air-chambers *v v*, connecting-pipes *w w*, and the conducting-pipe *x*, for the purpose set forth.

121,978.—Faucet.—James H. Alexander, Geneva, N. Y.

Claim.—1. The combination of the parts *a d f g h*, as constructed and arranged, operated by a removable tubular key, substantially as described, for the purpose specified.

2. The tubular key A, in combination with the coupling screw-collar B and tap *d*, substantially as described, for the purpose specified.

121,979, antedated December 5, 1871.—Steam-Boiler. — John Henry Ansell, Pontiac, Mich.

Claim.—The combination of the boiler, formed of the feed-tube C, tubular ribs D D, and dome E, and the feed-pipe G running the entire length under the boiler and acting as a heater, substantially as and for the purposes herein set forth.

121,980. — Door-Securer.—Daniel Arndt, Cleveland, Ohio.

Claim. — The within-described door-fastening, composed of the shank A, with chisel-point B, jaws C C', with notch *a*, groove *b*, rib *d*, and tooth *e*, all substantially as and for the purposes herein set forth.

121,981.—DUMPING-CAR.—Charles Barrett, Boston, Mass.

Claim.—The intermediate frame or base B, constructed as herein shown and described, in combination with the dumping-box or bed C, provided or not with ears *g*, and hinged to said frame in the manner and position specified, and the truck or car A, under the arrangement shown and set forth.

121,982. — RUBBER ERASER. — William N. Bartholomew, Newton Centre, Mass., assignor to Joseph Reckendorfer, New York city, N. Y.

Claim.—A rubber eraser, composed of a stick or pencil of vulcanized rubber erasive compound, of distinctively pencil-like form, and a surrounding sheath of paper, leather, or equivalent material, the two being united by glue or other cement, which, like glue, will harden on drying, substantially as herein shown and set forth.

121,983.—MANUFACTURE OF BARN-FORKS.—Calvin T. Beebe, Jackson, Mich., assignor of one-half his right to Elihu Cooley, same place.

Claim.—1. The method of constructing the fork, as herein described.

2. The fork constructed as described.

121,984.—MEDICAL COMPOUND OR FEVER-AND-AGUE CURE. — Louis Bodenheimer, Paducah, Ky.

Claim.—The compound for chill-and-fever cure, consisting of cream of tartar, tartaric acid, and milk, combined in the proportions and manner substantially as specified.

121,985. — STAMP-GUIDE.—Henry Bolthoff, Central City, Col. Ter.

Claim.—1. The combination of the stamp-guide B, filled with elastic packing F, with the threaded follower E, when constructed and arranged as and for the purpose set forth.

2. The combination, with the stamp-shaft A, of the guide B, having projection H and corresponding cavity I on the opposite sides of wings C C, as shown, and for the purpose specified.

121,986. — REVENUE-STAMP CANCELER.—Franklin W. Brooks, New York, N. Y., assignor to National Manufacturing Company, same place.

Claim.—The toothed plate or arm F *f*, applied and operating as herein described, in connection with the plate or frame B, flap C, and lock D E.

121,987.—SEAL-LOCK.—Franklin W. Brooks and George A. Everett, New York, N. Y., assignors to The American Seal Lock Company, same place.

Claim.—The seal-lock herein described, consisting of the frame or shackle A and the sliding bar B, the latter carrying the seal S, of glass or analogous material, and secured by an interlocking spring-catch, D *d*, engaging with a lip, *b*, on the bar, substantially as described.

121,988. — BALE-TIE. — Floyd G. Brown, Brenham, Tex.

Claim.—The bale-tie buckle herein described consisting of the plate A provided with the open ings *f g*, clefts *c c*, and slot *h*, constructed and arranged to operate substantially as specified.

121,989. — MEDICAL COMPOUND FOR THE CURE OF CHILLS AND FEVER. — Isaac Brown, Philadelphia, Pa.

Claim.—The compound herein described, of or of about the proportions stated, and used as a cure for the disorders stated.

121,990.—SPRING FOR BEDS AND SEATS.—James P. Chamberlain, North Abington, Mass.

Claim.—The continuous open spiral spring-tempered band or bands *a*, suitably secured to a rail or rails *b*, substantially as described, and for use as specified.

121,991. — WATERING DEVICE FOR RAILROADS. — Danforth Cheney, Brookfield, Mo.

Claim.—1. The pipe G, made longitudinally extensible, and provided with the packing ring *m*, and guide-pin for its parts *k l*, as specified.

2. The combination of the stand-pipe or reservoir A, hollow column B, valve C, and weighted-lever D with the strap E, hinged pin G, and weight H, all arranged to operate as set forth.

3. The combination of the pipe G with the rope I, pulley *p*, tube *o*, strap F, and weight H, all arranged as set forth.

121,992. — ADJUSTABLE AND DETACHABLE STRAP FOR GARMENTS.—Samuel L. Clemens, Hartford, Conn.

Claim.—As an article of manufacture, the adjustable and detachable back-strap for garments, it being provided with devices for adjusting its length, and with button-holed ends for direct attachment to the clothing, substantially as set forth.

121,993.—PAPER-FILE.—Louis Cohn, Montreal, Canada.

Claim.—1. The combination of the stock *a* and sliding frames *h i*, as described.

2. The combination of the stock *a*, bar *j*, slide *k*, and brace *m*, as set forth.

121,994.—PURIFYING BRINE FOR MANUFACTURE OF SALT.—Leffert R. Cornell, Syracuse, N. Y.

Claim.—1. The addition to salt brine of ammonia, substantially as hereinbefore set forth.

2. The addition to the brine of caustic lime after or in combination with the treatment of the brine with ammonia, substantially as hereinbefore set forth.

121,995.—VENTILATOR FOR HATS OR CAPS.—William Dale, New York, N. Y.

Claim.—A ventilator for hats or caps, composed of spiral wires interlocked, substantially as described.

121,996.—PENCIL-SHARPENER.—Samuel W. Davis and Charles P. Elliott, Norristown, Pa.

Claim.—The hollow body A, formed with the resting parts B and knives C, arranged in the space B′, between said parts, substantially as and for the purpose described.

121,997.—HAIR WEAVING AND MOUNTING APPARATUS.—Narcisse Demongeot, Washington, D. C.

Claim.—1. In combination with a weaving-stick, B, adjustable spindles D, bobbins E, and tension-springs, constructed and arranged to operate substantially as and for the purpose set forth.

2. The combination of the bobbins mounted on the weaving-stick B with a revolving head, G, ratchet *e*, pawl K, and pin L mounted on the weaving-stick A, constructed and arranged to operate substantially as and for the purpose set forth.

3. The revolving head G, provided with internal-toothed gear H and ratchet *e*, in combination with pinion I, spindle J, and pawl K, when constructed and arranged to operate substantially as described, for the purpose of mounting hair, as set forth.

121,998, antedated December 5, 1871. — MEANS FOR EXTENDING THE TABLES OF SEWING-MACHINES.—Arthur Dickinson, New York, N. Y.

Claim.—The combination of the tapering-bars *a* and *a a*, connecting-bar *c*, and sockets *o* and *o o*, all arranged as and for the purposes specified.

121,999.—BEE-HIVE. — Wriley W. Dodson, and John B. Bray, Lynnville, Tenn.

Claim.—The lever-platform D E applied to a bee-hive, as and for the purpose specified.

122,000.—STEAM-RADIATOR. — Erasmus P. Doyen, Portland, Me.

Claim.—The upright section A of a steam-radiator, cast with a continuous interior steam-space, and provided with the vertically-arranged ribs *a*, notched in diagonal rows, thereby forming a radiating surface in excess of the condensing surface, substantially as specified.

122,001.—JAPANNED FURNITURE-SPRING.—J. Joseph Eagleton, New York, N. Y.; Sarah N. Eagleton, administratrix, assignor to Eagleton Manufacturing Company, same place.

Claim.—1. The method herein described of strengthening metal springs.

2. As an improved article of manufacture, a spring made substantially as herein described.

122,002.—SAW-MILL.—David A. Edie, Norristville, Md.

Claim.—The combination of the rollers D D′, frames E E′, shafts *a a′* provided with cog-wheels *d e* and lever *f*, cranks *b b′*, and hinged pawls I I′, all constructed and arranged substantially as and for the purposes herein set forth.

122,003, antedated December 7, 1871. — GATE. — John Faussett, Leonardtown, Md.

Claim.—1. In combination with a gate mounted upon a pivot so that it can be tilted, substantially as set forth, a spring, arranged in such manner that it will be retracted when the gate is either open or closed, as described.

2. In combination with the tilting gate A and post B, the clasp C′ and spring D, substantially as set forth.

3. In combination with the tilting gate A and posts B B¹, the clasps C C′, spring D, and latch E, substantially as set forth.

122,004.—CHURN.—Wesley Fritts, Flanders, N. J.

Claim.—The combination of the vibrating frame F, which has the upper and lower cross-pieces *l n*, with the seat B, pitman *i*, and driving-shaft E, substantially as herein shown and described.

122,005.—ADVERTISING-ALBUM.—William S. Gavan, Savannah, Ga.

Claim.—1. The method, herein described, of attaching cards, sheets, or pictures to the leaves of an advertising-book by first covering said leaves, which are composed of several sheets of blotting-paper, with glazed or tinted paper; and second, embedding the cards, &c., in the surface tints formed by means of pressure applied in any suitable manner, substantially as set forth.

2. An improved advertising-book having leaves formed each of several sheets of blotting-paper, with cards, pictures, &c., embedded therein, when said leaves are bound with sheet metal stitched thereto, as specified.

122,006.—BUNG-INSERTER.—James Gillies, Glasgow, Great Britain.

Claim.—The conical, eccentric, or cam-acting key B C, constructed substantially as described.

122,007.—HARVESTER-REEL. — George S. Grier, Milford, Del.

Claim.—1. The reel-shaft B and sleeve *x*, arm D, bracket C provided with arc slot *c*, and the pulley-shaft A, constructed and arranged as shown and described, whereby the gear-wheel *b* may be adjusted without losing connection with the gear-wheel *a′*, and thus elevate and depress the reel, as specified.

2. The combination, with subject-matter of first claim, of the spring-detent E *e* and notched periphery of bracket C to lock the reel at any desired point.

122,008.—PINKING-MACHINE.—Thomas Hagerty, Richmond, Va.

Claim.—1. In a pinking-machine, a frame having a slotted feed-table adapted to rest directly on the surface of the work-table and form a clamping-jaw, substantially as described.

2. In a pinking-machine, the combination of a circular revolving cutting-blade, D, with a circular revolving anvil, B, and a spring, C, that holds them together with a yielding pressure, substantially as described, for the purposes specified.

3. The combination of the revolving cutting-blade D, anvil B, and spring C with the eccentric-headed lever F, a frame for supporting said parts, and a crank for operating the wheels, substantially as described, for the purposes specified.

4. As an improved article of manufacture the pinking cutter-blade D, made by the process herein described.

5. The process of manufacturing the blades D, substantially as described.

122,009.—COMBINED FRICTION AND RATCHET CLUTCH. — Abijah Whitney Hall, Northfield, Vt.

Claim.—The clutch C provided with a conical head and with lugs or ratchet-teeth E, in combination with the conical inner surface of the rim of the pulley B, and with the lugs or ratchet-teeth D attached to said rim, substantially as herein shown and described, to adapt the clutch to serve both as a friction and as a ratchet-clutch, as set forth.

122,010.—STEAM-BOILER CASING AND FURNACE.—William P. Hall, Piqua, Ohio.

Claim.—1. The horizontal return-flue boiler A within the casing B, with a hot-air space between all sides and ends of the boiler and the casing to allow the heats to entirely envelop the boiler, substantially as set forth.

2. The combination, with the casing B, boiler A, and surrounding chamber, of the end walls E E′, provided with inner recesses *a a′* of a diameter larger than that of the boiler, substantially as and for the purposes herein set forth.

3. The combination, with the casting B and its elongated chamber, of the boiler A and the notched or perforated supports C between the boiler and bottom of the chamber, substantially as and for the purposes herein set forth.

4. The combination of the furnace D, air-chamber *b* with apertures *i i*, exterior air-receiver I, and tubes *d e*, all constructed and arranged substantially as and for the purposes herein set forth.

122,011.—KEEPER FOR DOOR-LATCHES.—William Harvey, Albany, N. Y.

Claim.—The arrangement of the sliding latch-catch C, provided with the supports *a a*, and rendered elastic by the springs D D within the recess A′ of the body A of the keeper, and between the said body of the keeper and the wear-plate B, whereby the said sliding latch-catch will be held in place and supported from contact with the wood and have an elastic movement, substantially as and for the purpose set forth.

122,012.—DENTAL FORCEPS.—Leonard George Haskins, Newport, N. Y.

Claim.—1. The reversible jaws C and D, in com-

bination with the handles A and B, substantially as and for the purposes described.

2. In a forceps with reversible or detachable jaws, the pins J and holes *k*, substantially as and for the purposes described.

3. The jaws C and D, with the pivot-hole *f* therein, halved together, as shown and described, for the purposes set forth.

4. The pivot-bolt *g*, in combination with the jaws C and D.

5. The plates A, pins J, and holes *f*, in combination with the handles A and B, substantially as and for the purposes described.

122,013. — HASP-LOCK.—William D. Heister, Newton Hamilton, Pa.

Claim.—The bolt C having slot C′, and secured to plate B by means of the staple *a*, in combination with the pins *b b* and hasp F, substantially as and for the purpose set forth.

122,014. — PROJECTILE. — J. Henry Helm, Pittsburg, Pa.

Claim.—The combination of the projectile, the metallic supporting-ring, and the elastic sabot, as set forth.

122,015. — MOLDING TELEGRAPH-INSULATOR. — Robert Hemingray, Covington, Ky.

Claim.—1. The mode or process of forming the cavity in telegraph-insulators by first forming the unthreaded wider portion of the cavity by a threadless plunger, and, while the glass is yet hot, forming the threaded deeper portion by means of a screw-threaded plunger or mandrel, substantially as set forth.

2. The described combination, with the mandrel F, of the collar or sleeve I, whether yielding or otherwise.

3. In the described combination with the mandrel F, the spring H, for the purpose designated.

122,016.—CASTER FOR FURNITURE.—Samuel S. Hickock, Methuen, Mass.

Claim.—The combination in a caster, such as described, with the rod or journal D and wheel-supporting block B of the removable pin *d*, substantially as and for the purposes shown and set forth.

122,017. — HUSK-SPLITTER.—Berry Hollis, Randolph, Ill.

Claim.—The within-described corn-husk splitter, consisting of the frame A, rollers B B, endless apron C, roller or cylinder D, concave E, sharp-pointed hook-teeth *a a* and *a′ a′*, and the cover G, all constructed and arranged substantially as and for the purposes herein set forth.

122,018, antedated December 9, 1871.—ABRASIVE PAPER-HOLDER. — George A. Howe, Niles, Mich.

Claim.—The combination of the metallic strip or spring A with the buff B, substantially as and for the purpose above set forth.

122,019.—SECTIONAL STEAM-GENERATOR.—Dewitt C. Howell, Goshen, N. Y.

Claim.—1. The two sets of inclined steam-generating tubes A crossing each other, combined, as described, with opposite chambers D, connected at top and bottom by return-tubes E, so that the same water will alternately pass through the two sets of generating-tubes and be kept in continual circulation until converted into steam.

2. The upper chambers D D, combined, as described, with ascending pipes G and descending pipes E to allow the vaporized and unvaporized water to be separated and conveyed to their respective destinations.

122,020. — COW-BELL STRAP. — Joseph H. Hughs and Absalom Hughs, Wautoma, Wis.

Claim.—The two hinged metal strips A B overlapping at the sides, and provided with slot and staple respectively thereon, to form an easily-fastened and detachable strap for cow-bells.

122,021.—LINE-CONNECTOR.—Charles Jarvis, New York, N. Y.

Claim.—The arrangement of the block with holes at each end, and a projecting pin at one end of the same, and two cars at one side of the block, between which is inserted a bar secured by a pin, and to be used for the purpose of securing ropes and lines, substantially in the manner set forth.

122,022.—CHIMNEY-CAP.—Anson B. Johnson, Washington, Ind.

Claim.—The frame *a*, standing on the overhanging course *c* and inclosing the top courses, in combination with the plate *f* superimposed upon the chimney-top and provided with a molding, *g*, that incloses the frame, all arranged as specified.

122,023.—PAPER FOR PACKING.—Albert L. Jones, New York, N. Y.

Claim.—As a new and improved article of manufacture, the corrugated packing A, substantially as described.

122,024.—COAL-GAS APPARATUS.—Edward Jones, Boston, Mass.

Claim.—A receptacle, *e*, containing water, provided with one or more openings, *f*, attached to or made in one piece with a gas-retort lid, for the purpose as herein fully set forth and described.

122,025.—APPARATUS FOR THE MANUFACTURE OF GAS.—Edward Jones, Boston, Mass.

Claim.—A receptacle, *d*, cast onto, attached, or connected to a stand-pipe or mouth-piece for gas apparatus, provided with one or more openings, *e e e*, said receptacle *d* surrounding the stand-pipe or mouth-piece wholly or in part, for the purpose as herein fully set forth and described.

122,026.—CHURN.—John A. Jordan, Shelbyville, Tenn.

Claim.—The revolving semicircular or trough-shaped beaters *j* formed of sheet metal, in combination with the perforated stationary plate *p* provided with raised edge or band, as shown and described.

122,027. — STEAM-GENERATOR.—John Joseph Jordan, Philadelphia, Pa., assignor to himself and George T. Carter, same place.

Claim.—1. A circulator, consisting of a series of parallel tubes communicating with each other and with the boiler, and arranged in the form of an arch between the boiler and fire-place, substantially as set forth.

2. The cast-iron head E of the body, chambered as described, and having apertures communicating with the interior of the body, as set forth.

3. The casing I at the rear of the boiler communicating with the body and with the two lowermost tubes *p* of the circulator, as set forth.

4. The depression *m* of the said casing I, for the purpose specified.

5. The arched brick-work H, arranged within the arched tubular circulator, between the fire-place and the rear of the boiler, so as to cause the products of combustion to impinge upon both the tubes and body of the boiler.

6. The arched pieces B and D, with and within which are cast bends *t′*, adapted to tubes, as set forth.

122,028.—FEED DEVICE FOR HULLING-MACHINES.—David Kahnweiler, New York, N. Y.

Claim.—1. In combination with a hulling-machine, the feeder N provided with the partition P, constructed substantially as and for the purposes described.

2. In combination with the hopper, the feeder N with partitions P, constructed as described, and either with or without the cylinder C, for excluding sticks, nails, stones, &c., substantially as described.

122,029.—PROCESS FOR PREPARING GOLD FOR DENTAL PURPOSES. — Edward G. Kearsing and Leonzo Kearsing, Spring Valley, N. Y.

Claim.—1. The process of surface-roughening gold-foil, to prevent two or more sheets thereof from consolidating when brought together, by heating and shrinking it between paper, as described.

2. As an article of manufacture for dentists' use, a block of gold-foil formed of a series of previously surface-roughened and annealed sheets superposed upon one another, as described.

122,030. — MOCCASIN BOOT AND SHOE.—Patrick Kelleher and James C. Randlett, Bangor, Me.

Claim.—1. A moccasin boot or boot-pack formed of the parts A B C D E, cut as shown and described, and joined together by flat lap-seams.

2. A moccasin boot or pack with the leg formed of two pieces, A and B, united by two lapped seams, one on each side of the leg, as shown and described.

3. The quarter C of a moccasin-pack, cut in the form shown and described, and formed entire in one piece, for use as specified.

4. A shoe-pack with a quarter cut in the form shown in Fig. 9, and formed in one piece, and running around the heel and forward to the vamp H, as specified.

5. The combination, in a shoe-pack of the parts F, G, H, and E, such parts being united together by flat lap-seams.

122,031. — NEEDLE-ELECTRODE FOR ELECTRO-SURGICAL USES. — Jerome Kidder, New York, N. Y.

Claim.—1. A needle-electrode having its shank of less transverse dimensions than its tip, and its insulating-cover applied to the shank so as not to project laterally beyond the tip at the junction or approximate position of the tip and cover, substantially as specified.

2. The needle-electrode formed with an eye, *c*, at the outer end of the shank, substantially as and for the purposes herein set forth.

3. A needle-electrode with a rounded point, essentially as described.

4. A needle-electrode for electro-surgical uses composed of a tip, *c*, formed with a rounded point, a reduced shank, *b*, having an eye, *c*, at its outer end, and an insulating-cover, *d*, arranged so as not to project laterally beyond the tip, substantially as shown and described.

122,032.—APPARATUS FOR DISTILLING SPIRITS. — Gott-Hard Kleiner, Georgetown, Mo.

Claim.—The chambers A B C D, condenser E, and analyzers F G H, combined, arranged, and provided with the pipes, stops, and valves described, for the purpose of distilling and separating the product while in the worm, as set forth.

122,033.—ROTARY ENGINE. — Truckson S. La France, Elmira, N. Y.

Claim.—In rotary engines, where toothed and meshing-wheels are employed, the packings C let into the case at intervals thereabout, and having the channels E behind them, as and for the purpose set forth.

122,034.—CIGAR-MOLD. — John James Lahaye and James M. Lyons, Reading, Pa.

Claim.—1. A combined mold, cutter, and drying retainer for cigars, consisting of two hinged and overlapping-jaws A and A′, substantially as described.

2. The combination of the jaw A′ and the jaw A, fitting for a part of its length within the jaw A, and having at its outer end an overlapping lip or knife, *d*, as set forth.

3. The combination, substantially as described, of the jaw A with the lugs *e e* of the jaw A′.

122,035. — COAL-MINING TOOL. — Isaac Lamplugh, Peoria, Ill.

Claim.—1. The bar D clamped to the adjustable post B, and notched at its outer end for supporting a swinging drill-holder with drill or drills, substantially as and for the purposes set forth.

2. The holder D′ provided with a removable handle, E, and removable mining-tool, G, and suspended by means of a chain, *e*, from the notched bar D, substantially as and for the purposes herein set forth.

122,036. — LIFTING-JACK FOR DUMPING-CARTS.—Robert B. Little, Providence, R. I., assignor to Henry Blundell, agent, same place.

Claim.—The improved lifting-jack for dumping-carts herein described, consisting of the screw-spindle, gear-nut, and crank-gear, combined and arranged within the gear-casing D and spindle-casing F, substantially as described.

122,037, antedated December 16, 1871.—CORNICE FOR WINDOW-CURTAINS.—William Lloyd, New York, N. Y., assignor to Gibbons L. Kelty, same place.

Claim.—The cornice for a window-curtain, made with an ornament fitted to slide upon the continuous molding forming the body of said cornice, substantially as set forth, and in combination therewith the detachable end ornaments made with recesses to receive the ends of the moldings *a*, as specified.

122,038. — ADJUSTABLE AND DETACHABLE STRAP FOR GARMENTS.—Henry C. Lockwood, Baltimore, Md.

Claim.—The elastic waist-strap for pantaloons, herein described, consisting of the elastic pieces B, the triangular buckle-straps C, and attaching button-holed tabs, substantially as specified.

122,039.—HORSE HAY-RAKE. — J. George Lockwood, West Davenport, N. Y.

Claim.—The crank-rod I i^1 i^2 i^3, rigid arm J, spring K, connecting-rod L, pivoted bar M *m*, and rigid bar N, in combination with the axle and shafts or frame of the rake, substantially as herein shown and described, and for the purpose set forth.

122,040.—UTERINE SUPPORTER. — Alexander Lowe, Nashville, Tenn.

Claim.—The supporter, consisting of the perforated cup A and the oval arched supports D D, all from a single piece of soft rubber, as shown and described.

122,041.—POSTAL-CARD. — Washington I. Ludlow, Cleveland, Ohio.

Claim.—1. A postal-card folded at or near its center, with the edges gummed, substantially as and for the purpose herein described.

2. As a new article of manufacture, a postal-card folded at or near its center and gummed upon its inside edge, the ends of the said card being left open, as herein set forth.

122,042. — Steam-Generator and Feed-Water Heater. — Mirabeau N. Lynn, New Albany, Ind.

Claim.—1. The inclined pipes of a steam-generator connected to the vertical pipes by flattening the said vertical pipes around the orifices and screwing said inclined pipes into the orifices so that the indented surfaces and inclined pipes are at right angles to each other, substantially as and for the purposes set forth.

2. The protecting-plates H I arranged between the upright pipes A A′ and the casing J K of a steam-generator for protecting the walls of the casing, substantially as and for the purposes set forth.

3. The hollow three-sided casing J and the casing K provided with the shelves *f* arranged around the exterior of the upright pipes A A′, and connected by the elbow-pipes L L′, substantially as and for the purposes set forth.

4. The combination of the casings J K, shelves *f f*, connecting-pipes L L′, feed-water inlet M, exhaust-steam inlet N, and outlet O, all constructed and arranged substantially as and for the purposes herein set forth.

5. The combination of the upright pipes A A′, cross-pipes B B, steam-drum C, base-box D, inclined pipes E E with interior pipes *d d*, outside pipes G G, protecting-plates H I, and casing J K with its pipes, all constructed and arranged substantially as and for the purposes herein set forth.

122,043. — Clothes-Drier. — William C. Maynard, Marathon, N. Y.

Claim.—The improved clothes-drier herein described, consisting of the base-plate D provided with the spindles *a*, top-plate G, and bars E, mounted upon the bracket A and pivoted thereto, all substantially as and for the purpose described.

122,044.—Implement for Embossing Fabrics.—James W. McKee, Brooklyn, E. D., N. Y.

Claim.—The improved implement for embossing, consisting of two cross-levers, A B, and a male and female die, C D, secured to respective outer ends of the said levers, the said dies carrying, respectively, sunken and raised figures, patterns, monograms, or other designs, the said parts being combined and operating substantially as and for the purposes herein specified.

122,045.—Machine for Forming Scale-Pans.—Frederick Meyer, Newark, N. J.

Claim.—1. In combination with revolving forming-rolls of a rolling-machine, a fixed forming-die, located and operating substantially as described.

2. A die, J, shaped to correspond to the shape of the rollers of a rolling-machine, and located between the rolls in such a manner as to fill the space between the three rolls so as to allow a piece of sheet metal to be passed between the rolls, as described.

122,046.—Propulsion of Vessels.—Charles Mickle, Guelph, Canada.

Claim.—1. The combination of the frames E and G, arranged substantially as described, and for the purposes set forth.

2. The combination of the floats D with the frames E and G, substantially as and for the purpose described.

3. The reversing gear, consisting of the racks T, pinions U, wheels *y*, screws W, worm V′, and sliding shaft X, arranged to operate on the frame E, substantially as and for the purposes described.

4. The frame E, in combination with a reversing apparatus and with reciprocating floats D, substantially as and for the purpose described.

122,047.—Pen and Pencil Case.—Joseph Monaghan, New York, and Thomas Flynn, Brooklyn, N. Y., assignors to Joseph Monaghan.

Claim.—The combination of the tubes E and F, provided with slots, as described, and extension piece G within the case A, all constructed, arranged, and operating substantially as set forth.

122,048. — Bed-Bottom. — Thomas H. B. Morehouse, Lansing, Mich.

Claim.—The within-described bed-bottom, composed of the end pieces A A, the slats C C, and the rubber webbing B B, secured by the grooves and pins *a*, and the slats nailed or screwed to the webbing by the nails or pins *x x*, all as shown and described.

122,049.—Steam-Engine.—Francis Motley, Phœnixville, Pa., assignor, by mesne assignments, to James R. Teal, same place.

Claim.—1. The secondary slide-valve I, arranged within a steam-chest, in connection with the main slide-valve D, to operate substantially as herein shown and described.

2. The cylinders F and G, secured to a steam-cylinder, and containing the pistons E H, which control the positions of the valves D and I, substantially as herein shown and described.

3. The three pairs of channels, *m n*, *o p*, and *s y*, arranged between the steam-chest and the cylinders A, G, and F, respectively, as specified.

122,050.—Fire-Place Grate.—David Pangle, Belmont, Ohio.

Claim.—The fire-place herein described, provided with the corrugated inclined radiator H, the rising front bars B, the fixed supporting-grate D‴ having longitudinal bars, and the cross-barred slide-grate *d‴*, longitudinally vibrated by the lever E, substantially as specified.

122,051.—Meat-Chopper.—William P. Patton, Harrisburg, Pa., assignor of one-half his right to James R. Piper, same place.

Claim.—1. The construction of the frame-piece A *a* with the rule-joint herein shown and described, and for the purpose specified.

2. In a meat-chopper, the yoke-pitman *e e*, when it is constructed and combined with the shaft C, block V, connecting-pin 1, crank-wheel *b*, shaft *d*, frame-piece *a*, and crank G, so as to operate the shaft C vertically, as herein described.

3. The combination of the shaft C and knife *c* with the hinged frame A *a*, ratchet-wheel D, block V, pawl *m*, yoke-pitman *e*, crank-wheel *b*, and its shaft *d*, to give an axial rotative motion to the knife-shaft C, substantially as shown, and for the purpose specified.

4. The combination of the base-ring F, frame A *a*, crank-wheel *b*, shaft *d*, yoke-pitman *e*, arch-piece *r*, and pawl *m* with the ratchet-wheel D, block V, shaft C, and oscillating knife *c*, substantially as and for the purpose set forth.

122,052.—Plant for the Manufacture of Bessemer Steel. — John B. Pearse, Swatara township, Pa.

Claim.—1. The combination, with a Bessemer plant as heretofore constructed, of the apparatus herein described or its equivalent, arranged in a separate place or places designed for their reception beyond the vicinity of the converters in use, and used solely for the repairing of damaged converters which are conveyed to and taken from such place or places, substantially in the manner specified.

2. The combination, with a Bessemer plant as heretofore constructed, of a crane so arranged as to command the whole plant and all the machinery therein contained, and so placed as to easily transfer the converters from the repair place to that in which steel is made, substantially as and for the purposes set forth.

3. The combination, with a Bessemer plant as heretofore constructed, of a crane and a heavy car so arranged that the crane may set the damaged converters on said car, which shall transport them to a suitable repair place separate from the main building, substantially as and for the purposes set forth.

4. The combination of a railroad track, a car, and a ladle with the cupolas of a Bessemer plant as heretofore constructed, substantially as and for the purposes set forth.

122,053. — Steam-Boiler Float-Valve.—John Peters, Haverstraw, N. Y.

Claim.—1. The combination of the float F, arm *d*, and screw-stem C with the valve B, case A, and alarm instrument E, all arranged substantially as herein shown and described.

2. The combination of float F, arm *d*, screw-stem C, valve B, and case A, substantially as shown and described.

122,054.—Flour-Bolt.—Herman N. Petersen, Peoria, Ill.

Claim.—1. The head A, adjustable sliding hub E, and spokes *h*, in combination with the cap D, screw-rods *g*, and shaft B, substantially as set forth.

2. The ribs C, provided with set-screws *i* for stretching the cloth latitudinally, in combination with the heads A of a flour-bolt, constructed and arranged to operate substantially as set forth.

3. A circular flour-bolt, consisting of heads A A′ and stretcher F, ribs C with set-screws *i*, shaft B, provided with adjustable sliding hubs E having spokes *h* for supporting the heads, and connecting with caps D on the ends of the shaft by screw-rods *g*, by which the said hubs are made adjustable for stretching the cloth, substantially as shown and set forth.

122,055. — Lightning-Rod. — Myron D. Phelps, Bristolville, Ohio.

Claim.—A lightning-rod composed of a straight copper core surrounded by three or more twisted wires, substantially as and for the purposes herein set forth.

122,056. — Shutter-Worker. — Joseph T. Pope, Scranton, Pa.

Claim.—The combination of blind *a*, cord *b*, arm *c*, tail-piece *d*, recessed hinge, provided with a counter spring, and conductor *f*, all arranged as specified.

122,057. — Cotton-Chopper. — Ashley G. Powell, Smithfield, N. C.

Claim.—The combination, with a chopping-knife on the arm G, of a shaft, H, journaled in brackets I I, and having spring-finger *k* and a ratchet-wheel, J, on the driving-shaft of the machine, as and for the purpose set forth.

122,058. — Spark-Arrester. — David R. Proctor, Gloucester, Mass.

Claim.—1. The combination of a smoke-stack and a spark-and-cinder discharge-pipe, B, having perforations *b*, with a spray-pipe, C, connected with the boiler, as and for the purpose set forth.

2. A smoke-stack having curve A^1, oblique screen A^2, and oblique aperture a^3, combined with pipe B, arranged to discharge the sparks and cinders therefrom, in the manner described.

122,059. — Automatic Double Puppet-Valve.—John E. Prunty, Baltimore, Md.

Claim.—1. The cylindrical discharge-pipe A with its ports *b* and *b′*, and double attachments *f f*, substantially in the manner and for the purpose shown and described.

2. The double puppet-valve chamber B, in combination with cylinder A, ports *b b′*, attachments *f f*, substantially as and for the purpose described.

3. The double puppet-valves C C′, their valve-seats *d d′*, in combination with cylinder A and valve-chamber B, substantially as shown and described.

4. In combination with cylinder A, chamber B, valves C C′, seats *d d′*, stem *e*, set-screw E, and eduction-pipe D, all arranged, constructed, and operating in the manner and for the purpose set forth.

122,060. — Vault-Cover Lock. — Andrew Richardson, New Brunswick, N. J.

Claim.—The pivoted catches C D H and F G, constructed and applied to a vault-cover, A B E, as and for the purpose described.

122,061. — Latch for Gates.—Henry W. Robie, Binghamton, N. Y.

Claim.—The combination of shell B, recessed bolt A, spring D, vertical latch-rod C provided with the beveled end *e*, shoulder *g*, and knob E with the divided rose F, substantially as set forth.

122,062. — Harvester. — John L. Rohrer, Upper Leacock, Pa., and Charles E. Roper, Canton, Ohio; said Roper assignor to E. Ball & Company, Canton, Ohio.

Claim.—1. The combination of the lever F, shaft *a*, guide G, and shipper-arm *c* with the sliding-pinion D for the purpose of throwing the cutters into or out of action, and so holding them, as described and represented.

2. The combination of the braces *f*, bar *i*, and sleeve or socket G with the point of the axle or center motion of the main drive-wheel for making a journal-support for the gear K, as and for the purpose described and represented.

3. The combination of the gear N and disk S with the spring-bolt, by which they are connected and disconnected, at pleasure, and with their bosses or hubs *q v* and cam-ways R X, so that the rake may revolve with the reels, or remain stationary while the reels continue to run, substantially as described and represented.

4. The combination of the cam-protecting surface *y* with the spring-bolt *h* and lever *g*, so that said lever cannot reach said bolt except when it is designed to do so, and by pressure upon the foot-lever, as described and represented.

122,063. — Top-Joint and its Connections.—Cyrus W. Saladee, St. Catharines, Canada.

Claim.—1. Forming the end or ends of the joint-irons to carriage-tops in such manner that they shall serve the purpose and take the place of the "top-props" as now generally known and used.

2. Forming the end or ends of the joint-irons to carriage tops to serve the purpose of the ordinary top-props, and passing the same through or past the bow of the top in such manner that they will admit the end of the iron to rotate in that position when raising and lowering the top.

3. Turning the end or ends of the joint-irons to carriage-tops in toward the top at right angles with the main joint-iron, and securing the turned end to a fixed plate upon the bow of the top in such form as to make a joint at this connection and allow the end of the joint-iron to rotate in or upon said plate when raising or lowering the top.

4. The combination of the lower end of the long joint-iron to carriage-tops with the end cap P^2 of the seat-prop S, Fig. 4, Sheet 1, in any equivalent manner, substantially as and for the purpose set forth.

5. A seat-prop S, Fig. 4, Sheet 1, provided with the shoulder R against which to stop and rest the inner cap P of the bow-rest P^1, as and for the purpose set forth.

6. The thimble B^1, Fig. 1, Sheet 1, for the reception of the bolt end B of the joint-iron A, and securing the end of the bolt B in or upon a fixed plate upon the bow of the top, or passing it through the bow, as shown by this figure, and for the purpose described.

7. Forming a socket, B^1, Fig. 7, Sheet 1, to receive the end of the joint-iron A, solid, with the bolt B, and securing the inner end of the latter to a fixed plate upon the bow, or passing it through the bow in any practical manner that will admit of the bolt revolving in its bearing when raising or lowering the top.

8. Extending the upper joint-iron X^1, Figs. 2 and 3, Sheet 3, so as to form a joint, X^2, between the third and back bows of the top, substantially as shown and described.

9. Securing and operating the joint-irons A and A, Fig. 1, Sheet 3, and Figs. 1 and 2, Sheet 5, upon the bow of the top on two separate bearings or "props," 1 and 2, and independent of each other.

10. A double knuckle-joint, (see Sheet 4,) constructed and operating substantially as shown and described.

11. In double knuckle-joints, the intermediate brace B. (See Sheet 4.)

12. In double knuckle-joints, the face-plate C, Figs. 6, 7, and 8, Sheet 4, having the intermediate brace B and the pivots D formed thereupon, as and for the purpose set forth.

13. A double knuckle-joint, Figs. 1, 2, and 3, Sheet 4, made round or oval in the body of the joint so as to present a perfectly smooth and uniform surface throughout, as and for the purpose set forth.

14. In combination with the device claimed in the first seven claims, or either of them, the use of elastic or rubber washers to keep the parts closely fitted when that is requisite, and to prevent rattling.

15. The socket B^1, Fig. 1, Sheet 5, in combination with the bent bolt or prop B and the end of the joint-iron A, as and for the purpose shown and described.

16. A top-joint, C, Fig. 1, Sheet 6, provided with short arms A^1, sockets B^1, in combination with the intermediate wrought-iron or steel arms A, substantially as and for the purpose set forth.

17. Rigidly connecting the outer ends of joint-irons for carriage-tops by welding or otherwise to the bolt or "prop" B, Figs. 1 and 3, Sheet 6, and so that the inner end of the bolt or prop B shall partially revolve in its bearing in or upon the bow of the top when raising or lowering the same.

122,064. — Apparatus for Sharpening Harvester-Knives.—Isaac C. Saunder, Trenton, Mich.

Claim.—The bench A *a d*, spring-clamps C C and rests D D, when all are combined to hold the cutter-bar and to allow the sharpener to be operated, in the manner described.

122,065, antedated December 2, 1871.—Medical Compound of Vegetable Alkaloids.—George W. Scollay, New York, N. Y.

Claim.—1. The chemical compound consisting of the sulphite or bisulphite of the vegetable alkaloids, or their equivalents.

2. The chemical compound consisting of the carbolated sulphite or bisulphite of vegetable alkaloids, or of any of the alkalies.

3. The chemical compound consisting of the carbolated sulphite or bisulphite of vegetable alkaloids, or of any of the alkalies, combined with camphor or other resinous substance, gums, or the essential oils.

122,066.—Swing for Children.—William H. Scriven and William K. Taylor, Flatbush, N. Y.

Claim. — The slotted or hooked bars B' B'', in combination with the straps N N, vertical sections 1 2 3 4 and $1'$ $2'$ $3'$ $4'$, bars B, and suspending-ropes *e*, all arranged and operating in the manner and for the purpose set forth.

122,067. — Flood-Fence.—James L. Seat, Nashville, Tenn.

Claim.—1. The combination of the two series of pickets A A', arranged as described and shown, and connected together by means of the rod *a* and nuts *b b*, substantially as herein set forth.

2. The combination of the pickets A A and A' A', bars B B', rod *a*, posts C C, braces D D, staples or stirrups *d d*, and the stakes *e e*, all constructed and arranged substantially as and for the purposes herein set forth.

122,068. — Sash-Holder.—Raphael Moreno Soldia, New York, N. Y., assignor to himself and John H. Trusty, same place, assignors to John H. Trusty.

Claim.—The rubber rollers *e e*, mashes B C, and strips *g g*, of sheet metal, struck up to form corrugations, all arranged and operating as shown and described.

122,069.—Car-Axle Box.—Milton Sessions and David Muzzey, St. Albans, Vt.

Claim. — The box A with semicircular projections D, bearing-block C with semicircular recess within which fits the projection D, which is provided with a central oil-passage, *a*, in combination with the reservoir E and oil-channel G, all substantially as set forth.

122,070. — Car-Coupling. — William H. Skidmore, Secor, Ill.

Claim. — 1. The car-coupling herein described, consisting of the draw-head A, the hooks B, the guides C, the braces *u v w*, the parts *s c*, and the lifting device M *n n'*, all constructed, arranged, and connected, substantially as and for the purposes herein set forth.

2. The combination of the brace *u*, the brace *w*, the guide C, the block *c*, the bolts *b d f*, and the draw-head A, all constructed and connected, as herein described and shown.

122,071.—Clothes-Drier. — William A. Sleppy, Berwick, Pa.

Claim.—The hub C', in combination with the arms E', F, and E, cords G, and enlarged base B, constructed and arranged to operate substantially as specified.

122,072. — Machine for Making Porcelain Knobs, &c. — Thomas J. Sloan, Bronxville, assignor to James L. Jensen, Green Point, N. Y.

Claim.—1. The opening and closing dies or divided mold E E, provided with automatic discharges I I for detaching the molded knob or article from the sides of the mold on the opening of the latter, substantially as specified.

2. The false bottom G, in combination with the divided mold E E and plunger D, arranged to remain stationary during the compressing action of the plunger till toward its close, and then to move in a reverse direction to the plunger to complete the compression from opposite ends or sides, essentially as and for the purpose herein set forth.

3. The core-pin H, arranged for operation within the divided mold, and supported by a laterally-moving piece or bar, P, operating to take said pin out of the mold when open, whereby the core-pin is also made to act as a carrier to convey the molded article away from the mold, substantially as specified.

4. The combination of the opening and closing dies E E, the rising and falling plunger D, and the temporarily-moving or compressing false bottom G, substantially as described.

5. The revolving brush J, arranged to operate within the divided mold E E for cleaning the latter, essentially as specified.

6. The revolving cutter F', in combination with the knob-holders C' E', arranged to center and hold the knob from turning, substantially as described.

7. The rising and falling knob-holder C' and yielding upper holder E', in combination with the revolving cutter F', whereby the turning is finished when the knob has moved up, essentially as described.

122,073.—Not issued.

122,074.—Axle for Vehicles. — William H. Sparks, Absecom, assignor to himself and James D. Souder, Williamstown, N. J.

Claim.—The conical enlargement B' at each end of the axle A, in combination with the enlargement C' of the sleeve C, for increasing the strength of the diminished parts B of the axle, substantially as described.

122,075. — Churn-Dasher. — Andrew T. Still, Baldwin City, Kan.

Claim.—The combination of the adjustable radial arms D and inclined tapering tubes E with the pivoted dasher handle A, substantially as herein shown and described, and for the purpose set forth.

122,076.—Mold for Sewer-Pipes.—William H. Story, Flatbush, N. Y.

Claim.—The combination of the core *b* and ring *d* with the case *c*, constructed as described to form the irregularly-shaped band, as shown, for the purpose herein set forth.

122,077.—Wash-Boiler.—David P. Sulouff, Milton, Pa.

Claim.—The boiler A having vessel B on top, in combination with the flanged stand D d^1, having clothes-supports d^2, diaphragm d^3, and hooded tubes *d*, all arranged as and for the purpose set forth.

122,078, antedated December 9, 1871. — Hold-Back Attachment to Vehicles.—James Thornton and Emmit G. Latta, Genesee, N. Y.

Claim.—The open hook *a* and the socket B, with a cross-bar, *b*, said hook and socket being adapted to each other, substantially as herein shown and described, and forming, in connection with a spring, *c*, an improved hold-back attachment, for the purpose set forth.

122,079.—Connecting Carriage-Springs. John A. Topliff and George H. Ely, Elyria, Ohio.

Claim.—The arms C C C' C', arranged upon separate rock-rods B B', secured directly to the front and rear axles to cause both ends of each spring to yield simultaneously and in unison with each other, and also to be laterally braced by said rock-rods, as described.

122,080.—Bee-Hive. — Joseph Tritt, New Richmond, Ohio.

Claim.—1. The comb-frames constructed specifically as described, with the grooved recess and pin, in combination with the bent-wire slide, the series of staples, and the recesses for the pin, as set forth.

2. The combination of the sliding doors E E with each other and the hive, one being adapted to cover the other, as set forth.

122,081. — Corset and Skirt-Supporter Combined. — Mary J. C. Vanorstrand, Pekin, Ill.

Claim.—The adjustable elastic strap *i* for connecting the front and back A B of the corset, substantially as and for the purpose set forth.

122,082.—Pump-Piston.—John Van Tassel, Toledo, Ohio.

Claim.—The solid metal piston-head, constructed as herein shown and described, consisting of the recessed part and follower with the alternate rings of different sizes of metal and rubber, or other suitable elastic material, clamped between them by means of the screw and nuts on the end of the piston-rod.

122,083.—Grinder for Harvester-Knives. Phineas W. Vaughan, De Kalb, Ill.

Claim.—1. The rectangular frame H H' H'' H''', made adjustable by means of slots N, tenons *a*, and rods J, and provided with notches I I, as and for the purpose set forth.

2. The combination of the adjustable frame H H' H'' H''', bed A, stone E, and gearing R W, substantially as described and shown.

122,084. — Reservoir-Stove. — Jacob V. Vrooman and Jonas H. Clute, Schenectady, N. Y.

Claim.—Within the combustion-chamber of a fuel-magazine stove or furnace, the combination of two vertical flue-strips, *c c*, and a register or sliding damper, D, with or without intermediate vertical flue-strips *c' c'*, substantially as herein shown and set forth.

122,085.—Boot and Shoe.—Preston Ware, Jr., Boston, Mass.

Claim.—The cushion A, made as herein described, and arranged in relation to the cork or double sole B, stitched-welt C, and outer sole D, substantially in the manner set forth.

122,086.—Steam-Trap.—Joseph E. Watts, Lawrence, Mass.

Claim.—1. The combination, in a steam-trap, of the valve with its operating expansible rod connected with the same, substantially in the manner shown and described, and for the purposes stated.

2. The combination, with the case A, the valve-seat D, the valve G, and valve-stem *a'* of the tubular piece *k* located in the valve-chamber and surrounding the valve-stem, as and for the purposes shown and described.

3. The combination in a steam-trap, with the valve G and expansible rod, connected substantially as described, of the valve-stem *a'* and spring J, operating substantially as herein shown and set forth.

4. The combination of case A, expansible rod B, valve G, valve-stem *a'*, tubular piece *k*, spring J, and nut I, said parts being constructed and arranged for joint operation in the manner shown and set forth.

122,087.—Plow-Fender.—Alanson P. Webber, Saratoga township, Ill.

Claim.—A plow-fender, consisting of the rod C provided with the convex shovel D, roller E, and either with or without block *d*, when adjustable vertically by means of the eye or staple-bolts *a*, and attached to the plow-beam forward of the plow, substantially as described.

122,088.—Hinge.—William T. Wells, Decatur, Ill.

Claim.—A sheet-metal T or strap hinge with the ends of both the straps, or strap and leaf, extending around and beyond the pintle, and secured by rivets or by the screws, nails, or bolts with which the hinge is put on, all as shown and described.

122,089.—Wash-Bowl.—William Westlake, Chicago, Ill.

Claim. — As a new article of manufacture, a wash-basin having its body composed of tin, with a thin sheet of non-corrosive metal soldered over the inner surface of its bottom, substantially as described.

122,090. — Fagot for Metal Bars. — Elbridge Wheeler, Philadelphia, Pa.

Claim.—1. A pile composed partly of iron and partly of one or more steel bars or fagots clothed with iron, as set forth.

2. As an improved manufacture, a bar rolled from the said pile.

122,091. — Glove. — Edwin V. Whitaker, Gloversville, N. Y.

Claim.—The glove herein described, having its back and palm pieces *a* and *b* cut with the straight and curved edges, as shown, for the purpose specified.

122,092.—Soldering-Iron.—Joseph Williams, Jefferson, Tex.

Claim.—1. The cap H with its cone-shaped end I and shield J arranged on the soldering-iron to act as a heating-chamber for the same, as described.

2. In combination with the cap H, constructed substantially as described, and the soldering-iron, the burner *g*, tubes F G, and reservoir D, operating as described.

3. In combination with the cap H, the soldering-iron, burner *g*, and tube G, the loop *e*, plate *d*, and handle M, as described.

4. In combination with the burner *g* and tubes F G, the reservoir D on its stem C, with springs *a a*, and adjustable in the tube B, as described.

5. In combination, with the cap H, tube G, loop *e*, and the soldering-iron, the hook N and metal rim O, operating as described.

122,093.—Washing-Machine.—Joseph B. Wilson, Philadelphia, assignor to himself, Fisher Hazard, Manch Chunk, and Samuel B. Huey, Philadelphia, Pa.

Claim.—The combination of the annular trough with the shaft B and wheels E and E′, caused to traverse the annular paths described, and capable of vertical movement, all substantially as set forth.

122,094.—Fluid for Extracting Grease from Fabrics.—Joseph B. Wilson, Philadelphia, assignor to himself, Fisher Hazard, Manch Chunk, and Samuel B. Huey, Philadelphia, Pa.

Claim.—An oil or grease extracting fluid, composed of the materials and in the manner and proportions substantially as described.

122,095.—Connecting-Rod.—John W. Zinn, Morrison's Mills, Fla.

Claim.—1. The combination of the yokes F, abutment-plate G, clamp-screw H, and back plate I with the slitted and recessed rod A *w x*, the box B, packing C, and screw D, and nut E for clamping the said packing, as shown and described, for the purpose set forth.

2. The wooden rod or bar A, constructed with two springs, *z y*, arranged as shown, for the purpose specified.

REISSUES.

4,677.—Sectional Steam-Boiler.—William H. Cornell, Easton, Pa.—Patent No. 113,857, dated April 18, 1871.

Claim.—A boiler, in which the tubes and end boxes are arranged substantially as herein described, for the purpose specified.

4,678.—Pump.—Robert M. Lafferty, Three Rivers, Mich., assignor to himself and Edward P. Smith, same place.—Patent No. 104,604, dated June 21, 1870.

Claim.—1. The sheet-metal lining B secured in the interior of the wooden stock A by turning or flanging the ends of the tube forming the lining into grooves cut in the stock, substantially as set forth.

2. The piston *c* provided with the curved openings *d* and with the cup-leather *e* and valve D, when each of said parts is constructed as described, and arranged to operate, as and for the purposes set forth.

3. In combination with the parts named in the preceding paragraph, the plug E with concave upper face, openings *f*, and cup-leather D′, all constructed and arranged to operate, as and for the purposes set forth.

4. The combination and arrangement of the barrel A, lining B, piston C, plug E, and valve D D′, when each part is constructed, arranged, and operating, substantially as described, and for the purposes set forth.

4,679.—Back-Chain for Cart-Saddles.—William B. McClure, Alexandria, Va., assignor of two-thirds interest to John C. Graham and H. O. Claughton.—Patent No. 119,382, dated September 26, 1871.

Claim.—A back-chain for cart-saddles, provided with rollers, substantially as described, as a new article of manufacture.

DESIGNS.

5,424.—Fringe.—William B. Cunningham and Philip Hill, Philadelphia, Pa.

Claim.—The design for fringe with the gimp formed together, as set forth and shown.

5,425.—Fringe.—William B. Cunningham and Philip Hill, Philadelphia, Pa.

Claim.—The design for fringe, as shown.

5,426.—Fringe.—William B. Cunningham and Philip Hill, Philadelphia, Pa.

Claim.—The design for fringe, as shown.

5,427.—Suspended.

5,428.—Match-Box.—Joseph Kintz, West Meriden, Conn., assignor to himself and P. J. Clark, same place.

Claim.—1. The design for the body of the box, as shown.

2. The design for the cover, as shown.

3. The design for the back, as shown.

5,429.—Water-Proof Goods.—Bernhard Metz, New York, N. Y.

Claim.—A design for borders on repellent or water-proof goods, in which the borders are composed of stripes and bars, substantially in the manner shown and described.

5,430.—Water-Proof Goods.—Bernhard Metz, New York, N. Y.

Claim.—A design for a border for repellent or water-proof goods, in which the border is placed and ornamented, substantially in the manner above shown and specified.

5,431.—Water-Proof Goods.—Bernhard Metz, New York, N. Y.

Claim.—A design for a border for repellent or water-proof goods, in which the border is placed and ornamented, substantially in the manner above shown and described.

5,432.—Water-Proof Goods.—Bernhard Metz, New York, N. Y.

Claim.—A design for a border for repellent or water-proof goods, in which the border is placed and ornamented, substantially in the manner above shown and described.

5,433.—Medallion Head of Jackson.—James H. Miller, Philadelphia, Pa., assignor to himself and Charles Kripe, same place.

Claim.—The design for a medallion head of Jackson, substantially as described, and as illustrated in and by the accompanying drawing.

5,434.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,435.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,436.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,437.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,438.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,439.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two-ply, three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,440.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,441.—Carpet-Pattern.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,442.—Cake-Tazza.—George Gill, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—1. The design of the stand C.

2. The construction of such with the stemmed and fern leaves springing from such stem around the bottom of the bowl A.

3. The design of the bottom of the bowl and the series of fern and stemmed leaves, as shown.

5,443.—Sample-Case for Thread and Sewing-Silk.—John N. Leonard, Rockville, Conn.

Claim.—The design, substantially as shown and set forth.

5,444.—Carpet-Pattern.—David McNair, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.

Claim.—The configuration of the design hereunto annexed, when made by being inwrought into two or three-ply, ingrain, or other carpeting in the form similar to the photographic print accompanying this specification.

5,445.—Cake-Tazza or Flower-Stand.—William Parkin, Taunton, Mass., assignor to Reed & Barton, same place.

Claim.—The design of the stand and that of the bowl, also that of each leg of the stand.

5,446.—Carpet-Pattern.—Edward Perrin, Kidderminster, England, assignor to Joseph Wild & Co., New York city.

Claim.—The design for a carpet, as shown.

TRADE-MARKS.

586.—Whisky.—A. W. Balch & Co., New York, N. Y.

587.—Whisky.—A. W. Balch & Co., New York, N. Y.

588.—Gin.—A. W. Balch & Co., New York, N. Y.

589.—Gin.—A. W. Balch & Co., New York, N. Y.

590.—Wine.—A. W. Balch & Co., New York, N. Y.

591.—Pitch-Forks.—Bouton, Whitehead & Co., Naperville, Ill.

592.—Cooking and other Stoves.—Bridgeford & Co., Louisville, Ky.

593.—Axes.—C. Gerber & Co., Toledo, Ohio.

594.—Fertilizers.—Joshua Horner, Jr., Baltimore, Md.

595.—Sheet-Iron.—Rogers & Burchfield, Pittsburg, Pa.

596.—Gloves.—Ware, Marshall & Company, Boston, Mass.

597.—Colors.—Bernhard Weber, New York, N. Y.

598.—Medicine.—Holloway & Co., New York, N. Y.

599.—Medicine.—Holloway & Co., New York, N. Y.

EXTENSIONS.

Solomon A. Bolster, of Boston, Mass., executor of George S. Griggs, deceased.—Letters Patent No. 18,883, dated December 15, 1857.

"Improvement in Locomotive-Furnaces."

Claim.—The within-described arrangement of a fire-brick arch or shelf, attached to the rear of the furnace and extending horizontally, or nearly so, beneath and in front of the tube-sheet, and over the fire toward the fire-door, in such a manner as to

form a combustion-chamber immediately in front of the tube-sheet, in which the smoke and gases, after passing over the heated surface of the bridge, are consumed, as set forth.

JAMES HANLEY, of New York, N. Y.—Letters Patent No. 18,845, dated December 15, 1857; reissue No. 4,583, dated October 10, 1871.

"Improvement in Mechanical Movements for Sewing and other Machinery."

Claim.—The employment of a roller, or equivalent, so constructed and arranged that it will be free to revolve with or be carried away from the balance or driving-wheel of a machine when moved in a proper direction, and to impinge upon and jam against the periphery of the wheel by being forced into or upon an inclined surface or recess, substantially as described, and for the purpose specified.

ISSUE OF DECEMBER 26.

PATENTS.

122,096. — MUSICAL NOTATION. — Fielding Wallace Acee, Columbus, Ga.

Claim.—The method of musical notation herein described, each of the seven notes of the scale being indicated by a distinctive color, as shown, and for the purpose set forth.

122,097.—FIRE-PLUG AND HYDRANT.—Albert Francis Allen, Providence, R. I.

Claim.—1. A hydrant having its delivery-port guarded by a controlling-valve which is incapable of being opened by the normal pressure of water from the mains, and which requires the application of draughting power from a pump to induce the delivery of water, as and for the purposes specified.

2. The combination, within a hydrant, of the piston D and controlling-valve C, connected and operating substantially as described, and for the purposes specified.

3. The combination of the piston D, controlling-valve C, and cam-lever G, as and for the purposes specified.

4. In combination with a pump and hydrant, the controlling-valve C, arranged to remain closed by resisting the highest degree of water pressure, and capable of being opened by the power of suction applied in the usual manner, substantially as and for the purposes specified.

122,098.—PERFORATING-MACHINE.—Frank Anderson, Peekskill, N. Y.

Claim.—1. The segment *d*, or its equivalent, carrying projections or cavities on its sides or face, in combination with a series of punches, substantially as and for the purpose hereinbefore set forth.

2. The movable block A carrying the die and punches with it, and moving on a pivot or in guides or otherwise, and operating against types, stops, or projections, as *f f f*, substantially as and for the purpose hereinbefore set forth.

3. The lever L, in connection with the arm and segment D *d*, so constructed as to admit of both a lateral and vertical movement, substantially as and for the purpose hereinbefore set forth.

4. The manner of operating the punches and feed, namely, through the center of oscillation of the arm D, substantially as and for the purpose hereinbefore set forth.

5. The slotted segmental plate K, or its equivalent, in combination with the lever L and segment *d* D, substantially as and for the purpose hereinbefore specified.

6. The stationary piece *f* for withdrawing the punches from the die, acting substantially as and for the purpose hereinbefore set forth.

122,099. — PAPER-BAG MACHINE. — James Arkell, Canajoharie, N. Y., assignor to Arkell and Smith's, same place.

Claim.—1. In a machine for pasting and folding bag-bottoms, the combination of the drum or carrier for the blank, moving in one direction, as specified, with pasting and folding mechanisms arranged and operating substantially in the manner shown and described to successively paste and fold the material to be operated on, as set forth.

2. In combination with the drum or carrier, on which the blank is held, the creaser K for creasing or indenting the blank, and the folders *b'* or their equivalents, arranged substantially as described, to fold over the paper so creased in a direction contrary to that in which the blank is moving in order to make the first fold.

3. In combination with the drum or carrier, on which the blank is held, the creaser I' and the folders *a'*, or their equivalents, arranged substantially as described to fold the paper in order to make the second fold in the direction in which the blank moves.

4. The combination of the drum or carrier for the blank, the pasting and folding mechanisms, and the creasers, when arranged and operating substantially in the manner shown and described.

5. The rotary paste-wheels, when arranged to automatically move up to and away from the carrier or sack-supporting surface, in combination with the automatically vibratory paster and the moving carrier or bed, the whole arranged to operate as described.

122,100. — PREPARING SALT.—Francis Baker, Boston, Mass.

Claim.—The above-described process of preparing salt for table use, substantially as described, and for the purpose set forth.

122,101, antedated December 23, 1871.—APPARATUS FOR PREPARING SALT FOR CULINARY USE.—Francis Baker, Boston, Mass.

Claim.—1. The combination of the drier A with the ventilating-chamber C, arranged to operate substantially as described, and for the purpose set forth.

2. The combination of the drier A, the passage *a*, and the bolter F, arranged substantially as described, and for the purpose set forth.

122,102, antedated December 6, 1871. — MACHINE FOR MAKING SHOT.—William W. Brigg, Home, Tenn.

Claim.—As a new article of manufacture, the shot-machine herein described, consisting of the handle D E G, hopper F suitably secured thereto, and the perforated card *a*, the whole constructed and arranged substantially as described.

122,103.—EARTH-CLOSET.—Henry C. Bull, New Orleans, La., assignor to Joseph M. Loewenstein, same place.

Claim.—1. The combined link and tank of closet A having guide K, and the valve D, constructed and arranged to operate as described, in combination with the tank B, substantially as shown and set forth.

2. The construction and arrangement of the combined lid and tank C, guide K, sliding valve D, screw-cover W, closet A, and removable barrel-tank B, all as shown and described.

122,104.—STOCK AND FREIGHT-CAR.—James B. Calkins, Pacific, assignor to himself and Josiah Geiger, St. Louis, Mo.

Claim.—1. The combination of adjustable partitions E, buckets D, also made adjustable by their hooks *d d'*, distributing-pipes *c c'*, hose-pipes C C', and water-tank B, all said parts being arranged in a stock and freight car, substantially as and for the purpose set forth.

2. Padding partitions E that form stalls with padding or rubber material, substantially as and for the purpose set forth.

122,105.—DRAUGHT-REGULATOR FOR FURNACES AND STOVES.—Ferdinand E. Chatard, Jr., Baltimore, Md.

Claim.—The cylinder C, in combination with the air-vessel A, the connecting-rods D, E, and F, the movable nut I, the damper-rods H and G, and the dampers K and L, respectively, within the upper and lower draught pipes: the whole, when constructed and operating substantially as described, and for the purpose hereinbefore set forth.

122,106.—BOX OPENER.—Richard H. Chinn, Washington, D. C., and George Hall and Jesse J. Fitch, Morgantown, W. Va.

Claim.—The combination of the jointed claw C, provided with aperture G and toothed point H, with the rule-jointed lever A, when constructed and operated as herein shown and described, and for the purposes specified.

122,107, antedated December 6, 1871.—TREADLE FOR SEWING-MACHINES.—Henry A. Clark, Boston, Mass.

Claim.—1. The treadle or foot-piece E, connected to parallel arms F F^2 suspended on a common axis, *a*, with one, F^2, of said arms extended and connected through rod I with the driving or balance wheel C, constructed, arranged, and operating substantially as described, for the purpose specified.

2. The wheel K, constructed with the rim N and hub O, not contiguous to each other, but connected together for operation through the stems *d d* and springs *e e*, substantially as and for the purpose set forth.

122,108.—WRENCH.—Aury G. Coes, Worcester, Mass.

Claim.—1. The combination, with the bar A and ferrule E, of the tapering, centering, and supporting-collar K, substantially as and for the purposes set forth.

2. The combination, with the ferrule E, of a series of wedge-shaped flanges, I, substantially as and for the purposes set forth.

122,109.—HORSE HAY-RAKE.—James Comly, York, Pa.

Claim.—1. The combination of the swinging draft-frame, the oscillating rake-head, and the sliding locking-bolt with the swinging laterally-yielding latch disconnected from but released by the locking-bolt, substantially as hereinbefore described.

2. The combination of the driving-wheel, the ratchet-ring thereon, the oscillating rake-head, the locking-lever moving parallel with the axle, the sliding bolt, the laterally-yielding swinging-latch moved by the locking-bolt, and the pivoted draft-frame, all these members being constructed and operating substantially as described, so that the locking-lever serves to disconnect the latch and rake-head at the same time—that is, connects the rake-head and toothed ring of the driving-wheel.

3. The combination of the locking-lever, its socket, guide, and retaining-spring, all constructed and operating as and for the purpose described.

122,110. — MARINE PAINT.—John J. Currier and Leonard Cook, Gloucester, Mass.

Claim.—1. The marine paint consisting of sulphuret of copper, natural or artificial, and a suitable vehicle, substantially as described.

2. The marine paint consisting of sulphuret of copper, natural or artificial, melted or mixed with white arsenic and a suitable vehicle, substantially as described.

122,111, antedated December 9, 1871.—SPRING FOR UPHOLSTERY PURPOSES.—James F. Duffy, Chicago, Ill., assignor to himself and George C. Tobius, same place.

Claim.—1. The combination of the semi-elliptic springs A A A' A' and disks B B', substantially as specified.

2. The combination of springs A A A' A', disks B B', and retaining or griping-spring C, constructed and arranged as specified and shown.

122,112.—HEEL FOR BOOTS AND SHOES.—Charles H. Eggleston, Marshall, Mich.

Claim.—1. The described process of veneering a shaped heel with hard rubber by placing soft rubber about the same, compressing it into the desired shape by suitable dies, and hardening by subjection to the usual vulcanizing process.

2. As a new article of manufacture, a shaped heel veneered with hard rubber in the manner described.

122,113. — SEWING-MACHINE. — John Fanning and Edward Nugent, Brooklyn, assignors to John C. Adams and John H. Andrus, Buffalo, N. Y.

Claim.—1. The combination and arrangement of the eccentrics K L, connecting-rods G M, crank O, shaft E, crank P, and needle-bar Q and its connection *a*, and the double-armed lever F, for operating the shuttle and needle, all constructed and operating substantially as described and specified.

2. The double-armed lever F, constructed, arranged, and adapted to work the shuttle and looper, substantially as described.

3. The locking-device, Fig. 4, for changing the positions of the needle and the shuttle and the upper and under needle, when the machine is converted or changed from one stitch to the other, constructed substantially as described and specified.

4. In combination with the above device for changing the time of the vibrations of the lever F, the slotted disk P for changing the throwing the needle, constructed and operating substantially as described.

122,114.—THROAT-CHECK FOR HORSES.—Samuel French, Boston, Mass., assignor to himself and James H. Page, same place.

Claim.—1. The throttle A, substantially as described, for use as set forth.

2. The combination of the throttler A, its hangers *s*, loops *c*, and check-rein *h* with the head-stall B and bit *k*, all being applied and arranged together substantially in manner and to operate as and for the purpose as specified.

122,115. — APPARATUS FOR RECTIFYING SPIRITS, &c.—John Godfrey Guenther, Buffalo, N. Y.

Claim.—In a rectifying-vat, a removable cover, C, provided with the vertical flange *b*, in combination with the annular gutter B having the inner edge *a* lower than the outer edge, substantially as and for the purpose set forth.

122,116.—SAW-COLLAR.—Frank A. Huntington, San Francisco, Cal.

Claim.—The collar B with its flange A, in combination with the spindle D with its collar C and projection *c*, as and for the purpose described.

122,117. — SHINGLE-MACHINE. — Frank A. Huntington, San Francisco, Cal.

Claim. — The combination of the pawls V V, ratchet-wheels T T with the shafts N N, sliding frame P, and springs S S, all constructed to operate substantially as described.

122,118.—ROTARY BLOWER.—William G. Hyndman, Cincinnati, Ohio.

Claim.—1. The piston B, composed substantially of the parts D, F, and G, in combination with the skeleton fan C having blades I with knife-edge ends, when arranged with the case A so as to form co-acting pistons, and to allow cinders or other substances to pass between the fans without injury to the blower, substantially as herein set forth.

2. The case A, when fitted to receive the pistons by coating its interior with a mixture of glycerine and litharge, all as herein set forth.

122,119, antedated December 15, 1871.—CALF-WEANER.—Thomas A. R. Keech, Bladensburg, Md.

Claim.—In combination with the slotted plate or flap A, the slotted adjustable cars B and thumb-screws b^1, constructed and operating as set forth.

122,120.—STOCK-CAR.—Thomas E. Knauss, Zaleski, Ohio.

Claim.—1. The flexible ends *d* and flexible bottom piece *e*, swivel eye-bolt *l* and socket *m*, combined in the folding feed-trough A, substantially as shown.

2. The hand-wheels *g*, shafts *f*, and chains or cords *j*, in combination with the trough A, for the purpose specified.

122,121.—HAND-PLANTER.—John H. Latimer, Crystal Lake, Ill.

Claim.—In combination with the plunger D and slide I, the pivoted lever K and toggle-link J to operate said slide by the movement of said plunger, as set forth.

122,122. — TOY-GUN. — Adam I. Lenhart, New Brunswick, N. J., assignor of one-half his right to Warren K. Lyons; and said Lyons assignor to Daniel B. Felter, same place.

Claim.—The barrel B *b*, the pivot C, the spring-catch D, the spring *d*, rod E, bolt F, spiral spring G, latch H, lever I, and hammer K, when arranged, constructed, combined as herein described.

122,123.—EARTH-CLOSET.—Joseph M. Loewenstein, New Orleans, La.

Claim.—1. The combination and arrangement of the hopper A, the slide or trough B, and the rake C, substantially as shown and described.

2. The combination and arrangement of the bar H, the slide or trough B, and the apron I, substantially as shown, and for the purpose specified.

3. The combination and arrangement of the conduit or pipe E, having the funnel M and cover F, with cask or tank L, substantially as shown and described.

4. The combination and arrangement of the hopper A, trough B, and rake C with the conduit or pipe E having funnel M and cover F, and cask or tank L, substantially as shown and described.

122,124.—COMBINATION LOCK. — Franklin Peter Marsden, Galena, Ill.

Claim.—1. The segment groove *t* in the side of the bolt-frame, as shown, in combination with the segment-flange or rib *p* on the toothed wheel G, as shown, and pinion S in a permutation lock, all substantially as described.

2. In combination with the subject-matter embraced in the first claim, the perforations *s* in the back sides of the segmental flanged wheels G, adjustable stop-pins *r*, and fixed stop-pins *f*, all substantially as shown and described.

3. The movable bars D D^1, with locking-pins *v*, in combination with wheels G, joints *o*, slotted lever D^2, and the pin *i* on the end of knob-lever J, substantially as described.

122,125.—GATE.—Mark Martin, Rockford, Ill.

Claim.—The combination and arrangement of the hinge *h g h*, gate D, cords *a a'*, lever F with latches *n* and *g*, cords *m a a'*, and weight *e*, the whole constructed and operating substantially as described.

122,126, antedated December 20, 1871.—STOVE-LEG. — James T. Milligan, Duquoin, Ill., assignor to himself and Joseph W. Branch, St. Louis, Mo.

Claim.—Casting the lugs B and the base or projection *a* between said lugs, which form the socket-bearings of stove-plates, with a vertical inclination to prevent disengagement of stove-legs C, substantially as set forth.

122,127.—SNAP-HOOK.—Lewis Morse, Attleborough, Mass.

Claim.—1. In a snap-hook having an inclastic tongue connected with the shank or body by means of a spring, which shall serve both as a hinge to the tongue and a spring to force and hold it up to the point of the hook, the spring as arranged between and extended into the tongue and body, in manner as shown, so as to be fully covered and thus protected from injury thereby.

2. The new and improved manufacture of snap-hook as made with its tongue and body composed of two bows struck or formed from plate metal and soldered together, and the tongue next cut or separated from the body, and next reconnected therewith by a spring arranged in and fixed to the two, as described, whereby the spring is made to serve a double purpose, as explained.

122,128. — MACHINE FOR PITCHING BARRELS.—Daniel Myers, Baltimore, Md.

Claim.—1. The oven of the form of an inverted cone, substantially as shown, and for the purpose set forth.

2. The cover, having a slanting roof and conical mouth-piece, substantially as and for the purpose set forth.

3. The oven with lugs, in combination with the cover having corresponding lugs, so as to be attached by means of bolts, substantially as set forth.

4. The fire-pipe, having conical end, in combination with the mouth-piece of the oven, as set forth.

5. The blast-pipe, provided with two-way cock, as and for the purpose set forth.

122,129.—FEED-MILL.—John W. Myers, Lyons City, Iowa.

Claim.—1. A reversible two-faced grinding-plate or disk, A, in combination with an inclosing casing, B, and an inclosed elastic cushion, D, substantially as and for the purpose herein set forth.

2. An outer auxiliary detachable two-faced annular grinding-plate, C, in combination with a casing, B, inclosing a central grinding-plate, A, and arranged to operate substantially as and for the purpose herein set forth.

122,130.—MACHINE FOR REMOVING GREASE FROM LEATHER.—James Perkins, Peabody, and George L. Newcomb, Salem, Mass.

Claim.—1. In a machine for removing grease from leather, the spring and scraper as attached to the top of the end of the frame, in the manner substantially as specified and shown.

2. In a machine for removing grease from leather, a spring and scraper for removing grease from the knife, capable of adjustment in the manner and for the purpose set forth.

3. In a machine for removing grease from leather, the scraper or cleaning-tool D, having combined with it a section of leather or analogous material, for the purpose described.

122,131.—TIN-LINED IRON PIPE.—Clark M. Platt, Waterbury, Conn.

Claim.—A tin-lined iron pipe, constructed in the manner and for the purpose herein described.

122,132.—SOLDERING APPARATUS. — David Porteous, Baltimore, Md.

Claim.—1. The standard *b* having the opening *f*, and combined with the block *d* having the slot *e*, and with the cylinder *h* and bolt *g*, as specified.

2. The angle-iron *m*, combined with the upright *i*, which supports the holding arrangement, and with the base-plate *a*, in the manner described, whereby the holding-arrangement is made adjustable.

122,133.—BARREL.—Henry G. Porter, Grand Rapids, Mich.

Claim.—The combination of two or more ribs, D, extending throughout the entire length of a sectional bent barrel, and the strips F extending between the ribs D at the ends of the barrel, substantially as and for the purpose set forth.

122,134. — DRAWING-TABLE. — Joseph L. Ross, Boston, and Frederick C. Hanson, Charlestown, Mass.

Claim.—1. The adjustable holder K, in combination with a drawing-board, substantially as and for the purpose described.

2. The plate E attached to the top of the shaft C, in combination with the slotted plate F and screw-clamp *e f*, operating substantially in the manner and for the purpose set forth.

122,135.—FASTENER FOR BAGS, &c.—George C. Setchell and Cebra L. Taylor, Norwich, Conn., assignors to themselves and Chester W. Converse, same place.

Claim.—The cord-fastener, constructed as herein described, consisting of the inflexible plate A perforated with three holes, *b c d*, having the knotted cord E inserted up through *b* and down through *c*; thence around the package up through *d* and under that part of the cord between the holes *b* and *c*, by which the free end of the cord is bound and held tight at whatever point drawn, substantially as and for the purpose hereinbefore set forth.

122,136.—MACHINE FOR DICING LEATHER.—Alfred Shedlock, New York, assignor of one-half his right to Claudius F. Bentty, Brooklyn, N. Y.

Claim.—1. The grooved dicing-roller *e*, in combination with the rotating bed *d*, substantially as set forth.

2. The combination of the rotating bed *d*, grooved dicing-roller *e*, and elastic feeding-roller *f*, substantially as set forth.

3. The trough *l*, in combination with the dicing-roller *e*, substantially as and for the purpose set forth.

122,137.—MACHINE FOR PLAITING CLOTH.—William Mont Storm, New York, N. Y.

Claim.—1. The single-hinged or swiveling reciprocating feeding-bar or blade I, in combination with the table A and the drawing-rolls C C^1, having yielding or elastic surfaces or bearings, combined and arranged in the manner and for the purpose specified.

2. In combination with the folding and feeding blade, the cushion or pad *z*, arranged in the face thereof, for the purpose specified.

122,138.—MUSICAL CAGE FOR ANIMALS.—Antonio Suppernio, Milburn, N. J.

Claim.—1. The combination of the rotary cage with the music-box and the ratchet, substantially as before set forth.

2. The combination of the rotary cage with the music-box and the slides, (which permit the music-box to be thrown out of gear with the rotary cage,) substantially as before set forth.

3. The combination of the rotary cage, and the music-box, and the slides with the eccentric lever, (for moving the music-box into and out of gear with the cage,) substantially as before set forth.

4. The combination of the rotary cage with the crank-shaft (for turning it by hand) by means of a cog-wheel and pinion, substantially as before set forth.

5. The combination of the rotary cage and the stationary shaft thereof with the support for the food-cup within the cage, substantially as before set forth.

122,139.—WRENCH.—George C. Taft, Worcester, Mass., assignor to John H. Coes, same place.

Claim.—The combination, with the bar A and ferrule D, of the thimble K, having internal and external screw-threads of different pitch, substantially as and for the purpose set forth.

122,140.—SAFETY-CLASP FOR POCKETS.—Daniel C. Tuck, Farmington, Me.

Claim.—As a new article of manufacture, I claim the above-described safety-clasp for pockets, the same being constructed and operated substantially as set forth.

122,141.—ELASTIC WASHER.—John P. Verree, Philadelphia, Pa.

Claim.—A dished elastic washer, having its periphery formed into a series of radial corrugations, as and for the purpose set forth.

122,142.—PROCESS OF TREATING RAWHIDE. Benjamin F. Wright, Winchester, assignor to Charles H. Drew, Brookline, and Francis T. Morton, Boston, Mass.

Claim.—1. The process of coloring and making elastic and water-proof rawhide by the action of coloring-matter, ironized glue, and caoutchouc dissolved in naphtha or some other suitable substance, and combined with a solution of gum-copal, successively and in combination, substantially as above described.

2. The process of making rawhide elastic and water-proof by the action of ironized glue and a solution of caoutchouc dissolved in naphtha or some other suitable substance, and combined with a solution of gum-copal, successively and in combination, substantially as above described.

3. The process of subjecting rawhide to the action of glue or any equivalent substance so that the glue shall be absorbed into the substance of the hide, substantially in the way and for the purpose above described.

4. The process of rendering rawhide water-proof and flexible when dry by immersing it in a solution of caoutchouc dissolved in naphtha or some equivalent solvent, and combined with a solution of gum-copal, substantially as above described.

5. As a new article of manufacture, the article produced by the subjecting rawhide to the action of glue, either with or without iron in combination with it, and coated or covered with a solution made of caoutchouc dissolved in naphtha or some other suitable solvent, and combined with a solution of gum-copal or some equivalent, substantially as above described.

6. As a new article of manufacture, rawhide subjected to the action of caoutchouc dissolved in some suitable solvent, combined with a solution of gum-copal, so that the caoutchouc and copal shall be absorbed into the substance of the rawhide, substantially as described.

122,143, antedated December 22, 1871.—FRUIT-JAR.—Hasaga U. Allen, North Bennington, Vt.

Claim.—The improved jar formed of the rectangular body A, provided with the inclined grooves a^1, the cover B with a rounded top and with a groove b^1 and bead b^2 upon its under side, and the clamping-strap D, substantially as shown and described.

122,144.—Saw-Filer's Vise. — Nathan H. Baldwin, Laconia, N. H.

Claim.—An improved saw-filer's vise, formed by the combination of the foot A, hand-bolt B, jointed standard C, bolt and hand-nut D, jaw E provided with a slotted half circle *e'*, cross-head bolt F, hand-nut *f'*, jaw G, ears H, and hand-bolts I with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

122,145. — Apparatus for Producing Plane or Parallel Movement.—Albert G. Barrett, Barrett, Kan.

Claim.—An improved plane or parallel movement, formed by the bars or sweeps A B, pivoted at their lower ends to some suitable support, and pivoted at their upper ends to the ends of the bent or curved bar C, having a bearing formed in its middle or lower part to receive the pin or bolt that pivots it to the moving object, the said parts A B C being arranged and operating substantially as herein shown and described, and for the purpose set forth.

122,146.—Thill-Coupling.—Lester D. Belnap, Jonesville, Mich., assignor of one-half his right to George W. Bullock, same place.

Claim.—The combination, with the clip proper and the thill-iron, of the upper branch *b*, the side lap-joint connection between said branch and thill-iron, the locking cam-tongue *c*, rubber block E, and projected guard-ears D, all constructed and arranged substantially as and for the purpose set forth.

122,147.—Combined Coal-Hod and Sifter. Ralph Bogle, Milton, Pa.

Claim.—The hod A, lid or cover *a'*, and sifter B, the said parts being constructed and arranged substantially as described and set forth.

122,148.—Grain and Seed Separator.—John Boozer, Potter's Mills, Pa.

Claim.—In combination with the riddle-box C, the crank *f*, bolster-connections *a b c d*, and shoulders 1 1 and 2 2, for giving said riddle-box a combined rocking and jarring motion, substantially as and for the purpose described.

122,149.—Spring-Bit for Cleaning and Enlarging Wells. — James H. Boyd, West Monterey, Pa.

Claim.—The tool, having shank A, provided with steel bit *b* at the lower end, with rigidly-secured spring B on one face having lip *d*, and extending below the bit, and with the pivoted spring-catch C with a hook thereon, all constructed and arranged as and for the purpose specified.

122,150.—Washing-Machine.—Thomas M. Brintnall, Medina, Ohio, and William Eugene Powers, Cortland, N. Y.

Claim.—1. The combination of the tank A, the perforated rotating cylinder D, the force-pumps, and the perforated or slotted pipe K, all constructed and arranged to operate substantially as described.

2. In combination with the perforated rotating cylinder, we claim the hubbing slats *e* with spring-attachments, substantially as described.

3. In combination with the tank A, hinged cover A', and rotating perforated cylinder, we claim the expressing-rollers *g g* attached by springs to cover A', substantially as and for the purpose described.

122,151.—Windlass. — Edgar Buell, Clinton, Conn.

Claim.—1. The arrangement of the fulcrum F, which supports the lever E, upon an arm, H, the said arm being pivoted so as to swing to the right and left, substantially in the manner described.

2. A windlass-drum constructed of several legs L, each of the said legs arranged with parallel rods *n n*, one of which is pivoted to the shaft and the other to an adjustable head on the shaft for the purpose of expanding and contracting the drum, substantially as described.

122,152.—Supporting-Busk for Corset-Fastenings.—Mellissa E. Bulkley, Providence, R. I.

Claim.—The sliding pieces I I and fixed piece K, constructed and combined with the busk, as and for the purpose specified.

122,153.—Hair-Switch.—Benjamin Franklin Burgess, Jr., Boston, Mass.

Claim.—As a new article of manufacture, a "switch" composed partly of human hair and partly of thread, substantially as shown and described.

122,154.—Blind-Stop.—Perry A. Burgess, Butler, Mo.

Claim.—The bar E, spring H, and hinged catch M, arranged with the perforated plate K and grooved plate I, and all set into the frame so as to be flush with the surface of the same, as shown and described.

122,155.—Plow-Cleaner.—George W. Burr, East Line, N. Y.

Claim.—The clearing-wheel A, provided with curved or downward-projecting teeth, arranged in the throat of the plow, as shown and described.

122,156.—Base-Burning Cooking-Stove.—William Clark, Shelburne, Vt.

Claim.—1. A cooking-stove provided with a circular case or body, B, which contains a circular rotary lining, as set forth.

2. The rotary lining E, arranged within the fireplace of a cooking-stove and geared into an arbor, *b*, whereby it can be turned, as set forth.

3. The grate F, supported and swiveled in the cross A, which is secured within the rotary lining E of the stove, as specified.

4. The partition H, fitted across the circular fireplace, substantially as herein shown and described.

5. The combination of the rotary lining having the hole *l*, with the stationary case B having the hole *m*, and with the intervening annular smoke-passage *d*, as set forth.

6. The ribs *o p*, arranged respectively on the lining E and case B, substantially as and for the purpose herein shown and described.

7. The smoke-chamber s under the reservoir J, when provided with the ribs *r r*, and arranged in combination with the damper *w* and flue *t*, substantially as herein shown and described.

122,157.—Tanning-Vat. — Joseph W. Coburn, East Walpole, Mass.

Claim.—A horizontal liquid-circulating wheel *g*, in combination with a tanning-vat.

122,158, antedated December 21, 1871.—Picture-Frame, &c.—George E. Collins and Willard C. Collins, Bucksport, Me.

Claim.—1. Securing or re-enforcing the miter-joints of picture or mirror frames by means of a metal band inserted in a groove or cut, *a*, made at a right angle with such joint, or nearly so, the tie extending along the edge of the frame so as to prevent the separation of the parts, substantially as shown in Fig. 1.

2. Securing the joints of picture and mirror frames by a metal tie inserted in a cut or groove, *a*, and embracing the corner of the frame, as at *c c*, substantially as shown in Fig. 2.

3. Securing the miter-joints of picture and mirror frames by a metal tie passing twice across the corner of the frame at *c c*, and embracing a portion of the edge of the frame, as at *d d*, substantially as shown in Fig. 3.

122,159.—Automatic Oiler for Looms.—Joseph Crook, Ludlow, Vt.

Claim.—As an article of manufacture, a loom-oiler formed of oil-reservoir A a^1, shank a^2, and two upwardly-inclined wick-tubes, B B, set an angle of about one hundred and twenty degrees, and thus adapted to oil eight parts of the loom, in the manner described.

122,160.—Heating-Stove.—Mark A. Cushing, Aurora, Ill.

Claim.—The combination and arrangement of the radiating-chamber D, the pipe E, chamber F, and damper H, substantially as specified and shown.

122,161. — Circular-Saw Mill.—Malancton W. Danks, Fulton, N. Y., assignor to himself and J. E. Harroun, same place.

Claim.—1. The bevel friction-wheels H and I K and P, saw-shaft B, gig-shaft D, feed-shaft E, carrying-wheels P, Q, and R, the wheels L, M, and N, and shaft O and its friction-wheel, all constructed, arranged, and operating as shown and described.

2. The arrangement, in combination with bevel friction-wheels for feeding and gigging, as described, of the levers J, T, and U, and rods 1, 2, and 3, by means of which the sawyer may give the proper feed or change the feed, or gig back the carriage without changing his position, substantially as set forth.

122,162.—Plow.—William H. H. Doty, Sonora, Ohio.

Claim.—The longitudinally-adjustable frame A C D, combined, as described, with a pair of handles, H H, pivoted thereto, and supported by adjustable braces L L, so that the handles and beams can be simultaneously and correspondingly adjusted, as set forth.

122,163. — Mode of Covering Harness-Mountings. — William Fawcett, New York, N. Y.

Claim.—1. Harness-mountings covered with leather or hard rubber upon the outer side, leaving the inner side uncovered, substantially as herein shown and described, and whether the wires C be used or not, as set forth.

2. The wires C, in combination with the covering B and mountings A, substantially as herein shown and described, whether the said wires be upon the outsides or covered by or embedded in the said covering B, as set forth.

3. The shoulder or recess formed upon the outer surface of harness-mountings to adapt them to receive a cover upon their outer sides, substantially as herein shown and described, and for the purpose set forth.

122,164.—Clothes-Wringer.—John Fox, Farmersville, Iowa.

Claim.—1. The combination of the gear-wheels L M, cross-bar P, and wheel Q, provided with pins or lugs R, with the journals of the rollers B C of the clothes-wringer, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the blocks D, cross-bar E, curved lever F f^5 f^6 f^6, lever G, and plate H, having one or more holes formed in it, with the journals of the upper roller B of the clothes-wringer to enable pressure to be applied to said roller, as set forth.

3. The combination of the rod I and swiveled treadle J with the levers F and G to enable power to be applied to said lever with the foot, substantially as herein shown and described.

122,165.—Head-Rest for Car-Seats.—John C. Gifling, New York, N. Y.

Claim.—The base-block D applied to a car-seat back by means of two straps, F G H, as and for the purpose described.

122,166. — Butter-Tub.—James Gilberds, Jamestown, N. Y.

Claim.—A package for butter and other articles, consisting of an interior wood part, A, an exterior sheet-iron part, B, and a wood and iron cover, C D, the iron part of the cover being flanged to lap over the top of the part B to be soldered thereto or not, all substantially as specified.

122,167.—Billiard-Register.—Leon Godefroy, Pulaski, Tenn.

Claim.—The hollow string or tube, in combination with the central rotating rod and counting-buttons, all constructed as described, and arranged to operate as set forth.

122,168, antedated December 9, 1871.—Folding Hat-Rack.—Nathan Hayden, Chicago, Ill.

Claim.—1. A circular folding hat-rack, composed of slats C and C' connected by screw-threaded pins E and E', the whole arranged substantially in the manner and for the purpose described.

2. In combination with a circular folding hat-rack, as described, the frame F provided with a looking-glass, F', all arranged substantially as and for the purpose described.

122,169.—Pen-and-Pencil Case.—William S. Hicks, New York, N. Y.

Claim.—A combined pen-and-pencil case, constructed and arranged to operate substantially as described, whereby the extension of the pen-tube shall automatically project the pencil, as set forth.

122,170.—Process of Printing on Enameled or Vitreous Surfaces.—Samuel J. Hoggson, New Haven, Conn., assignor to himself, William A. Peck, Jr., and Whiting S. Sanford.

Claim.—The herein-described process for printing on enameled or vitreous surfaces, consisting in the employment of a fusible enamel, applied by a type or similar device to give the requisite impression.

122,171, antedated December 9, 1871.—Metallic Lathing.—Isaac V. Holmes, New York, N. Y.

Claim.—1. Fastening sheet-metal lathes to the supports prepared to receive them by forcing the edges of such laths into slits in the edges of such supports, when such slits are cut at an angle to the edge of such supports, either more or less than at a right angle, by the mere grasping force of such supports upon the laths, and of the laths upon the supports, without the aid of bolts, nails, rivets, or of beating out either laths or supports, substantially as described and shown.

2. Attaching sheet-metal laths to the supports provided for the same, by bending tongues formed from the body of the laths into openings or grooves provided in the supports to receive them, as shown in Fig. 2 of the drawing, and as above described.

3. Fastening metallic lathing to the supports prepared to receive them by beating out portions of the metal forming such laths into recesses, or between projections formed on the surfaces of such supports, as described.

4. Passing the tongues or projections formed on the edges of metallic supports for laths through slits provided in the laths, then riveting or bending these tongues or projections over upon the body of such lath, substantially as set forth.

5. Locking a metallic lath to the support provided for the same by bending portions of the body of such lath back, over the edge of such support, or by bending portions of the edge of such support down upon the body of such lath, as described, and as shown in Fig. 5 of the drawing.

122,172. — HOMINY-MILL.—Theodore Hudnut, Terre Haute, Ind.

Claim.—1. The combination of the shaft B, plates E, lugs F, arms I, cutters G, and the collar D, all substantially as specified.

2. The connection of the cutters G to the shaft B and plate E by the lugs F and arms I, constructed and arranged substantially as specified.

122,173.—TREATMENT OF PEAT FOR FUEL.—Edwin James Hulbert and Aimé-Nicholas Napoleon Aubin, Portland, Conn.

Claim.—The combination, into a system of treating peat for fuel, of a series of devices, enumerated in the above specification, by which the crude material is dug up from its position in the swamp, deprived of its excess of water, carried to the grinding-machinery, elevated, divided, cleaned, and liberated from foreign substances, ground and puddled, molded and spread upon the ground for drying by natural heat, the whole substantially and for the purpose as hereinbefore set forth.

122,174.—LIQUID-METER.—David W. Huntington and William A. Hempstead, South Coventry, Conn.

Claim.—The chests B B', provided with valves J N and ports *a a'*, *b b'*, *d d'*, and *e e'*, combined with devices F G H attached to the piston-rods, all constructed and arranged as and for the purpose set forth.

122,175.—CAR-COUPLING.—Frederick A. Illingworth, Waltham, Mass.

Claim.—1. The shackle D, pivoted to a draw-head and provided with a prop, *g*, substantially as and for the purpose herein shown and described.

2. The combination of the draw-head A, pivoted hook B, prop C, and chain, rope, or rod *d* with the pivoted shackle D and prop *g*, all arranged to operate substantially as herein shown and described.

122,176. — CORN-HARVESTER.—John Johnson, Mott Haven, N. Y.

Claim. — The centrally-arranged lifter D, backwardly-diverging knives E E, and guide-fingers F F, combined and arranged on a wheeled frame, as described, and for the purpose specified.

122,177. — APPARATUS FOR CLOSING BARRELS AND CASKS.—Adolph Koegler, Newark, N. J.

Claim.—1. The combination of a block or vessel containing a perforated slide or plug with a plunger, C, and pipe D, for opening and closing barrels and injecting liquids or other matter, as set forth.

2. The plug B having the passages *b* and *h*, and connected with the tube D and pipe *f*, substantially as herein shown and described.

3. The apparatus as herein described for applying the new tap within the aperture *b* of the plug or slide, so that by the same motion of the plug or slide which shuts the injection-tube the tap is brought under the plunger, as specified.

4. The block A attached to a slide, H, which is operated by a lever, J, substantially as herein shown and described.

122,178.—DEVICE FOR SUPPORTING DRAWERS.—Charles F. Langford, Brooklyn, N. Y.

Claim.—1. A button-loop and hook combined, consisting of the parts A, B, and C, substantially as and for the purpose set forth.

2. The improved device for supporting drawers and other garments, consisting of the frame A, socket B, hook C, link *d*, and strap F, arranged and operating substantially as and for the purpose set forth.

122,179.—FOLDING-BUREAU.—John E. Lawrence and John S. Young, Philadelphia, Pa.

Claim.—The top A, cleats B, back C, hook and eyes D, and hinged end pieces E F, combined in a folding-bureau, as and for the purpose described.

122,180.—HEMMER FOR SEWING-MACHINES.—Stephen B. Lawrence, Scarsdale, N. Y.

Claim.—1. A hemmer, consisting of presser A, having slot C D and point *B'*, and the detachable scroll G J secured by a screw, I, or its equivalent, as described.

2. In hemmers, the piece A, notched at F, as and for the purpose described.

122,181, antedated December 20, 1871.—MACHINE AND PROCESS FOR MANUFACTURE OF PEAT FUEL.—Thomas H. Leavitt, Boston, Mass.

Claim.—1. The process of treatment described, said process consisting in first compressing crude peat to extract a portion of the water contained in or held by it, next dividing up the compressed peat and working or kneading the mass, either with or without the application of heat, steam, or water, and then compressing the peat, so worked, in suitable molds to extract more or less of its moisture and form it into suitable blocks for fuel.

2. Also, the process of treating peat in a pulping-mill by injection into or upon it of inflammable material.

3. Also, in combination with the pulping-mill, the cylinder *i* for receiving and compressing the peat and delivering it in uniform quantities and at uniform intervals into the mill.

4. Also, the rotary cutter *p*, in combination with the mold-cylinder *i*.

5. Also, the combination of a compressing and molding cylinder above a pulping-mill—a mill provided with rotary beaters or blades—and a block-forming mold-cylinder below the mill, all arranged to operate substantially as described.

6. Also, the steam-pipe o^3 and inclosed pipe p^3, arranged to eject an inflammable liquid or powder and steam upon the mass of peat in the mill.

7. Also, in combination with the block-forming and compressing cylinder, the apron f^2 for closing the molds and acting as a bed against which to compress the peat, and through which to express water therefrom, the apron traveling with or being moved by the cylinder.

8. Also, in combination with the block-forming mold-cylinder, the endless carrier-apron A^2, provided with lugs P, which automatically take the block-receivers m^3 and carry them into position to receive the blocks from the mold-cylinder and then away with said blocks, substantially as described.

9. Also, a peat-fuel having artificially combined with it straw, dried grass, or similar material, to facilitate the expression of the water therefrom.

122,182. — RETRACTOR FOR REVOLVING FIRE-ARMS. — Thomas Lee, Westport, Conn.

Claim.—The retracting-bar *a*, stud *c*, double slotted vibrating-arm *d*, stud *f*, and hammer, combined for operation as set forth.

122,183. — DETACHABLE HAIR CURL AND APPARATUS FOR MANUFACTURING THE SAME.—John Mayer, Philadelphia, Pa.

Claim.—1. A long curl having its coils made of comparatively short curled hair, mohair, or vegetable fiber attached to and brushed spirally around a distinct and previously-made padding, B, of short, straight, inferior hair, mohair, or vegetable fiber, with a cord, A, fixed longitudinally through its center, substantially as and for the purpose hereinbefore set forth.

2. A long curl having its coils made of comparatively short curled hair, mohair, or vegetable fiber, attached to and brushed spirally around the fringe of short crimped hair, mohair, or vegetable fiber, substantially as and for the purpose hereinbefore set forth.

3. The apparatus, consisting of the split tube C, and the cord A and pendent weights *b' b'* or their equivalent tension devices, substantially as and for the purpose set forth.

122,184. — KNEADING-MACHINE.—Edward McAllister, Rochester, N. Y.

Claim.—The trough A, in combination with the removable rollers B C, the elastic connection, and its traversing mechanism *i e f*, operating substantially as and for the purpose specified.

122,185.—COMBINED AXLE-BOX, SAND-BAND, AND CASING FOR CARRIAGE-WHEEL HUBS. Micheal McNalley, Houston, Tex.

Claim.—The axle-bar B, cast solid with casing C and sand-band E and sockets G, and combined with casing D and nut F, and arranged as shown and described.

122,186, antedated December 23, 1871.—BRUSH.—James Michales, Jr., and Richard Jaques Comba, Bergen, N. J.

Claim.—As a new article of manufacture, a brush, B, with scraper A, provided with lug *a* attached thereto, as and for the purpose set forth.

122,187.—GUN-BARREL.—Rensselaer R. Moore, Cortland, N. Y.

Claim.—As a new article of manufacture, a gun-barrel having a contracted muzzle formed in the metal of the barrel itself, substantially as described.

122,188.—RELEASING DEVICE FOR STABLES. Edmund B. Myers, York, Pa.

Claim.—The arrangement of the series of bolts D, when made of different length, or so arranged in combination with the slide-rod B as to release the horses or cattle in regular succession, substantially as set forth.

122,189.—CAR-COUPLING.—Franklin Nalley, Battle Ground, Ind.

Claim.—1. The device E F G, combined with pin D and catch H, as described, so that the former will operate both the latter simultaneously, as set forth.

2. The spring-pressed and loosely-pivoted catch H, constructed and applied to the bumper-head of a car-coupling, as and for the purpose described.

122,190.—TUYERE.—Stephen Parsons, St. Francisville, Mo.

Claim.—As an article of manufacture, a tuyere, A B C, constructed in one piece and as described, for the purpose set forth.

122,191. — CORN-PLANTER. — Joseph Pies, Sparland, Ill.

Claim.—The combination of the rotary spider F having the triangles *f f*, with the spring-arms *d d*, slide I, and seed-slide H, all arranged to operate substantially as herein shown and described.

122,192.—JEWELRY-FASTENING. — Robert James Pond, New York, N. Y., assignor to Hodenpyl, Tunison & Co., same place.

Claim.—The continuous snap A, arranged within the tube B, and made substantially as herein shown and described.

122,193.—TOY-PISTOL. — Henry M. Quackenbush, Herkimer, N. Y.

Claim.—1. The barrel B and aperture D, in combination with the air-chamber F and piston G, when made to operate as and for the purposes described.

2. The groove L and spring *m*, as and for the purposes described.

3. The case A, barrel B, with the aperture D and sliding piston G, combined and arranged to operate as and for the purposes described.

122,194. — APPARATUS FOR EVAPORATING SUGAR, &c. — Peter Robinson, Harrisburg, Ill.

Claim.—1. The double-bottomed pan E, in combination with the water-back *g* and fire-box or furnace B, substantially as and for the purpose herein set forth.

2. The circulating-tank H, in combination with the water-back *g* and water-space *w*, of the double-bottomed evaporating-pan E, substantially as and for the purpose herein set forth.

3. In combination with each other, the upper and lower pans A and E, furnace B, flue D, tank H, and water-space *g* and *w*, when the same are all connected and arranged to operate substantially as and for the purpose herein set forth.

122,195.—LIQUID-MEASURING APPARATUS.—Johann Schmidt, Vienna, Austria, assignor to Samuel Hirschl, Davenport, Iowa.

Claim.—1. The rotary cylinder *h*, arranged within the cylinder *g*, from which it is supplied and into which it discharges, an index mechanism being combined with the apparatus, all substantially as shown and described.

2. In combination with the cylinders *g h* and the index mechanism, the supply-pipe *l* and two-way cock *m*, substantially as described.

122,196. — SOUNDING-BOARD FOR MUSICAL INSTRUMENTS. — John Henry Schucht, London, England, assignor to Charles F. L. Goffric.

Claim.—A sound-board formed of alternate layers of hard and soft materials, substantially as and for the purposes described.

122,197.—COTTON-PRESS.—Thomas D. Simpson and William S. Lamkin, Marshall, Tex.

Claim.—The curved blocks G on the follower, combined with dogs C pivoted in blocks F that slide on the bars B, when constructed and arranged as and for the purpose specified.

122,198.—ADJUSTABLE CUT-OFF VALVE.—George W. Smith, New Haven, Conn.

Claim.—1. The combination of the adjustable packing E with the grooved flanges of the ends of the valves B and with the slides D, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the walking-beam K J provided with spring-catches L M at its ends, the three-armed plates N O P, ropes or chains Q, and springs U with each other and with the valve-shafts C and driving-shaft H, substantially as herein shown and described, and for the purposes set forth.

3. The combination of the pins V, spring W, pins X, bent levers Y, and connecting-rod Z with the spring-toes L, walking-beam K, and governor A', substantially as herein shown and described, and for the purpose set forth.

122,199, antedated December 16, 1871.—CLOTHES-PIN. — Lewis Sprague and Charles H. Sprague, Henderson, N. Y.

Claim.—The combination of the tightener and clamps together, forming a clothes-pin, as shown and described, and for the purposes as set forth.

122,200.—HOUSE-BELL. — Amos L. Swan, Cherry Valley, N. Y.

Claim.—1. The bar C, roll K, combined with the

bell-cord E and spring F, substantially as and for the purposes described.

2. The cam I and slotted plates M N, arranged to operate as and for the purposes described.

3. The pin P and spring S, in combination with the slotted plates M N, as and for the purposes described.

4. The combination, with a house-bell, of the plate A, bar C, cam I, slotted plates M N, pin P, springs S and F, rod G, arranged substantially as and for the purposes described.

122,201. — HARVESTER. — John B. Thomson, Lynchburg, Tenn.

Claim. — 1. The shafts S W, pulleys or chain-wheels T V, endless bands or chains U, lugs or eyes X, rake-tooth Z, arm A', recessed and notched shaft Y, bar C', spring or springs E', arm or pin F', and stop-pin G', in combination with each other and with the finger-bar C, frame D, and the driving gearing of the machine, substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the gear-wheels H I, crank-shaft J, connecting-rod K, segmental reciprocating gear-wheel L, gear-wheel M, shaft N, universal joints O, shaft P, and gear-wheels Q R with each other and with the driving-shaft G, frame A, detachable-hinged frame D, and shaft S that operates the raking device, substantially as herein shown and described, for the purpose of giving a reciprocating movement to the rake, as set forth.

122,202. — RAILWAY SIGNAL. — Charles D. Tisdale, Boston, Mass., assignor to himself and Samuel Shackell, same place.

Claim.—1. In connection with a railway track, a horizontal liquid-charged tube having vertical piston-cylinders, upon the rods of which are placed signals, said rods having projections which are moved by a passing engine or car, the movement of one rod and its signal effecting the movement of the next piston and its signal, substantially as described.

2. In combination with two or more signals mounted upon the pistons of the hydraulic tubes the cock *p q*, so arranged that either signal may be operated from the station without effecting the other signal or signals, substantially as described.

3. The jointed inclines or arms having their outer ends at different elevations, (as shown in Fig. 3,) so that an engine in passing in one direction raises the signal, and in passing in the other direction lowers the signal, substantially as described.

122,203. — SHOE-FASTENING. — Samuel P. R. Triscott and George Alfred Wheeler, Worcester, Mass.

Claim. — 1. The eyelet B stamped out of and forming a part of the lower plate A of the lace fastening, substantially as herein shown and described, and for the purposes set forth.

2. The tongue C formed upon the end of the lower part A, of the lace fastening, substantially as herein shown and described, and for the purpose set forth.

3. The spring d^3 formed upon the end of the upper part D of the lace fastening, in combination with the notched ends of the turned-up sides of the lower part A of said lace fastening, substantially as herein shown and described, and for the purpose set forth.

4. The lace fastening formed by the combination of the lower part A B C and upper part D d^1 d^2, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

122,204.—FEED-WATER HEATER.—William E. Walsh, Jersey City, N. J.

Claim.—The metallic feed-water heater, having two zigzag sides, A, narrow sides B, and ends C, constructed as described.

122,205. — CARRIAGE-TOP PROP-BLOCK WASHER.—Abraham D. Westbrook, Astoria, N. Y., assignor to Fletcher W. Dickerman, New York city.

Claim.—As an improved article of manufacture, the rubber carriage-top prop-block washer, made substantially as herein shown and described.

122,206.—SPADE-BAYONET.—William Shepard Wetmore, London, England.

Claim. — 1. In combination with the blade or shield and with a bayonet, the sheath or handle *c'*, substantially as shown and described, for the purpose specified.

2. The improved defensive-plate and intrenching-tool, provided with a socket having a prolonged section, as shown and described, for the purpose specified.

122,207.—CAR AND TENDER LOADING APPARATUS.—James Williams, Bell's Depot, Tenn.

Claim.—The tilting box C, having hinged side M with end pieces O O, combined with sliding blocks E E, supporting-beam F, and gauge-bar G, when all are applied to a frame movable on the track of a railroad, as and for the purpose described.

122,208. — RAILWAY PASSENGER-CAR.—James T. Worley, Cleveland, Ohio.

Claim.—Opening the side doors or windows of a railroad car by means of a swinging weight, substantially as described, for the purposes above set forth.

122,209.—SEWER-TRAP AND CATCH-BASIN.—Alfred R. Ashman and Alfred H. Newell, Cincinnati, Ohio.

Claim.—1. The combination of the basin A, inlet C, basket D, outlet E, pipe F, and trap G in said pipe, all constructed and arranged to operate as and for the purposes specified.

2. In combination with the basin A, the basket or concave grating D, constructed with lugs *d*, projection *d'*, and intervening spaces *d''* between said lugs *d*, and adapted to rest on the ledge *a*, as set forth.

122,210.—THRESHOLD.—Elias Baker, Meriden, N. H., assignor to George A. Colby, same place.

Claim.—1. The device of the adjustable threshold, with an independent movable section capable of being elevated and depressed, in whole or in part, by the action of screws or other similar equivalent devices, substantially as and for the purpose hereinbefore set forth.

2. The appliance of the rubber packing, substantially as and for the purpose hereinbefore set forth.

122,211.—FILLER-BOX FOR CIGAR-MAKERS.—George Barry, Chicago, Ill.

Claim.—The tapering box A B F, provided with cover C, bottom E, door H, and screen D, substantially as and for the purpose set forth.

122,212. — ENVELOPE. — Samuel D. Bates, Boston, Mass.

Claim.—As a new article of manufacture, the envelope described and shown, having a triangular slit, *c d d'*, with an embossed lip, *d d'*, in the lower lappel, and arranged to receive the triangular point *a* of the upper lappel, said point being water-proof, substantially as set forth.

122,213.—THILL-COUPLING.—Edward Batwell, Ypsilanti, Mich.

Claim.—The combination of the rigid jaw B, provided with a rigid draft-pin, C, with the latch-jaw E, shaft-iron D, and packing *e*, all arranged relative to each other and to the clip A, substantially as and for the purpose set forth.

122,214.—BRICK-MACHINE.—François Beaujeu, Parish of Orleans, La.

Claim.—1. In a machine for making bricks, the combination of the plain and fluted working-rolls, the kneading-cylinder, and the hoppers for conducting the earth from the one to the other of these devices, substantially as herein shown and described.

2. The combination, with the kneading-cylinder, of the working-rolls, feed-hoppers, and endless feed-apron, under the arrangement and for operation substantially as herein shown and described.

3. The kneading-cylinder, in combination with the cutting-table and the feed or drawing rolls and draw-plate intermediate between said cylinder and table, substantially as herein shown and set forth.

4. The cutting-table, constructed and arranged to operate in the manner herein shown and described.

5. The combination of the feed-apron, working-rolls, feed-hoppers, kneading-cylinder, drawing-rolls, draw-plate, and cutting-table, organized and arranged for joint operation, substantially as herein shown and described.

6. The molding-press, consisting of the parts herein specified, constructed, and arranged to operate in the manner shown and set forth.

122,215. — HEAD-BLOCK.—Nelson F. Beckwith, Omro, Wis.

Claim.—1. In combination with the standard for saw-mill carriages, the hooks C D, adapted to be simultaneously projected in opposite directions through the central vertical slot in the face of said standard, substantially as described, for the purpose specified.

2. The combination of the hooks C and connecting-bars F I, with the operating lever and the hook D, substantially as described, for the purpose specified.

3. The combination of the supporting guard-plate K with the slotted standard and the hooks C D and their attachments, substantially as described, for the purpose specified.

122,216.—BRONZING-MACHINE.—Edward F. Benton, Buffalo, N. Y.

Claim.—1. The hopper, constructed as described, when arranged with the lifting-frame of the dusting and spreading rolls, in the manner and for the purpose set forth.

2. The combination and arrangement, with the bronzing-roller, of one or more (preferably four) distributing-rollers, operating substantially as and for the purposes hereinbefore described.

3. The bronze-roller, constructed as described, in combination with the raising-lever or automatic lifting device, substantially as described, for the purposes set forth.

4. The gripers, constructed as described, in combination with the cylinder and releasing lugs, for the purposes set forth.

5. The closing springs or their equivalent on the back of the griper-arms, so constructed and operating as to close the arm-holes in the periphery of the cylinder to prevent the escape into the interior thereof of bronze.

6. The combination, with the polishing and cleaning rollers, of the brushes for freeing the same of bronze they take up from the sheet, when arranged to operate as shown and described.

7. The combination, with the polishing and cleaning roller, or any brushes, for freeing superfluous bronze, of a reel or comb for cleaning the same, substantially as described.

8. The combination, with the first or upper polishing and cleaning roller and freeing-brush, of a lower or auxiliary polishing and cleaning roller and freeing-brush, to more perfectly effect the certain and complete polishing and cleaning of the sheet, as hereinbefore set forth.

9. The bronze-receptacles, constructed as described, with two or more shields to prevent the return of bronze to the cylinder or cleaning-rollers.

10. The rubber seat on the periphery of the cylinder for the griper-blade to close upon, as and for the purposes set forth.

11. The cover or covers, constructed and applied, as shown and described, so as to prevent the escape into the room of any bronzing material.

12. In a cylinder bronzing-machine, the general arrangement of all the parts as hereinbefore shown and described.

122,217.—LAMP.—Emil Boesch, San Francisco, Cal.

Claim.—1. In combination with the tube *h* of the burner, the air-tube *b*, channeled, as described, when said channel communicates with the interior of the tube, as shown at *e*, all constructed and arranged substantially as described.

2. In combination with the chimney-supporting case K and tube *g*, the thimble or ring *m*, arranged to move up and down by the revolution of the case, substantially as and for the purpose set forth.

122,218. — COMBINED WALKING-CANE AND BILLIARD-CUE.—Charles A. Bogert, Bay City, Mich

Claim.—1. A combined billiard-cue and walking-cane, substantially as shown and described.

2. The construction and arrangement of the cue-sections A A', the head B, and ferrule C, substantially as and for the purpose set forth.

122,219. — JOURNAL-BOX FOR RAILWAY CARS.—Russell Brewer, Pontiac, assignor to himself and Lyman P. Tompkins, Lincoln, Ill.

Claim.—1. The oil-box D having the lugs *i'* bent upon it, in combination with the block H having the channels *i*, and the car-axle A, substantially as specified.

2. The block H having the channels *i* with openings *m* to receive the lugs *i'* projecting from the sides of the oil-box D, substantially as and for the purpose specified.

122,220. — CLOTHES-WRINGER. — Jacob Brinkerhoff, Auburn, N. Y.

Claim.—1. The combination of the train of gears *d e f* with the box B so that they shall always move together, and consequently be always in gear with each other while they move up and down with the upper or yielding one of the pair of rolls, substantially as described.

2. I also claim, in combination with the train of gears and the under roll detached from the box B, the counter-shaft E and gears *h j* for driving said under roll, substantially as described.

3. I also claim, in combination with the two-part spring G G, the interposed double-headed supports *m m* for keeping said parts in proper working position, substantially as described.

122,221.—SCHOOL-DESK.—William M. Brooke, Eaton, Ohio.

Claim.—The arms G G, constructed as shown, in combination with seat E and standards A A, with projections *b b*, all so arranged that the arms will fall between the projections while the ends of the seat will rest or be supported thereon, substantially in the manner set forth.

122,222.—MACHINE FOR TURNING STONE.—John Dickinson Brunton, Leighton Crescent, Kentish Town, England.

Claim.—The combination, with a slide-rest, of a discoidal cutter, which may be adjusted, and when brought in contact with a moving block of stone will reduce or shape the latter, as set forth.

122,223.—POCKET-BOOK GUARD. — Calvin G. Cahoone and Augustus W. Robinson, Providence, R. I.

Claim.—The spring-tongue and keeper, substan-

tially as described, for attachment to and in combination with a pocket-book and pocket, as and for the purposes specified.

122,224. — STEAM-ENGINE. — Leander Carman, McCoy's Station, Ohio.

Claim.—In a steam-engine having the open-end cylinder B separated into two compartments, B' B', by the partition C, the arrangement of the steam-passages d d, the intervening wall d^1, perforated for the exhaust d^2, and the D-valve H, all constructed and arranged to operate as specified.

122,225.—KITCHEN-TABLE. — Henry Closterman, Jr., Cincinnati, Ohio.

Claim.—The folding and extensible top B' and supports D E, in combination with the table A C, when constructed and arranged in the manner herein shown, and for the purpose specified.

122,226.—DUMPING-CAR.—Franklin B. Colton, Philadelphia, Pa.

Claim.—1. A car or truck, the body of which consists of two sections, G G', adapted to each other and hung to the frame of the car, substantially in the manner and for the purpose described.

2. The said sections hung to the frame of a car or truck, in combination with the locking and releasing device herein described, or its equivalent.

3. The combination of the said sections with a braking device for retarding their tilting movement.

4. The said sections having adjustable journals or trunnions, in combination with adjustable bearings on the frame of the car or truck.

122,227.—DUMPING-BUCKET.—Franklin B. Colton, Philadelphia, Pa.

Claim.—1. The combination, with a hoisting-bale, of a bucket composed of two sections, A and A', adapted to each other and hung to the said bale, substantially as described.

2. The combination of the above with the self-locking device described, or its equivalent.

3. The combination of the sections with legs H H and rollers or casters h h.

122,228.—HEAD-BLOCK.—John M. Comins, Boscawen, New Hampshire, assignor to himself and Austin G. Kimball, same place.

Claim.—The combination of the head-block A, bar a, racks b, angle-plates c, shaft d, and pinions e, as specified.

122,229.—TURN-TABLE.—William S. Coulter, Ashley, Pa.

Claim.—The locking-bars E, constructed with sloping ends on their upper surfaces, and arranged in relation to the rails B B and D D of the turn-table and permanent track, substantially as shown and described, for the purpose set forth.

122,230.—HOLLOW BEAM.—Joseph W. Cremin, New York, N. Y., assignor of one-half his right to George H. Fairchild, Jersey City, N. J.

Claim.—A hollow metal beam of the form shown, having flanges a a a a and internal, longitudinal, vertical, and horizontal webs or supports, all as set forth.

122,231.—LIQUID-METER.—Joseph W. Cremin, New York, N. Y., assignor of one-half his right to George H. Fairchild, Jersey City, N. J.

Claim.—1. The combination of the hollow arms C C, shaft D, extension d, and the screw a.

2. The combination of the arm C C, shaft D, extension d, screw a, pinion a^1, gear-wheel a^2, shaft e, pinion e^1, and case A, as and for the purpose set forth.

3. The case A A, constructed internally and externally as described and shown, and in two parts, one having on the exterior the flange f and the other the ingress and egress ports.

122,232.—CHEESE-VAT. — Francis E. Day, Kennedy, N. Y.

Claim.—The furnace e, water-reservoir d, pans b, fender m, and tubes g l provided with suitable cocks, all arranged as specified.

122,233.—OPERATING RAILWAY SWITCH.—Arthur C. Devlan, Altoona, Pa.

Claim.—The combination of the screw E on the operating bar D of the switch, the nut F, the box G, and the lever I, the latter being arranged so that the axial line of its fulcrum is in transverse relation with the track, and serving, either directly or by the intervention of gearing, to rotate the nut, essentially as herein set forth.

122,234.—STONE-SAWING MACHINE.—Jacob Dindinger and Christian Henri, New Orleans, La.

Claim.—The crank e fixed on shaft p, and provided with longitudinal slot, the pitman m, forked arm j, ratchet-wheel k, pawl l, and shaft i, all constructed and arranged as shown and described to operate in the manner and for the purpose specified.

122,235.—MODE OF COUPLING CARRIAGES.—William T. Dole, Peabody, Mass.

Claim.—The new or improved axle-connection, substantially as described, composed of the parts D, E, and F, arranged, constructed, and combined essentially in manner, and applied to or for application to an axle and carriage-body or perch, as set forth.

122,236.—THREAD-MEASURING APPARATUS. Leonard F. Dunn, Oneida Community, Oneida, N. Y.

Claim.—1. The combination of the stop N with the friction-wheel H, a movable frame carrying said wheel, subject to control by a weight or spring, as described, the spool-spindle D, and registering mechanism set in motion by the friction-wheel, essentially as herein set forth.

2. The combination, with the lever L, which serves to control the contact of the wheel H with the spool, of the clutch-operating lever R, the friction-clutch F, and loose pulley S on the spool-spindle, whereby an automatic and synchronous action is obtained for the spool and friction-wheel H, substantially as specified.

3. The combination, with the spool-spindle D, of the friction-wheel H, hung so as to be self-adjusting toward or from the spool, when said wheel or its shaft I is arranged to reciprocate in direction of the length of their axes, essentially as described.

122,237.—STUMP-EXTRACTOR. — George E. Dyer, New Sharon, Me.

Claim.—The combination of standards A B B, connecting-rods a a' b, with hook h and its chain, as and for the purpose set forth.

122,238.—LADDER.—Frederick Eells, Walton, N. Y.

Claim.—The slide C, constructed with bevel-edged flange E turned inward, and longitudinal slot D, the clamp-screw F, and crank-nut G, in combination with the ladder A provided with the dovetailed recess B, all constructed and arranged as and for the purpose specified.

122,239. — WINDOW CASING AND SASH.—Marshall M. Ellis, Springfield, Mass., assignor to himself and Frederick R. Ladd, same place.

Claim.—In a window-casing and sash the combination of the hinged piece b with its strip c' there-

on, the aperture b', and the recess a upon the lower sash, all constructed and operating substantially as and for the purpose described.

122,240. — CULTIVATOR. — David Zimmerman Evans, Town Point, Md.

Claim.—1. A cultivator-tooth consisting of a shank, A, and detachable blade B, secured together and to the frame of a cultivator by a single bolt, F, substantially as herein described.

2. A cultivator-tooth consisting of a shank, A, and an adjustable blade, B, secured to the shank, so as to be adjustable thereon, by a set-screw, m, or its equivalent.

122,241. — NEEDLE-THREADER AND SPOOL COMBINED.—George P. Farmer, Brooklyn, N. Y.

Claim.—A needle-threading device, attached to or forming a part of the spool, and constructed substantially in the manner described, so as to enable a needle to be threaded either with loose thread or with thread attached to a piece of work.

122,242.—BEE-HIVE.—Harriet A. Farnam, South Bend, Ind.

Claim.—1. The removable queen-trap E and valve F, both perforated as described, in connection with the exit C of a hive, as and for the purpose set forth.

2. In a hive provided with the removable queen-trap E, the arrangement of the wire-cloth entrance-way D, fringed or raveled at the back part, and there formed with the openings a, as shown and set forth.

122,243. — BORING-BAR FOR FACING THE ENDS OF CYLINDERS. — James Flower, Detroit, Mich.

Claim.—1. The construction and arrangement of the boring-bar A, head B, tool-carrier E, feather C with its inclined plane C^2 moving in the dovetail way b, and the hinged segmental nut D provided with the internal groove d, and radial stop-pin e, as and for the purpose set forth.

2. The construction and arrangement of the boring-bar A, head B, tool-carriers E E', feathers C C^1, and their inclined planes C^2 moving in the ways b b, and hinged segmental nut D D', operating substantially as herein described, for the purpose specified.

122,244. — FIRE-EXTINGUISHER. — Joseph Gardner, Louisville, Ky.

Claim.—1. The provision, in a portable fire-extinguisher, of one or more pairs of reservoirs and a generating-chamber, with which they communicate by two simultaneously-acting cocks or valves, substantially as and for the purpose set forth.

2. In a fire-extinguisher of three, five, or more chambers, the combination of the pipes L M, external cocks N O, and an equalizing-pipe or pipes U, (with or without valves or cocks,) all as set forth.

3. In this connection, the simultaneously-acting cocks N O, communicating from the reservoirs to the mixing-chambers, and exterior to the latter, for the object designated.

4. The provision, in connection with a mixing or generating chamber, of two or more pairs of acid and alkali chambers, arranged and adapted to operate substantially as set forth.

122,245, antedated December 20, 1871.—EXPLOSIVE COMPOUND.—Edwin Gomez, New York, N. Y.

Claim.—The explosive compound, of the materials, and prepared in substantially the manner specified.

122,246.—MACHINE FOR WRAPPING WIRE-CABLES.—John Gray, Cincinnati, Ohio.

Claim.—1. In the described combination with a main frame, A, supported on casters B, and having an operating-winch, K, the revolving spool E exterior to the cable, journaled in the revolving and separable frame F F' H' h', G g G' g' J, or their mechanical equivalents.

2. In combination with the elements of the claim next preceding, the pressure and guide plate O, for the purposes set forth.

122,247.—MACHINE FOR LAYING BRIDGE-CABLES.—John Gray, Cincinnati, Ohio.

Claim.—The wheeled machine or buggy for the simultaneous laying of two or more double strands in the construction of wire suspension-bridges, and consisting essentially of a frame, A, whose >-formed wheels C are adapted to travel on two or more temporary tracks or cables, and whose loosely-revolving reels F F' are adapted to pay out as many double strands, substantially as set forth.

122,248. — STEAM-ENGINE. — Darwin A. Greene, New York, N. Y.

Claim.—1. The within-described inverted-beam engine having the elevated cylinder and shaft, and single loaded beam below, connected and adapted to operate within a rigid cast-iron framing, substantially as herein specified.

2. The friction-gears M^1, slot M^2, and adjustable pin m^2, arranged as represented relatively to the main shaft and to the pump M m, and connection m^1, for the purposes specified.

3. The arrangement of the friction-gears M^1 in line with the pump, and the mounting of the wheel M^1 on the spring-bearing, so as to induce a self-acting adjustment of the frictional contact varying with the change in the resistance of the pump, as specified.

4. The turning piece L L' and link k, arranged and operating relatively to the eccentric hook K' and the rock-shaft arm, as and for the purposes set forth.

122,249. — INCUBATOR.—Henry J. Haight, New York, N. Y.

Claim.—1. The rotary incubator with the movable egg-layers, with their working mutilated racks and wheels, and with the immovable egg-layers with the water-pipes, as described and shown.

2. The combination of the distributing and discharging pipes through the hollow axes and the receiving and discharging tubes through the plugs, as described and shown.

3. The detent, unlocking and locking the spindle of the mutilated wheels, as described and shown.

4. The hollow axes, with the revolving journals and their jointed arms supporting and enabling the rotary incubator to turn, in combination with the distributing and discharging pipes, connected, by means of the plugs, with the receiving and discharging tubes through them, as described and shown.

5. The combination of the water-heating apparatus with the hot-air flues, the water-receptacles, the vapor-chamber, the self-regulator, the movable cone, the self-regulator's rod, and the weight-beam, as described and shown.

122,250.—COVER FOR GAS-RETORTS.—Alonzo F. Havens, Brooklyn, N. Y.

Claim.—1. The rib 2 around the mouth of the retort end, in combination with the V-rib upon the retort cover to guide said cover to place, as set forth.

2. The groove 3, containing plaster of Paris or other cement, in combination with the V-rib on the cover c, as and for the purposes set forth.

3. The cross-bar f, supported by the guides e e upon the cover c, in combination with the hooks r and s upon the retort end, substantially as and for the purposes set forth.

122,251. — REVOLVING HARROW. — Jacob Hill and James G. Stewart, Jonesville, Ind.

Claim.—The combination of the frame A B, roller H with spirally-arranged harrow-teeth d d,

tongue I, and slotted-stepped sliding block J, all constructed and arranged substantially as and for the purposes herein set forth.

122,252.—Steam-Boiler Tube-Bushing.—Francis R. Hulbert, Grand Rapids, Mich.

Claim.—1. The inner and outer tubes *e* and *f*, in combination with the double tube-sheets *b*, the outer tube sheets being provided with orifices for receiving the bushing of the inner tubes, and made large enough to allow the removal of the larger tubes through them when the bushings are removed, as herein shown and described.

2. The hollow bushing *e'*, as specified.

3. The outer tube *f*, inner tube *e*, hollow bushings *e'*, and double tube-sheets *b*, all arranged together, as explained.

122,253.—Table for Emery-Grinders.—James L. Jackson, New York, N. Y.

Claim.—1. The carriage, composed of the lower frame D running on the shears, the bed E movable transversely on the said frame, and the face-plates F F movable lengthwise on the said bed, the whole combined substantially as herein described.

2. The combination, with the two face-plates and bed E, of the clamp-bar H connected with the face-plates by screw-clamps G G, and furnished with sliding blocks I I and clamping-screws J J, substantially as and for the purpose herein described.

3. The combination of the shears B, rollers C C, axles *c c*, rods N N, and slots *g* in the lower frame D of the carriage, the whole arranged substantially as described, for the purpose set forth.

122,254.—Dental Forceps.—Peter N. Jacobus, Montague, N. J.

Claim.—1. The combination of the cross-piece D with the lesser jaw B and main jaw A having a cross-handle, C, essentially as described.

2. The combination of the finger-guard E with the cross-piece D of the jaw B, and cross-handle C of the jaw A, substantially as specified.

122,255.—Making Steel Castings.—William Kelly, Louisville, Ky.

Claim.—1. The process herein described of preventing cracking, porosity, or other defects in steel castings by the employment of copper or its equivalent in a mold of sand, substantially as herein set forth.

2. I also claim pouring fluid steel into a mold while in a vertical position, and turning the same soon after pouring into a horizontal position to allow it to cool, substantially as and for the purpose set forth.

3. I also claim mounting the flask on journals, substantially as described, so that when turned over, the clamps being released, the drag, with the castings, will be thrown forward and thus free the casting from binding.

4. I also claim in the apparatus the combination and arrangement of the flask with the floor-frame, the copes, the clamp-bar, set-screws, and trigger, all constructed substantially as described, for the purposes set forth.

122,256.—Presser-Foot Lifter for Sewing-Machines.—Theodore W. Kennedy, New York, N. Y.

Claim.—1. The presser-lifter A', constructed with an elongated straight edge, *i'*, in front for operation in relation with the back of the presser-foot bar or of the latter relatively to it, substantially as specified.

2. The presser-foot lifter A', constructed with a tooth or shoulder, *h*, at its base in front for support to the lifter by the presser-bar or frame C, essentially as herein set forth.

3. The combination of the straight edge *i'* and tooth or shoulder *h* formed in or on the presser-foot lifter A', substantially as shown and described.

122,257.—Mechanism for a Reed-Organ Swell.—Michael J. Kerigan, Boston, Mass.

Claim.—The adjustable knee-lever G, as combined with and arranged in the case, and with the actuating lever E of the swell-operating mechanism, all substantially as described.

122,258.—Preserving Eggs.—John Knapp, Prattsburg, N. Y.

Claim.—The combination of the inner box D, its surrounding coating of plaster Paris C, and the outer box A for the packing and preserving of eggs, as specified.

122,259.—Screw-Press.—Lucius J. Knowles, Worcester, Mass.

Claim.—1. The combination, with the screw E and platen D of a screw-press, of devices for operating the same, constructed and arranged substantially as herein shown and described, whereby the press may be operated either by power or by hand.

2. The combination, with the platen D, screw E and press top, of the reversible ratchet device *g k*, hand-lever L, nut K, gear I, and worm-shaft P N, substantially as and for the purposes set forth.

3. The frame of the press, constructed as herein described, of the standards A, transoms or cross-pieces G, and wrought-iron trusses F with welded ends *a*, combined and arranged substantially as shown and set forth.

4. The combination, with the top of the press and screw E, of the bearing piece H and revolving nut K, constructed and operating substantially as and for the purpose set forth.

5. The combination, with the screw E, standard A, and platen D, of the revolving nut K, gear I, worm P, shaft N, and frame M, substantially as shown and described.

122,260. — Method of Cutting Cloth.—Eliza J. Lake, Washington, D. C.

Claim.—The process herein described of simultaneously cutting many folds or layers of fibrous or textile fabrics by the use of a scroll-saw.

122,261. — Plow. — Daniel Martin Lamb, Strathroy, Canada, assignor to himself and Van Rensselaer Warren, Somerville, Mass.

Claim.—The combination of the corrugated bearing-wheel A and subsoil attachment C C D with a plow, in manner substantially as and for the purpose specified.

122,262. — Ruling-Machine. — Dorus W. Landvoigt, Washington, D. C.

Claim.—The vibratory pen-lifting-plate D, pivoted in adjustable bearings E, and actuated by the extensible cam *b b* independently of the cam-actuated pen-clamp B, substantially as and for the purposes herein described.

122,263.—Head-Block for Saw-Mills.—Dennis Lane, Montpelier, Vt.

Claim.—1. In a sawing-machine, the pivoted dog F, in combination with the pawl G and segmental rack G', substantially as specified.

2. The sliding rack L applied to the carriage of a sawing-machine, the shaft M and the dog O, in combination with the setting-up bar C, rope or chain L^2, and pulley L, substantially as described.

122,264.—Railway Car-Brake. — Chancy H. Lathrop, Jersey City, N. J.

Claim.—The supplementary shaft section F^2 with its universal coupling F^0, in combination with the shaft section F^1 from which it derives its motion, when said shaft sections are arranged in relation with each other and the vehicle to which they are applied, substantially as specified.

122,265. — Copying-Press. — Arthur Le Clercq, New York, N. Y.

Claim.—The combination of two sets of rollers, B C B' C', with each other and with a tank, D, substantially as and for the purpose herein shown and described.

122,266.—Electro-Magnetic Apparatus. George Little, Rutherford Park, N. J.

Claim.—1. An oscillating armature and two helices connected to the main line, in combination with a local circuit connected with one of the helices, substantially as and for the purposes set forth.

2. An oscillating armature upon a fulcrum connected with the cores of two electro-magnets, in combination with two electric circuits connected with the helices of such magnets, substantially as and for the purposes set forth.

3. The screw-rod *k* of the rheostat, combined with the adjuster *h* and coil *e* to regulate the position of said adjuster, substantially as set forth.

122,267.—Rheostat or Resistance-Coil.—George Little, Rutherford Park, N. J.

Claim.—The conductor *k*, sliding block *m*, and spring *o*, in combination with the coil *e*, heads *a b*, and bar *l*, substantially as and for the purposes set forth.

122,268.—Mechanism for Operating Attachments in Sewing-Machines.—Joseph W. Lyon, Chicago, Ill.

Claim.—The stop E placed either beneath or penetrating through the lever D and secured in the disk B, as described, in combination with the lever C and base piece A and link D d^2, all constructed and operating as set forth.

122,269.—Valve-Gear for Steam-Engines. John C. Macdonald, St. Louis, Mo.

Claim.—1. The cylindrical stop-valve E' formed in sections F F' having heads *f f'*, D-shaped ports d^4 d^5, when arranged to operate as and for the purpose set forth.

2. The arrangement of auxiliary cylinders B and E, piston B^1, double valve-heads C C, reverse slide-valves D D, cylindrical stop-valve E', constructed to operate in combination with main cylinder A, substantially as and for the purpose set forth.

3. The arrangement of steam-passages or ports *b b'*, steam-chambers G G', in combination with auxiliary cylinder E and cylinder A, substantially as and for the purpose set forth.

4. The arrangement of inductive and exhaust ports *c c'*, D-ports c^3 c^3, ports and passages c^4 c^5 c^6, in combination with cylinders B E, cylindrical stop-valves E', and main cylinder A, substantially as and for the purpose set forth.

5. The auxiliary cylinders B E, valves E D D, steam-ports *c c' b b'* c^4 c^5 c^4 c^5, arranged in combination with steam-chest A^3, cylinder A having main ports *a* a^1 a^2 a^3, piston A^1, when all said parts are constructed and arranged to operate as and for the purpose set forth.

122,270, antedated December 23, 1871.—Shears for Cutting Metal. — George M. Marshall, New Haven, Wis.

Claim.—1. The combination and arrangement of the standard A furnished with a trunnion, T, and lugs or pins L M, the moving-plate C having curved slot K, and the tie or retaining-bar N, substantially as described and shown.

2. The construction and arrangement of the lever E and its bearing in the moving plate C, furnished with the arm *n*, lateral continuation *p* passing through the opening *r*, as specified and shown, and for the purpose set forth.

122,271.—Railway-Switch. — William L. Martin, Rienzi, Miss.

Claim.—1. In combination with the sliding rails D D of a railroad switch, the stationary check-rails G G bolted to the cross-ties E E, and arranged on one or both sides of the moving rails, as and for the purposes set forth.

2. The combination of the chairs H I with shoulders or abutments *b b* and the keys *d d*, substantially as and for the purposes herein set forth.

122,272.—Steam-Trap.—Hiram S. Maxim, Brooklyn, N. Y.

Claim.—1. The expansible vessel *c*, resting upon the supports *d* within the case *e*, and acting upon the independent valve *a* that has its seat *b* at the end of the pipe, through which the water of condensation is delivered into the case *e* to pass away below the vessel *c*, as and for the purposes set forth.

2. The cylindrical removable plug *m* and strainer *k*, in combination with the valve *a* and expansion vessel *c*, as and for the purposes set forth.

122,273.—Deodorizing the Gases from Lard-Boiling, &c.—William H. McNeill, West Orange, N. J.

Claim.—1. The method herein specified of deodorising the vapors from the rendering-vat or kettle by subjecting the same to the action of a disinfectant previous to passing to the condenser, substantially as set forth.

2. The vat *b*, containing sawdust or equivalent material, saturated with disinfecting liquid, through which vapors from the rendering-vat or kettle pass before reaching the condenser, for the purposes and as set forth.

122,274.—Belt-Pump.—Samuel C. Murdoch and Thomas H. Borland, Pittsburg, Pa.

Claim.—The compartment *s*, chamber *t*, arranged with relation to the openings *r* and *s*, as shown, and used combined with the flat flanged disks *k*, all constructed, arranged, and operating with relation to each other, as herein described.

122,275.—Turbine Water-Wheel.—Matthew W. Obenchain and John T. Obenchain, Loganasport, Ind.

Claim.—The turbine herein described, consisting of the conical body A, the ring E, and the flanched ovoid buckets C, having their centrifugal discharge beyond the vertical plane of the inlet, and surfaces gradually increasing in curvature from the inlet to the junction with the ring, and terminating in full semicircular or elliptical outlet-lips lying nearly in radial planes, as specified and shown.

122,276, antedated December 14, 1871.—Tobacco and other Presses.—Nathaniel M. Pepper, Danbury, N. C.

Claim. — The arrangement of the tanks F F', cords or chains *e e'*, beam or hook *d*, lever E, presser-block H, standard B, and framing D D C, all constructed and operating substantially as herein shown and described, for the purpose set forth.

122,277. — Journal-Bearing and Lubricating Device. — Dabney N. M. Peregoy, Johnson City, assignor to himself, Robert I. Lusk, and Lorenzo D. Poteet, Elizabethtown, Tenn.

Claim.—1. The bushing or bearing B provided with one or more loose followers, C, acted upon by one or more keys or wedges, E, or their equivalents, arranged substantially as described, and for the purpose set forth.

2. The bushing B, followers C, keys E, in combination with weights or equivalent devices, arranged and operating substantially as set forth, and for the purpose specified.

3. The bushing B provided with the concave *l*, in combination with the lubricating mechanism F, substantially as described.

4. The pipe F constructed as described, in combination with the concave *l* of the bushing B, and operating, in reference to the shaft, substantially as described.

122,278.—Slide for Extension Tables.—James Ploukharp, Columbus, Ohio.

Claim.—The form of the metal connection, shown on Figs 3 and 4, marked with letters of reference *a b c d*, in combination with the rails or slides fitted with grooves for adjustment, in the manner shown and described.

122,279.—Bee-Hive.—James S. Procter, Franklin, Ky.

Claim.—The comb-frames B, constructed, as described, with guides *f* and slots *e e'*, substantially as and for the purposes herein set forth.

122,280.—Clothes-Drier.—Zenas B. Putnam and Henry H. McDonald, Belfast, Me.

Claim.—The combination of the frame A, provided with the projecting upper bar *g* and hinged racks *b* and *c*, substantially as and for the purpose specified.

122,281.—Composition for Liquid Soap.—James M. Ball, St. Louis, Mo., assignor to William W. Thomas, same place.

Claim.—A liquid soap, composed of quick-lime and sal-soda in about equal parts, with a moderate quantity of borax, carbonate of ammonia, saltpeter, and spirits of turpentine, together with sufficient water to retain the whole in solution, as specified.

122,282.—Horse Hay-Rake.—Samuel Rockwell, Moline, Ill.

Claim.—1. The combination of the axle A with clearers M, shafts D D hinged upon the axle, rake-head G hinged upon the shafts, and rod k connecting the rake-head and axle, when constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination, with the above, of the locking-rod K, spring *m*, and catch L, substantially as and for the purposes herein set forth.

122,283.—Machine for Tentering Cloth.—George S. Rogers, Thetford, Vt.

Claim.—The combination of the drying-drum B, the two series of slides C C, tenter-hooks *f*, and riders *g*, arranged to operate together, as set forth, and with guides E F G and draft-rollers I K, and provided with mechanism for moving each slides longthwise, all being constructed and to operate substantially as specified.

122,284.—Furrowing-Plow.—Abraham P. Rohrer, Christian F. Rohrer, and John H. Bluse, Clarke county, Ohio.

Claim.—1. The arrangement of the pivoted or balanced frame C, projecting frame *b*, foot-board *b'*, slide *i*, slot *i'*, and loop *j*, as shown and described, as and for the purpose set forth.

2. Spring-catch *s*, guide-plates *s'*, and plates *o*, arranged and combined with back rail *a'*, plow-beams *a''*, and handles *m*, substantially as shown and described, as and for the purpose hereinbefore set forth.

122,285.—Machine for Untwisting and Picking Hair-Ropes.—Gelston Sanford, Bergen Point, N. J.

Claim.—1. The combination of the feed-rollers C D and rotating internally-threaded untwisting tube G, substantially as and for the purpose herein set forth.

2. The combination of the feed-rollers C D, the picker-cylinder E, and the interposed rotating internally-threaded untwisting tube G, substantially as and for the purpose herein described.

122,286.—Combined Band-Punch and Screw-Driver.—George W. Schofield, United States Army.

Claim.—The combination of the handle A and the blade B thereon, both slotted, the recess *f f'* in blade D, and pivot *e* with the double punch *c c*, all substantially as and for the purpose described.

122,287.—Shoe-Fastening.—John Slatcher, Bridgeport, Conn.

Claim.—The apparatus, herein described, for fastening and unfastening shoes, consisting of the spring A, tongued plate B, loop-plate C, and hooks *c* and F, constructed and arranged substantially as specified.

122,288.—Sash-Balance.—Hiram Smith, Titusville, Pa.

Claim.—The spring-pulley balance, consisting of the pulley *a* and spring *a'*, attached, by one end, to the periphery of the pulley, and wound compactly so as to wind and unwind directly thereon in effecting the balance of the sash to which it is attached, and thereby avoid the objection of separate loose coiled adjustable springs and pulley-straps, as described.

122,289.—Disintegrating Waste Vulcanized Rubber.—Jacob H. Sinyser, Pittsburg, Pa.

Claim.—Comminuting waste vulcanized India rubber or caoutchouc by subjecting it to the abrading action of burr or grindstones, emery, sand, or glass belts or wheels, substantially as and for the purpose described.

122,290, antedated December 23, 1871.—Lightning-Rod.—Charles P. Snow, Freeport, Ill.

Claim.—1. A lightning-rod constructed of a flat strip of zinc or other strengthening metal surrounded by a strip of copper, substantially as and for the purpose specified.

2. In combination with a flat lightning-rod, A B, the point C, when united by compressing the rod B into the recess *c*, in the manner substantially as set forth.

122,291.—Filter.—Horatio N. Taft, Sag Harbor, N. Y.

Claim.—1. A reversible filter having valves J, by means of which the flow of the water or other liquid is automatically controlled, substantially as described.

2. The chambers K K, or their equivalent, in combination with tubes C C and valves J J, substantially as and for the purpose described.

3. The interior cylinder or part E, with perforated partitions F F therein, surrounded by the annular filtering-space P, as shown and described.

4. The perforated diaphragm or false heads G G, in combination with the inner cylinder E, substantially as described.

5. The trunnions T T, in combination with a reversible filter, when the filter is constructed substantially as described.

6. The arrangement of the discharge-cocks S S, in combination with a reversible filter, when the filter is constructed substantially as described.

7. The combination of valves J J with the interior cylinder or vessel E, as and for the purposes described.

122,292.—Watchman's Time-Check.—Louis A. G. Vielle and Jean La Robellas, New Albany, Ind.

Claim.—The interior removable door E provided with projections *f f*, lock k, glass-covered aperture *i*, stationary hand *m*, guide-bar H, notched sliding plate G, spring-pawl I, and punch *t*, in combination with the clock-work C and the revolving dial D, all constructed, arranged, and operating substantially as and for the purposes set forth.

122,293.—Heating-Stove.—James Wager, Troy, N. Y.

Claim.—1. In an open-top parlor cook-stove, a

cover hinged to or sliding upon the stove and carrying a secondary cover provided with suitably-covered boiler-holes pivoted or sliding upon it, as described.

2. The combination of the solid central portion D of the cover B with the hollow convex-shaped covers *c* covering the boiler-holes C, so as to form, with the part D, an entire ornamental top, as described.

122,294.—Curtain-Fixture.—Thomas N. Webb, Baltimore, Md.

Claim.—As unattached holding-plate A, carried by the roller-cord E, and having open recessed notches *a b* in the edge or edges thereof, in combination with a fixed pin, *c*, for regulating the tension of the cord, as described.

122,295, antedated December 12, 1871.—Apparatus for Setting Boxes in Carriage-Hubs.—Charles Weidig, New Haven, Conn.

Claim.—The herein-described apparatus for setting boxes in carriage-hubs, consisting of the bed A provided with the seat F, and with rods B pivoted thereto, combined with the head D and screw E, the whole constructed and arranged to operate substantially in the manner set forth.

122,296.—Composition Roof.—Edward Westermayr, Chicago, Ill.

Claim.—1. The combination, with the fibrous foundation B, of an artificial stone surface, C, laid on while moist and plastic, substantially as specified.

2. The composition artificial stone for roofing purposes, compounded in the manner, proportions, and ingredients, substantially as herein specified.

122,297.—Carpet-Beater.—John W. Wheeler and William A. Wheeler, Cleveland, Ohio.

Claim.—1. The combination of the oscillating beaters B B, the pulleys E and G, and the flexible belts F F in a carpet-beating machine, substantially as described, and for the purpose set forth.

2. The shaft D and its beaters B, pulleys E and G, rollers N N, cross-shaft Q, and blower K, combined and arranged with the chamber A, in the manner and for the purposes set forth.

122,298.—Machine for Filling Fruit-Cans and for Cleaning off the Tops of the same.—Loren J. Wicks, Bridgeton, N. J., assignor to himself, William Selser, C. N. Selser, J. A. Selser, and G. W. Turner, Philadelphia, Pa., and John H. Poole, Bridgeton, N. J.

Claim.—1. A machine for filling cans, in which the material is forced by a plunger or plungers through a casing arranged to fit into or over the mouth of the can, all substantially as described.

2. The casing F tapered at its opposite ends, arranged to have a limited sliding movement, and furnished with plungers I and J, arranged one within the other, and operating in respect to each other and to the casing, substantially as described.

3. The combination of the lever D and its tongue *e* and shoulders *f* with the plungers J and I, substantially as specified.

4. The combination of the inclined chutes G and their flanges *s* with the flaps H, for the purpose of retaining the cans in a proper position in respect to the casing F.

5. The hinged flaps H, when so balanced or weighted as to sustain an empty can, but so as to yield to the weight of a filled can.

6. The perforated casing K, for the purpose specified.

7. The combination of the said perforated casings with the slide L, operated substantially as described, and with the receivers M and M' attached to the said slide.

8. The combination of the said receivers with the cross-piece N and its openings, and with the hoppers h of the casing F, all substantially as set forth.

9. The combination of a fixed or rotating pipe, R, with devices substantially as herein described, whereby the tops of filled cans may be brought within range of a jet of steam, or air under pressure, from the said pipe.

10. The combination of the pipe R, revolving disk *p*, and lever W with its flanged openings *r*, for the reception of cans, all substantially as described.

11. The combination, substantially as herein set forth, of the operating lever D, lever W, and lever S, with its toothed segment for driving the vertical spindle T.

122,299.—Grain-Drill.—Lyman Wight and Orison G. Ewings, Whitewater, Wis.

Claim.—1. The combination, with one common frame, of the broadcast-seeder and cultivator, a grain-drill, a corn-planter, and a corn-cultivator, substantially as herein shown and described, for the purpose specified.

2. In combination with the crank-pinion W the pivoted bracket X and the spring-arm H^1, we claim the lever F^1 and connecting-rod I^1, substantially as described, for the purpose specified.

3. The open-backed tube L^1, constructed with an inclosed head, and with its widened mouth provided with the diamond-shaped pins, arranged as described, said tube being hinged to the under side of the hopper, substantially as herein shown and described.

4. The spring-pivot yoke O^1, in combination with the tube L^1 and the ears *n'* of the hopper, substantially as described, for the purpose specified.

5. The corn-planter, supported by the frame of the machine and the hopper of the seeder and drill, and adapted for operation from one of the driving wheels of the seeder and drill, substantially as described, for the purpose specified.

6. The corn-planter adapted for use in connection with two of the tubes of the drill by means of the bent tubes L^2 for the purpose of planting one or two rows of corn in drills, substantially as herein shown and described.

7. The corn-cultivator, mounted upon the frame of the seeder, drill, and corn-planter, and adapted for operation in connection with the drag-teeth, substantially as described, for the purpose specified.

8. The broadcast-seeder, the grain-drill, the corn-planter, and the drag-teeth, all adapted to be thrown in and out of operation by the movements of one common lever and lifting-bar and their intermediate connections, substantially as herein shown and described.

9. The seed-plate of the corn-hopper, operated from one of the driving-wheels of the drill and seeder by means of the pinion P^2 and grooved pulley J^2 upon the shaft e^2, the belts F^2 I^2, grooved pulleys G^2, and a grooved pulley upon the hub of the wheel, substantially as herein shown and described.

122,300.—Seeding-Machine.—Lyman Wight, Whitewater, and Orison G. Ewings, La Grange, Wis.

Claim.—1. A feeder for seeding-machines, consisting of an inverted serrated cup adapted to oscillate or rotate within an opening in the grain-hopper so that the seed shall pass inside the cup before being discharged from the hopper, substantially as described, for the purpose specified.

2. The adjustable grain-feeder, consisting of an oscillating cup, C, mounted upon a crank-shaft, D, the slotted adjustable bracket E, and the toothed cam F, substantially as described, for the purpose specified.

3. In combination with the slotted bracket E carrying the feed-cup, we claim the spur G and graduated toothed cam F, substantially as described for the purpose specified.

4. The slotted bracket E, constructed as described, with the eye H, slotted arm I, and spur G, substantially as described, for the purpose specified.

122,301.—Propelling Vessels.—Matthew K. Wildman, Brooklyn, N. Y.

Claim.—1. The propellers D D', arranged one in advance of the other, and of opposite pitch, as described, made to rotate in reverse directions at different velocities, by means of the differential gear *b b'* and *c*, essentially as herein set forth.

2. The arrangement of the rudder E within the rear end of the passage C, between the hull sections, so as to be capable of wholly closing either side of the outlet of said passage, substantially as shown and described, for the purpose set forth.

122,302.—Bee-Hive.—Alonzo E. Woodhull, Spencer, Mich.

Claim.—1. The detachable paper boxes D and D' for forming with the hive A two fixed air-chambers over the bees to protect them from the extreme cold of the winter, constructed and arranged substantially as described and shown.

2. In a bee-hive the hollow truncated cone G provided with the valve H and guide-wire *k*, constructed, arranged, and operating substantially as and for the purpose set forth.

122,303.—Thrashing-Machine.—Gustavus H. Zacheeh, Indianapolis, Ind.

Claim.—The levers G G, adjusting-screw J, and hinged arms E, in combination with the apron C and grate D of a thrashing-machine, constructed and arranged to operate as described, and for the purpose set forth.

REISSUES.

4,680. — Roller and Fastening for Clothes-Wringers.—Robert B. Huguenin, Cleveland, Ohio, assignor to Albert H. Spencer, Providence, R. I. — Patent No. 53,001, dated March 6, 1866.

Claim.—1. Shaft-fastened elastic rollers, when made in combination with hollow or slotted metal shafts, with two or more openings in the same, having two or more pieces of cloth or wire-cloth, or both combined, prepared with raw-rubber compound, passed through the openings of the shafts, and the sides of the pieces of cloth or wire-cloth lapped around, and elastic vulcanizable gum vulcanized thereon, substantially as and for the purposes specified.

2. The combination of the clamps H H, thumb-screws I I, and screw-plates J J, substantially as described, and for the purposes specified.

3. A clamping device, consisting of a stationary plate, a propelling-screw, and a bearing-surface having a prolonged shank or body which embraces part of the propelling-screw, and is so arranged as to be withdrawn into a recess of such form as to prevent the rotation of the clamp with the screw, substantially as and for the purpose herein specified.

4. The combination of the springs E E and adjusting-screw F, when the springs are both free to rise and fall in the slots of the uprights, and the thumb-screw operates between them to increase or diminish their distance from each other, substantially as set forth.

5. The combination, in a wringing-machine, of two elastic rollers set in suitable uprights and bearings, with the two springs E E arranged so as to be separated more widely by any increase of their tension imparted by the adjusting-screw F or its equivalent, substantially as and for the purpose specified.

4,681.—Thill-Coupling.—Daniel A. Johnson, Boston, Mass.—Patent No. 113,525, dated April 11, 1871.

Claim.—1. A yoke, A, provided with a socket, whether made in one and the same piece therewith, or partially in a piece separate therefrom, substantially as described.

2. I also claim a yoke, A, provided with a socket, whether made in one and the same piece therewith, or partially in a piece separate therefrom, in combination with the packing H, band D, lugs F F', screw I, and plate C, substantially as and for the purpose set forth.

3. I also claim the lug F or F', provided with a projection J, as and for the purpose described.

4,682.—Pump-Rod Attachment. — Henry H. Locke, Pleasantville, Pa., assignor to Douglas Bly, Rochester, N. Y.—Patent No. 103,632, dated May 31, 1870.

Claim.—The combination of the clamping-bolt C with the cross-head A for the purpose of allowing the adjustment and producing the clamping of a pump-rod, as specified.

4,683.—Method of Cooling and Ventilating Rooms. — Azel S. Lyman, New York, N. Y. — Patent No. 14,510, dated March 25, 1856; extended seven years.

Claim.—1. As my improvement in cooling, drying, and disinfecting rooms, the combination of a descending conduit or cold-air flue with a reservoir for containing cooling materials, substantially in the manner and for the purposes described.

2. In a cooling or ventilating apparatus, substantially as herein described, I claim the use of tubes in the reservoir or receptacle of cooling material.

4,684.—Copper Alloy for Plow Mold-Boards, and for other Purposes. — William Magee, Jamaica, N. Y.—Patent No. 119,091, dated September 19, 1871.

Claim.—The composition, consisting of the ingredients herein stated, used in such proportions as to secure the positive preponderance of copper, so that this metal shall form the basis of the alloy, substantially as described, as and for the purpose stated.

4,685.—Expanding Pulley.—Thomas H. Savery, Wilmington, Del.—Patent No. 78,763, dated June 9, 1868.

Claim.—1. An adjustable sectional pulley, substantially as hereinbefore set forth.

2. The combination of a rotating shaft and an adjustable sectional pulley, substantially as hereinbefore set forth.

3. The combination of a sectional pulley with mechanism for varying its diameter when the pulley is at rest, substantially as hereinbefore set forth.

4. The combination of a rotating shaft, a sectional pulley, and mechanism for adjusting the diameter of the pulley while in motion, substantially as hereinbefore set forth.

5. The combination of the radially-adjustable pulley-sections and the scroll-wheel, or their equivalents, substantially as hereinbefore set forth.

6. The combination of the hand-wheel and adjustable pulley-sections by connecting mechanism, substantially as hereinbefore set forth.

7. The combination of the rotating shaft, the hand-wheel turning freely thereon, the gear-wheel carried by the hand-wheel, the adjusting mechanism revolving with the shaft, and the adjustable sections—these members operating in combination, substantially as hereinbefore set forth.

8. The combination of the shaft, the radially slotted face-plate, and the pulley-sections having arms movable endwise in the slots, substantially as hereinbefore set forth.

4,686.—Manufacture of Gun-Barrels.—James Henry Burton, Leeds, England, assignor to James T. Ames.—Patent No. 27,539, dated March 20, 1860; antedated September 29, 1859.

Claim.—1. The process of manufacturing gun-barrels by first perforating a solid bar of wrought metal, and then tapering from breech to muzzle, and reducing the thickness of the shell at the same time that the bore of the barrel is uniformly decreased, as set forth.

2. A pair of rollers provided with the series of gradually decreasing and tapering grooves *a*, combined with a series of gradually diminishing and relatively smaller mandrels, but each one uniform in its own diameter, when constructed and arranged as and for the purpose set forth.

3. A gun-barrel made of wrought metal, tapering in external form, of cylindrical bore, and without weld or seam, as described.

DESIGNS.

5,447. — Center-Piece. — Henry Berger, New York, N. Y.

Claim.—1. The combination of the spherical triangles B with the central button A of a center-piece, as shown and described.

2. The combination of the escutcheons C with the spherical triangles B and central button A of a center-piece, as shown and described.

3. The spread leaves D, in combination with the escutcheons C, spherical triangles B, and central button A, as shown and described.

5,448.—Cooking-Range.—Luther W. Harwood, Troy, N. Y., assignor to Fuller, Warren & Co., same place.

Claim.—1. The design for the front plate A and end plates B C, as herein specified.

2. The design for the molding E, as described.

3. The combination of the border-molding E and pendent panel ornament or ornaments I, with or without an intervening molding, J, as herein set forth.

4. The design for the grate-shank door K, as described.

5. The words "Hot-Blast Range," composed of letters shaped and arranged together on a plate of a stove or range in the ornamental manner herein described.

5,449.—Hand-Stamp. — Benjamin B. Hill, Springfield, Mass.

Claim.—The design for a marking-stamp, substantially herein described and shown.

5,450.—Type.—Andrew Little, New York, N. Y.

Claim.—The design for printing-type, as shown.

5,451.—Cooking-Range.—Samuel P. Robinson, Plainfield, Conn., assignor to Robinson & Fowler Foundry Company, same place.

Claim.—The design for a portable cooking-range, as shown.

TRADE-MARKS.

600.—Boots and Shoes.—John W. Adams, Indianapolis, Ind.

601.—Whisky.—A. W. Balch & Co., New York, N. Y.

602.—Whisky.—A. W. Balch & Co., New York, N. Y.

603.—Spices, Groceries, and Drugs.—E. R. Durkee & Co., New York, N. Y.

604.—Spices, Groceries, and Drugs.—E. R. Durkee & Co., New York, N. Y.

605.—Spices, Groceries, and Drugs.—E. R. Durkee & Co., New York, N. Y.

606.—Spices, Groceries, and Drugs.—E. R. Durkee & Co., New York, N. Y.

607. — Tobacco. — Goodwin & Co., New York, N. Y.

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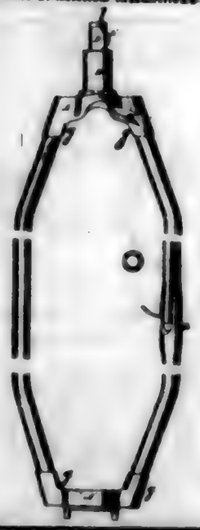
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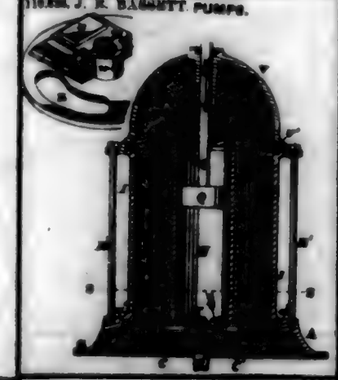
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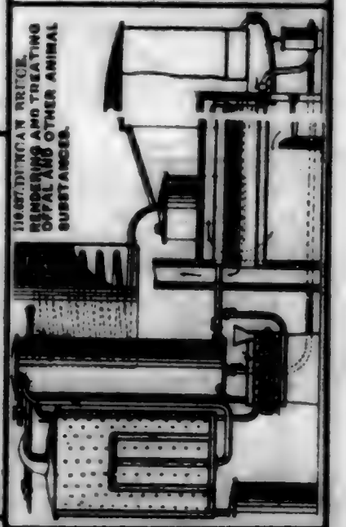
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110,619. J. R. BARNETT. PUMPS.

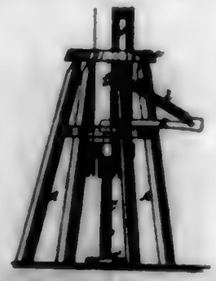


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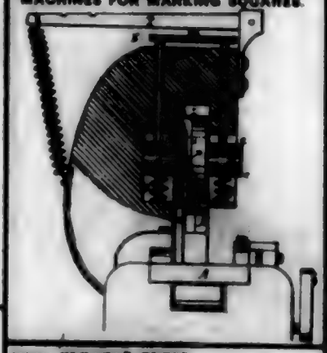


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110,623. CHARLES C. BENNET.
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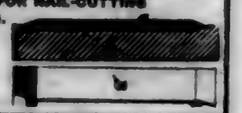
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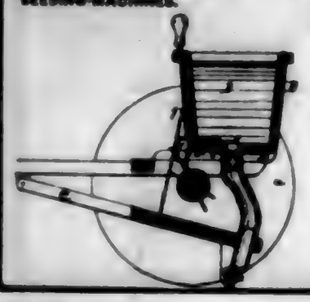
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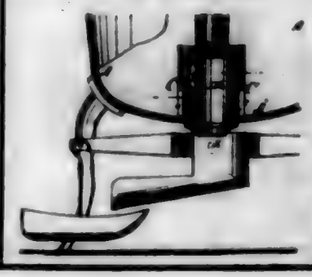
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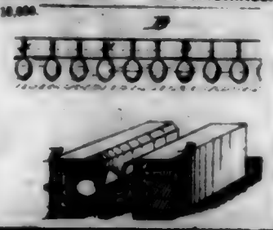
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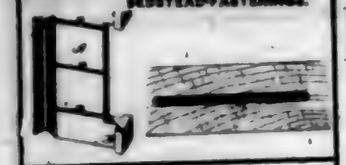
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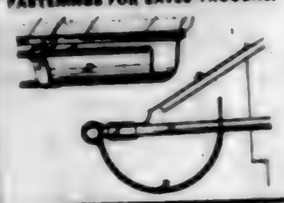
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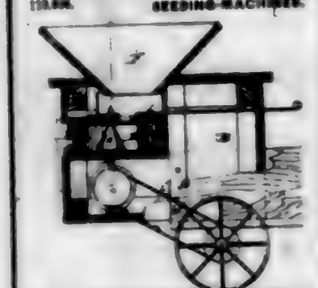
110,632. CHARLES S. COMINS. BOLT-FASTENINGS.



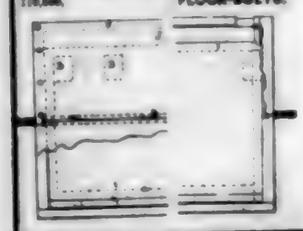
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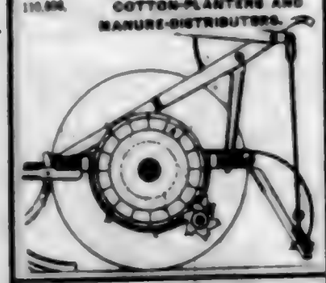
110,634. JACKSON OZAD. SEEDING-MACHINES.



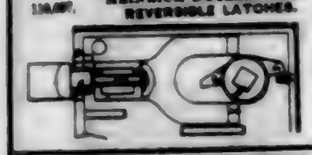
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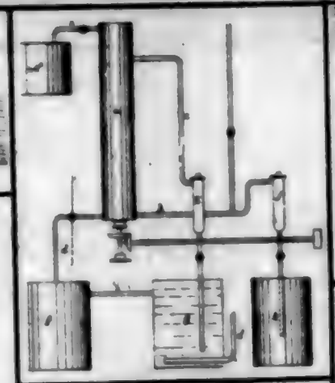
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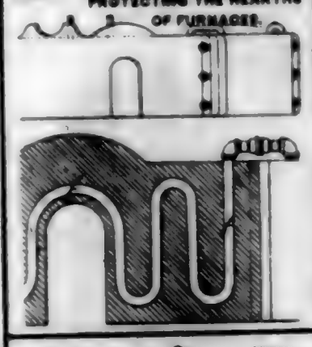
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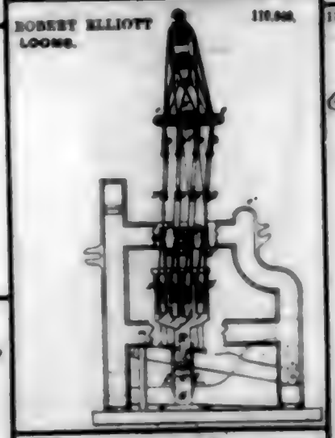
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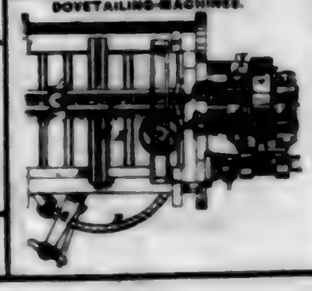
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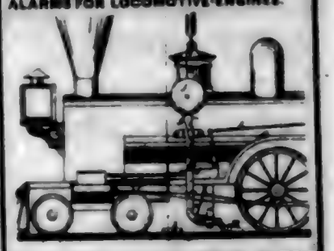
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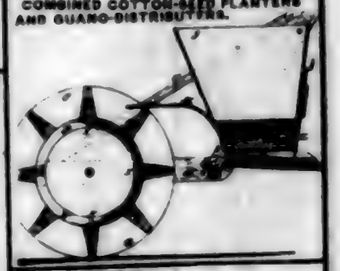
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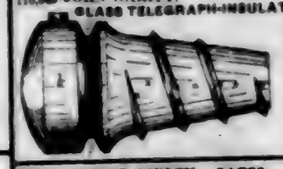
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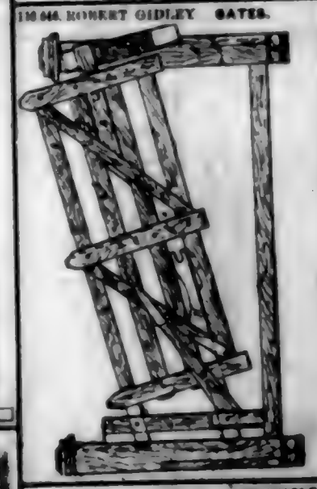
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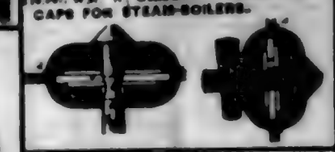
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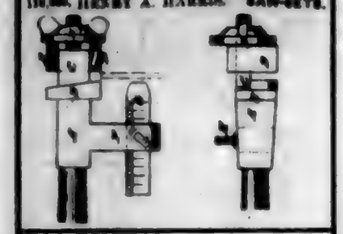
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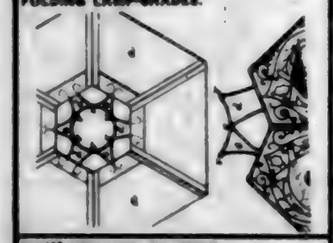
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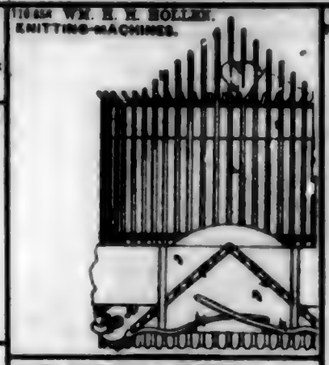


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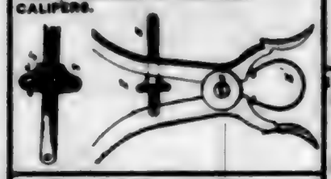
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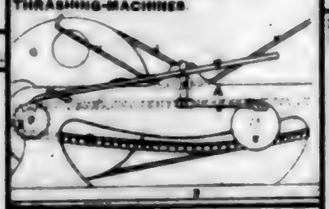
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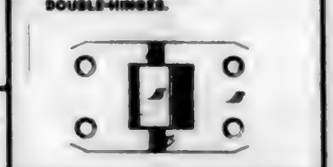
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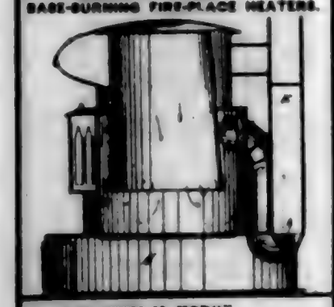
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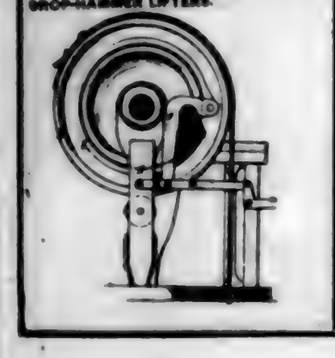
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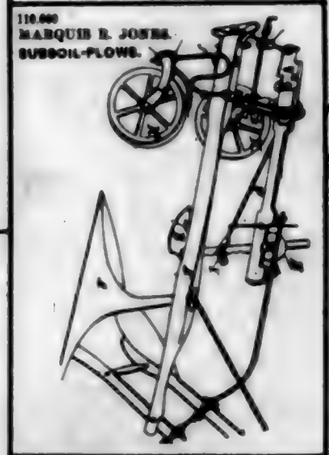
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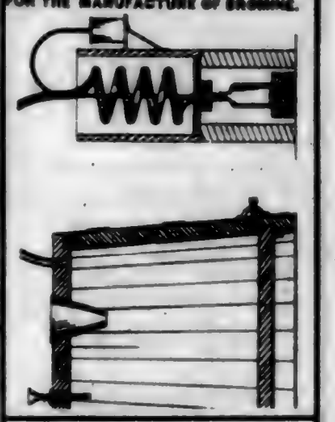
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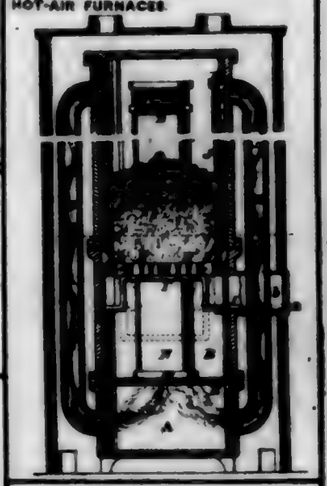
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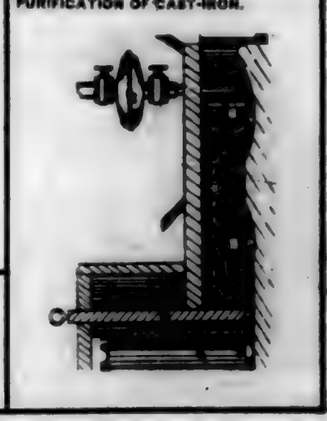


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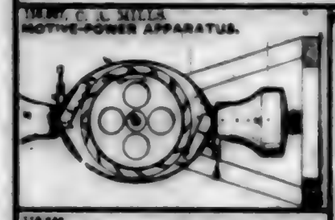


110,665. JEROME B. MELVIN. COMPOSITIONS FOR ROOFING.

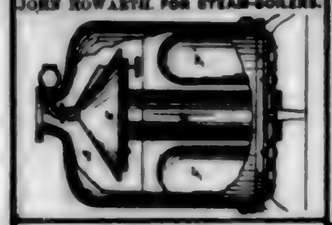
110,666. JOHN W. MIDDLETON. PURIFICATION OF CAST-IRON.



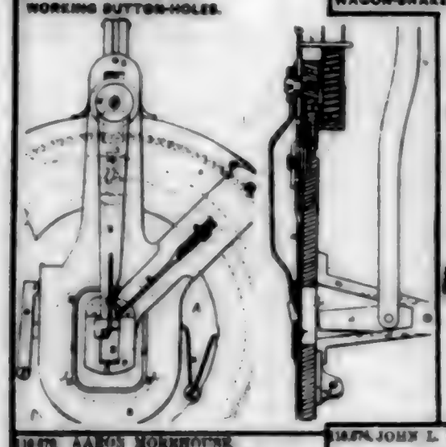
110,667. C. C. MILLS.
MOTIVE-POWER APPARATUS.



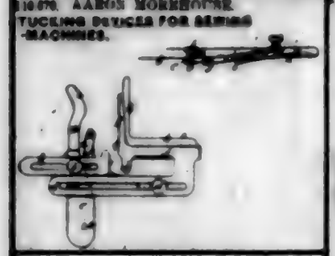
110,668. JOHN H. MILLS, JOHN HOWARTH, HOT-WATER FEEDERS FOR STEAM-BOILERS.



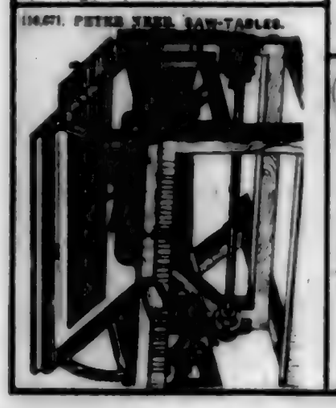
110,669. EUGENE MORRAU.
SEWING-MACHINES FOR WORKING BUTTON-HOLES.



110,670. AARON MORRHOUSE.
TUCKING DEVICES FOR SEWING-MACHINES.



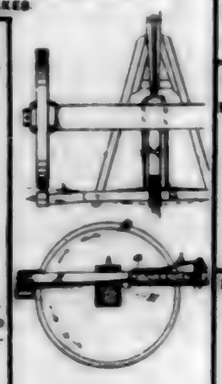
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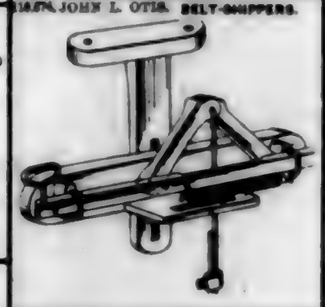
110,672. FLOUR-SIFTERS.
LUCY SAWYER, Nurse.



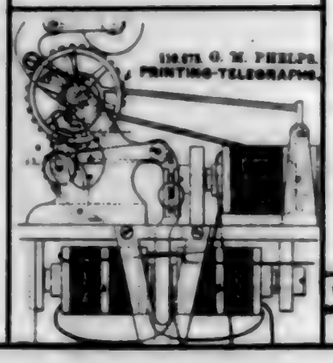
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WAGON-BRAKES.

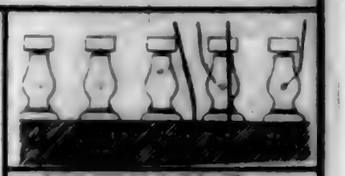


110,674. JOHN L. OTIS. BELT-SHIPPERS.



110,675. O. M. PHELPS.
PRINTING-TELEGRAPHS.

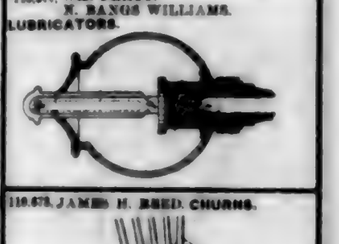




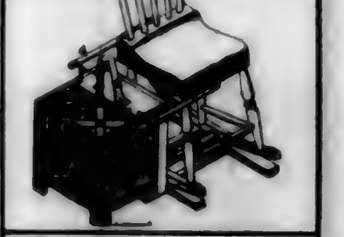
110,676. CHARLES L. PIERPONT.
SPARK-ARRESTERS.



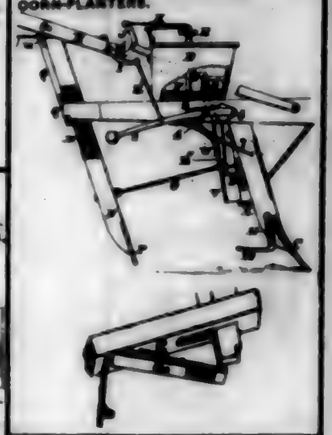
110,677. WM. PRATT,
N. BANGS WILLIAMS.
LUBRICATORS.



110,678. JAMES H. REED. CHURNS.

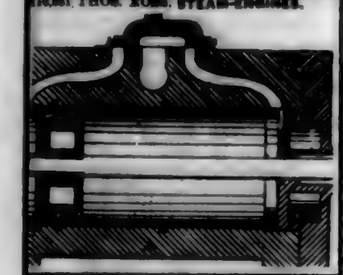


110,679. JOHN REICHELDERFER,
CORN-PLANTERS.

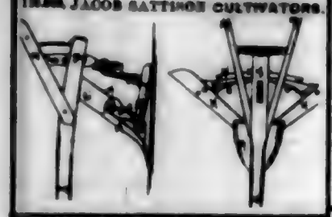


110,680. NATHANIEL B. RICE.
MANUFACTURE OF ACID PHOSPHATES FOR USE IN BAKING-POWDERS, &C.

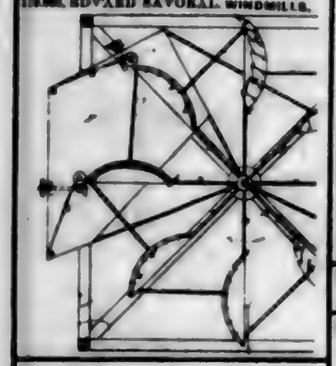
110,681. THOS. FORD. STEAM-ENGINES.



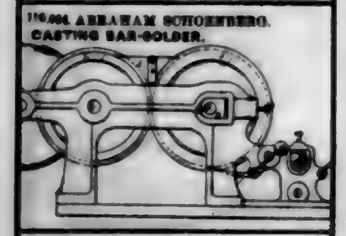
110,682. JACOB SATTISON CULTIVATORS.



110,683. EDVARD SAVORAL. WINDMILLS.



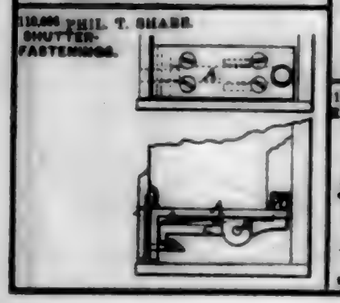
110,684. ABRAHAM SCHOENBERG.
CASTING BAR-SOLDER.



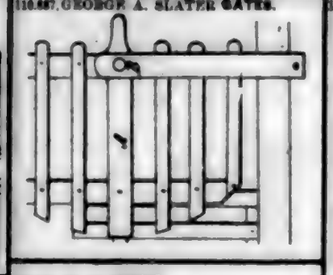
110,685. JOHN W. SCHWANER. DIES FOR FORMING HORSE-COLLAR SHELLS.



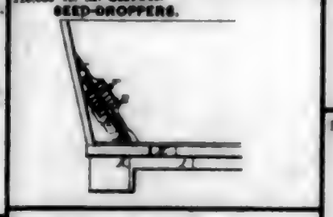
110,686. PHIL. T. SHARP.
SHUTTER-FASTENINGS.



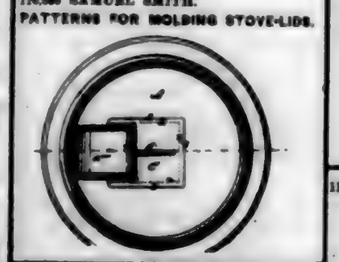
110,687. GEORGE A. SLATER GATES.



110,688. H. M. SMITH.
SEED-DROPPERS.

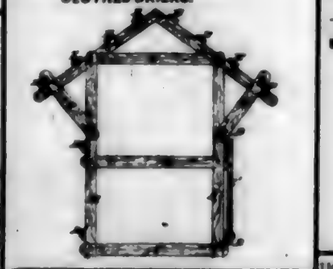


110,689. SAMUEL SMITH.
PATTERNS FOR MOLDING STOVE-LIDS.



110,690. JACOB H. SNYDER.
LUBRICATING COMPOUNDS.

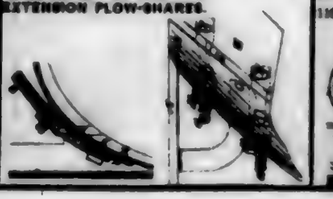
110,691. HENRY M. STEVENSON.
CLOTHES-DRIERS.



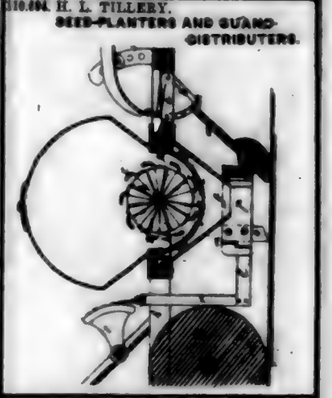
110,692. GEO. W. THOMPSON.
REVERSIBLE PLOWS.



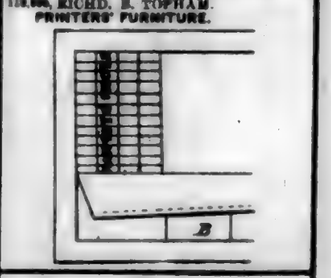
110,693. GEORGE W. THORP.
EXTENSION PLOW-SHARES.



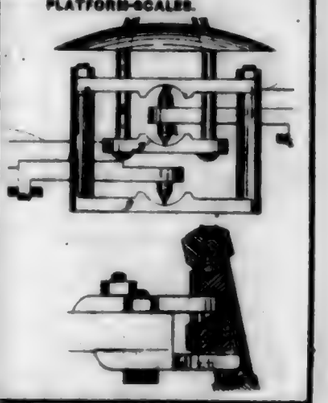
110,694. H. L. TILLERY.
SEED-PLANTERS AND GUANO-DISTRIBUTERS.



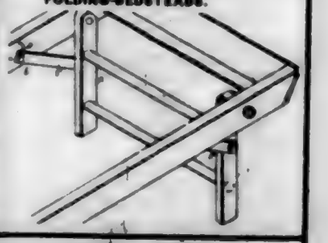
110,695. RICHD. B. TOPHAM.
PRINTERS' FURNITURE.



110,696. J. H. TRUEX.
PLATFORM-SCALES.



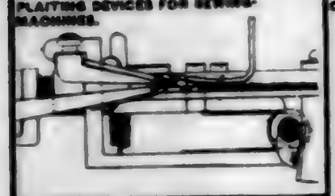
110,697. JOSHUA TURNER.
FOLDING-BEDSTEADS.



110,698. BECKWITH W. TUTHILL.
WHEELBARROW-FRAMES.



110,698 WM. WALKER.
PLAITING DEVICES FOR SEWING-MACHINES.



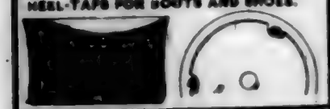
110,699 WM. C. WARING. ALARM-ATTACHMENTS FOR MACHINES FOR FORMING HAT-BODIES.



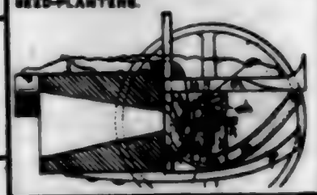
110,700 THOS. WELHAM. SAWS.



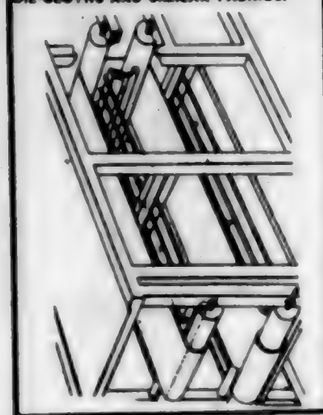
110,701. ALEXANDER WARNER.
HEEL-TAPS FOR BOOTS AND SHOES.



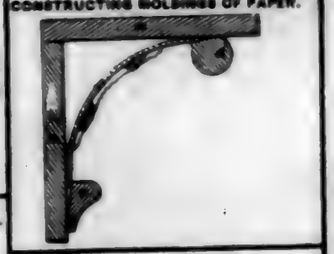
110,702 WILLIAM F. WEST.
SEED-PLANTERS.



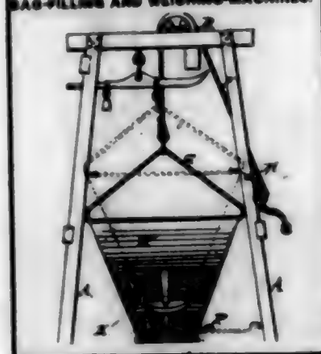
110,703 OLIVER C. WASHBURN. DRYING OIL-CLOTHS AND SIMILAR FABRICS.



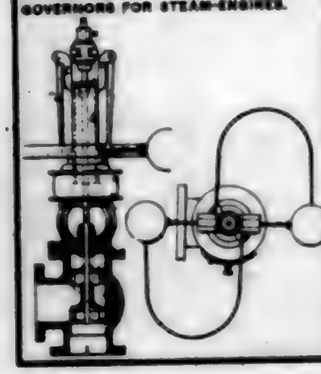
110,704. WILLIAM W. WEBSTER.
CONSTRUCTING HOLDINGS OF PAPER.



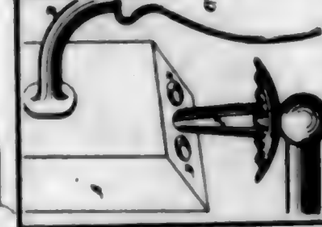
110,705. C. A. WHELAN.
CHARLES T. WAKELEY.
BAG-FILLING AND WEIGHING-MACHINES.



110,706 CHARLES WATERS.
GOVERNORS FOR STEAM-ENGINES.



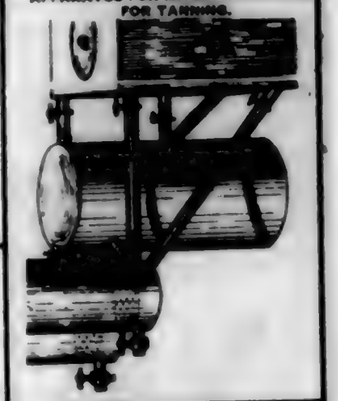
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SAD-IRON HEATERS.



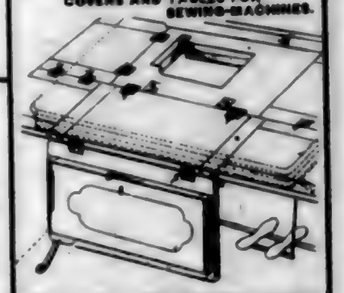
110,708 W. L. WILLIAMS. CHILDREN'S HOBBY-HORSES.



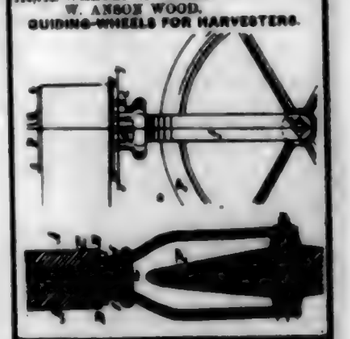
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APPARATUS FOR MAKING EXTRACTS FOR TANNING.



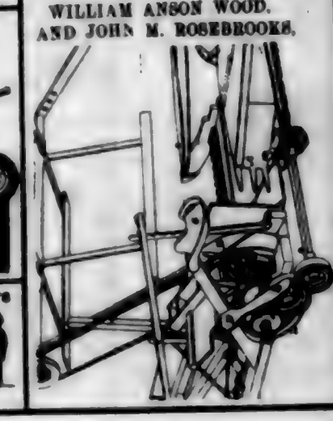
110,711. FRANCIS B. WOLFINGER.
COVERS AND TABLES FOR SEWING-MACHINES.



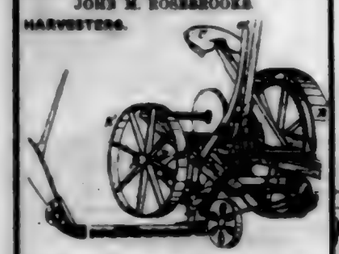
110,712. WALTER A. WOOD.
W. ANSON WOOD.
GUIDING-WHEELS FOR HARVESTERS.

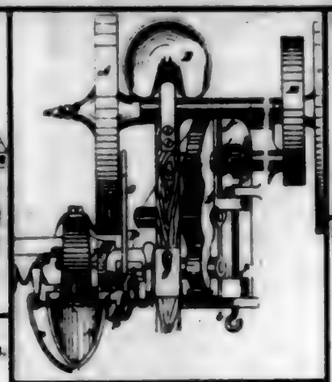


110,713. WALTER A. WOOD.
HARVESTERS.
WILLIAM ANSON WOOD.
AND JOHN M. ROSEBROOKS.

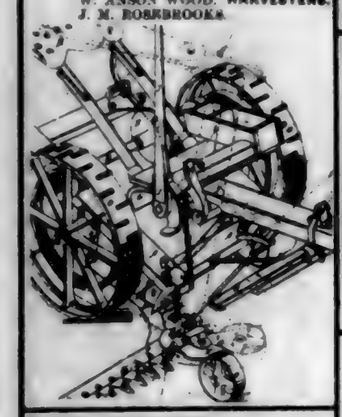


110,714. WALTER A. WOOD.
WM. ANSON WOOD.
JOHN M. ROSEBROOKS.
HARVESTERS.

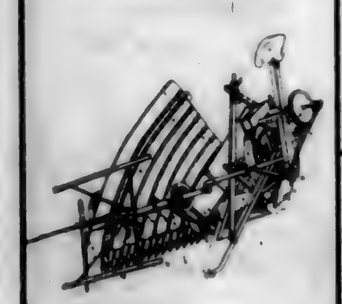




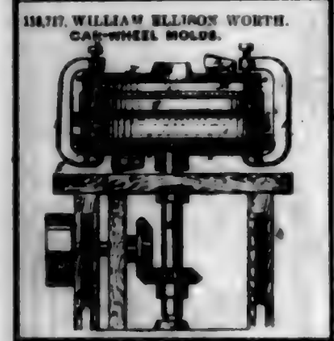
110,715 WALTER A. WOOD.
W. ANSON WOOD. HARVESTERS.
J. M. ROSEBROOKS.



110,716. W. ANSON WOOD.
HARVESTER-RAKES.

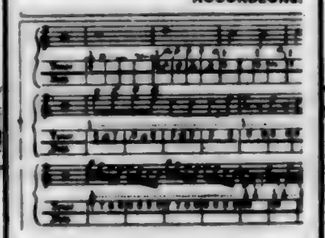


110,717. WILLIAM ELLISON WORTH.
CAR-WHEEL MOLDS.

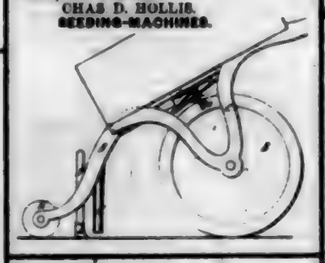


110,718 CHARLES M. YOUNG.
HARVESTERS

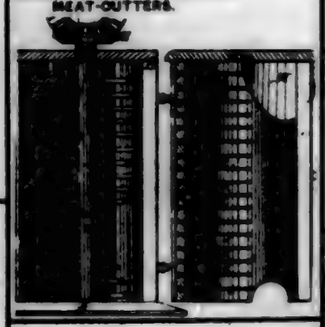
110,719 CARL FRIEDRICH ZIMMERMANN.
MUSICAL NOTATIONS FOR ACCORDEONS.



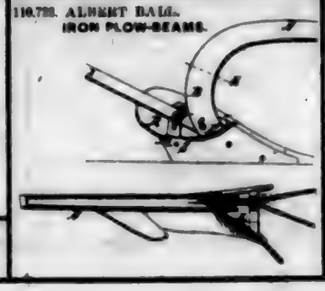
110,720. D. S. ALVORD.
CHAS D. HOLLIS.
SEEDING-MACHINES.



110,721 JEREMIAH S. ASTLEY.
MEAT-CUTTERS.



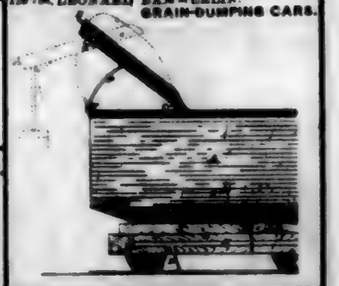
110,722. ALBERT BALL.
IRON PLOW-BEAMS.



110,723 DAVID H. BALL.
JOHN BROOKS.
CAR-REPLACERS.



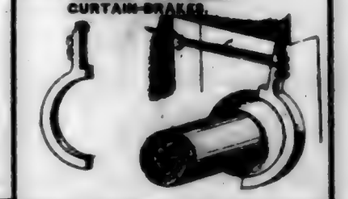
110,724. LEONARD BAMMERLIN.
GRAIN-DUMPING CARS.



110,725. WILLIAM BARSTOW.
REIN-HOLDERS.



110,726. THOMAS S. BAYLIS.
GEORGE H. MAURER.
CURTAIN-SHAKER.



110,727. F. BECK.
COATING AND DECORATING PAPER, CLOTH, AND OTHER MATERIALS.

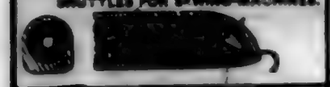
110,728. JNO. H. BLOODGOOD.
SASH-HOLDERS.



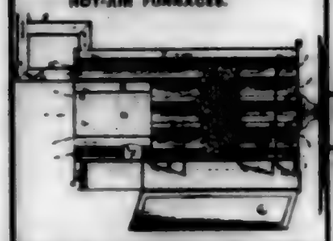
110,729. A. L. BOGART GAS APPARATUS.



No.730. FREDERICK W. ROLAND.
SHUTTLES FOR SEWING-MACHINES.



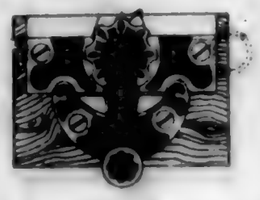
No.731. LANDRO BONNELL.
HOT-AIR FURNACES.



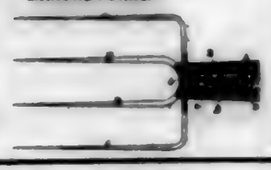
No.732. N. H. BONDFIELDT. CIGAR-MOLDS.



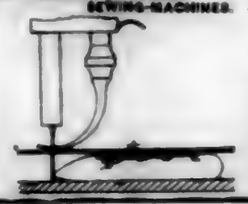
No.733. LLIAM K. BRECKENRIDGE.
FASTENERS FOR MEETING-RAILS OF SASHES.



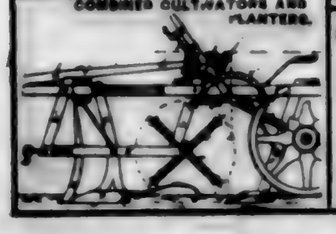
No.734. AMOS S. BRINSER.
HENRY BRICKER.
MANURE-FORKS.



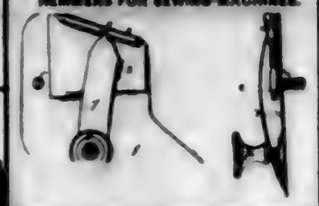
No.735. WILLIAM H. BUKER.
SEWING-MACHINES.



No.736. PETER BURRESS.
COMBINED CULTIVATORS AND PLANTERS.

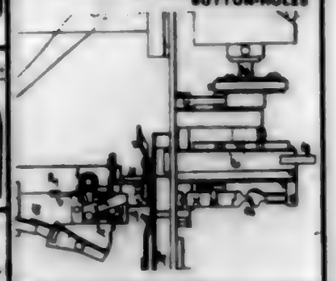


No.737. CYRUS CARLETON.
HEMMERS FOR SEWING-MACHINES.



No.738. THO. W. CHANDLER.
PRESERVING WOODS.

No.739. SHERMAN CLEMINSHAW.
SEWING-MACHINES FOR WORKING BUTTON-HOLES



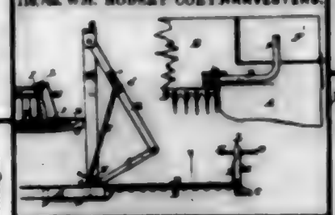
No.740. JACOB L. COLES.
BINDERS FOR SEWING-MACHINES.



No.741. DAVID PITKIN COBY.
AUTOMATIC CAR-COUPLINGS.



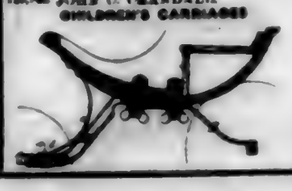
No.742. WM. ROBERT COBY. HARVESTERS.



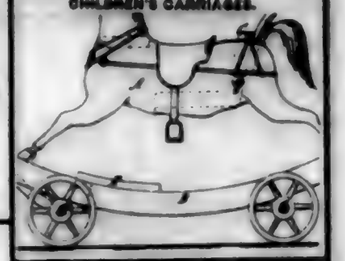
No.743. JOHN CRABTREE.
BOOT-JACKS.



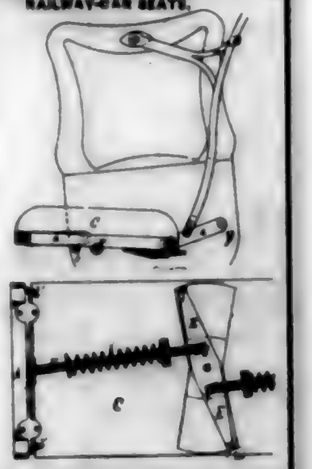
No.744. JOHN C. CRANDALL.
CHILDREN'S CARRIAGES



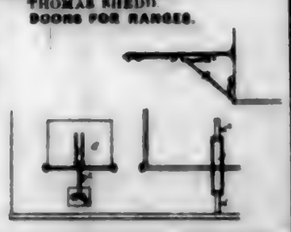
No.745. W. R. CRANDALL.
CHILDREN'S CARRIAGES.



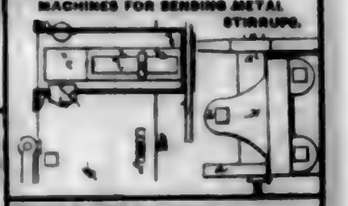
No.746. WILLIAM CRANDELL.
RAILWAY-CAR SEATS.



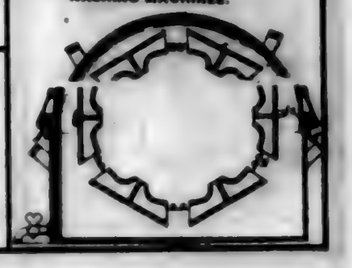
No.747. ROYAL B. DEANE.
THOMAS SHEDD
DOORS FOR RANGES.



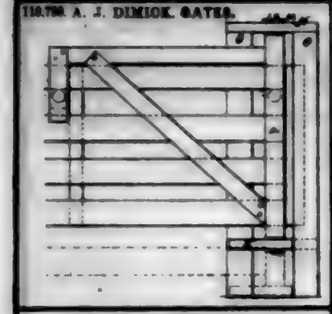
No.748. JOHN H. DE VALIN.
MACHINES FOR BENDING METAL STIRRUPS.



No.749. SAMUEL DE VRAU.
WASHING-MACHINES.



No.750. A. J. DIMICK. GATES.



No.751. THOMAS S. DIXSTON.
HANDLES FOR CROSS-CUT SAWS.



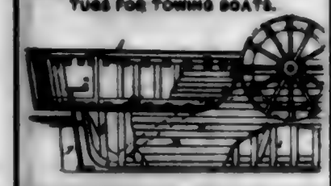
No.752. WM. DOWALD. QUADRATS.



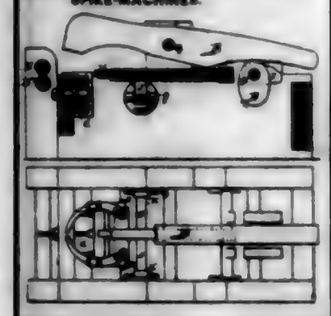
No.753. JOHN DOYLE.
FEED-WATER PIPES.



No.754. WALTER EVERSON.
TUGS FOR TOWING BOATS.



No.755. DAVID EVNON.
SPIKE-MACHINES.



No.756. DAVID EVNON.
SPIKE-MACHINES.

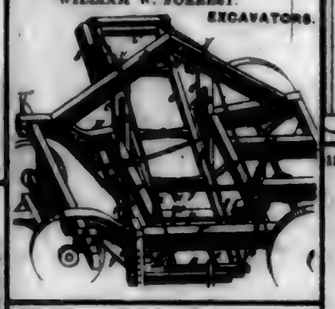
No.757. REUBEN G. FARNHAM
FRUIT-CANS.



No.758. NELSON FAUGHT. PLOWS.



No.759. DAVID GILMORE.
WILLIAM W. FORREST.
EXCAVATORS.



No.760. JOSEPH HARRISON.
PRECAUTIONARY ATTACHMENTS FOR BOTTLES CONTAINING POISON.



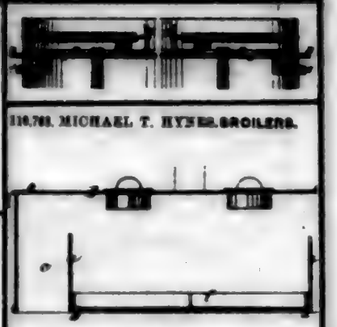
No.761. WM. HILLHOUSE.
GEO. W. REIGGS.
DEVICES FOR HOOKING SCREW-CAPS.



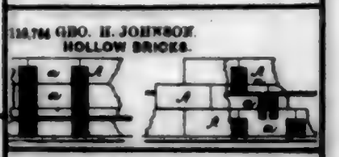
No.762. ARCHELAUS M. HOWE.
DEVICES FOR CUTTING SOLES FOR BOOTS AND SHOES.



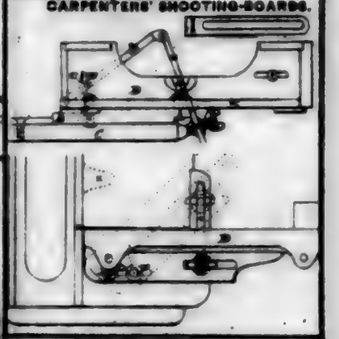
No.763. MICHAEL T. HYNES. BROILERS.



No.764. GEO. H. JOHNSON.
HOLLOW BRICKS.



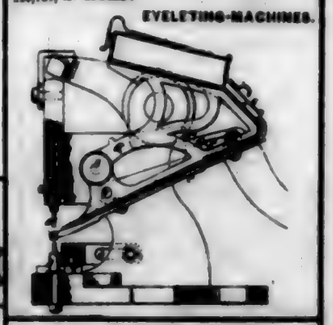
No.765. JOSEPH JONES.
CARPENTERS' SHOOTING-BOARDS.



No.766. HENRY KILLAM.
CARRIAGE-AXLES.



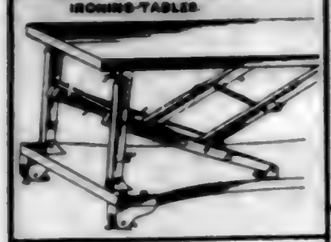
No.767. A. KOMP.
EYELETING-MACHINES.



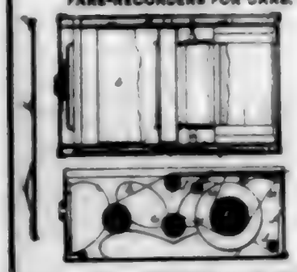
No.768. AUSTIN S. MANN.
METALLIC HEELS.



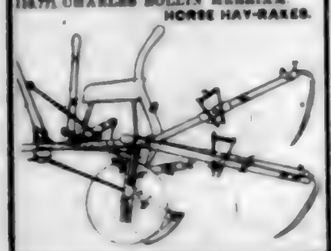
110,769. DANIEL W. MARSHALL.
IRONING-TABLES.



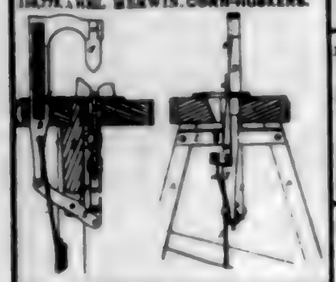
110,770. GEORGE B. METTEE.
OSCAR S. PEASE.
FARE-RECORDERS FOR CARS, &c.



110,771. CHARLES BOLLIN MERRIAM.
HORSE HAY-RAKES.



110,772. ABEL MERWIN. CORN-HUSKERS.

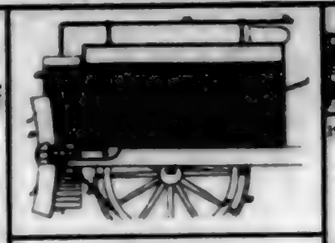


110,773. ROBERT B. MILLER.
METHOD OF FORMING BODY-LOOPS FOR CARRIAGES.

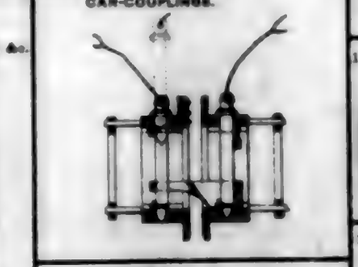


110,774. TOM. W. MITCHELL.
COMPOUNDS FOR DESTROYING WORMS IN THE COTTON-PLANT.

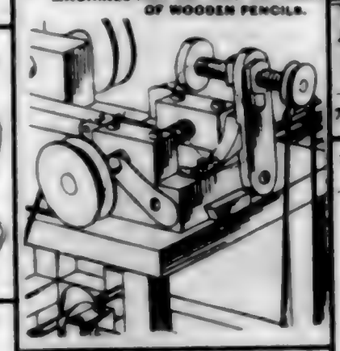
110,775. WM. C. MOORE.
STREET-SPRINKLERS.



110,774. JOSEPH MOUNT.
CAR-COUPLINGS.



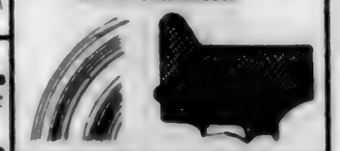
110,777. THEIS H. MÜLLER.
MACHINES FOR CUTTING THE ENDS OF WOODEN PENCILS.



110,778. DAVID MUNSON.
LIGHTNING-RODS.



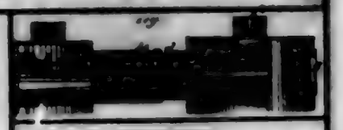
110,779. CHANDLER NEEDHAM.
CASTING CAR-WHEELS



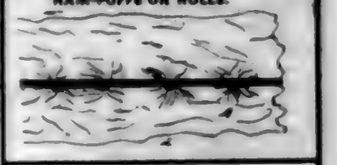
110,780. W. HARRISON NEWTON.
CAR-STARTERS.



110,781. W. H. NOBLE.
HEATING-STOVES AND DRUMS.



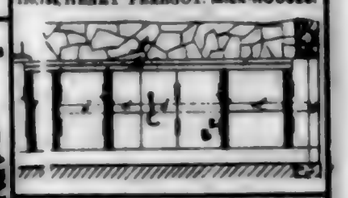
110,782. J. D. OPPENHEIMER.
HAIR-PUFFS OR ROLLS.



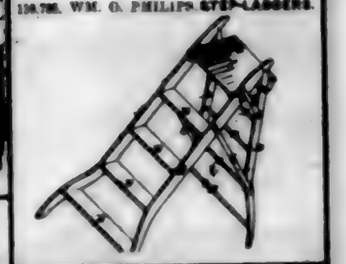
110,783. EDWARD LAWLEY PARKER.
FASTENINGS FOR BRACES, &c.



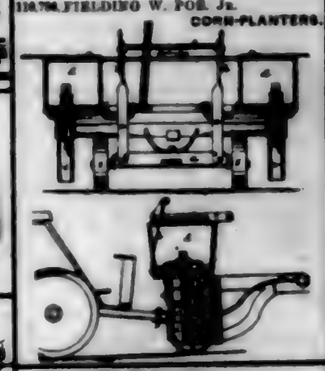
110,784. HENRY PERROUT. MILK-HOUSES.



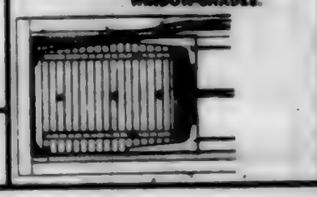
110,785. WM. G. PHILLIPS. STEP-LADDERS.



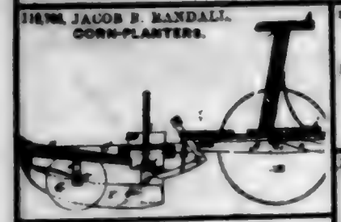
110,786. FIELDING W. POE, Jr.
CORN-PLANTERS.



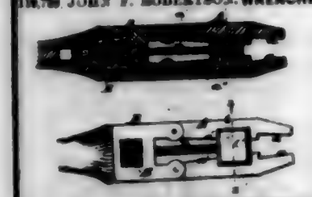
110,787. ANGEL W. FOSTER.
WINDOW-SHADES.



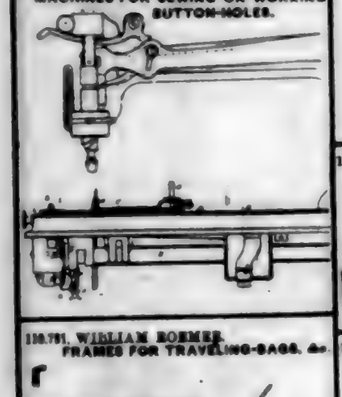
110,788. JACOB P. RANDALL.
CORN-PLANTERS.



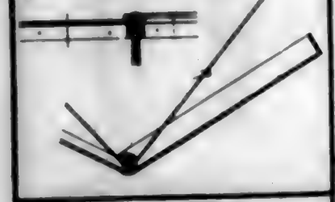
110,789. JOHN F. ROBERTSON. WRENCHES.



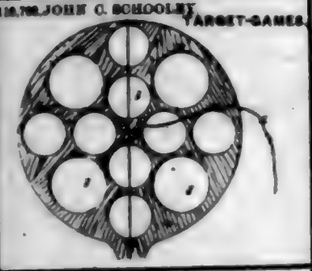
110,790. CHAS. E. ROBINSON.
MACHINES FOR SEWING OR WORKING BUTTON-HOLES.



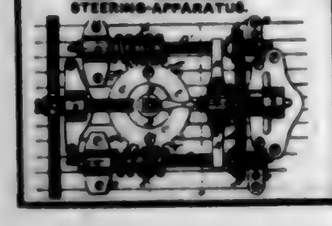
110,791. WILLIAM ROEMER.
FRAMES FOR TRAVELING-BAGS, &c.



110,792. JOHN C. SCHOOLEY.
TARGET-GAMES.



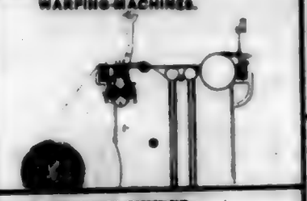
110,793. JOHN C. SCHRADER.
CARL A. MATHIESEN.
STEERING-APPARATUS.



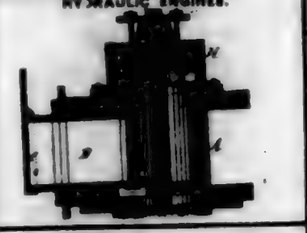
110,794. WM. E. SHAW.
STREET-PAVEMENTS.



110,795. THOMAS SINGLETON.
WARPING-MACHINES.



110,796. WILLIAM SNYDER.
HYDRAULIC ENGINES.



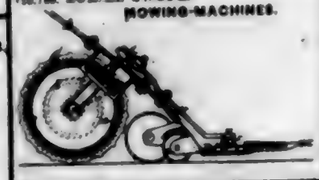
110,797. W. H. STAATS.
RAILWAY RAIL-CHAIRS.



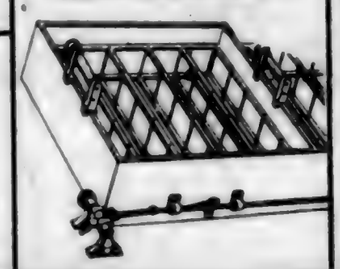
110,798. ROBERT S. STUBBS. ENVELOPES.



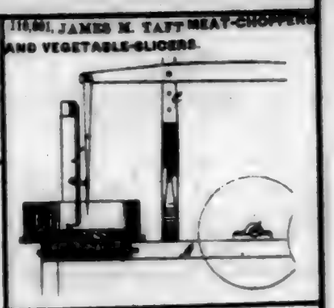
110,799. ZUBIEL SWOPE.
MOWING-MACHINES.



110,800. GEO. W. SYLVESTER.
APPARATUS AND PROCESSES OF CLEANING COTTON-WASTE, &c.



110,801. JAMES M. TAFT. MEAT-CHOPPERS AND VEGETABLE-SLICERS.



110,802. E. W. TALBOTT.
CLOTHES-LINE HOLDERS.



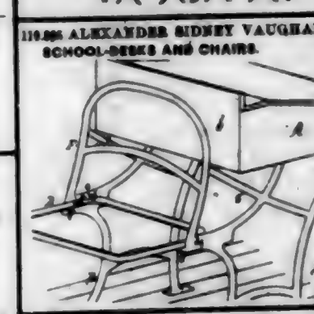
110,803. CLARK P. TILLINGHAST.
RAILROAD-CAR VENTILATORS.



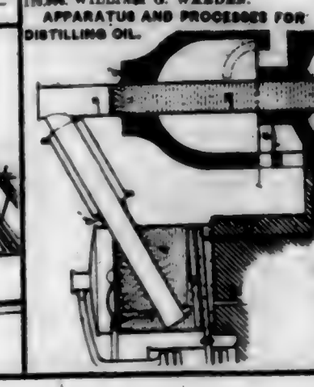
110,804. ANTONY TUMLER.
SODA-WATER FOUNTAINS.



110,805. ALEXANDER SIDNEY VAUGHAN.
SCHOOL-DESKS AND CHAIRS.



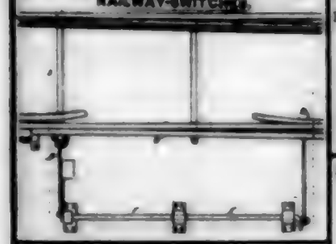
110,806. WILLIAM G. WARDEN.
APPARATUS AND PROCESSES FOR DISTILLING OIL.



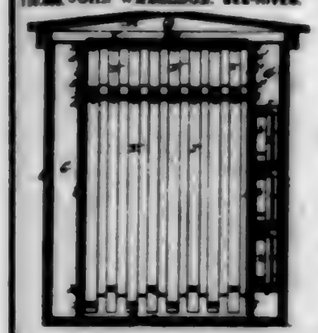
110,807. DWIGHT F. WELSH. COTTON-PLANTERS.



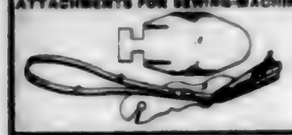
110,808. WM. WHARTON, Jr. RAILWAY-SWITCHES.



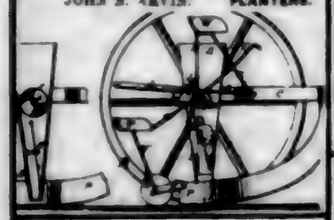
110,809. JOHN WHEELDON. BEE-HIVES.



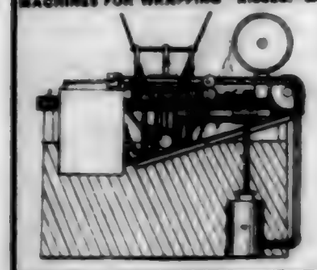
110,810. WM. H. WHITE. ATTACHMENTS FOR SEWING-MACHINES.



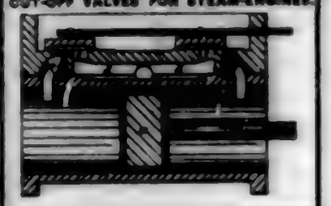
110,811. JOSEPH M. WHITMORE. JOHN F. ARVIN. CORN-PLANTERS.



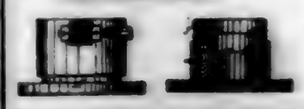
110,812. CHARLES C. WITAOK. MACHINES FOR WRAPPING "KISSES," &c.



110,813. GEO. S. YOUNG. CUT-OFF VALVES FOR STEAM-ENGINES.



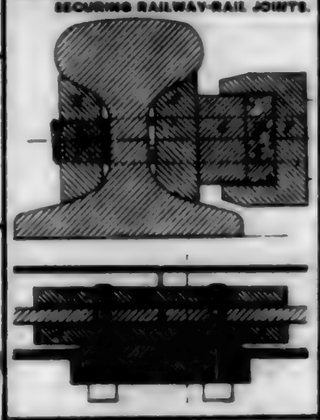
110,814. GEO. S. YOUNG. MILL-SPINDLE STEPS.



4,203. W. B. CRANDALL. CHILDREN'S CARRIAGES.



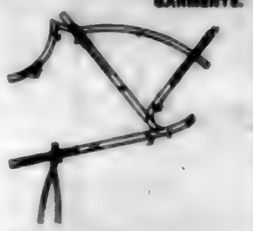
4,204. LYMAN FAY. SECURING RAILWAY-RAIL JOINTS.



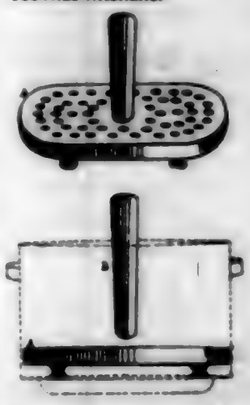
4,205. C. L. LEETE. INSTRUMENTS FOR DRAUGHTING GARMENTS.



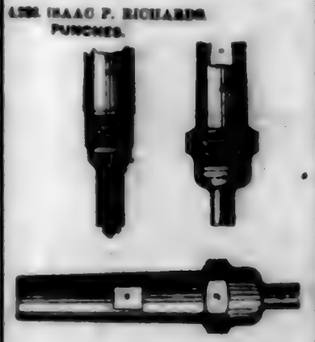
4,206. C. L. LEETE. INSTRUMENTS FOR DRAUGHTING GARMENTS.



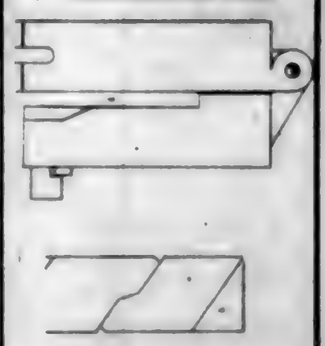
4,207. ARIADNA B. MERCIER. CLOTHES-WASHERS.



4,208. ISAAC P. RICHARDS. PUNCHES.



4,209. WILLIAM MEDD WATSON. BLANKS FOR, AND DIES FOR MAKING, MOLD-BOARDS FOR PLOWS.

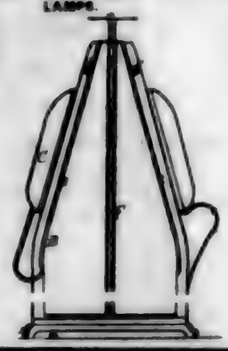


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
JAN. 10, 1871.

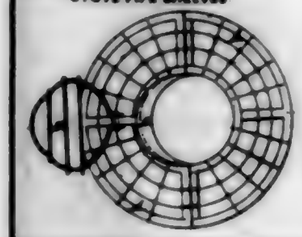
110,815. JOHN ADAMS. GLASS LAMPS.



110,816. A. ALBERTSON. LAMPS.



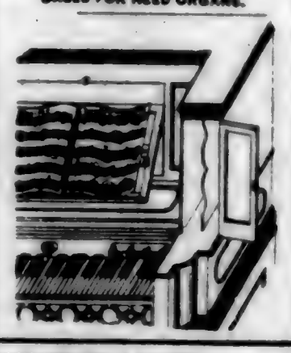
110,817. SAML. J. ANDERSON. STOVE-PIPE SHIELDS.



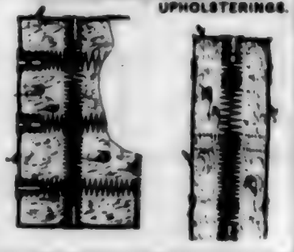
110,818. ORREN A. ANTHONY. LIFTING-JACKS.



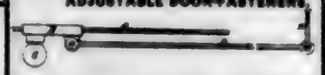
110,819. CHAS. E. BACON. CASES FOR REED ORGANS.



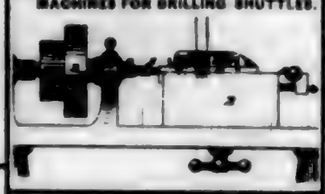
110,820. HORACE H. BARNES. BEDS, CUSHIONS, AND OTHER UPHOLSTERINGS.



110,821. LUCIUS PHILETUS BARNES. ADJUSTABLE DOOR-FASTENERS.



110,822. CHARLES E. BILLINGS. MACHINES FOR DRILLING SHUTTLES.



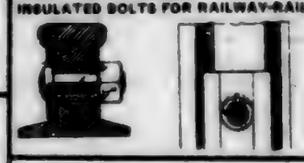
110,823. GEORGE O. BURDEN. ADJUSTABLE LOCK-COUPLINGS FOR VEHICLES.



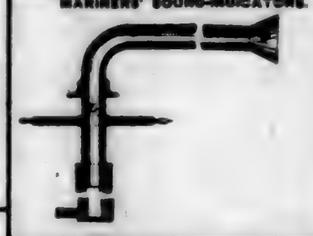
110,824. ROBERT E. CHERRINGTON. COMPOUNDS FOR STOVE-POLISH.

110,825. SARAH J. CLARK. WASHING-MACHINES.

110,826. J. W. COCHRAN. INSULATED BOLTS FOR RAILWAY-RAILS.



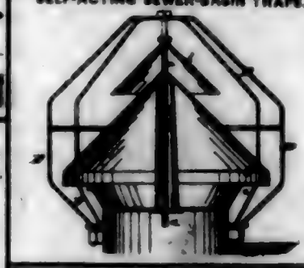
110,827. JAMES COCHRANE. MARINERS' SOUND-INDICATORS.



110,828. DANIEL L. CORBIN. RUBBER PADS FOR HORSE-SHOES.



110,829. MATTHEW K. COUZENS. SELF-ACTING SEWER-BASIN TRAPS.



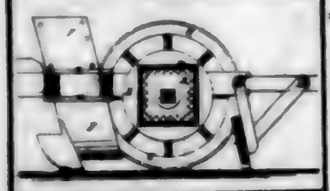
110,830. EPHRAIM D. CRAMER. SPRING-BOTTOMS FOR WAGON-BODIES.



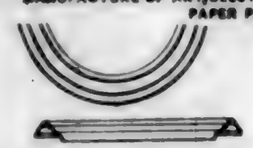
110,839. A. O. CRANE. WASHING-MACHINES.



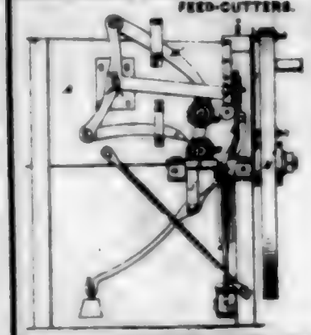
110,840. WILLIAM W. CROOM. COTTON-SEED PLANTERS AND GUANO-DISTRIBUTERS.



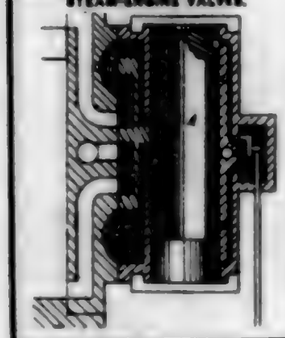
110,841. FRANCIS CURTIS. MANUFACTURE OF ARTICLES FROM PAPER PULP.



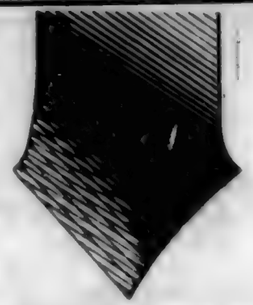
110,842. WILLIAM DABLEM. FEED-CUTTERS.



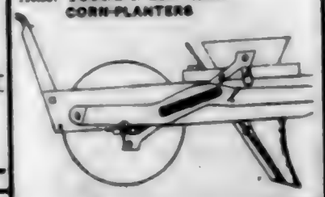
110,843. CHARLES P. DEANE. STEAM-ENGINE VALVES.



110,844. WILLIAM A. DRYDEN. CULTIVATORS.



110,845. YOUNG I. EDWARDS. CORN-PLANTERS



110,846. WILLIAM ENNIS. VENTILATORS.



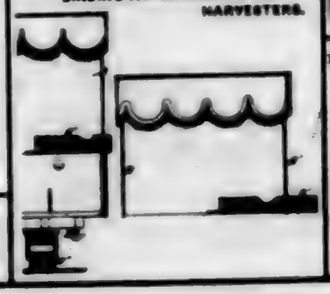
110,847. D. P. FETTER. DRIVE-SCREWS.



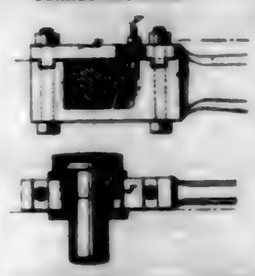
110,848. J. W. FISHER. SHOES.



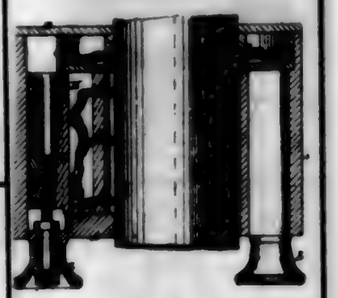
110,849. ABRAHAM X FREED. JONATHAN SNOOK. BINDING ATTACHMENTS FOR HARVESTERS.



110,850. WILKERSON G. FREEMAN. CONNECTING-RODS.



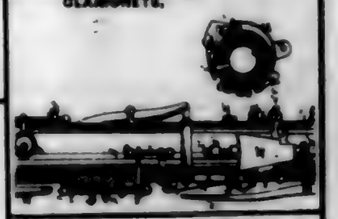
110,851. HAMLIN F. FRISBIE. MILL-BUSHES.



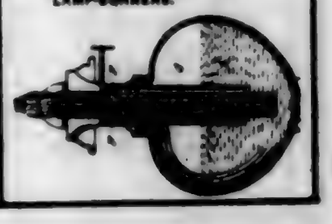
110,852. HUGO O. FRITSCH. FIRE-SCREENS AND STANDS.



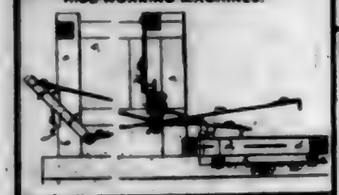
110,853. ANTON FRITSCHE. CLARIONETS.



110,854. GEORGE P. FULLER. LAMP-BURNERS.



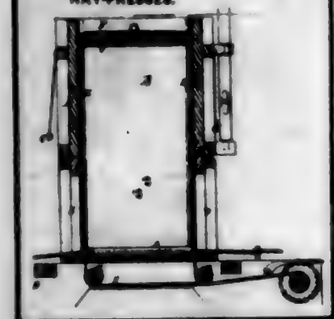
110,847. MARCUS B. GOULD. HIDE-WORKING MACHINES.



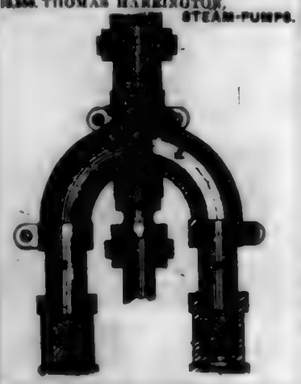
110,848. HUGH B. GRUMLING. HAMES-FASTENINGS.



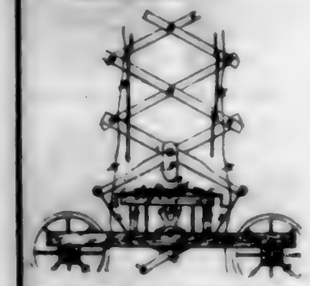
110,849. FINLAY F. HAMILTON. HAY-PRESSES.



110,850. THOMAS HARRINGTON. STEAM-PUMPS.

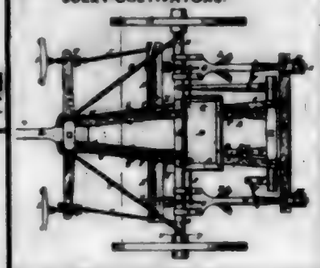


110,851. EDWARD J. HUDSON. FIRE-ESCAPES.

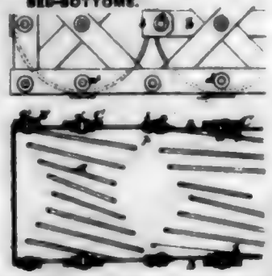


110,852. CARLETON B. HUTCHINS. ARTIFICIAL STONE FOR PAVEMENTS, WALKS, FLOORS, &c.

110,853. HUGH P. JORDAN. SULKY-CULTIVATORS.



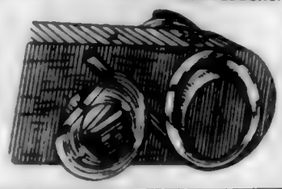
110,854. WILLIAM B. JUDSON. SEED-BOTTOMS.



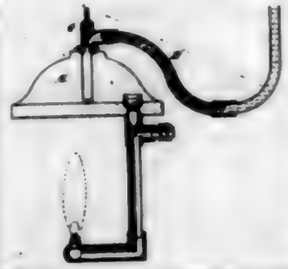
110,855. JACOB KARR. NEEDLE-SETTERS AND THREADERS FOR SEWING-MACHINES.



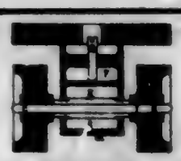
110,856. DE LANCY KENNEDY. DEVICES FOR SECURING THE TINES OF HAY-TEDDERS.



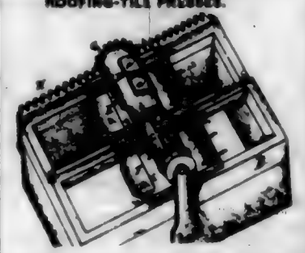
110,857. JOSHUA KIDD. APPARATUS FOR GENERATING AND BURNING VAPOR FROM HYDRO-CARBONS.



110,858. MATTHEW H. KIMBALL. ROLLER-SKATES.



110,859. JOHN KOEHLER. ROOFING-TILE PRESSES.



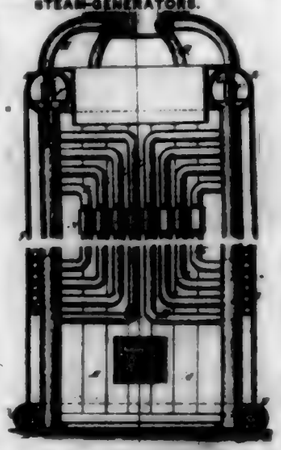
110,860. JOHN LANE. PLOWSHARES.



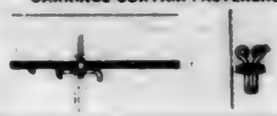
110,861. PHILIP LE GOULLON. GRAVEL AND SAND-HEATERS.



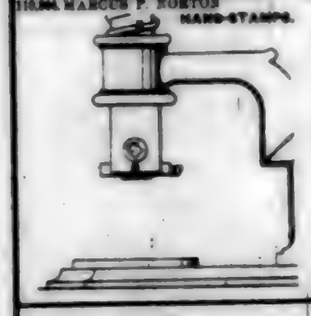
110,862. MIRABEAU N. LYNN. STEAM-GENERATORS.



110,863. WM. H. MORSE. CARRIAGE-CURTAIN FASTENERS.



110,864. MARCUS P. MORTON
HAND-STAMPS.



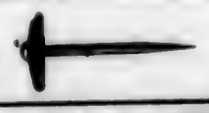
110,865. T. T. PROSSER.
TRACTION-ENGINES.



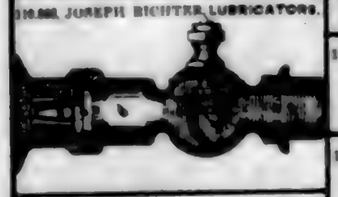
110,866. FRANCIS M. RANDELL.
APPARATUS FOR SUPPLYING NAPHTHA TO VAPOR-BURNING STREET-LAMPS.



110,867. T. C. RICHARDS. PICTURE-NAILS.



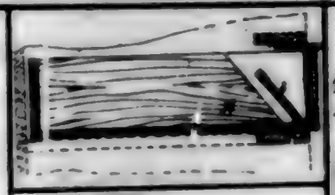
110,868. JOSEPH RICHTER. LUBRICATORS.



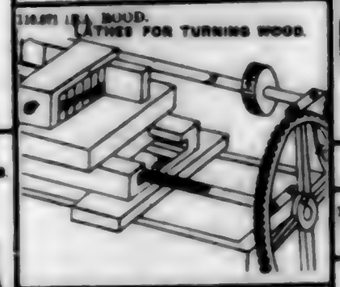
110,869. ELIAS C. RISHEL.
DENTAL LATHES.



110,870. ROBERT J. ROBERTS.
DRAWERS FOR STORES.



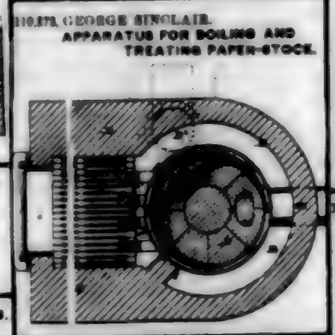
110,871. B. A. ROOD.
LATHES FOR TURNING WOOD.



110,872. JOHN D. SANSOM.
MAN-HOLE PLATES FOR STEAM-BOILERS.



110,873. GEORGE SINCLAIR.
APPARATUS FOR BOILING AND TREATING PAPER-STOCK.



110,874. ANDREW N. SMITH. PISTONS.

110,875. JOHN W. SMITH.
CEREMONIAL BELLS.



110,876. J. C. STODDARD.
HORSE HAY-RAKES.



110,877 CANCELED.

110,878. WM. H. TOWER.
METHODS OF COATING SAD-IRONS, &c.

110,879 EDWARD S. TOWLE.
THIMBLES.



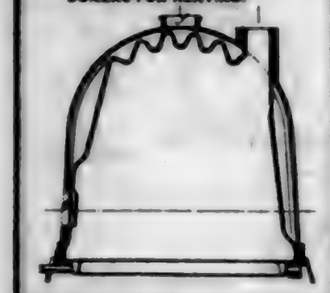
110,880. GEORGE H. WEEKS.
CAR-COUPLINGS.

110,881 ROLLIN WHITE.
METALLIC CARTRIDGES.

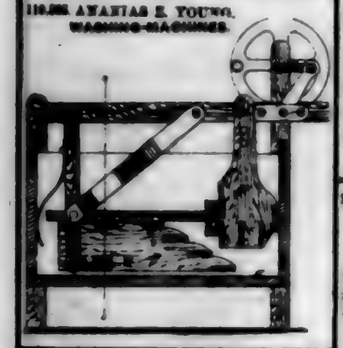
110,882. HENRY WHITESTONE.
CURBING FOR EXCAVATIONS.

110,883. OLIVER C. WILBUR, Jr.
FASTENINGS FOR THE TIPS OF BILLIARD-CUES.

110,884. JOHN G. WILSON.
BOILERS FOR HEATING.



110,885. AMANIAS E. YOUNG.
WASHING-MACHINES.



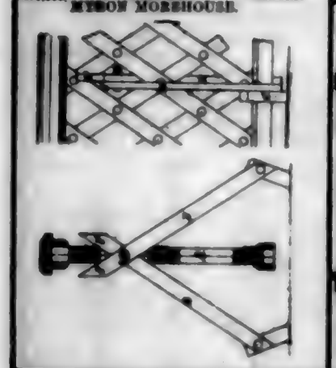
110,886. ALBERT Q. ADAMS.
SNOW-SHOVELS.



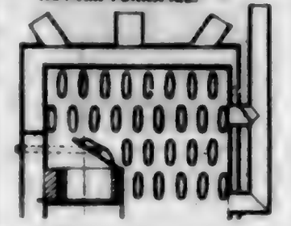
110,887. THOMAS W. ALLEN.
CHARGERS FOR SHOT-POUCHES.



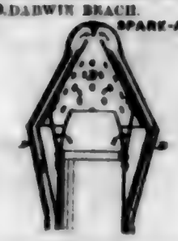
110,888. C. M. BALLARD. FENCES.
MYRON MOREHOUSE.



110,889. WM. D. BARTLETT.
HOT-AIR FURNACES.



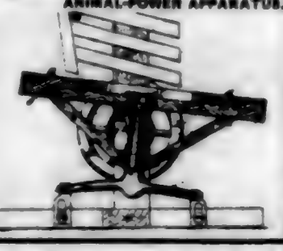
110,890. DARWIN BEACH.
SPARK-ARRESTERS.



110,891 T. W. BRACHER.
EMBOSSING HAT-LININGS.



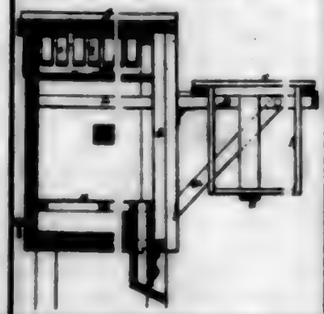
110,892. ORVILLE M. BROCK.
ANIMAL-POWER APPARATUS.



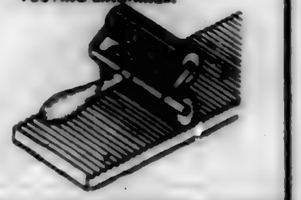
110,893. ALBIRUS BROWN. HAY-TEDDERS.



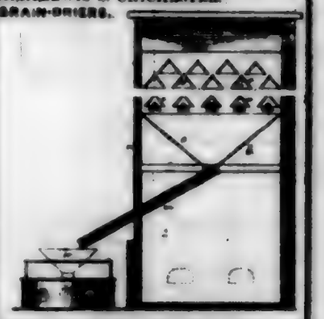
110,894. GUSTAVUS A. BROWN, BEE-HIVES.
FRANCIS A. McCALLEN.



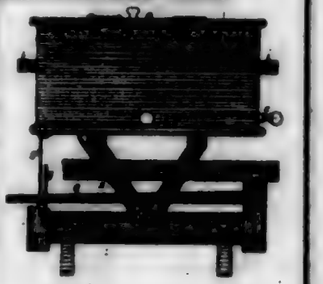
110,895. ABNER BURBANK.
FLUTING-MACHINES.



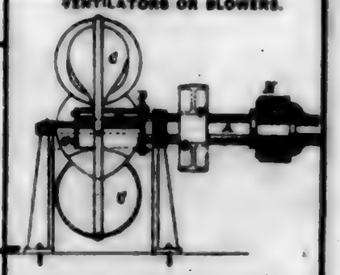
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GRAIN-DRIERS.



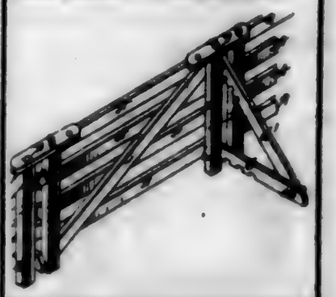
110,897. JACOB CLARK. CHURNS.



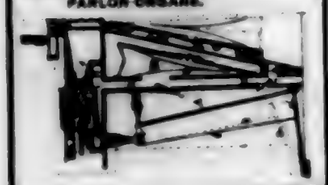
110,898. JOHN F. COLLINS.
VENTILATORS OR BLOWERS.



110,899. THOMAS G. COLLINS. FENCES.



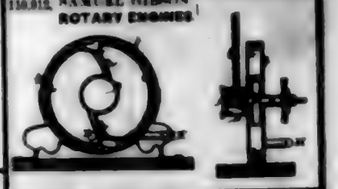
110,908. JAMES GORDLEY. PARLOR ORGANS.



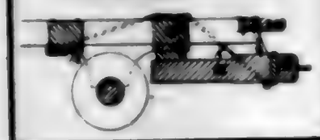
110,909. JNO. M. DEXTER. RAILROAD-CAR VENTILATORS.



110,910. SAMUEL GIBSON. ROTARY ENGINES.



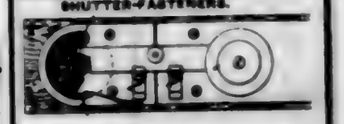
110,911. E. A. COWELL. RAILWAY-CAR PLATFORMS.



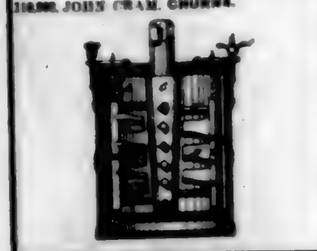
110,912. THOMAS M. DROWN. APPARATUS FOR DYEING FABRICS.



110,913. EBENEZER A. GOODES. SHUTTER-FASTENERS.



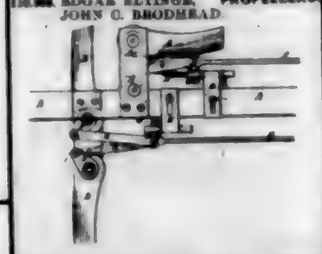
110,914. JOHN GRAM. CHURNS.



110,915. JOHN GOODIE. WRENCHES.



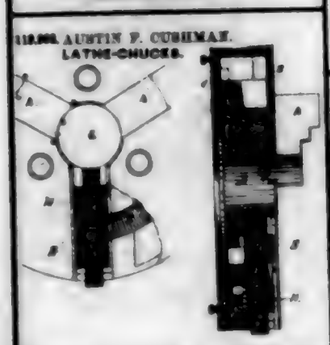
110,916. EDGAR ELTINGE, JOHN C. BRODHEAD. PROPELLERS.



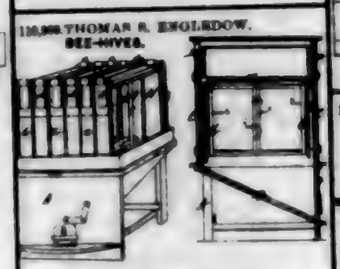
110,917. GARDNER G. HAWKINS. AIR-ENGINES OR FAN-BLOWERS.



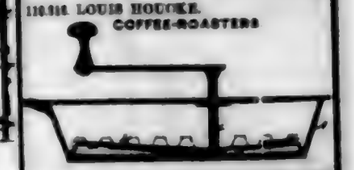
110,918. AUSTIN F. CUSHMAN. LATHE-CHUCKS.



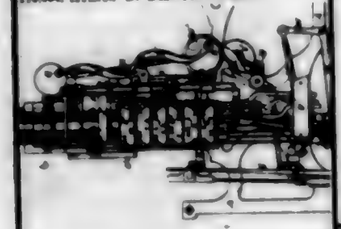
110,919. THOMAS S. ENGLEDOW. BEE-HIVES.



110,920. LOUIS HOUDKE. COFFEE-ROASTERS.



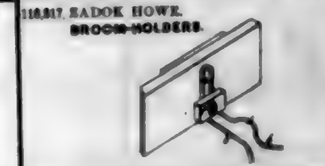
110,921. HILAS D. DAVIS. LOOMS.



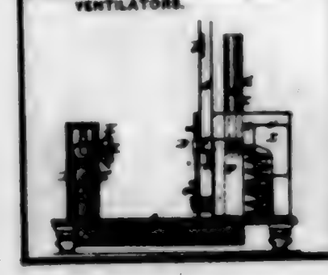
110,922. ADMIRAL FAULKNER. FENCES.



110,923. SADOK HOWE. BROOM-HOLDERS.



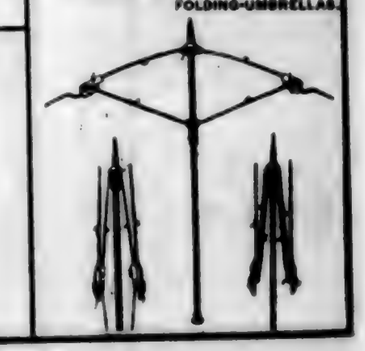
110,924. EDWARD MORTIMER DERY. VENTILATORS.



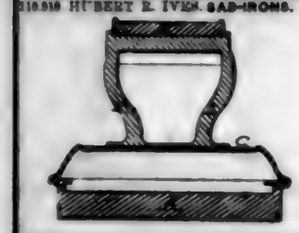
110,925. KAMSON FRAZER. SHAFT-TUGS.



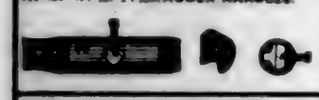
110,926. ALONZO S. HUBBELL. JOINTS FOR FRAMES OF FOLDING-UMBRELLAS.



110,919. HUBERT E. IVES. GAD-IRONS.



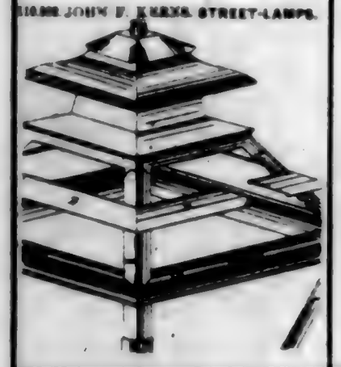
110,920. W. A. IVES. AUGER-HANDLES.



110,921. JEREMIAH KEITH. HATS.



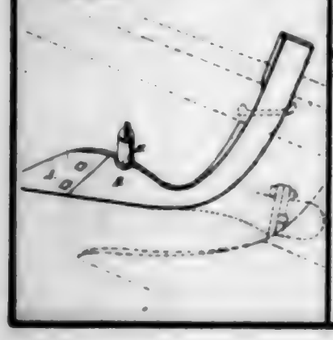
110,922. JOHN F. KERNS. STREET-LAMPS.



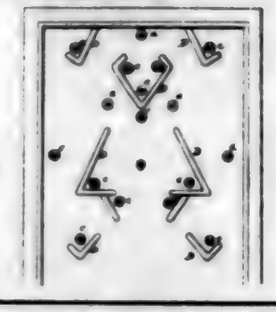
110,923. OSWALD KUBITSCHEK. LOUNGES.



110,924. JOHN M. LEONARD. PLOWS.



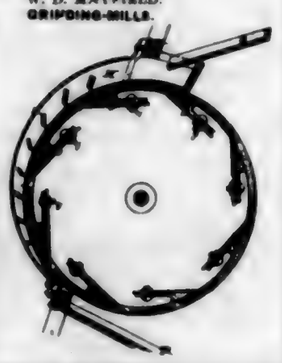
110,925. WILLIAM LOCKHEAD. BILLIARD-TABLES.



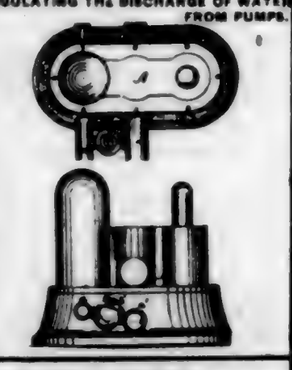
110,926. HENRY G. LUDLOW, 2d. SLIDING STOP-VALVES.



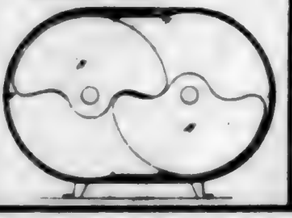
110,927. ISAAC MAYFIELD. W. D. MAYFIELD. GRIPPING-MILLS.



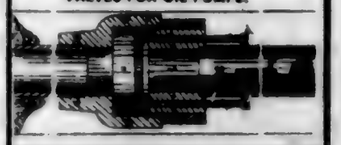
110,928. JOHN MATHER. REGULATING THE DISCHARGE OF WATER FROM PUMPS.



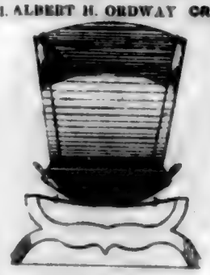
110,929. ALONZO BRUMPIKL. ROTARY BLOWERS.



110,930. HENRY MILLINGAR. VALVES FOR OIL-PUMPS.



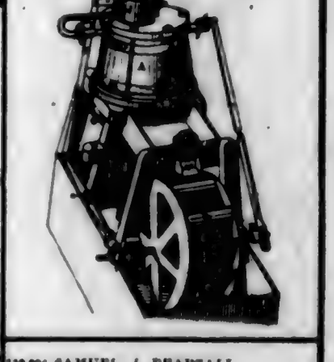
110,931. ALBERT H. ORDWAY. CRADLES.



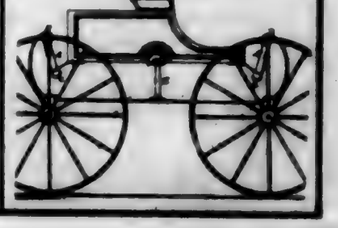
110,932. ALBERT PARLIMAN. NECK-YOKES OF HARNESS.



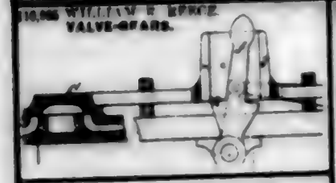
110,933. JAMES H. PATTEN, HUGH J. GRAHAM. STEAM VACUUM-PUMPS.



110,934. SAMUEL J. PEARSALL, SILAS P. BRIGGS. SPRINGS FOR WAGONS AND CARRIAGES.



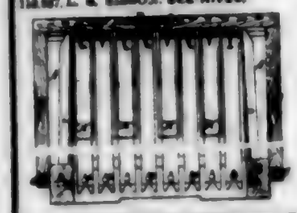
110,935. WILLIAM F. BRICE. VALVE-GEARS.



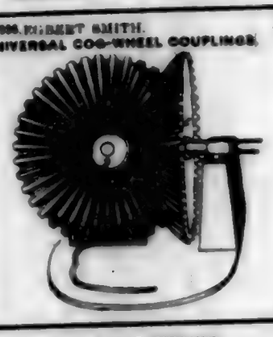
110,936. NATHANIEL P. SHELDON. PUMPS.



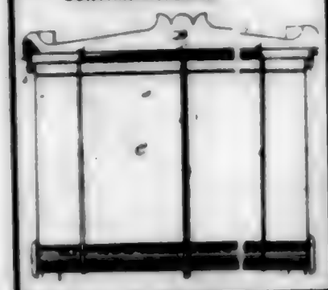
110,937. L. A. GIBSON. BEE-HIVES.



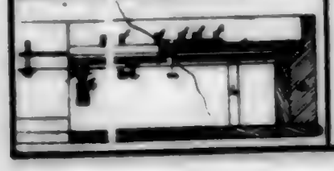
110,938. GILBERT SMITH. UNIVERSAL COG-WHEEL COUPLINGS.



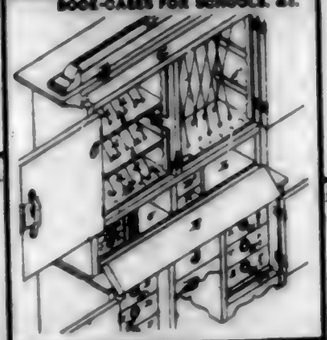
110,939. WILLIAM H. TAMBLING. CURTAIN-FIXTURES.



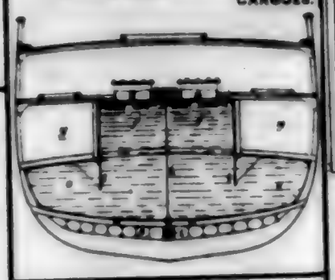
110,940. W. P. ULMAN. PIANOS.



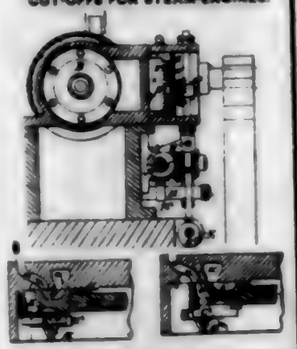
110,941. PETER T. VANNICK. BOOK-CASES FOR SCHOOLS, &c.



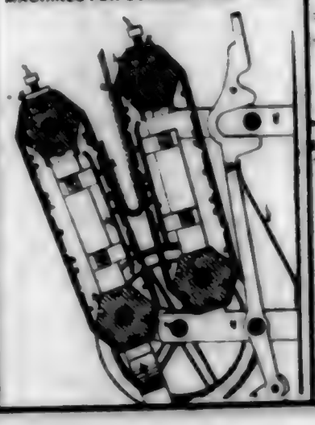
110,942. WILLIAM G. WARDEN. VESSELS FOR CARRYING LIQUID CARGOES.



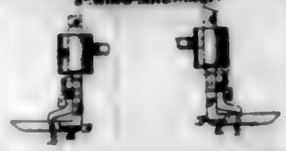
110,943. WILLIAM WATTS, FREDERICK A. PHELPS. CUT-OFFS FOR STEAM-ENGINES.



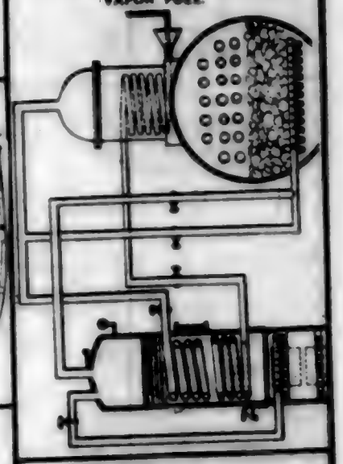
110,944. C. R. WILLIAMS, WILLIAM P. MARTIN. MACHINES FOR BOARDING LEATHER.



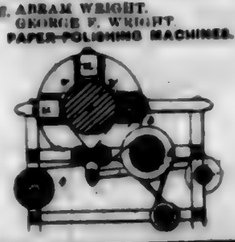
110,945. ALFRED C. WOODWARD. PRESSERS AND STITCH-DIVIDERS FOR SEWING-MACHINES.



110,946. ALFRED J. WORKS, HENRY A. DANIELS. APPARATUS AND PROCESSES FOR GENERATING AND BURNING VAPOR FUEL.



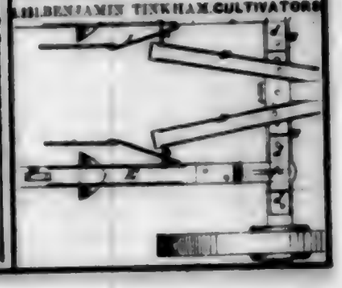
110,947. ABRAM WRIGHT, GEORGE F. WRIGHT. PAPER-POLISHING MACHINES.



110,948. ABRAM I. QUACKENBUSH, GUILFORD HAWN. DEVICES FOR BAKING BREAD.

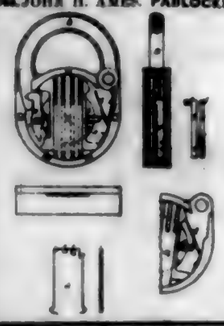


110,949. BENJAMIN TINKHAM. CULTIVATORS.

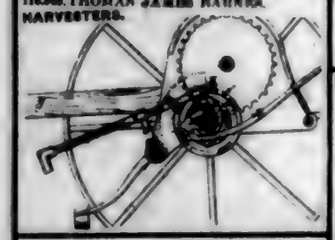


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
JAN. 17, 1871.

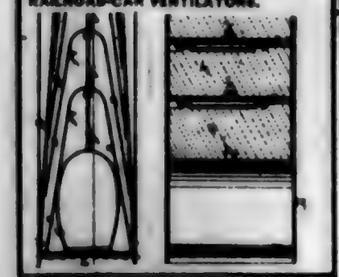
110,950. JOHN H. AMES. PADLOCKS.



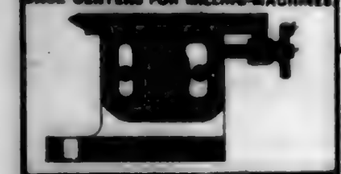
110,951. THOMAS JAMES BARNES. HARVESTERS.



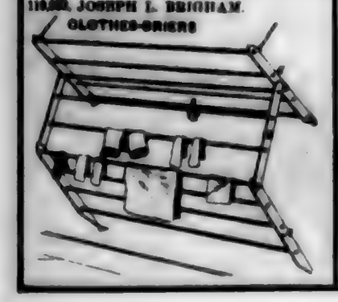
110,952. WILLIAM C. BETTS. RAILROAD-CAR VENTILATORS.



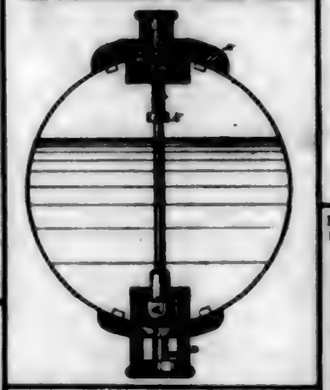
110,953. AMOS E. BRADYARD. BACK CENTERS FOR MILLING-MACHINES.



110,954. JOSEPH L. BRIGHAM. CLOTHES-DRIERS.



110,955. WILLIAM J. BRUNDRED. DEVICES FOR DISCHARGING OIL FROM TANKS.



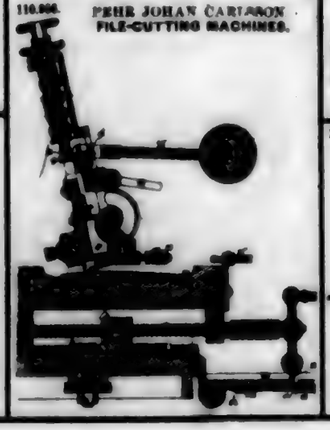
110,956. WILLIAM BUSHNELL. WOOD PAVEMENTS.



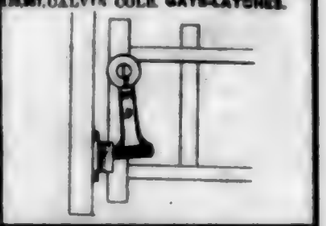
110,957. JAMES H. BUTLER. BELT-GEARINGS.



110,958. PEHR JOHAN CARLSON. FILE-CUTTING MACHINES.



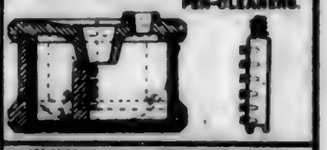
110,959. CALVIN COLE. GATE-LATCHES.



110,960. JAMES B. CRANE. PAPER BED-BOTTOMS.



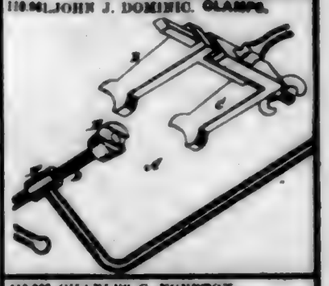
110,961. SAMUEL DARLING. PEN-CLEANERS.



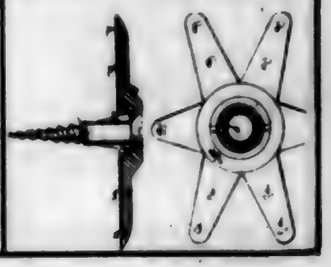
110,962. WILLIAM P. DOLIX. BIT-BRACES.



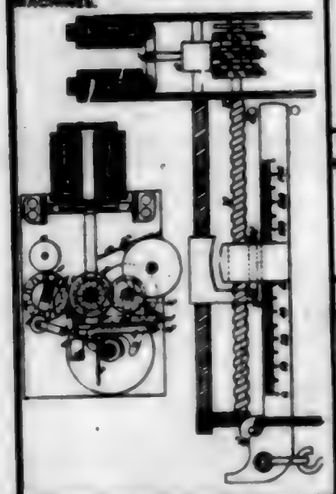
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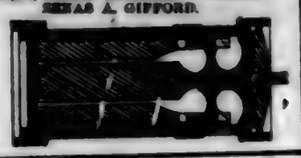
110,964. CHARLES C. EGERTON. STAMP-CANCELERS.



110,966. HENRY FAIRBANKS. ELECTRO-MAGNETIC WEIGHING-MACHINES.



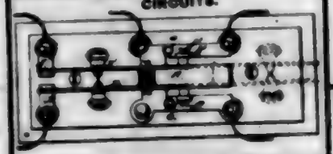
110,967. ALDEN GIFFORD. CHURNS. ISRAEL A. GIFFORD.



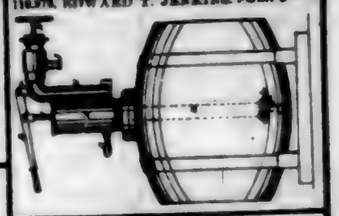
110,968. ALGERNON GILLIAM. HARNESS-SADDLES.



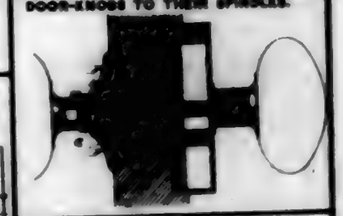
110,969. ELISHA GRAY. MECHANISMS FOR OPENING AND CLOSING TELEGRAPHIC STATION-CIRCUITS.



110,970. EDWARD T. JENKINS. PUMPS.



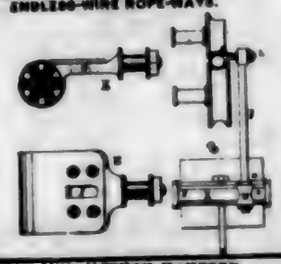
110,971. JAMES S. KARR. ATTACHING DOOR-KNOBS TO THEIR SPINDLES.



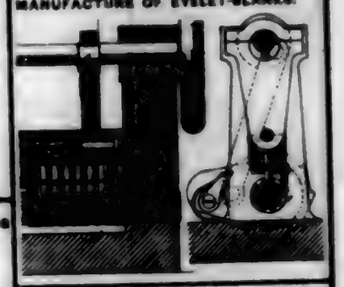
110,972. D. J. KELLOGG. FOUNTAIN PAINT-BRUSHES.



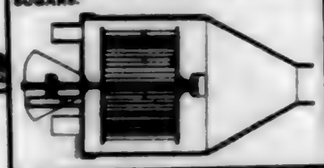
110,973. ANDREW SMITH HALLIDIE. ENDLESS-WIRE ROPE-WAYS.



110,974. WM. B. LANDFEAR. MANUFACTURE OF EYELET-BLANKS.



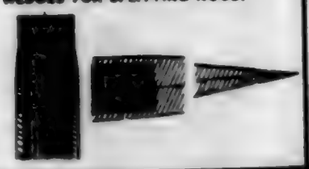
110,975. MELANCTHON HANFORD. MACHINES FOR MIXING AND BLEACHING SUGARS.



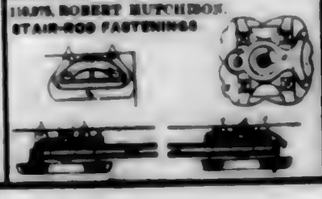
110,976. GEORGE L. HART. ANIMAL-TRAPS.



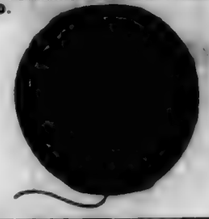
110,977. ALBERT HEUSER. WEDGES FOR SPLITTING WOOD.



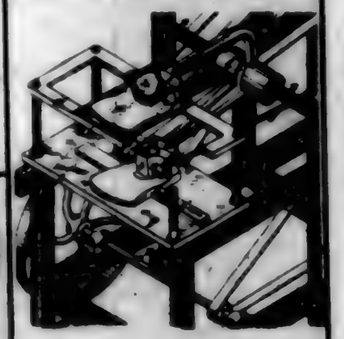
110,978. ROBERT HUTCHISON. STAIR-ROD FASTENINGS.



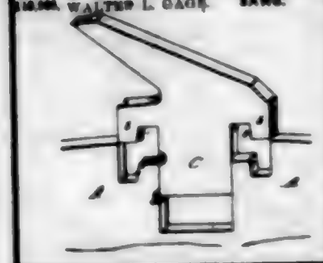
110,979. HAMILTON B. LAWTON. MODES OF FORMING BALLS OF TWINE AND CORD.



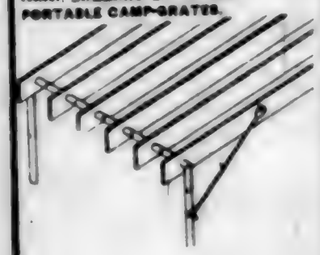
110,980. JOHN LENMAN. MACHINES FOR MOLDING CHAIR-BOTTOMS.



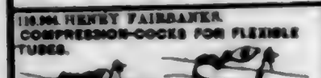
110,981. WALTER L. SAGE. SAWS.



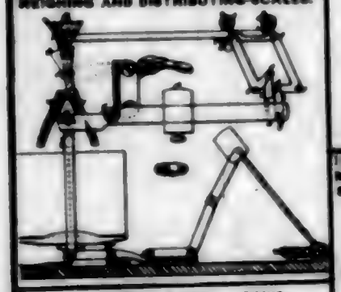
110,982. LORENZO D. SAVITT. PORTABLE CAMP-GRATES.



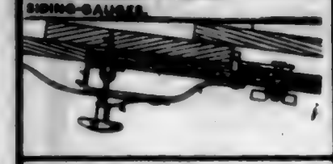
110,983. HENRY FAIRBANKS. COMPRESSION-COCKS FOR FLEXIBLE TUBES.



110,984. HENRY FAIRBANKS. AUTOMATIC WEIGHING AND DISTRIBUTING-SCALES.



110,985. WILLIAM T. LEWIS. SIDING-GAUGES.



110,986. W. F. LEWIS. MACHINES FOR MANUFACTURING HINGES.



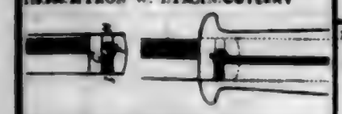
110,987. IVORY LORDE. BURIAL-CASES.



110,988. HORATIO NELSON RICKS LEORIX. DOOR-CHECKS.



110,989. MYRON W. LYMAN. CUTLERY.



110,990. MYRON W. LYMAN, FRANKLIN C. WYMAN. SHOEMAKERS' TOOLS.



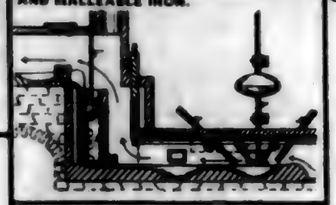
110,991. JOHN M. P. LYON. COTTON-SCRAPERS AND HARROWS.



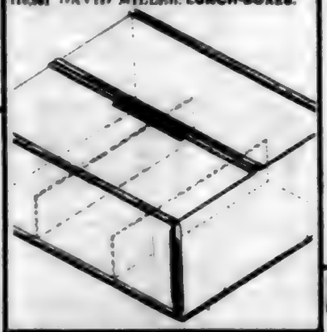
110,992. PATRICK MALONE. EARTH-CLOSETS.



110,993. JOHN W. MIDDLETON. PRODUCING REFINED CAST-IRON, STEEL AND MALLEABLE IRON.



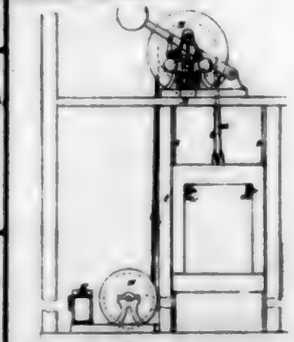
110,994. DAVID MILLER. LUNCH-BOXES.



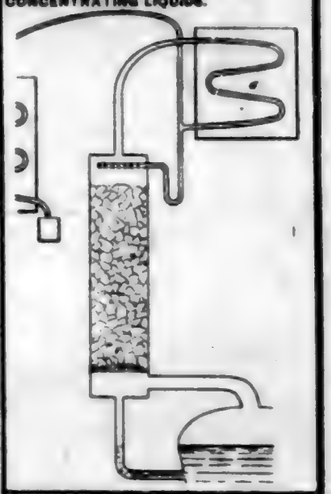
110,995. CHAS. MORRILL. ATTACHING KNOBS TO THEIR SPINDLES.



110,996. CHAS. R. OTIS. NORTON P. OTIS. HOISTING APPARATUS.



110,997. C. CHAUNCY PARSONS. APPARATUS FOR DISTILLING AND CONCENTRATING LIQUIDS.

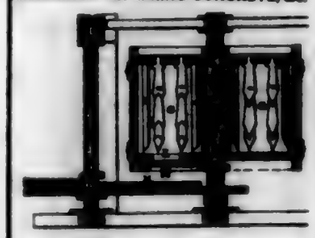


110,998. GEORGE GILMAN PERCIVAL. APPARATUS FOR EXTRACTING ESSENTIAL OILS.

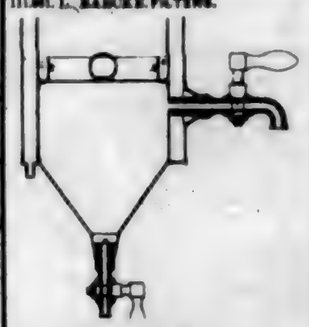


110,999. THOMAS POTTER. OIL-PAINTS FOR COATING OIL-CLOTH.

111,000. SILAS PUTNAM, THOS. BURT. MACHINES FOR MIXING CONCRETE, &c.



111,001. L. RABCKE. FILTERS.



111,002. ALFRED PARAF. MATERIAL CALLED "OLE-IZERINE," FOR DYEING AND PRINTING.

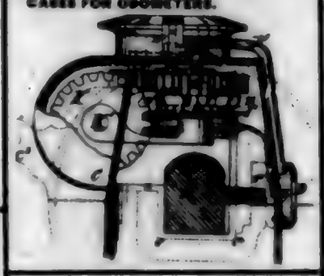
111,003. ALFRED PARAF. PROCESSES OF EXTRACTING THE COLORING-MATTER OF MADDER.

111,004. CAROLINE PARKS. TREE-PROTECTORS.



111,005. HORATIO A. REMINGTON. LET-OFF MECHANISMS FOR LOOMS.

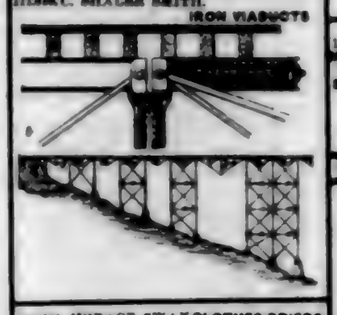
111,032. JACOB D. SEIPEL, CYRUS B. ALSOVER. CASES FOR ODOMETERS.



111,033. WALTER L. SHAW. FRUIT-PICKERS.



111,034. C. SHALER SMITH. IRON VIADUCTS.



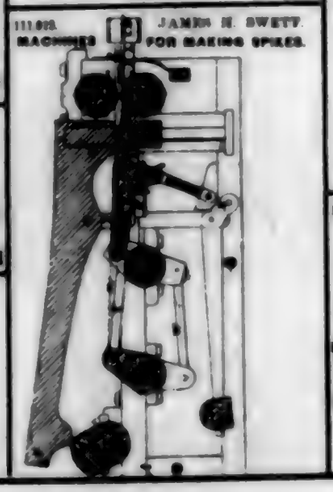
111,035. HORACE SWAN. CLOTHES-DRIERS.



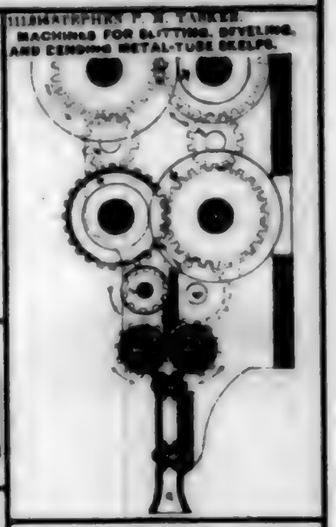
111,036. CHARLES L. SWEATT, GEORGE A. HUNTOON. CUSTARD AND CAKE-CASERS.



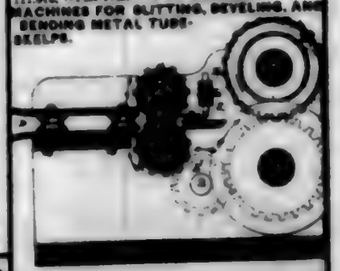
111,037. JAMES H. SWETT. MACHINES FOR MAKING SPIKES.



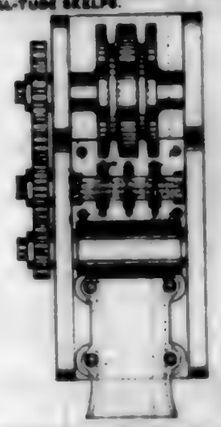
111,038. STEPHEN P. W. TASKER. MACHINES FOR SLITTING, BEVELING, AND BENDING METAL-TUBE SKELPS.



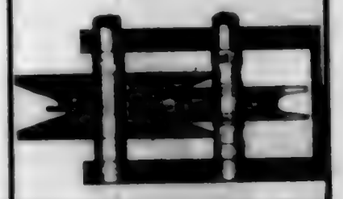
111,039. STEPHEN P. W. TASKER. MACHINES FOR SLITTING, BEVELING, AND BENDING METAL TUBE-SKELPS.



111,040. STEPHEN P. W. TASKER. MACHINES FOR SLITTING AND BENDING METAL-TUBE SKELPS.



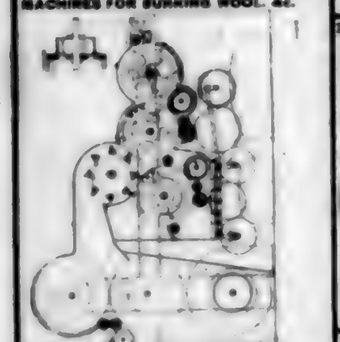
111,041. STEPHEN P. W. TASKER. MACHINE FOR BENDING METAL TUBE-SKELPS.



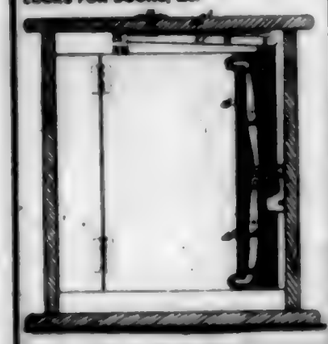
111,042. WILLIAM REYNOLDS. BURGLAR-ALARMS.



111,043. WILLIAM RICHARDSON. MACHINES FOR BURRING WOOL, &c.



111,044. BENJAMIN F. ROBERTS. LOCKS FOR DOORS, &c.



111,045. WILLIAM W. ROBINSON. JOINTS FOR RAILWAY RAILS.

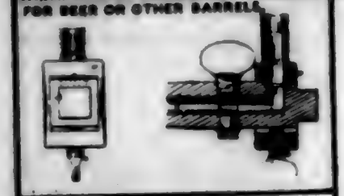


111,046. NEWTON C. SAMPLE. OPEN LINKS FOR COUPLING DOUBLE AND WHIFFLETREES.

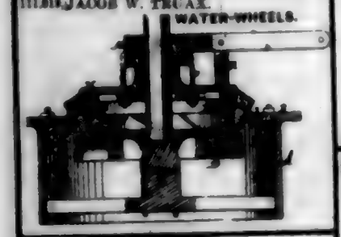


111,047. STEPHEN P. W. TASKER. MACHINE FOR BENDING METAL TUBE-SKELPS.

111,048. SAMUEL THOMPSON. FAUCETS FOR BEER OR OTHER BARRELS.



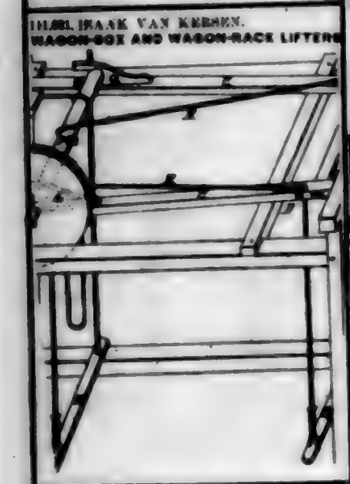
111,049. JACOB W. TRUAX. WATER-WHEELS.



111,050. H. B. VAN DENTHUYSEN. WINDOWS FOR STOVES.



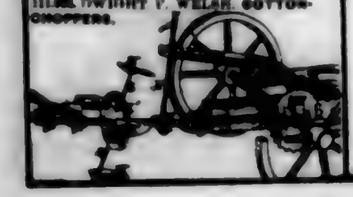
111,051. ISAAK VAN KERSEN. WAGON-BOX AND WAGON-RACK LIFTERS.



111,052. JEREMIAH M. WATSON. CRANK-PIECES FOR BOOTS AND SHOES.



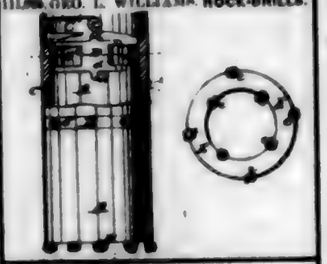
111,053. DWIGHT F. WELAR. COTTON-CHOPPERS.



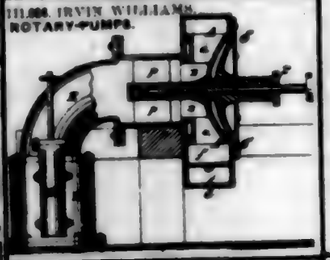
111,054. JEROME WHITE. PRUNING HATCHETS.



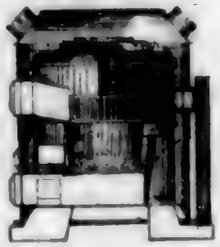
111,055. GEO. L. WILLIAMS. ROCK-DRILLS.



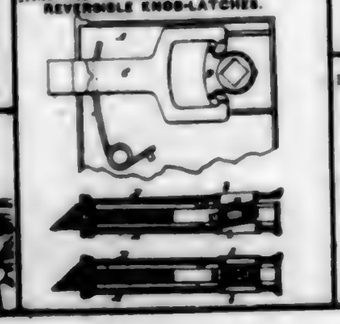
111,056. IRVIN WILLIAMS. ROTARY-PUMPS.



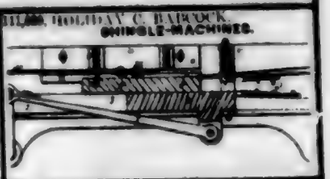
111,057. CHARLES ALLEN. HOT-AIR FURNACES.



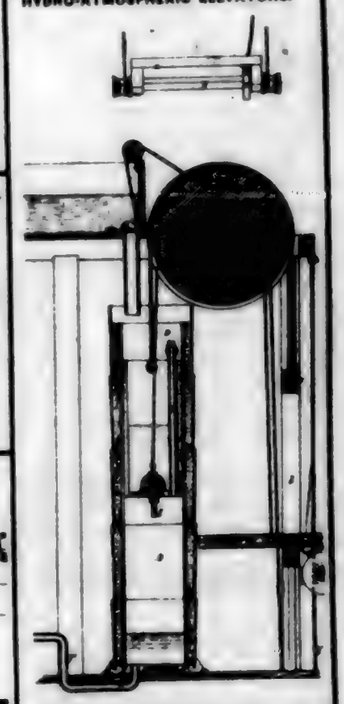
111,058. WM. H. ANDREWS. REVERSIBLE KNOB-LATCHES.



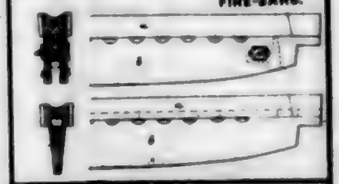
111,059. HOLIDAY C. BABCOCK. SHINGLE-MACHINES.



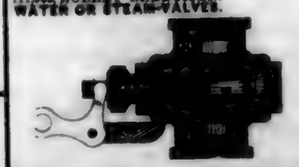
111,060. CYRUS W. BALDWIN. HYDRO-ATMOSPHERIC ELEVATORS.



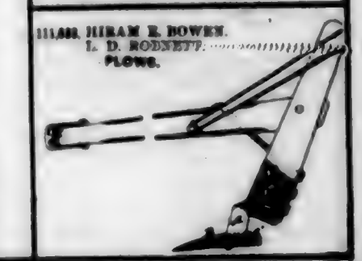
111,061. WILLIAM BATCHELOR. FIRE-BARS.



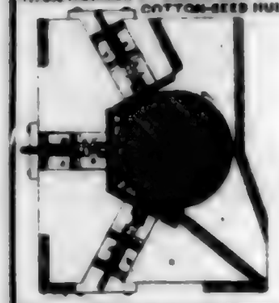
111,062. ROBERT BERRYMAN. WATER OR STEAM-VALVES.



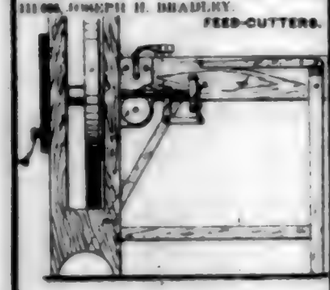
111,063. HIRAM E. BOWEN, I. D. RODNETT. PLOWS.



111,034. HORACE C. BRADFORD. COTTON-SEED HULLERS.



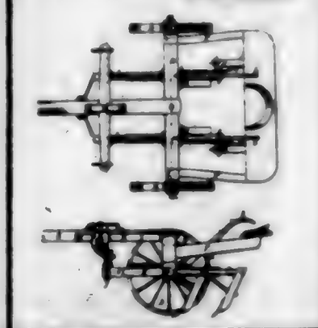
111,035. JOSEPH H. BRADLEY. FEED-CUTTERS.



111,036. ADOLPH BRAMS. LEMUEL HALLADAY. STEAM-BOILERS.



111,037. GEORGE WALTER BRONSON. CULTIVATORS.



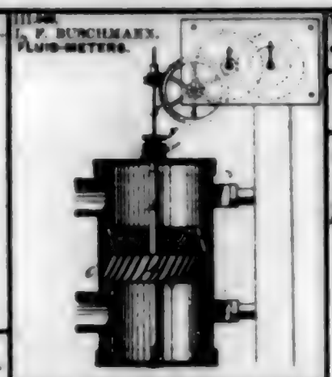
111,038. FRANKLIN W. BROOKS. STAMP-CANCELERS.



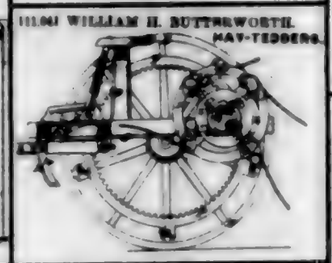
111,039. F. J. BURCHAM. BOOTS AND SHOES.



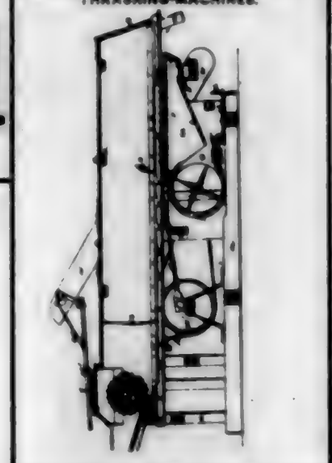
111,040. F. BURCHMANN. FLUID-METERS.



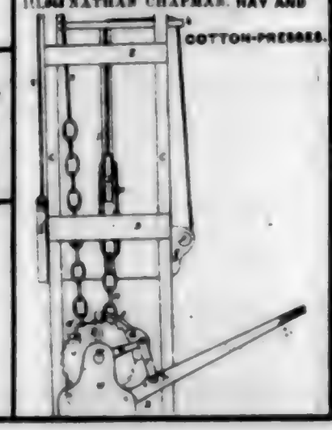
111,041. WILLIAM H. BUTTERWORTH. HAY-TEDDERS.



111,042. HENRY RUSSELL CANIFF. THRASHING-MACHINES.



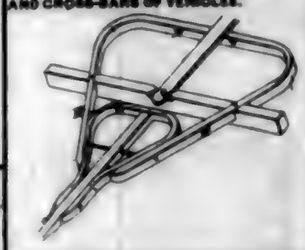
111,043. NATHAN CHAPMAN. HAY AND COTTON-PRESSES.



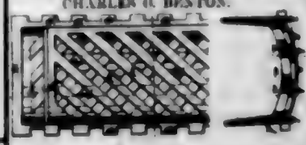
111,044. WILLIAM H. CHILSON. MEDICAL COMPOUND PILLS FOR CURE OF COLDS, &c.

111,045. B. M. DETWILER. S. G. VAN GILDER. PRESERVING WOODS.

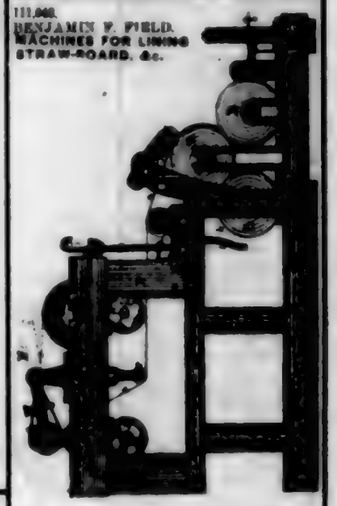
111,046. GERARD DOAN. THEODORE WALLIS. GEORGE D. MORELAND. HOUNDS, SWAY-BARS, TONGUE-BRACES, AND CROSS-BARS OF VEHICLES.



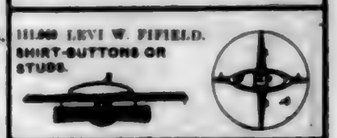
111,047. ALBERT FICKETT GRATE-BARS. CHARLES G. BESTON.



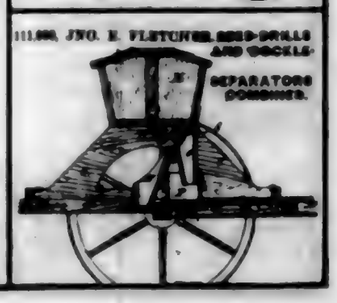
111,048. BENJAMIN F. FIELD. MACHINES FOR LINING STRAW-BOARD, &c.



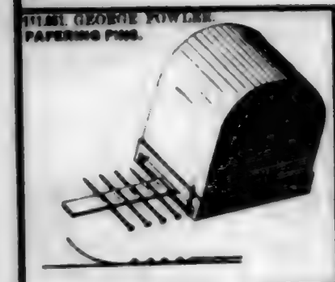
111,049. LEVI W. FIFIELD. SHIRT-BUTTONS OR STUDS.



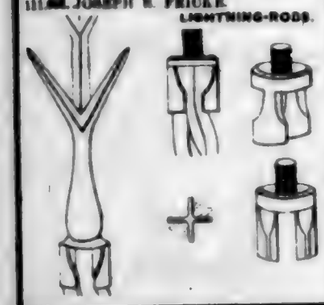
111,050. JNO. E. FLETCHER. SEED-DRILLS AND SOCKLE-SEPARATORS AND DOROMES.



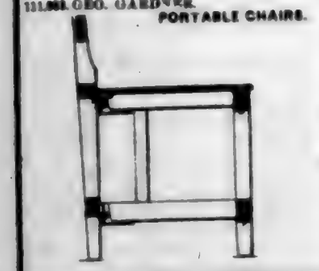
111,051. GEORGE FOWLER. PAPERING PINS.



111,052. JOSEPH B. FRICKE. LIGHTNING-RODS.



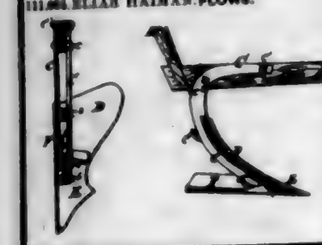
111,053. GEO. GARDNER. PORTABLE CHAIRS.



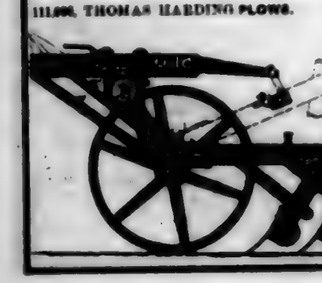
111,054. ALFRED M. GEORGE. FIRE-TONGS.



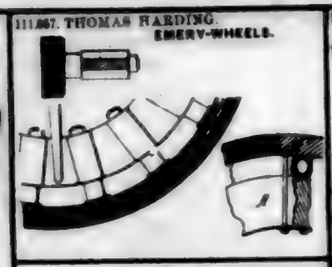
111,055. ELIAS HAIMAN. PLOWS.



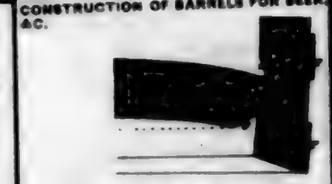
111,056. THOMAS HARDING. PLOWS.



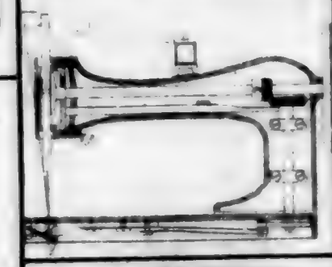
111,057. THOMAS HARDING. EMERY-WHEELS.



111,058. MATTHEW HAWE. CONSTRUCTION OF BARRELS FOR BEER, &C.



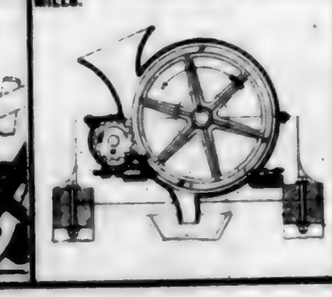
111,059. ARTHUR HELWIG. SEWING-MACHINES.



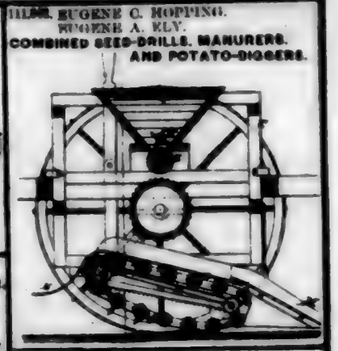
111,060. F. G. HERBE. WATER-METERS.



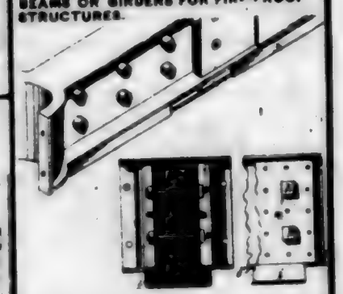
111,061. GEORGE C. HOHENSTEIN. C. T. GLAEBER. CRUSHING AND HULLING ATTACHMENTS TO GRINDING-MILLS.



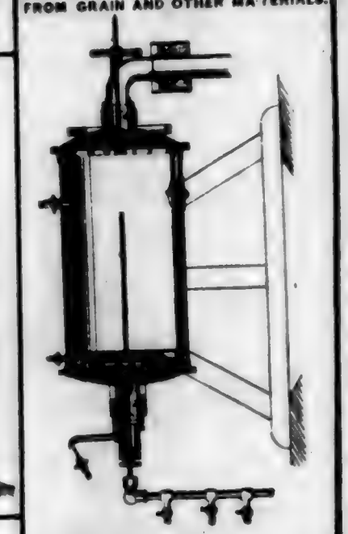
111,062. EUGENE C. HOPPING. EUGENE A. ELY. COMBINED SEED-DRILLS, MANURERS, AND POTATO-DIGGERS.



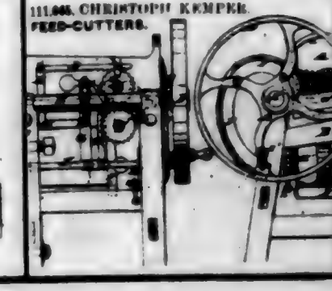
111,063. W. W. HUGHES. BEAMS OR GIRDERS FOR FIRE-PROOF STRUCTURES.



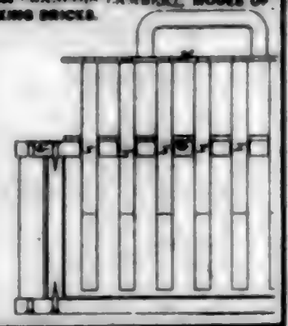
111,064. ELIAS S. HUTCHINSON. APPARATUS FOR SEPARATING OIL FROM GRAIN AND OTHER MATERIALS.



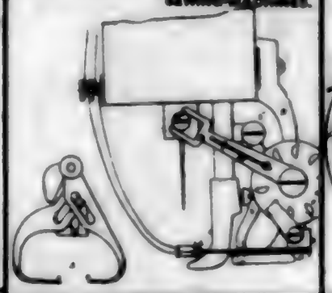
111,065. CHRISTOPH KEMPER. FEED-CUTTERS.



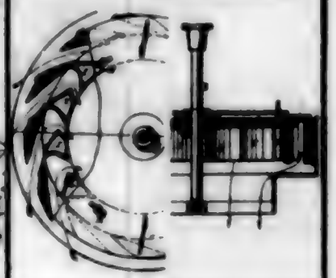
111,038 FRANCIS LAWRENCE, MODES OF MAKING BRICKS.



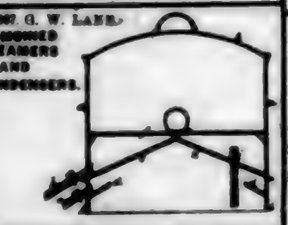
111,071 WILLIAM A. MACK. EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.



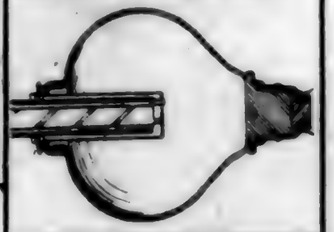
111,077 ALBERT L. MOORE, NORMAN S. PARKER. WATER-WHEELS.



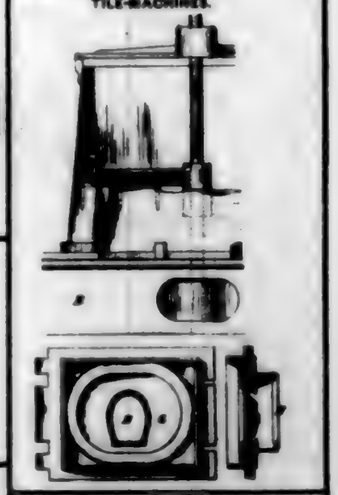
111,037 G. W. LANE. CONDENSED STEAMERS AND CONDENSERS.



111,073. RUFUS S. MERRILL, LAMPS.



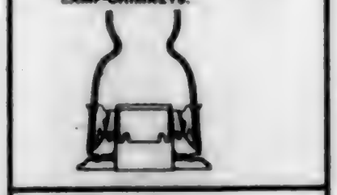
111,078. ALBERT MOORHOUSE. TILE-MACHINES.



111,068. ALBERT D. LAWS, GILDER.



111,073. RUFUS S. MERRILL. LAMP-CHIMNEYS.

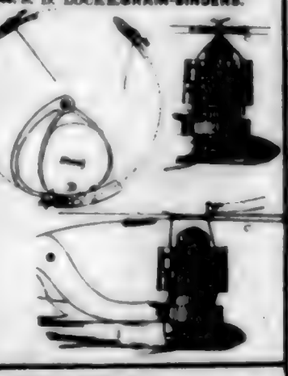


111,074. RUFUS S. MERRILL. LAMP-BURNERS.

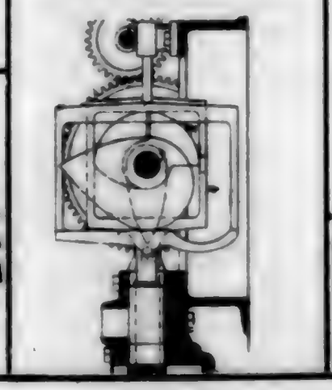


111,076. L. OTTO P. MEYER. MANUFACTURE OF SAFETY-MATCHES.

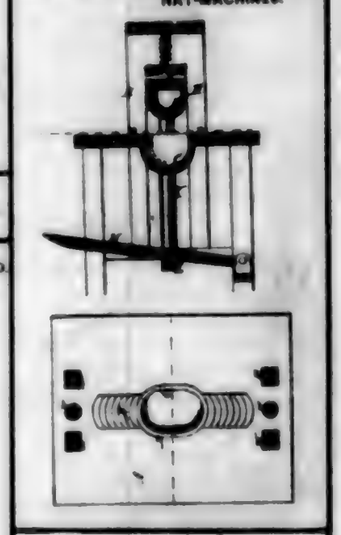
111,069. S. D. LOCKE, GRAIN-BINDERS.



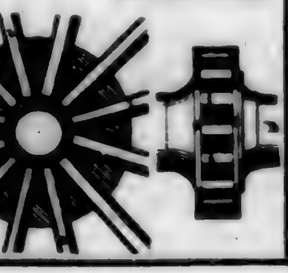
111,075. JAMES ALLAIRE MILLHOLLAND. BRICK-PRESSES.



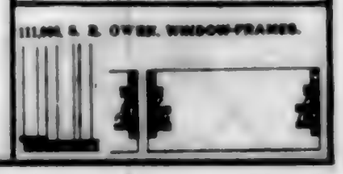
111,079. CHARLES M. OSGOOD. HAT-MACHINES.



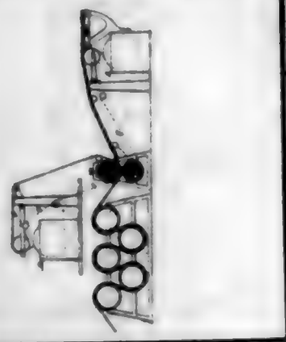
111,070 WM. I. LYMAN. HUBS FOR VEHICLES.



111,080. S. B. OWEN. WINDOW-FRAMES.



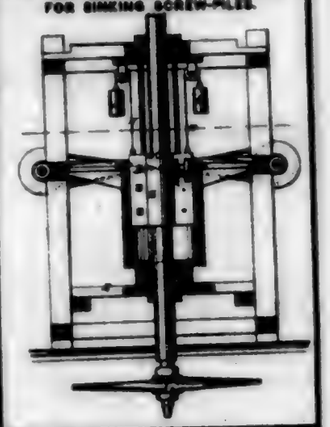
111,051. CLAUDIUS A. PEARE. MACHINES FOR THE MANUFACTURE OF PAPER CARPET-LINING.



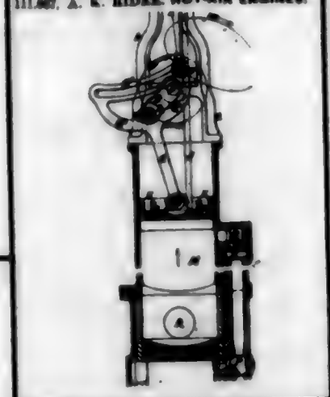
111,052. JAMES H. REILLY. MATTING APPARATUS.



111,053. WM. EDDY SMITH. MACHINES WM. REUSCHEL. FOR SINKING SCREW-PILES.



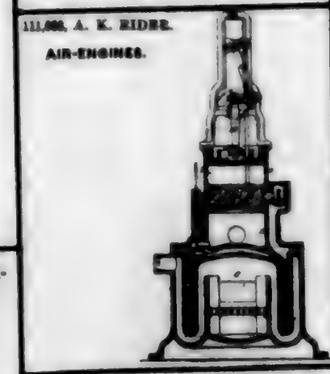
111,067. A. K. RIDER. HOT-AIR ENGINES.



111,068. G. B. POWTLETHWAITE. MACHINES FOR MAKING BOLTS AND NUTS.



111,069. A. K. RIDER. AIR-ENGINES.



111,063. BENJAMIN F. POWER. TRACK-CLEARERS FOR MOWING-MACHINES.



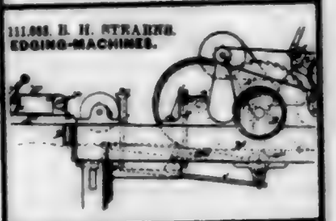
111,066. SOCRATES SCHOLFIELD. CIGAR-FILLINGS.



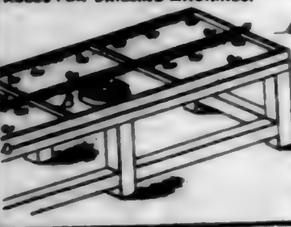
111,064. AARI. SWEET. EXTENSION-SCAFFOLDS.



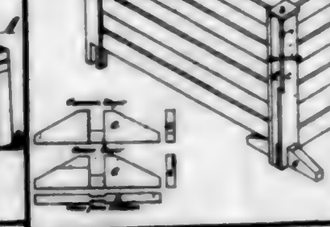
111,065. H. H. STRAHM. EDGING-MACHINES.



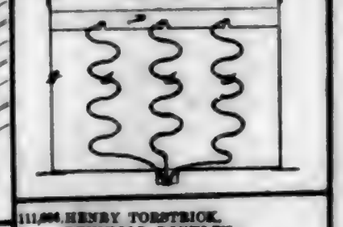
111,056. THOS. BEANEY. TABLES FOR DRILLING-MACHINES.



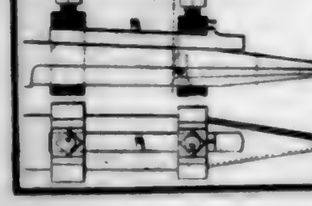
111,060. W. W. SHERMAN, FENCES.



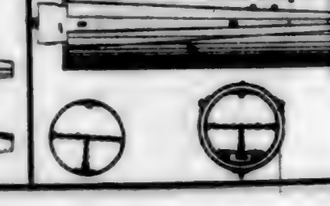
111,055. HENRY THURLOW. LUBRICATORS FOR AXLES.



111,055. THOS. BEANEY. REAMING AND COUNTERSINKING-TOOLS.



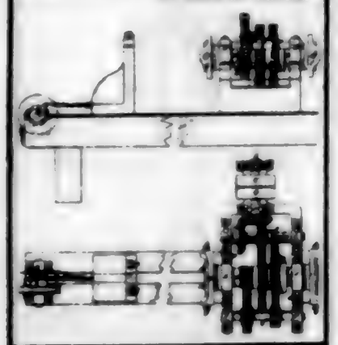
111,061. WILLIAM SMITH. COLLAPSING CORE-BARRELS.



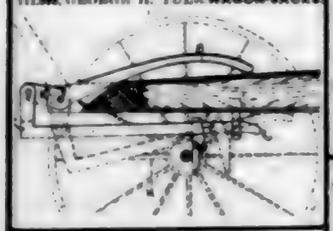
111,054. HENRY TORSTRICK, REINHOLD BOEKLEN. RAILROAD-SPIKES.



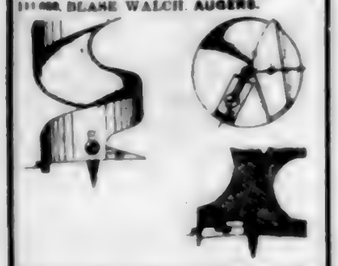
111,097 STEPHEN TUDDENHAM
MANUFACTURE OF ORNAMENTAL BARS OR RODS OF METAL.



111,098 GEORGE H. TULK. WAGON-JACKS.

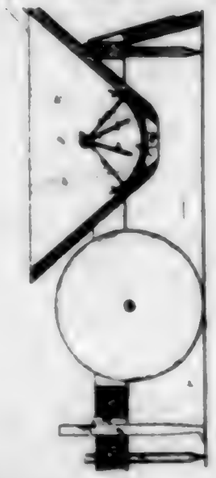


111,099 BLAKE WALCH. AUGERS.

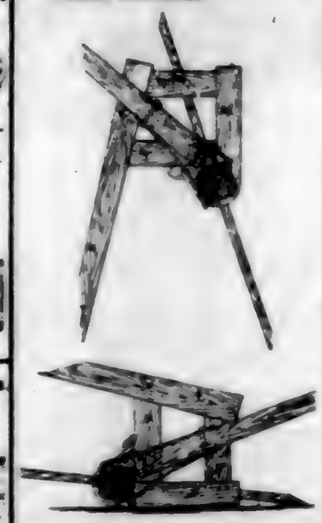


111,100 FRED. WALTON.
MANUFACTURE OF ARTIFICIAL LEATHER.

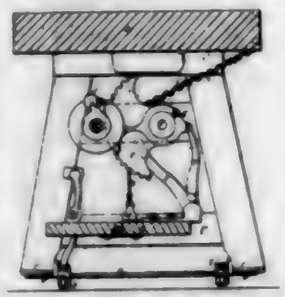
111,101 A. CHARLES WITHERS.
PLANTERS AND CULTIVATORS.



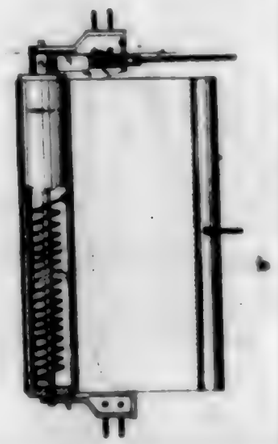
4,232 NEWCOMB M. BARNES.
HORSE HAY-RAKES.

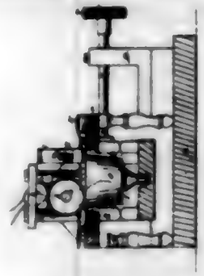


4,233 JOHN A. BRADSHAW.
WM. H. BROWN.
DARIUS WHITNEY.
TREADLES FOR SEWING-MACHINES.

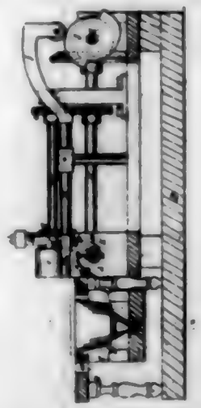


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CURTAIN OR SHADE-FIXTURES

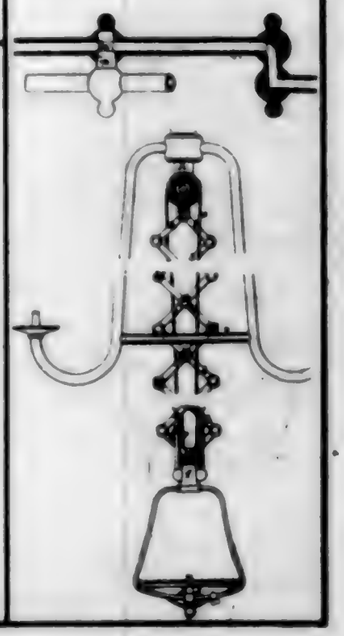




4,235 WM. A. PENN.
MACHINES FOR FORMING THE BRIMS OF FELT-HATS.

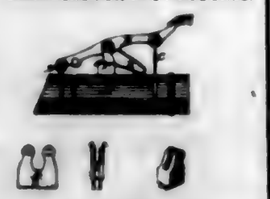


4,236 SAML. B. H. VANCE.
APPARATUS FOR SUSPENDING GASOLIERS AND DROP-LIGHTS.



ILLUSTRATIONS OF PATENTS
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JAN. 24, 1871.

111,102 TOM. W. ALLEN.
CHARGERS FOR SHOT-POUCHES.



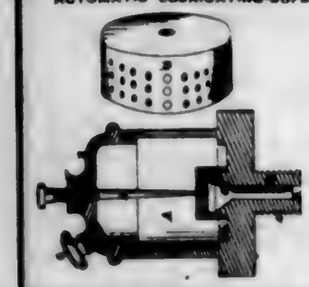
111,103 RODNEY G. BRITTON
CHILDREN'S CARRIAGES.



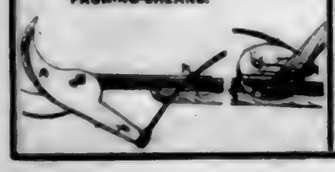
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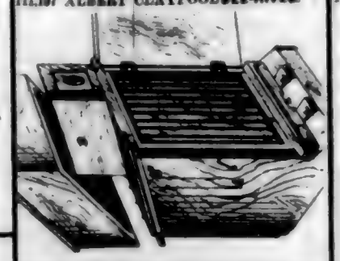
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WILLIAM STAINFIELD
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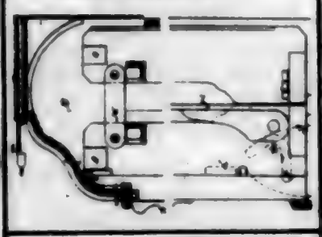
111,106 JOHN CALDER.
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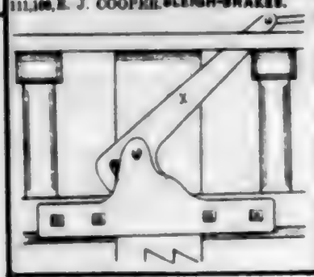
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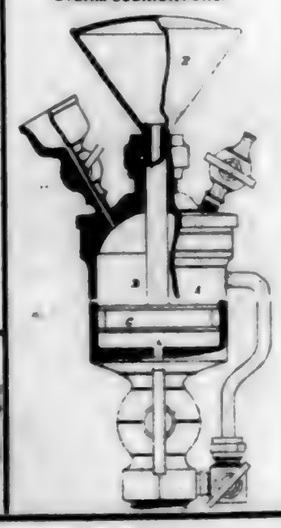
111,108 FRANCIS E. COFFIN.
PARLOR-BEDSTEADS.



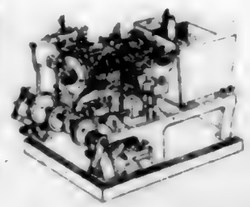
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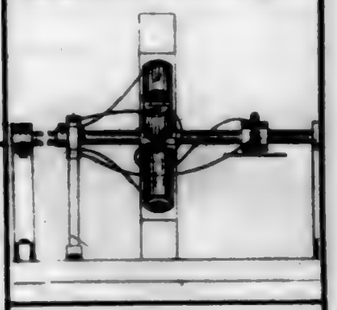
111,110 DANIEL CURRIE.
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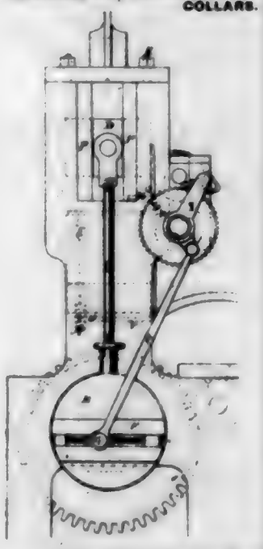
111,111 W. W. DUNN.
TYPE-CASTING MACHINES.



111,112 THOMAS A. EDISON.
GOVERNORS FOR ELECTRO-MOTORS.

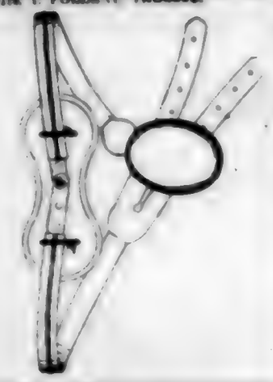


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MACHINES FOR CUTTING PAPER COLLARS.



111,114 JOHN FARREL.
FLUX FOR WELDING STEEL OF HIGH AND LOW GRADES.

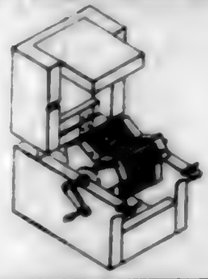
111,126. V. POLLENT THOMAS.



111,127. PATRICK MALVEY. PUMPS.



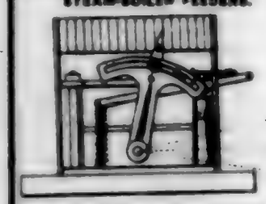
111,128. C. JENKINS, Jr. ASH-SCREENS.



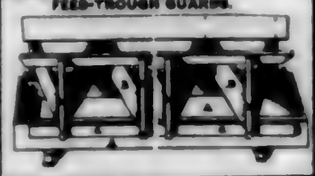
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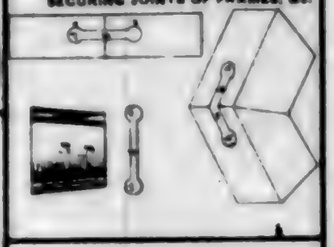
111,130. LUCIUS FOOTE. STEAM-BOILER FEEDERS.



111,131. EDWIN HOWENDEN. FEED-TROUGH GUARDS.



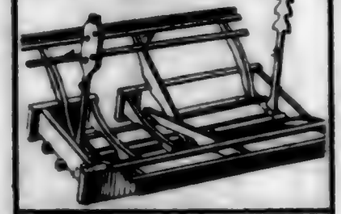
111,132. CHARLES F. LINSCOTT. SECURING JOINTS OF FRAMES, &c.



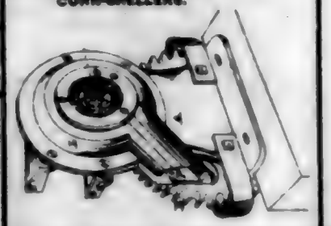
111,133. DAVID, E. McSHERRY. GRAIN-DRILLS.



111,134. FRANK LOUIS HAGLER. HAY-RACES.

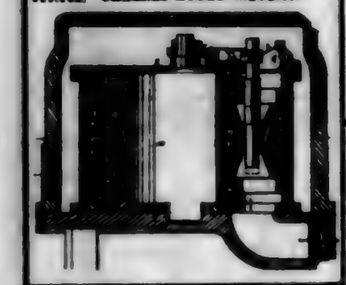


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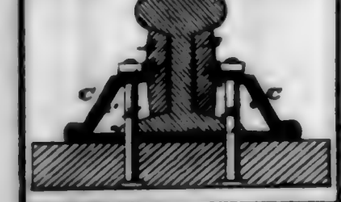


111,136. EDWARD MILNER. COMPOUNDS FOR PRESERVING BRAIN-TILES, BRICKS, &c.

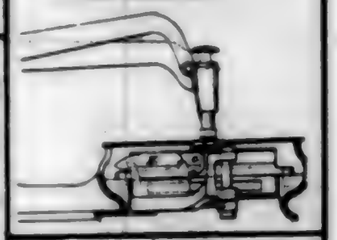
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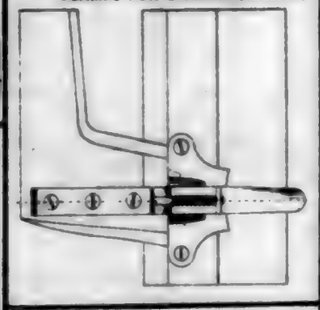
111,138. WILLIAM MORHOUSE. CHAIR-CLAMPS FOR RAILWAY-RAILS.



111,139. T. A. MACAULAY. SEWING-MACHINES.



111,140. HENRY J. NORTHUP. CLAMPS FOR CARRIAGE-SEATS.

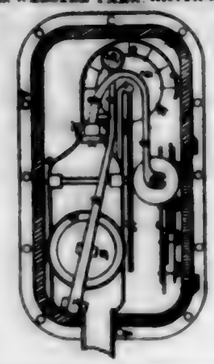


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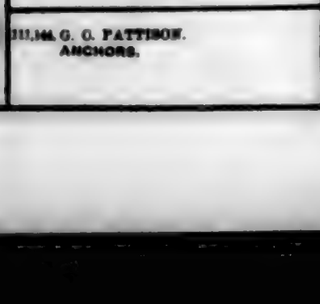


111,142. ALFRED PARAV. OBTAINING MADDER EXTRACTS.

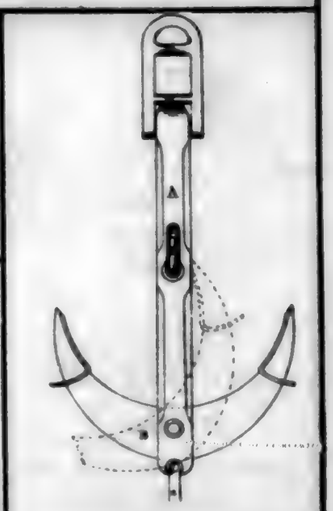
111,143. WEBSTER PARK. WATER-METERS.



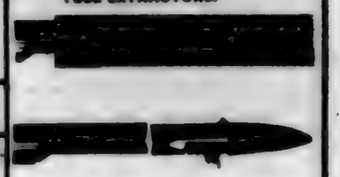
111,144. G. C. PATTISON. ANCHORS.



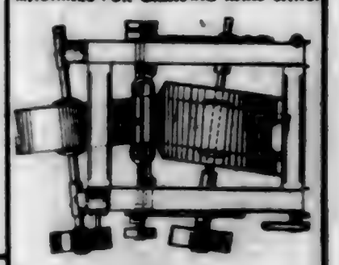
111,145. G. C. PATTISON. ANCHORS.



111,146. ISAAC S. PETERS. TUBE-EXTRACTORS.

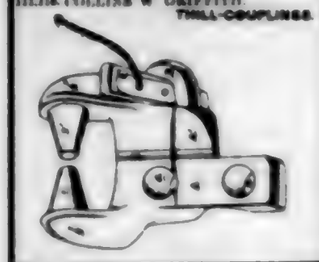


111,147. EDW. S. PUPIN. MACHINES FOR GRINDING HAND-SAWS.

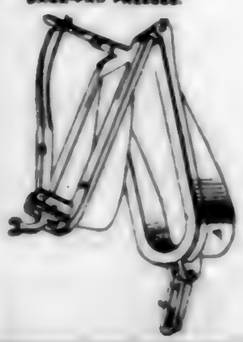


111,148. ANT. PIRE. COMPOSITIONS FOR COATING WOODEN STRUCTURES TO PROTECT THEM AGAINST FIRE.

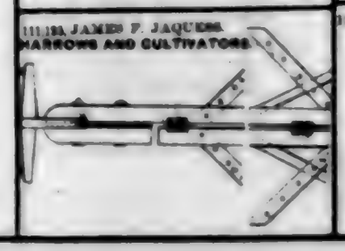
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111,119. EDWIN W. HARLOW. BACK-PAD PRESSES.



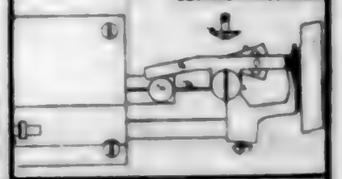
111,120. JAMES P. JAQUESS. HARROWS AND CULTIVATORS.



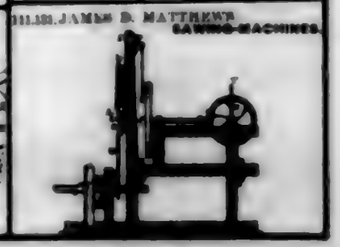
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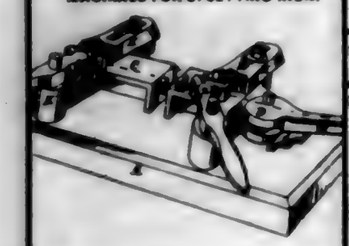
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111,123. JAMES D. MATTHEWS. SAWING-MACHINES.



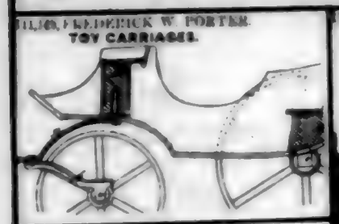
111,124. MARTIN L. MUNGER, COROODON D. W. GIBSON. MACHINES FOR UPSETTING IRON.



111,125. ISAAC W. MYERS. BOOT-STRETCHERS.



111,149. FREDERICK W. PORTER.
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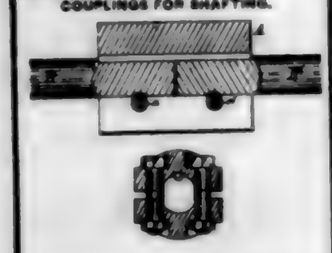


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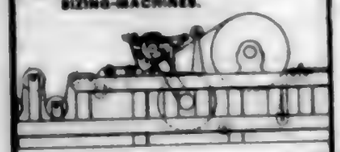


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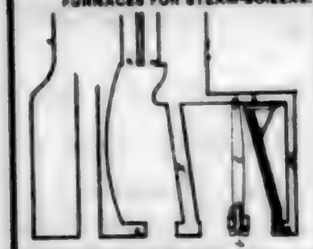
111,152. SCOTT A. SMITH.
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111,153. ALBERT H. STUBBS.
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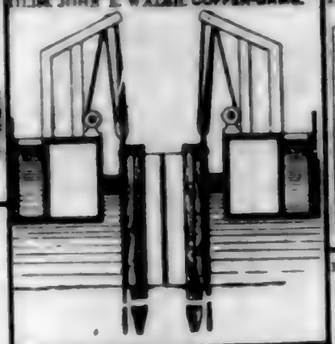
111,154. MORSE K. TAYLOR.
FURNACES FOR STEAM-BOILERS.



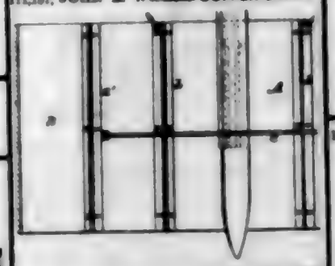
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JAN DE JONGE.
MANURE-RAKE ATTACHMENTS FOR PLOWS.



111,156. JOHN E. WALSH. COFFER-DAMS.



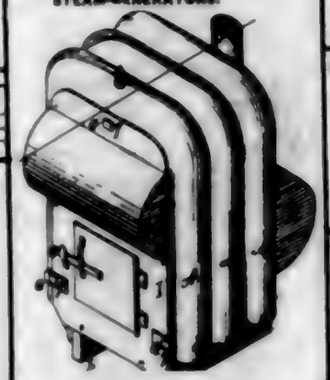
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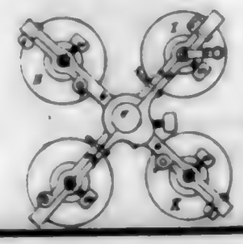
111,158. SETH WAY. PLOW-COLTERS.



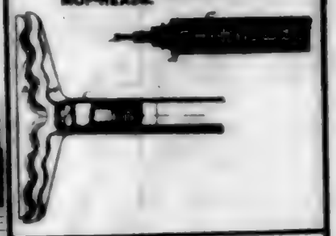
111,159. SAMUEL WEST.
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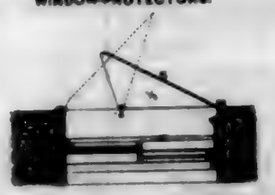
111,160. JOSEPH H. WESTCOTT.
SERVING-REELS.



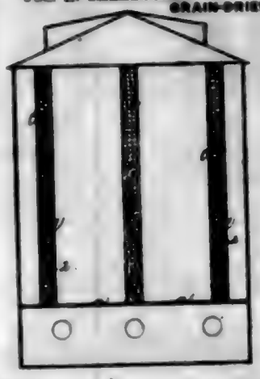
111,161. HENRY E. WETMORE.
ROP-HEADS.



111,162. WILLIAM K. WINANT.
WINDOW-PROTECTORS.



111,163. LEVI ABBOTT.
JOS. A. SHERBURNE.
GRAIN-DRIERS.



111,164. EMANUEL ANDREWS. SAWS.

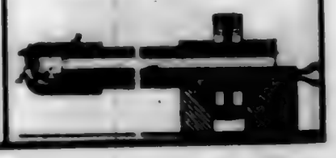


111,165. ASHER S. RABBIT.
EARTH-SCRAPERS.

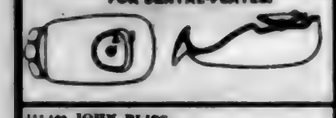


111,166. THOS. J. BARROW.
CONCRETER FOR PIPES, TUBES, BUILDINGS, &c.

111,167. AARON BAUMAN.
ORIN O. WITHERELL.
HOLLOW AUGERS.



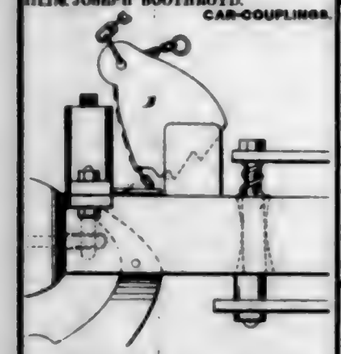
111,168. J. R. BERRY.
ATMOSPHERIC-PRESSURE ATTACHMENTS FOR DENTAL-PLATES.



111,169. JOHN BLISS.
GEO. H. BLISS.
LIQUID-COMPASSES.



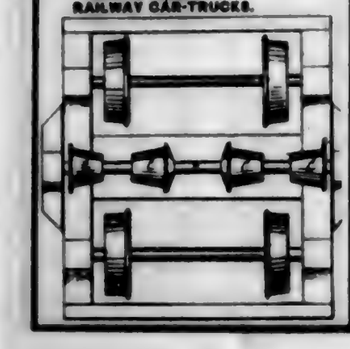
111,170. JOSEPH BOOTHROYD.
CAR-COUPLINGS.



111,171. TIMOTHY L. BOSART. Jr.
COAL-BOXES.



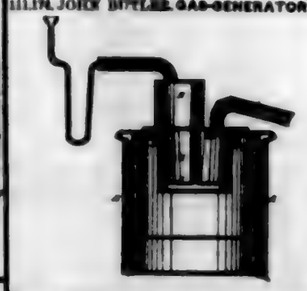
111,172. LOUIS D. BOYCE.
GEO. H. JONES.
RAILWAY CAR-TRUCKS.



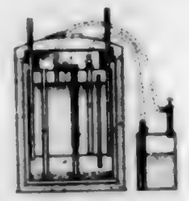
111,173. A. T. BRODIE.
R. R. SMITH.
COLLAPSING-CORES.



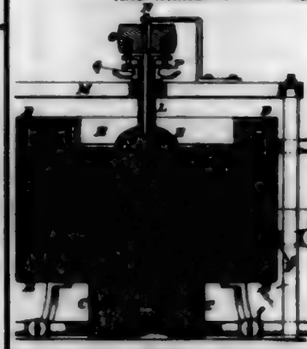
111,174. JOHN BUTLER. GAS-GENERATORS.



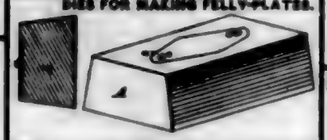
111,175. HENRY ALBERT CHAPIN.
APPARATUS FOR CARBURETING AIR.



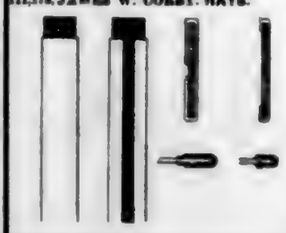
111,176. W. H. CHURCHMAN.
SCOURING, WASHING, AND WRINGING-MACHINES.



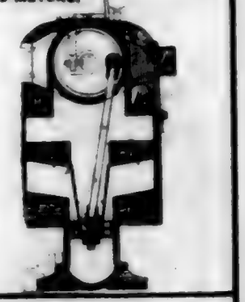
111,177. ALLISON N. CLARK.
DIES FOR MAKING FELLY-PLATES.



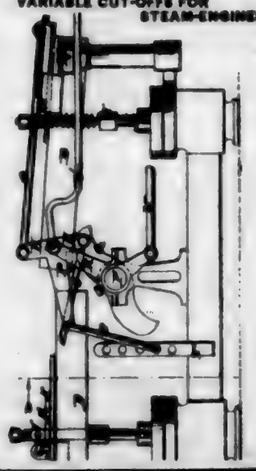
111,178. JAMES W. COREY. HATS.



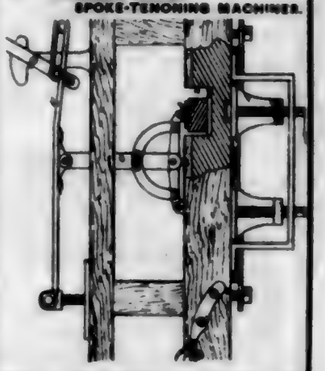
111,179. ROBT. CREUZBAUR.
FLUID-METERS.



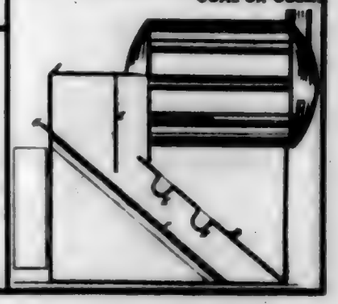
111,180. WILLIAM R. CROSS.
VARIABLE CUT-OFFS FOR STEAM-ENGINES.



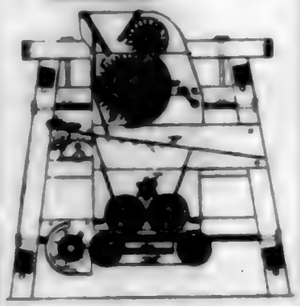
111,181. GODFREY R. CULP.
MATTHEW FLAIG.
SPOKE-TENONING MACHINES.



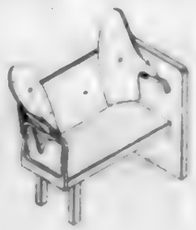
111,182. ALFRED DART.
FURNACES FOR BURNING SMALL COAL OR CULM.



111,183. GEO. L. DAVENPORT.
CHARLES G. CAMP.
WINE-PRESSES.

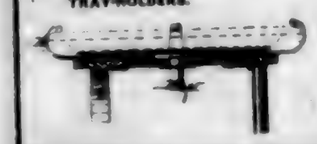


111,184. PETER F. DUCHEMIN.
REMOVABLE CAR-SEAT BACKS.

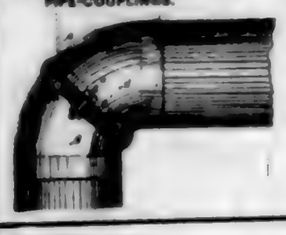


111,185. SAMUEL J. EVERETT.
TREATING FRUIT-TREES TO PREVENT THE RAVAGES OF INSECTS, &c.

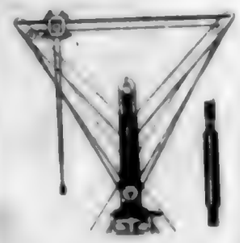
111,186. OBED FAHNESTOCK.
TRAY-HOLDERS.



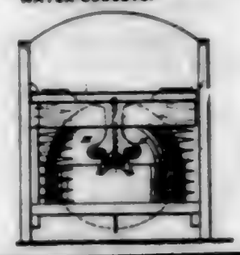
111,187. JOHN B. FINK.
PIPE-COUPLINGS.



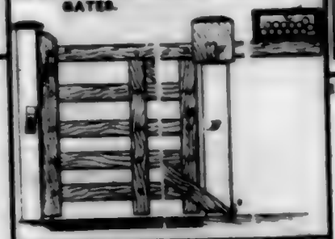
111,188. HENRY FLAD
JAS. B. RAIN.
HOISTING APPARATUS.



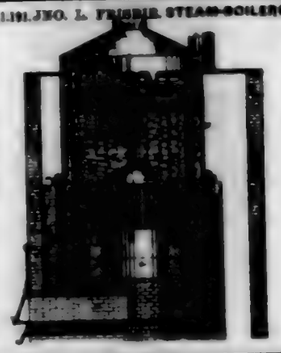
111,189. CHARLES FRANKISH.
WATER-CLOSETS.



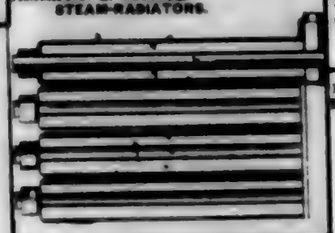
111,190. WILLARD GREEN FRANKLIN.
GATES.



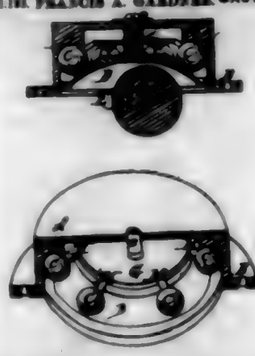
111,191. JEO. L. FRISBIE. STEAM-BOILERS.



111,192. JNO. L. FRISBIE.
STEAM-RADIATORS.



111,193. FRANCIS A. GARDNER. CASTERS.

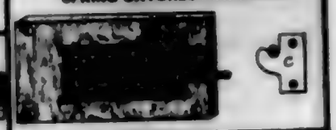


111,194. ALFRED M. GEORGE.
PEN-HOLDERS.



111,195. REBECCA GILKINSON.
MEDICAL COMPOUNDS FOR THE CURE OF RHEUMATISM.

111,196. WILLIAM GLUE.
SPRING-CATCHES FOR DOORS.



111,197. CHAS. GOODYEAR, Jr.
MACHINES FOR SEWING BOOTS AND SHOES.

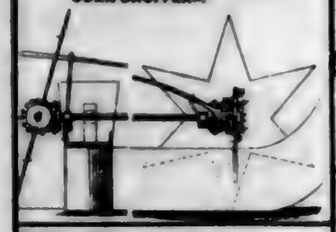


111,198. WILLIAM THOMAS GRANT.
COMPOUNDS FOR REMOVAL OF SCALE FROM STEAM-BOILERS.

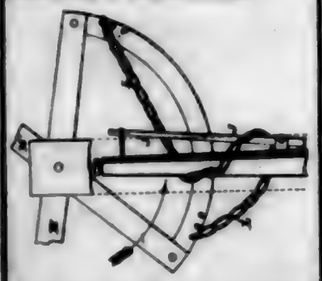
111,199. FRANKLIN T. GRIMES.
BASTER-GUIDES FOR SEWING-MACHINES.



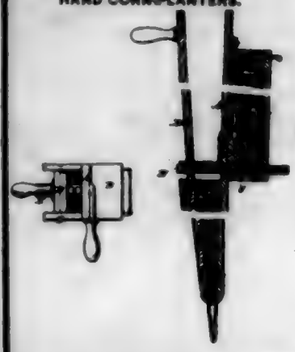
111,200. JACOB H. GROSS.
CORN-DROPPERS.



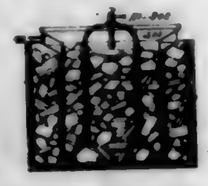
111,201. JOHN K. HARRIS. GATES.



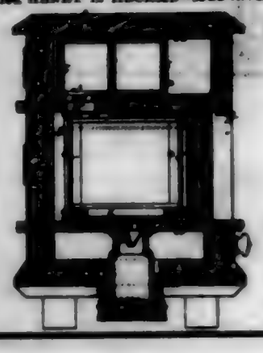
111,202. JAMES M. HARRISON.
HAND CORN-PLANTERS.



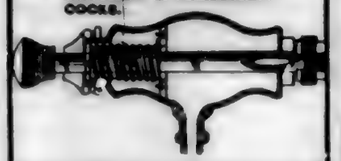
111,203. CARL WILH. HAUG.
BEER-COOLERS.



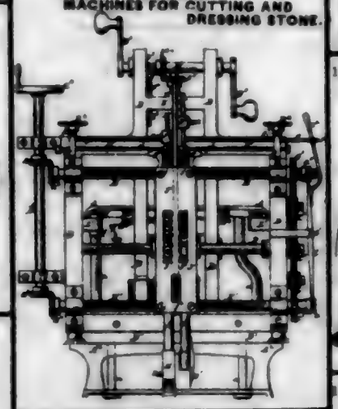
111,204. HENRY L. HECKMAN. BEE-HIVES.



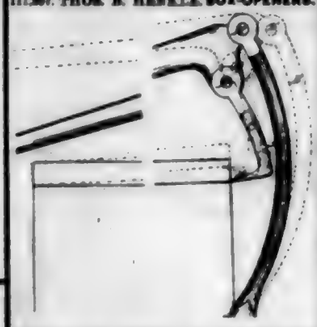
111,205. WILLIAM H. HEDGES.
MATTHEW B. CAMPFIELD.
COCKS.



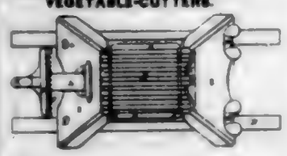
111,206. JACOB HEDRICK.
WILLIAM TASH.
HENRY KREIDLER.
MACHINES FOR CUTTING AND DRESSING STONE.



111,207. THOS. B. HENKLE. BOX-OPENERS.



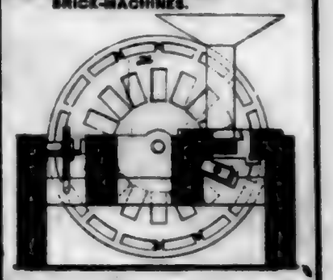
111,208. DAVID WALLACE HERSEY.
VEGETABLE-CUTTERS.



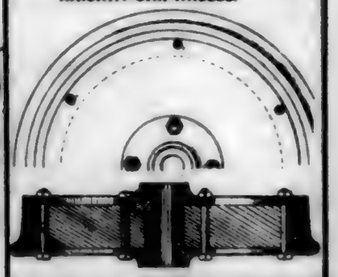
111,209. FRANCIS MARCH HOLMES.
FOLDING-CHAIRS.



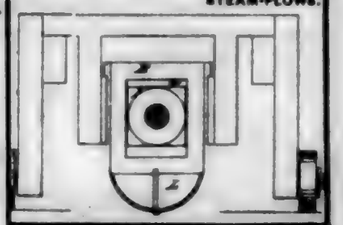
111,210. ERWIN C. HUBBARD.
BRICK-MACHINES.



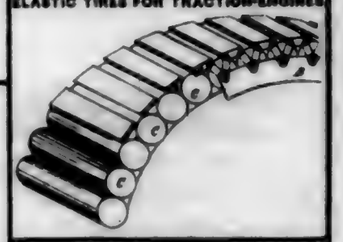
111,211. LEWIS B. HUNT.
RAILWAY-CAR WHEELS.



111,212. OLIVER HYDE.
OPERATING CUTTERS FOR STEAM-PLOWS.

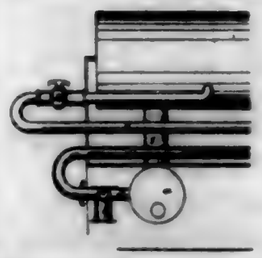


111,213. OLIVER HYDE.
ELASTIC TIRES FOR TRACTION-ENGINES.



111,214. SAMUEL B. JENKS.
FREDERICK A. HOLCOMB.
MANUFACTURE OF LEATHER.

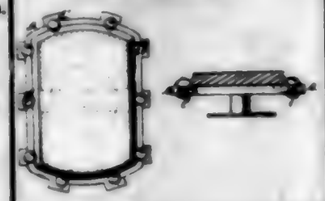
111,215. EDWARD L. JONES.
COMBINED FEED-WATER HEATERS AND CIRCULATORS.



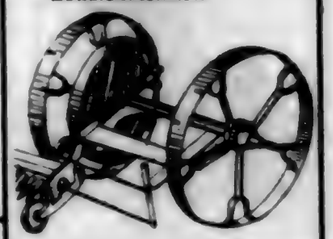
111,248 SAMUEL W. PUTNAM, Jr.
MACHINES FOR CUTTING SCREW-THREADS ON BOLTS.



111,249 WILLIAM BIKER
SETTING STONES, &c.



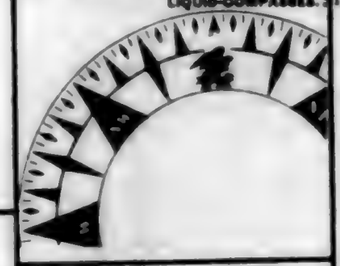
111,250 GEO. T. BAVARY.
MOWING-MACHINES.



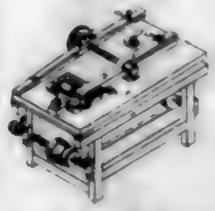
111,249 EMIL RATH.
STAIR-ROD FASTENINGS.



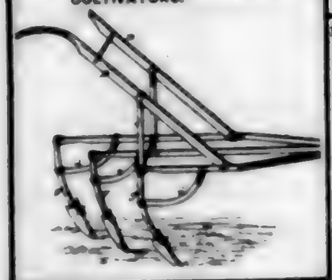
111,254 EDW. A. RITCHIE.
CARDS FOR MARINERS' LIQUID-COMPASSES.



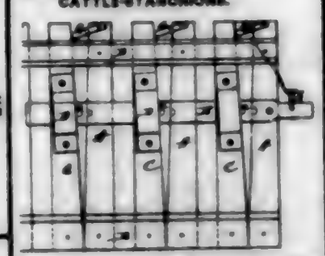
111,253 CHARLES SCHLEICHER.
LATH-MACHINES.



111,252 WILLIAM BENJAMIN READ.
CULTIVATORS.



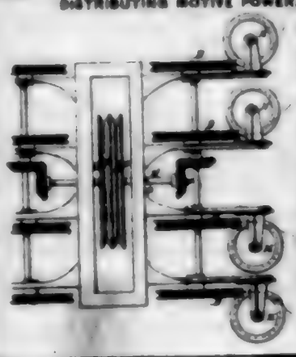
111,254 JOSHUA A. ROSBACK.
CATTLE-STANCHIONS.



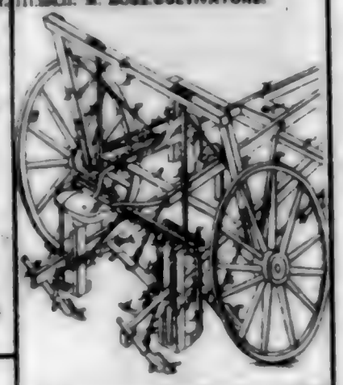
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JACOB BAKER.
ICE-PICKS AND HOOKS.



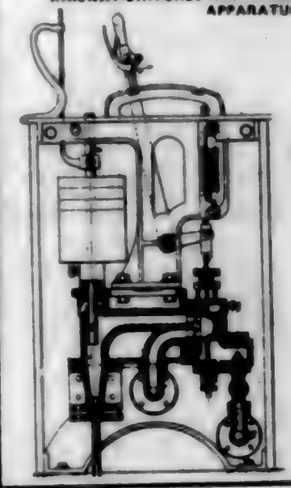
111,251 JAMES RICHMOND.
MACHINERY FOR TRANSMITTING AND DISTRIBUTING MOTIVE POWER.



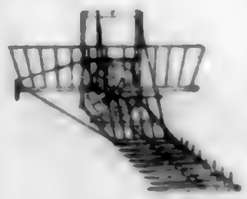
111,256 H. M. RUSE. CULTIVATORS.



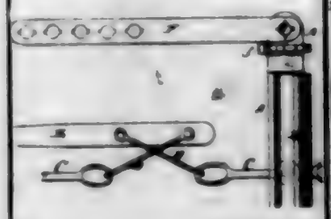
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TH. HERRING.
RAILWAY-SWITCHES AND SIGNAL APPARATUS.



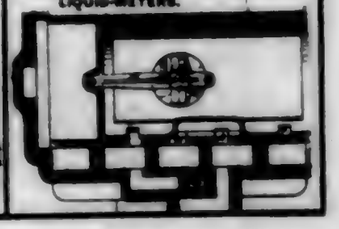
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HAY-LOADERS.



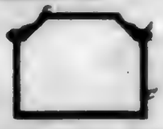
111,257 GEORGE W. RUNK.
BELT-TIGHTENERS.

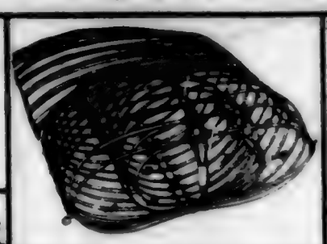


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LIQUID-METERS.

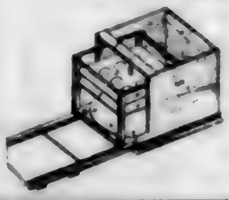


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BURIAL-CASES.

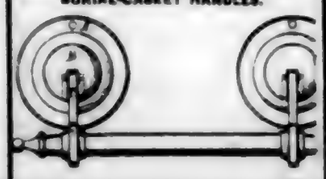




111,270 NICHS. H. SHIPLEY.
APPARATUS AND PROCESSES FOR CANNING AND PRESERVING MEATS, FRUITS, VEGETABLES, &c.



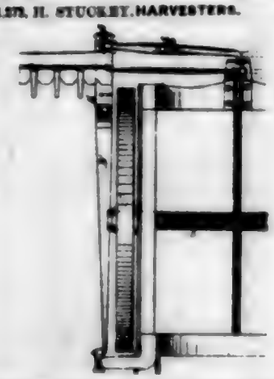
111,271 CLARK STRONG.
BURIAL-CASKET HANDLES.



111,272 HENRY SHOEMAKER.
JOHN SHOEMAKER.
ROCK-DRILLS.



111,273 H. STUCKEY. HARVESTERS.

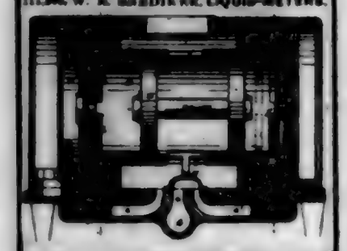


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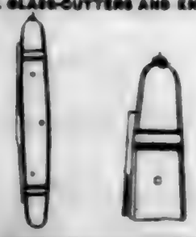


111,267 BENJAMIN R. SMITH.
JOHN CAMPBELL HARRIS.
PLASTERS FOR WALLS.

111,268 W. R. SHEDIKER. LIQUID-METERS.

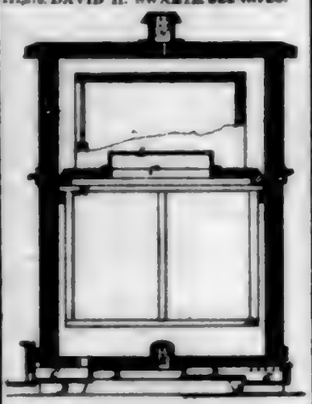


111,269 TELESPHORE SPENARD
STEEL GLASS-CUTTERS AND KNIVES.

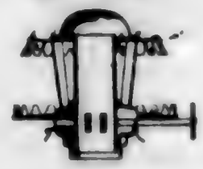


111,274 TIMOTHY S. SPERRY.
BOLSTERS AND PILLOWS.

111,275 DAVID H. SWARTS. BEE-HIVES.



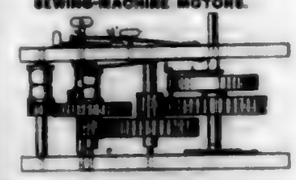
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LAMP-BURNERS.



111,276 EBEN C. THAXTER.
SHUTTLES FOR SEWING-MACHINES.



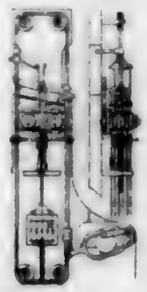
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JAMES D. COOLEY.
SEWING-MACHINE MOTORS.



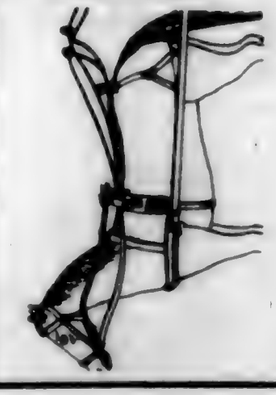
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MILLSTONE-DRIVERS.



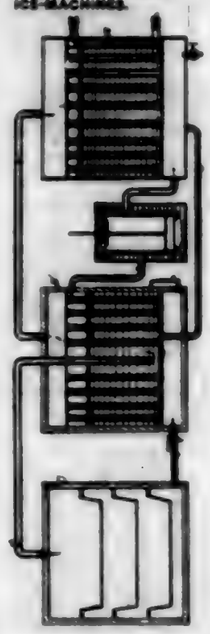
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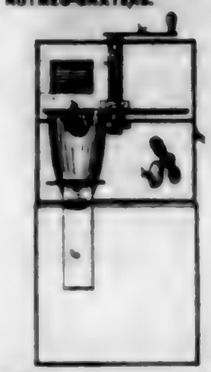
111,279 ROSS TOWNSEND.
REIN-SUPPORTERS.



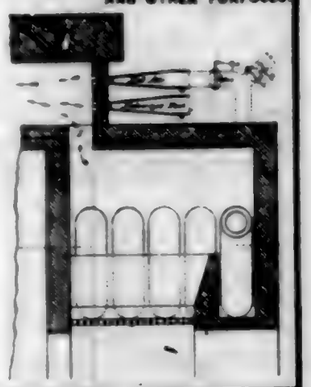
111,286. ORAZIO LUGO.
DAVID K. TUTTLE.
ICE-MACHINES.



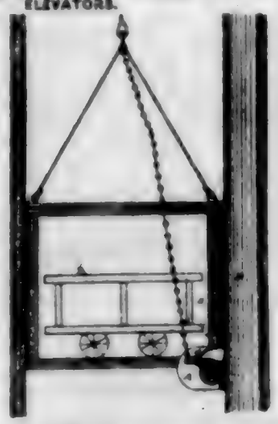
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NUTMEG-GRATERS.



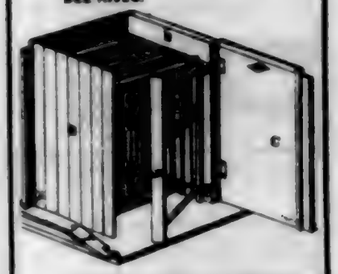
111,288. JAMES D. WHELPLEY.
JACOB J. STOBER.
GAS-GENERATING AND BLAST-HEATING APPARATUS FOR METAL-LURGIC AND OTHER PURPOSES.



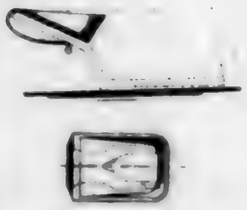
111,289. JOHN JACOB WEBER.
ELEVATORS.



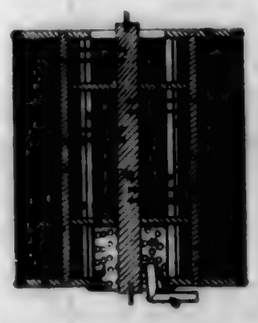
111,290. ASBURY WILKINSON.
BEE-HIVES.



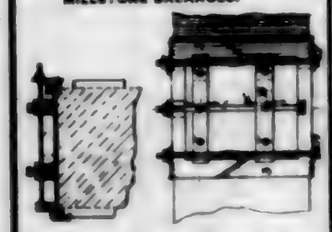
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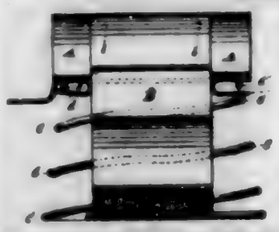
111,292. ALLISON L. WILLIAMS.
FLOUR-BOLTING REELS.



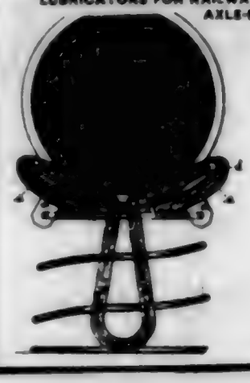
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MILLSTONE BALANCES.



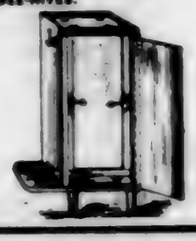
111,294. ISAAC P. WENDELL.
LUBRICATORS FOR RAILWAY-CAR AXLES.



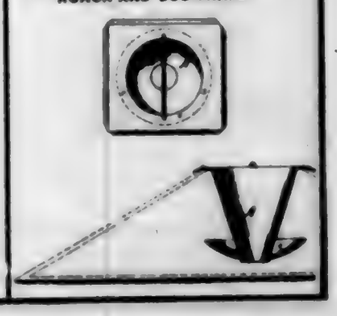
111,295. ISAAC P. WENDELL.
LUBRICATORS FOR RAILWAY-CAR AXLE-BOXES.



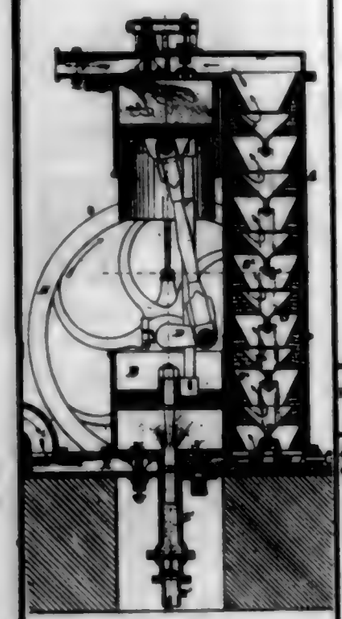
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BEE-HIVES.



111,297. THOMAS WILLIAMS.
ROACH AND BUG-TRAPS

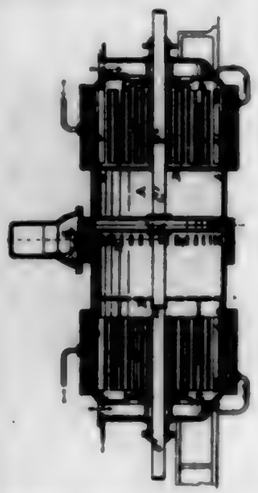


111,284. FR. WIEDHAUSEN.
APPARATUS FOR MAKING ICE AND COOLING.



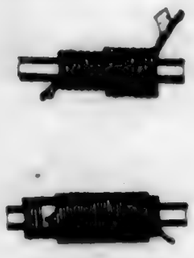


111,285. FRANZ WIEDHAUSEN.
IMPROVEMENT IN ICE-MACHINES.



111,286. ISAAC J. WYMAN.
PAINTS FOR SHIPS' BOTTOMS.

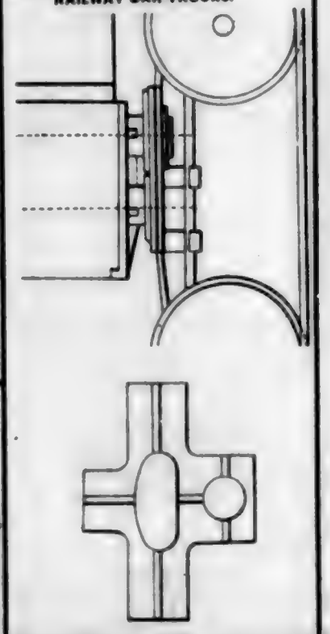
4,237. HENRY M. PAINE.
CONSTRUCTION OF ELECTRO-MAGNETS.



111,294. FINLEY J. WEIGHT,
LIVINGSTON W. WANDELL.
CAR-STARTERS.

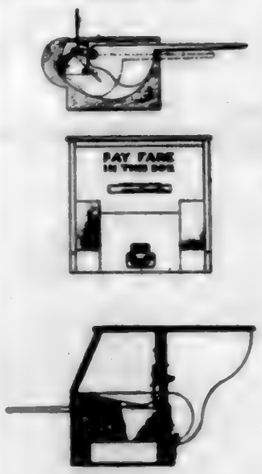


4,235. WILLIAM PETTIT.
RAILWAY CAR-TRUCKS.

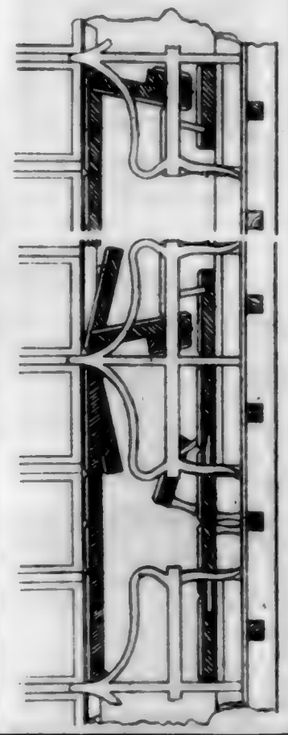


4,239. L. F. ROBERTSON.
COMPOUNDS TO INCREASE THE FRICTION BETWEEN BELTS AND PULLEYS.

4,240. J. B. SLAWSON.
PASSENGER-FARE BOXES.



4,241. T. T. WOODRUFF.
RAILROAD-CAR SEATS AND COUCHES.



ILLUSTRATIONS OF PATENTS

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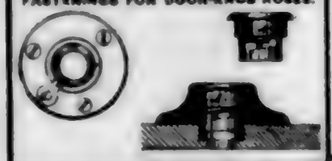
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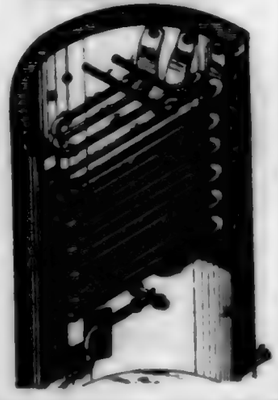
111,296. EDWIN H. ADGATE.
ADJUSTABLE REAMERS.



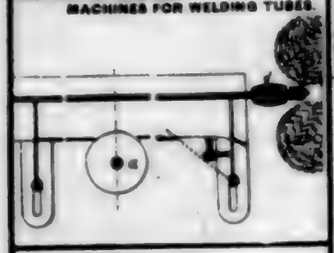
111,297. JAMES M. ADOLPHUS.
FASTENINGS FOR DOOR-KNOB ROSES.



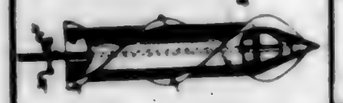
111,298. CHRISTOPHER ARRESS, FRANK KAMMAN.
STEAM-GENERATORS.



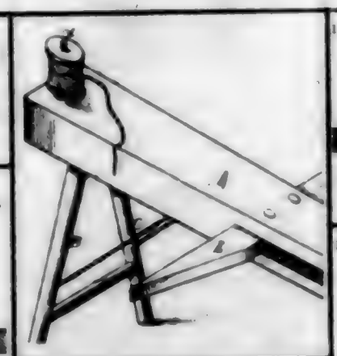
111,299. W. C. ALLISON
MACHINES FOR WELDING TUBES.



111,300. WILLIAM ALTMAN
WELL-AUGERS.



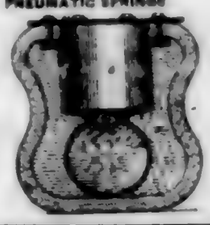
111,301. JOHN ASTRAM, ELWOOD B. MULLIN.
FODDER-STANDS.



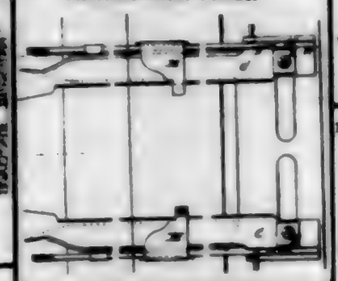
111,302. THOMAS M. BELL. MILK-CANS.



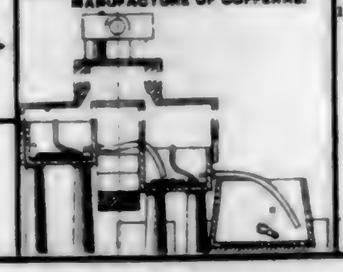
111,303. JOHN BEVAN, SEN. W. HITCHCOCK
PNEUMATIC SPRINGS



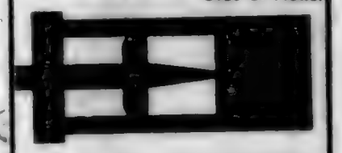
111,304. A. L. BEVANS.
PRINTING-PRESS GUIDES.



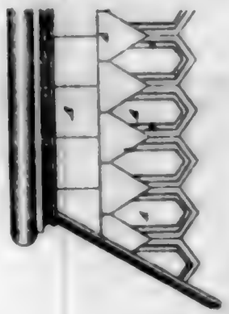
111,305. E. DE WITT BIRCH
MANUFACTURE OF COPPERAS.



111,306. BORT. BLAKE.
APPARATUS FOR OPENING THE EYES OF PICKS.



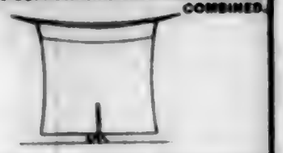
111,307. GEORGE W. BLISS.
METALLIC ROOFINGS.



111,308. OLPHA BONNEY, Jr.
HORSE HAY-RAKES.



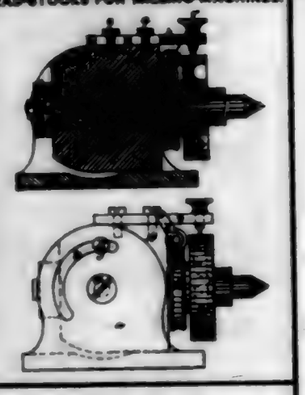
111,309. J. A. BOSTHWICK.
HAT-SUPPORTERS AND VENTILATORS COMBINED.



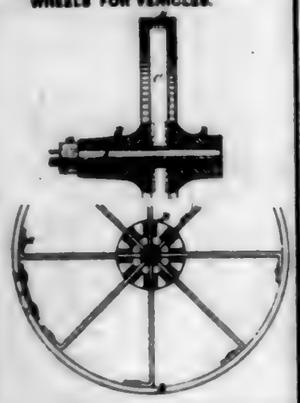
111,310. ARTHUR BRADSHAW.
BEE-HIVES.



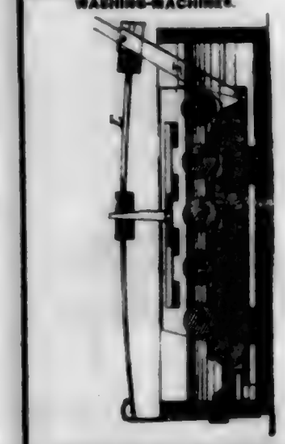
111,311. AMOS H. BRAINARD.
HEAD-STOCKS FOR MILLING-MACHINES.



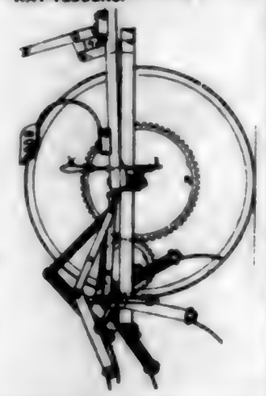
111,312. ALEXANDER D. BROWN, 2d.
WHEELS FOR VEHICLES.



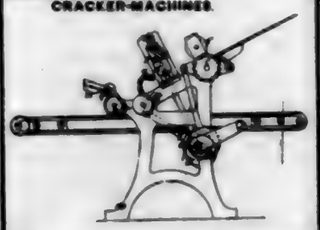
111,313. EDMUND P. BROWN.
WASHING-MACHINES.



111,314. EZEKIEL W. BULLARD.
HAY-TEDDERS.



111,315. WM. CAIRNS.
CRACKER-MACHINES.



111,316. H. CAMP. PUMPS.

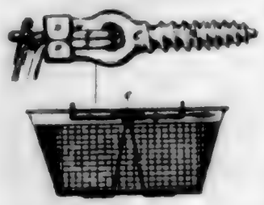


111,317. J. H. CHAPPEL.
CULINARY VESSELS.

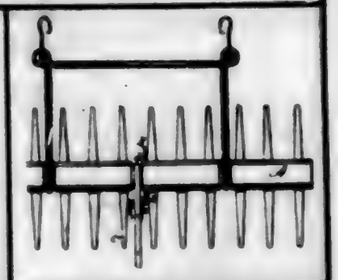


111,318. DECIUS W. CLARK.
COMPOUNDS FOR ENAMELING BRICKS.

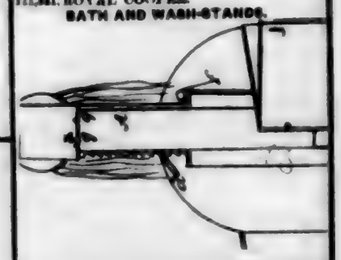
111,319. WM. F. COLLIER.
CORN-POPPERS.



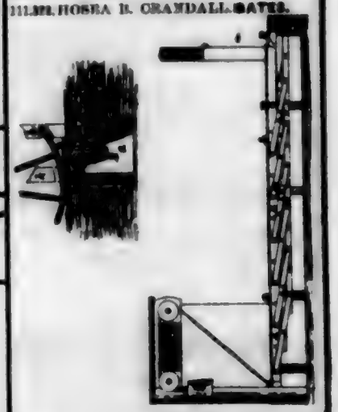
111,320. ISAAC N. CONDRA.
HORSE HAY-RAKES.



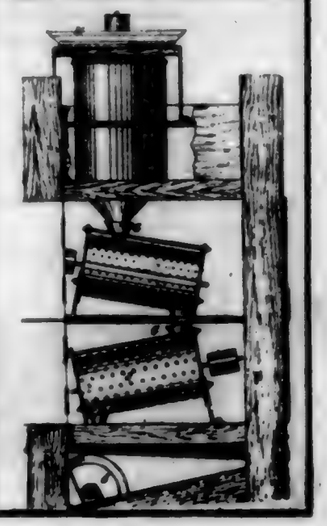
111,321. ROYAL COOPER.
BATH AND WASH-STANDS.



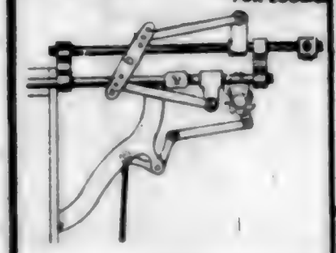
111,322. HOSEA B. CRANDALL, GATES.



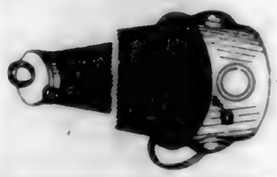
111,323. ANDREW CRAWFORD, IRAM D. CRAWFORD.
GRAIN, COFFEE, AND RICE-CLEANERS.

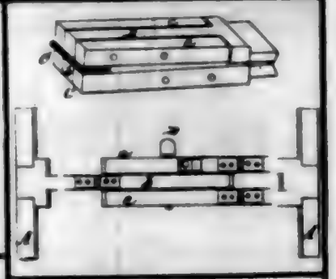


111,324. GEO. CROMPTON.
HARNESS-OPERATING MECHANISMS FOR LOOMS.

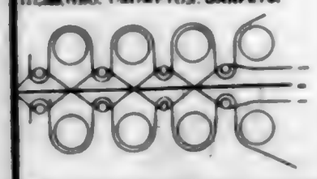


111,325. HARRIET A. FARNAM.
FLY-CATCHERS.





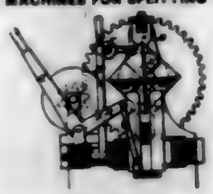
111,326. GEO. CROMPTON. CARPETS.



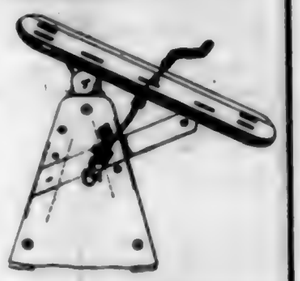
111,327. FRANK J. CULVER.
PLATFORM HORSE-POWERS.



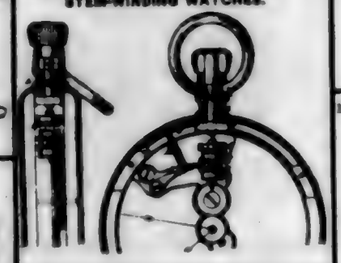
111,328. FRANK FICHT.
MACHINES FOR SPLITTING WOOD.



111,329. GEORGE B. GARLINGHOUSE.
ROAD-SCRAPERS.



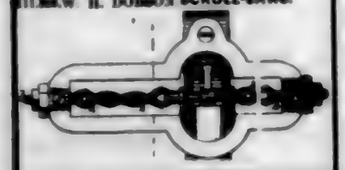
111,330. WALTER H. FITZ GERALD.
STEM-WINDING WATCHES.



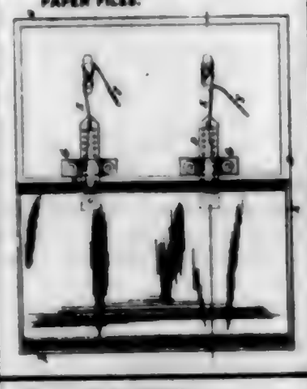
111,331. MOSES W. DILLINGHAM.
SCREW-DRIVERS.



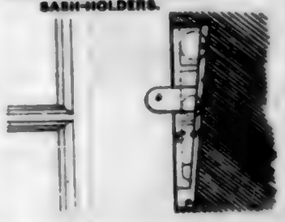
111,332. W. H. DOBSON. SCROLL-SAWS.



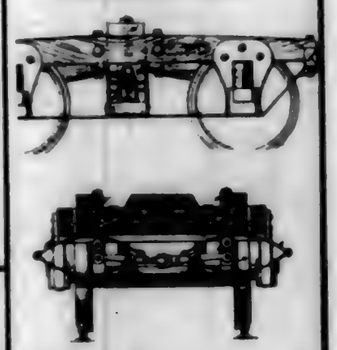
111,333. JOHN G. FLOYD, Jr.
PAPER FILES.



111,334. PHILETUS W. GATES.
SASH-HOLDERS.

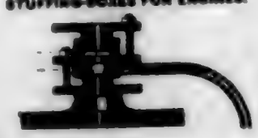


111,335. CHAS. GRAHAM
RAILWAY-CAR TRUCKS.



111,336. JOEL A. H. ELLIS.
COMPOUND LIQUIDS FOR USE IN VAPOR-ENGINES.

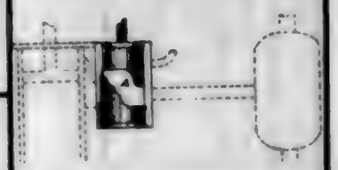
111,337. JOEL A. H. ELLIS.
STUFFING-BOXES FOR ENGINES.



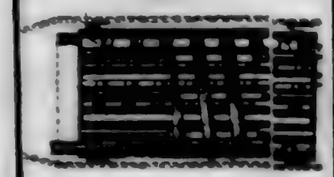
111,338. JAMES M. FREAR.
DAMPERS.



111,339. JOSEPH F. HAMILTON.
VALVES FOR STEAM-PUMPS.

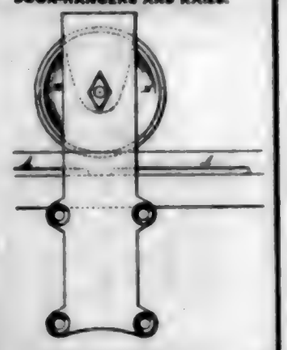


111,340. JOEL A. H. ELLIS.
VAPOR-GENERATORS FOR VAPOR-ENGINES.

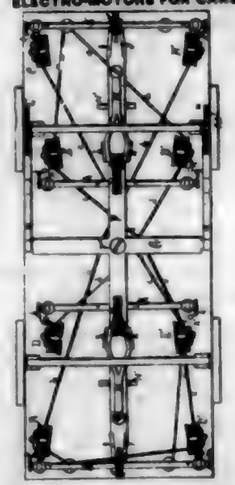


111,341. CHAS. R. GALE.
CARPET-STRETCHERS.

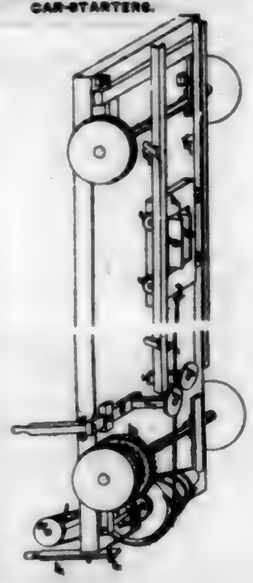
111,342. THOS. FOSTER HAMILTON.
DOOR-HANGERS AND RAILS.



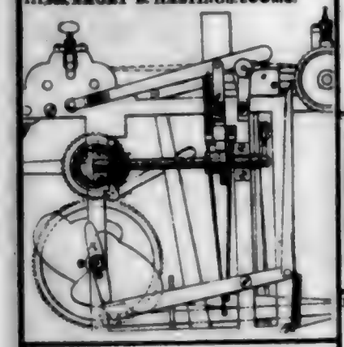
111,343. SOLOMON JONES.
ELECTRO-MOTORS FOR CARS.



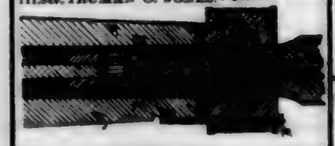
111,344. GEO. H. KIRKHAM.
CAR-STARTERS.



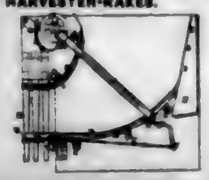
111,345. EMORY B. HASTINGS. LOOMS.



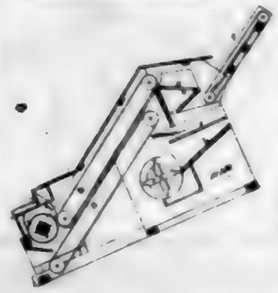
111,346. TRUMAN O. JONES. PUMPS.



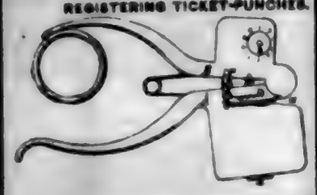
111,347. GEORGE W. HINES.
HARVESTER-RAKES.



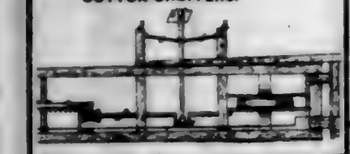
111,348. LOUIS KAMP.
CORN-SHELLING AND CLEANING-MACHINES.



111,349. AUSTIN D. HOFFMAN.
REGISTERING TICKET-PUNCHES.



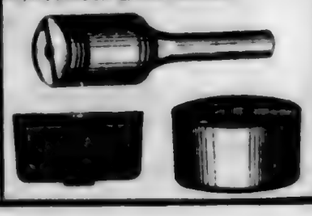
111,350. JOSEPH R. HOOD.
COTTON-CHOPPERS.



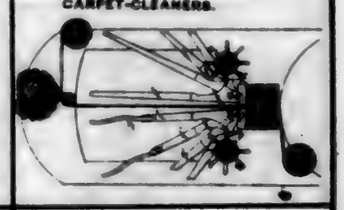
111,351. JOSIAH KIRBY.
BUNG-EXTRACTORS.



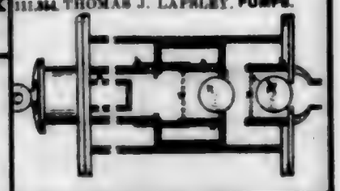
111,352. JOSIAH KIRBY. BUNGS.



111,353. H. HENRY LINDHORST.
CARPET-CLEANERS.



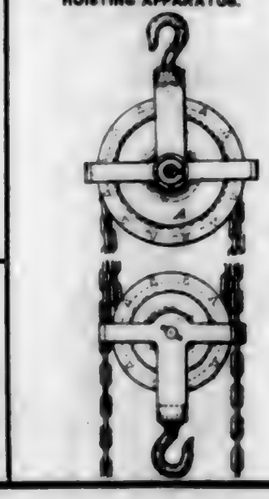
111,354. THOMAS J. LAFRLEY. PUMPS.



111,355. JAMES W. HUNTOON.
GRAIN-SEPARATORS FOR THRASHING-MACHINES.



111,356. ANDREW B. LIPSEY.
HOISTING APPARATUS.

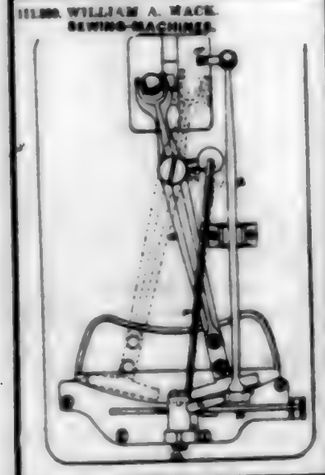


111,357. J. V. LOWENSTEIN.
FERTILIZING COMPOUNDS.

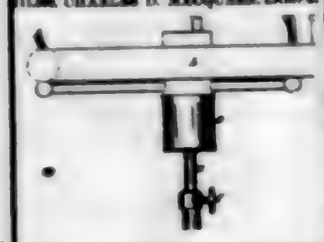
111,358. R. F. LYFORD, M. D.
DISINFECTING AND VENTILATING BURIAL VAULTS.



111,359. WILLIAM A. MACK.
SEWING-MACHINES.



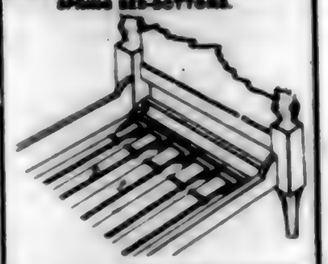
111,360. CHARLES D. MACQUEEN. LAMPS.



111,361. ELIAS MAGEUDER.
HOISTING-FORKS.



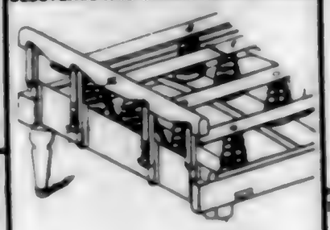
111,362. LEWIS WILLIAMS MAXSON.
SPRING BED-BOTTOMS.



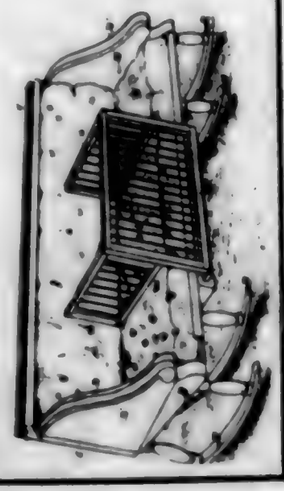
111,363. ALONZO S. MAXWELL.
COVERS FOR GINS.



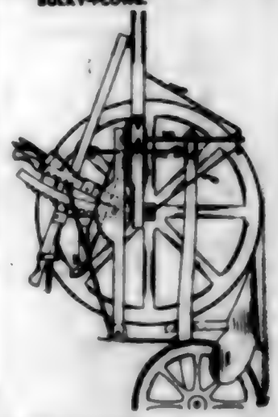
111,364. WILLIAM McARTHUR.
BEDSTEADS AND SPRING BED-BOTTOMS.



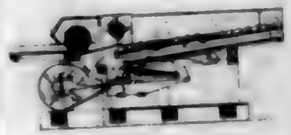
111,365. WILLIAM McARTHUR.
COMBINED ROCKING SOFAS AND BEDSTEADS.



111,366. EDWARD MELOY.
ABRAM B. STANLEY
SULKY-PLOWS.



111,367. JOSEPH H. MILLER.
THRASHING-MACHINES.



111,368. CHARLES S. MOORE.
MILAS A. MOORE.
LAMP-CHIMNEY AND DISH WASHERS.



111,369. FRANCIS MORANDI.
CULINARY VESSELS.



111,370. CAMPBELL MORFIT.
MANUFACTURE OF SUPERPHOSPHATE OF LIME.

111,371. HENRY T. MORSE.
FOLDING SETTEES.



111,372. JAMES T. MOTT.
SPEEDERS AND CULTIVATORS.



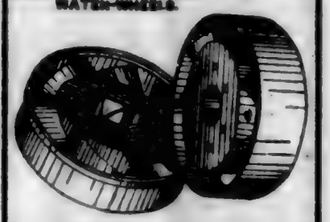
111,373. GEORGE MURRAY, Jr. VALVES.



111,374. ANDREW JACKSON NAVE.
WASHING-MACHINES.



111,375. JACOB B. NEYMAN.
WATER-WHEELS.

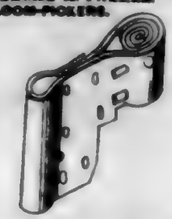


111,376. J. W. OSBORNE.
PRESERVING COMPOUNDS FOR THE HANDS, &c.

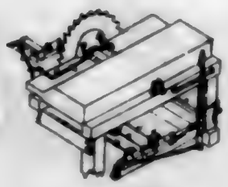
111,377. SETH WHITE PAINE.
SHOT-CARTRIDGES.



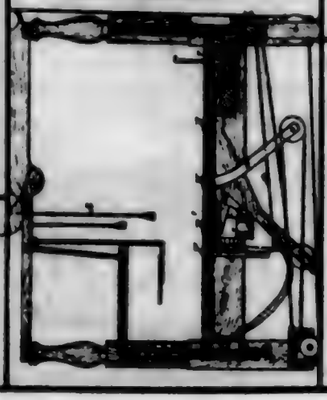
111,378. JEROME M. PARKER.
LOOM-PICKERS.



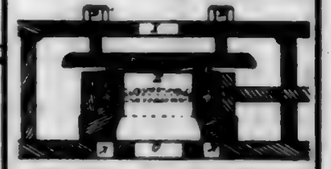
111,379. WILLIS PORTER.
SHINGLE-MACHINES.



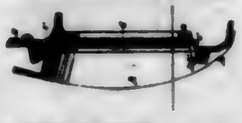
111,380. WM. O. REID.
INVALID BEDSTEADS.



111,381. GEO. W. RICHARDSON.
BALANCE SLIDE-VALVES FOR STEAM-ENGINES.



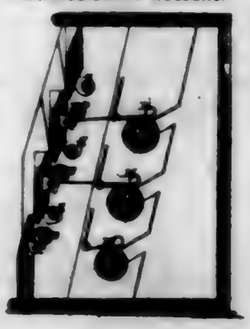
111,382. GEO. G. RICHMOND.
MICA-FRAMES FOR STOVES.



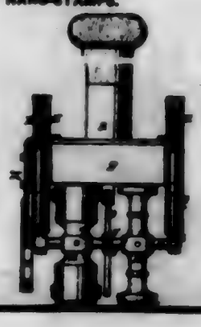
111,383. PARLEY D. ROOT.
PORTABLE SHELVES AND SUPPORTS.



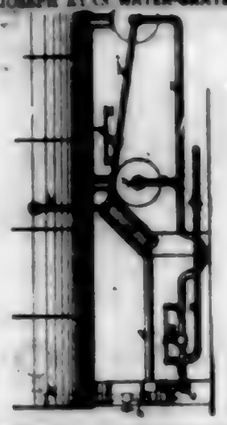
111,384. JULIUS ROPER.
POSTAGE-STAMP HOLDERS.



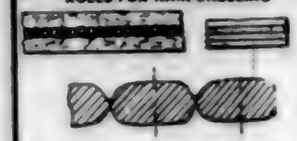
111,385. GOTTLIEB ROTZ.
NAME-STAMPS.



111,397. JOSEPH RYAN. WATER-GRATES.



111,398. E. SCHEAUTE.
ROLLS FOR HAIR-DRESSING



111,399. JOHN G. C. SEARLE.
BASE-BURNING STOVES.



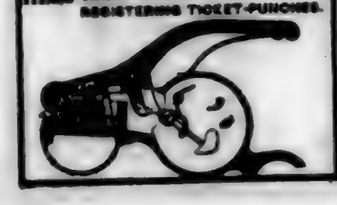
111,400. LOUIS SIEBERT.
JOHN WILSON LILLEY.
HEATERS FOR PAPER-RULING MACHINES.



111,401. JOSEPH SINGER.
CULTIVATOR-PLOWS.



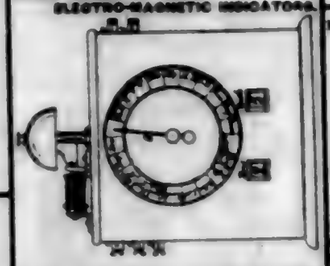
111,402. JAMES H. SMALL.
REGISTERING TICKET-PUNCHES.



111,403. E. Y. SMITH. BURIAL-CASKETS.
J. S. WIDDIFIELD.

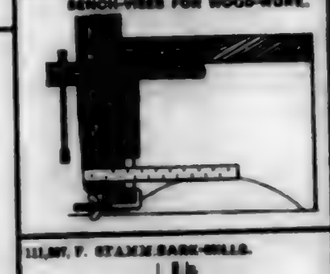


111,404. WESLEY D. SMITH.
ELECTRO-MAGNETIC INDICATORS.

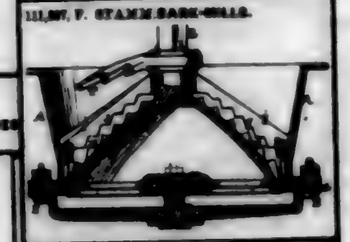


111,405. ANTONIO SOLARI.
COMPOSITIONS FOR FLOORS, PAVEMENTS, &c.

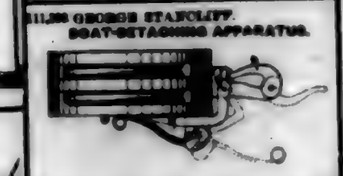
111,406. EDWIN SPRAGUE.
BENCH-VISES FOR WOOD-WORK.



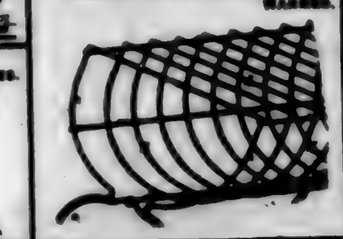
111,407. F. STAMM. BARK-MILLS.



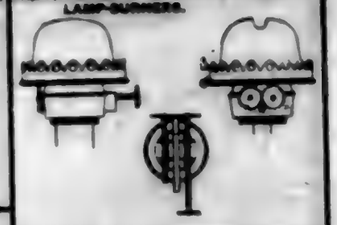
111,408. GEORGE STARCLIFF.
BOAT-DETACHING APPARATUS.



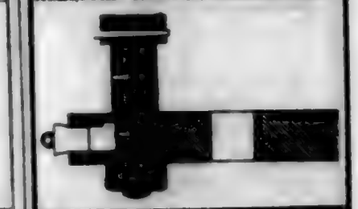
111,409. W. T. STOUTENBOROUGH.
MOLDERS FOR PLATES WHILE BEING WARMED.



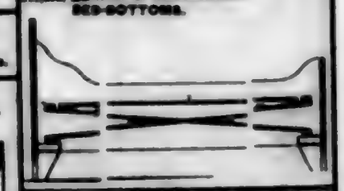
111,410. FREEMAN AUGUSTUS TABER.
LAMP-BURNERS.



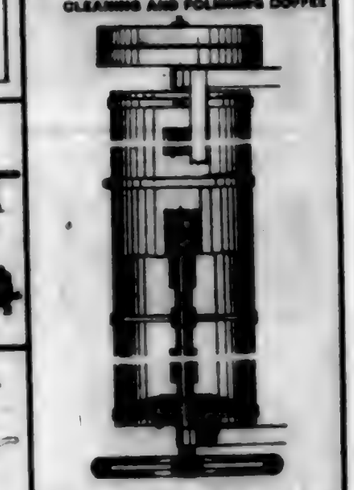
111,411. JOHN TENWICK. LUBRICATORS.



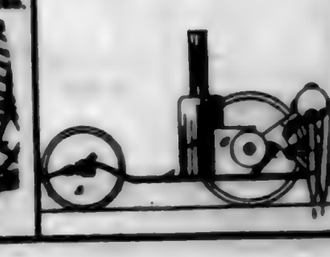
111,412. EDWIN C. THOMPSON.
SEE-BOTTOMS.



111,413. WILLIAM THOMPSON.
SAMUEL THOMPSON.
CLEANING AND POLISHING COFFEE



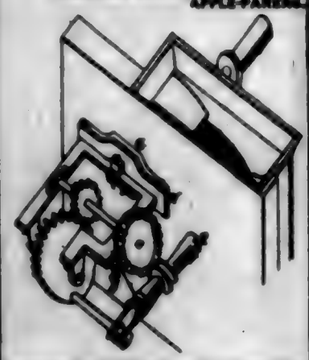
111,414. ISAAC P. TICE.
DIGGING-MACHINES.



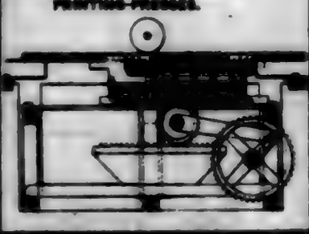
111,406. RICHD. VOSE.
CURTAIN-FIXTURES



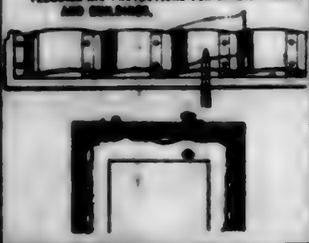
111,407. DEWITT C. WARNER.
COMBINED COFFEE-MILLS AND APPLE-PARERS.



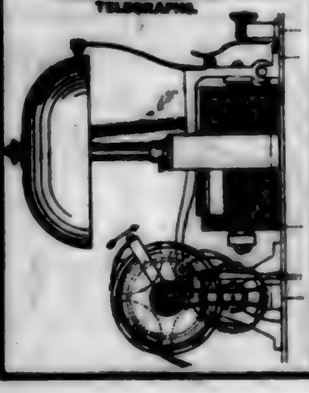
111,407. RICHARD C. WARWICK.
PRINTING-PRESSES.



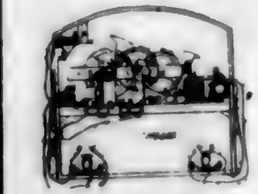
111,408. WILLIAM B. WATKINS.
TELEGRAPHIC PROTECTIONS FOR SAFES, VAULTS, AND CHAMBERS.



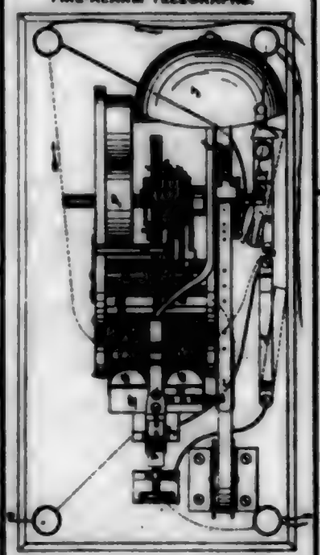
111,409. WILLIAM B. WATKINS.
BURGLAR-ALARM AND POLICE TELEGRAPHS.



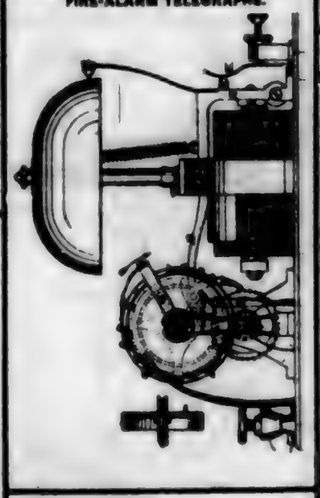
111,410. WILLIAM B. WATKINS.
FIRE-ALARM TELEGRAPHS.



111,411. WILLIAM B. WATKINS.
FIRE-ALARM TELEGRAPHS.

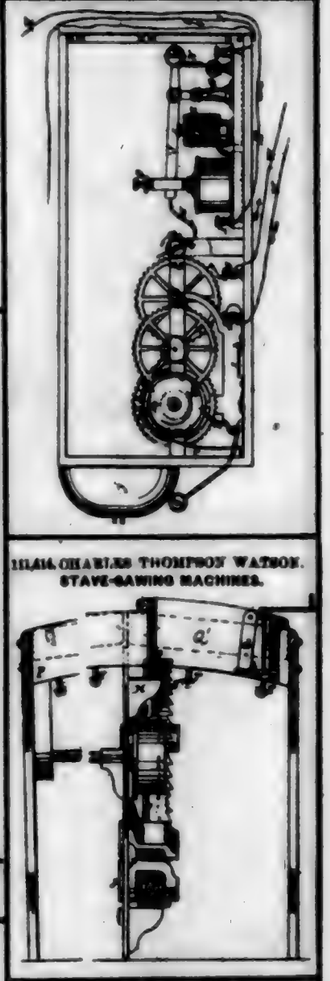


111,412. WILLIAM B. WATKINS.
FIRE-ALARM TELEGRAPHS.

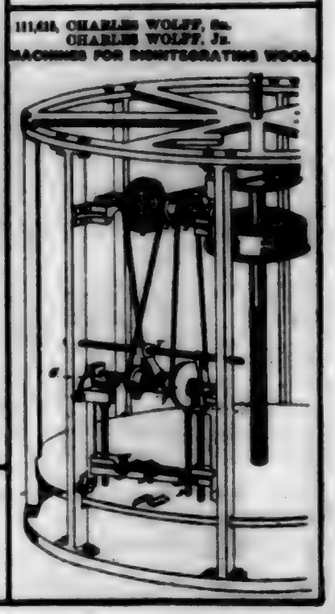


111,413. WILLIAM B. WATKINS.
FIRE-ALARM TELEGRAPHS.

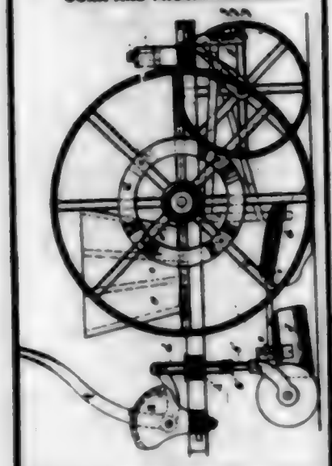
111,414. CHARLES THOMPSON WATSON.
STAVE-SAWING MACHINES.

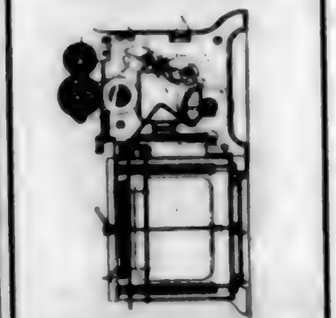


111,415. CHARLES WOLFF, Sr.
CHARLES WOLFF, Jr.
MACHINES FOR DISINTEGRATING WOOD.

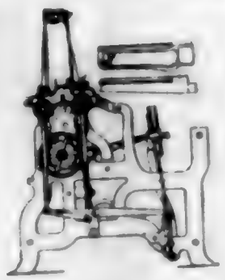


111,416 JOHN W. WOOD.
GABRIEL MOORE
CORN AND PHOSPHATE-DRILLS.





111,417. HORACE WYMAN.
BOX-OPERATING MECHANISMS FOR LOOMS.



111,418. THOMAS ARNOLD.
TUBE-HOLDERS.

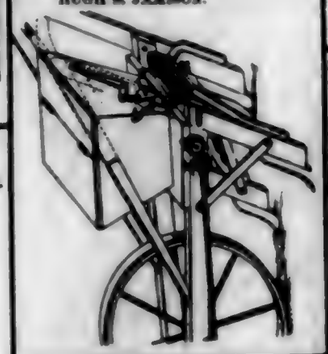


111,419. DAVID H. BALL.
CAR-COUPLINGS.

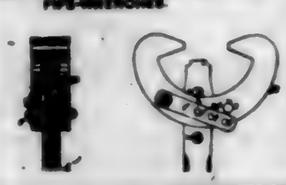


111,420. JAMES BALL.
ENVELOPE-MACHINES.

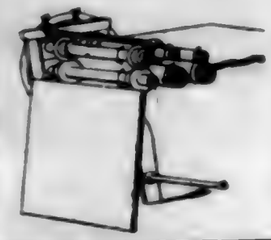
111,421. TURNER BARR, HUGH A. JAMISON. GRAIN-DRILLS.



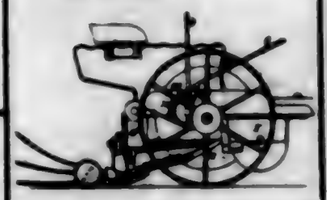
111,422. CHANEL GRAVES BARRETT.
PIPE-MOUTHPIECES.



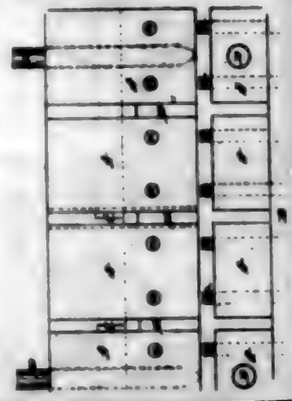
111,423. GEORGE BATES.
PAPER-CUTTING MACHINES.



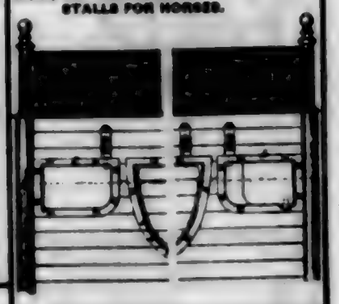
111,424. L. M. BATTY.
HARVESTERS.



111,425. W. M. BEDDLER.
WOOD PA. PUMPS.



111,426. SAMUEL S. BENT.
STALLS FOR HORSES.



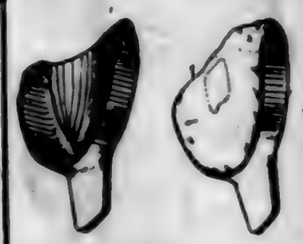
111,427. SAML. BLUE.
COOKING-STOVES.



111,428. JOEL L. BOND.
COMBINED GANG AND SUBSOIL-PLOWS.



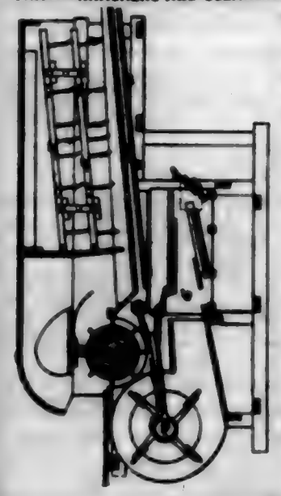
111,429 MARY A. BOUGHTON.
MODES OF FORMING THE AIR-CHAMBER IN DENTAL-PLATES.



111,430. NATHANIEL T. BRADLEY.
CUPS FOR KEROSENE-LAMPS.



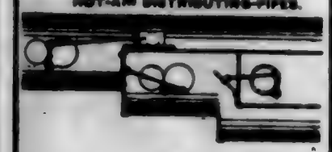
111,431. WILLIAM H. BUTTERWORTH.
JOHN BUTTERWORTH, Jr.
GRAIN-THRASHERS AND CLEANERS.



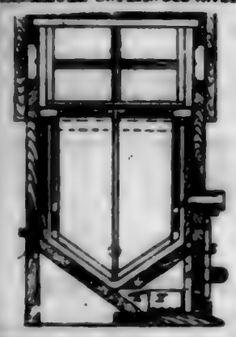
111,432. JARVIS CASE, CULTIVATORS.



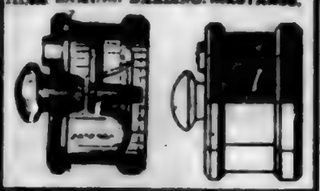
111,433. HORACE C. CEBROSE.
HOT-AIR DISTRIBUTING-PIPES.



111,434. SAMUEL CUPLIN, BEE-HIVES.



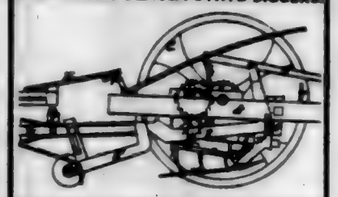
111,435. SAMUEL DARLING, MEASURING-STAMPS.



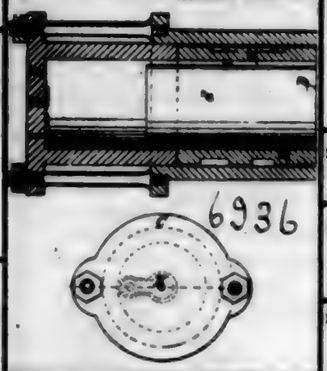
111,436. ARMISTEAD M. DARRELL.
BRANDING-STAMPS.



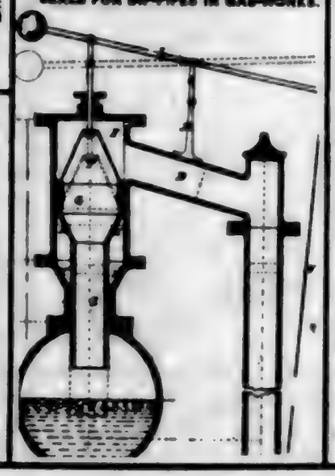
111,437. JAMES DAVIS, POTATO-DIGGERS.



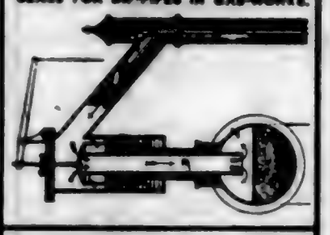
111,438. PATRICK S. DEVLAN.
COMBINED PNEUMATIC AND RUBBER SPRINGS.



111,439. GRAFTON DOUTY.
SEALS FOR DIP-PIPES IN GAS-WORKS.

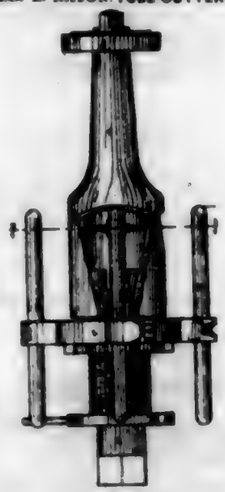


111,440. GRAFTON DOUTY.
SEALS FOR DIP-PIPES IN GAS-WORKS.



111,441. ELISHA DYER, Jr.
LUBRICATING-COMPOUNDS.

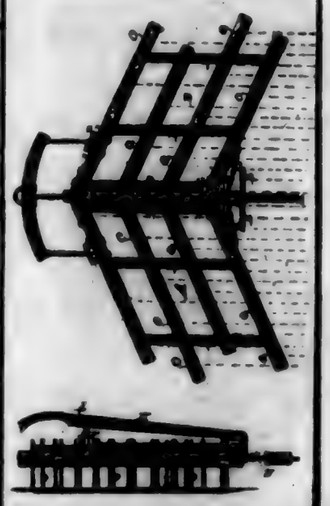
111,442. D. E. EATON, TUBE-CUTTERS.



111,443. JOHN F. FALLIS.
COMPOUNDS FOR DRESSING AND COLORING THE HAIR.

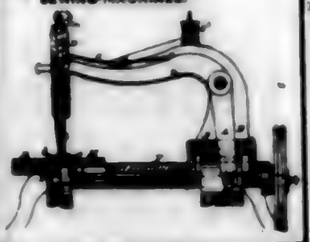
111,444. RASSELAS [illegible] X FARLEY.
TREATING COTTON-SEED OIL TO RENDER IT DRYING.

111,445. AUGUST FRIEDMANN.
HARROWS.

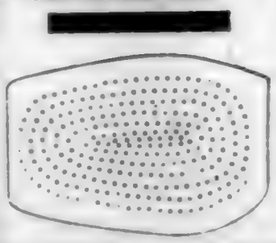


111,446. GEORGE B. GARNAR, TEMPERING STEEL.

111,447. THOMAS GARRICK. SEWING-MACHINES.



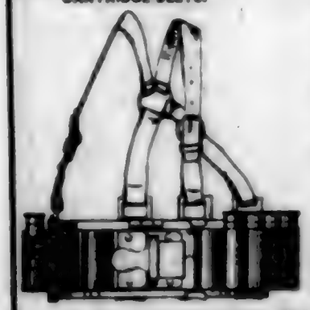
111,448. BENJ. D. GODFREY. BOOT-AND-SHOE SOLES.



111,449. JOHN GREACEN, Jr. EDWARD L. PERRY. RUBBER ROLLS.



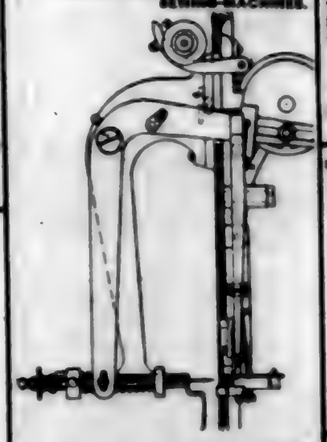
111,450 WILLIAM R. HAYDEN. CARTRIDGE-BELTS.



111,451. JOHN H. HENDRICK. BEE-HIVES.



111,452. W. B. HIGGINS. FEEDING MECHANISMS FOR SEWING-MACHINES.



111,453. MASON HIRSH. LEOPOLD HIRSH. UMBRELLAS.



111,454. ISAAC C. McDONALD. JAS. HOAGLAND. MANUFACTURE OF SOAP.

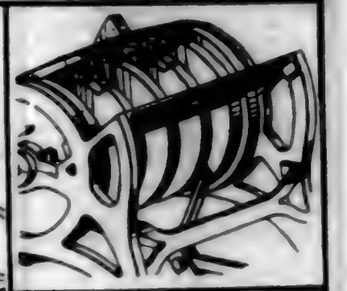
111,455. P. M. HOLMES. FOLDING-CHAIRS.



111,456. WM. J. HORSTMANN. FASTENINGS FOR EPAULETTES.



111,457. A. J. HOWELL. JAMES MURPHY. MACHINES FOR CUTTING STAVES.



111,458. ALLEN JOHNSTON. WILLIAM T. JOHNSTON. GATHERING ATTACHMENTS FOR SEWING-MACHINES.

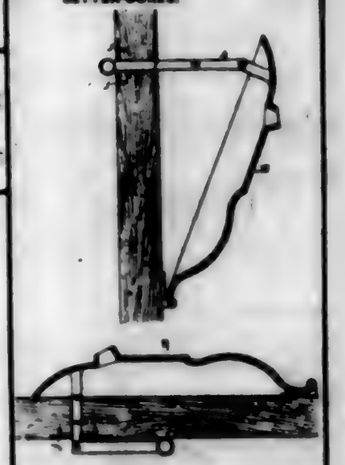


111,459. CHARLES T. KEMMER. COATING AND DECORATING WALLS, CEILINGS, &c.

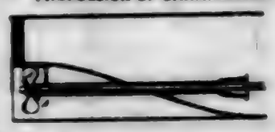
111,460. AMOS KENNARD. CANT-HOOKS.



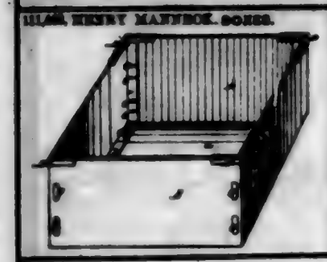
111,461. CYRUS LEVIS. LETTER-BOXES.



111,462. THOMAS MAIN. PROPULSION OF CANAL-BOATS.



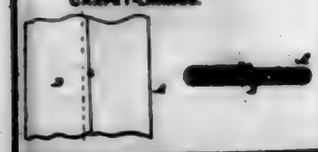
111,463. HENRY MANYBOE. SOLES.



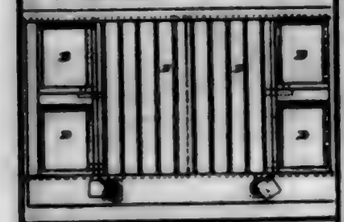
111,464. HIRA P. MARBLE. BROOMS.



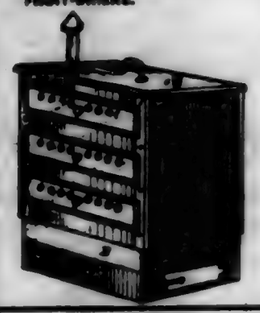
111,465. JOHN G. MAYALL. CARPET-LININGS.



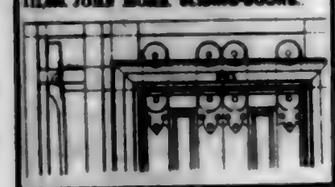
111,466. JOHN ARMSTRONG McAFULTY. BEE-HIVES.



111,467. JOHN V. B. MILLER. FRUIT-DRIERS.

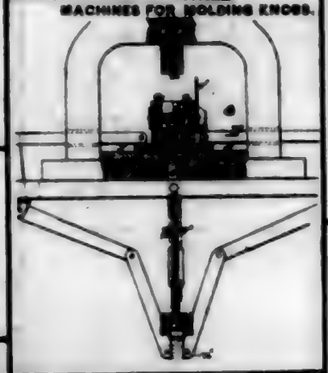


111,468. JOHN MORR. BLIND-DOORS.

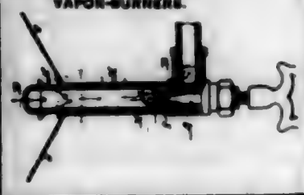


111,469. SAMUEL C. MYERS. JAMES McCAULEY. CORRUGATED SAND-CUTTERS AND FEEDERS FOR THRASHING-MACHINES.

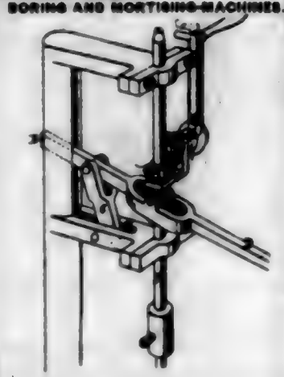
111,470. CHARLES H. PALMER. MACHINES FOR MOLDING KNOBS.



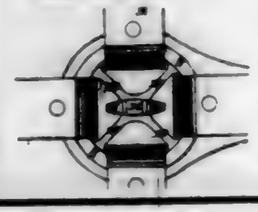
111,471. ROBERT W. PARK. VAPOR-BURNERS.



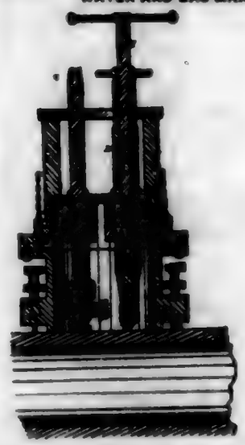
111,472. JACOB PETERS. BORING AND MORTISING-MACHINES.



111,473. ROBERT PORTER. TRACE-CARRIERS.



111,474. JAMES RILEY. PATRICK RILEY. MACHINES FOR DRILLING AND TAPPING WATER AND GAS-MAINS.



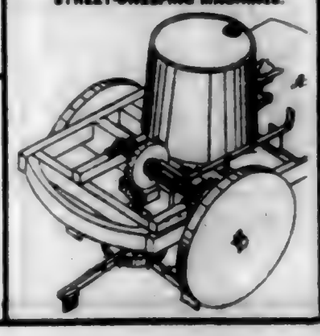
111,475. JACOB C. ROBIE. FLUTING-TONGS.



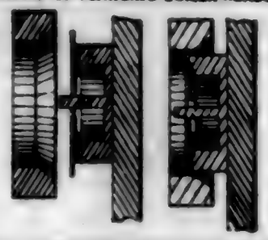
111,476. EVEN RØNNING. APPARATUS FOR PRESERVING MILK.



111,477. E. A. O. ROULSTONE. STREET-SWEEPING MACHINES.

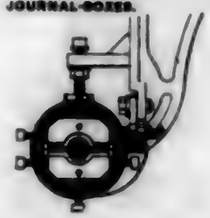


111,478. W. B. SOAPE.
METHODS OF FLANGING BOILER-HEADS.



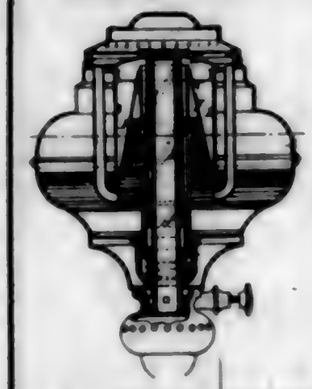


111,479. JOHN SCHRODER.
JOURNAL-BOXES.

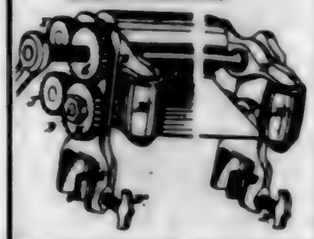


111,480. JOHN J. SCHILLINGER.
CONCRETE BLOCKS FOR PAVING.

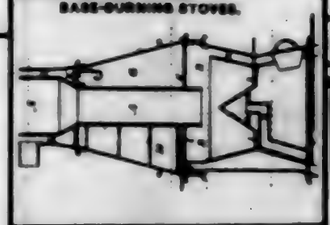
111,481. H. A. SCHOTTKY.
THEODORE SIMENDINGER.
LAMPS.



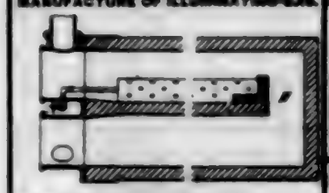
111,482. ALBERT H. SPENCER.
WRINGING-MACHINES.



111,483. STEPHEN SPOOR.
BASE-BURNING STOVES.



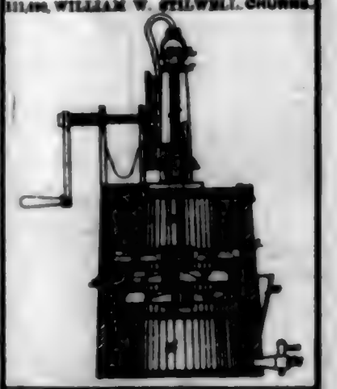
111,484. IRA H. STANLEY.
MANUFACTURE OF ILLUMINATING-GAS.



111,485. GEORGE D. STEVENS.
GUARD-CHAINS FOR BRACELETS.



111,486. WILLIAM W. STILWELL. CHURNS.



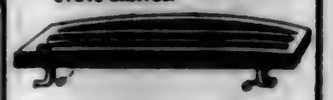
111,487. CHAUNCEY THOMAS.
CARRIAGE-SEATS.



111,488. CHAUNCEY THOMAS. VEHICLES.



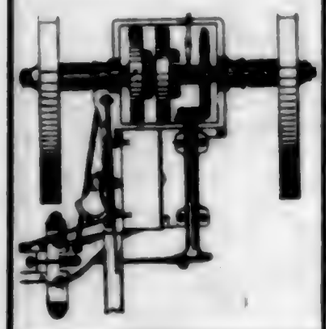
111,489. WILLIAM S. THOMAS.
STOVE-GRATES.



111,490. OYRUS TUCKER.
CHAIRS.

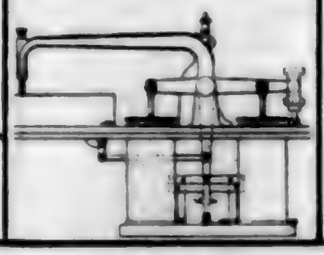


111,491. JACOB W. SCHUCKERS.
HARVESTERS.



111,492. WILLIAM H. SEYMOUR.
HARVESTER-REELS AND RAKES.

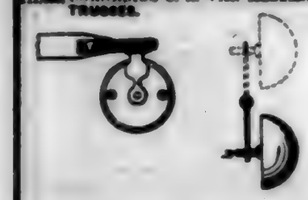
111,493. GEORGE STEVENS.
JOSHUA HENDY.
ELECTRO-MAGNETIC SEWING-MACHINES.

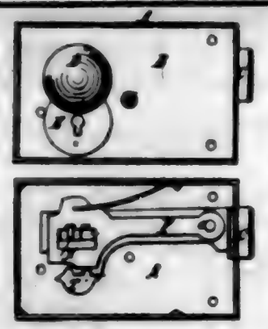


111,494. CHARLES STARR. UMBRELLAS.

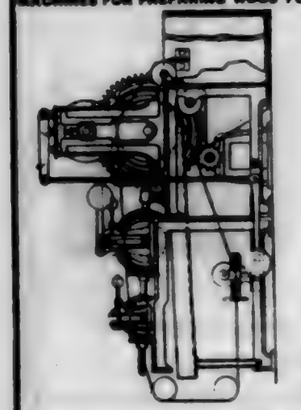


111,495. CORNELIUS C. K. VAN ALSTINE.
TRUSSES.

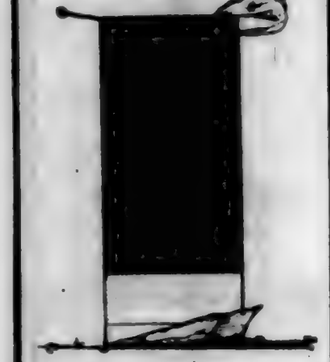




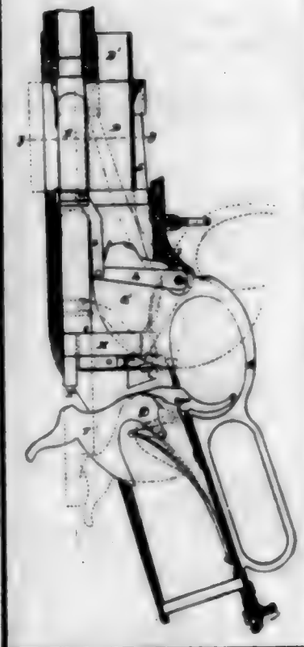
111,496. N. WAINWIX.
ALONZ WAINWIX.
CARL A. SPECKER.
MACHINES FOR PREPARING WOOD PULP.



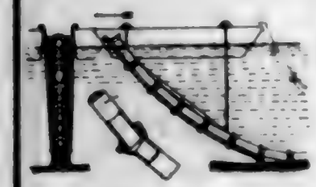
111,497. AMASA K. WALKER.
FLY-EXTERMINATORS.



111,498. LUKE WHEELOCK.
REPEATING FIRE-ARMS.

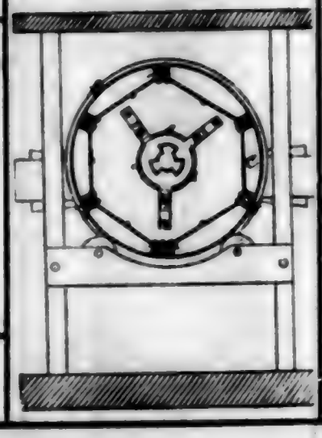


111,499. JOHN F. WARD.
MODES OF LAYING PIPES ACROSS RIVERS.

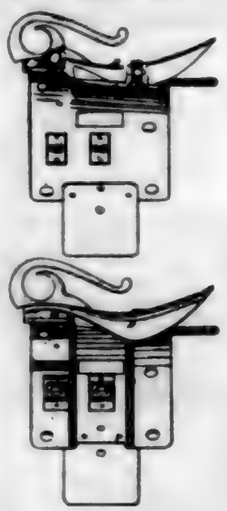


111,500. JOHN WELSH.
DOOR-LOCKS.

111,501. BENJAMIN CLAYTON WHITE.
BOLT-REELS.

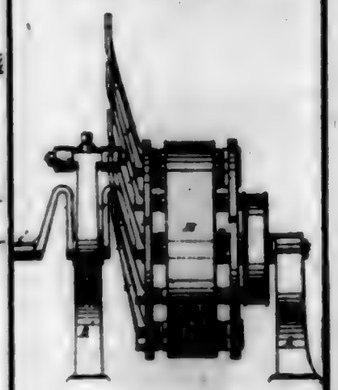


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HARNESS SADDLE-TREES.

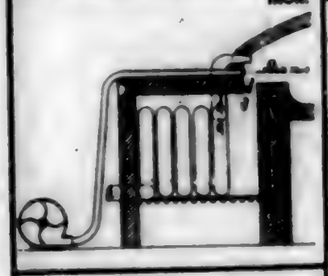


111,503. JACOB WOOLF.
MECHANICAL MOVEMENTS.

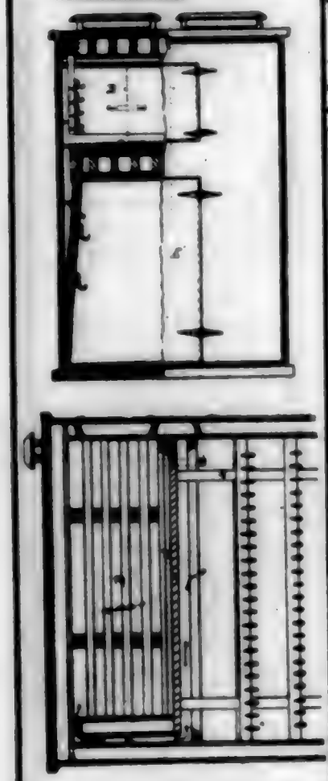




111,504. JAMES D. WHELPLEY.
JACOB J. STOBER.
MANUFACTURE OF STEEL, STEELY IRON, AND HOMOGENEOUS OR CRYSTALLINE IRON.

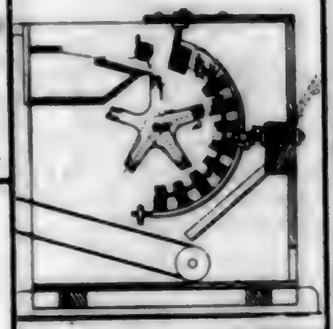


4,252. JOSEPH HYDE FISHER.
REFRIGERATORS.

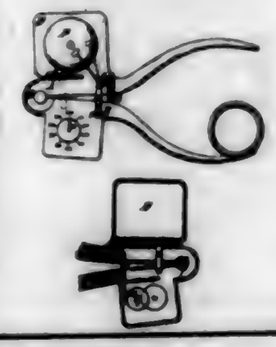


4,253. JAMES B. FORSYTH.
MANUFACTURE OF INDIA-RUBBER ROLLERS.

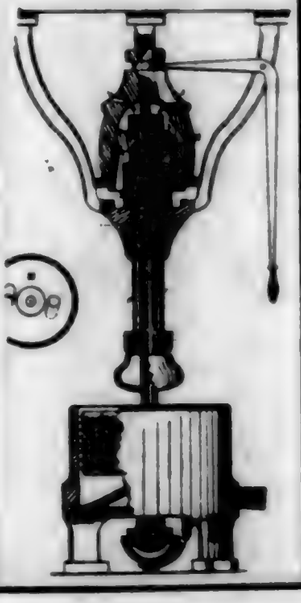
4,254. HUGH HANNA.
THRASHING-MACHINES.



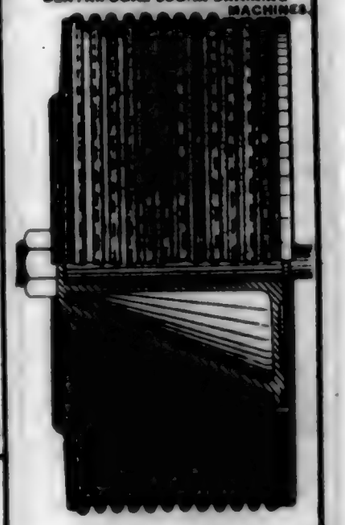
4,255. AUSTIN D. HOFFMAN.
REGISTERING TICKET-PUNCHES.



4,256. H. W. LAFFERTY.
ROBERT LAFFERTY.
CENTRIFUGAL SUGAR-GRAINING MACHINES.

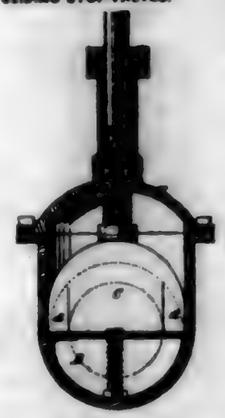


4,257. HUGH W. LAFFERTY.
ROBERT LAFFERTY.
CENTRIFUGAL SUGAR-DRAINING MACHINES.



4,258. MARTIN LANDENBERGER.
DESIGN FOR A SHAWL.

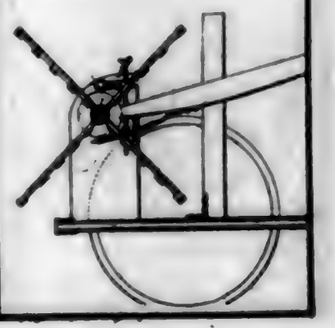
4,259. HENRY G. LUDLOW, 2d.
SLIDING STOP-VALVES.



4,260. JAMES B. FORSYTH.
RUBBER ROLLS FOR CLOTHES-WRINGERS.

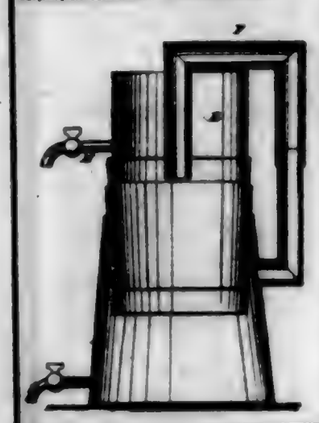


4,261. HENRY WATERMAN.
HARVESTERS.

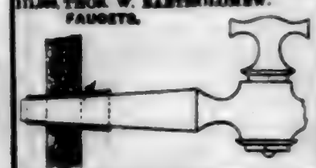


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
FEB. 7, 1871.

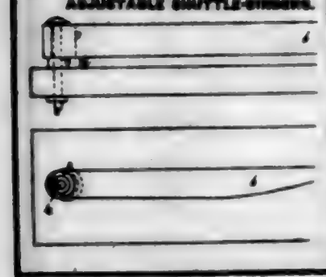
111,505. H. AGNEW. COFFEE-POTS.



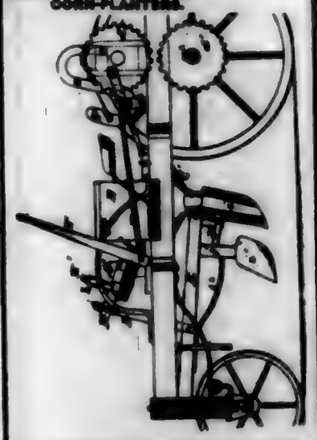
111,506. THOS. W. BARTHOLOMEW.
FAUCETS.



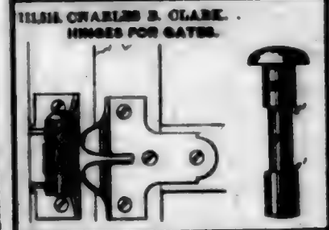
111,507. NICHOLAS J. ALLEN.
JAMES C. MOODY.
ADJUSTABLE SHUTTLE-SWINGERS.



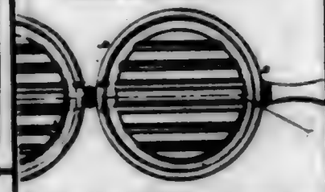
111,508. LEANDER BROWER.
CORN-PLANTERS.



111,509. CHARLES B. CLARK.
HINGES FOR GATES.



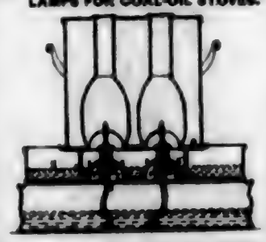
111,510. LEVI H. COLBURN, BROOKLYN.
DAVID H. LOWE.



111,511. PRISCUS R. POMEY.
APPARATUS FOR OILING PELLETS, SPOKES, &c.



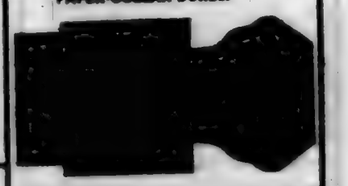
111,512. JOHN BOWLES.
LAMPS FOR COAL-OIL STOVES.



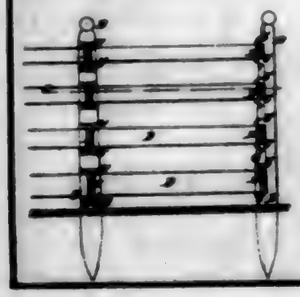
111,513. THOMAS A. ANDREWS, Jr.
SPARK-ARRESTERS.



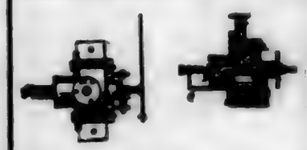
111,514. JESSE CHURCHILL.
PAPER-COLLAR BOXES.



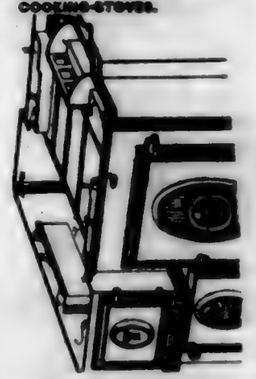
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FENCES.



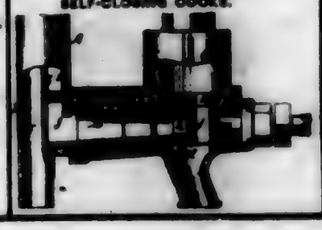
111,516. JOHN C. BROMLEY.
OSCILLATING BALANCE STEAM-VALVES.



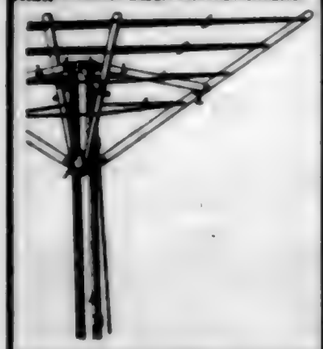
111,517. JOHN R. CROWLEY.
ADDIE B. CHAMBERLAIN.
COOKING-STOVES.



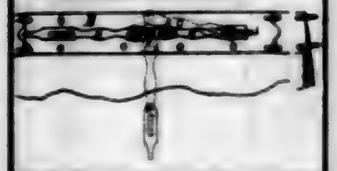
111,518. WILLIAM DALZIEL.
SELF-CLOSING COCKS.



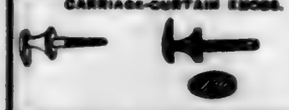
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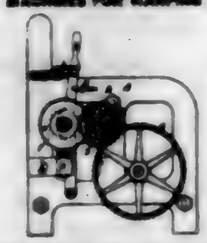
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GAS-GAS FASTENINGS.



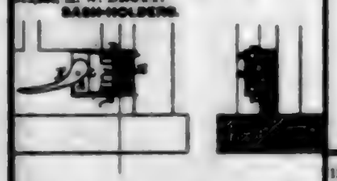
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CARRIAGE-CURTAIN KNOBS.



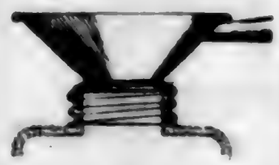
111,543 GEORGE DRAPER.
MACHINES FOR HANDLING YARN.



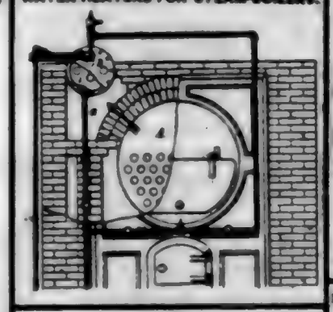
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SASH-HOLDERS.



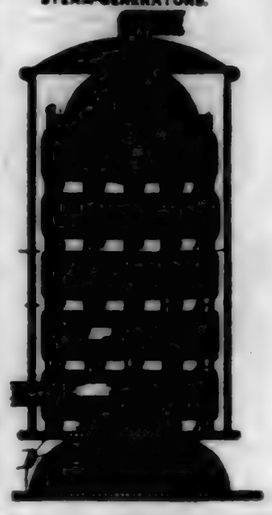
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FUNNELS.



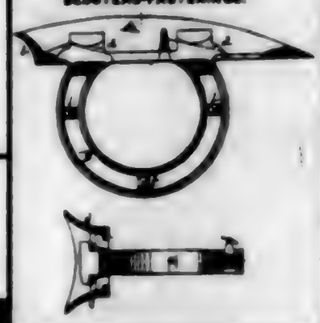
111,546 DAVID C. G. FIELD.
WATER-HEATERS FOR STEAM-BOILERS.



111,547 LOYAL C. FIELD.
STEAM-GENERATORS.



111,548 SEBASTIAN GOETZ.
SEDSTEAD-FASTENINGS.



111,549 FRANCIS J. GOLDSMITH.
INVERTIBLE TROUGHS.

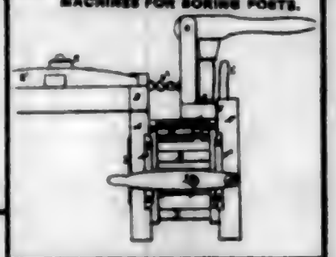


111,550 MYRON GORE.
FEED-GARNICERS.

111,551 FRANKLIN T. GRIMES. LAMPS



111,552 JESSE R. GROUP.
MACHINES FOR BORING POSTS.



111,553 EMERY B. HARDY.
NAPOLEON DUBEUL.
LEATHER-PUNCHING AND CUTTING-MACHINES.



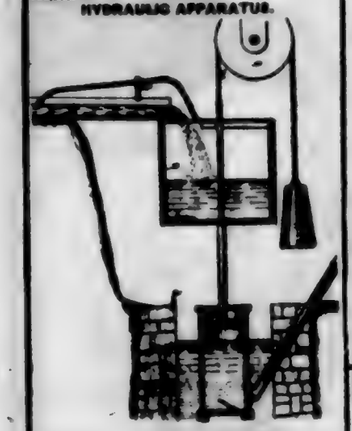
111,554 GILBERT H. HARRINGTON.
CARTRIDGE-SHELL EJECTORS FOR REVOLVING FIRE-ARMS.



111,555 HENRY F. HERKNER.
JARED W. POST.
WATER-PROOF PIANO-COVERS.



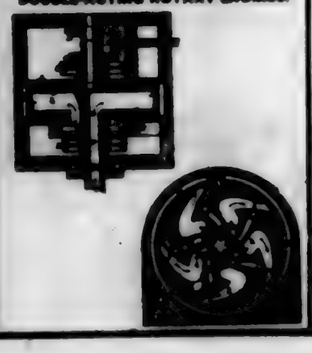
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HYDRAULIC APPARATUS.



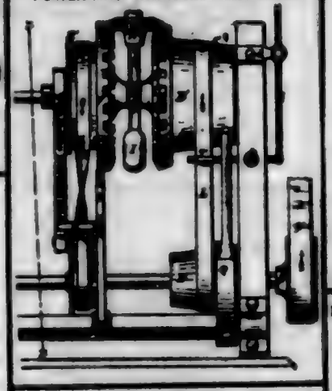
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ASIAN CHIMING-BELLS.



111,558 JAMES P. HERRON.
DOUBLE-ACTING ROTARY ENGINES.



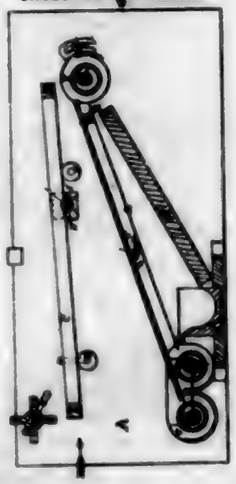
111,559 SPENCER HIATT.
APPARATUS FOR TRANSMITTING POWER AND CHANGING THE SPEED.



111,560 SAMUEL HOLLABAUGH.
THOMAS W. LETTS.
SCAFFOLDS.



111,561 D. W. HOLLIHAN.
SHOES FOR THRASHERS.



111,562 CHS. HOUGHTON.
AUTOMATIC STEAM WATER-ELEVATORS.



111,563 WESCOM HUDGIN, M. D.
WHEELS AND AXLES FOR RAILWAY-CARS.



111,564 JOHN W. HULL.
ALBERT G. STIFFLER.
CLOVER-HARVESTERS.

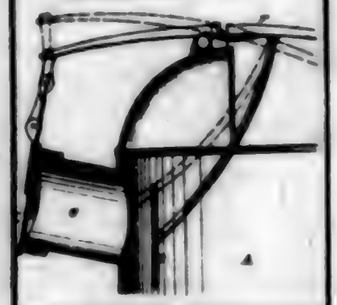
111,565 CURTIS HUNTLEY.
FLOUR-SIFTERS.

111,566 E. A. INGLEFIELD.
STEERING APPARATUS.

111,547 JAMES IVES.
MODES OF FASTENING HUB-BANDS, &c.



111,548. EDWIN A. JEFFERY.
BATTER-POTS.



111,549. H. W. JOHNS.
MANUFACTURE OF RUBBER FLOOR-CLOTHS, &c.

111,550 WILLIAM KEAN.
COUPLINGS FOR SHAFTS FOR MILLS.

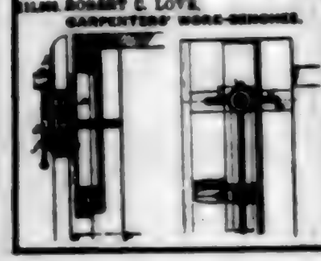


111,551. EDWARD G. KRAESING.
LEONHD KRAESING.
PREPARATION OF PLATINUM FOR FILLING TEETH.

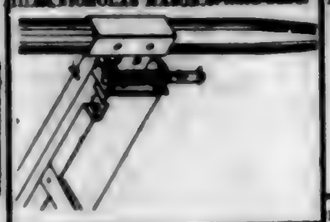
111,552. THOMAS LA BLANC.
BOILER-TUBE PLUGS.



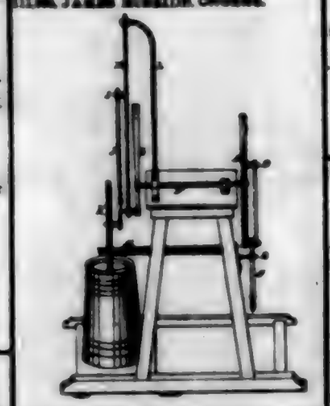
111,553. ROBERT C. LOVE.
CARPENTERS' WORK-BENCHES.



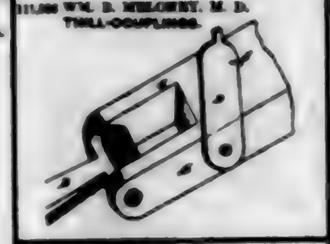
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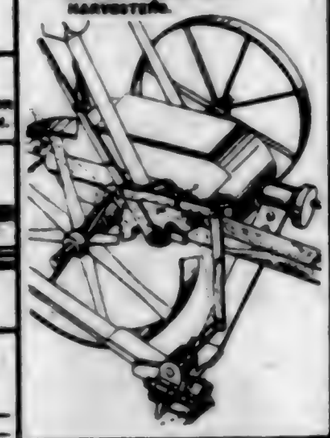
111,555. JAMES McBRIDE. CHURNS.



111,556 WM. D. MELCHEY, M. D.
THILL-COUPLINGS.



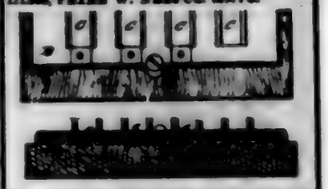
111,557 JAMES MURAY.
CASPER D. WALLACE.
HARVESTERS.



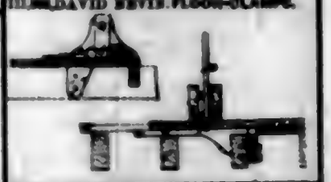
111,558. EDMUND A. MYERS.
TONGUES FOR CHILDREN'S CARRIAGES.



111,559. PETER W. PERFUS. HATS.



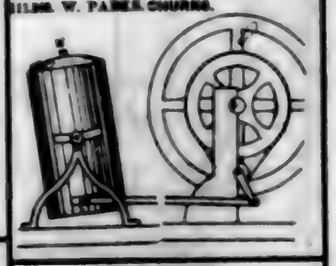
111,560.DAVID REVIS. FLOOR-CLAMPS.



111,561.JOHN H. OBSTER.
INVALID-BEDSTEADS.



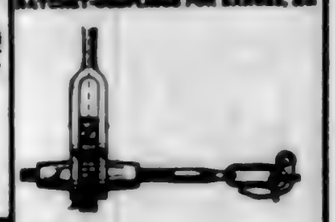
111,562. W. PARKS. CHURNS.



111,563. ASAHEL H. PATCH.
CLOTHES-DRIERS.



111,564. WILLIAM W. PATTERSON
EDMUND BISHOP.
RATCHET-COUPLINGS FOR HARROWS, &c.

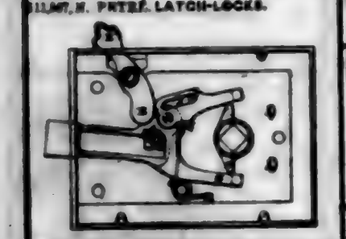


111,565. E. P. PERRY.
ARTIFICIAL FUEL.

111,566. ALBERT D. PERRY.
FOUNTAIN BLACKING-BRUSHES.

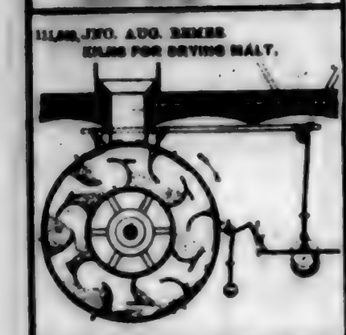


111,567. H. PETRY. LATCH-LOCKS.

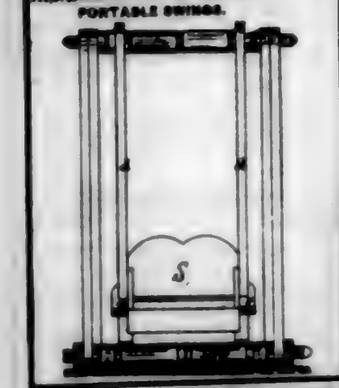


111,568. ALVIN DAVIS PUFFER.
WINES-GRUPO AND BEVERAGES.

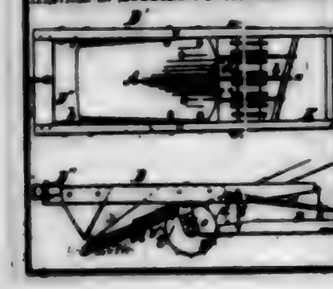
111,569. JNO. ADG. REMER.
RING FOR SERVING SALT.



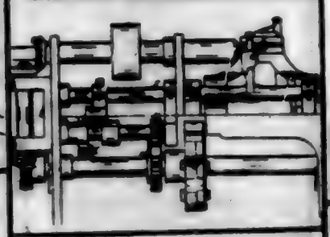
111,570.DANIEL M. REYNOLDS.
PORTABLE SWINGS.



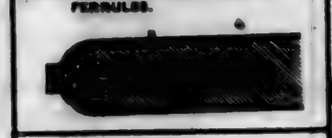
111,571.B. B. ROBBINS POTATO-DIGGERS.



111,572. DAVID W. ROBERTSON.
JABOT A. EDWARDS.
MACHINES FOR THREADING SCREWS.



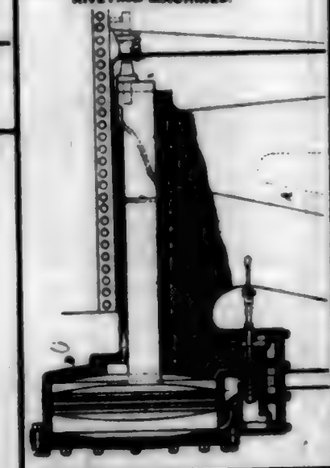
111,573. WILLIAM HENRY RODDEN.
FERRULES.



111,574. LEWIS S. ROWE.
THILL-COUPLINGS.



111,575. WM. SELLERS.
RIVETING-MACHINES.

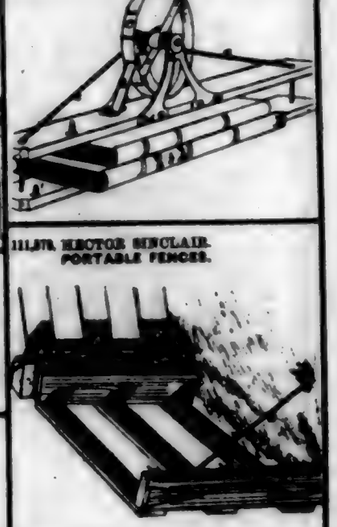


111,576. JAMES T. SHELDON.
FEATHER-RENOVATORS.



111,577.CALVIN W. SHERWOOD.
PORTABLE SOCK-HOLDERS.

111,578. HECTOR SINCLAIR.
PORTABLE FENCES.

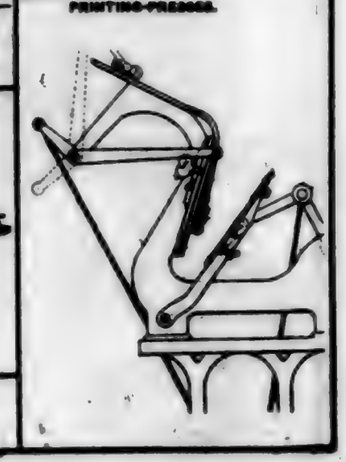


111,579. JASPER H. SINGER.
PAPER FOR USE IN THE BOTTOMS OF BIRD-CAGES.

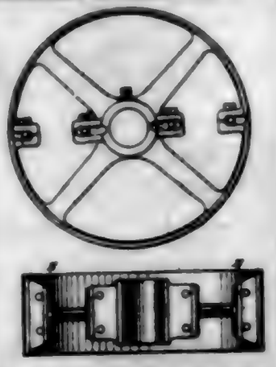
111,580. L. G. SKINNER.
BOILER-FURNACES.



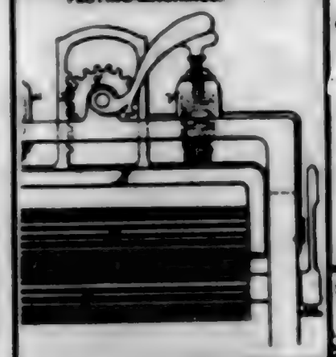
111,581. EARLE H. SMITH.
PRINTING-PRESSES.



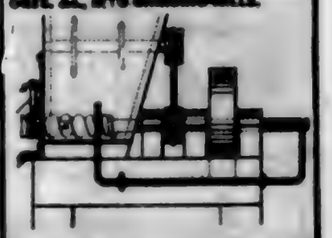
111,582. SCOTT A. SMITH. PULLEYS.



111,583. THEODORE M. TUCKER. FLUTING-MACHINES.

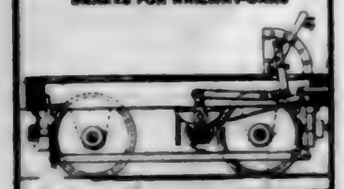


111,584. JAMES D. WHELPLEY. JACOB J. STORM. APPARATUS FOR DELIVERING GRAIN, ORES, &c., INTO GRINDING-MILLS.



111,585. WILLIAM C. STOUT. TANNING.

111,586. CHARLES W. TINKHAM. BRAKES FOR RAILWAY-CARS



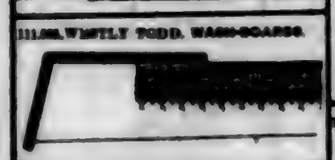
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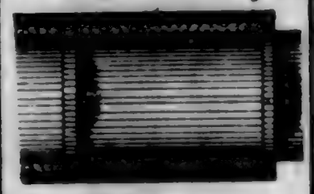
111,588. HENRY A. WHITTEN. ELIJAH D. GOVE. LOOM-PICKING MOTIONS.



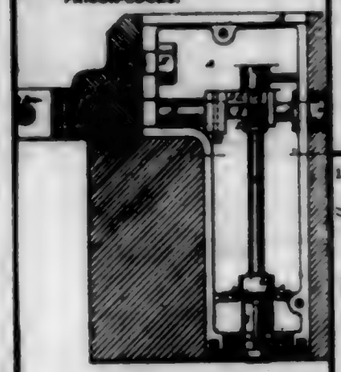
111,589. WESTLY TODD. WASH-BOARDS.



111,590. STEPHEN UPTON. LUBRICATORS FOR LOOSE PULLEYS.



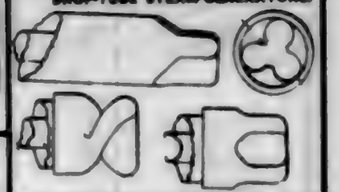
111,591. HENRY B. TOWER. PRISON-LOCKS.



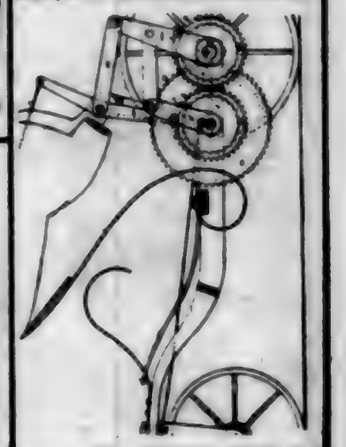
111,592. JOHN R. WEAVER. RAILWAY-CAR BRAKES.



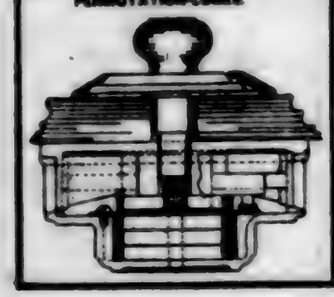
111,593. C. LLOYD WIEGAND. DROP-TUBE STEAM-GENERATORS.



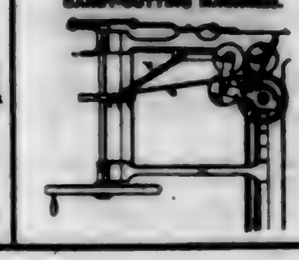
111,594. W. L. WILLIAMS. VELOCIPEDES.



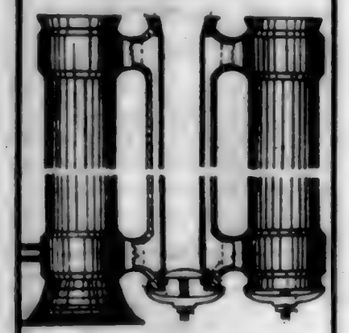
111,595. HENRY B. TOWER. PERMUTATION-LOCKS.



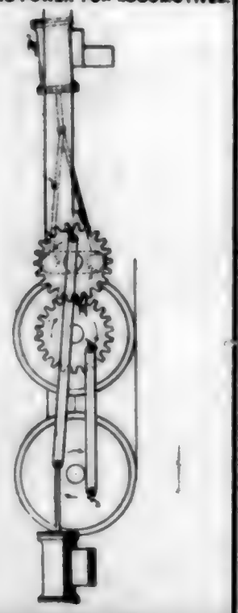
111,596. CHRISTOPHER WERTZ. ALBERT GREEN. ORLANDO P. COWDEN. CANDY-CUTTING MACHINES.



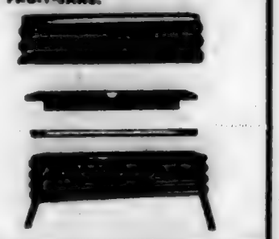
111,598. JOSEPH L. WINSLOW. STEAM-HEATERS.



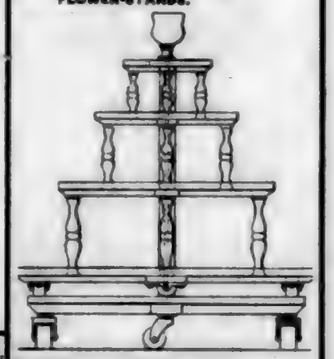
111,599. WILLIAM D. ARNETT. DRIVING-POWER FOR LOCOMOTIVES.



111,600. MELVILLE R. MERRILL. FRUIT-JARS.



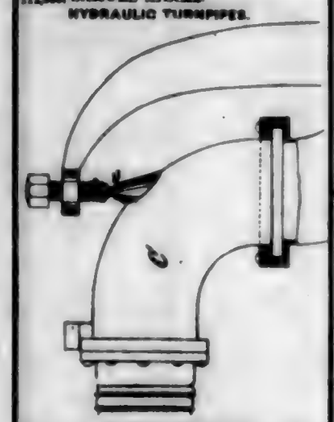
111,601. ELIJAH D. CANTELOW. FLOWER-STANDS.



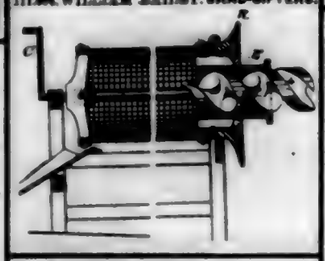
111,602. ARTHUR T. WOODWARD. VESSELS FOR HOLDING OIL.



111,603. SAMUEL ADAMS. HYDRAULIC TURNPIPES.



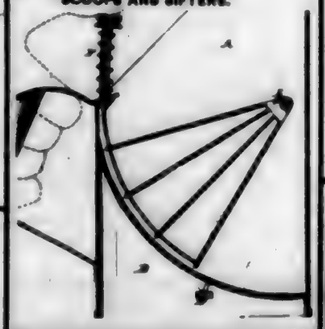
111,604. WILLIAM BAILEY. SAND-SIFTERS.



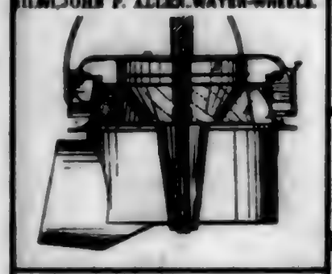
111,605. GEORGE CLARKSON. ALCOHOL-STILLS.



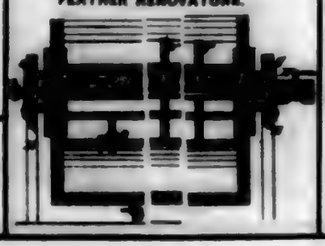
111,606. JOSEPH BAKER. SCOOPS AND SIFTERS.



111,607. JOHN P. ALLEN. WATER-WHEELS.

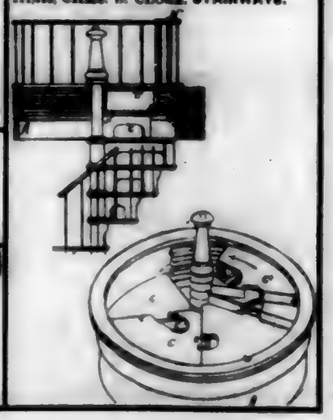


111,608. JAMES A. BELL. FEATHER RENOVATORS.



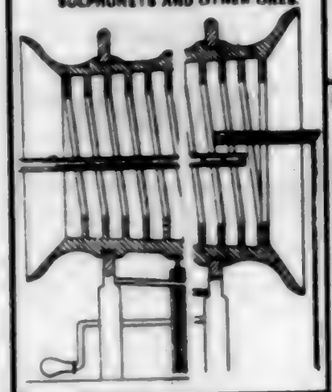
111,609. EDWARD B. ALVORD. COATING BRICK, WOOD, AND OTHER SURFACES ON WALLS, &c.

111,610. CHAS. S. CLOSE. STAIRWAYS.

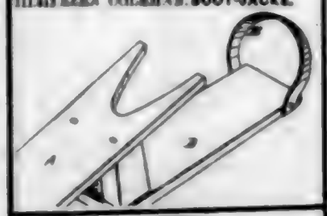


111,611. JUDD M. COBB.
MANUFACTURE OF STRAW-BOARD FOR THE CONSTRUCTION OF BUILDINGS.

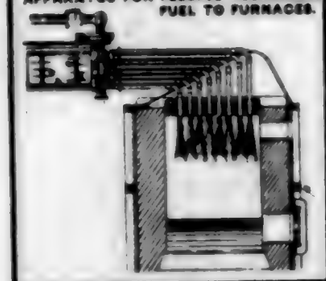
111,612. CHARLES C. COLEMAN.
APPARATUS FOR CLEANING SULPHURETS AND OTHER ORES.



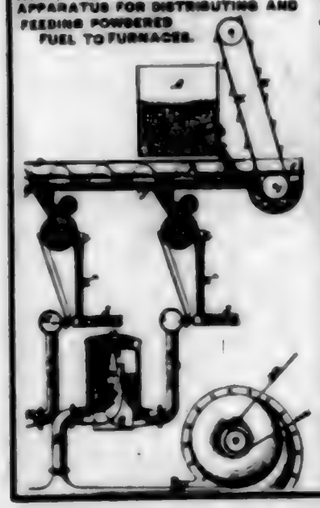
111,613. EZRA COLEMAN. BOOT-JACKS.



111,614. T. B. CRAMPTON.
APPARATUS FOR FEEDING PULVERIZED FUEL TO FURNACES.



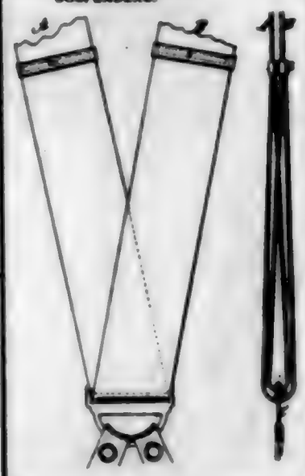
111,615. T. B. CRAMPTON.
APPARATUS FOR DISTRIBUTING AND FEEDING POWDERED FUEL TO FURNACES.



111,616. T. B. CRAMPTON.
FURNACES FOR BURNING PULVERIZED FUEL.



111,617. JOHN W. DAYTON.
SUSPENDERS.



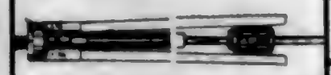
111,618. JAMES W. DEVLIN
HAND-VISES.



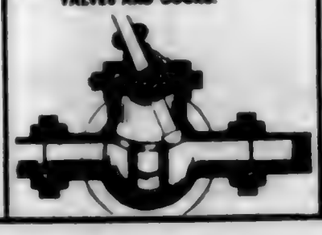
111,619. HENRY DISSTON. THOMAS OATES HILL.
SAWS.



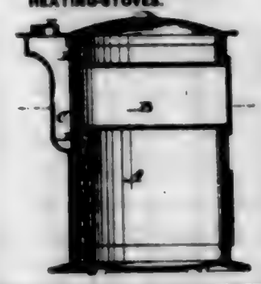
111,620. THOS. DONNELLY
DEVICES FOR ENLARGING WELLS.



111,621. ISIDORE DREYFUS.
VALVES AND COCKS.



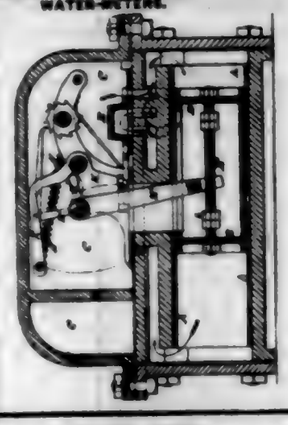
111,622. SAMUEL H. EMERY, Jr. CHAUNCEY H. CANTLE.
HEATING-STOVES.



111,623. LYMAN FAY.
SIFTERS AND STRAINERS.



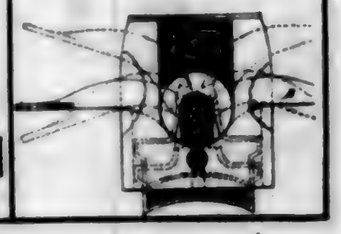
111,624. THOS. B. FOGARTY.
WATER-METERS.



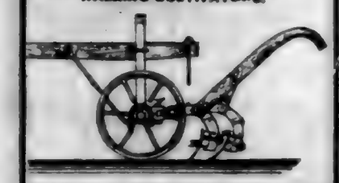
111,625. FRANKLIN D. FORD.
BOOT AND SHOE-FASTENINGS.



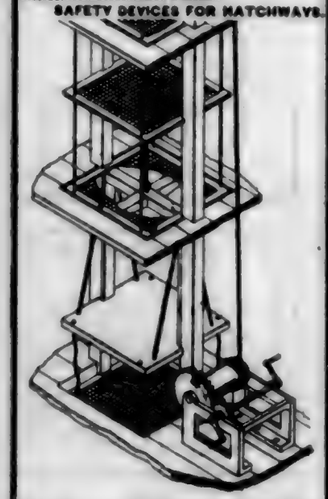
111,626. WM. FOSKET.
GATE-LATCHES.



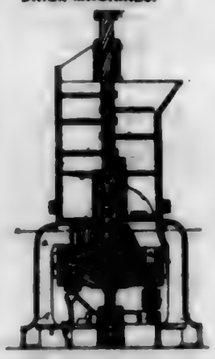
111,627. ANDREW FRIBERG.
WALKING-CULTIVATORS.



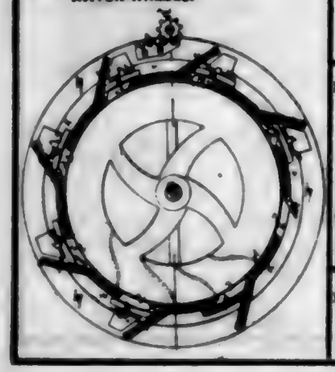
111,628. ALEXANDER FRIES.
SAFETY DEVICES FOR HATCHWAYS.



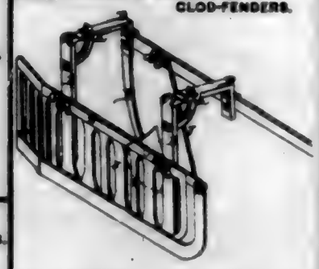
111,629. BENJAMIN M. GARD. EMERY B. GARD.
BRICK-MACHINES.



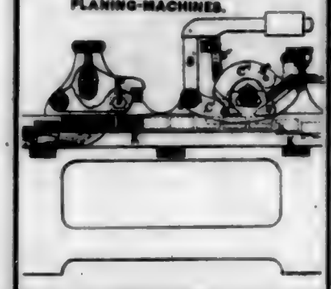
111,630. JAMES GARDNER.
WATER-WHEELS.



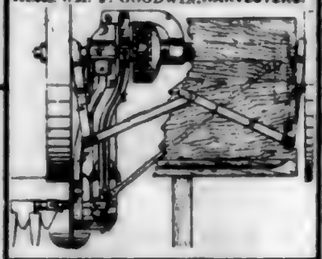
111,631. ROBERT T. GILLESPIE.
CLOD-FENDERS.



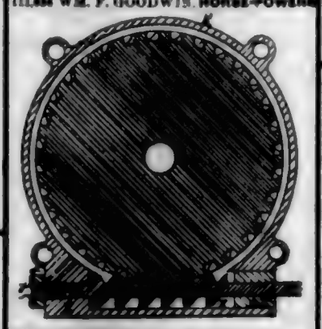
111,632. JAMES GOODRICH. HENRY J. COLBURN.
PLANING-MACHINES.



111,633. WM. F. GOODWIN, HARVESTERS.



111,634. WM. F. GOODWIN, HORSE-POWERS.

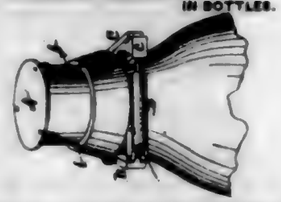


111,635. CHARLES M. GORMLY.
HAIR-PINS.

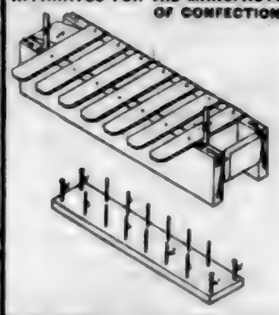


111,636. JACOB S. GOSHORN
IRON ABUTMENTS FOR BRIDGES.

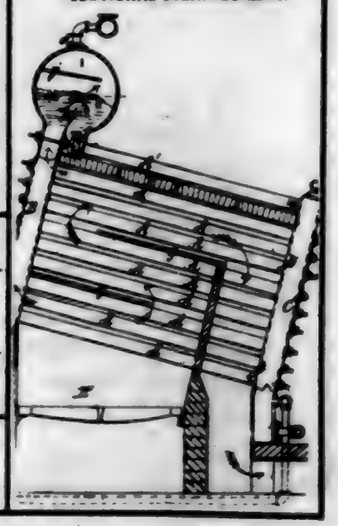
111,637. SAML. L. GOUVERNEUR.
DEVICES FOR SECURING CORKS IN BOTTLES.



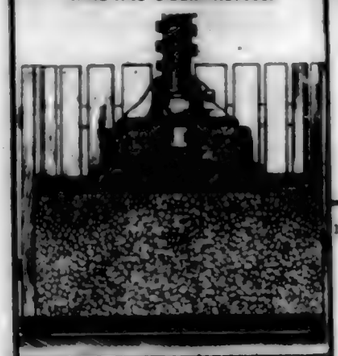
111,638. WILLIAM F. GOWARD.
APPARATUS FOR THE MANUFACTURE OF CONFECTIONERY.



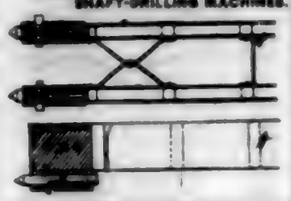
111,639. JAMES S. GRIFFITH. CHAS. E. EMERY.
SECTIONAL STEAM-BOILERS.



111,840. THOMAS W. GRINTER.
WINE AND CIDER-PRESSES.



111,841. JOHN P. GRISCOM.
JOHN FRITZ.
BRIDGES FOR SUPPORTING SHAFT-DRILLING MACHINES.

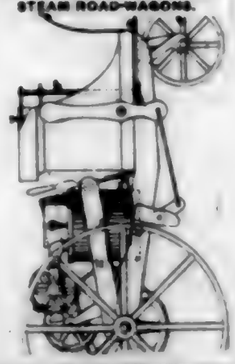


111,842. JOSEPH HAFFENEGGER.
EXPLOSIVE COMPOUNDS.

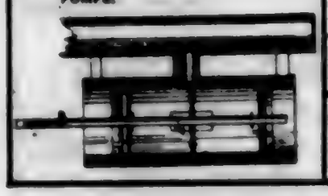
111,843. OLIVER P. HART.
CAMS FOR QUARTZ-MILLS.



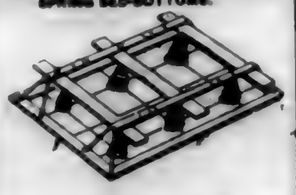
111,844. CHARLES W. HERMANCE.
STEAM ROAD-WAGONS.



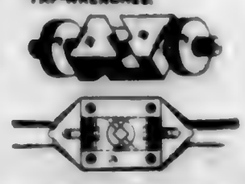
111,845. OLIVER HIGGINS.
PUMPS.



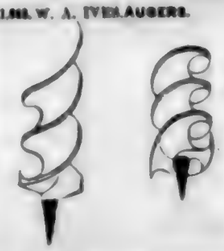
111,846. ROBERT R. HILL.
SPRING BED-BOTTOMS.



111,847. GEORGE W. HUNTOON.
EDWIN RIMONDS.
TAP-WRENCHES.



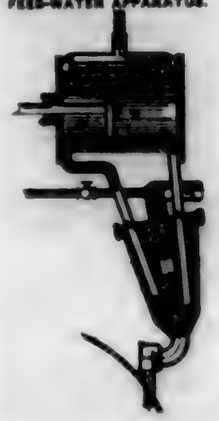
111,848. W. A. IVES.
AUGERS.



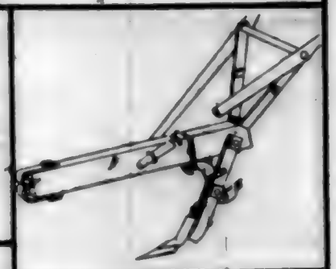
111,849. W. A. IVES.
BIT-BRACES.



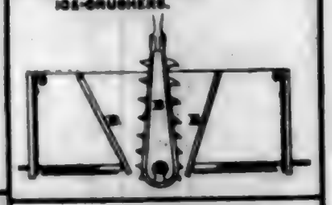
111,850. JAMES KINDEL.
FEED-WATER APPARATUS.



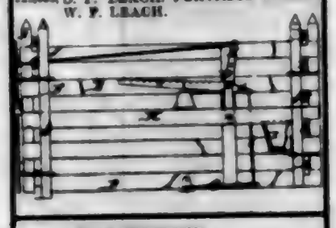
111,851. SAMPSON S. KING.
PLOWS.



111,852. OLIVER P. KIRBEY.
ICE-CRUSHERS.



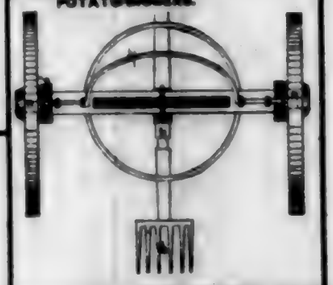
111,853. D. P. LEACH. PORTABLE STALLS.
W. P. LEACH.



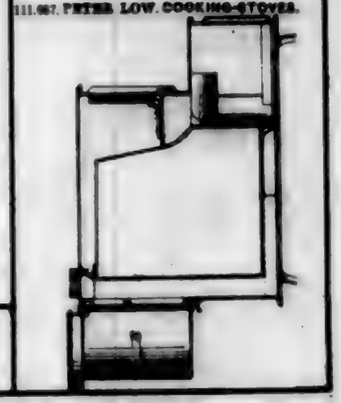
111,854. JOHN LIGHTFOOT.
DYEING AND PRINTING TEXTILE FABRICS

111,855. HENRY LUTER.
MEDICAL COMPOUNDS.

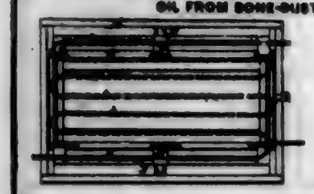
111,856. GEORGE C. LOVE.
POTATO-DIGGERS.



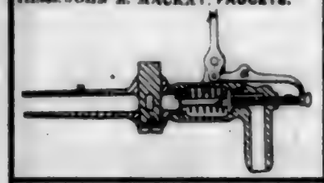
111,857. PETER LOW. COOKING-STOVES.



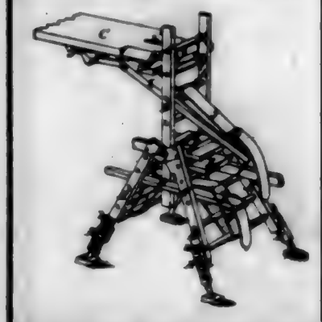
111,864. WILLIAM W. LUCAS.
APPARATUS FOR EXTRACTING OIL FROM BONE-DUST.



111,865. JOHN R. MACKAY. FAUCETS.

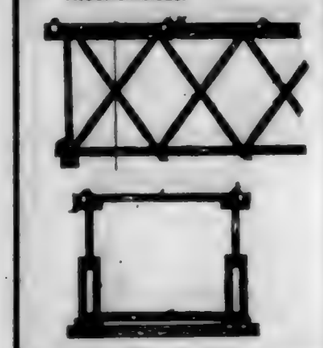


111,866. NICHOLAS MANTZ. SCAFFOLDS.

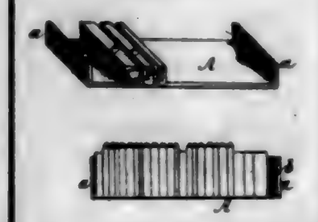


111,867. JAMES H. McCONNELL.
MANUFACTURE OF PAPER, CORDAGE, TWINE, &c.

111,868. J. A. McKAY.
TRUSS-BRIDGES.



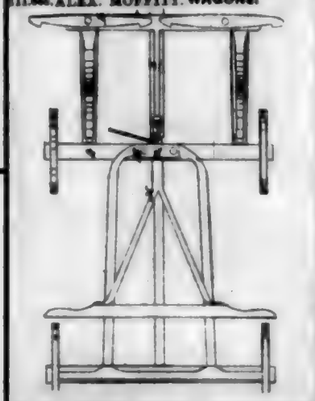
111,869. WILLIAM McNAUGHTON.
TYPE-HOLDERS.



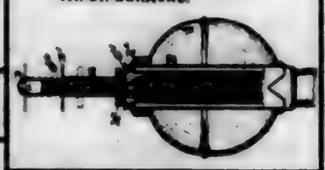
111,870. CHARLES E. MILLER.
WM. ASCOUGH.
VENT-PLUGS.



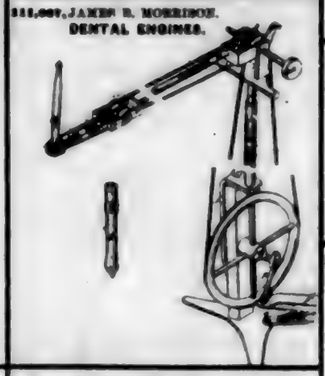
111,871. ALEX. MOFFITT. WAGONS.



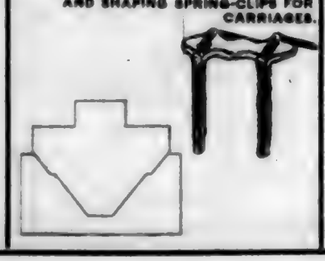
111,872. THOMAS MOORE.
JAMES O'DONALD.
VAPOR-BURNERS.



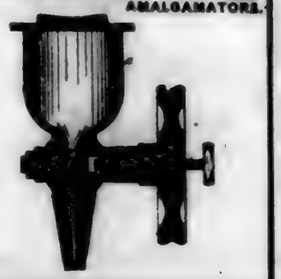
111,873. JAMES B. MORRISON.
DENTAL ENGINES.



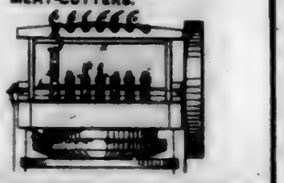
111,874. F. B. MORSE.
DIES FOR FORGING, TRIMMING, AND SHAPING SPRING-CLIPS FOR CARRIAGES.



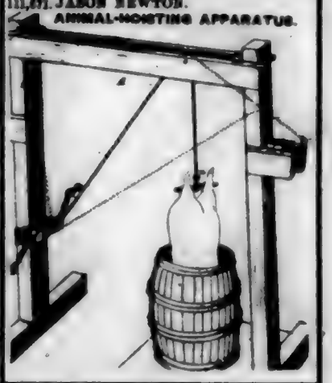
111,875. GEORGE O. MUNSON.
FEEDING QUICKSILVER TO STAMPS AND AMALGAMATORS.



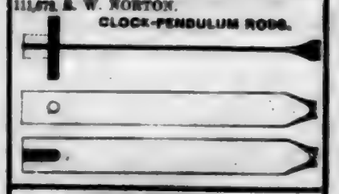
111,876. HUGH R. MURPHY.
MEAT-CUTTERS.



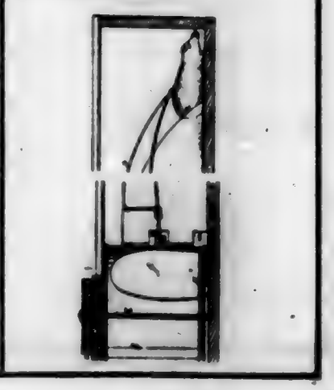
111,877. JASON NEWTON.
ANIMAL-HOISTING APPARATUS.



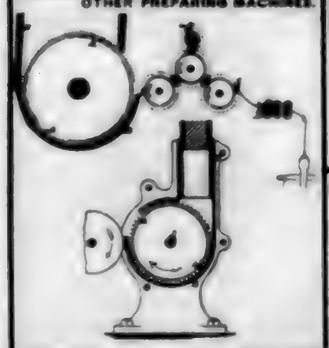
111,878. S. W. NORTON.
CLOCK-PENDULUM RODS.



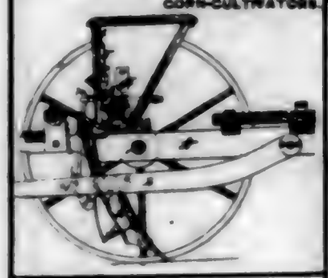
111,879. JAMES O. PARRISH.
ANIMAL-TRAPS.



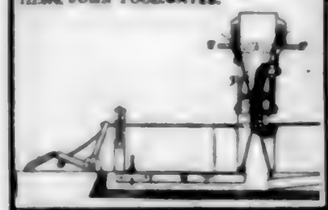
111,674 EDWIN PETTIT.
FEEDING DEVICES FOR CARDING AND OTHER PREPARING MACHINES.



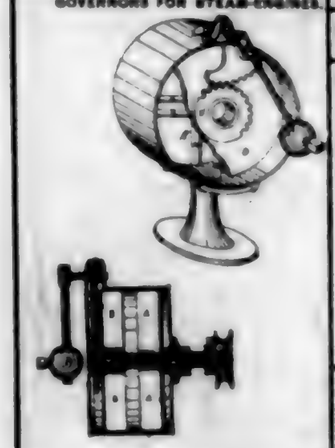
111,675 D. B. PLATT.
COMBINED GRAIN-DRILLS AND CORN-CULTIVATORS.



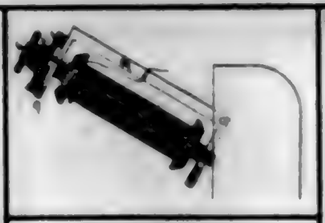
111,676 JOHN POOL-GATES.



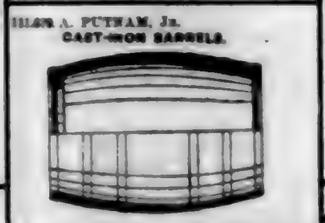
111,677 GEORGE F. POTTER.
GOVERNORS FOR STEAM-ENGINES.



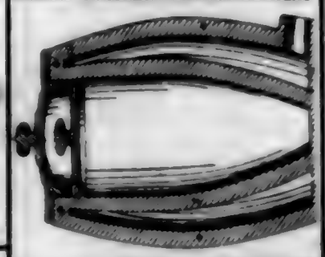
111,678 GEO. M. PRATT.
SHUTTLES FOR SEWING-MACHINES.



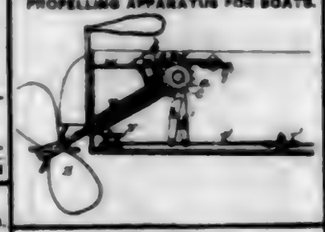
111,679 A. PUTNAM, Jr.
CAST-IRON BARRELS.



111,680 A. PUTNAM, Jr. WATER-COOLERS

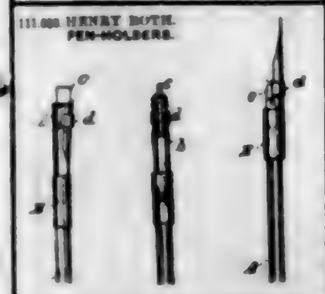


111,681 JOSEPH REPETTI.
PROPELLING APPARATUS FOR BOATS.

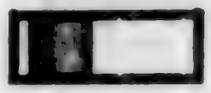


111,682 ALBERT D. RICHARDS.
MEDICATED PLASTERS.

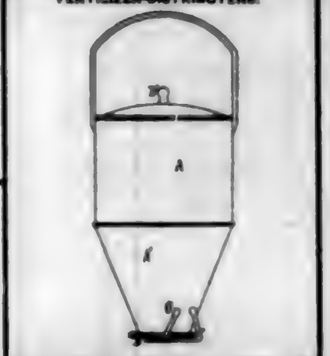
111,683 HENRY ROTH.
PEN-HOLDERS.



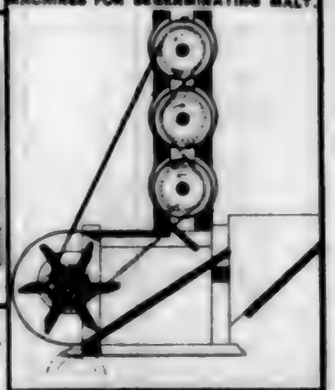
111,684 CHARLES R. RUSH.
BOXES FOR PACKING AND TRANSPORTING SHEET-METAL CANS.



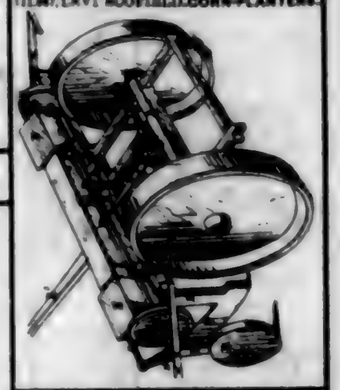
111,685 CHRISTOPHER SALVO.
FERTILIZER-DISTRIBUTERS.



111,686 CHARLES SAUTER.
MACHINES FOR DESERMINATING MALT.

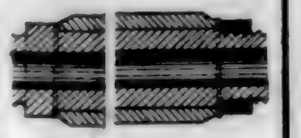


111,687 LEVI SCOFIELD.CORN-PLANTERS.

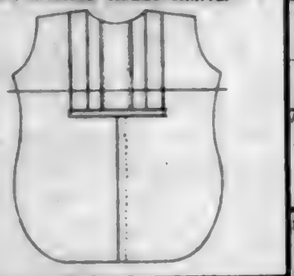


111,688 DAVID SIEYMOBOUR.
ELECTROTYPE-DIES OR MOLDS FOR MOLDING PLASTIC MATERIALS.

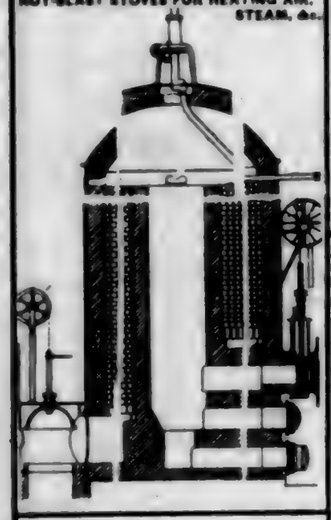
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ROCK-DRILLS.



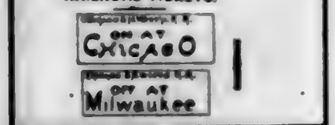
111,690 SOLOMON SIBLEY. SHIRTS.



111,691 C. WILLIAM SIEMENS.
EDWARD ALFRED CowPER.
CHARLES COCHRANE.
HOT-BLAST STOVES FOR HEATING AIR, STEAM, &c.



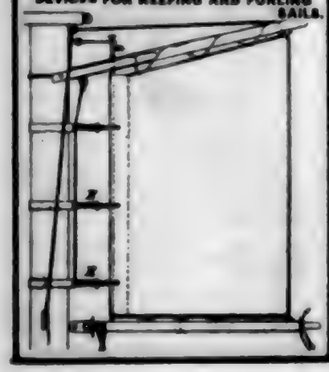
111,692 JOSEPH T. SMITH.
RAILROAD TICKETS.



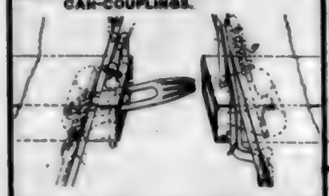
111,693 WILLIAM E. SPARKS.
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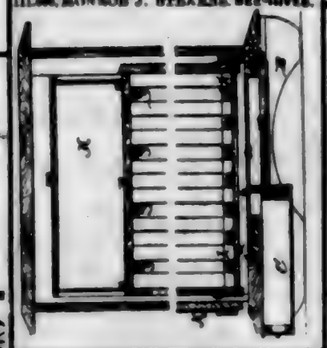
111,694 WILLIAM SPRAR.
DEVICES FOR REEFING AND FURLING SAILS.



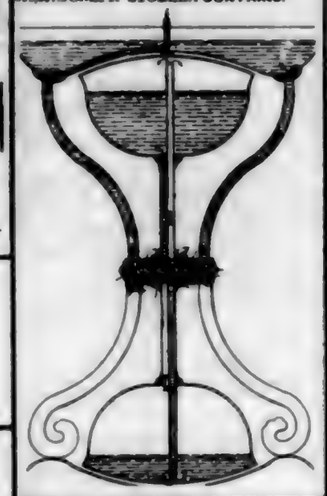
111,695 LAROY S. STARRETT.
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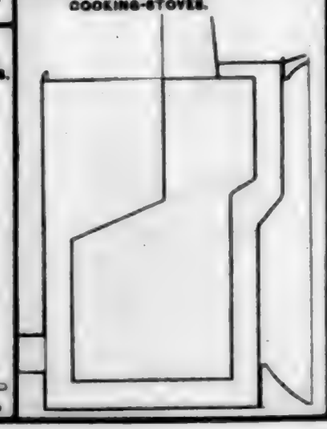
111,696 MONROE J. STEARNS. BEE-HIVES.



111,697 JOSEPH STORER. FOUNTAINS.



111,698 DAVID STUART.
COOKING-STOVES.

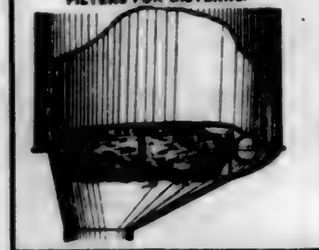


111,699 CORNELIOUS SULLIVAN.
COMBINED REMOVABLE COCKS AND FIXED SOCKETS.

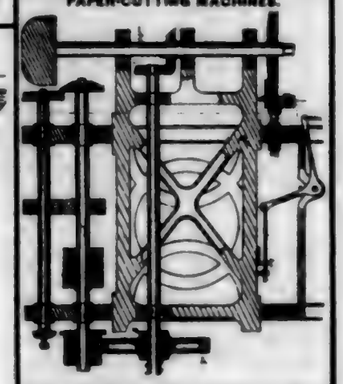


111,700 GEO. C. TAFT.
SAND OR EMERY-PAPER

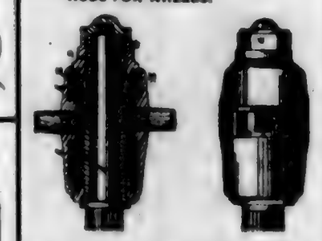
111,701 ROBT. W. THOMPSON.
FILTERS FOR CISTERNS.



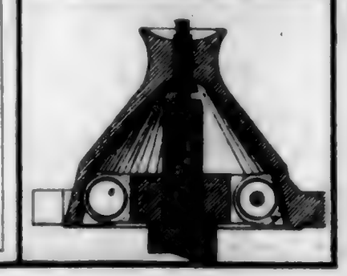
111,702 WM. H. TOPHAM.
PAPER-CUTTING MACHINES.



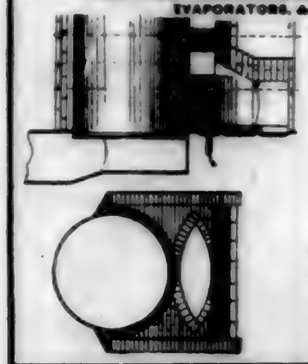
111,703 J. L. VAN WERT
HUBS FOR WHEELS.

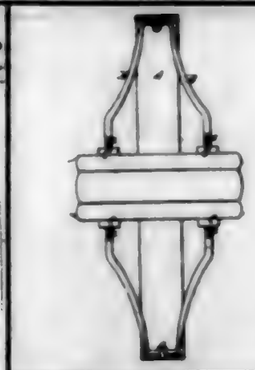


111,704 ALBERT O. WALDO.
MILLSTONE SAILS AND DRIVERS.



111,705. JAMES D. WHELPLEY.
JACOB J. STOBER.
FURNACES FOR BURNING PULVERIZED FUEL UNDER STEAM-BOILERS, EVAPORATORS, &c.

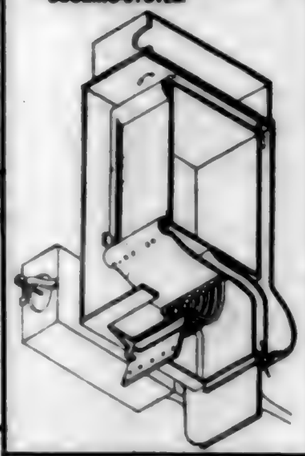




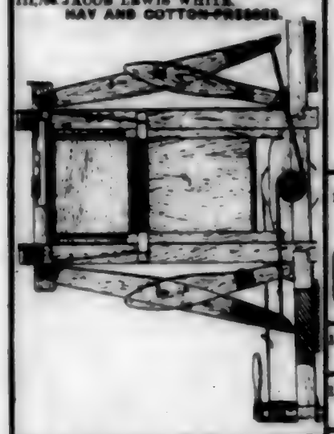
4,255. ABIEL CODDING, Jr.
ENAMELED BRACELETS.



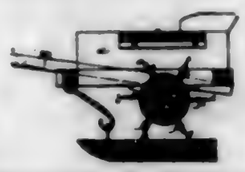
4,256. CHARLES P. GREENHALGH.
COOKING-STOVES.



111,706. JACOB LEWIS WHITE.
HAY AND COTTON-PRESSES.



111,709. JOHN WOOD.
MACHINES FOR CUTTING CORN-STALKS.



111,710. A. B. WOODARD.
WILLIAM BRUES.
HARNESS-SNAPS.



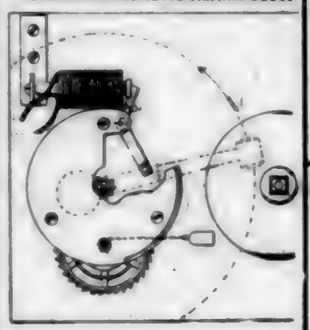
4,258. MELVILLE R. MEAD.
VENTILATORS.



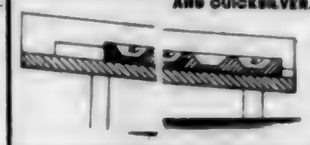
111,711. WESLEY A. WRIGHT.
MEDICATED SMOKING-TOBACCOS.

111,712. WESLEY A. WRIGHT.
TREATING SMOKING-TOBACCO.

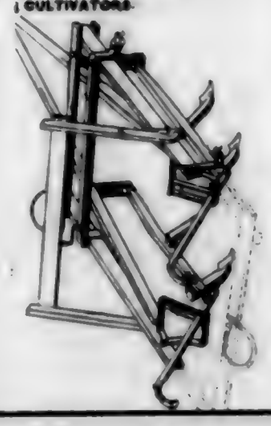
111,707. CHARLES WILLIAMS, Jr.
JEROME REDDING.
ELECTRO-MAGNETIC ALARM-BELLS.



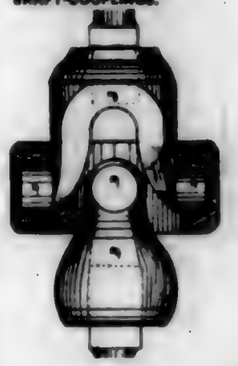
111,713. OLIVER H. YOUNG.
DANIEL J. VAUGN.
DEVICES FOR SAVING GOLD AMALGAM AND QUICKSILVER.



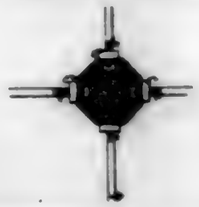
4,259. WILLIAM A. DRYDEN.
CYRUS B. DRYDEN.
CULTIVATORS.



4,260. NILAS C. SCHOFIELD
SHAFT-COUPLINGS.



111,708. GEORGE WITHINGTON.
WHEELS FOR WHEELBARROWS.



4,261. HENRY G. TYER.
OVERSHOES.



ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
FEB. 14, 1871.

111,714. DANIEL R. ALLEN.
SEATS FOR VEHICLES.

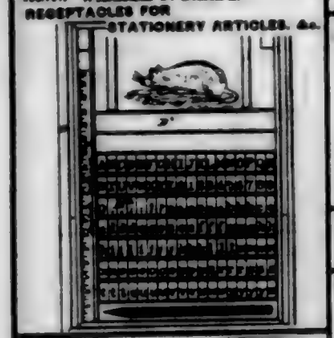


111,715. THEODORE ALTENEDER.
COMPASS-JOINTS.



111,716. MORITZ ALTMANN.
LEATHER TO RESEMBLE CLOTH.

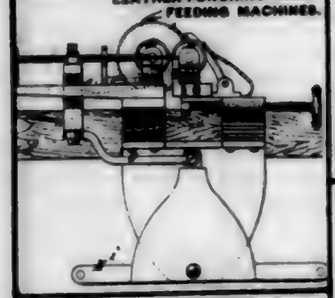
111,717. WILLIAM F. BAADE.
RECEPTACLES FOR STATIONERY ARTICLES, &c.



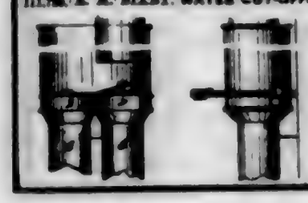
111,718. GEO. R. BARKER.
VENTILATORS.



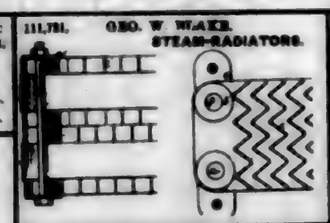
111,719. WILLIAM BARRY.
LEATHER-PUNCHING AND FEEDING MACHINES.



111,720. E. M. BIXBY. WATER CUT-OFFS.



111,721. GEO. W. WAKE.
STEAM-RADIATORS.



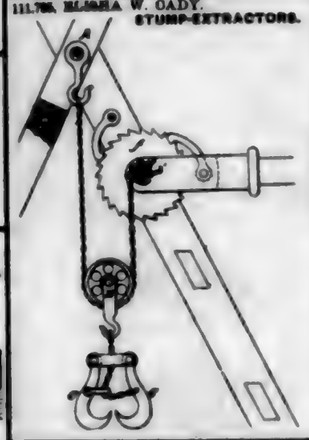
111,722. ALFRED BOOTH.
REFRIGERATING OYSTER-CANS.



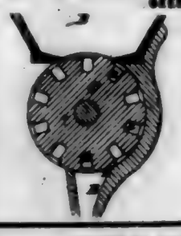
111,723. CHAS. M. BROWN.
CECIL L. GATES.
CURTAIN-FIXTURES.

111,724. CLOSSON P. BURGESS.
JAMES R. STEVENSON.
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111,725. ELISHA W. CADY.
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111,726. GEORGE A. GARMAN.
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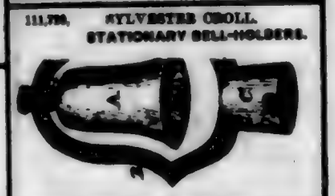


111,727. AARON W. CONLEY.
DRAIN-TILES.

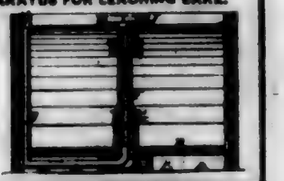
111,728. J. M. CONNEL.
SASH-BALANCES.



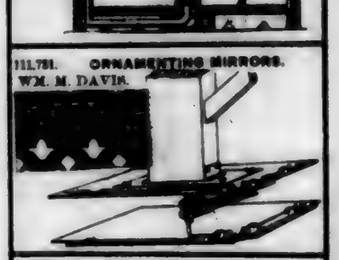
111,729. SYLVESTER CROLL.
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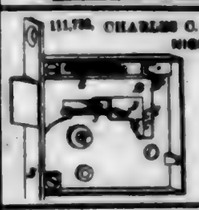
111,730. HILEN C. CROWELL.
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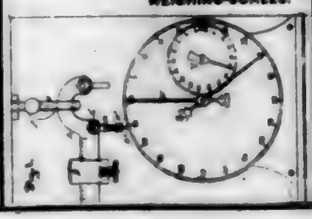
111,731. ORNAMENTING MIRRORS.
WM. M. DAVIS.



111,732. CHARLES C. DICKERMAN.
NIGHT-LATCHES.

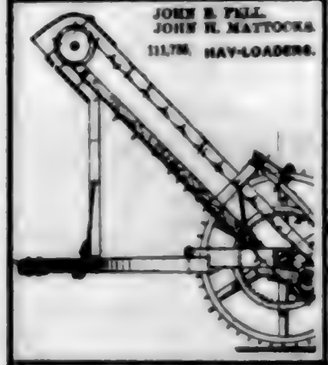


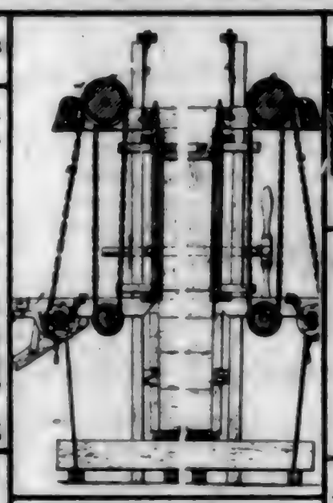
111,733. FRANKLIN FAIRBANKS.
HARVLIN PADDOCK.
WEIGHING-SCALES.



111,734. LEVI S. FALSE.
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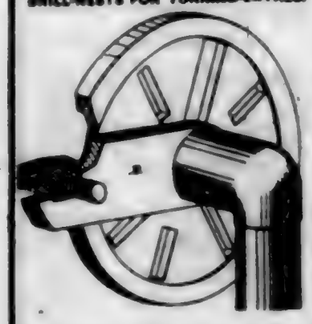
JOHN B. FELL.
JOHN H. MATTOCKS.
111,736. HAY-LOADERS.







111,735. HENRY H. FOTSON.
DRILL-RESTS FOR TURNING-LATHES.



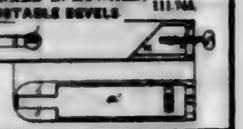
INTERFERING-PADS FOR HORSES.
111,740



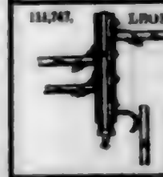
111,741. ANIMAL-TRAPS.
ANANIEL A. HOTCHKISS.



LEONARD D. HOWARD.
ADJUSTABLE BEVELS. 111,742.



111,747. LEONARD D. HOWARD.
CLOTHES-DRIERS.



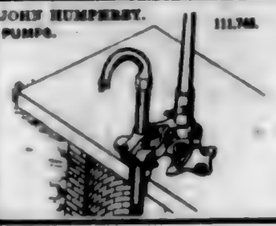
111,737. ANDREW FULTON.
PURIFIERS, CONDENSERS, &c., FOR GAS WORKS.



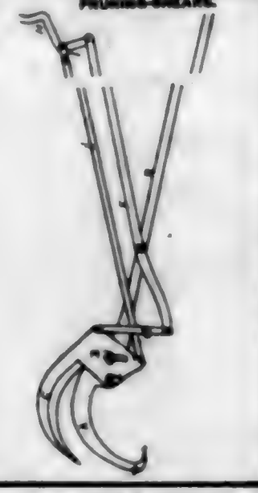
JAMES E. MANGER.
111,743. ARTIFICIAL LEGS.



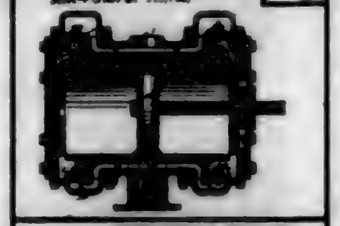
JOHN HUMPHREY.
PUMPS. 111,744.



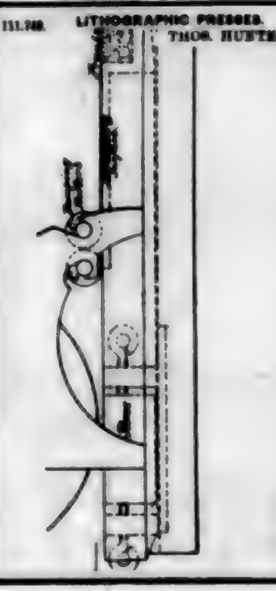
111,738. ERASMUS D. GAINES.
JOHN A. McMILLEN.
PRUNING-SHEARS.



CHARLES B. HARDICK.
AIR-PUMPS. 111,745.

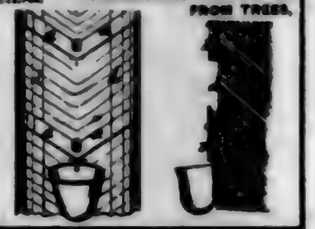


111,748. LITHOGRAPHIC PRESSES.
THOS. HUSTER.



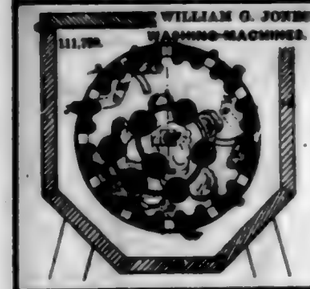
111,739. JOHN B. GRIDLEY.
COTTON-PRESSES.

BENJAMIN J. HAZARD.
111,746. EXTRACTING TURPENTINE FROM TREES.



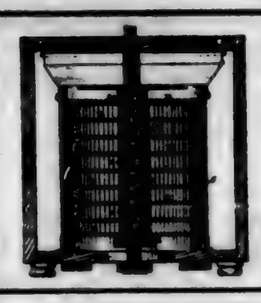
111,749. JOHN HILLENBOOK.
SASH-MILLS.

WILLIAM G. JONES.
111,750. WASHING-MACHINES.



111,756. J. B. LAMKIN.
COMBINATION TOOLS.

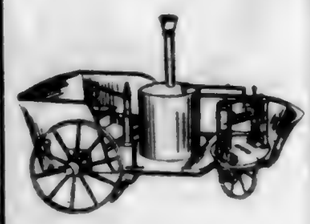




RICHARD A. KELTY. 111,751.
RUBBER ROLLERS FOR PAPER-MACHINES.



111,761. STEAM LAND-CARRIAGES.
JEROME B. McKINLEY.

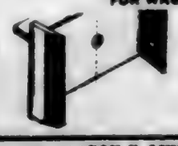


111,752.



EBEN A. KIMBALL.
SEWING-MACHINES.

111,756. WM. J. LEWIS.
RUBBER-BLOCK HOLDERS FOR WAGON-BRAKES.



BRYANT H. MELENDY.
111,762. COMBINED KEY-RINGS AND DOOR-FASTENERS.



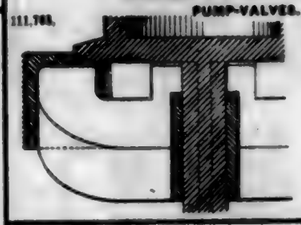
111,757. AARON E. LINDSLEY.
POST-HOLE DIGGERS.



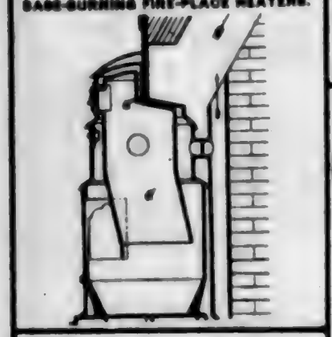
111,758.
WILLIAM MARSH.
BUTTER-TUBS, &c.



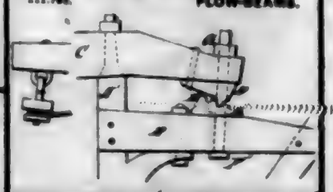
CHARLES L. MERRILL.
111,763. PUMP-VALVES.



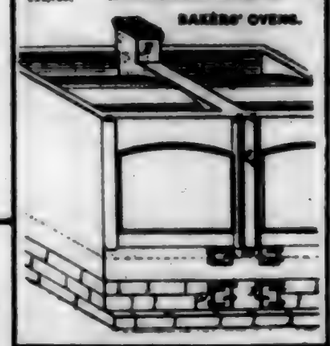
PHILIP KLOTZ.
111,753. BASE-BURNING FIRE-PLACE HEATERS.



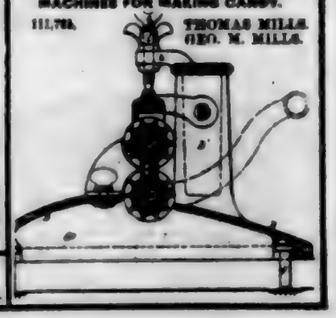
SAMUEL HOLDEN MILLER.
111,764. FLOW-BEAMS.



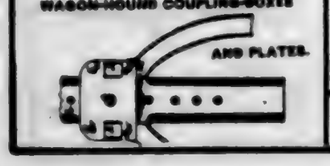
111,754. ALEXANDER MARTIN.
BAKERS' OVENS.



MACHINES FOR MAKING CANDY.
111,765. THOMAS MILLS.
GEO. M. MILLS.

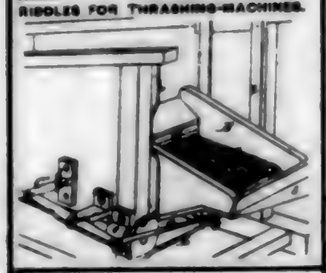


111,755. WILLIAM J. LEWIS.
WAGON-HOUND COUPLING-BOXES AND PLATES.

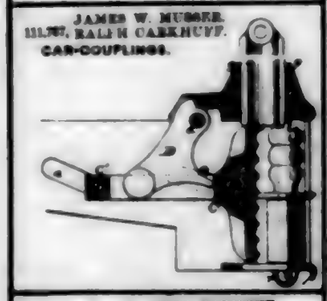


111,760. PLEASANT H. MASSEY.
MILL-STONE FEEDERS AND GRAIN-SCOURERS.

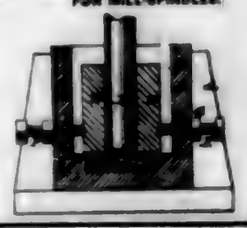
111,766 DANIEL MURPHY.
RIDDLES FOR THRASHING-MACHINES.



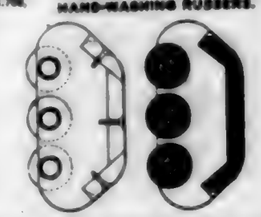
JAMES W. MUSSER.
111,767, RALPH CARKHUFF.
CAR-COUPLINGS.



111,768. WM. GILES KORMENT.
STEPS AND TRAM-BOXES FOR MILL-SPINDLES.



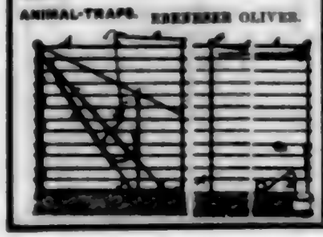
111,769. ELWOOD R. HORNY.
HAND-WASHING RUBBERS.



JOHN T. O'DONOGHUE.
ALEXANDER LEAVITT.
111,770 BLIND-SLAT REGULATORS.



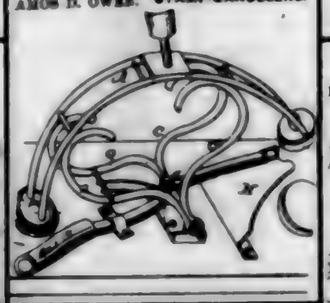
111,771.
ANIMAL-TRAPS. EBENEZER OLIVER.



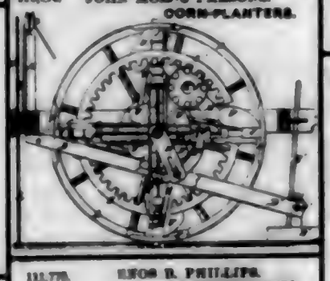
111,772. HENRY W. OLIVER, Jr.
ROLLED BARS FOR NUT-BLANKS.



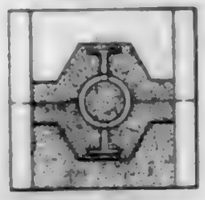
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AMOS D. OWEN. STAMP-CANCELERS.



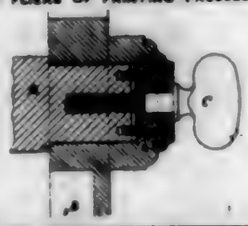
111,774. JOHN MORRIS PARSONS.
CORN-PLANTERS.



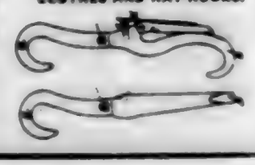
111,775. ELIAS B. PHILLIPS.
SUPPORTING-CORES.



111,776. C. POTTER, Jr.
ADJUSTABLE ATTACHMENTS OF CAMS FOR FLIERS OF PRINTING-PRESSES.



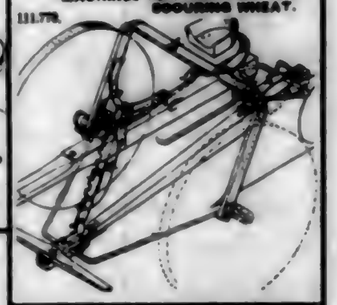
111,777. REUBEN W. RANDALL.
CLOTHES AND HAT-HOOKS.



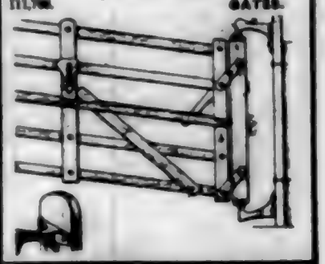
111,778.
FRANCOIS RAYMOND.
COFFEE-MILLS.



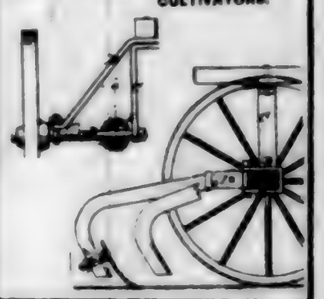
EPHRAIM RUSSELL.
MACHINES FOR CLEANING AND SCOURING WHEAT.
111,779.



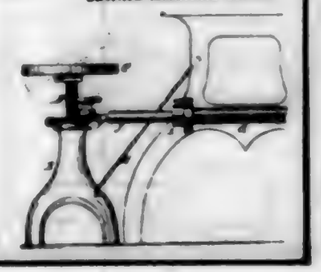
111,780. CYRUS W. SALADER.
GATES.



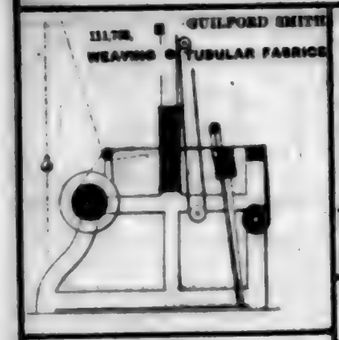
111,781. MARSHALL SATTLEY.
CULTIVATORS.



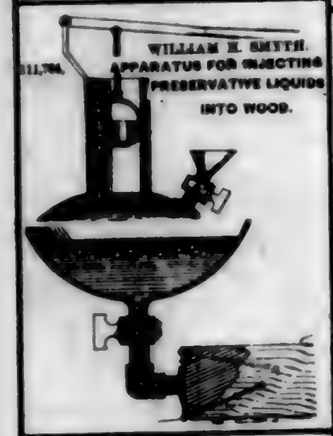
111,782. SARAH A. SEXTON.
SEWING-MACHINE SEATS.



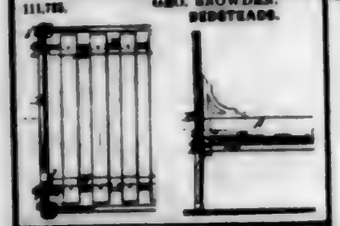
111,783. GUILFORD SMITH.
WEAVING OF TUBULAR FABRICS.



WILLIAM H. SMYTH.
111,784. APPARATUS FOR INJECTING PRESERVATIVE LIQUIDS INTO WOOD.



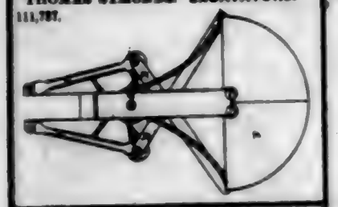
111,785.
GEO. SNOWDEN. BEDSTEADS.



ANDREW J. SPICER.
111,786. PRAIRIE-PLOW JOINTERS.

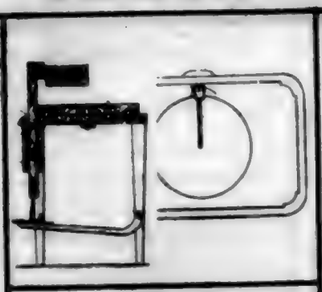


THOMAS SYMONDS. EXCAVATORS.
111,787.

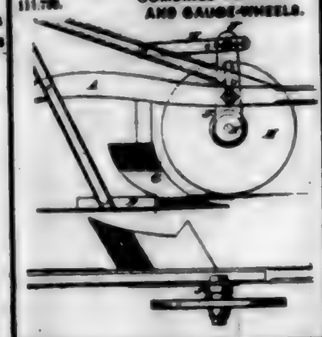


111,788. JAMES H. THOMAS.
MACHINES FOR CUTTING CHEESE, BUTTER, &c.

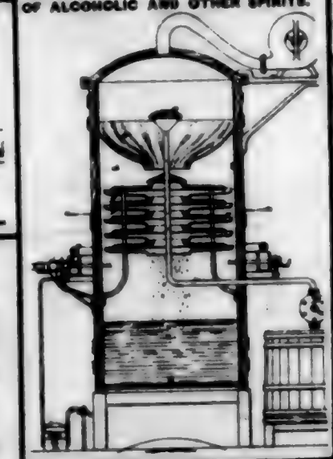
111,789. JOHN THOMAS.
REMOVING SLAG FROM FURNACES.



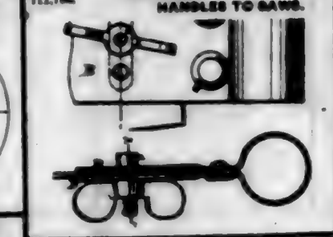
ALEXANDER B. THORNTON.
111,790. COMBINED FENDERS AND GAUGE-WHEELS.



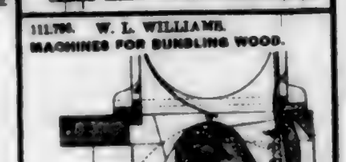
111,791, REUBEN D. TURNER.
APPARATUS FOR THE TREATMENT OF ALCOHOLIC AND OTHER SPIRITS.



SAML. W. VALENTINE.
111,792. METHODS OF ATTACHING HANDLES TO SAWS.



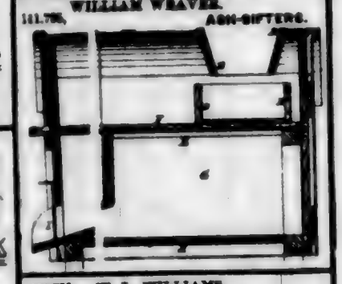
111,793. R. P. VAN HORNE.
DOUBLE-SHOVEL PLOWS.



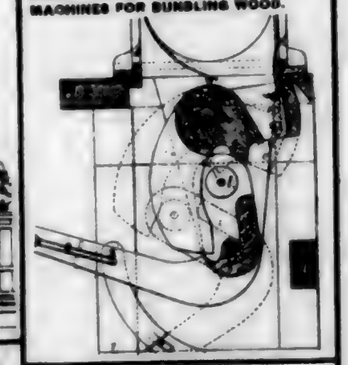
111,794. WM. H. WAMH.
SMUT AND WHEAT-SEPARATING MACHINES.



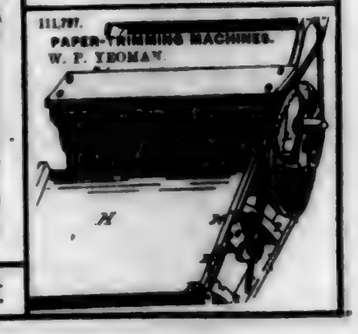
WILLIAM WEAVER.
111,795, ASH-SIFTERS.



111,796. W. L. WILLIAMS.
MACHINES FOR BUNDLING WOOD.

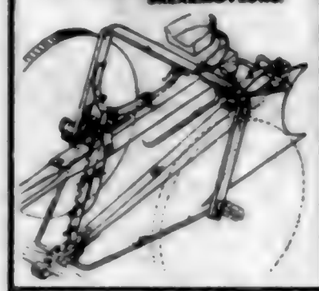


111,797.
PAPER-TRIMMING MACHINES.
W. P. YEOMAN.

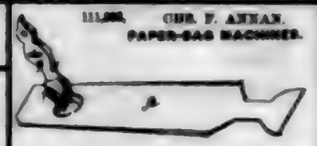


111,796. THOM. ADAMS. CHEWING-GUM.

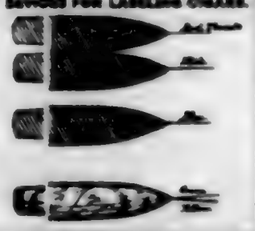
111,797. A. H. ALLISON. GANG-PLOW ATTACHMENTS FOR BREAKING PLOWS.



111,798. CHR. F. ANNAN. PAPER-BAG MACHINES.



111,799. S. H. ANDREWS. DEVICES FOR LABELING CIGARS.

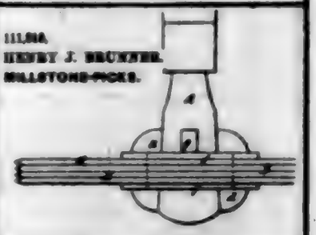


111,800. DANIEL H. BROWN. SPRING-SUPPORTERS FOR CARRIAGES.

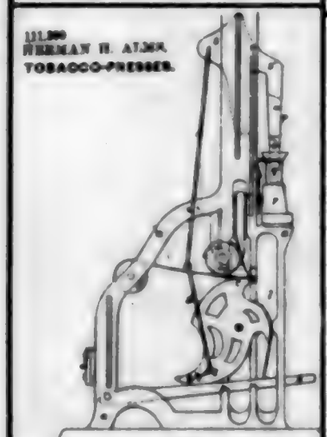


111,801 CANCELED.

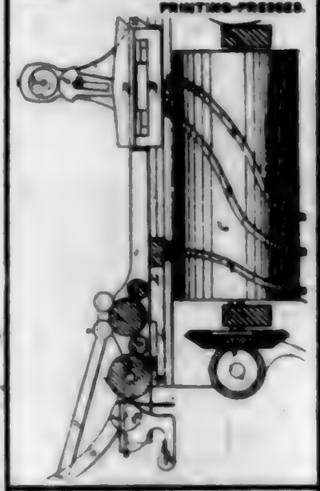
111,802. HENRY J. BRUNNER. MILLSTONE-PICKS.



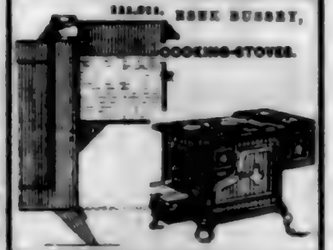
111,803. HERMAN H. ATJEN. TOBACCO-PRESSES.



111,804. AMOS H. BANGLE. PRINTING-PRESSES.

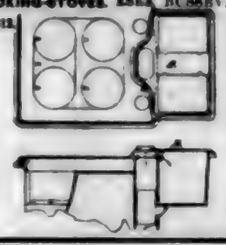


111,805. ESEK BUSHEY. COOKING-STOVES.



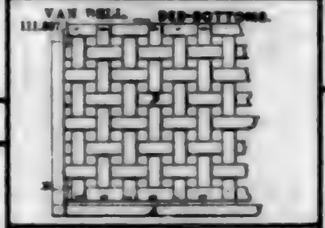
COOKING-STOVES. ESEK BUSHEY.

111,812.



111,806. THOMAS J. BARRON. CONCRETE FOR PIPES, BRICKS, &c.

111,807. VAN DELL. BED-BOTTOMS.

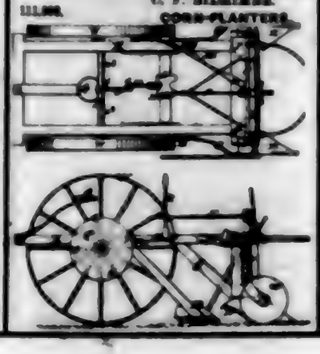


LAMP-BRACKETS FOR SEWING-MACHINES.

111,813. HENRY CAMPBELL.



111,808. O. F. BILSIMER. CORN-PLANTERS.



BREECH-LOADING FIRE-ARMS.

MARTIN J. CHAMBERLIN.

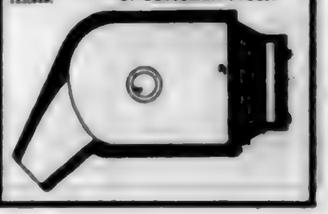
111,814.



HENRY CHISHOLM.

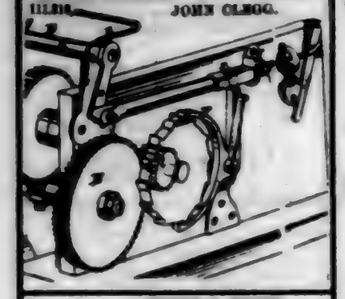
APPARATUS FOR THE MANUFACTURE OF BESSEMER STEEL.

111,815.

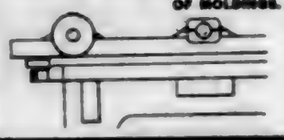


LET-OFF MECHANISMS, FOR LOOMS.

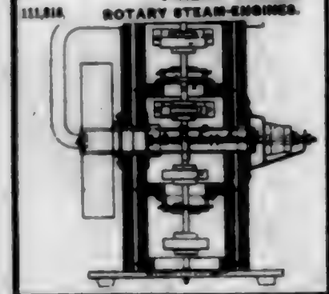
111,816. JOHN CLEGG.



111,817. JOSEPH C. COOKE. HENRY A. WHITELEY. MACHINES FOR THE MANUFACTURE OF MOLDINGS.

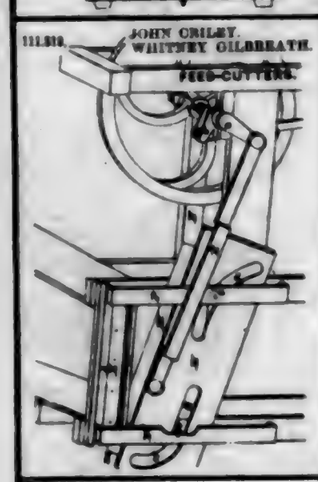


111,818. PHILIPP CRAMER. ROTARY STEAM-ENGINES.



JOHN CRILEY. WHITNEY GILBREATH. FEED-CUTTERS.

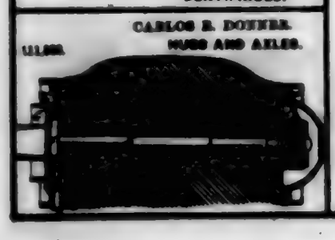
111,819.



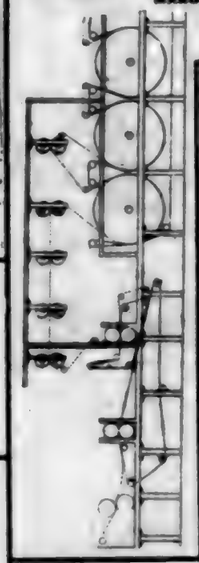
111,820. OLIVER DANFORTH. DENTIFRICES.

CARLOS B. DOYNE. HUBS AND AXLES.

111,821.



111,822. DANIEL CROSBY. APPARATUS FOR SMOOTHING AND PRESSING PAPER DURING THE MANUFACTURE.

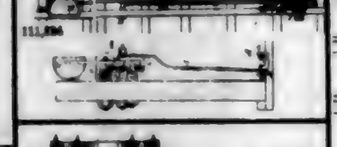


111,823. ELLIS DRAKE. SHELL-FUSES.

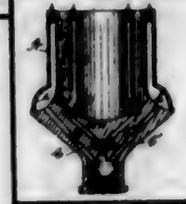


GEORGE DRAPER. RAILWAY ALARMS.

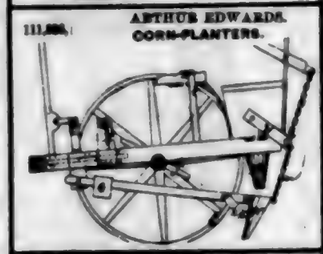
111,824.



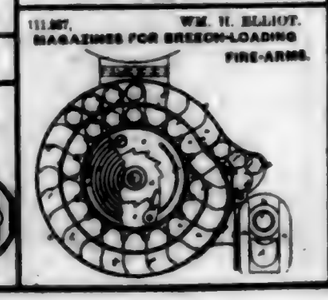
111,825. A. B. DUPAR. GAS-BURNERS.



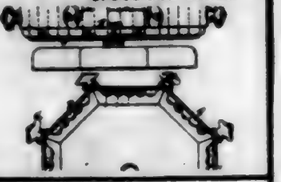
111,826. ARTHUR EDWARDS. CORN-PLANTERS.



111,827. WM. H. ELLIOT. MAGAZINES FOR BREECH-LOADING FIRE-ARMS.



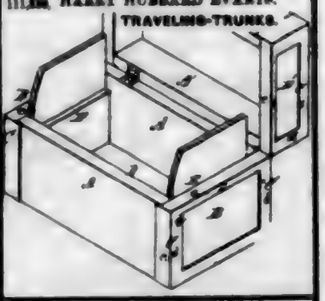
111,828. SAMUEL ELMER. SPOOL-SILK CASES.



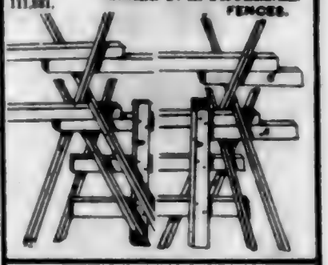
111,829. J. S. EMERSON. GAUGES FOR SAW-FILERS.



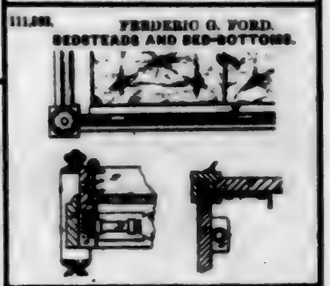
111,830. HARRY HUBBARD EVARTS. TRAVELING-TRUNKS.



111,831. ORKEY F. A. FAULKNER. FENCES.



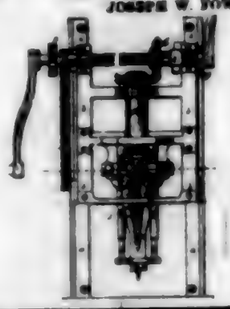
111,832. FREDERIC G. FORD. BEDSTEADS AND BED-BOTTOMS.



111,833. GEO. A. FORD. TACKLES FOR HOISTING SAILS.



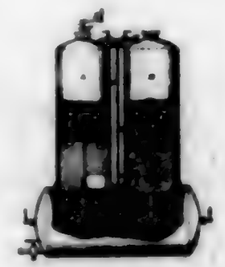
111,834 SORTING-MACHINES. JOSEPH W. BOWLS.



111,838 GRIDDLES. TITUS D. GAIL.



111,839 JOSEPH GARDNER. FIRE-EXTINGUISHERS.



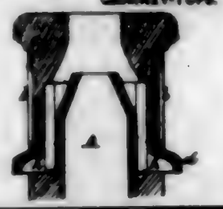
111,840 LOUIS GODDU. MACHINES FOR NAILING SHOE-SOLES WITH WIRE.



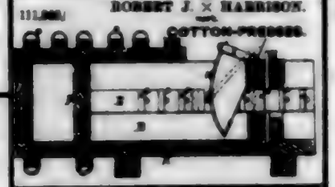
ROBT. C. GRAY. WATER-METERS.
W. B. BRITTINGHAM. 111,845.



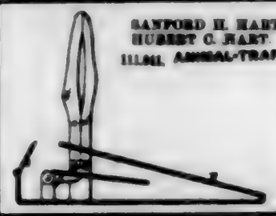
111,842 RICHARD W. GRIFFITH. CHIMNEY-TOPS.



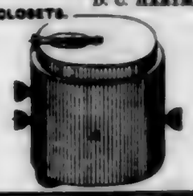
111,843 ROBERT J. & HARRISON. COTTON-PRESSES.



SANFORD H. HART.
HUBERT C. HART.
111,844. ANIMAL-TRAPS.



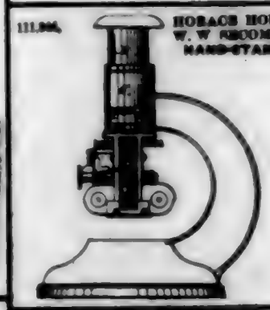
111,845. D. C. HARTMAN. EARTH-CLOSETS.



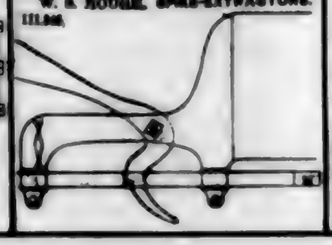
HENRY J. HENDRY. CLOTHES-LINE FASTENERS.
111,846.



111,847. HORACE HOUT. W. W. SLOCOMBE. HAND-STAMPS.



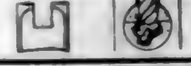
W. A. HOUSE. SPIKE-EXTRACTORS.
111,848.



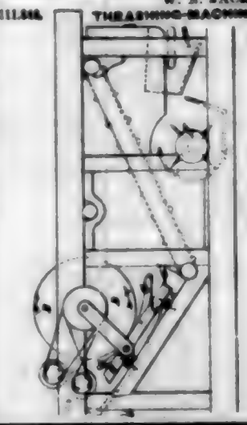
111,849 ISAAC JACOBS. PEN-HOLDERS.



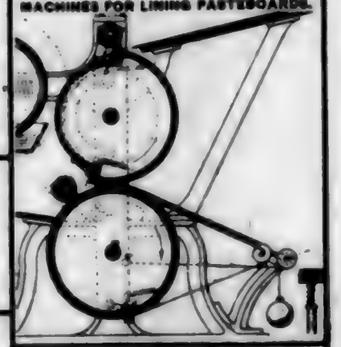
111,850. W. E. JACKSON. SASH-CORD FASTENERS.



111,851 W. E. JACKSON. THRASHING-MACHINES.



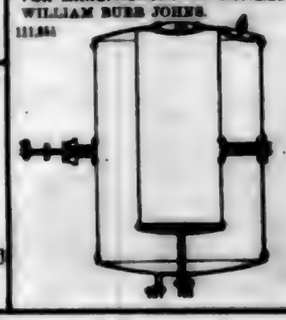
111,852 GUSTAV L. JAEGER. MACHINES FOR LINING PASTEBOARDS.



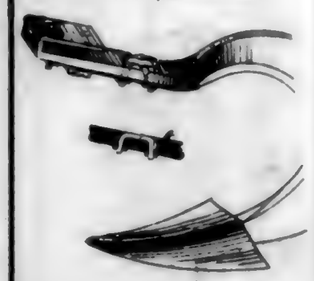
W. O. JAMES. STOVE-OVEN GRATES.
111,853.



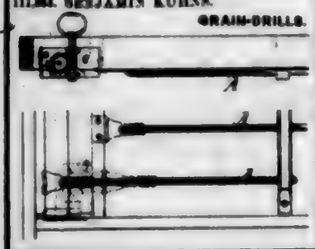
TREATING BONES, HORNS, HOOFS, &c. FOR MANUFACTURE OF FERTILIZERS.
WILLIAM BURR JONES.
111,854



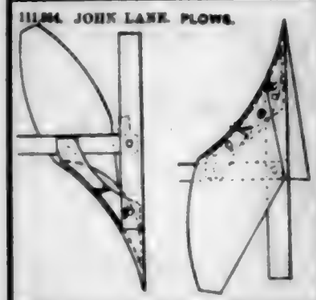
111,842. ROSS JOHNSON. ATTACHMENTS TO PLOWS FOR SUBSOILING.



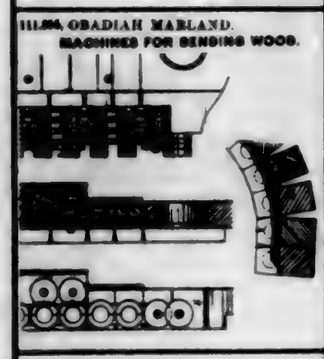
111,843. BENJAMIN KUHNS. GRAIN-DRILLS.



111,844. JOHN LANE. PLOWS.



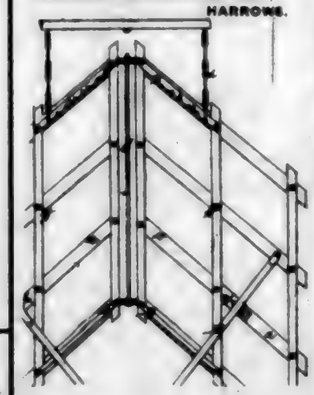
111,845. OBADIAH MARLAND. MACHINES FOR BENDING WOOD.



111,846. EDWIN MARTIN. METALLIC CARTRIDGES.



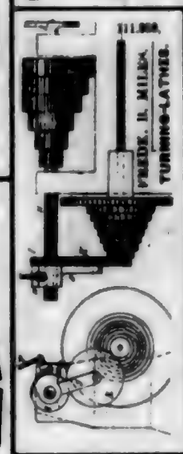
111,847. JOHN MAXTON. COMBINED CULTIVATORS AND HARROWS.



111,848. BOOK-SUPPORTS.
JOHN McCAUSLAND.
ALEXANDER McCAUSLAND.
WM. J. A. McCAUSLAND.



111,849. FREDK. H. MILES. TURNING-LATHES.



111,850. S. S. MILES. WASH-BOILERS.



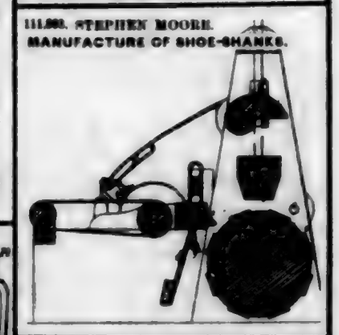
111,851. WATSON J. MILLER. COFFEE-POTS.



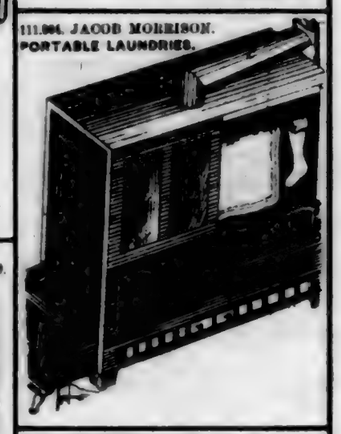
111,852. JAMES MONTGOMERY. CONSTRUCTION OF CAR-AXLES AND SHAFTS.



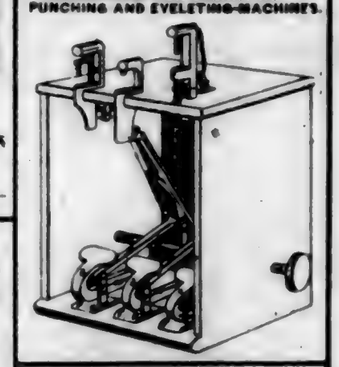
111,853. STEPHEN MOORE. MANUFACTURE OF SHOE-SHANKS.



111,854. JACOB MORRISON. PORTABLE LAUNDRIES.



111,855. CHARLES H. MORSE. MECHANISMS FOR OPERATING PUNCHING AND EYELETING-MACHINES.

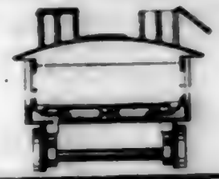


111,856. F. B. MORSE. WHIFFLETREE-PLATES.

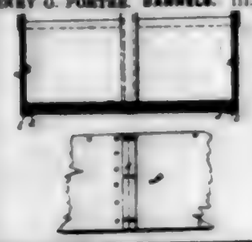


111,867. SOLOMON MORITZ MORGKOWITZ. ATTACHMENTS FOR SEWING-MACHINES.





111,868. HENRY O. PORTER. BARRELS.



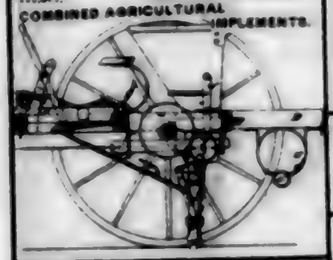
111,869. THOMAS J. POWELL. ELEVATORS AND CONVEYERS.



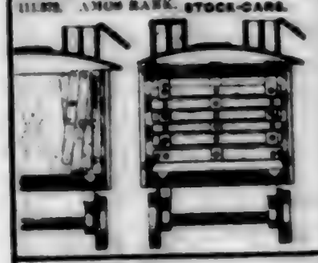
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111,871. CHARLES E. RAND. COMBINED AGRICULTURAL IMPLEMENTS.



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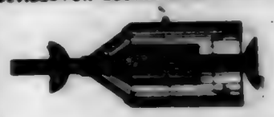


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111,875. EMRY ROOKS. DEVICES FOR OBSTRUCTING ANTS.



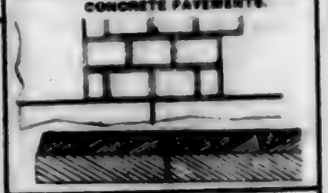
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111,878. BEDSTEAD-FASTENINGS. JOHN KOEPPLER.

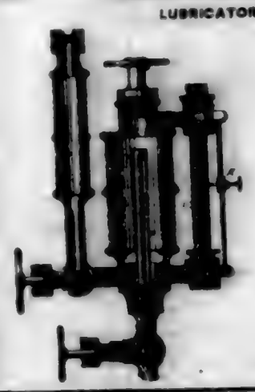
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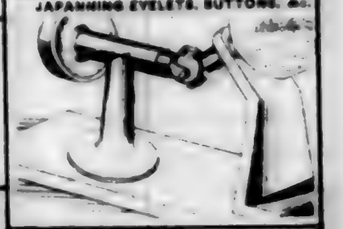
111,880. HENRY SCHWANDT. SPUR-ATTACHMENTS TO OVERSHOES.



111,881. NICHOLAS SEIBERT. LUBRICATORS.



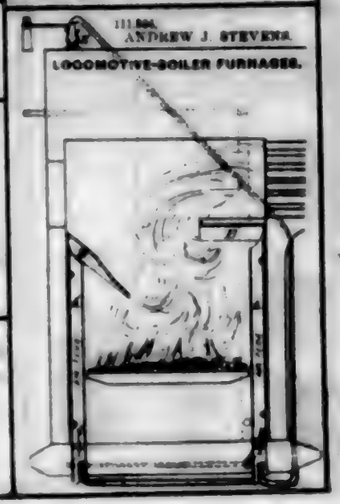
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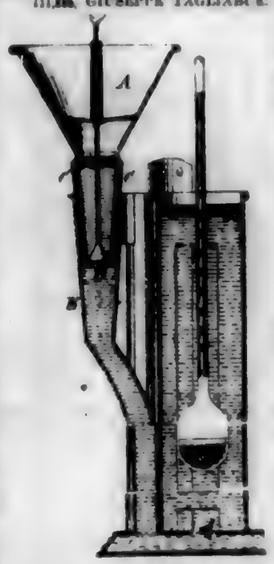
111,883. E. L. STAPLES. CORN-DROPPING ATTACHMENTS FOR HOES.



111,884. ANDREW J. STEVENS. LOCOMOTIVE-BOILER FURNACES.



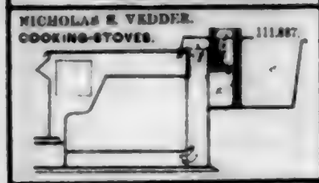
111,886. GIUSEPPE TAGLIABUE. APPARATUS FOR ASCERTAINING THE PROOF-SPIRITS IN FERMENTED MASH.



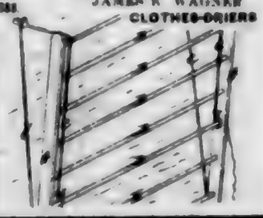
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111,888. NICHOLAS S. VEDDER. COOKING-STOVES.



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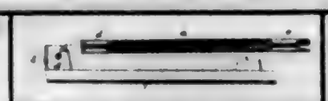
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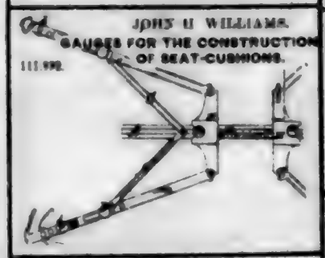
111,891. GEORGE ALLEN WARREN. JOINERS' PLANES.



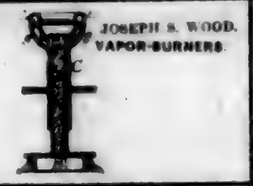
111,892. WILLIAM P. WENTWORTH. TIPS FOR WOODEN SHOVELS.



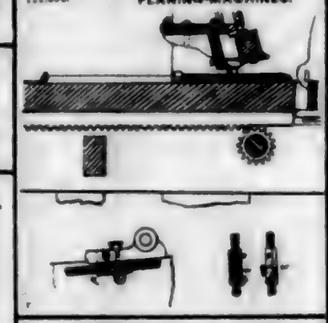
111,893. JOHN H. WILLIAMS. GAUGES FOR THE CONSTRUCTION OF SEAT-CUSHIONS.



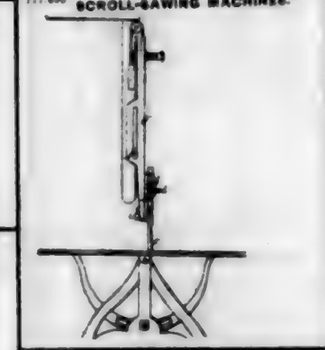
111,894. JOSEPH S. WOOD. VAPOR-BURNERS.



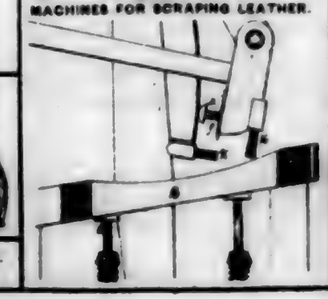
111,895. SOLOMON A. WOODS. PLANING-MACHINES.



111,896. SAMUEL MANSEER YOUNG. SCROLL-SAWING MACHINES.



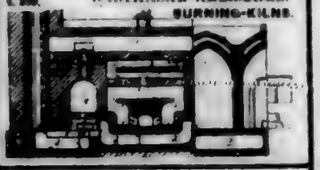
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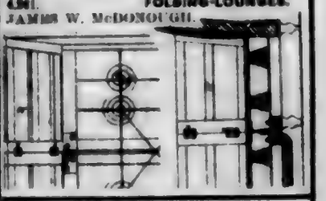
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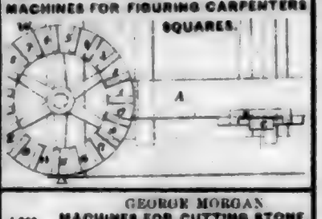
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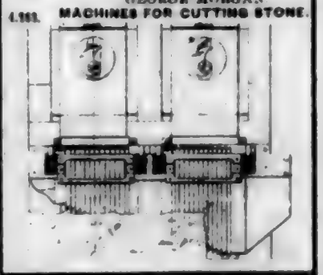
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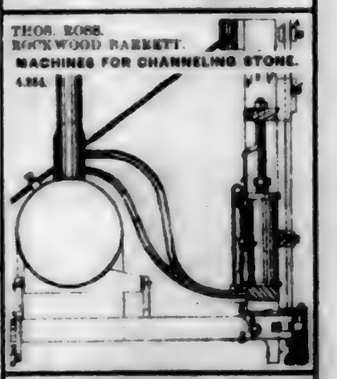
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4,269. GEORGE MORGAN. MACHINES FOR CUTTING STONE.



4,270. THOS. ROSS, ROCKWOOD BARRETT. MACHINES FOR CHANNELING STONE.



4,271. AMOS SMITH. MACHINES FOR REDUCING CRACKLINGS, &c., FOR FERTILIZERS.



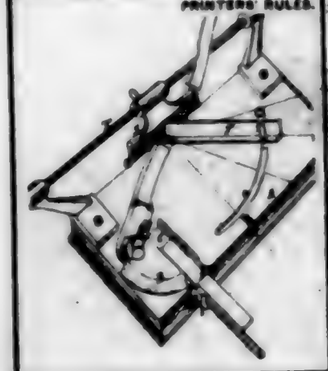
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111,896. FRANK H. AIKEN.
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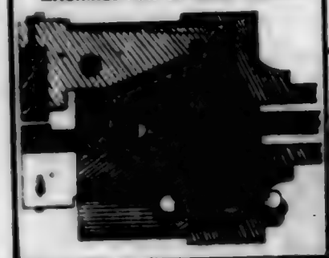
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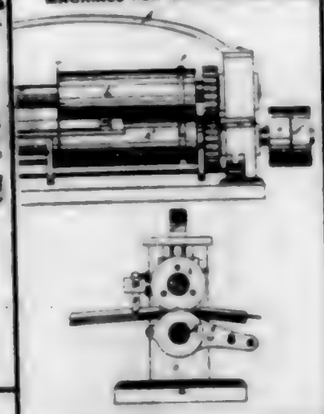
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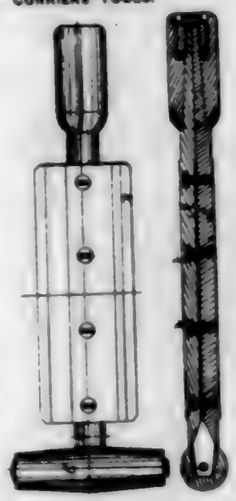
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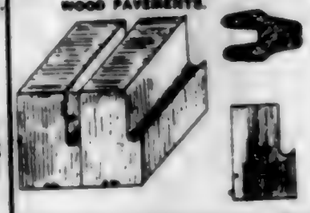
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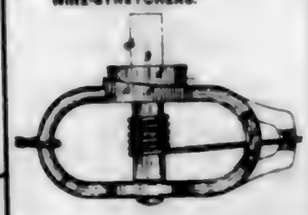
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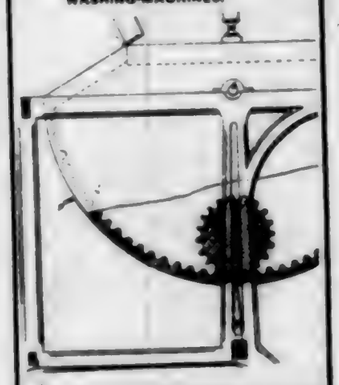
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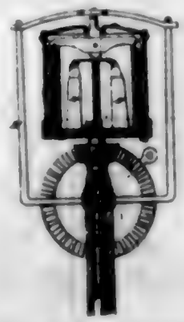
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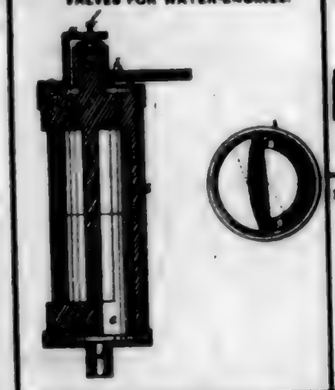
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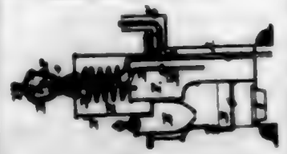


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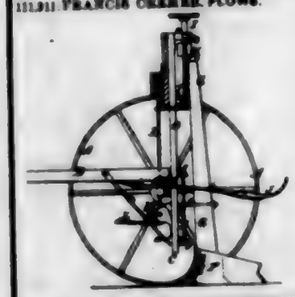




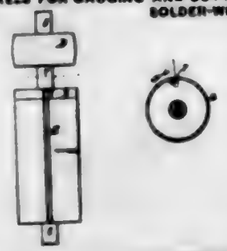
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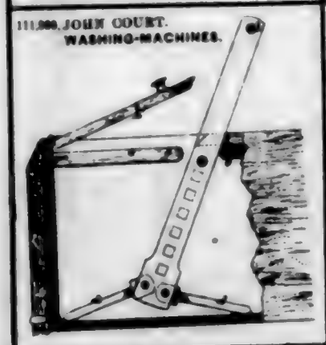


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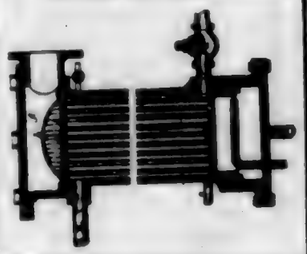
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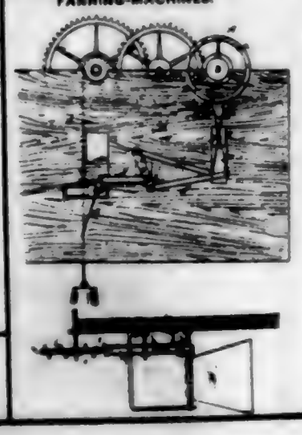
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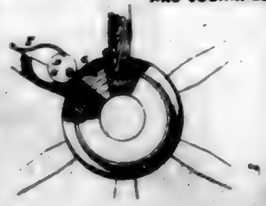
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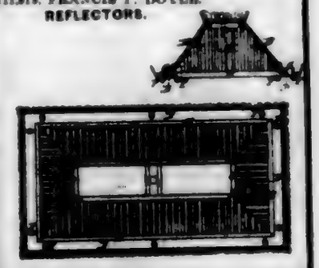
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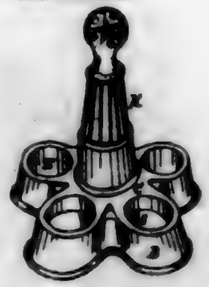
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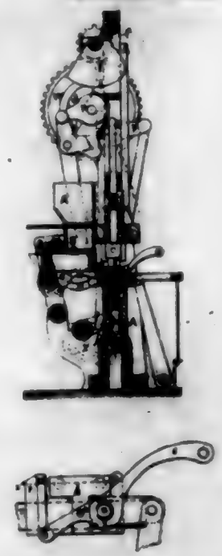
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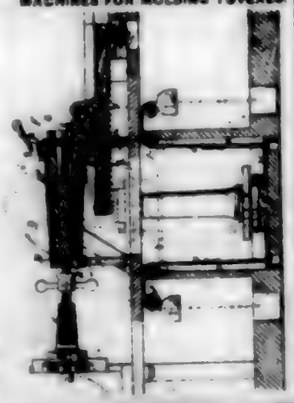
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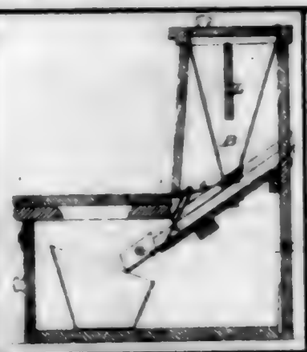


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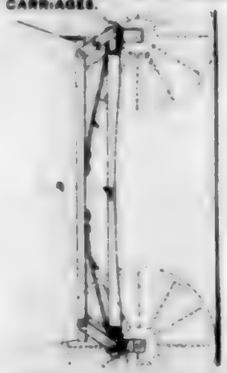
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PRESSES FOR HAY, COTTON, &c.



111,927 LEVI GRISWOLD. MILLING-TOOLS.



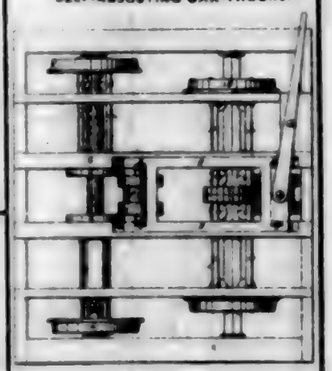
111,928 CHAUNCEY HOLMES GUARD
CARRIAGES.



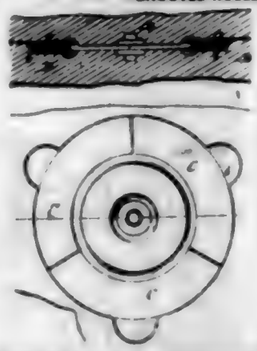
111,932 ELISHA V. HEWITT.
COW-MILKERS.



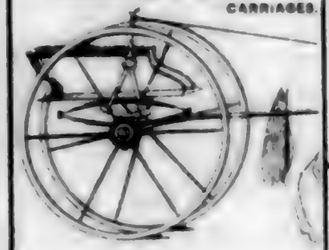
111,933 EDWARD HIPKINS.
SELF-ADJUSTING CAR-TRUCKS.



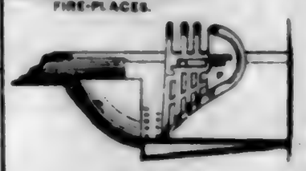
111,934 JOHN HERALD.
PATTERNS FOR CASTING
GROOVED ROLLERS.



111,924 GEORGE W. GODWYN
HORSE-HOLDER ATTACHMENTS TO
CARRIAGES.



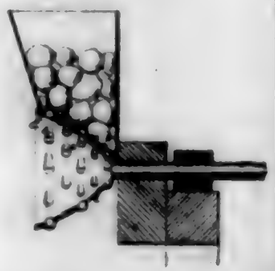
111,929 JOSEPH HACKETT.
FIRE-PLACES.



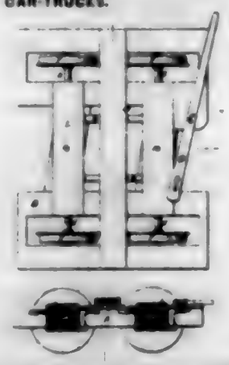
111,931 WM. GOWEN.
CULTIVATOR-PLOWS.



111,930 GEORGE R. MANLIN.
MAKING CIDER.

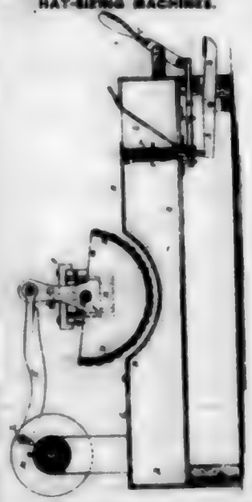


111,934 EDWARD HIPKINS.
CAR-TRUCKS.



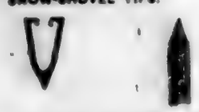
111,926 EDMUND GRIFFITH.
EARTH-CLOSETS.

111,935 JAMES H. HOPKINS.
HAT-SIZING MACHINES.





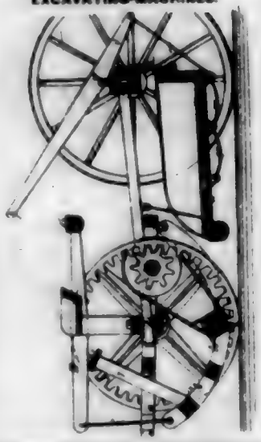
111,939 KERR HUBBARD.
SNOW-SHOVEL TIPS.



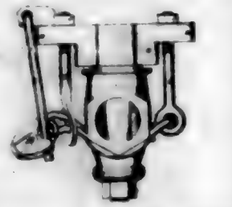
111,936 P. D. HORTON. FLY-TRAPS
EZRA T. BRYAN.



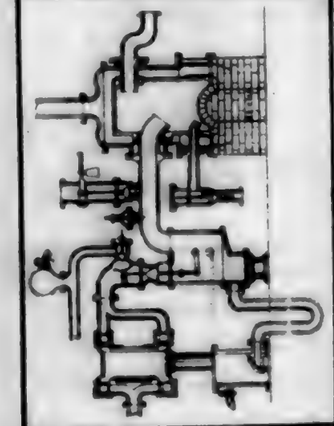
111,940 JOSEPH M. HUGHES.
ANDREW J. MAPES.
EXCAVATING-MACHINES.



111,944 OWEN W. JONES.
DRAFT-DEVICES FOR THREE HORSES.



111,937 JOHN HOUPT. STEAM-ENGINES.

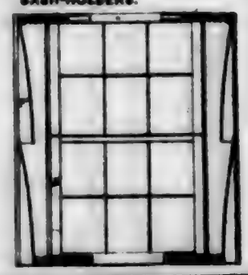


111,941 CHARLES F. HUNTER.
MACHINES FOR STRAIGHTENING BOLTS.

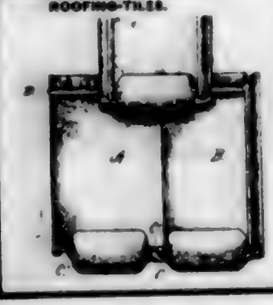


111,945 MICHAEL J. A. KRANZ.
COMPOUNDS FOR PLATING
AND POLISHING.

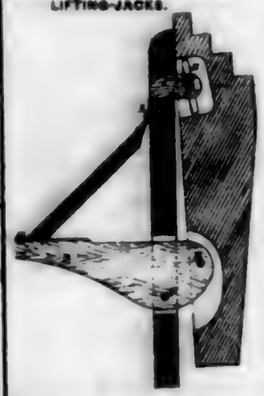
111,943 WM. HASKELL KING.
JARED ROWLAND
SASH-HOLDERS.



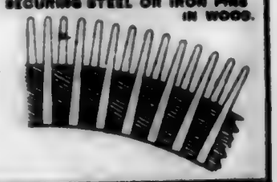
111,938 CHARLES HOWARD.
ROOFING-TILES.



111,942 BENJAMIN F. JOHNSON.
LIFTING-JACKS.

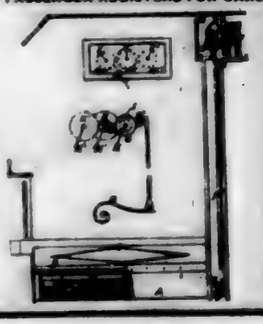


111,947 RICHARD KITSON.
SECURING STEEL OR IRON PINS
IN WOOD.

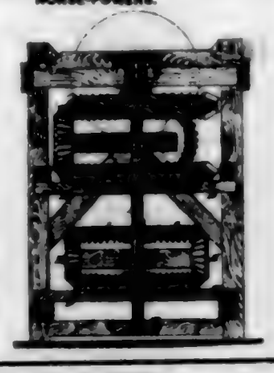


111,943 J. EVANS JONES.
LOCK-STOP COCKS.

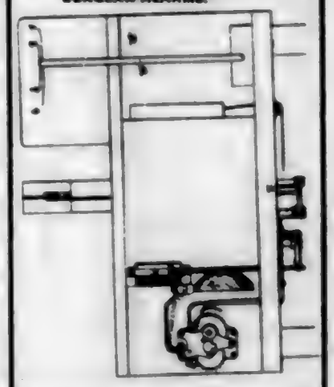
111,946 JOHN KURZ.
PASSENGER-REGISTERS FOR CARS.



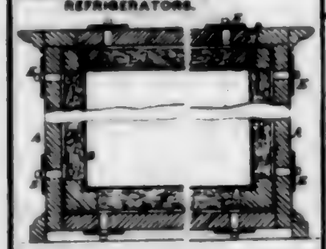
111,949. DANIEL L. LAMON.
HORSE-POWERS.



111,950. JOHN McDOWELL.
BURGLAR-ALARMS.



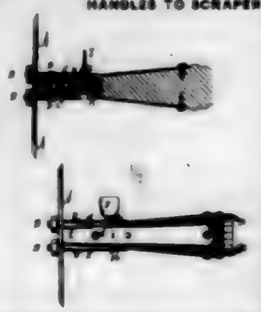
111,950. JNO. H. LESTER.
REFRIGERATORS.



111,951. DENNIS G. LITTLEFIELD.
BASE-BURNING STOVES.



111,952. EDWARD C. LOCKE.
METHODS OF ATTACHING HANDLES TO SCRAPERS.



111,953. JOHN LOUGH.
SAW-TOOTH SWAGES.

111,954. JOSIAH LYMAN.
BEAM-COMPASSES.



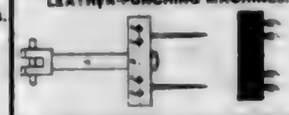
111,955. JOSEPH MARSHALL.
BATHING-BRUSHES.



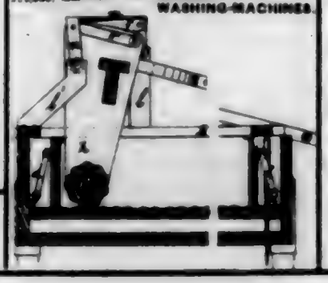
111,956. JOHN W. MASURY. MILLSTONES.



111,957. JOHN MATHER.
LEATHER-PUNCHING MACHINES.



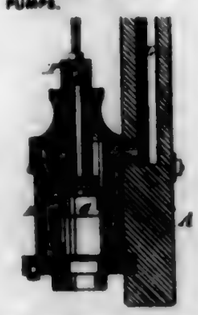
111,958. ERWIN W. MAXSON.
WASHING-MACHINES.



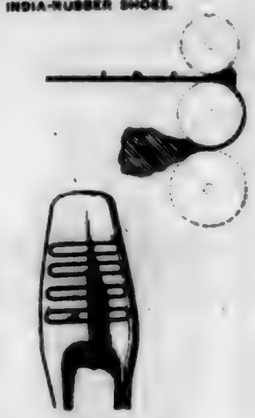
111,960. WILLIAM C. McGILL.
LAMP-BURNERS.



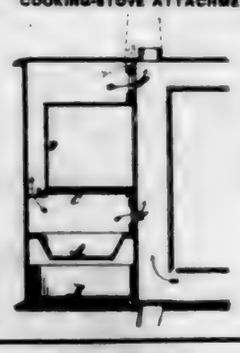
111,961. CHARLES L. MERRILL.
PUMPS.

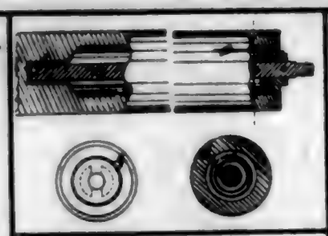


111,963. JOHN EVANS.
C. MEYER.
INDIA-RUBBER SHOES.



111,963. NATHAN S. MUNSON.
COOKING-STOVE ATTACHMENTS.

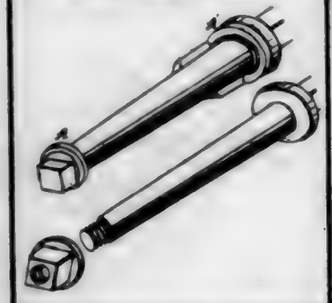




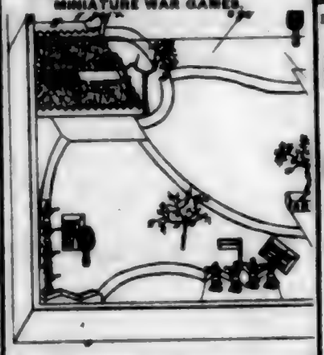
111,968. JAMES EZRA POLLARD.
FELTED FABRICS.



111,969. BENJAMIN MORTON.
ANTI-RATTLING WASHERS.



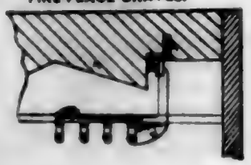
111,969. CASIMIRO PORTILLO.
MINIATURE WAR GAMES.



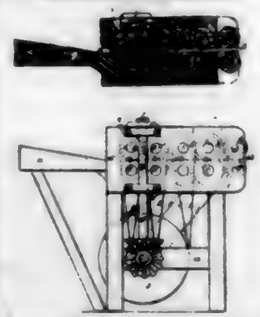
111,970. WM. PRATT.
LARD AND BUTTER BOXES.



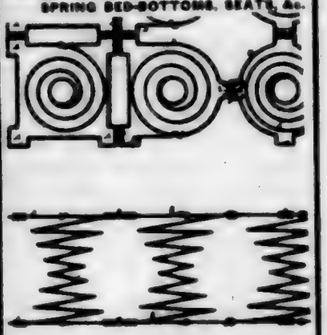
111,971. WILLIAM PULSFORT.
FIRE-PLACE GRATES.



111,972. ISRAEL L. G. RICE.
MACHINES FOR BRONZING.



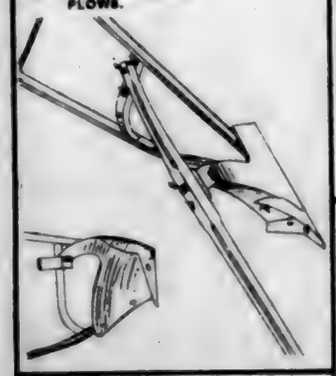
111,974. CHARLES RICH.
SPRING BED-BOTTOMS, SEATS, &c.



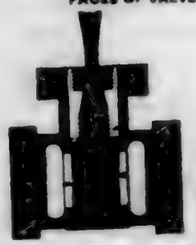
111,975. ALEXANDER RICKARD. PLOWS.



111,965. JAMES OLIVER.
PLOWS.

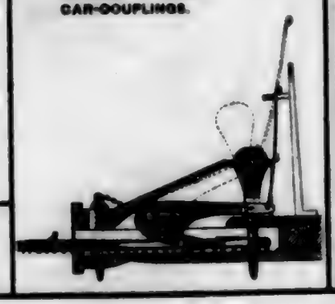


111,966. SAMUEL J. PRET.
DANIEL SAWYER.
DEVICES FOR GRINDING THE FLAT FACES OF VALVE-SEATS.

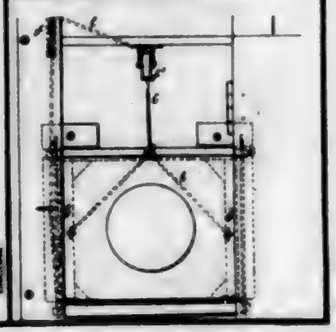


111,967. P. W. PHILLIPS.
CURTAIN-FIXTURES.

111,973. SAMUEL H. REED.
GEORGE A. REED.
CAR-COUPLINGS.



111,976. FRANK RIEDEL. PRIVIES.



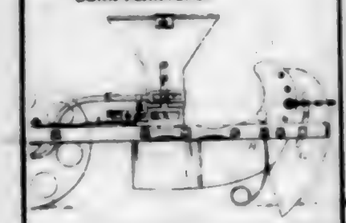
111,977 DANIEL A. RUSSELL.
IMPLEMENTS FOR SLITTING AND LOOPING RAGS FOR CARPETS.



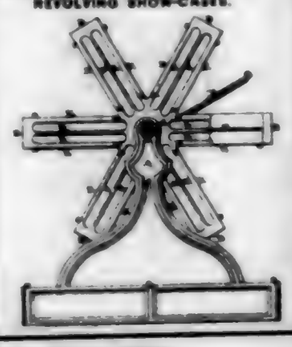
111,978 ADOLPHE SALMON. SHIRTS



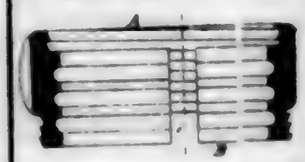
111,979 JOSEPH SCHOTT
CORN-PLANTERS.



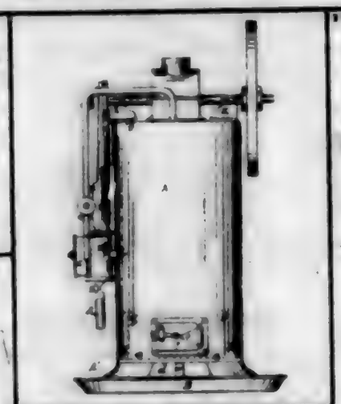
111,980 WILLIAM J. SCOTT.
REVOLVING SHOW-CASES.



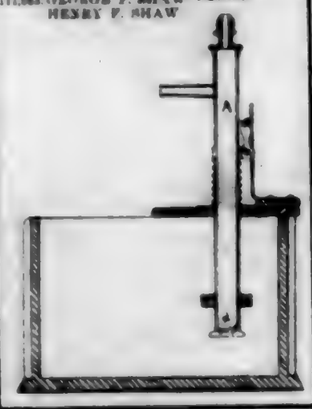
111,981 GEORGE SEWELL.
HOSE-RINGS



111,982 JOEL SHARP
JOSEPH W. THOMPSON
STEAM-ENGINES.

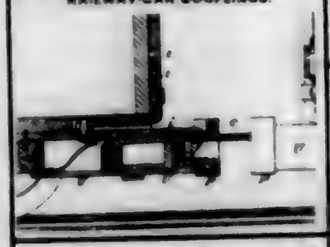


111,983 GEORGE F. SHAW. PUMPS.
HENRY F. SHAW



111,984 BENJ. F. SMITH.
NON-CONDUCTING MATERIALS FOR COVERING STEAM-BOILERS, &c.

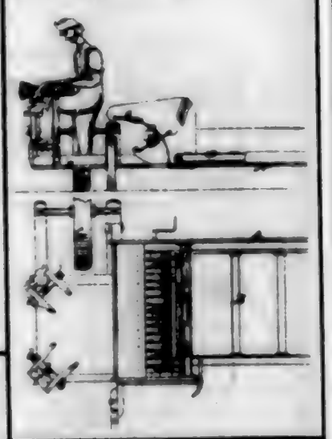
111,985 MARCUS D. SMITH.
RAILWAY-CAR COUPLINGS.



111,986 HOMER A. SMYTHE.
HEELS OF BOOTS AND SHOES.



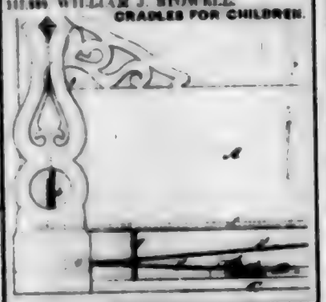
111,987 GEO. H. SPAULDING.
HARVESTERS.



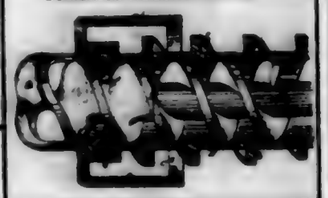
111,988 JOSEPH M. STONE.
CONSTRUCTION OF CYLINDERS FOR CARDING AND OTHER MACHINES.



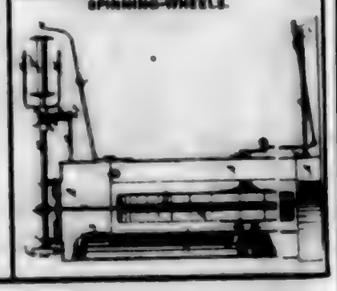
111,989 WILLIAM J. STOWELL.
CRADLES FOR CHILDREN.



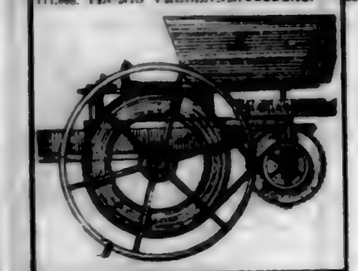
111,990 OWEN W. TOWNSEND.
COMBINED AUGERS AND REAMERS.



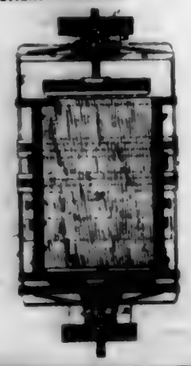
111,991 FRANK VOEGTLI.
SPINNING-WHEELS.



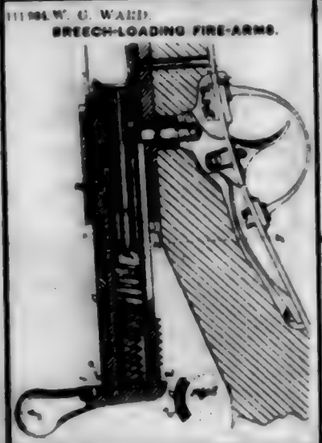
111,992 TEUNIS VREELAND. SEEDERS.



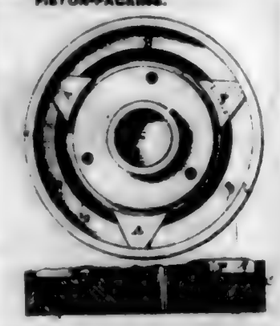
111,993 EDWIN R. WALLACE
BALING-PRESSES.



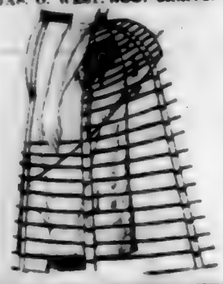
111,994 W. G. WARD.
BREECH-LOADING FIRE-ARMS.



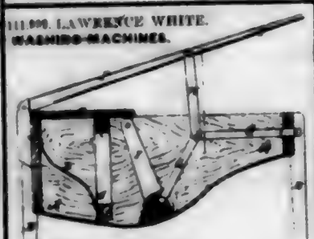
111,995 GEORGE WELLS.
PISTON-PACKING.



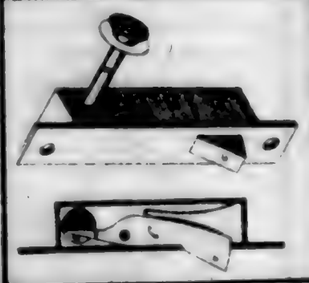
111,996 JAS. O. WEST. HOOP-SKIRTS.



111,997 LAWRENCE WHITE.
WASHING-MACHINES.



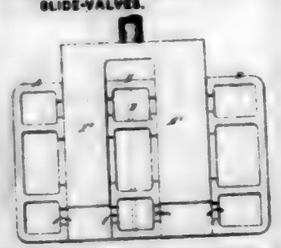
111,998 WM. M. WARREN. SASH-HOLDERS.



111,999 FRANK WARNBOURNE.
NUT-BLANKS.



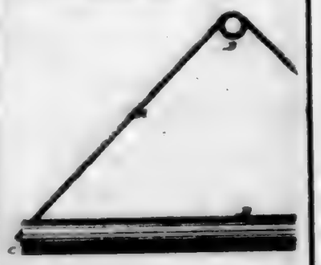
112,000 JOHN C. WOODHEAD.
SLIDE-VALVES.



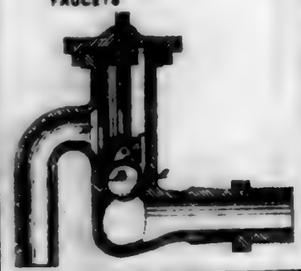
112,001 JOHN P. ALLEN.
REFINING IRON, REDUCING ORES, &c.



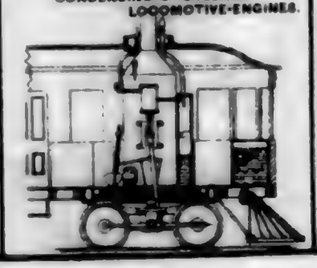
112,004 HENRY ALSOP
TOWEL-HOLDERS.



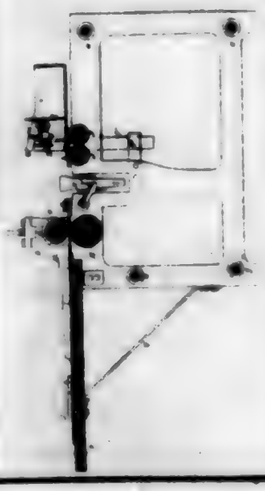
112,000 WILLIAM CROSBY WISE.
JOHN ASHMAN.
FAUCETS



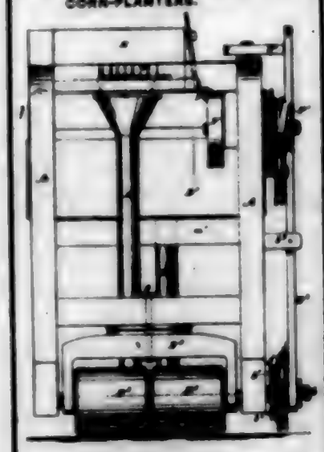
112,001 JOSEPH P. WOODBURY.
CONDENSING DOUBLE-END LOCOMOTIVE-ENGINES.



112,005 PETER EDWARD ARMSTRONG.
PAPER-BAG MACHINES.



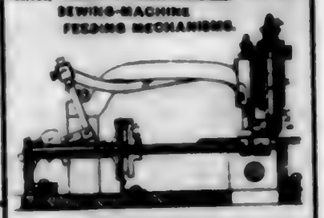
112,006. JAMES M. AITCHISON.
CORN-PLANTERS.



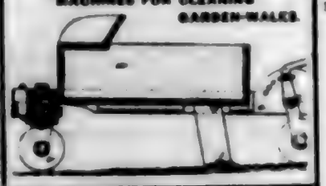
112,011. WILSON BOMANNAN.
SEAL-LOCKS.



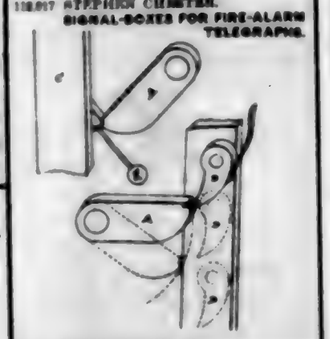
112,016. MARY F. CARPENTER.
SEWING-MACHINE
FEEDING MECHANISMS.



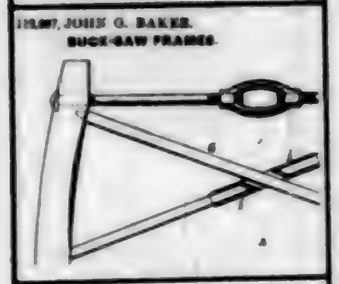
112,012. PETER BOICE.
MACHINES FOR CLEANING
GARDEN-WALKS.



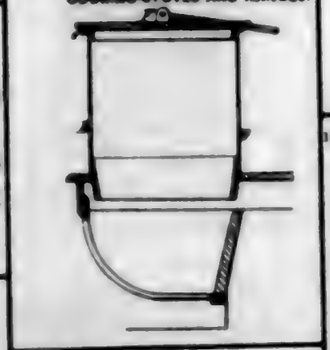
112,017. STEPHEN CHESTER.
SIGNAL-BOXES FOR FIRE-ALARM
TELEGRAPHS.



112,007. JOHN G. BAKER.
BUCK-SAW FRAMES.



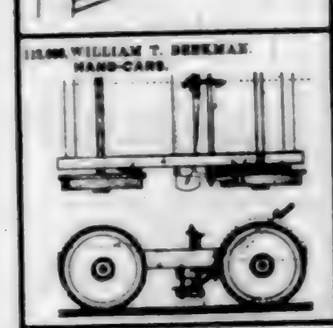
112,013. LEWIS BRIDGE.
DETACHABLE MAGAZINES FOR
COOKING-STOVES AND RANGES.



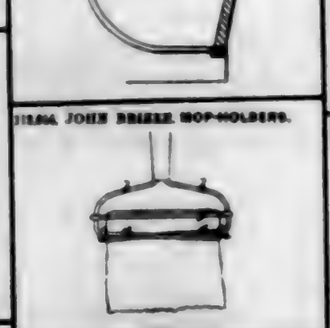
112,018. NATHAN T. COBVIX.
PUMPS.



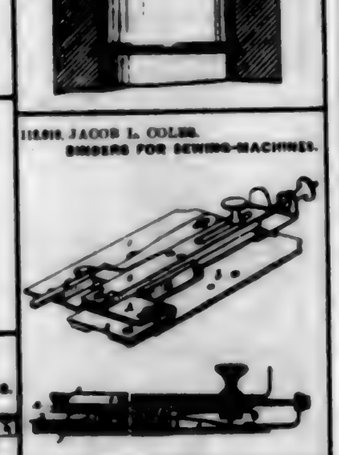
112,008. WILLIAM T. BERKMAN.
HAND-CARS.



112,014. JOHN BREESE. HOP-HOLDERS.



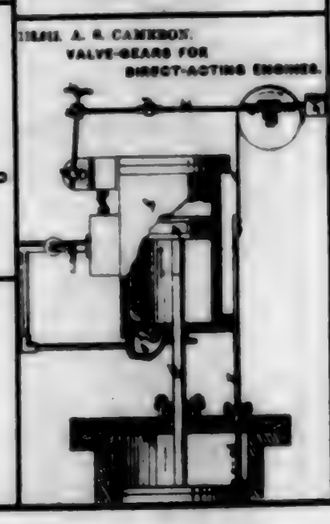
112,019. JACOB L. COLES.
BINDERS FOR SEWING-MACHINES.



112,009. CHARLES EDWARD BELL.
WINDOW-WASHERS.



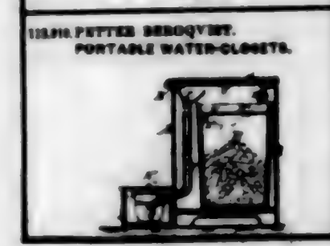
112,015. A. S. CAMERON.
VALVE-GEARS FOR
DIRECT-ACTING ENGINES.



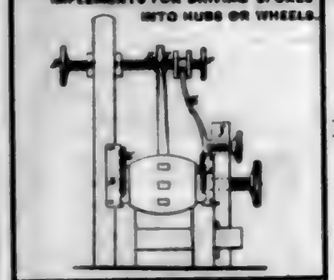
112,020. HENRY G. DE LAND.
LUBRICATORS FOR STEAM-CHESTS.



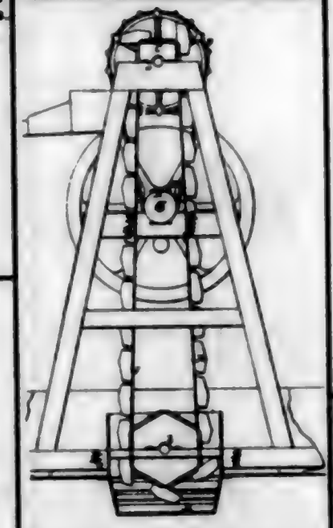
112,010. PETTER BERGQVIST.
PORTABLE WATER-CLOSETS.



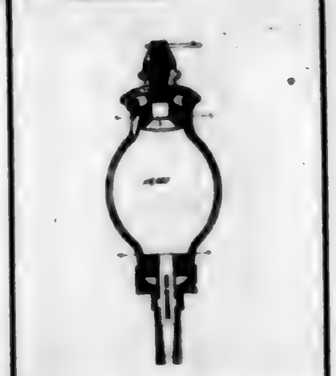
112,021. WESLEY EDWARDS.
IMPLEMENTS FOR DRIVING SPOKES
INTO HUBS OR WHEELS.



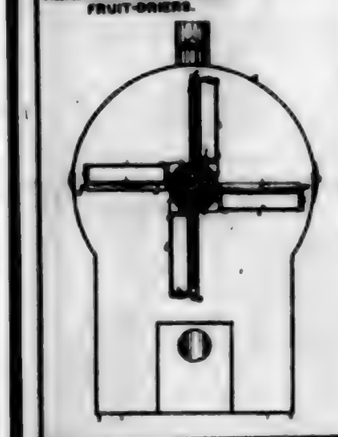
112,026. CHARLES FRIEDRICH FISHER.
FLOATING WATER-ELEVATING WHEELS.



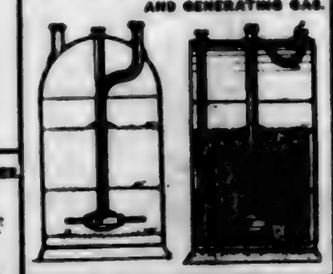
112,031. STEPHEN F. GATES.
LUBRICATORS.



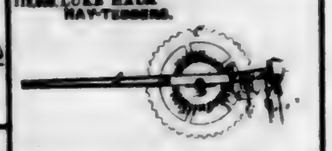
112,022. BENJAMIN F. ELLS.
FRUIT-DRIERS.



112,027. FISHER AMOS FISHER.
APPARATUS FOR CARBURETING
AND GENERATING GAS.



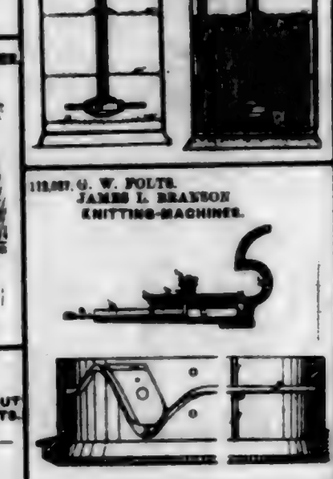
112,032. LUKE HALE.
HAY-TEDDERS.



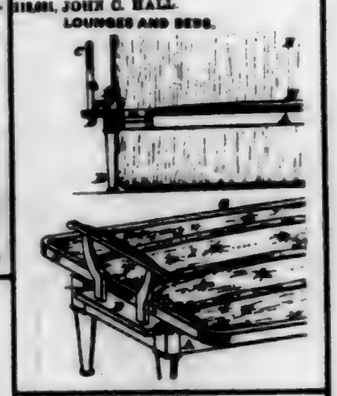
112,023. J. J. ALEXANDER BROSSINGER.
MOSQUITO-NETS.



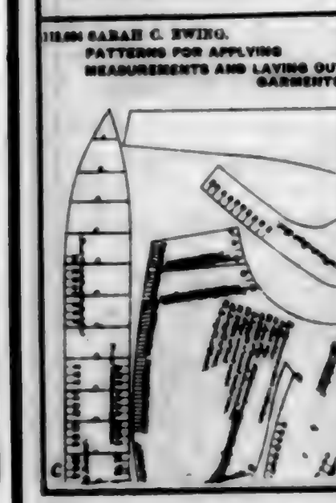
112,028. G. W. FOLTS.
JAMES L. BRAYSON
KNITTING-MACHINES.



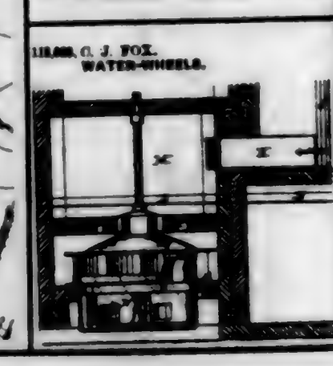
112,033. JOHN C. HALL.
LOUNGES AND BEDS.



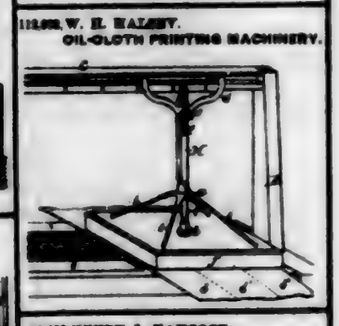
112,024. SARAH C. EWING.
PATTERNS FOR APPLYING
MEASUREMENTS AND LAYING OUT
GARMENTS.



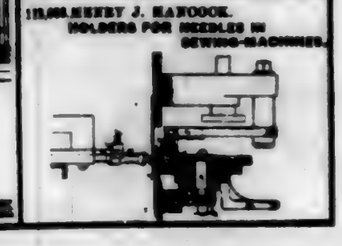
112,029. C. J. FOX.
WATER-WHEELS.



112,034. W. H. HALSEY.
OIL-CLOTH PRINTING MACHINERY.



112,035. HENRY J. HAYDOCK.
HOLDERS FOR NEEDLES IN
SEWING-MACHINES.

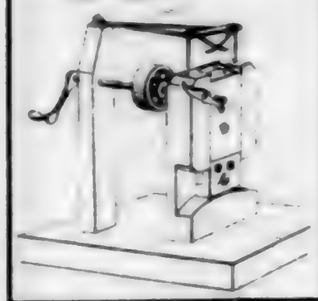


112,034. NAPOLEON B. HEAFER.
ROAD-BEDS.

112,035. WILLIAM H. MEDORA
FAUCETS.



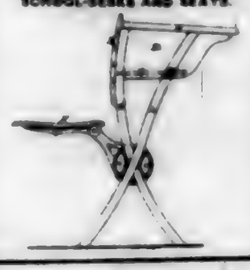
112,036. BENJ. HERSHEY.
TRIP-HAMMERS.



112,037. RICHARD DUDLEY.
BENJAMIN HERSHEY.
SPRINGS FOR VEHICLES.



112,038. CHARLES J. HIGGINS.
SCHOOL-DESKS AND SEATS.



112,039. EPHRAIM C. HODGE
PLOW-COLTERS.



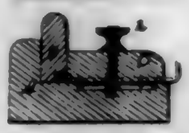
112,040. F. M. HOLMES.
FOLDING-CHAIRS.



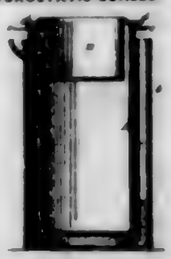
112,041. F. M. HOLMES.
FOLDING-CHAIRS.



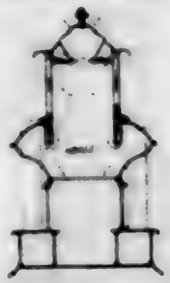
112,042. DENNET HUTCHINS.
WINDOW-SASH LOCKS.



112,043. ORVIS D. HUDSON.
HYDROSTATIC SCALES.



112,044. GEORGE G. HUNT.
BASE-BURNING STOVES.



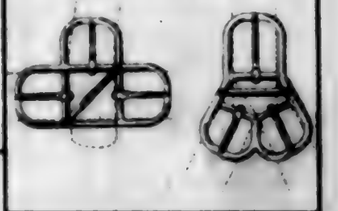
112,045. CARLETON B. HUTCHINS
MANUFACTURE OF PAPER AND LEATHER-BOARD.

112,046. ELIAS S. HUTCHINSON.
MANUFACTURE OF FLOUR.

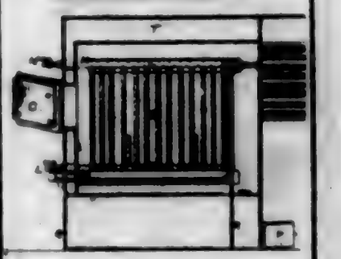
112,047. JOHN JOHNSON. VALVES.



112,048. LLEWELLYN E. JONES.
THEODORE M. BARBER.
HALTER-BUCKLES AND RINGS.



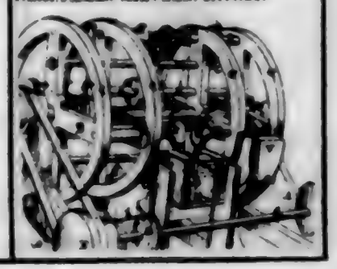
112,049. JAMES L. JUDGE.
STEAM-GENERATORS.



112,050. JAMES FRANKLIN KELLOGG.
TUCK-MARKERS FOR SEWING-MACHINES.



112,051. JAMES KIRVLAN. LATHES.



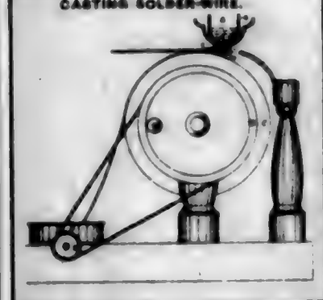
112,052. SIDNEY D. KING
DUMPING-CARS.



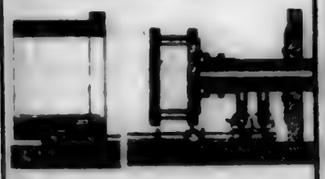
112,053. K. KRENKEL.
FOLDING-BEDSTEADS.



112,054. EDUARD M. LANG.
CASTING SOLDER-WIRE.



112,055. TOLBERT LANSTON
DUMB-WAITERS.



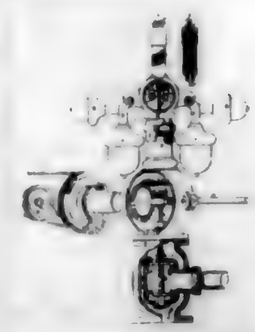
112,056. J. S. LEWIS. BOOTS.



112,057. WILLIAM H. LOVEJOY.
MODES OF LASTING SHOES



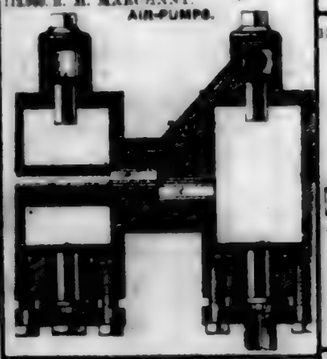
112,058. JOHN D. LYNDE.
ENGINE-GOVERNORS.



112,059. DAVID D. MALLORY
QUARTZ-MILLS.



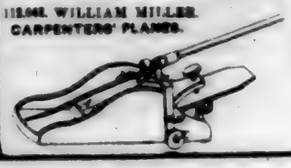
112,060. E. M. MARCHANT.
AIR-PUMPS.



112,061. JOHN H. MARTIN.
HARNESS-SADDLE TREES.



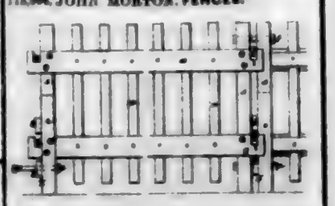
112,062. WILLIAM MILLER.
CARPENTERS' PLANES.



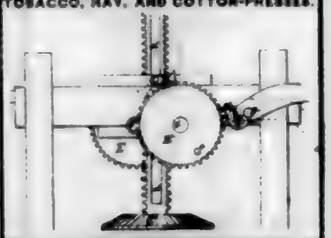
112,063. JOHN C. MILLS. AUGER-BITS.



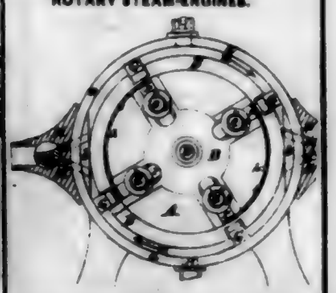
112,064. JOHN MORTON. FENCES.



112,065. LEWIS H. MOSS.
TOBACCO, HAY, AND COTTON-PRESSES.



112,066. JOSEPH C. MORSHOLDER.
ROTARY STEAM-ENGINES.



111,067. ROBERT NEUBURGER. CURTAINS.
FRIEDRICH BRAUER.



112,068. CHAS. M. PIKE.
MANUFACTURE OF SILICON STEEL.

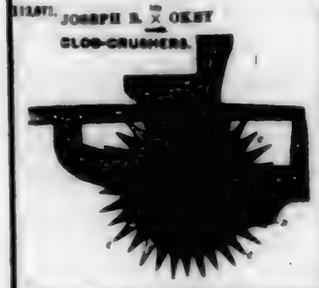
112,069. WM. STEVENS.
APPARATUS FOR STEAMING OIL-WELLS.



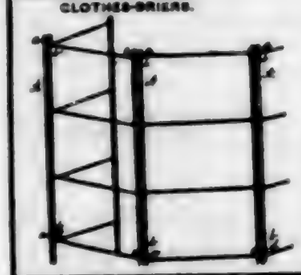
112,070. WM. HARRISON NEWTON.
BOTTLE-CORKS.



112,071. JOSEPH B. [illegible] OKEY
CLOD-CRUSHERS.



112,072. ENOS L. PARKER.
CLOTHES-DRIERS.



112,073. MARTIN W. POND.
HARNESS-PADS.



112,074. JAMES H. PRATT.
CLOTHES-WRINGING HOOKS.



112,075. WM. PRATT. PASTEBOARD-BOXES.

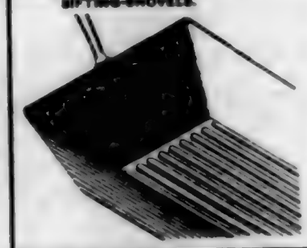


112,076. JOHNSON M. QUIMBY.
A. S. DYER.
DOOR-LOCKS.

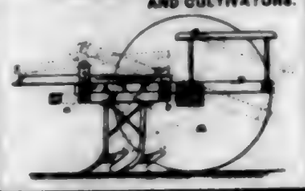


112,077. HENRY G. REED.
MODES OF MANUFACTURING GOLD, SILVER, OR PLATED-WARE.

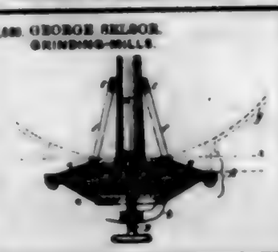
112,078. THOMAS F. ROONEY.
SIFTING-SHOVELS.



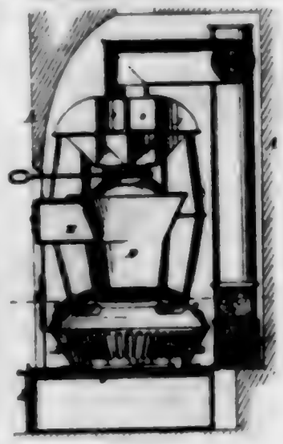
112,079. ORESTES SAMPSON.
COMBINED GANG-PLOWS AND CULTIVATORS.



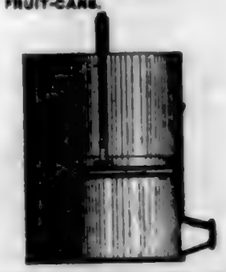
112,080. GEORGE SELSOR.
GRINDING-MILLS.



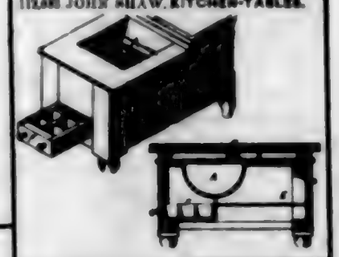
112,081. SAMUEL B. SEXTON
HOT-AIR FURNACES.



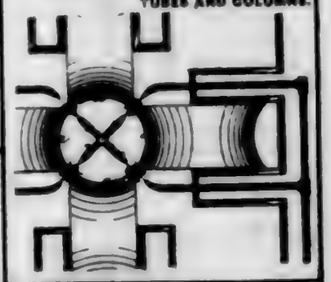
112,082. JOSEPH S. SHANEMAN.
JOSEPH S. HOON.
FRUIT-CANS.



112,083. JOHN SHAW. KITCHEN-TABLES.



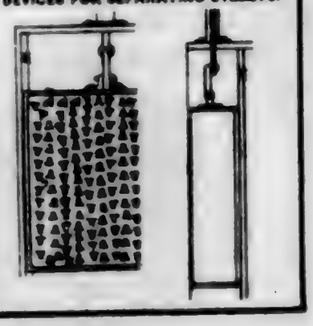
112,084. FREDERICK H. SMITH.
MANUFACTURE OF METAL TUBES AND COLUMNS.



112,085. HOWARD SMITH.
JAMES POTTER.
SPRING BED-BOTTOMS.



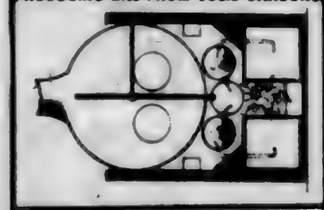
112,086. STEPHEN H. SMITH.
SOLOMON W. YOUNG.
DEVICES FOR SEPARATING EYELETS.



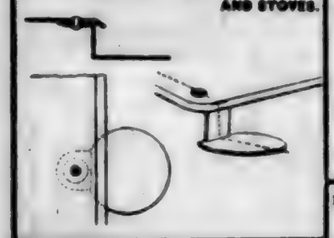
112,087. JAY STEENBERG.
GRAIN-CLEANING MACHINES.



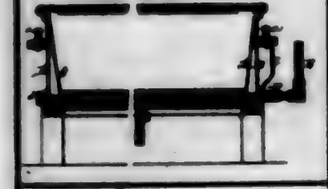
112,088. LEVI STEVENS.
PRODUCING GAS FROM SOLID CARBONS.



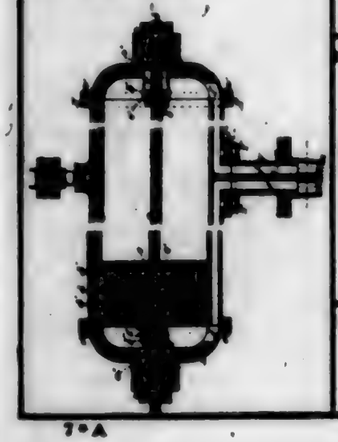
112,089. DAVID STUART.
ATTACHMENTS FOR RANGES AND STOVES.



112,090. EZRA H. STUART.
WALTER A. STUART.
CHEESE-VATS.



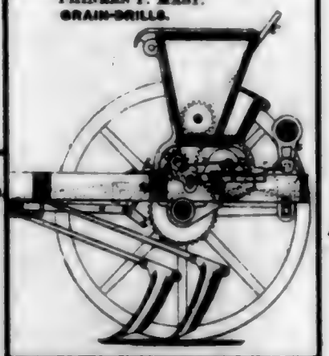
112,091. WILLIAM G. STUART.
LIQUID METERS.



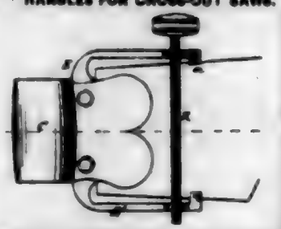
112,092. LEVI R. TARBOX.
MEAT-TENDERERS.



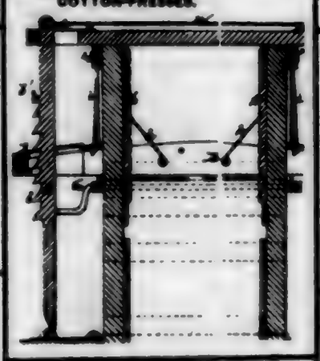
112,093. JOHN H. THOMAS.
PHINEAS P. MANT.
GRAIN-DRILLS.



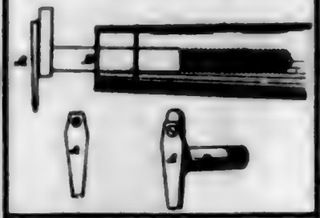
112,094. E. W. TILTON.
HANDLES FOR CROSS-CUT SAWS.



112,095. GABRIEL UTLEY.
COTTON-PRESSES.



112,096. AMOS VREELAND.
WHIFFLETREE-HOOKS.



112,097. JOHN WALKER.
PROPORTIONAL SCALES FOR THE CONSTRUCTION OF TOOTHED GEAR.

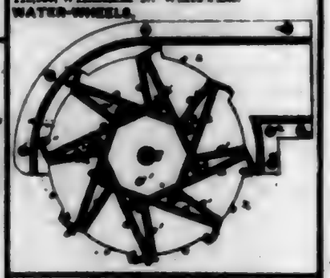
112,098. JOSEPH WARD. WHIFFLETREES.



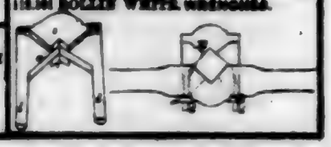
112,099. JAMES WEATHERS.
WHEELS FOR VEHICLES.



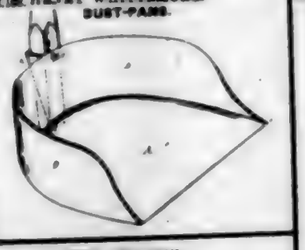
112,100. WILLIAM N. WHIPPLE.
WATER-WHEELS.



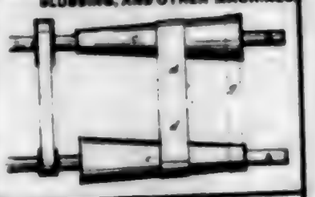
112,101. ROLLIN WHITE. WRENCHES.



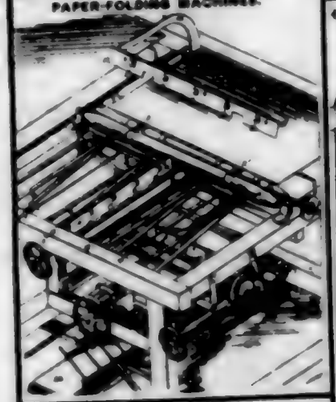
112,102 HENRY WHITTEMORE.
BUST-FANS.



112,103 ALFRED WILCOCK.
RICHARD ROBINSON.
FREDERICK WILCOCK.
DRIVING MECHANISMS FOR ROVING, SLUBBING, AND OTHER MACHINES.



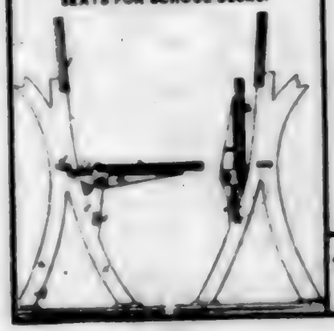
4,266 CYRUS CHAMBERS, Jr.
PAPER-FOLDING MACHINES.



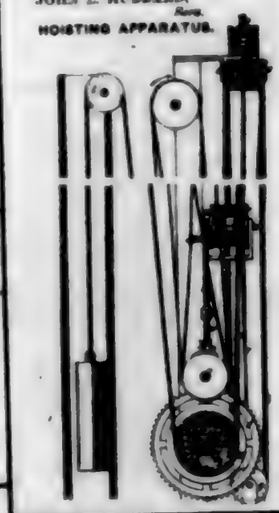
4,267 JOHN H. DUCK.
ELIAS K. WHITCOMB.
PIPES AND FIXTURES FOR WELLS.

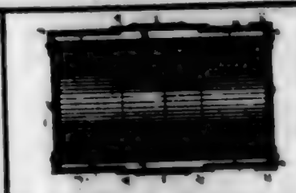


4,268 GEORGE W. HILDRETH.
SEATS FOR SCHOOL-DESKS.

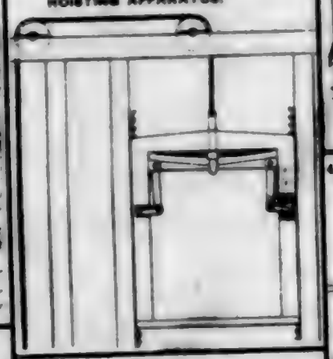


4,269 CHAS. E. OTIS,
JOHN L. HUBBARD,
HOISTING APPARATUS.

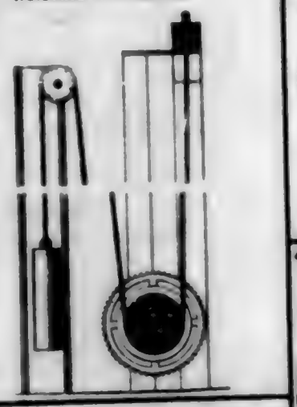




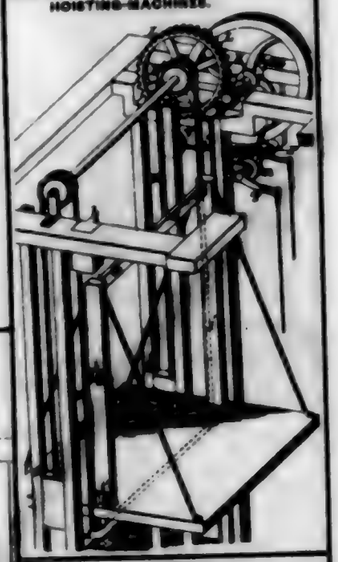
4,270 CHAS. E. OTIS,
JOHN L. HUBBARD,
HOISTING APPARATUS.



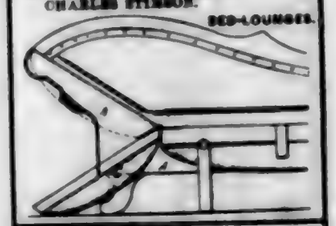
4,271 CHAS. E. OTIS,
JOHN L. HUBBARD,
HOISTING APPARATUS.



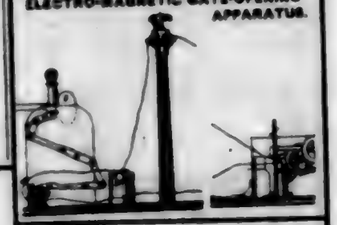
4,272 HENRY J. BREDT.
HOISTING-MACHINES.



4,273 JAMES SEYMOUR, *Ex Adm'r of* Wm. H. Colley, *deceased*.
WILLIAM H. COOLIDGE.
CHARLES STIMSON.
BED-LOUNGES.



4,274 WILLIAM ROBINSON.
ELECTRO-MAGNETIC GATE-OPENING APPARATUS.



4,275 RUSSELL & MOORE MANUFG. CO.
SAW-FRAMES.



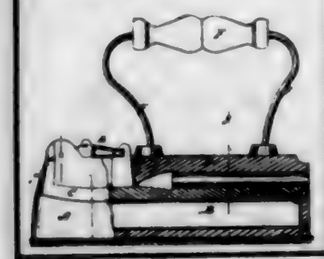
4,276 HENRY G. PORTER.
BARRELS.

ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
FEB. 28, 1871.

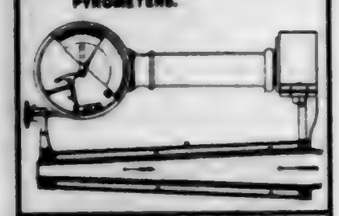
112,101 ARTHUR M. ALLEN
TOY PROPELLERS



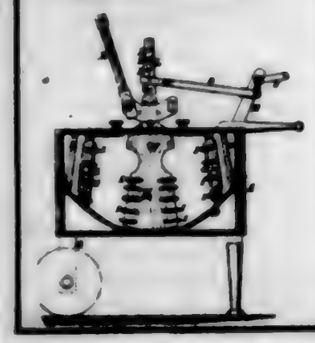
112,102 CHARLES ANDERSON
SAD AND CRIMPING-IRONS.



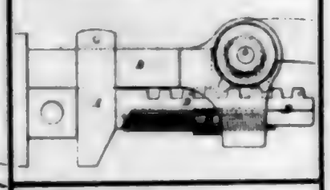
112,103 WILLIAM C. BAIN.
JOHN J. KENDALL.
PYROMETERS.



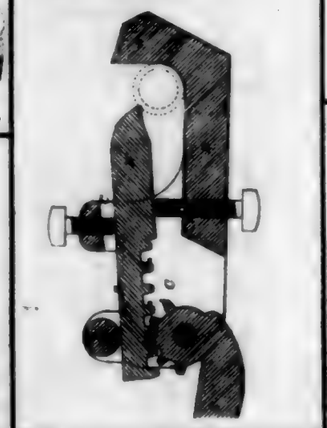
112,107 WILLIAM HENRY BAILEY.
WASHING-MACHINES.



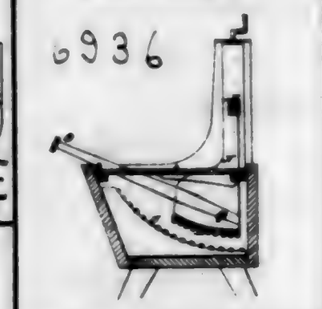
112,108 ELIAS BEACH.
WRENCHES.



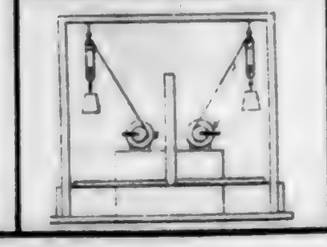
112,109 ELIAS BEACH.
WRENCHES.



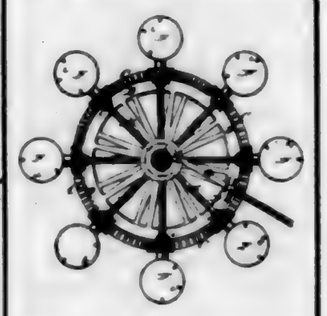
112,110 THEOPHILUS BEEBE.
WASHING-MACHINES.



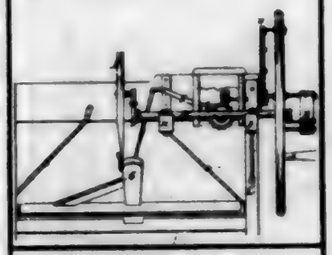
112,111 ALEXANDER DALRYMPLE BELL.
APPARATUS FOR CARBURETING AIR.



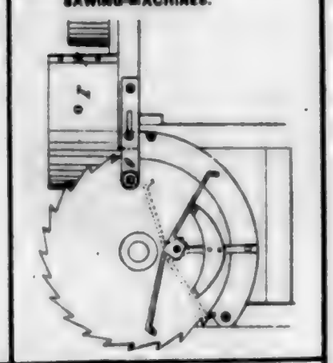
112,112 JOHN G. BLACK.
CHEESE-TURNING APPARATUS.



112,113 BENGT C. BLOMSTEN.
STRAW-CUTTERS.



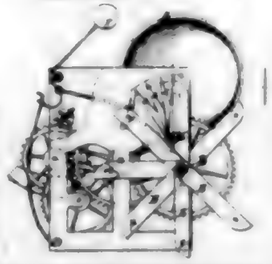
112,114 W. H. BOLTON.
SAWING-MACHINES.



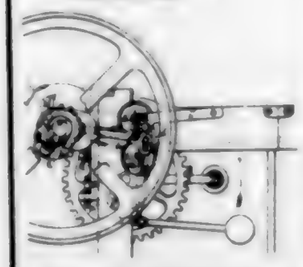
112,115 THEODORE V. BOYDEN.
DRILLS.



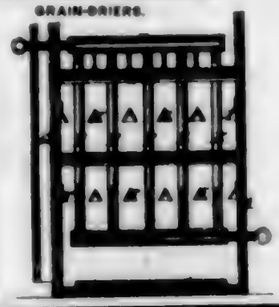
112,116 DAVID L. BRANNING.
ODOMETERS.



112,117 HENRY A. BUCK.
FEED-CUTTERS.



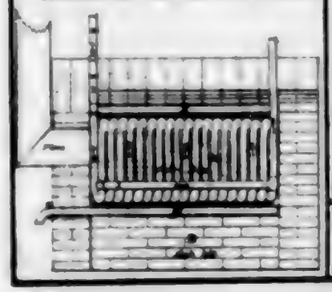
112,118 JOHN BUCKINGHAM.
GRAIN-DRIERS.



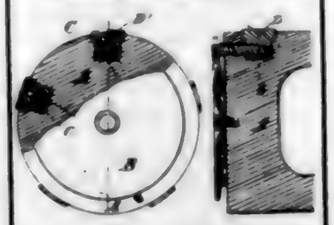
112,119 JOHN BUCKINGHAM.
SELF-CENTERING CHUCKS FOR LATHES.



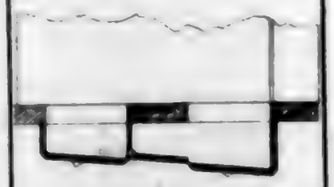
112,120 DAVID H. BURRELL.
APPARATUS FOR HEATING LIQUIDS.



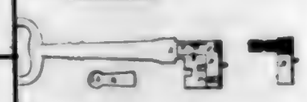
112,121 JOHN G. BUTLER.
PROJECTILES FOR ORDNANCE.



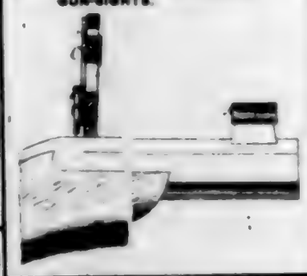
112,122 BENJAMIN F. CAMPBELL.
HOT-AIR FURNACES.



112,123 CHARLES C. CARPENTER.
DOOR-KEYS.



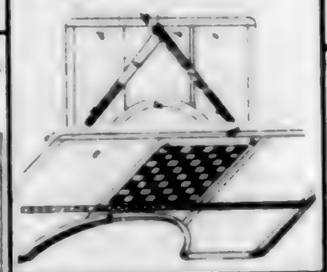
112,124 FREDERIC A. CHURCHILL.
GUN-SIGHTS.



112,125 THEODORE COLTON.
SHUTTLES FOR SEWING-MACHINES.

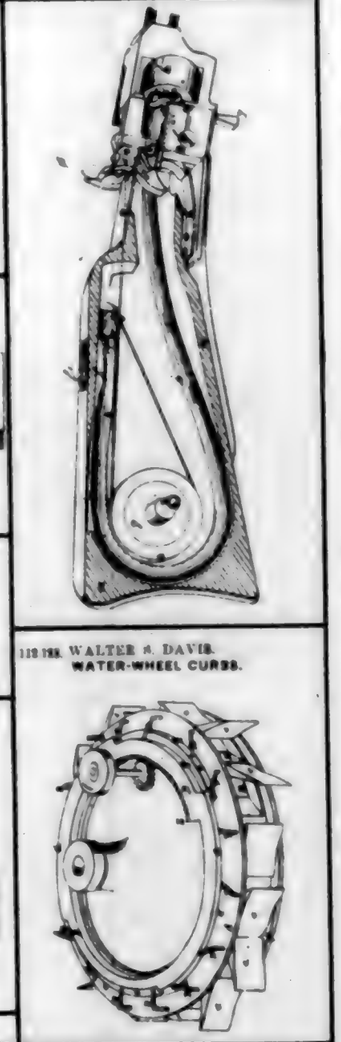


112,126 DANIEL P. COOK.
LAP-BOARDS.



112,127 JOSHUA DAVIS.
MAGAZINE FIRE-ARMS.

112,128 WALTER A. DAVIS.
WATER-WHEEL CURBS.



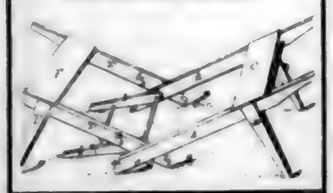
112,129 SAMUEL H. DAVIS.
DAVID W. DAVIS.
PRESERVING FISH BY FREEZING.



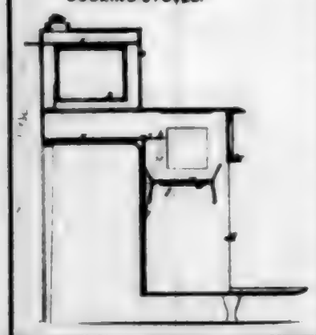
112,130 FRANK PHILLIP DEVENPORT.
MEADOW-CULTIVATORS.



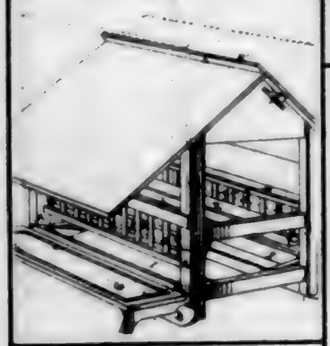
112,131 JOEL R. DRAPER.
CORN-HUSKING BENCHES.



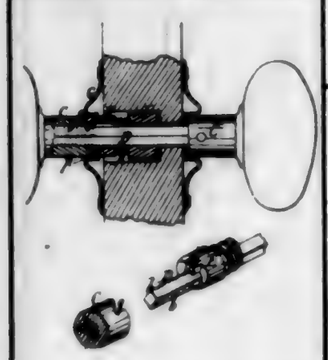
112,132 LEMUEL DUNHAM.
COOKING-STOVES.



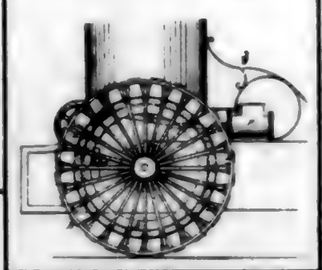
112,133 EDWIN FARQUHAR.
PORTABLE FEED-RACKS.



112,134 WM. A. FENN.
ATTACHING KNOBS TO THEIR SPINDLES.



112,135 GEORGE W. FITTS.
TRACTION-ENGINES.



112,136 EDGAR M. FOWLER.
PRESERVING BLOCKS OF WOOD.



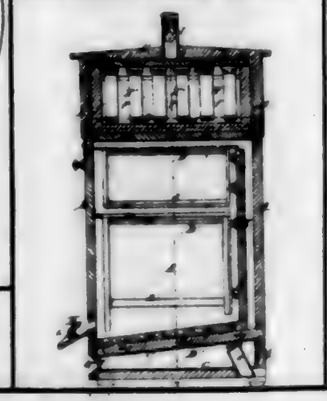
112,137 JOSEPH B. FRICKE.
LIGHTNING-RODS.



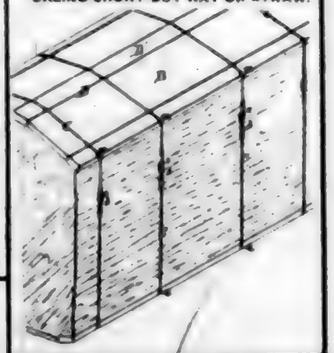
112,138 RICHARD J. GATLING.
REVOLVING BATTERY GUNS.



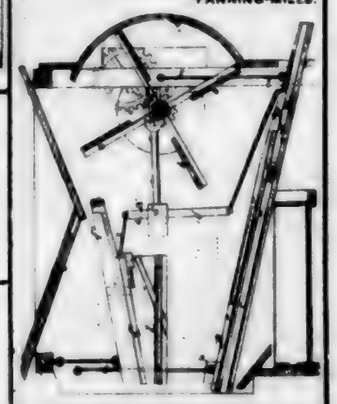
112,139 JOSEPH H. GISLER. BEE-HIVES.



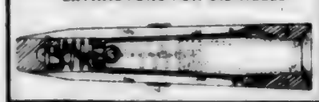
112,140 WILLIAM HADWIN
BALING SHORT-CUT HAY OR STRAW.



112,141 SAMUEL S. HAMMOND.
JOHN S. FADEN.
GRAIN-SEPARATORS AND FANNING-MILLS.



112,142 HART HARRIS.
EXTRACTORS FOR OIL-WELLS.



112,143 H. L. HILDRETH.
SCREW-DRIVERS.



112,144 S. B. HOTCHKISS.
PROJECTILES FOR ORDNANCE.



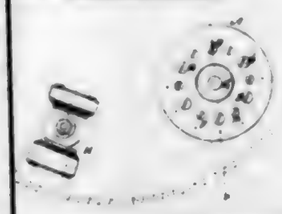
112,145. GEO. C. HOWARD.
BELT-GEARINGS.



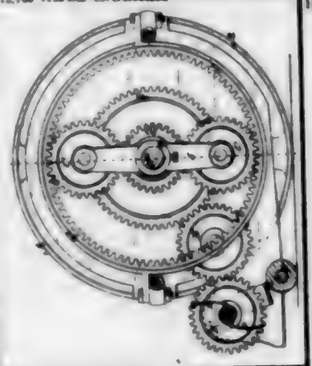
112,146. LEWIS KELLEY. ANIMAL-POKES.



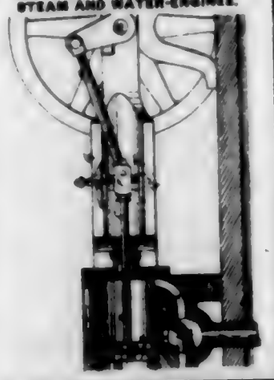
112,148. GEORGE W. LOMBARD.
SAWING-MACHINES.



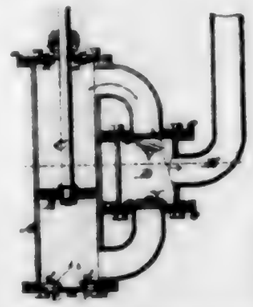
112,149. AMOS INGRAM. LAWN-MOWERS.



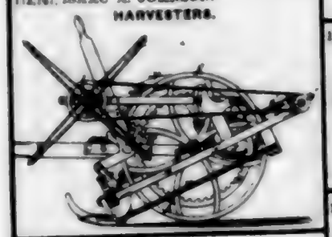
112,150. HENRY JAMES KING.
DANIEL CHARLES MULOCK.
STEAM AND WATER-ENGINES.



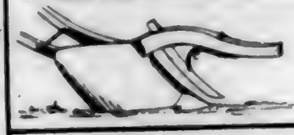
112,157. DAVID LOOMIS.
JOY WINTERS.
ALBERT STARK.
PUMPS.



112,147. ISAAC A. JOHNSON.
HARVESTERS.



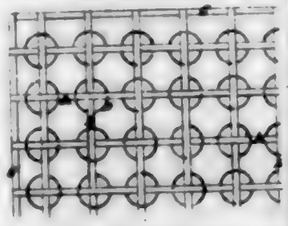
112,160. JESSE KINNEY.
STUBBLE ATTACHMENTS FOR PLOWS.



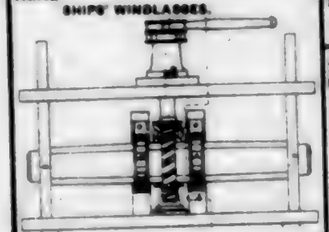
112,158. SOLOMON W. KIRK.
SEPARATING METALS FROM ORES.

112,154. C. J. H. F. KLEEMANN.
COMPOSITIONS FOR POLISHING.

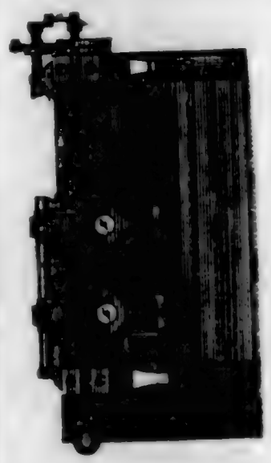
112,156. JOSEPH E. LORD.
SPRING BED-BOTTOMS.



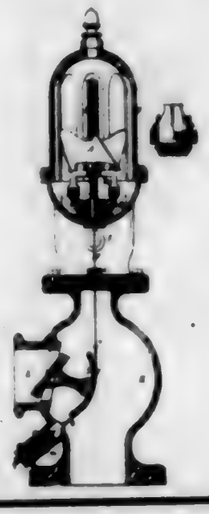
112,153. CHRISTOPHER COATSWORTH JOHNSON.
SHIPS' WINDLASSES.



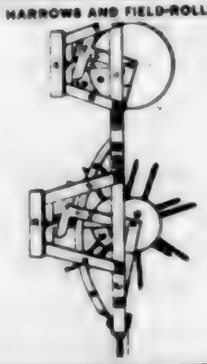
112,155. CHARLES LANG.
MACHINES FOR PATCHING, PUNCHING, AND EMBOSSING BUTTON-HOLES OF PAPER-COLLARS.



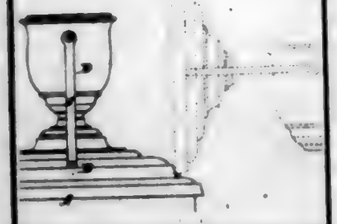
112,159. J. AUGUSTUS LYNCH.
GOVERNORS FOR STEAM-ENGINES.



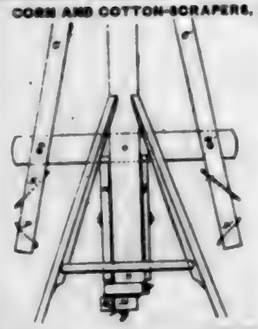
112,143. ABRAHAM S. KRAGY.
HARROWS AND FIELD-ROLLERS.



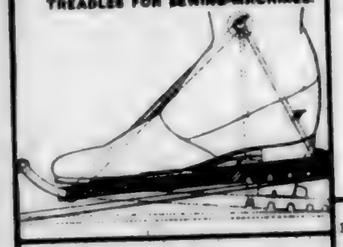
112,169. ORVILLE P. MACE.
URNS FOR STOVES.



112,161. CYRUS MARSH, 2D.
CORN AND COTTON-SCRAPERS, &c.

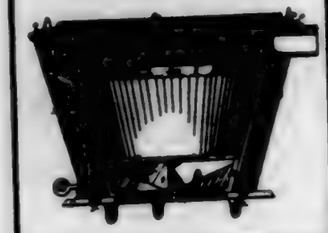


112,162. FRANCIS E. MILLS.
TREADLES FOR SEWING-MACHINES.

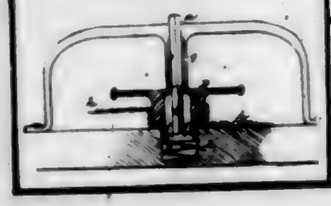


112,163. WILLIAM MILLS.
EXPLOSIVE COMPOUNDS.

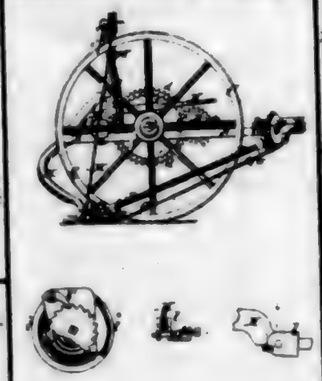
112,164. D. B. MONTAGUE.
PORTABLE FURNACES.



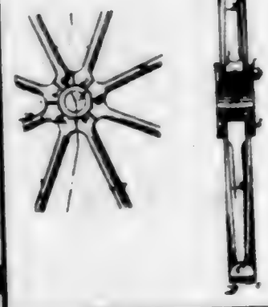
112,165. CHARLES C. MOORE.
PORTABLE BOOK-HOLDERS.



112,166. DANIEL MULOCK. HARVESTERS.



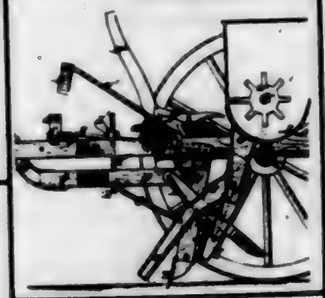
112,167. DANIEL MULOCK.
WHEELS FOR VEHICLES.



112,168. PETER W. NESTUS.
STAIR AND FLOOR-PLATES.



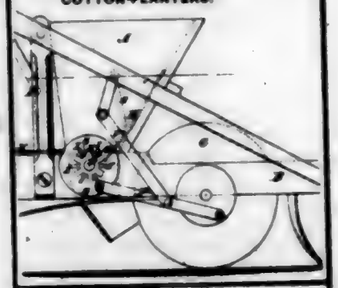
112,169. JOHN HENRY NICHOLSS.
COMBINED COTTON-PLANTERS AND GUANO-DISTRIBUTERS.



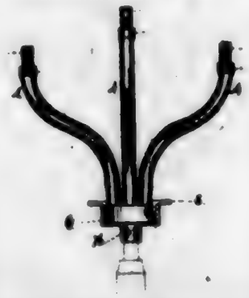
112,170. POWELL F. NICKERSON.
STEAM-ENGINES.



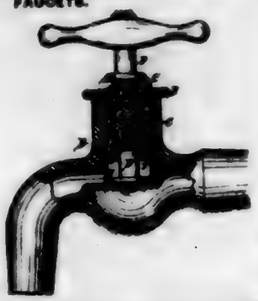
112,171. RUFUS F. NORWOOD.
COTTON-PLANTERS.



112,172. RUFUS NUTTING.
CHANDELIER GAS-BURNER.



112,173. G. B. O'SULLIVAN.
FAUCETS.



112,174. C. N. OWEN.
GATES.



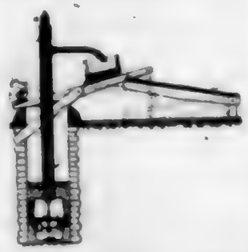
112,176. WM. H. PACK.
JOSEPH S. VANHORN.
MATTRESSES.



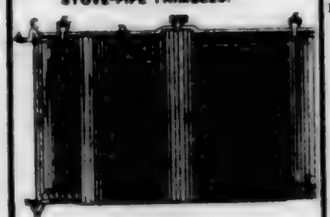
112,176. FRANK H. PALMER. COUNTERSINKS.



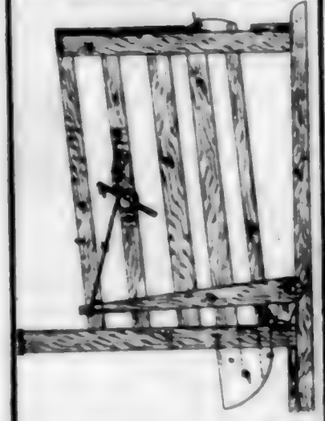
112,177. JOHN S. PATRIC. PUMPS.



112,178. JAMES D. PIERCE. STOVE-PIPE THIMBLES.



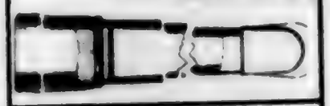
112,179. NICHOLAS POTTER. ADJUSTABLE ANIMAL-POWERS.



112,180. VIRGIL PRICE. SALDIRONS.



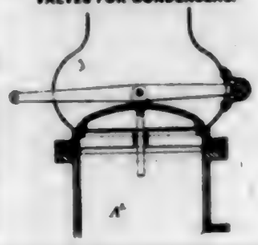
112,181. VIRGIL PRICE. METHODS OF COATING AND FINISHING SWORD-SCABBARDS.



112,182. JAMES M. RAKKIN, Jr. LAMP-CHIMNEYS.



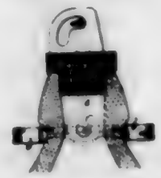
112,183. GEO. H. REYNOLDS. VALVES FOR CONDENSERS.



112,184. LEO W. SAPP, M. D. SEWING-MACHINE TREADLES.

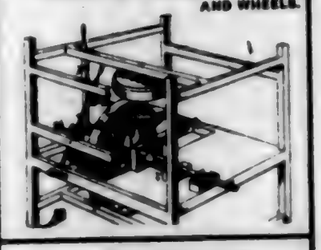


112,185. FRIEDRICH SCHLICH. BOTTLE-STOPPERS.

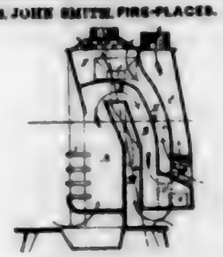


112,186. JACOB SEBERT. LUMBER-WAGONS.

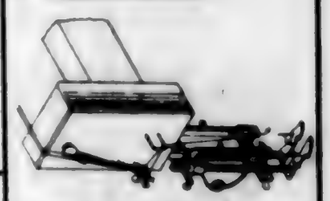
112,187. JOHN SKINNER. GEARING AND UNGEARING PINIONS AND WHEELS.



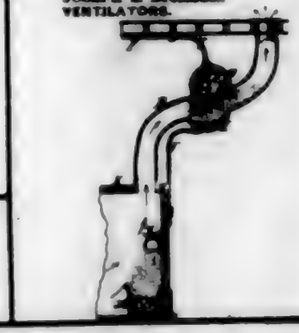
112,188. JOHN SMITH. FIRE-PLACES.



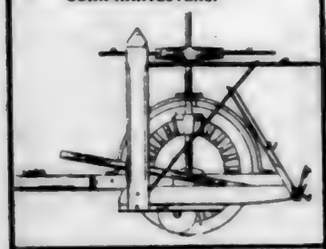
112,189. WILLIAM T. SMITH. SEWING-MACHINES.



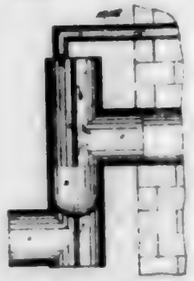
112,190. DANIEL M. SPROGLE, JOSEPH R. DICKSON. VENTILATORS.



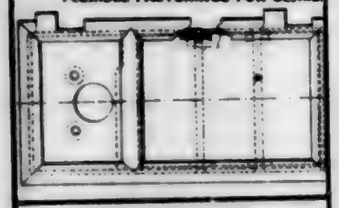
112,191. CLEMENT SMITH STULL. CORN-HARVESTERS.



112,192. PETER SWEENY. TUYERES.



112,193. W. H. TAYLOR. FLEXIBLE FASTENINGS FOR GLASS.



112,194. JEREMIAH W. TELLER, FENCES. WILLIAM TOWNSEND.



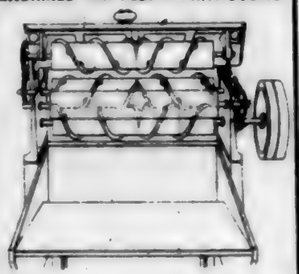
112,195. WALTER THOMSON. STEAM HEATERS.



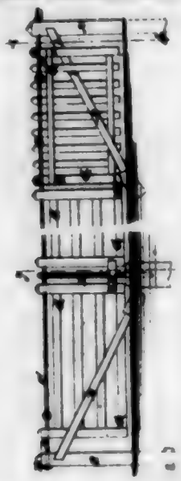
112,196. WILLIAM J. THORN. HORSE-COLLARS.



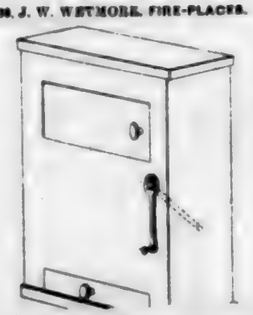
112,197. JOSEPH VERO. MACHINES FOR FELTING HAT-BODIES.



112,198. JOHN WADDLE. FENCES.



112,199. J. W. WETMORE. FIRE-PLACES.

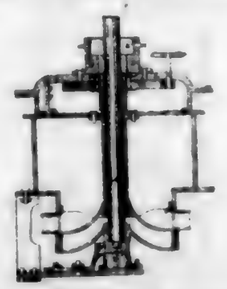


112,200. JEFFERSON G. WIGGINS. ATTACHING SPOKES TO WHEELS.

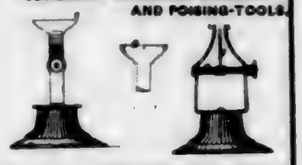


112,201. GALEN S. WOOD. MEDICAL COMPOUNDS OR LINIMENTS.

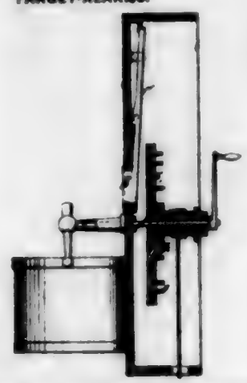
112,202. I. M. WRIGHT. WATER-WHEELS.



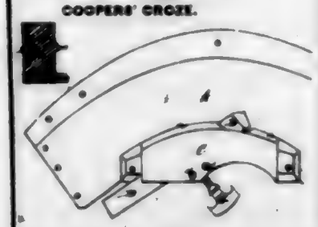
112,203. FRANCIS E. ALLEN. JEWELERS' COMBINED CALIPERS AND POISING-TOOLS.



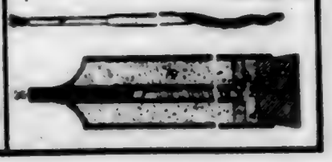
112,204. ANDREAS ANDERHUB. TARGET-ALARMS.



112,205. VINCENT [illegible] APPLEGATE. MARLINE P. JACOBS. SAMUEL F. [illegible] BODY. COOPERS' CROZE.



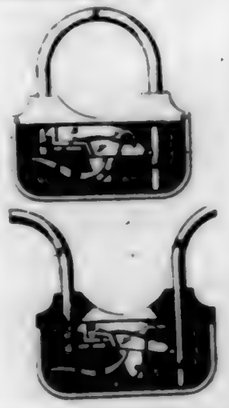
112,206. THOMAS J. BARSON. BURNING HYDROCARBON LIQUIDS FOR LIGHT.



112,207. MARCUS BERRO.
ELECTRICAL TICKET-CHECKING APPARATUS.



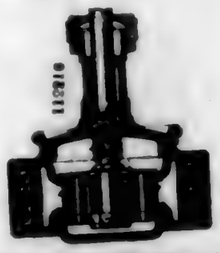
112,211. WILSON BOHANNAN.
KEYLESS PADLOCKS.



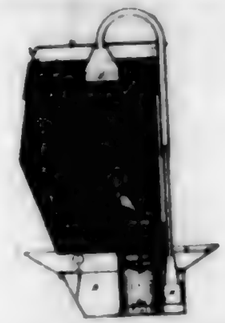
112,215. C. B. BROADWELL.
STREET-CARS.



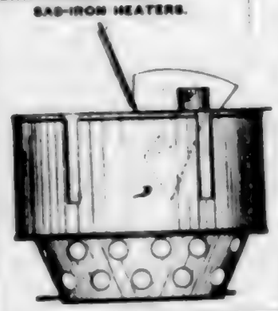
112,216. SIDNEY BROADBENT.
WILLARD B. CULVER.
STOP-VALVES.



112,217. CYRIL P. BROWN.
SHOWER-BATH APPARATUS.



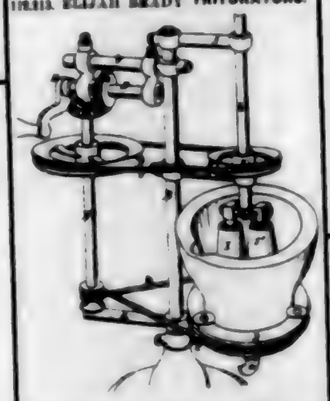
112,206. GEORGE BENSS.
SAD-IRON HEATERS.



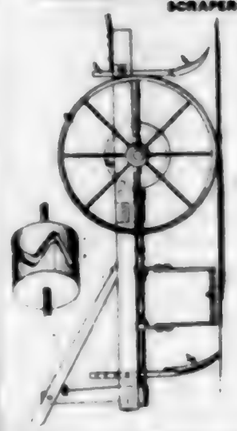
112,212. F. M. BOWLDS. SHOVEL-PLOWS.



112,213. ELIJAH BRADY TRITURATORS.



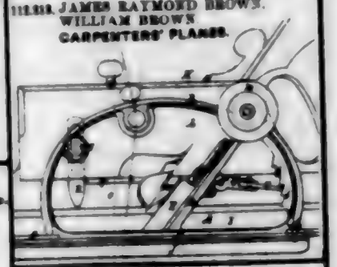
112,208. WILLIAM C. BIBB.
COMBINED COTTON-CHOPPERS, SCRAPERS, &c.



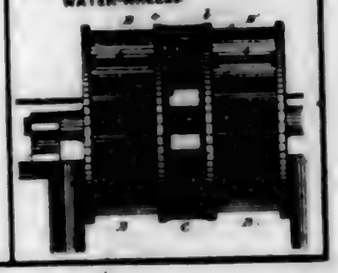
112,214. JOHN S. BREWER.
APPARATUS FOR LIFTING BARRELS, &c.



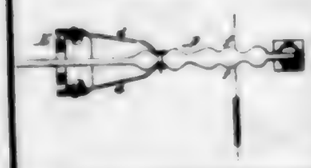
112,218. JAMES RAYMOND BROWN.
WILLIAM BROWN
CARPENTERS' PLANES.



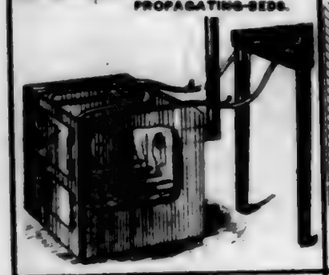
112,219. HENRY BURKHELL.
WATER-WHEELS.



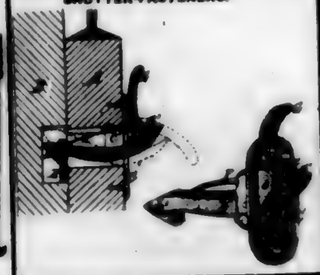
112,210. CHAS. BIRD.
DOOR-CHECKS.



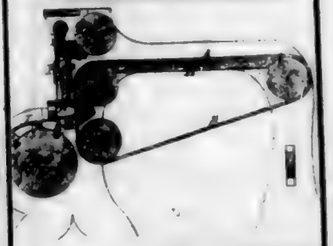
112,229. WM. CHALMERS.
APPARATUS FOR HEATING PROPAGATING-BEDS.



112,233. J. L. DEVOL.
SHUTTER-FASTENERS.



112,231. WINSLOW P. EAYRS.
LOZENGE-CUTTING MACHINES.

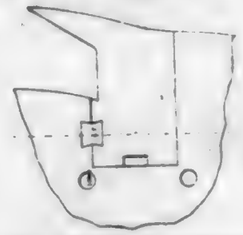


112,221. GEORGE CLARK.
SAMUEL P. CLARK.
HEDGE-TRIMMERS.

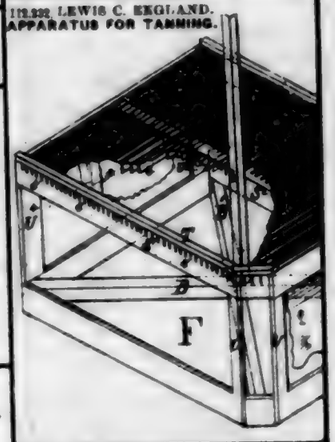


112,226. B. D'HEUREUSE.
FERMENTATION AND PURIFICATION OF ORGANIC SUBSTANCES.

112,227. HENRY DISSTON. SAWS.



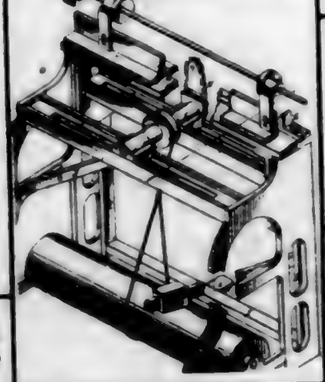
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APPARATUS FOR TANNING.



112,228. GILBERT H. CLEMENS.
STEAM SAFETY-VALVES.



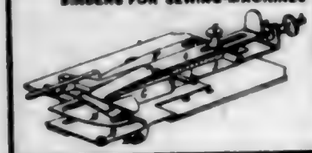
112,234. WILLIAM DOWNING.
WM. H. SOLEY.
MORTISING-MACHINES.



112,235. MICHEL O. FAGAN.
HEATING APPARATUS.



112,222. JACOB L. COLES.
BINDERS FOR SEWING-MACHINES.



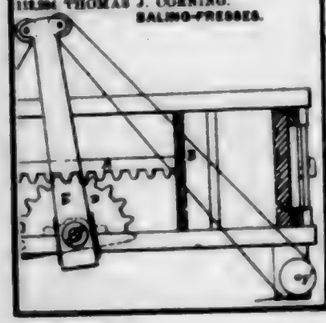
112,230. RICHARD DUDLEY.
BENJ. HERSHEY.
RAILWAY-CAR SPRINGS.



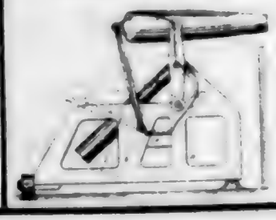
112,224. JOHN B. FERGUSON PLOWS.
SAMUEL M. WHITE.



112,223. THOMAS J. CORNING.
BALING-PRESSES.



112,225. JAS. B. EADS.
OPERATING ORDNANCE.



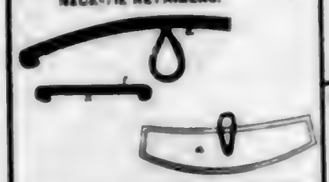
112,236. SEYMOUR FOSTER.
CLOTHES-RUBBERS.



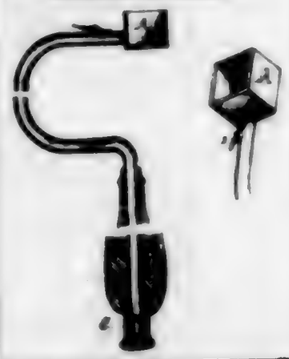
112,236 GEORGE FRY
MODES OF FASTENING HARROW-TEETH.



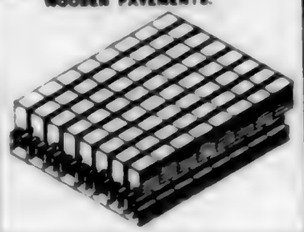
112,237. E. B. GIBBUD.
NECK-TIE RETAINERS.



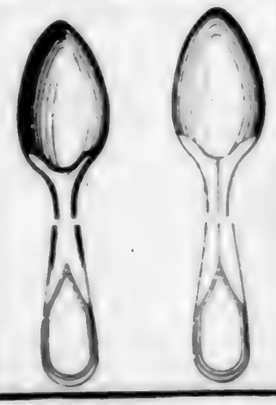
112,238. EDWIN B. GIFFORD.
WRENCHES AND OILERS.



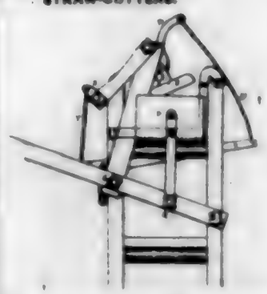
112,239. JACKSON GRANT.
WOODEN PAVEMENTS.



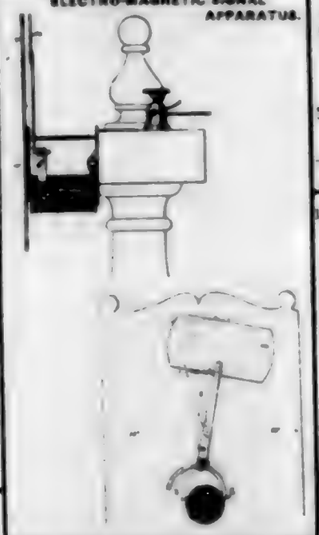
112,240 P. GROSJEAN. SPOONS.



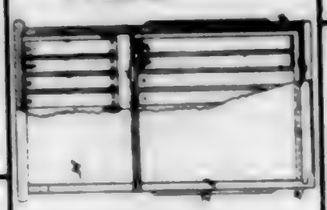
112,241 PHILLIP P. GROSS.
STRAW-CUTTERS.



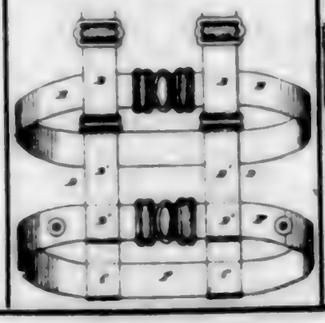
112,242 AUGUSTUS HAHL.
ELECTRO-MAGNETIC SIGNAL APPARATUS.



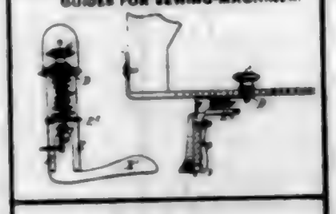
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BEE-HIVES.



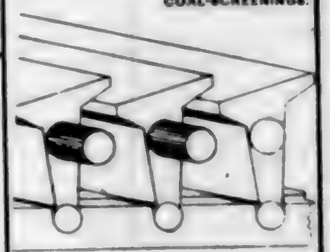
112,244 MARX HARRIS.
LADIES' SUPPORTING-BRACES.



112,245 FRANK HESTERICH.
GUIDES FOR SEWING-MACHINES.



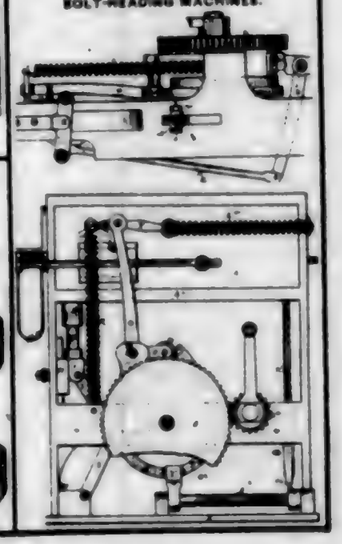
112,246 G. W. HILDRETH.
GRATES FOR BURNING COAL-SCREENINGS.



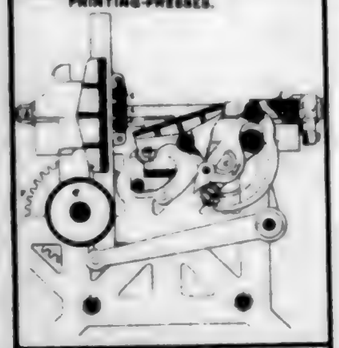
112,247 WM. M. HUGHES.
ANCHORS.



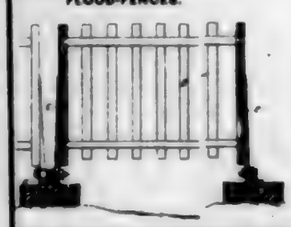
112,245 THOMAS HULL.
NICHOLAS THOMAS.
BOLT-HEADING MACHINES.



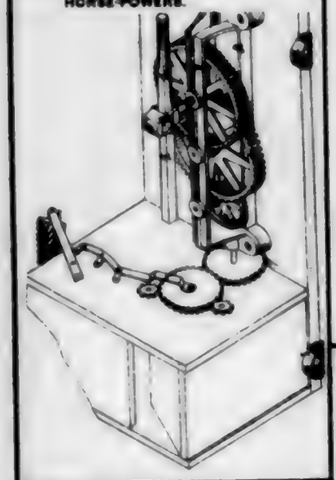
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PRINTING-PRESSES.



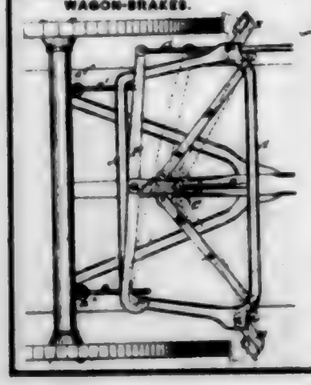
112,250. CHARLES B. HUNTER.
FLOOD-FENCES.



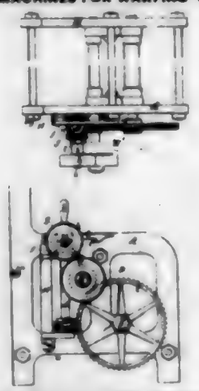
112,251. JAMES W. HUNTOON.
HORSE-POWERS.



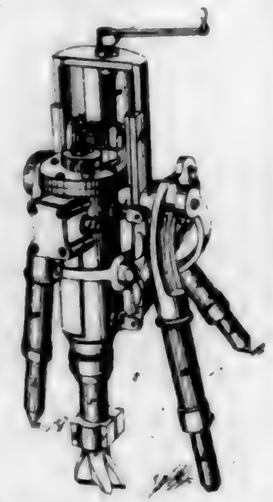
112,252. REUBEN HURD.
WAGON-BRAKES.



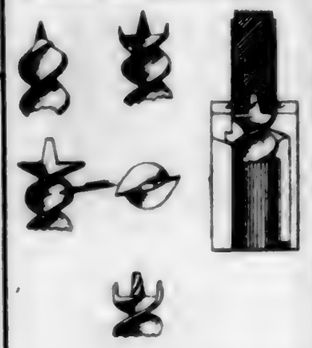
112,253. DANIEL HUSSEY.
MACHINES FOR WARPING YARN.



112,254. SIMON INGERSOLL.
ROCK-DRILLS.

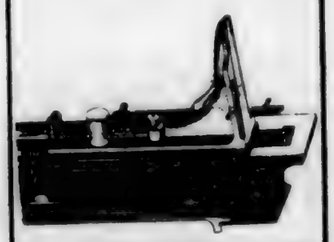


112,255. WM. A. IVES.
FORMING SPUR-LIPS OF AUGER-BITS.

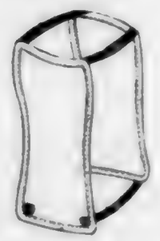


112,256. HIRAM KIMBALL.
LOW-WATER INDICATORS.

112,260 WM. A. L. KIRK.
HEAD-BLOCKS FOR SAW-MILLS.



112,261. PETER LEAR.
CHEST-PROTECTORS.

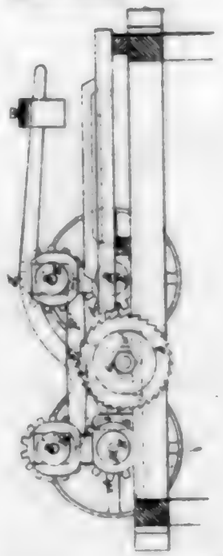


112,262. HENRY LOOS.
SOAP COMPOUNDS.

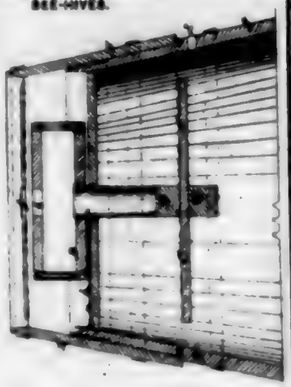
112,263. WILLIAM H. LUTZ
STOVE-PIPE DAMPERS.



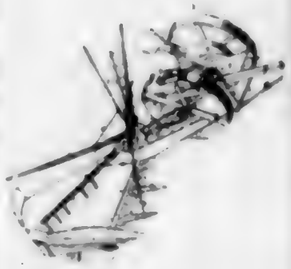
112,261. JOHN C. MACKAY.
LATH-MACHINES.



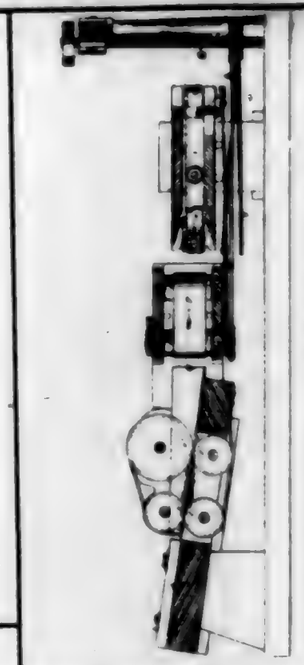
112,262. GIDEON MARSH.
BEE-HIVES.



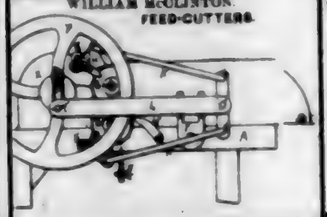
112,263. JAMES S. MARSH.
HARVESTERS.



112,264. JOHN McADAMS.
PAPER-FOLDING MACHINES.



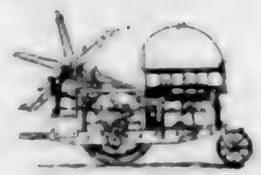
112,265. JAMES B. McCLINTON.
WILLIAM McCLINTON.
FEED-CUTTERS.



112,266. CHARLES W. McCLURE.
WILLIAM A. SHEPARD.
TEA-KETTLES.



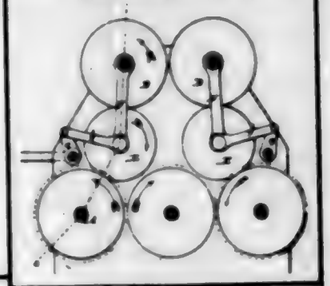
112,267. JOHN M. McKESSON.
COMBINED HARVESTERS AND BINDERS.



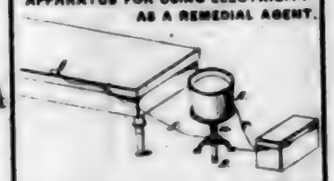
112,268. JOSEPH W. MEGAW.
SASH-HOLDERS.



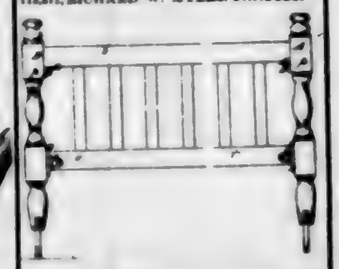
112,269. WILLIAM H. MERRICK.
DEVICES FOR TRANSMITTING AND REVERSING ROTARY MOTION.



112,270. GEO. MUNRO.
APPARATUS FOR USING ELECTRICITY AS A REMEDIAL AGENT.



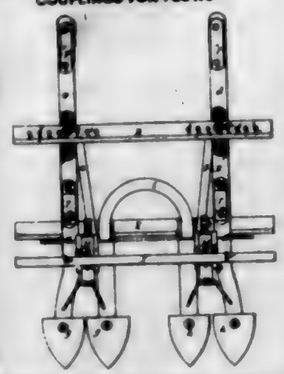
112,271. RICHARD W. MYERS. CRADLES.



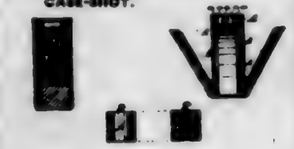
112,272. RICHARD H. NORRIS.
SPOOL SHOW-CASES.



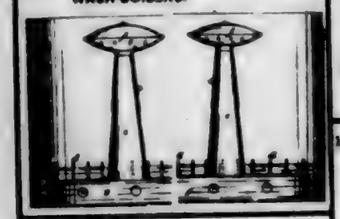
112,273. GEORGE OWEN.
COUPLINGS FOR HOSE



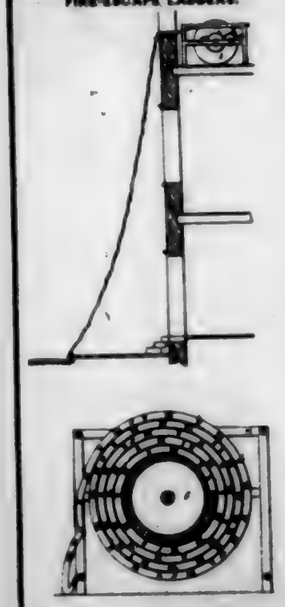
112,274. SETH WHITE PAINE.
CASE-SHOT.



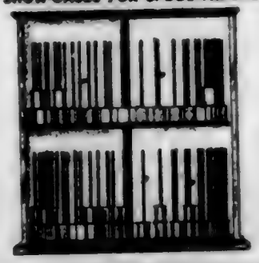
112,275. THOS. U. PARKER.
WASH-BOILERS.



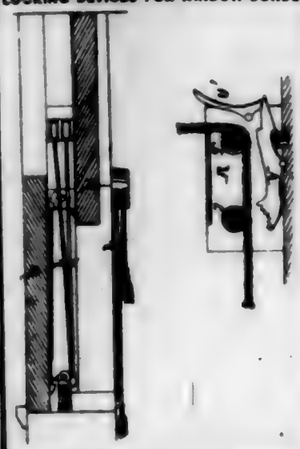
112,276. WILLIAM B. PERRGOY.
FIRE-ESCAPE LADDERS.



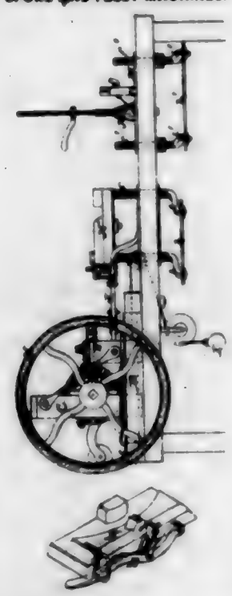
112,277. ALEXANDER C. PHILLIPS.
SHOW-CASES FOR SPOOL-THREADS.



112,278. CHARLES B. RAND.
LOCKING DEVICES FOR WINDOW-CORDS.

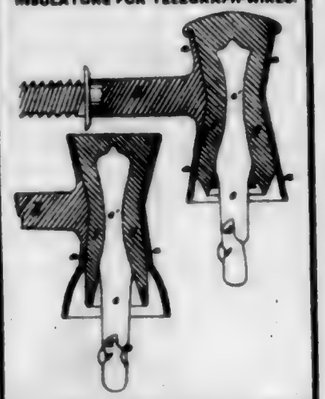


112,279. DAVID REED.
THOMAS B. PIERCE.
SPOKE AND FELLY MACHINES.

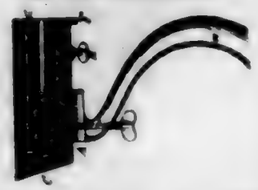


112,280. HENRY REED.
NAIL-MACHINES.

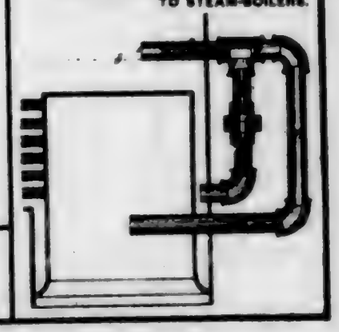
112,281. XENAS C. ROBBINS.
INSULATORS FOR TELEGRAPH-WIRES.



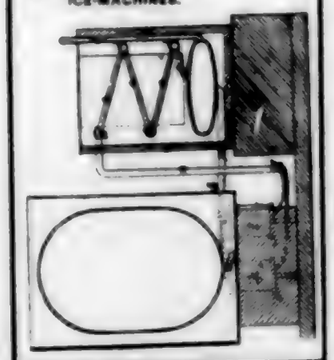
112,282. WILLIAM D. ROBERTSON.
SAD AND FLUTING-IRONS.



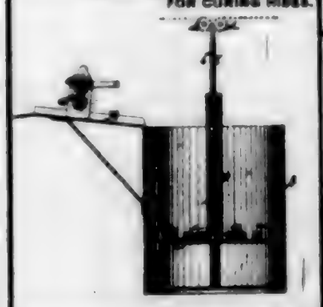
112,283. ANDREW ROBIE.
JOHN C. CHAPMAN
SAFETY-PLUG ATTACHMENTS TO STEAM-BOILERS.



112,294. ADOLPHE ROCK.
ICE-MACHINES.



112,295. ADOLPHE ROCK.
PROCESSES AND APPARATUS FOR CURING HIDES.



112,296. GEORGE ROSS.
MOLDING AND CASTING PIPE-ELBOWS.

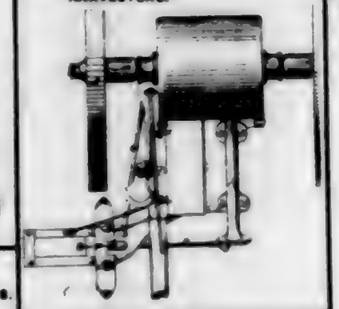




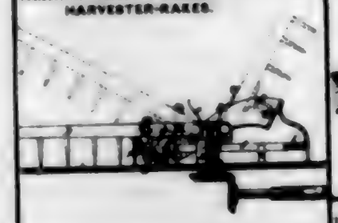
112,297. ANSELL P. SCOTT.
JOHN J. KETTON.
SELF-LOADING SCRAPERS.



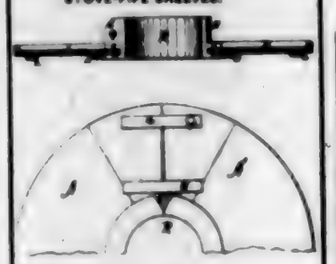
112,298. JACOBS W. SCHUCKERS.
HARVESTERS.



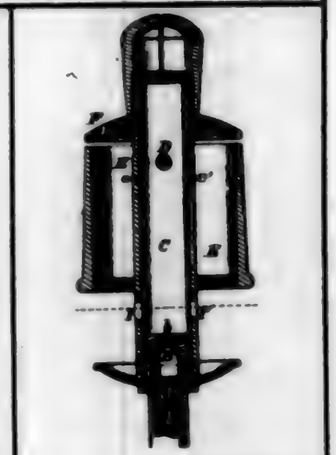
112,299. FRANCIS B. SCOTT.
HARVESTER-RAKES.



112,300. JEROME D. SCOTT.
STOVE-PIPE SHELVES.



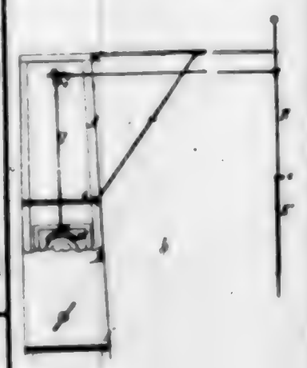
112,301. JAMES GRAY.
VAPOR-BURNERS.



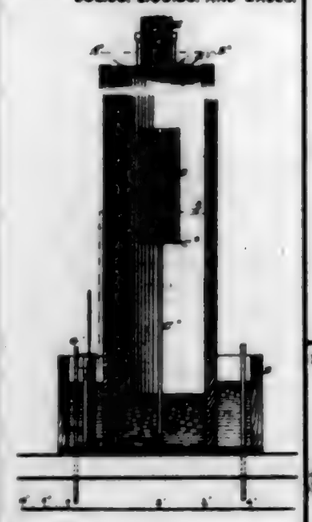
112,302. ALPHEUS C. SIKE.
NUMBERING AND PAGING-MACHINES.



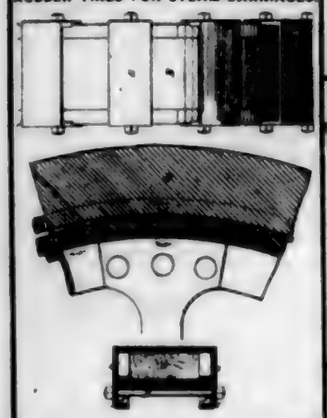
112,303. CHARLES BRIDGES SMITH.
AUTOMATIC FANS.



112,294. D. E. SOMER.
COOLING, FREEZING, AND PRESERVING SOLIDS, LIQUIDS, AND GASES.



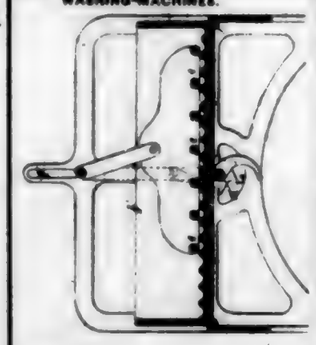
112,295. LOUIS STERER.
RUBBER TIRES FOR STEAM-CARRIAGES.



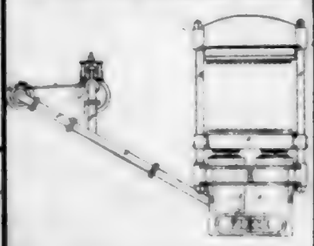
112,296. JOHN H. STEVENSON.
SAW-JOINTERS FOR CIRCULAR-SAWS.



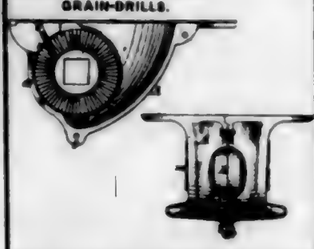
112,297. JOHN TAYLOR.
WASHING-MACHINES.



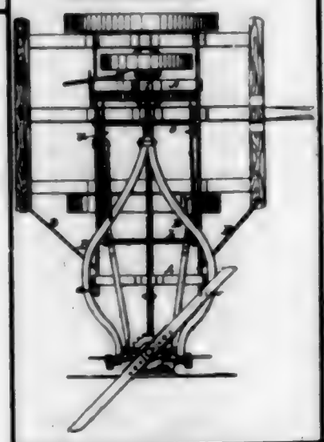
112,298. JOHN F. TAYLOR.
STEAM AND HYDRAULIC-PRESSES.



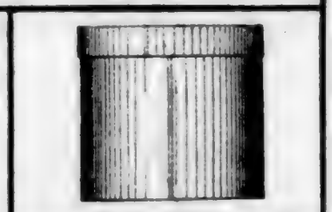
112,299. JOHN H. THOMAS.
GRAIN-DRILLS.



112,300. JAMES M. VANNOSDALL.
OLIVER W. VANNOSDALL.
HEDGE-TRIMMERS.



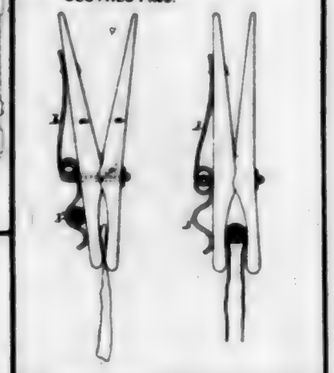
112,301. WILLIAM F. VEBER.
CONSTRUCTION OF WOODEN BOXES.



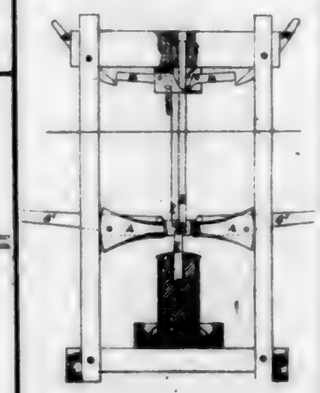
112,302. HARVY WASHBURN.
PLOWS.



112,303. HIRAM J. WATTLES.
CLOTHES-PINS.



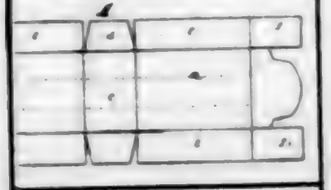
112,304. GABRIEL J. WELLS.
FRUIT-PRESSES.



112,305. ROLLIN WHITE.
CARTRIDGES.



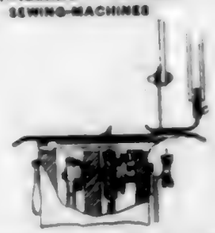
112,306. JOHN WARREN WILCOX. PAPER BOXES.



112,307. JAMES WILLIS. UMBRELLAS.



112,308. WILLIAM C. WINTERS. SEWING-MACHINES.



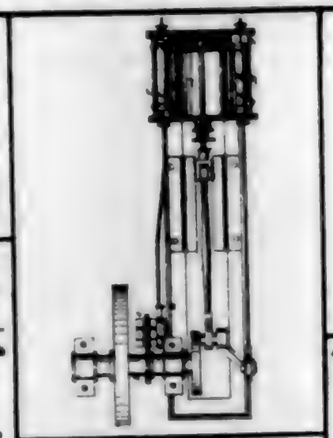
4,577. JOHN P. BEATTY. HATS.



4,578. R. D. BURR. GLOVES.



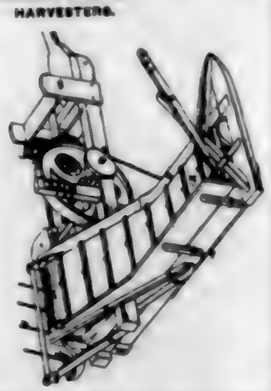
4,579. PHILIP ESTES. STEAM-ENGINES.



4,580. F. M. HOLMES. FOLDING-CHAIRS.



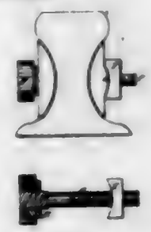
4,581. HENRY P. MANN. HARVESTERS.



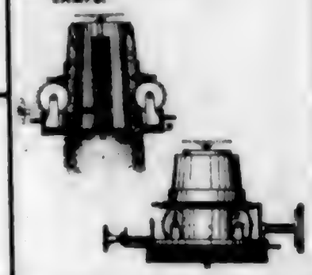
4,582. M. MATTSON. BREAST-PUMPS.



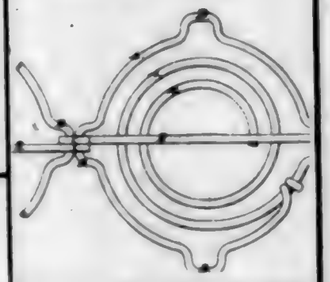
4,583. JOHN MILLER, Jr. LOCK-NUTS.



4,584. ALBERT M. NORTH. LAMPS.



4,585. CHARLES RICH. SPRINGS FOR BEDS, &c.

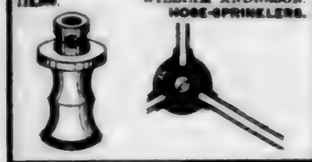


4,586. WENDELL WRIGHT. SECURING SPRINGS IN UPHOLSTERY.

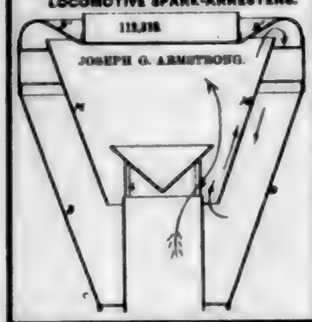


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
MARCH 7, 1871.

112,309. WILLIAM ANDERSON. HOSE-SPRINKLERS.



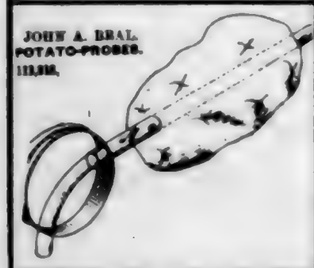
112,310. LOCOMOTIVE SPARK-ARRESTERS. JOSEPH G. ARMSTRONG.



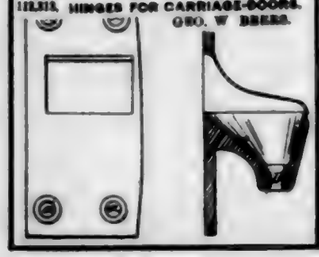
112,311. GEORGE ATKINSON. TOOLS FOR CARRIAGE-MAKERS' USE.



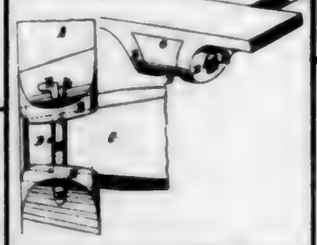
112,312. JOHN A. BEAL. POTATO-PROBES.



112,313. HINGES FOR CARRIAGE-DOORS. GEO. W. BEERS.



112,314. JAMES MECKHEAD, Jr. STOVE-LEGS.



112,315. ORRIS A. BISHOP. CLOTHES-PINS.

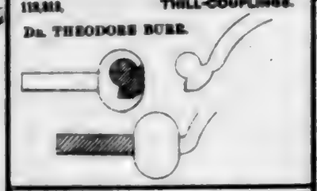


112,316. VICTOR G. BLOEDE. MANUFACTURE OF ROCHELLE SALTS AND BORAX.

112,317. FELIX BREWER. BEE-HIVES.



112,318. THILL-COUPLINGS. Dr. THEODORE BURR.



112,319. FRANCIS G. BUTLER. SACCHARINE LIQUIDS. EVAPORATING-PANS FOR



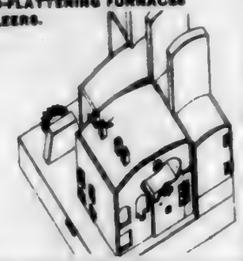
112,320. WILLIAM H. CALDWELL. DOOR-SECURERS.



112,321. RALPH B. CASWELL. TOE-CALK BARS.



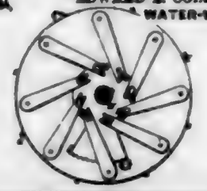
112,322. JAMES [illegible] + CLARDY. [illegible]. GLASS-FLATTENING FURNACES AND LEERS.



112,323. ALEXANDER COLE. SPRING BED-BOTTOMS.



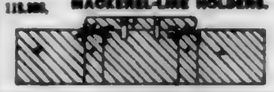
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112,325. JOHN B. CUENOD. TOY-HORSES AND CARRIAGES.



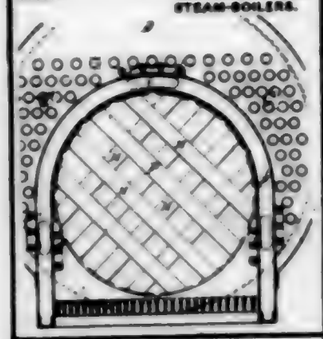
112,326. H. L. DECKER. MACKEREL-LINE HOLDERS.



112,327. JOSEPH WM. DUFOUR. SEWING-MACHINES.



112,328 EDWARD EVANS. STEAM-BOILERS.

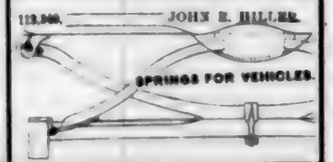


112,329 JOSEPH S. GODFREY. 112,330
ATTACHMENTS FOR REVOLVING MOLD-BOARDS FOR PLOWS.



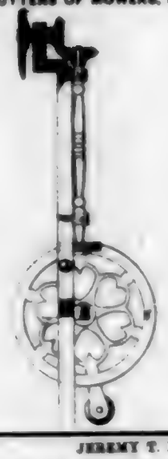
112,329 CHARLES E. HARRIS.
COMPOSITIONS FOR PAVEMENTS.

112,330 JOHN E. HILLER.
SPRINGS FOR VEHICLES.

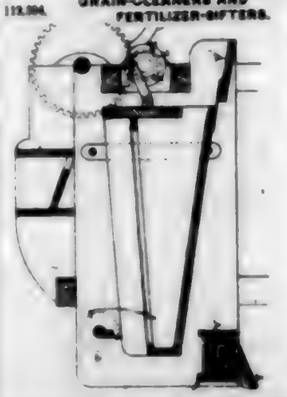


112,331 ERASTUS FIELD.
MEDICAL COMPOUNDS FOR CURE OF CATARRH AND ASTHMA.

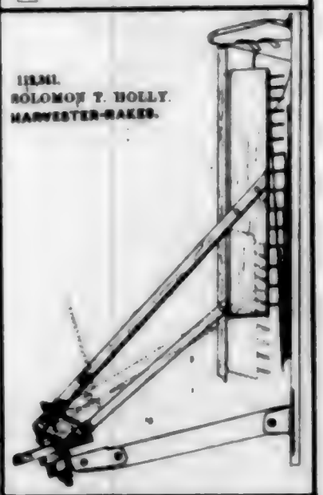
112,332 HENRY CLAY FISK.
MACHINES FOR GRINDING THE CUTTERS OF MOWERS, &c.



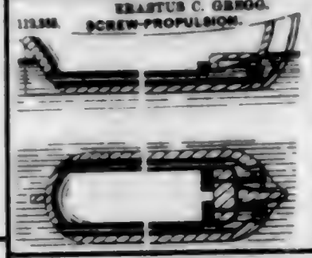
112,333 JAMES A. GREEN.
GRAIN-CLEANERS AND FERTILIZER-SIFTERS.



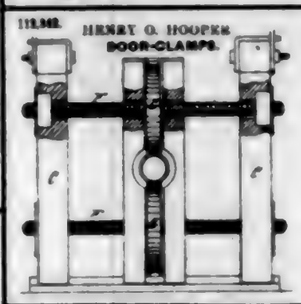
112,341 SOLOMON T. HOLLY.
HARVESTER-RAKES.



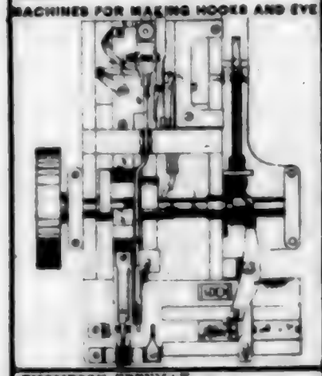
112,334 ERASTUS C. GREGG.
SCREW-PROPULSION.



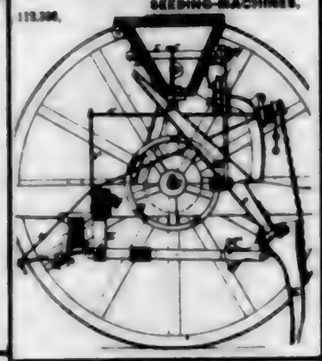
112,342 HENRY O. HOOPER.
DOOR-CLAMPS.



112,331 JEREMY T. FORD.
MACHINES FOR MAKING HOOKS AND EYE



112,335 PHILIP M. GUYDLACH.
SEEDING-MACHINES.



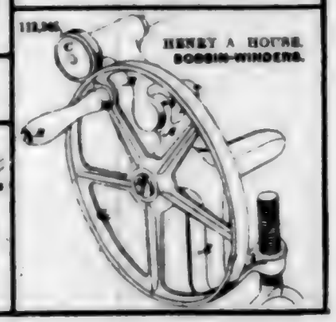
112,343 THOMAS W. HOUGHTON.
TAPER-HOLDERS.



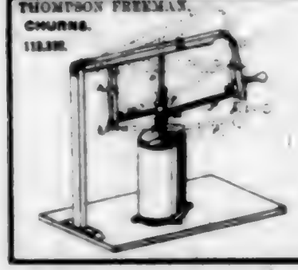
112,344 METALLIC GARTERS.
HENRY A. HOUSE.



112,336 HENRY A. HOUSE.
BOBBIN-WINDERS.

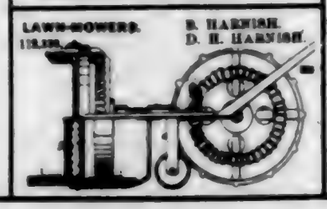


THOMPSON FREEMAN.
CHURNS.
112,338.

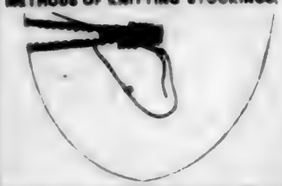


112,337. JOSEPH L. HANNUM.
SAMUEL H. STEBBINS.
COMPOUNDS FOR KINDLING FIRES.

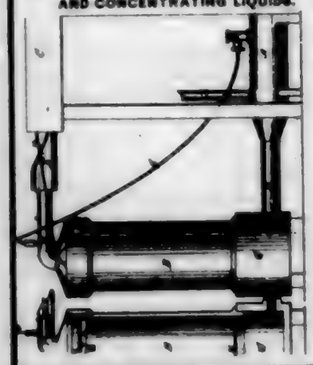
LAWN-MOWERS. B. HARNISH.
112,339. D. H. HARNISH.



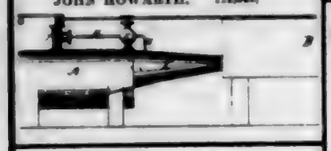
112,346. HENRY A. HOUSE.
METHODS OF KNITTING STOCKINGS.



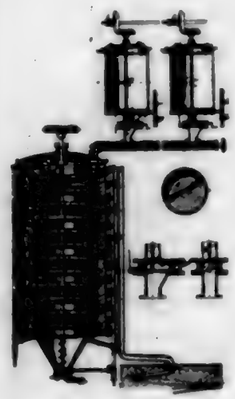
112,347. JOHN HOWARTH.
APPARATUS FOR EVAPORATING AND CONCENTRATING LIQUIDS.



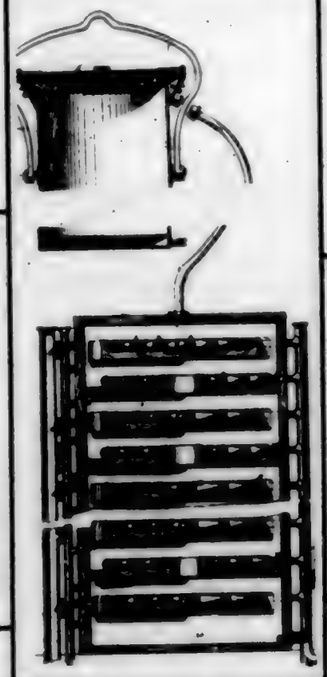
APPARATUS FOR EVAPORATING AND CONCENTRATING LIQUIDS.
JOHN HOWARTH. 112,348.



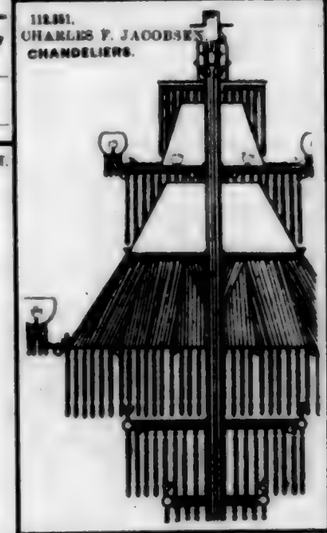
ELIAS S. HUTCHINSON.
112,349. APPARATUS FOR REMOVING OIL FROM VEGETABLE AND OTHER MATTERS.



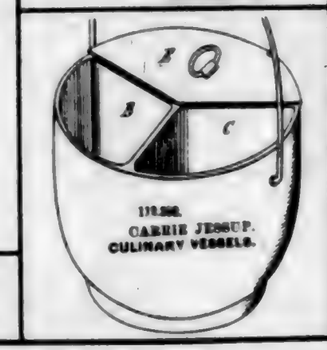
112350 ELIAS S. HUTCHINSON.
APPARATUS AND PROCESSES FOR REMOVING OIL FROM GRAIN, SEEDS, &c.



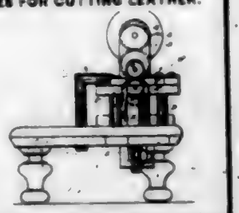
112,351. CHARLES F. JACOBSEN.
CHANDELIERS.



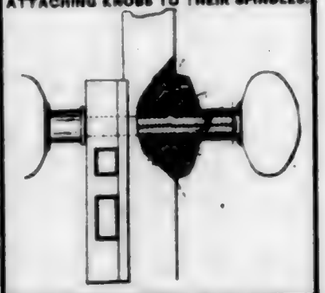
112,352 CARRIE JESSUP.
CULINARY VESSELS.



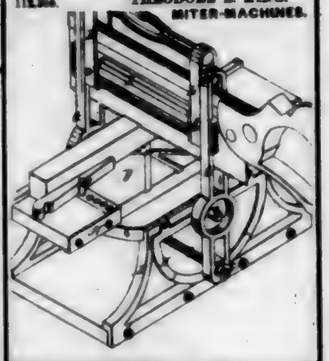
112,353 ABERDEEN KEITH.
MACHINES FOR CUTTING LEATHER.



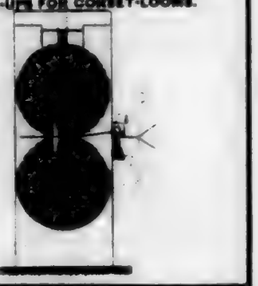
112,354 JOHN F. KELLER.
NATHANIEL SENNER.
ATTACHING KNOBS TO THEIR SPINDLES.



112,355 THEODORE E. KING.
MITER-MACHINES.



112,356 JULIUS KUTTNER.
TAKE-UPS FOR CORSET-LOOMS.



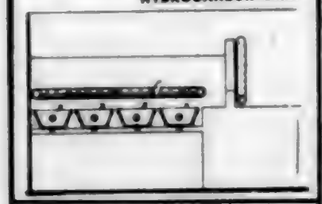
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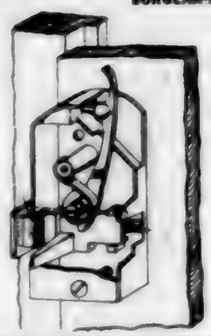
TIMOTHY W. LACKORE.
ELEVATORS AND CARRIERS.



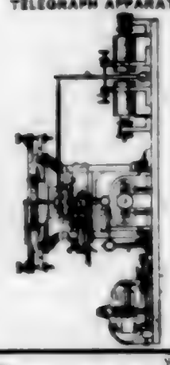
112,358 JAMES B. LEE.
APPARATUS FOR BURNING HYDROCARBON OILS.



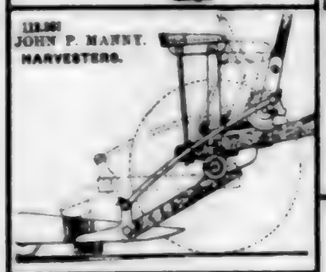
112,359 ROBERT LEE.
BURGLAR-ALARMS.



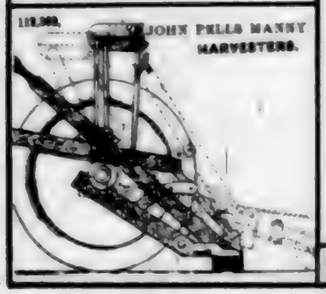
112,360 L. T. LINDSEY.
TELEGRAPH APPARATUS.



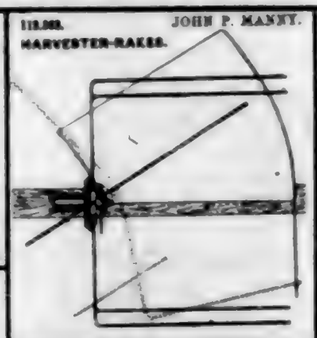
112,361 JOHN P. MANNY.
HARVESTERS.



112,362 JOHN PELLS MANNY.
HARVESTERS.



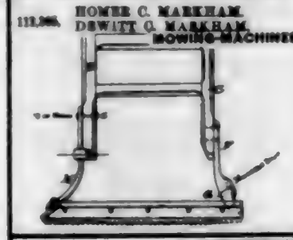
112,363 JOHN P. MANNY.
HARVESTER-RAKES.



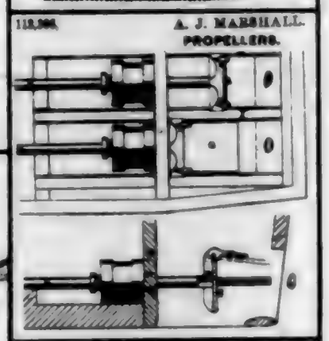
112,364 HOMER C. MARKHAM.
CHEESE-CURD SINKS.



112,365 HOMER C. MARKHAM.
DEWITT C. MARKHAM.
MOWING-MACHINES.



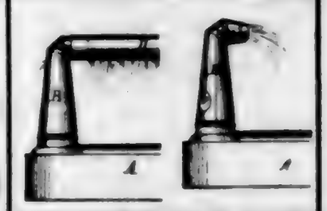
112,366 A. J. MARSHALL.
PROPELLERS.



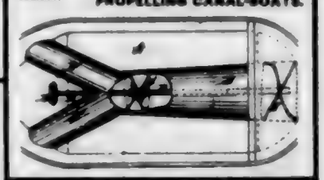
112,367 EDWARD McDUFF.
EMORY D. FORROW.
OILERS.



112,368 JOHN McINNES. WASH-BOILERS.

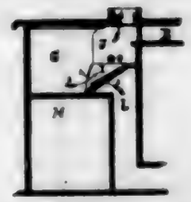


112,369 HARRISON B. MERCH.
PROPELLING CANAL-BOATS.

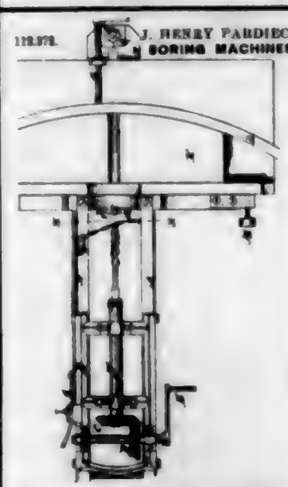


112,370 PETER E. MINOR.
WATER-PROOF COMPOUNDS FOR COATING CLOTH, WOOD, METALS.

112,371 WILLIAM E. MOORE.
COOKING-STOVES.



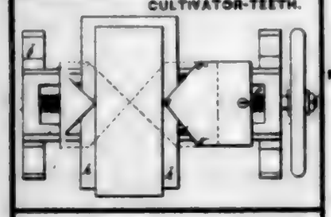
112,372 J. HENRY PARDIECK.
BORING MACHINES.



112,373 ROBERT W. PARK.
VAPOR-BURNERS.



112,374 JOHN PEDDER.
GEO. ABEL.
POINTING BLANKS FOR CULTIVATOR-TEETH.



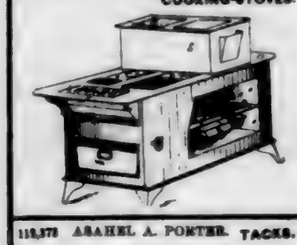
112,375 JAMES E. PERKINS.
SALE-TIES.



112,376 JAMES PHILLIPS.
LINING WALLS WITH FELT, &c.



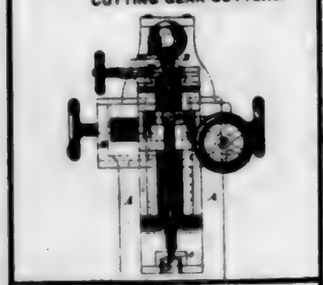
112,377 SAMUEL PIERCE.
COOKING-STOVES.



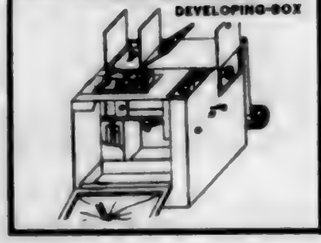
112,378 ASAHEL A. PORTER. TACKS.



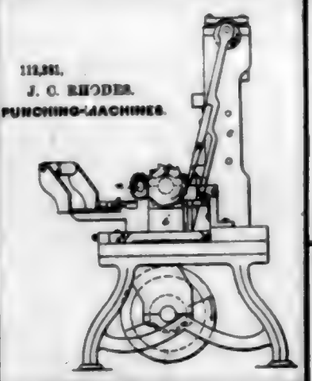
112,379 FRANCIS A. PRATT.
MACHINES FOR SHAPING AND CUTTING GEAR-CUTTERS.



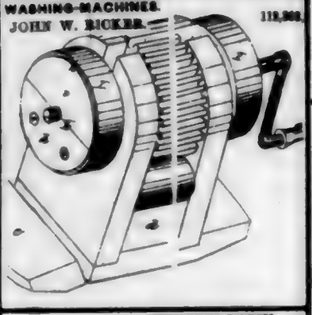
112,380 RANDAS C. RATHBUN.
COMBINATION CAMERAS AND DEVELOPING-BOX



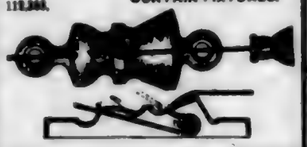
112,381 J. C. RHODES.
PUNCHING-MACHINES.



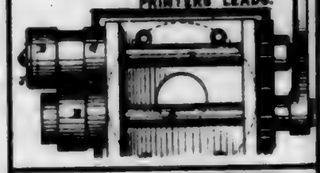
112,382 WASHING-MACHINES.
JOHN W. RICKER.



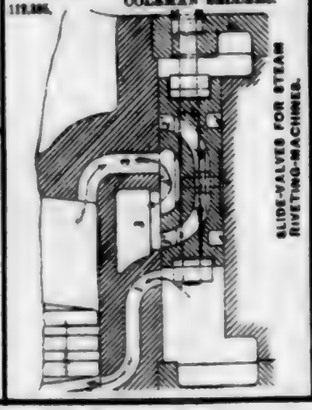
112,383 CHARLES ROBIN.
CURTAIN-FIXTURES.



112,384 ISAAC SCHOENBERG, Jr.
MACHINES FOR MAKING PRINTERS' LEADS.



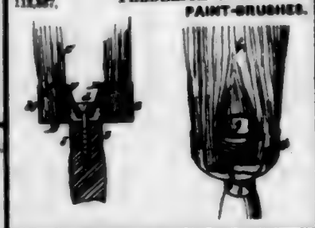
112,385 COLEMAN SELLERS.
SLIDE-VALVES FOR STEAM RIVETING-MACHINES.



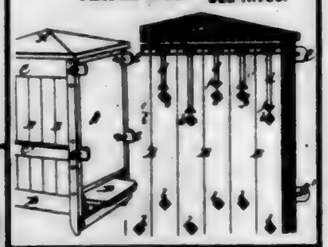
112,386 SAMUEL SEMPLE, Sr.
JOHN SEMPLE.
SAMUEL SEMPLE, Jr.
R. A. SEMPLE.
MACHINES FOR POLISHING THREAD.



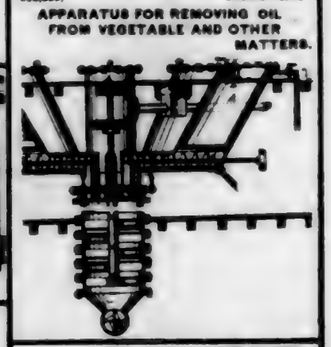
112,387 FREDERICK S. SHEARER.
PAINT-BRUSHES.



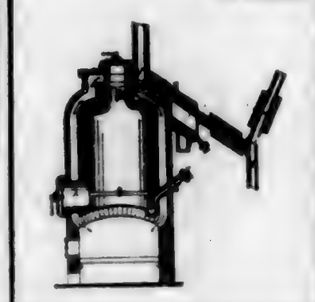
112,388 SAMUEL ARCHABALD SHORT.
FREDERICK JACKSON SHORT.
JOHN BURTON SHORT.
JASPER KILB.
BEE-HIVES.



112,389 THOS. SIM.
APPARATUS FOR REMOVING OIL FROM VEGETABLE AND OTHER MATTERS.

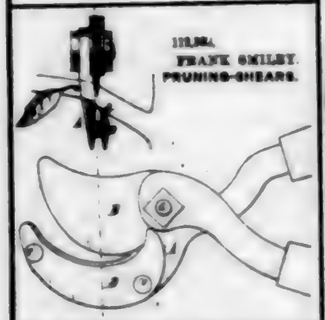


112,390 THOS. SIM.
RETORTS FOR PRODUCING BISULPHIDE OF CARBON.

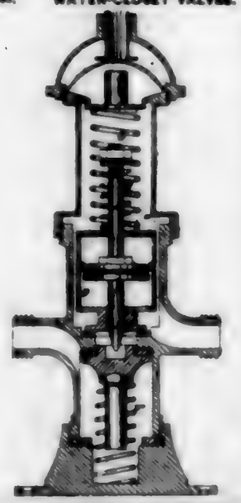


112,391. M. H. SIMPSON.
UTILIZING THE SILKY DOWN OF THE WILD COTTON.

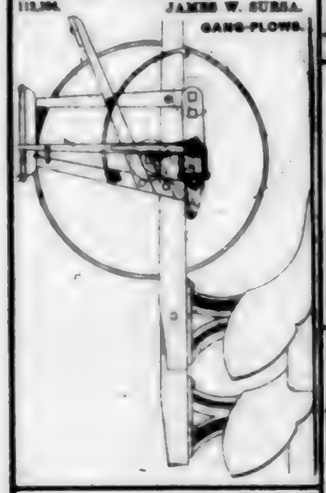
112,394. FRANK EMILEY.
PRUNING-SHEARS.



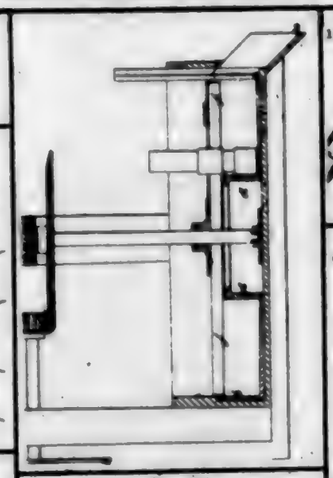
112,395. ALFRED J. SMITH.
WATER-CLOSET VALVES.



112,396. JAMES W. SURSA.
GANG-PLOWS.



112,398. W. H. THOSS.
GRINDING-PANS AND AMALGAMATORS.



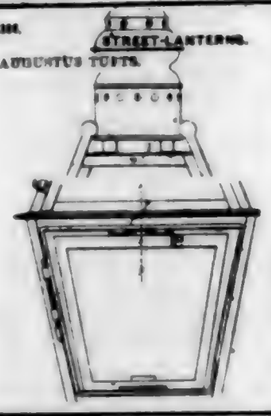
112,399. GEO. F. WEYMOUTH.
HAY-KNIVES.



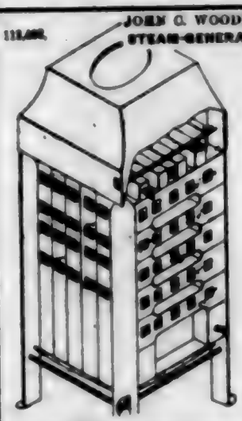
112,401. CHARLES WINTER.
CLAW-BARS.



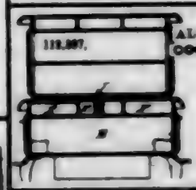
112,402. AUGUSTUS TUFTS.
STREET-LANTERNS.



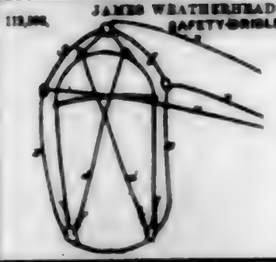
112,403. JOHN C. WOODHEAD.
STEAM-GENERATORS.



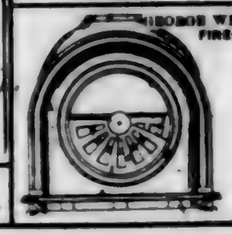
112,407. ALVIN WARREN.
COOKING-STOVES.



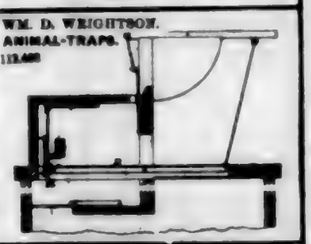
112,408. JAMES WEATHERHEAD.
SAFETY-BRIDLES.



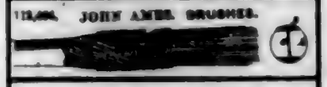
112,409. GEORGE WELLHOUSE.
FIRE-GRATES.



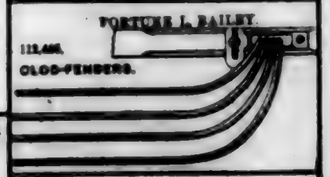
112,410. WM. D. WRIGHTSON.
ANIMAL-TRAPS.



112,411. JOHN AMES. BRUSHES.



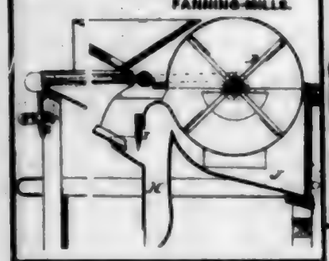
112,412. FORTUNE J. BAILEY.
SLED-FENDERS.



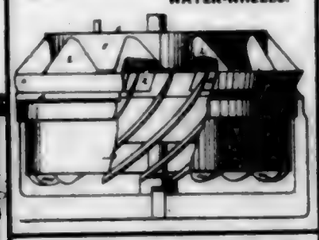
112,413. HUGH S. HALL. RULERS.



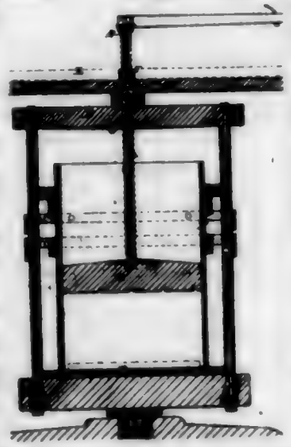
112,407. BENJAMIN BARNEY.
FANNING-MILLS.



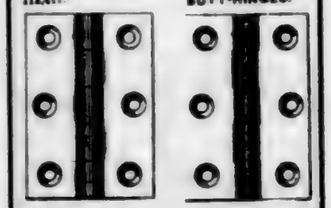
112,412. ELLERY C. BOYLES.
WATER-WHEELS.



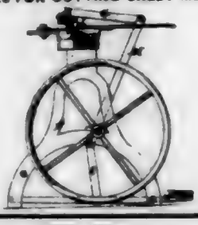
112,413. RHODOM M. BROOKS.
COTTON-PRESSES.



112,417. JOHN W. CARLETON.
BUTT-HINGES.



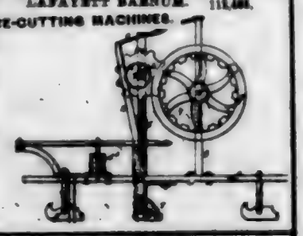
112,418. CHARLES B. CHOATE.
MACHINES FOR CUTTING SHEET METAL



112,419. WILLIAM CLEVELAND.
BIT-BRACES.



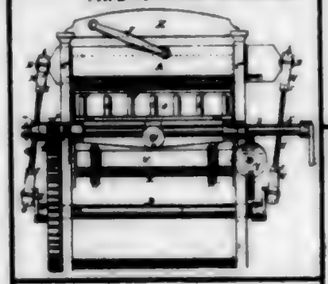
LAFAYETT BARNUM. 112,406.
ICE-CUTTING MACHINES.



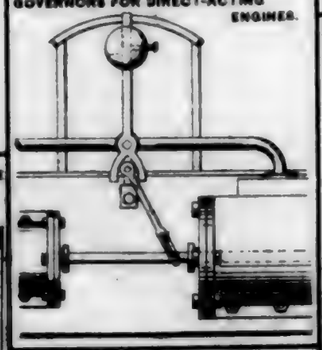
112,409. THOMAS J. BIGGER.
MANUFACTURE OF ICE.



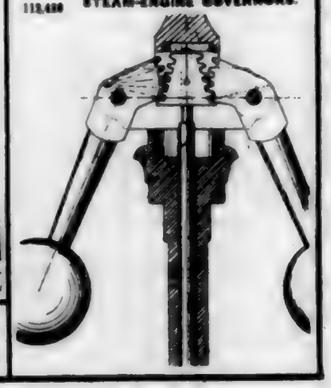
112,414. SAMUEL BROWN.
PAPER-CUTTING MACHINES.



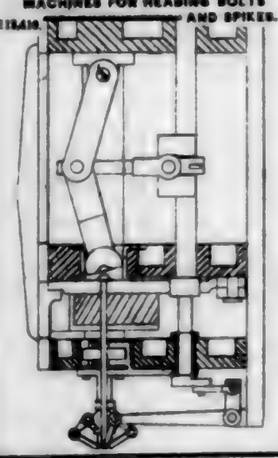
112,415. A. S. CAMERON.
GOVERNORS FOR DIRECT-ACTING ENGINES.



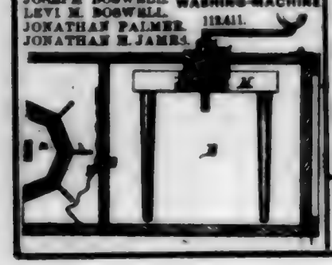
112,416. CHAS. A. CONDE.
STEAM-ENGINE GOVERNORS.



REINHOLD BORKLEN.
MACHINES FOR HEADING BOLTS AND SPIKES.
112,410.

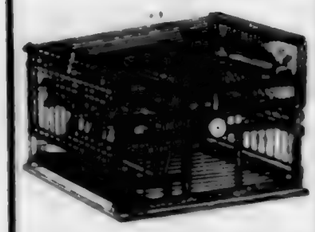


JOSEPH BOSWELL.
LEVI M. BOSWELL.
JONATHAN PALMER.
JONATHAN M. JAMES.
WASHING-MACHINE
112,411.

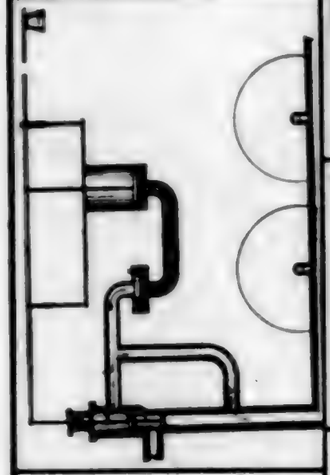


A. S. CAMERON.
GOVERNORS FOR DIRECT-ACTING ENGINES.
112,414.

112,431. JOHN CREW CRAFT.
CARPET-CLEANING MACHINES.



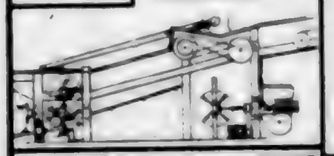
112,432. DANIEL CROSBY.
STEAM-REGULATORS FOR PAPER-DRIER



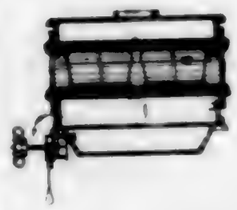
112,433. GEORGE M. CRUICKSHANK.
METALLIC PISTON AND VALVE-ROD PACKINGS.



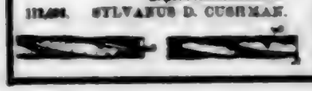
112,434. JOHN CULMAN
GRAIN-THRASHING AND SEPARATING-MACHINE



112,435. DAVID CURTIS. COOKING-STOVE



LIGHTNING-RODS.
112,436. SYLVANUS D. CUSHMAN.



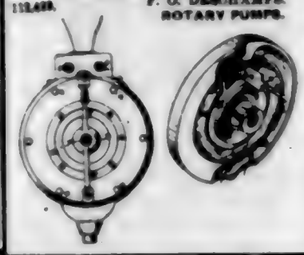
112,437. MOSE GRIDGES. PATRICK DAILY.



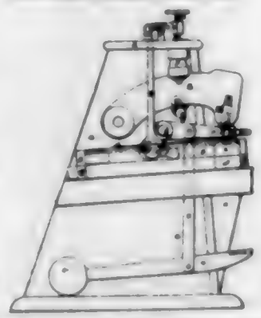
112,438. WILLIAM DALE.
COVERS FOR OPENINGS IN SIDEWALKS.



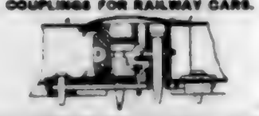
112,439. F. O. DESCHAMPS.
ROTARY PUMPS.



112,440. JAMES DODGE.
MACHINES FOR CUTTING FILES



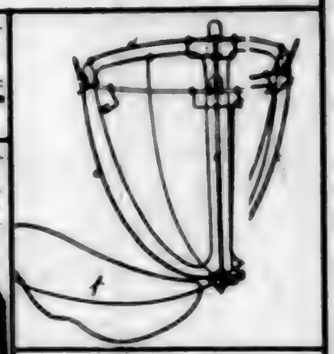
112,441. HENRY DÜRR, Hartford, Connecticut, assignor to himself and Charles Goodall, of Brooklyn, New York.
COUPLINGS FOR RAILWAY CARS.



TOBACCO-PIPES. PATRICK J. DWYER.
112,442.



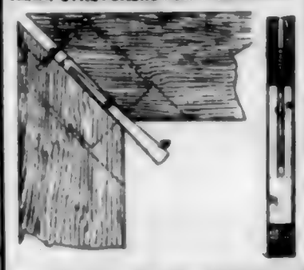
ALBERT P. EASTMAN.
112,443. BASKETS FOR HOUSE-PLANTS.



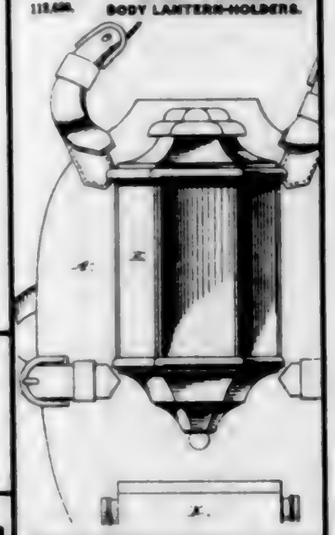
112,444. MILO A. ELLIOTT.
SULKY-PLOWS.



JAMES FAIRMAN
112,445. STRETCHERS FOR PAINTINGS.



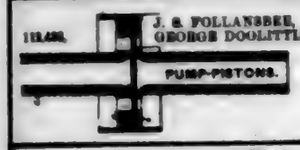
SAML. C. FESSENDEN.
112,446. BODY LANTERN-HOLDERS.



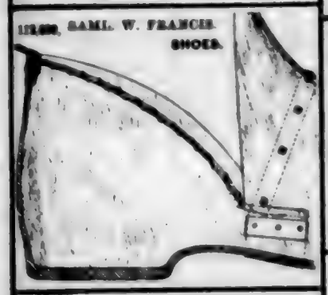
A. L. FINCH.
112,447 STOVE-LEGS.



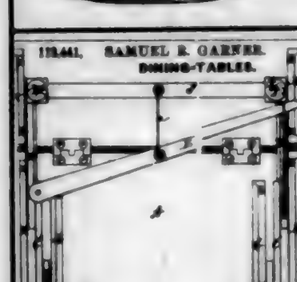
112,448. J. S. FOLLANSBEE, GEORGE DOOLITTLE.
PUMP-PISTONS.



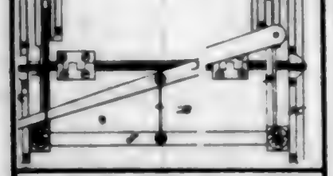
112,449. SAML. W. FRANCIS.
SHOES.



112,450. GUARD-FINGERS FOR HARVESTERS.
GEORGE FYFE.
CHESTER HARD.



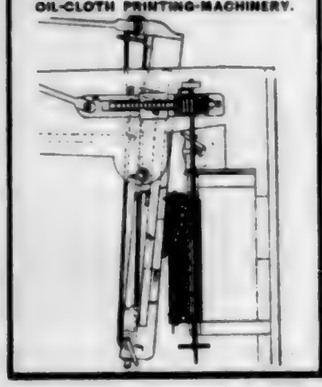
112,451. SAMUEL R. GARNER.
DINING-TABLES.



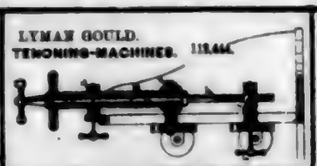
M. BOLAND GEARY. STEP-LADDERS.
112,452.



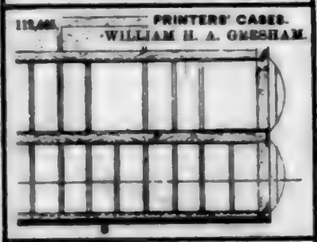
112,453. EBENEZER A. GOODIN.
OIL-CLOTH PRINTING-MACHINERY.



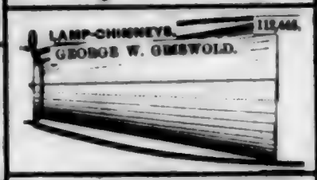
LYMAN GOULD.
112,454. TENONING-MACHINES.



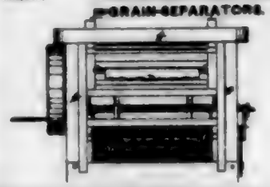
112,455. PRINTERS' CASES.
WILLIAM H. A. GRESHAM.



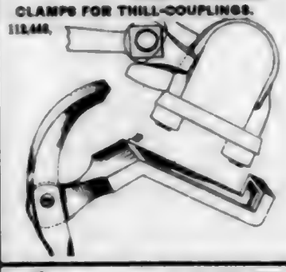
112,456. LAMP-CHIMNEYS.
GEORGE W. GRISWOLD.



112,457. PHILANDER GRISWOLD.
GRAIN-SEPARATORS.



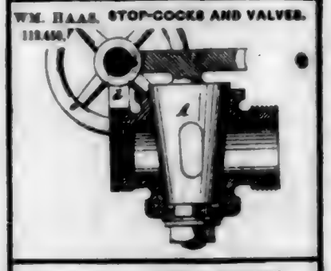
JOHN W. GUIDER.
112,458. CLAMPS FOR THILL-COUPLINGS.



G. GÜNTHER. BIRD-CAGES.
112,459.



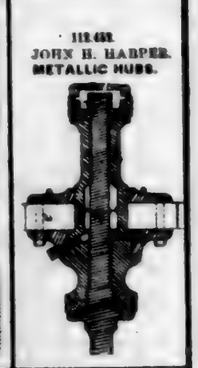
WM. HAAS. STOP-COCKS AND VALVES.
112,460.



JOS. L. HARLEY.
XAVER FENDRICH.
112,461. VALVES FOR STEAM-ENGINES.

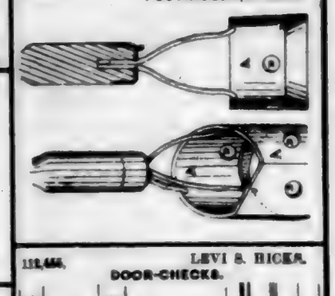


112,462. JOHN H. HARPER.
METALLIC HUBS.



112,463. EDM. Q. HENDERSON.
COMPOSITIONS FOR LUBRICATING MACHINERY.

BRYANT B. HERRICK.
112,464. POST-HOLE DIGGERS.

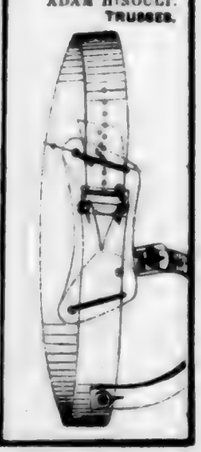


LEVI S. HICKS.
112,465. DOOR-CHECKS.



LUTHER HILL.
SETH D. TRIPP.
112,466. RAILWAY-CAR BRAKES.

112,467.
ADAM HINOULT.
TRUSSES.



112,458. W. A. NOUGE. FEED-BAGS FOR HORSES.



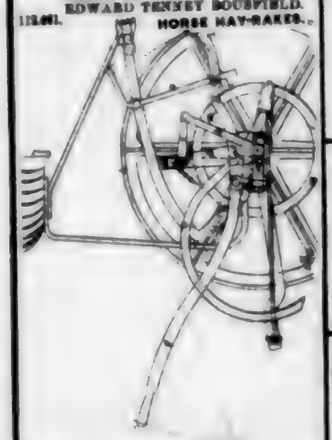
112,459. SHADE-HOLDERS FOR LAMPS. M. W. HOUSE.



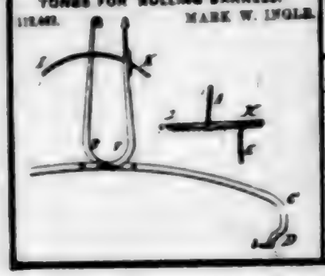
112,460. MARK W. HOUSE. LAMP-CHIMNEYS.



112,461. JAMES HOWARD. EDWARD TENNEY BOUSFIELD. HORSE HAY-RAKES.



112,462. TONGS FOR ROLLING BARRELS. MARK W. LYON.

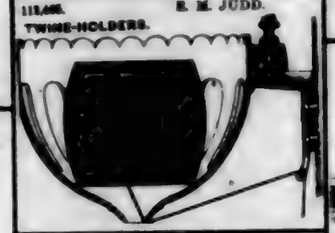


112,463. PITMEN. GEORGE W. JASON.

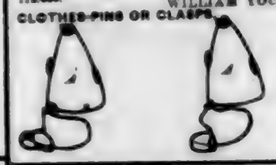


112,464. JOHN JONES. PASTES FOR PAPER-HANGINGS.

112,465. E. M. JUDD. TWINE-HOLDERS.

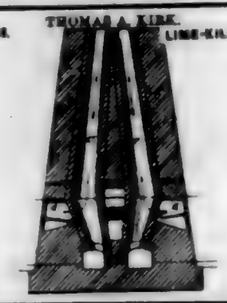


112,466. A. L. KESPORTS. WILLIAM YOUNT. CLOTHES-PINS OR CLASPS.

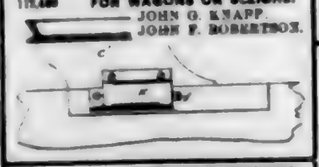


112,467. SAMUEL EDWARD KELLY. PUTTING UP HAMS.

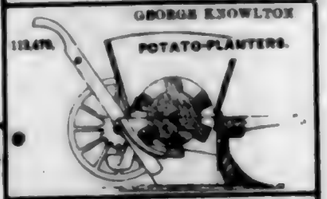
112,468. THOMAS A. KIRK. LIME-KILNS.



112,469. FASTENINGS FOR SEATS FOR WAGONS OR SLEIGHS. JOHN G. KNAPP. JOHN F. ROBERTSON.



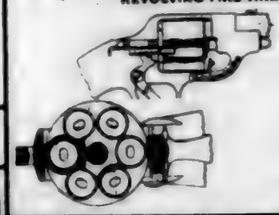
112,470. GEORGE KNOWLTON. POTATO-PLANTERS.



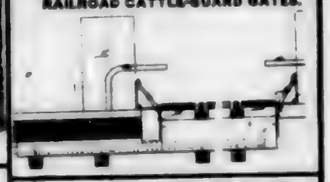
112,471. REVOLVING FIRE-ARMS. EDWIN S. LEAYCROFT.



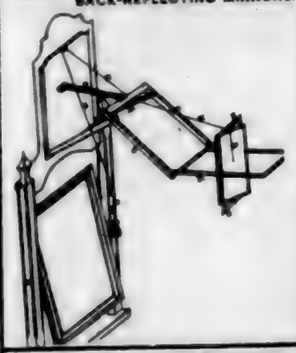
112,472. EDWIN S. LEAYCROFT. REVOLVING FIRE-ARMS.



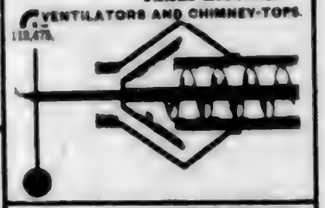
112,473. JAMES H. MALLORY. RAILROAD CATTLE-GUARD GATES.



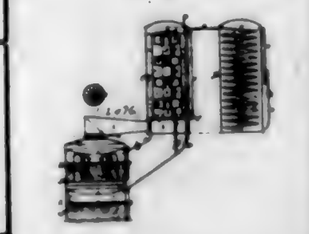
112,474. RICHARD MASON. BACK-REFLECTING MIRRORS.



112,475. JAMES McGOWAN. VENTILATORS AND CHIMNEY-TOPS.



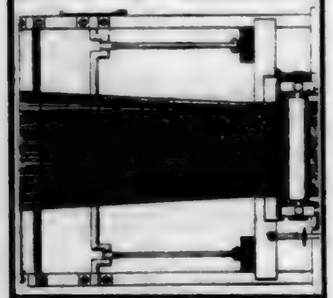
112,476. FREDK. MEASEY. APPARATUS FOR RECTIFYING AND REFINING SPIRITS.



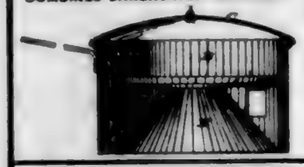
112,477. JOHN F. MERRILL. TIN CANS.



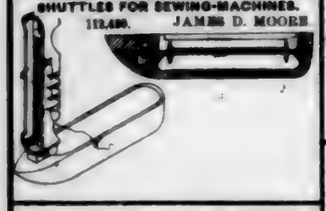
112,478. JOHN MICHNA. GEORGE FISCHER. TAKE-UP MECHANISMS FOR LOOMS.



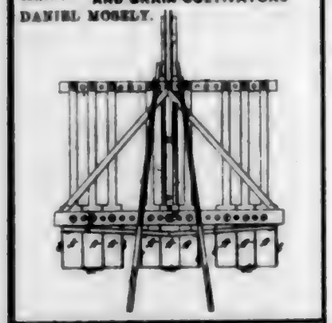
112,479. W. H. MILLER. COMBINED BAKERS AND BROILERS.



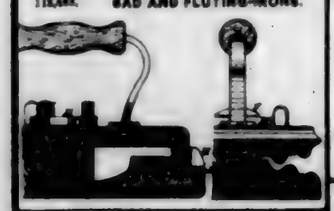
112,480. SHUTTLES FOR SEWING-MACHINES. JAMES D. MOORE.



112,481. COTTON-CHOPPERS AND GRAIN-CULTIVATORS. DANIEL MOSELY.



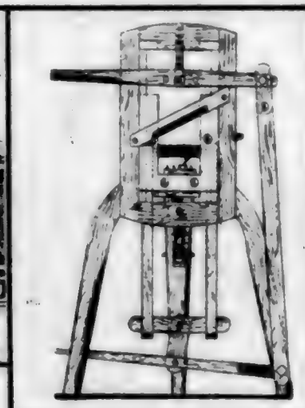
112,482. FREDERICK MYERS. GAD AND FLUTING-IRONS.



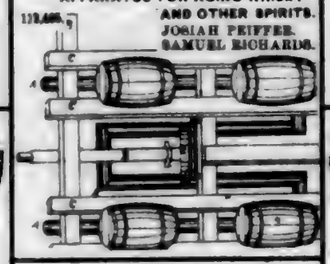
112,483. AUGUSTUS NEWELL. REEDS FOR ORGANS AND MELODEONS.



112,484. AMOS PARK. STRAW-CUTTERS.

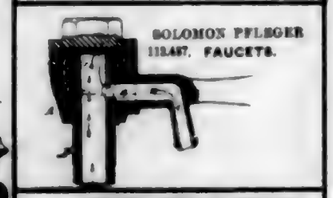


APPARATUS FOR AGING WHISKY AND OTHER SPIRITS. JOSIAH PFEIFFER. SAMUEL RICHARDS.

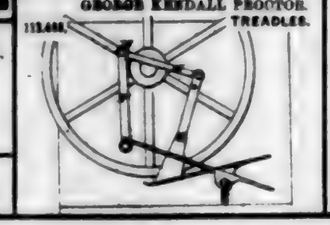


112,486. LOUIS A. PERRAULT. COMBINED COTTON AND CORN-PLANTERS.

112,487. SOLOMON PFLEGER. FAUCETS.

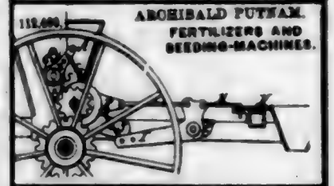


112,488. GEORGE KENDALL PROCTOR. TREADLES.

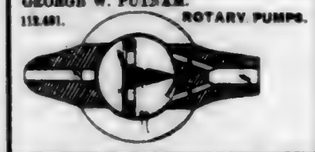


112,489. VICTORY PURDY. LUBRICATING COMPOUNDS.

112,490. ARCHIBALD PUTNAM. FERTILIZERS AND SEEDING-MACHINES.



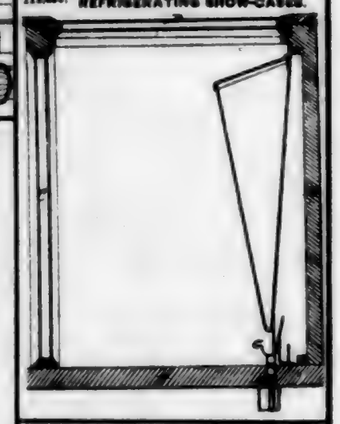
GEORGE W. PUTNAM. 112,491. ROTARY PUMPS.



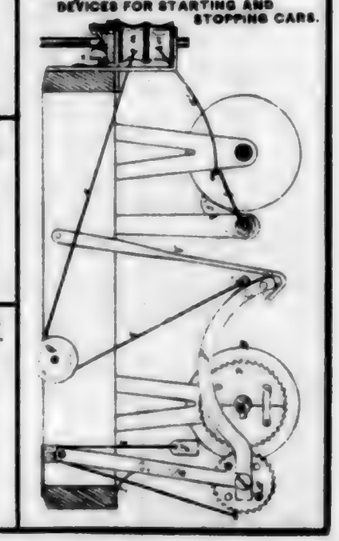
ROBERT DUNBAR RADCLIFFE. HAT-BRUSHES. 112,492.



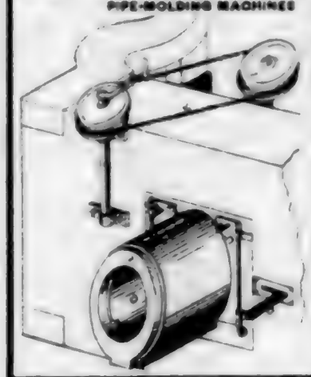
112,493. THOS. L. RANKIN. REFRIGERATING SHOW-CASES.



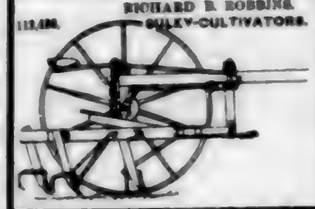
112,494. PHILIP RHOADS. DEVICES FOR STARTING AND STOPPING CARS.



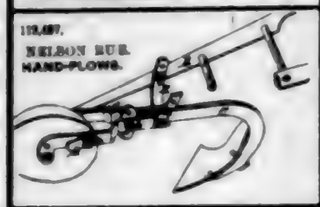
112,496. GEO. RICHARDSON. PIPE-MOLDING MACHINES.



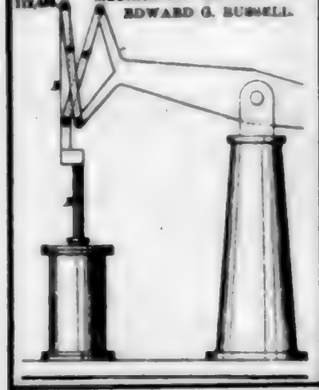
112,497. RICHARD B. ROBBINS. SULKY-CULTIVATORS.



112,497. NELSON RUE. HAND-PLOWS.



112,498. MECHANICAL MOVEMENTS. EDWARD G. BUSHELL.



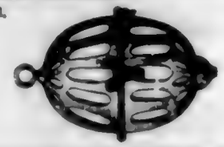
112,499. LYMAN ALPHONZO BUSSELL. RAILWAY-CAR BRAKES.



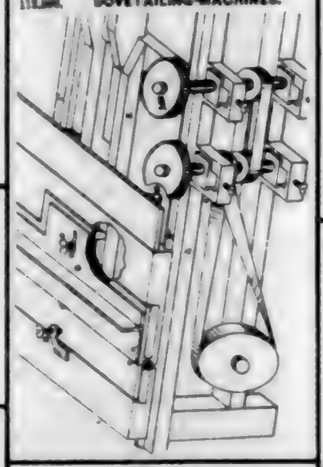
112,500. DAVID SANFORD. STOVE-PIPE CLEANERS.



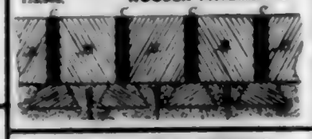
J. D. SARGENT. TWINE-HOLDERS. PUREMORT BRADFORD.
112,501.



JAMES M. SEYMOUR. DOVETAILING-MACHINES.
112,502.



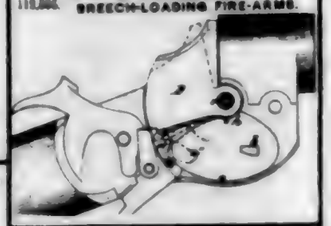
EATON SHAW. WOODEN PAVEMENTS.
112,503.



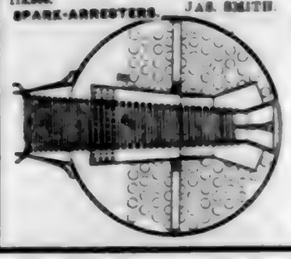
GEORGE W. SHIPMAN. GUARDS FOR CIRCULAR SAWS.
112,504.



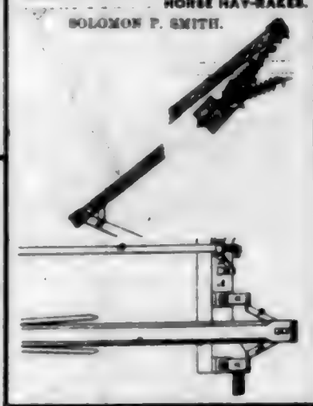
DEXTER SMITH. MARTIN J. CHAMBERLIN. BREECH-LOADING FIRE-ARMS.
112,505.



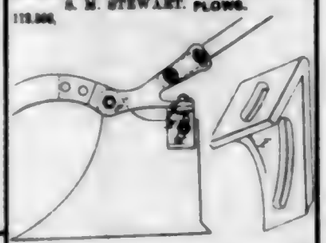
112,506. SPARK-ARRESTERS. JAS. SMITH.



112,507. HORSE HAY-RAKES. SOLOMON P. SMITH.

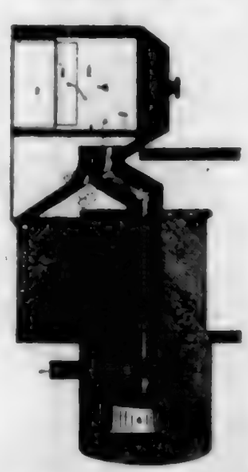


S. M. STEWART. PLOWS.
112,508.



GEORGE E. SWAN. MEDICAL COMPOUNDS FOR TREATING FEVER AND AGUE.
112,509.

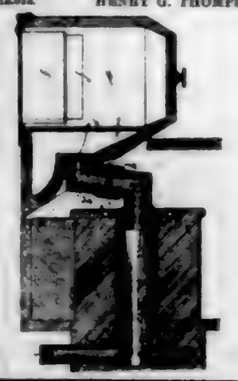
HENRY G. THOMPSON. DEVICES FOR COOLING JOURNALS OF CAR-AXLES.
112,510.



HENRY G. THOMPSON. COOLING JOURNALS OF CAR-AXLES.
112,511.



HENRY G. THOMPSON. COOLING JOURNALS OF CAR-WHEEL AXLES.
112,512.



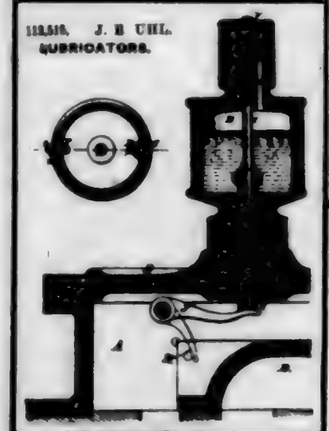
HENRY G. THOMPSON. DEVICES FOR COOLING JOURNALS OF RAILWAY CARS.
112,513.



NON-HEATING HANDLES FOR SAD-IRONS
WM. H. TOWERS.
112,514.



112,515. J. B. UHL. LUBRICATORS.



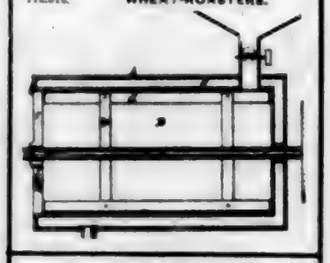
112,516. FRANKLIN UNDERWOOD. COMBINED CORN-PLANTERS AND CULTIVATORS.



112,517. KING-BOLTS. WENDEL VONDERSAAR.



GEO. W. WAITT. WHEAT-ROASTERS.
112,518.



112,519. THOMAS J. WEST. PLASTER-SOWERS.



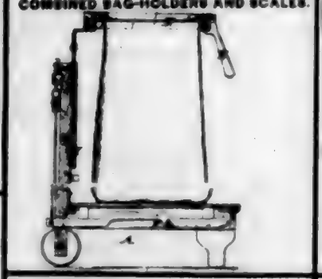
112,520. TICKET-HOLDERS. HENRY WEXEL.



112,521. A. N. BELL. TOBACCO-PRESSES.



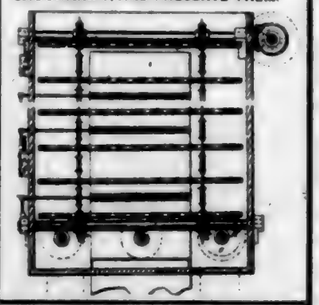
112,522. WILLIAM ZIMMERMAN. COMBINED BAG-HOLDERS AND SCALES.



112,523. BREECH-LOADING FIRE-ARMS. J. M. MASON.



4,287. CHARLES ALDEN. TREATING FRUITS TO DRY, SACCHARIFY, AND PRESERVE THEM.



4,288. JOHN H. BUCKMAN. DEVICES FOR SECURING PULLEYS TO SHAFTS.



4,289. GEO. CROUCH. SHAWL-STRAPS.



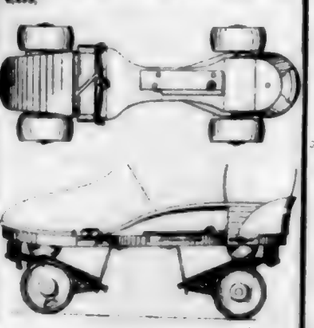
4,290. NEHEMIAH T. POLSON. ATMOSPHERIC DENTAL PLATES



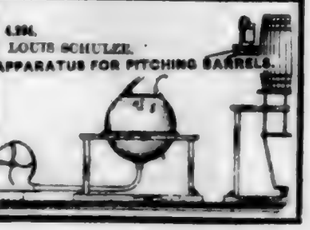
4,291. PESSARIES. W. R. GARDNER.



4,292 4,293. SKATES. JAMES L. PLIMPTON.



4,294. LOUIS SCHULZE. APPARATUS FOR PITCHING BARRELS.



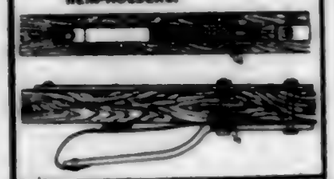
ILLUSTRATIONS OF PATENTS

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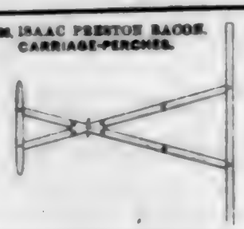
THE UNITED STATES PATENT OFFICE

MARCH 14, 1871.

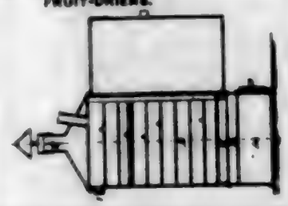
112,526. JOHN B. ACHENBACH.
REIN-HOLDERS.



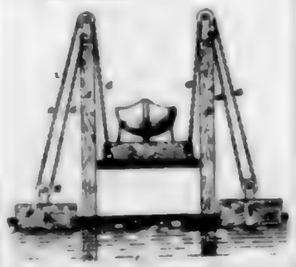
112,527. ISAAC PRESTON BACON.
CARRIAGE-PERCHES.



112,528. JACOB S. BIDDLE.
THEODORE S. LINGENFELTER.
FRUIT-DRIERS.



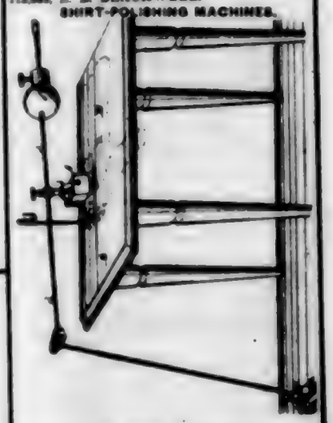
112,529. GEORGE A. ALBERTSON.
DRY-DOCKS.



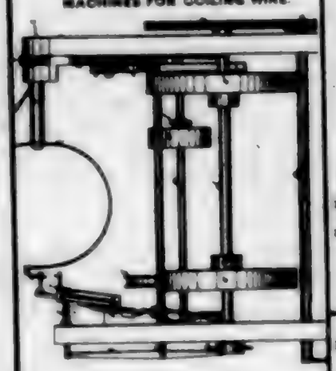
112,530. THOMAS D. BAILEY.
CHIMNEY-CAPS.



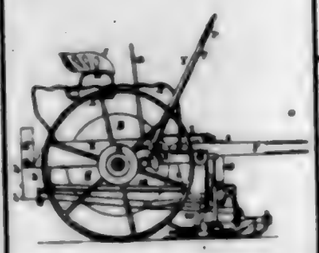
112,531. E. B. BLACKWELL.
SHIRT-POLISHING MACHINES.



112,532. ELIAS B. ALLEN.
CHARLES O. SMALL.
ALONZO P. SMALL.
MACHINES FOR COILING WIRE.



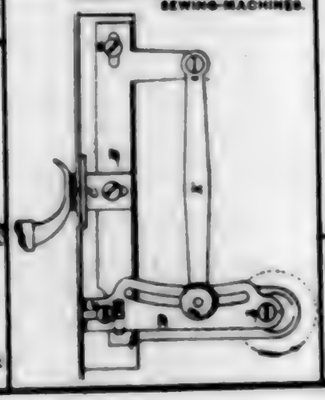
112,533. L. M. BATTY.
HARVESTERS.



112,534. EDUARDO BONNEVAL.
CAR-BRAKES AND STARTERS.

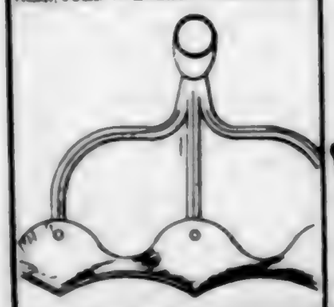


112,535. ROBERT M. BERRY.
FEEDING MECHANISMS FOR SEWING-MACHINES.

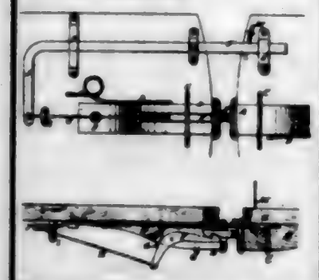


112,536. GUST. BOURGADE.
TREATING MARINE PLANTS TO OBTAIN GELATINE, &c.

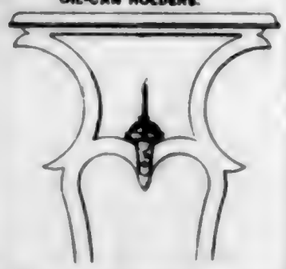
112,537. JOHN P. AVERY. GARDEN-HOES.



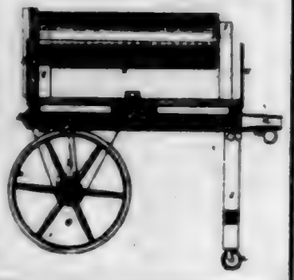
112,538. GODFREY BRENNER.
GEORGE T. POLK.
CAR-COUPLINGS.



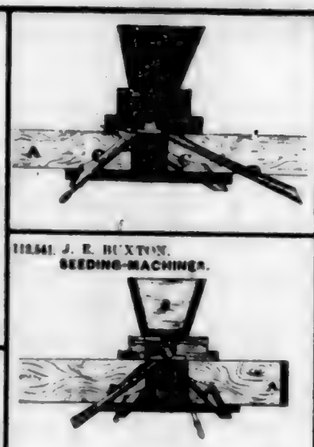
112,539. WILLIAM STODDARD BRICK.
OIL-CAN HOLDERS.



112,540. DANIEL W. BROWN.
APPARATUS FOR CARRYING DRAIN-PIPES.



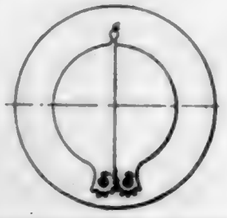
112,541. J. E. BUXTON.
SEEDING-MACHINES.



112,542. JOSEPH T. CAPEWELL.
GEORGE D. CAPEWELL.
POWDER-FLASKS.

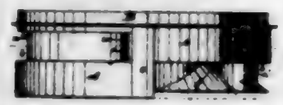


112,543. EDWARD CARD.
TEA-KETTLES.

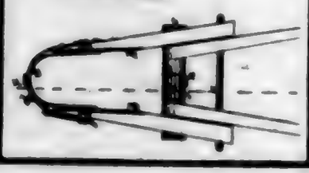


112,544. THOMAS CARSON.
MARBLEIZING PAPER.

112,545. JOEL T. CASE.
WATER-WHEELS.



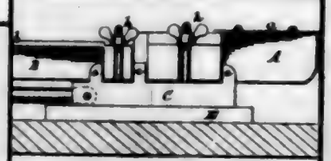
112,546. H. F. CHAPIN.
ANIMAL POKES.



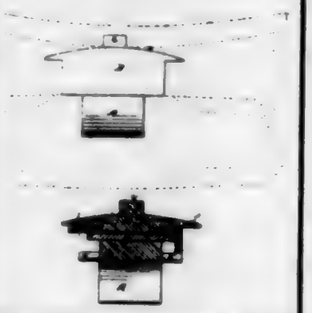
112,547. ANDREW JACKSON CHASE.
REFRIGERATORS.



112,548. ROBERT CHAUNCEY.
BURNISHERS FOR BOOTS AND SHOES.



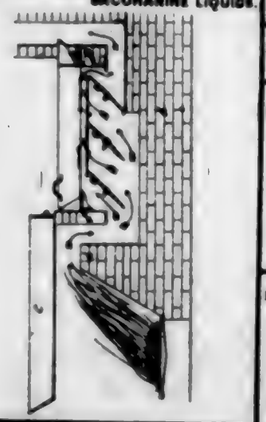
112,549. RICHARD A. CLARK.
CLIPS FOR BUGGY-SPRINGS.



112,550. ROBERT J. CLAY.
CREEPING-DOLLS.

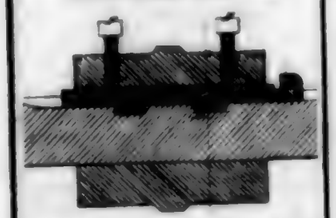


112,551. E. G. BUTLER.
APPARATUS FOR EVAPORATING SACCHARINE LIQUIDS.



112,552. J. E. BUXTON.
COMBINED DRILLS AND SEEDERS.

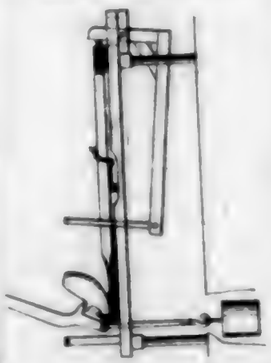
112,559. CHARLES B. COLE.
SEWING WHEELS TO SHAFTS.



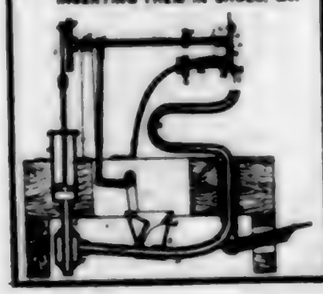
112,560. JAMES H. COSLEY.
LADDERS.



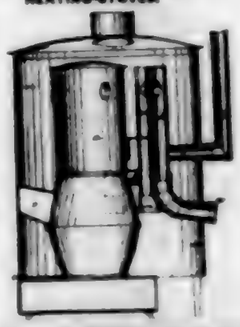
112,561. W. A. COWERS.
WOOD-SEWING MACHINES.



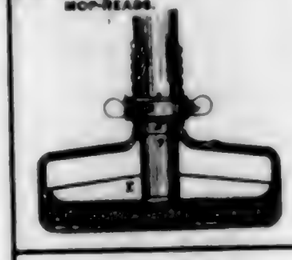
112,562. LYMAN A. COOK.
MACHINES FOR FEEDING RIVETS AND INSERTING THEM IN SHOES, &c.



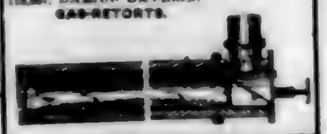
112,563. WILLIAM COTTINGHAM.
JOHN W. STAFFORD.
HEATING-STOVES.



112,564. JAMES DAVIS.
HOE-HEADS.

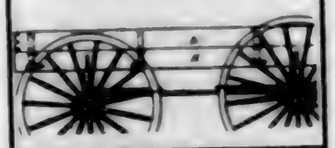


112,565. DARIUS DAVENOY.
GAS-RETORTS.

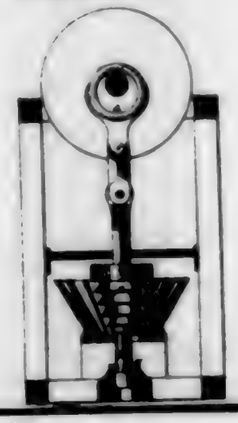


112,566. ANTOINE DIBAULNIEDO, M. D.
SITTERS.

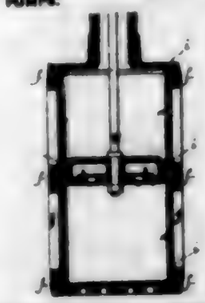
112,567. SAMUEL DICKSON.
WAGON-BOXES AND HAY-RACKS.



112,568. ANDREW DIETZ.
STONE-CRUSHERS.

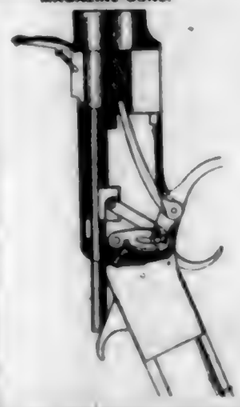


112,569. ISAAC DILLINGHAM.
PUMPS.



112,570. DANIEL A. DRAPER.
PROCESSES OF MANUFACTURING TYPE-BLOCKS.

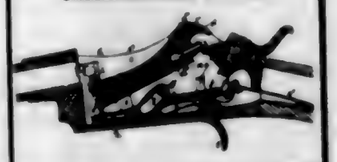
112,571. HENRY J. DREW.
MAGAZINE-GUNS.



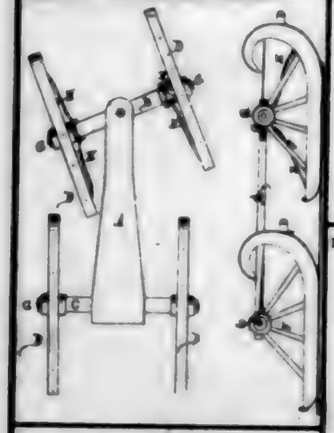
112,572. HENRY J. DREW.
REPEATING FIRE-ARMS.



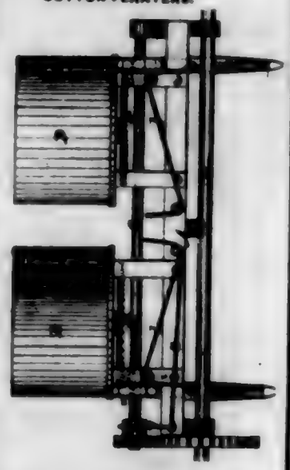
112,573. JOSEPH DUVAL.
BREECH-LOADING FIRE-ARMS.



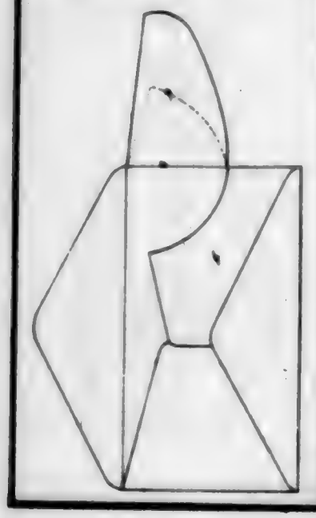
112,566. ROBERT ELLIOTT. SLEIGHS.



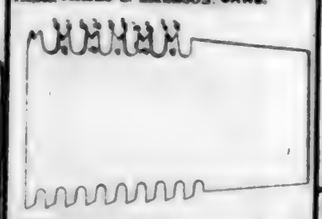
112,567. DE WITT C. ELLIS.
GEORGE E. DEMING
COTTON-PLANTERS.



112,568. EDWARD S. ELLIS
ENVELOPES.



112,569. JAMES B. EMERSON. SAWS.



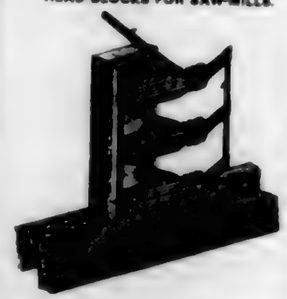
112,570 GEORGE W. ENNIS.
CHILDREN'S CRIBS.



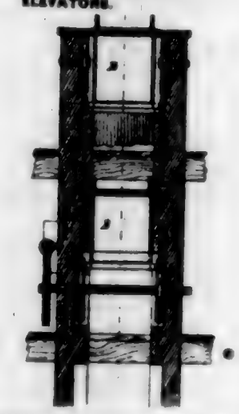
112,571. NATHL. EVANS, Jr.
PAPER-COLLARS.



112,572 JOHN S. EVERITT.
CHARLES H. AVERY.
HEAD-BLOCKS FOR SAW-MILLS.

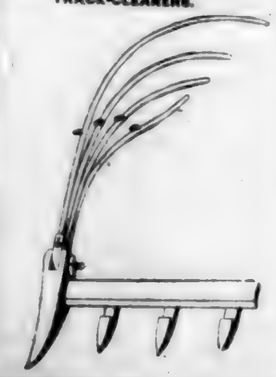


112,573 ZEBULON C. FAVOR.
ELEVATORS.

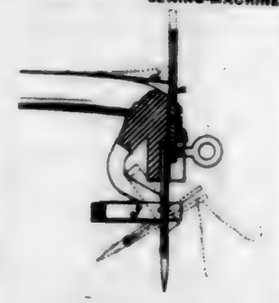


112,574. LYMAN FAY.
NUT-LOCKS.

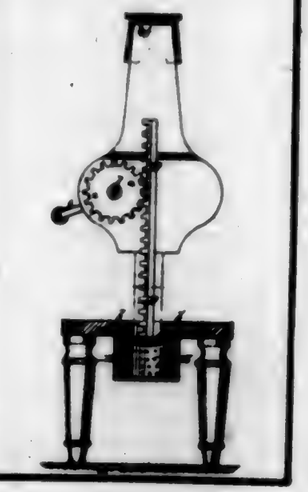
112,576. HENRY FELLOWS.
TRACK-CLEARERS.



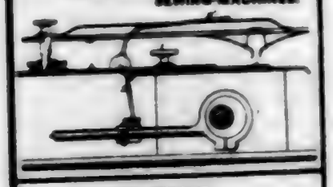
112,576. GEORGE M. FRARY.
NEEDLES AND HOLDERS FOR SEWING-MACHINES.



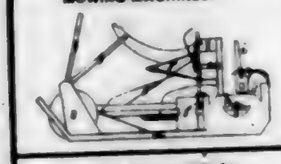
112,577. CHARLES ADOLPH FREDERICK.
POTATO-MASHERS.



112,578. H. W. FULLER.
TUCK-CREASERS FOR SEWING-MACHINES.



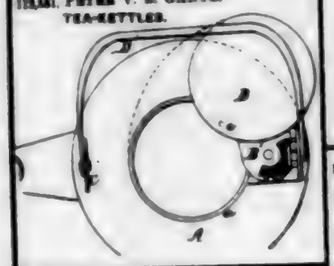
112,579. SOLOMON FULLER.
SEWING-MACHINES.



112,580. JAMES GALLATIN, Jr.
UNIVERSAL MANDRELS.



112,581. PETER V. B. GARTZ.
TEA-KETTLES.



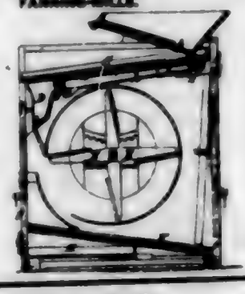
112,582. THOMAS GARRICK.
HARVESTER-CUTTERS.



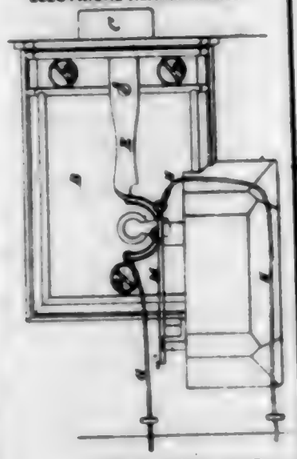
112,583. CHARLES E. GLADDING.
PLASTER-SCREWS.



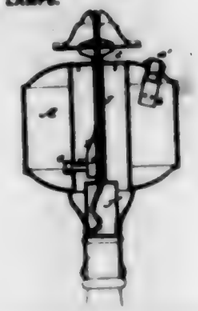
112,584. REUBEN GIBSON.
FANNING-MILLS.



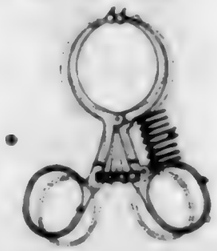
112,585. FERJUS GIRARD.
ELECTRICAL ALARM-LOCKS.



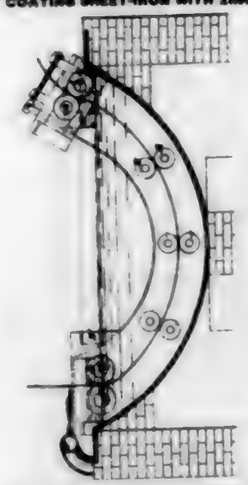
112,586. HENRY J. GOFF.
LAMPS.



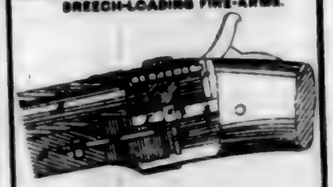
112,587. WILLIAM H. GRAY.
COMB-TAIL HOLDERS.



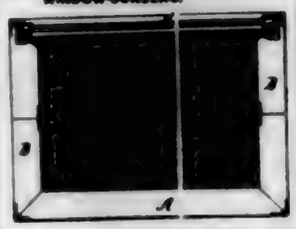
112,588. JOHN D. GREY.
COATING SHEET-IRON WITH ZINC.



112,589. HENRY HAMMOND.
BREECH-LOADING FIRE-ARMS.



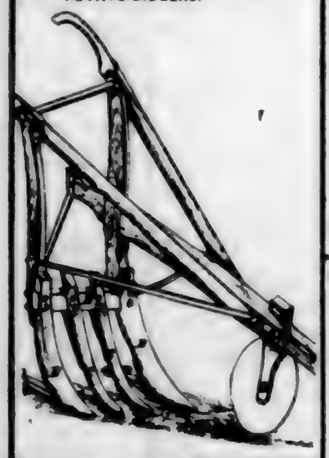
112,590. JOHN HANCOCK, Jr.
WINDOW-SCREENS.



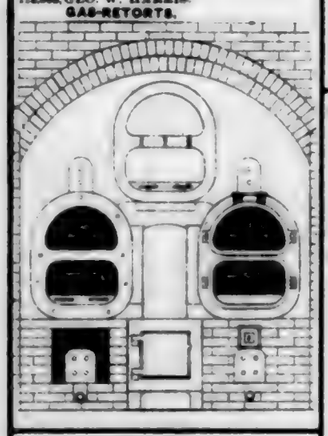
112,591. AARON S. HARLAN.
ROTARY STEAM-ENGINES.



112,592. WILLIAM D. HARRELL.
POTATO-DIGGERS.



112,593. GEO. W. HARRIS.
GAS-RETORTS.

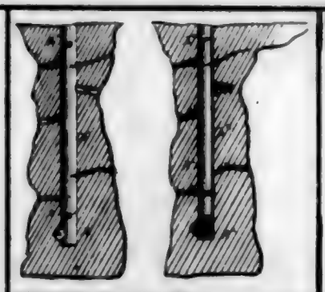


112,594. GEORGE HAYES.
SKY-LIGHTS, CONSERVATORIES, AND OTHER GLAZED STRUCTURES.

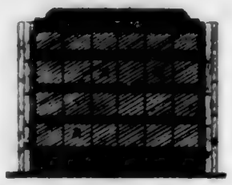


112,595. SHELBY WADAY HELM.
MEDICAL COMPOUNDS FOR TREATING BRONCHIAL AND LUNG DISEASES.

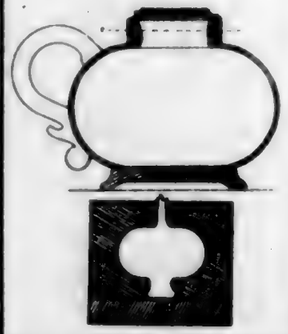
112,596. JOHN R. HILL.
OIL-WELL DRILLING.



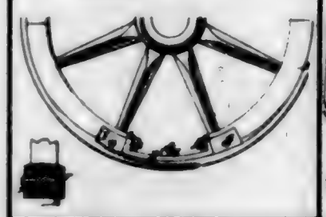
112,597. ARTEMAS HOLDREDGE.
BENJAMIN F. HARRINGTON.
HENRY H. HARRINGTON.
CHEESE-HOOPS.



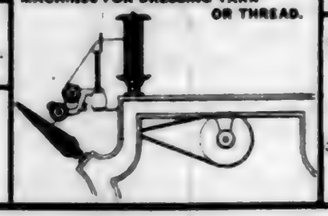
112,598. JONA. J. HOYT.
JOHN E. CRANE
CONSTRUCTION OF LAMPS.



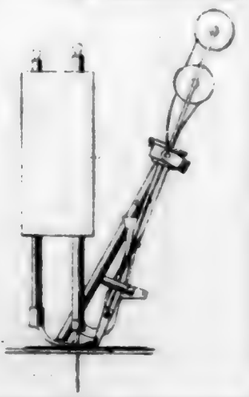
112,599. ANTHONY HUDDLER.
SECURING WHEEL-TIRES.



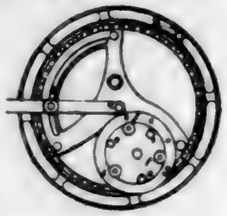
112,600. GILMAN JAQUITH.
MACHINES FOR DRESSING YARN OR THREAD.



112,601. ALBERT, W. JOHNSON.
EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.



112,602. WM. G. KENYON.
HAY-TEDDERS.



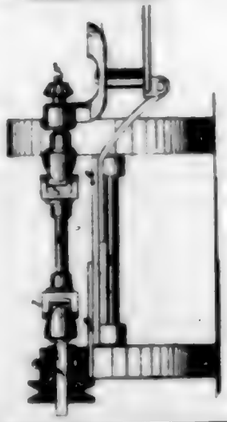
112,603. O. S. KING.
WASHING-MACHINES.



112,604. MOSES KINSEY.
SKATES.



112,605. DAVID R. KENYON.
HARVESTER-RAKES.



112,606. GEORGE T. LEWIS.
PROCESSES OF REFINING AND WHITENING THE PRODUCT FROM SULPHURETS OF LEAD AND ZINC.

112,607. GEORGE T. LEWIS.
REFINING AND WHITENING THE PRODUCT FROM ORES OF LEAD AND ZINC.

112,608. GEORGE T. LEWIS.
MANUFACTURE OF CARBONATE OF LEAD, &c.

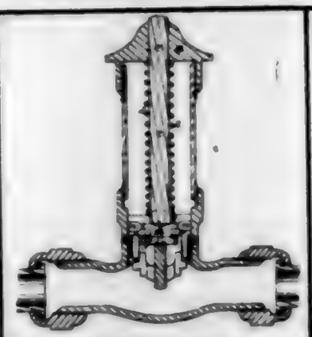
112,609. DE MARCUS MADDEN.
BASE-BURNING STOVES.



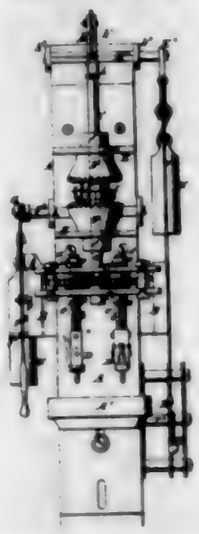
112,610. THOMAS MALONEY.
MANUFACTURE OF BOTTLED MINERAL WATER.



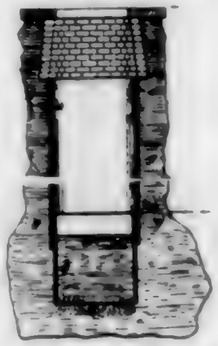
112,611. STEWART C. MARSH.
SAFETY-VALVES.



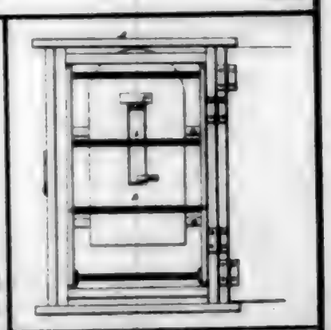
112,612. HENRY MARTIN.
MACHINES FOR CUTTING SCREW-THREADS ON BOLTS.



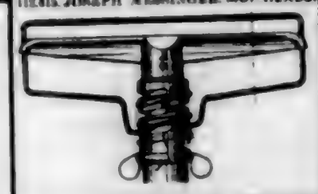
112,613. WILLIAM MASON.
MODES OF MAKING WELLS.



112,614. S. T. McDOUGALL.
COMBINED CLOTHES-RECEPTACLES, IRONING-BOARDS, AND DRIERS.



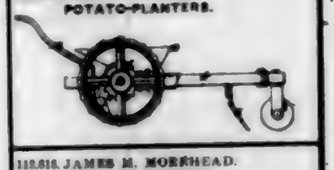
112,615. JOSEPH MESSINGER. MOP-HEADS.



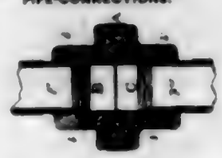
112,616. GEORGE W. MILES.
TREADLES FOR SEWING AND OTHER MACHINES.



112,617. JOHN G. MILLS.
POTATO-PLANTERS.



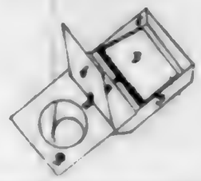
112,618. JAMES M. MORRHEAD.
PIPE-CONNECTIONS.



112,619. JEREMIAH MURPHY.
BURGLAR-ALARM DRAWERS.



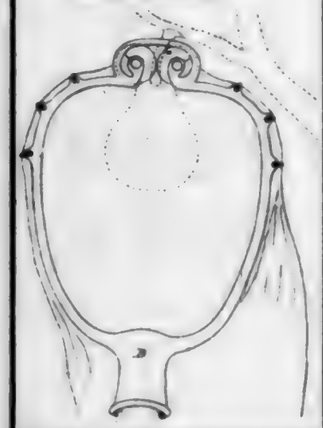
112,620. SOLOMON D. NEWBRO.
EARTH-CLOSETS.



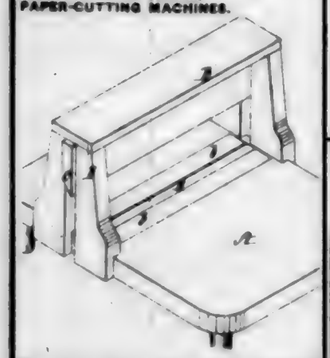
112,621. AARON B. NOTT.
MODES OF ATTACHING PIPES TO SINKS, DRAINS, &c.



112,622. CORNELIUS OSTRANDER.
FRUIT-GATHERERS.



112,623. CHARLES PAINE.
PAPER-CUTTING MACHINES.



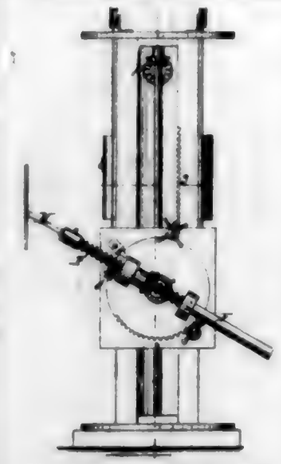
112,624. JASON J. PALMER.
FRANKLIN G. PALMER.
GLOBE-HOLDERS AND COOLERS COMBINED, FOR VAPOR-BURNERS.



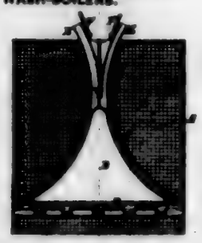
112,625. CHARLES W. PEIRCE, Jr.
SKIRTS.



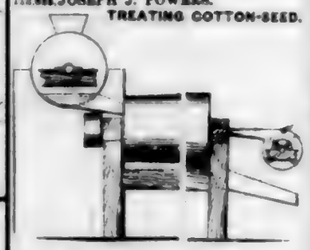
112,626. PARLEY I. PERRIN.
JOSEPH L. HEWES.
MACHINES FOR TAPPING BOILERS.



112,627. CHARLES W. POWELL.
WASH-BOILERS.



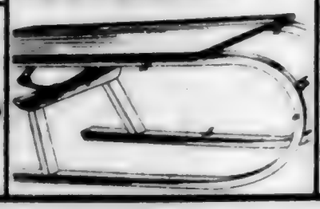
112,628. JOSEPH J. POWERS.
TREATING COTTON-SEED.



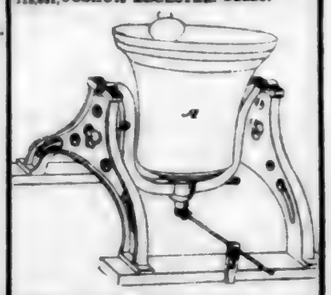
112,629. AMOS RANK.
FINGER-BEAMS FOR HARVESTERS.



112,630. AMOS RANK. SLEIGHS.

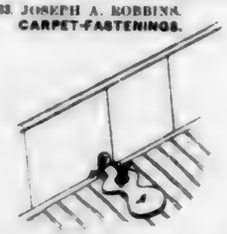


112,631. JOSHUA REGESTER. BELLS.

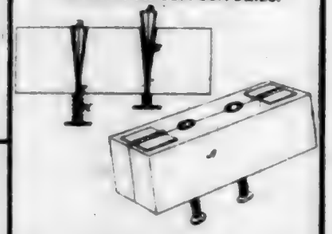


112,632. SARAH AMANDA REYBERT.
HAIR-TONICS.

112,633. JOSEPH A. ROBBINS.
CARPET-FASTENINGS.



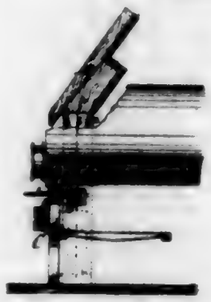
112,634. JOSEPH A. ROBBINS.
MOLDS FOR SUPPOSITORIES.



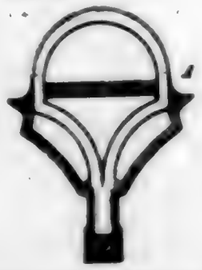
112,635. CHAS. H. ROBINSON.
SAFETY-HASPS OR LATCHES.



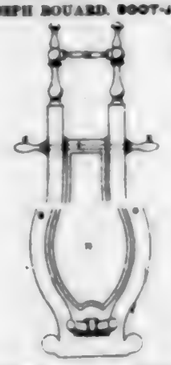
112,636. ALEXANDER RODGERS, BEAU TARRANT.
MACHINES FOR FEEDING FUEL TO FURNACES.



112,637. MARK ROSENWAX.
GAS-BURNERS.



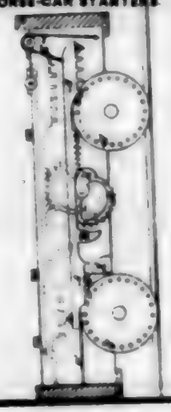
112,638. JOSEPH BOUARD. BOOT-JACKS.



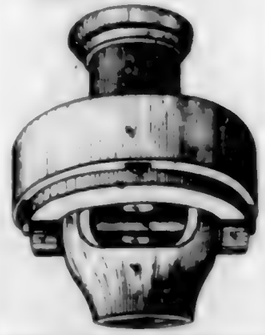
112,639. E. A. SCHOELLER.
WINDOWS FOR RAILWAY-CARS.



112,640. HENRY SCHREIVER.
HORSE-CAR STARTERS.



112,641. FREEDOM G. SHEPARD.
SHAFT-COUPLINGS.



112,642. NICHS. H. SHIPLEY.
SEALING CANS AND OTHER VESSELS FOR PRESERVING FRUITS, MEATS, &c.



112,643. CHARLES ELDRIDGE SMITH.
SHUTTLES FOR LOOMS.



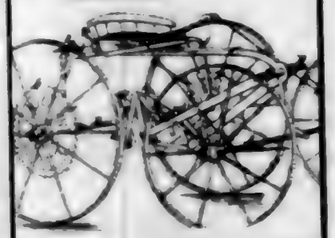
112,644. CHAS. S. STEAD
SKY-LIGHTS.



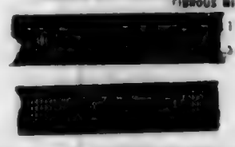
112,645. BENJAMIN M. SPENCER.
BOILER-FLUE BRUSHES.



112,646. MANASSA STAUDT.
VELOCIPEDES.



112,647. CHASE A. STEVENS.
PACKING FROM ASBESTUS AND OTHER FIBROUS MINERALS.

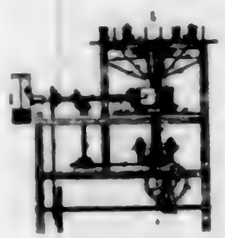


112,648. CHASE A. STEVENS.
FIBROUS MINERAL PACKINGS FOR JOURNALS, BEARINGS, &c.

112,649. CHASE A. STEVENS.
TREATING ASBESTUS AND OTHER MINERAL FIBERS FOR USEFUL PURPOSES.

112,650. CHASE A. STEVENS.
TREATING ASBESTUS AND OTHER FIBROUS MINERALS.

112,651. CHASE A. STEVENS.
ISAAC LINDSLEY.
MACHINERY FOR FORMING PACKING FROM ASBESTUS AND OTHER FIBROUS MATERIALS.

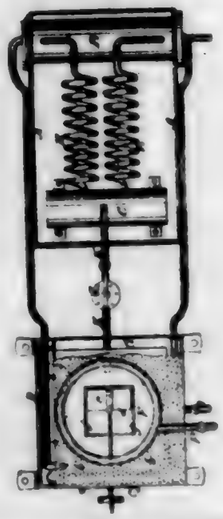


112,652. LEONARD S. TAYLOR.
STIRRUPS FOR RIDING-SADDLES.

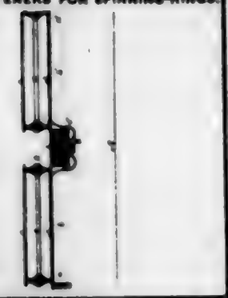


112,653. THOMAS TAYLOR.
FERTILIZERS.

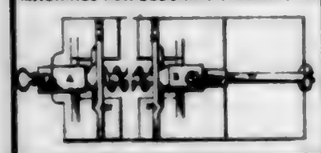
112,654. A. B. TRIPLER.
APPARATUS FOR MAKING ICE AND REFRIGERATING.



112,655. CHARLES EDWARD TROWBRIDGE.
FASTENERS FOR SPINNING-RINGS.



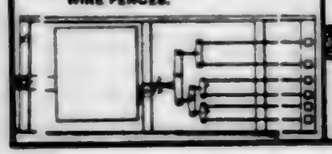
112,656. GEORGE VINCENT.
MACHINES FOR BLOCKING RIBBONS, &c.



112,657. C. W. WADSWORTH.
CARL GULLBERG.
ATTACHING THE HAIR-SPRINGS OF WATCHES.



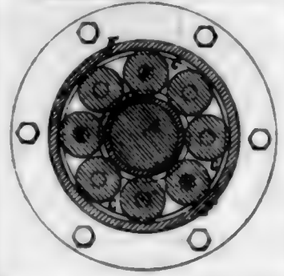
112,658. CHAS. A. WAKEFIELD.
WIRE FENCES.



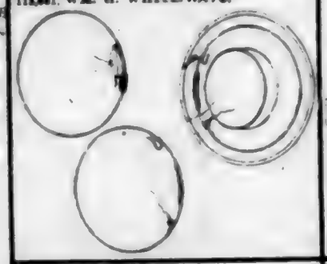
112,660. JOHN H. WELSH.
REFRIGERATORS.



112,662. HENRY P. WESTCOTT.
ANTI-FRICTION JOURNAL-BOXES.



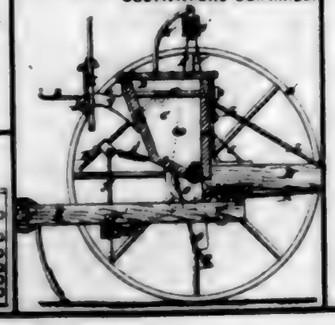
112,661. WM. H. WHITE. HATS.



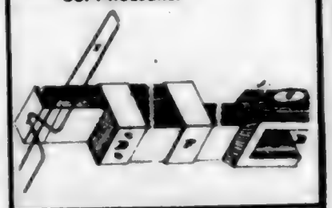
112,663. WM. B. WHITNEY
CHILD'S CARRIAGES.



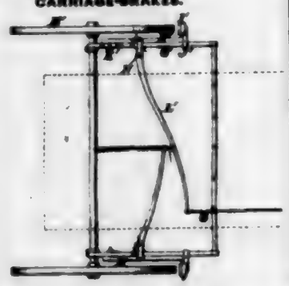
112,664. WYMAN WIGHT.
BROADCAST SEEDERS AND CULTIVATORS COMBINED.



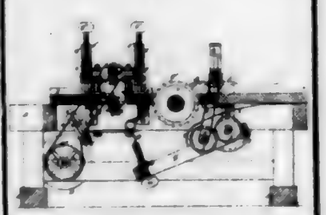
112,665. WM. H. WILLIAMS.
COPY-HOLDERS.



112,666. AUGUST WINCK.
CARRIAGE-BRAKES.



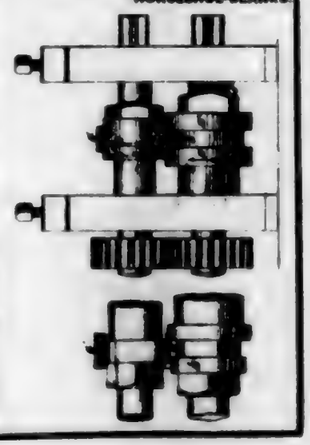
112,667. GEORGE F. WOOLSTON.
BLIND-SLAT MACHINES.



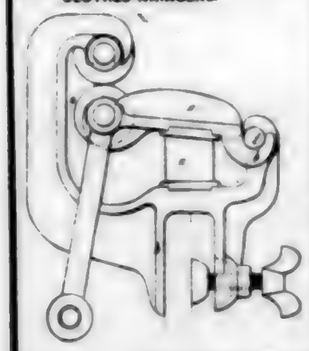
112,667. PIERCE W. YARRELL.
WATER-WHEELS.



112,668. WM. ACHESON.
ROLLS FOR FORMING HORSESHOE-BLANKS.



112,669 AUGUST ALBRECHT.
CLOTHES-WRINGERS.



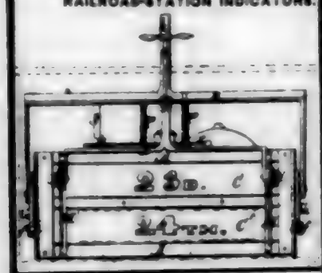
112,670 LAUREN B. ARNOLD.
VENTILATING MILK-CANS.



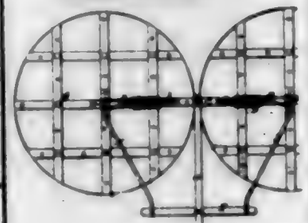
112,671 JOSEPH B. BAILEY.
BENCH-PLANES.



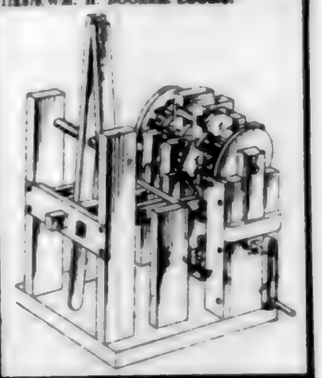
112,672 G. W. ALEXANDER.
RAILROAD-STATION INDICATORS.



112,673 JOHN W. BARTON.
THOMAS HOLMES.
ROTARY HARROWS.



112,674 WM. H. BOOZER. LOOMS.



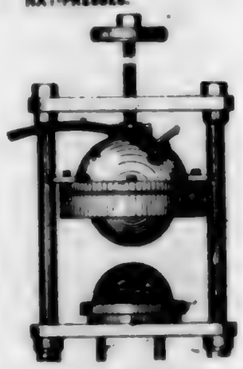
112,675 MYRON T. BOULT
CARVING-TOOLS.



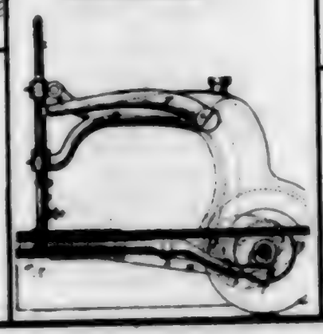
112,676 M. P. BRAY. HOOP-SKIRTS.



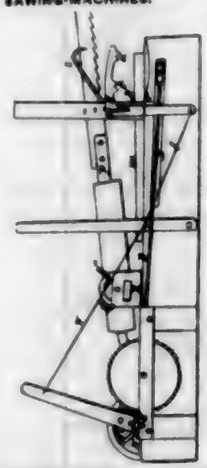
112,677. SAMUEL BRATTY.
HAT-PRESSES.



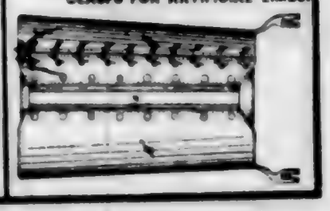
112,678. JOSEPH BRENOR.
SEWING-MACHINES.



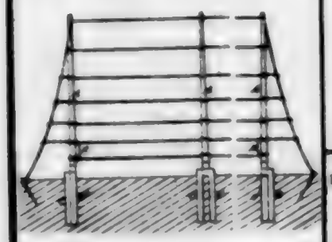
112,679 GEORGE W BRAYMER.
SAWING-MACHINES.



112,680 S. F. BURD.
J. F. DENNISTON.
CLASPS FOR ARTIFICIAL LIMBS.



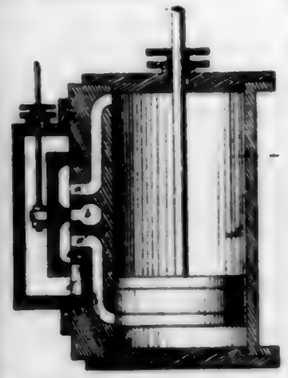
112,681 WILLIAM ALTICK.
P. P. OEMES.
FENCES.



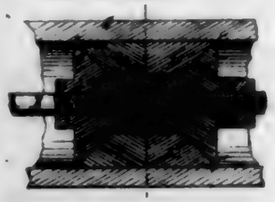
112,682 CHAS. B. ANDERSON.
DOOR-CHECKS.



112,684 A. S. CAMERON.
STEAM-VALVES.



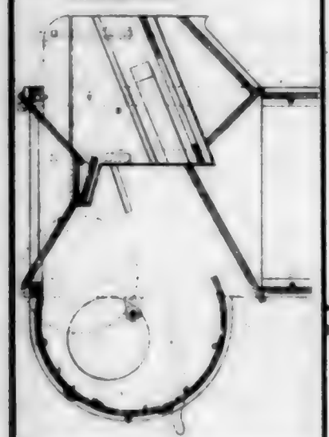
112,685 A. S. CAMERON.
PISTON-PACKINGS.



112,686 DAVID H. CLARK.
HENRY WINSON.
FURNITURE-PADS.

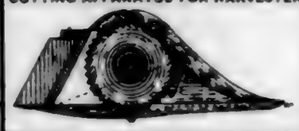


112,687 G. E. CLARKE.
FANNING-MILLS.

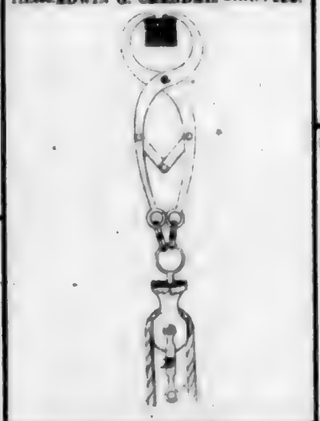


112,688 ROBERT LIVINGSTON COREY.
ROTATING CYLINDER-ENGINES.

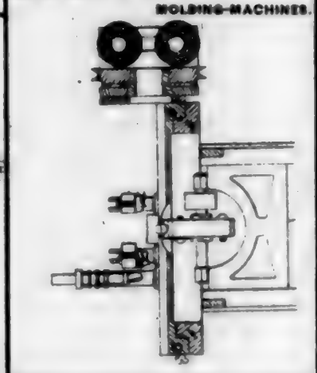
112,689 GEORGE W. COOK.
FRANCIS M. DUNCAN.
CUTTING APPARATUS FOR HARVESTER



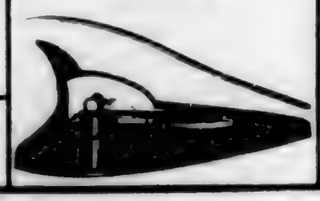
112,690 EDWIN G. CRANDAL. GRAPPLES.



112,691. JAMES H. CULVER.
MOLDING-MACHINES.



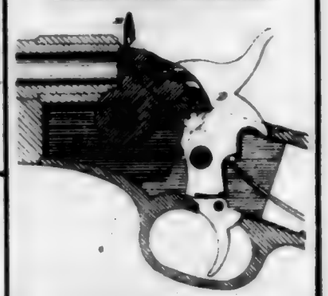
112,692 HENRY CUTLER.
HARVESTER-CUTTERS.



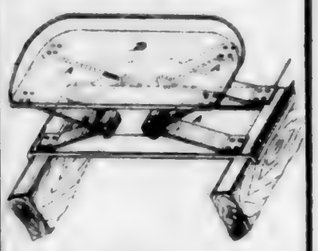
112,693. ELLWOOD DAVIS.
JACOB M. STILES.
LOCKING STOP-COCKS.



112,694 WILLIAM C. DODGE.
PHILIP T. DODGE.
BREECH-LOADING FIRE-ARMS.



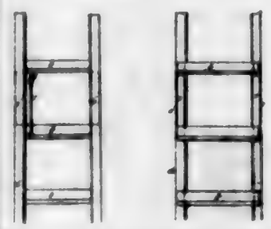
112,695 W. P. ELAM.
SPRING-SEATS FOR WAGONS.



112,696. ROSCOE G. ELDER.
CHILDREN'S CARRIAGES.



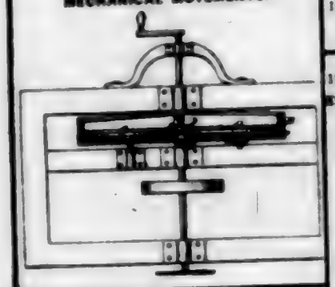
112,697. GEORGE HENRY ELLIS
LADDERS.



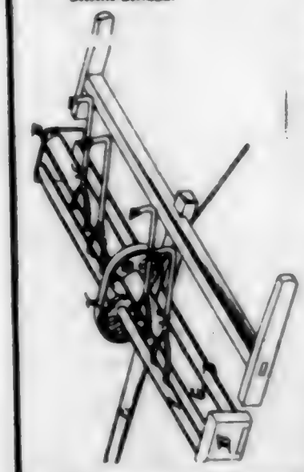
112,698. WILLIAM ENNIS.
FURNACES FOR TREATING ORES, &c.



112,699. WM. A. PENN.
MECHANICAL MOVEMENTS.



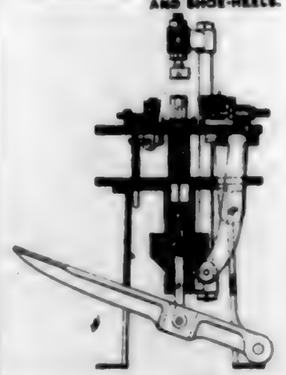
112,700. SILAS N. GALLUP.
GRAIN-DRILLS.



112,701. HENRY GETTY.
ALE OR BEER-COCKS.

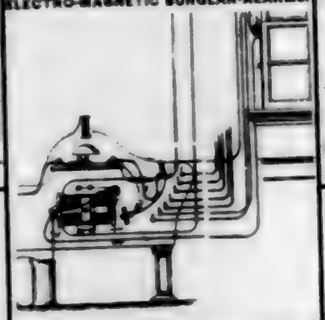


112,702. CHARLES W. GLIDDEN
MACHINES FOR MAKING BOOT AND SHOE-HEELS.

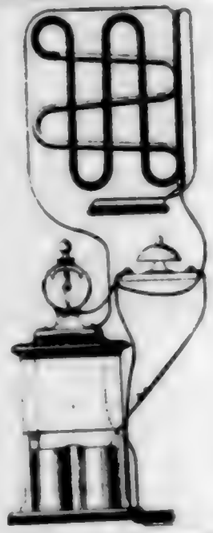


112,703. E. A. GOODES.
STAINING GLASS.

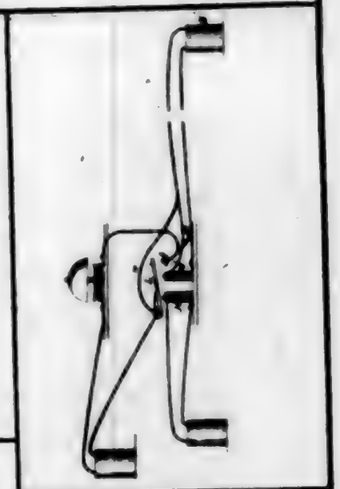
112,704. W. B. GUERNSEY.
ELECTRO-MAGNETIC BURGLAR-ALARMS.



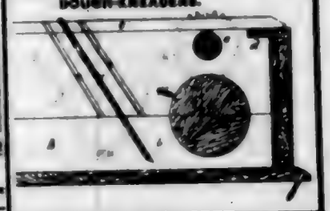
112,705. W. B. GUERNSEY.
ELECTRO-MAGNETIC BURGLAR-ALARM



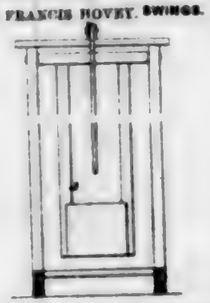
112,706. W. B. GUERNSEY.
ELECTRO-MAGNETIC BURGLAR-ALARMS.



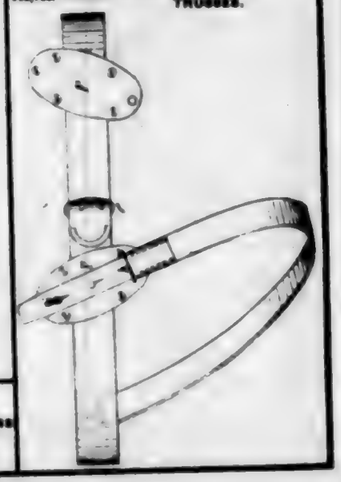
112,707. HERBERT HENRY HAWES.
DOUGH-KNEADERS.



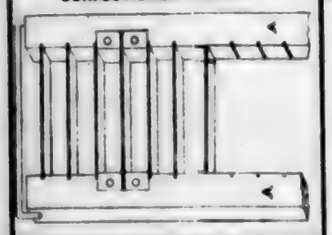
112,708. FRANCIS HOVEY. SWINGS.



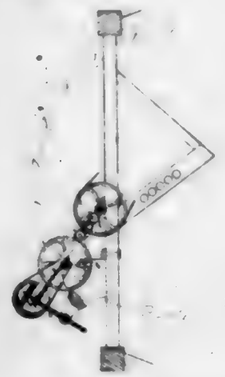
112,709. HENRY HOWE. TRUSSES.



112,710. HENRY S. HOWE.
CONFECTIONERS' MOLDS.



112,711. DAVID HUFFMAN.
SAW-GUMMERS.



112,712. JOHN A. HUGHES.
SHOW-CASES.



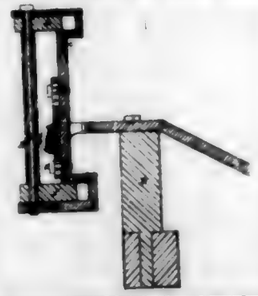
112,713. LEMUEL L. HULL.
PADS FOR HORSE-COLLARS.



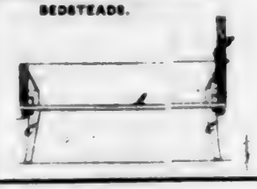
112,714. JOHN IVORY.
FIRE-ESCAPES.



112,715. HENRY F. JERAULD.
DRAFT-EQUALIZERS FOR THREE HORSES.



112,716. GEORGE A. JEREMIAH.
BEDSTEADS.



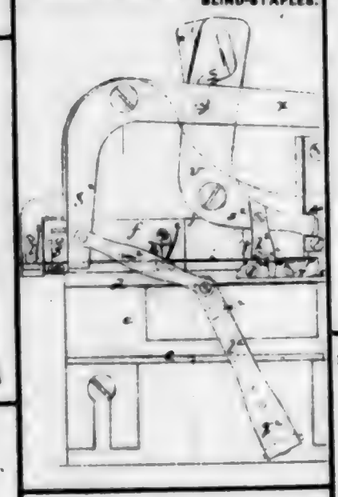
112,717. ALBERT D. JUDD.
WINDOW-BUTTONS.



112,718. DAVID L. KEELER BRUSHES.

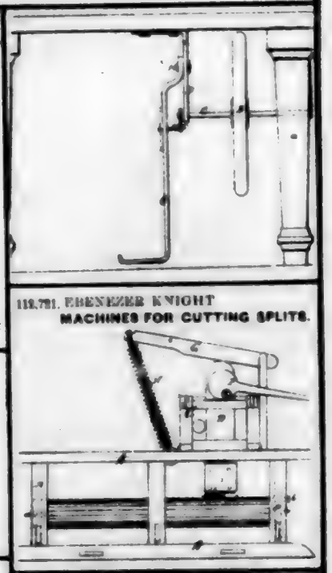


112,719. JEREMIAH KEITH.
MACHINES FOR MAKING AND SETTING BLIND-STAPLES.

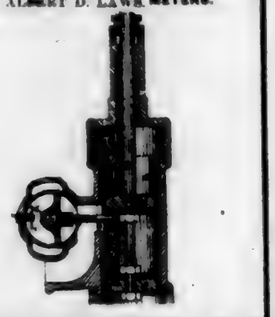


112,720. EDEN W. KEYES.
TREADLE-MOTIONS.

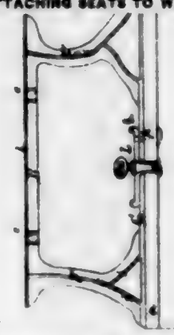
112,721. EBENEZER KNIGHT
MACHINES FOR CUTTING SPLITS.



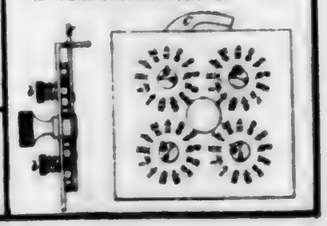
112,722. ALBERT D. LAWS. METERS.



112,723. JOSEPH L. LINVILLE.
WILLIAM SHIMANOUR.
ATTACHING SEATS TO WAGONS.

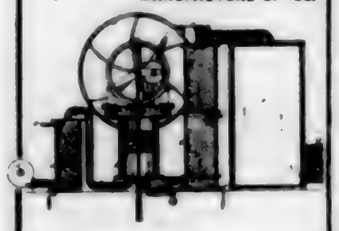


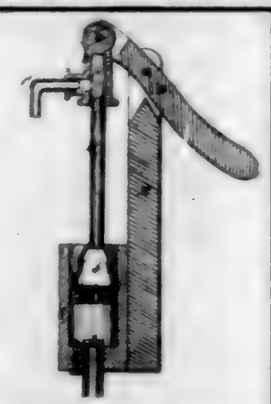
112,724. SAMUEL LOYD.
PERMUTATION-LOCKS.



112,725. ORAZIO LUGO.
MANUFACTURE AND TREATMENT OF ALCOHOLIC SPIRITS.

112,726. ORAZIO LUGO.
JAMES B. McPHERSON.
COOLING AIR AND IN THE MANUFACTURE OF ICE.



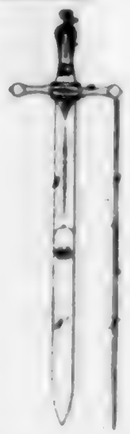


112,727. WILLIAM P. LUM.
COMBINED BAG-HOLDERS AND FILLERS.



112,728. JOHN J. LUNDY.
COMPOUNDS FOR LUBRICATING WOOL.

112,729. J. M. MASON.
DRESS-SWORDS.



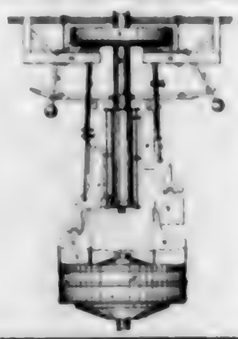
112,730. E. F. McKENEHAN.
PUMPS.

112,731. LAURENCE MYERS.
HOSE-TUNNELS FOR CITY RAILWAYS.

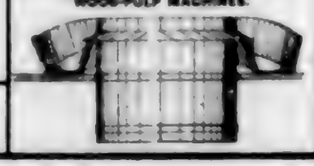


69,900. LEMUEL PAGIN.
COMPOUNDS FOR DESTROYING POTATO-BUGS.

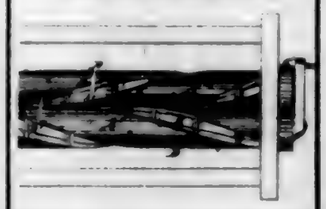
112,733. SANDFORD A. PERKINS.
MACHINES FOR GRINDING WOOD-PULP.



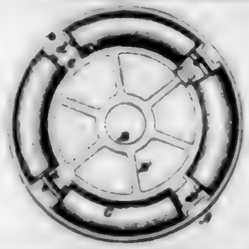
112,734. SANDFORD A. PERKINS.
WOOD-PULP MACHINES.



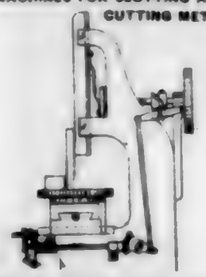
112,735. PETER PHILIP.
ROLLS FOR HUSKING CORN.



112,736. JNO. I. POST.
DEVICES FOR PREVENTING BACK-LASH IN MACHINERY.

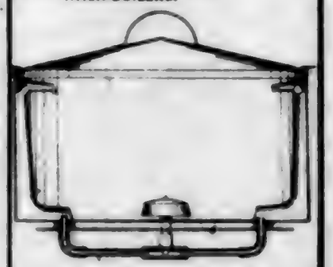


112,737. SALMON W. PUTNAM, Jr.
MACHINES FOR SLOTTING AND CUTTING METAL.



112,738. JNO. T. RANDALL.
POLISHING COFFEE.

112,739. HENRY R. ROBBINS.
WASH-BOILERS.



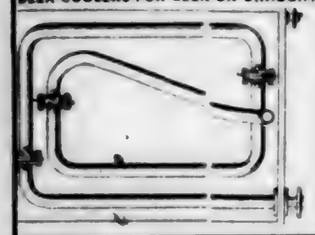
112,740. BENJAMIN F. RYDER.
CASTERS FOR SEWING-MACHINES.



112,741. LEVI SOOFIELD.
SEED-TUBES FOR CORN-PLANTERS.



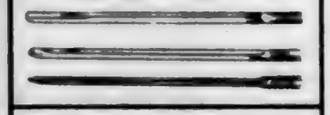
112,742. HUGO SELL.
BEER-COOLERS FOR BEER ON DRAUGHT.



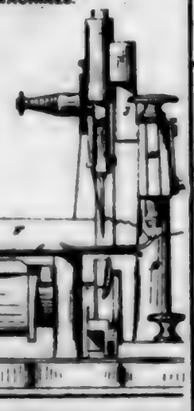
112,743. MOSES SEWARD. CARRIAGE-CLIPS



112,744. JOHN J. SIBLEY.
SEWING-MACHINE NEEDLES.



112,745. WILLIAM SIDENBERG.
SEWING-MACHINES.



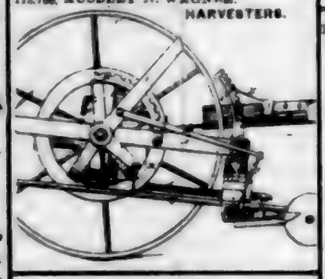
112,746. WILLIAM P. THOMAS.
JOSEPH F. BOARDMAN.
HAIR-RESTORATIVES.

112,747. G. STACKPOLE.
SEWING-MACHINES.

112,748. ELIZABETH MARY STIGALE.
FLORAL-BRACKETS.



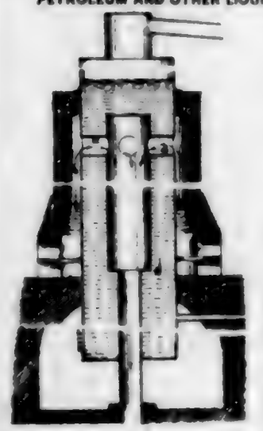
112,749. AUBERT H. WAGNER.
HARVESTERS.



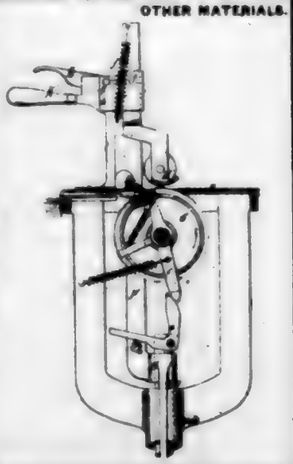
112,750. SIDNEY R. SMITH.
SUSPENDERS.



112,751. W. G. WARDEN.
APPARATUS FOR DISTILLING PETROLEUM AND OTHER LIQUIDS.



112,752. ALBIN WARTH.
MACHINES FOR CUTTING TEXTILE AND OTHER MATERIALS.



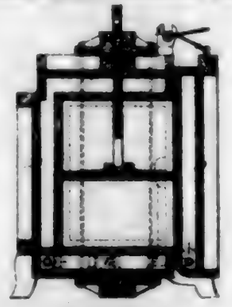
112,753. ALBIN WARTH.
FASTENINGS FOR TEXTILE FABRICS.



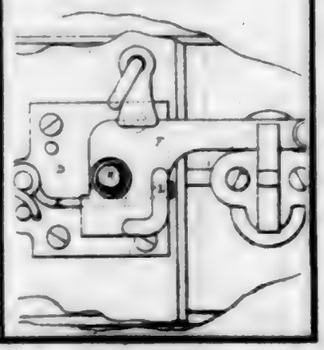
112,754. JEREMIAH MEARS WATSON.
WOODEN SHANKS FOR SHOES AND BOOTS.



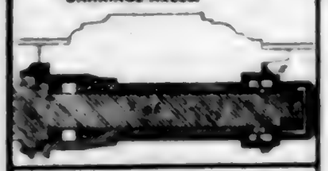
112,755. HENRY W. WEICKER.
APPARATUS FOR VULCANIZING RUBBER.



112,756. PETER L. WEIMER.
SHUTTER-FASTENERS.



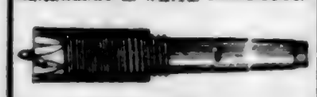
112,767, EDWARD WELLS.
CARRIAGE-AXLES.



112,768, EDWARD WELLS.
LANDAU CARRIAGES.



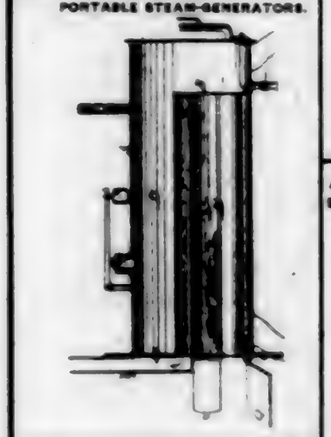
112,769, HENRY K. WHITE, LATHE-DOGS.



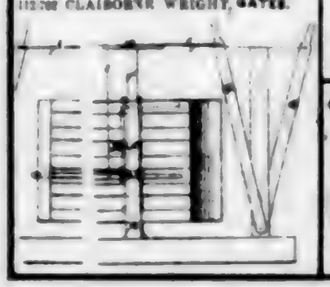
112,770, WOLCOTT B. WHITEWASH-BOILER.



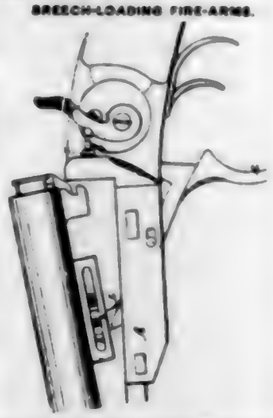
112,771, JAS. E. WOODRUFF.
PORTABLE STEAM-GENERATORS.



112,772, CLAIBORNE WRIGHT, GATES.



112,773, WILLIAM C. DOANE.
BREECH-LOADING FIRE-ARMS.



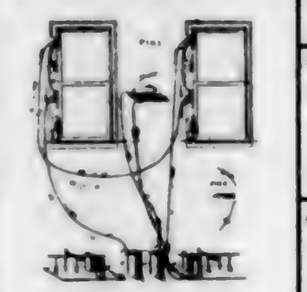
4,305, HORACE N. RAMEY.
HARNESS-RINGS.



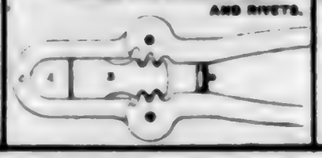
4,306, JOEL F. FALES, CARPET-LININGS.



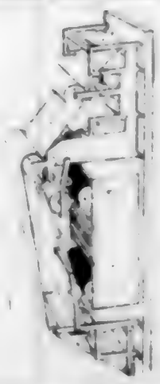
4,307, W. B. GUERNSEY.
ELECTRO-MAGNETIC BURGLAR-ALARMS.



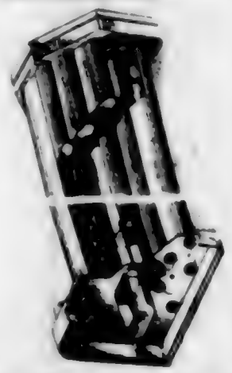
4,308, JESSE JOHNSON.
DEVICES FOR CUTTING BOLTS AND RIVETS.



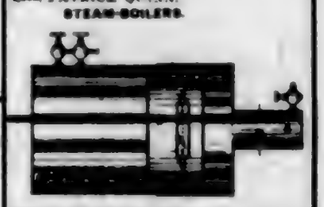
4,309, SAMUEL O. LEVIS.
MAKING THICK PAPER.



4,310, ABRAHAM L. PENNOCK.
STEAM-GENERATORS.



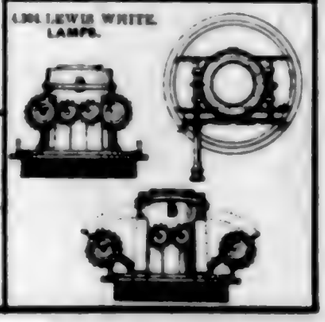
4,311, PATRICK QUINN.
STEAM-BOILERS.



4,312, E. M. SMITH.
BUTTON-HOLES.



4,313, LEWIS WHITE.
LAMPS.



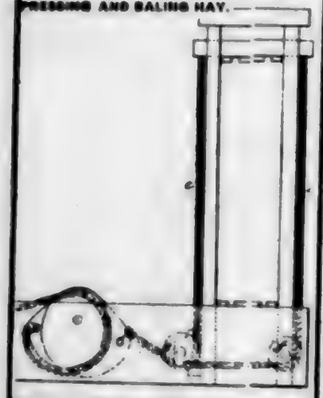
ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
MARCH 21, 1871.

112,765, NATHAN B. ABBOTT.
COMPOSITIONS FOR PAVEMENTS.

112,766, JOHN H. ALLYN.
BED-BOTTOMS.



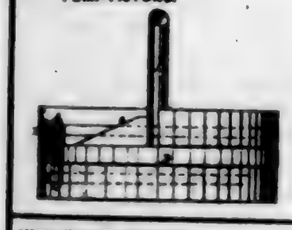
112,767, GEORGE H. AYLWORTH.
PRESSING AND BALING HAY.



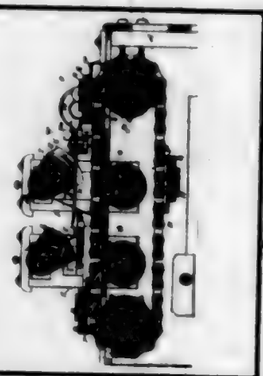
112,768, CHARLES BERRY.
HAT AND CAP-HOLDERS.



112,769, DANIEL W. BELL.
PUMP-PISTONS.



112,770, URIAH BILLINGS.
HORSESHOE-MACHINES.



112,770, JAMES H. BLESSING.
PISTON-ROD PACKINGS.

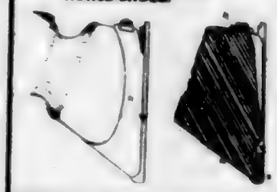


112,771, J. A. BOSTWICK.
TAPS AND NOZZLES FOR OIL-CANS.



112,772 CANCELED.

112,773, JOSEPH BRACKETT.
HORSE-SHOES.



112,774, GEO. BRANDON.
STREET-LAMPS.

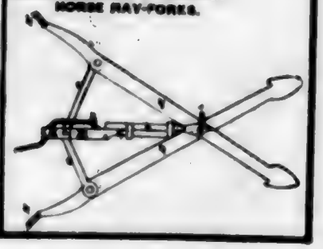


112,775, BENJAMIN BRISCOE.
JOSEPH A. BRISCOE.
MACHINES FOR UPSETTING BOLTS.

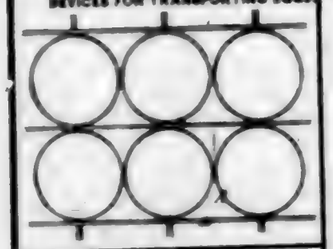


112,776, JOHN B. BROOKS.
GREEN GLAZE FOR FLOWER-POTS.

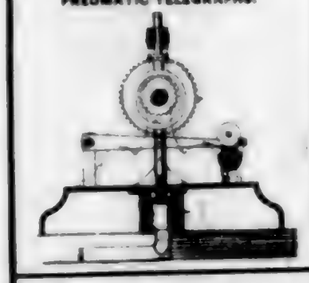
112,777, BENJAMIN F. BROWN.
HORSE HAY-FORKS.



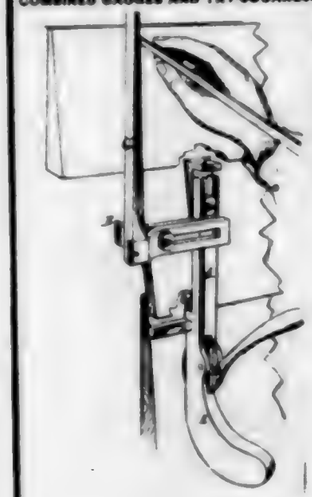
112,778. ABNER H. BRYANT.
DEVICES FOR TRANSPORTING EGGS.



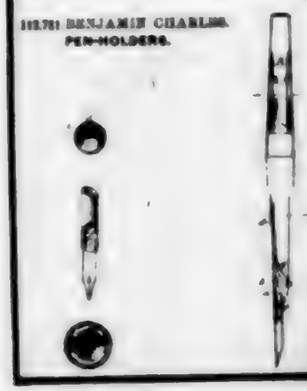
112,779. EDWD. A. CALAHAN.
GEO. B. FIELD.
PNEUMATIC TELEGRAPHS.



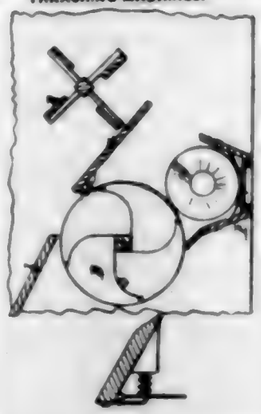
112,780. FREDERIC CASTLE.
COMBINED GAUGES AND TRY-SQUARES.



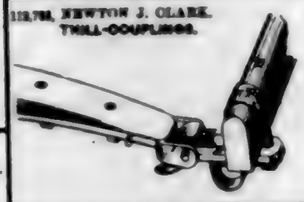
112,781. BENJAMIN CHARLES.
PEN-HOLDERS.



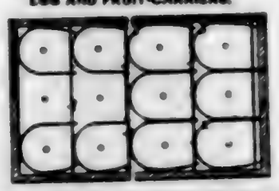
112,782. FRANCIS G. CHESMAN.
THRASHING-MACHINES.



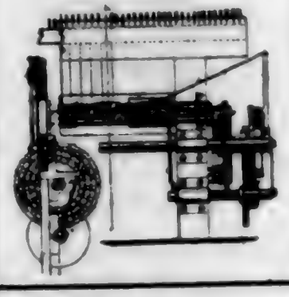
112,783. NEWTON J. CLARK.
THILL-COUPLINGS.



112,784. W. J. CLARK.
EGG AND FRUIT-CARRIERS.

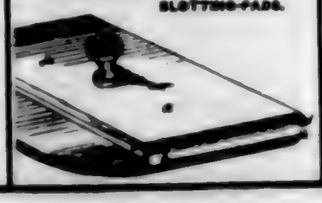


112,785. JOSEPH CLOUGH.
JOSEPH CROMPTON.
LAPPET-LOOMS.

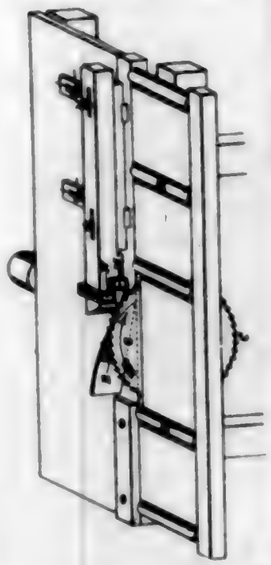


112,786. NICHOLAS CLUTE.
COATING GAS AND WATER-PIPES.

112,787. ALFRED Q. COLLINS.
BLOTTING-PADS.



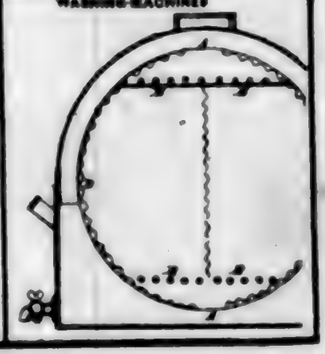
112,788. JONATHAN CRAGER.
SAWING-MACHINE TABLES.



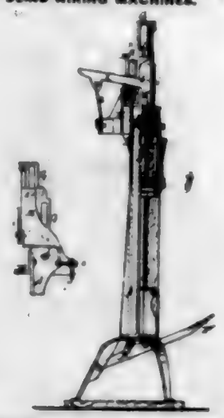
112,789. ISAAC W. DENNING.
FIRE-SHOVELS.



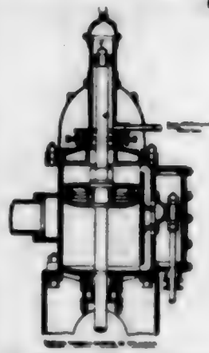
112,790. WILLIAM JAMES DODGE.
WASHING-MACHINES.



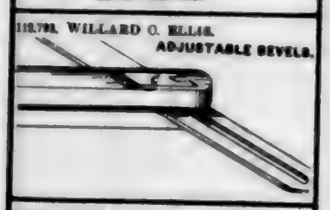
112,791. ELIJAH F. DUNAWAY.
BLIND-WIRING MACHINES.



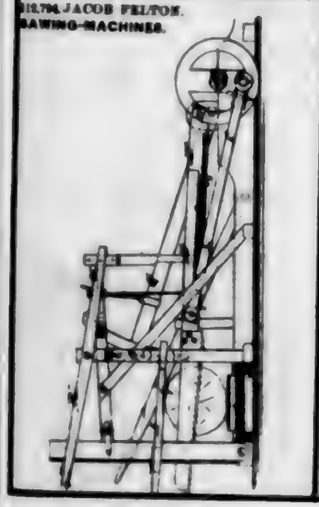
112,792. WILLIAM F. DURFEE.
BALANCING VERTICAL-RECIPROCATING MASSES.



112,793. WILLARD O. ELLIS.
ADJUSTABLE BEVELS.



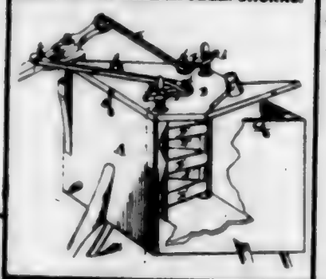
112,794. JACOB FELTON.
SAWING-MACHINES.



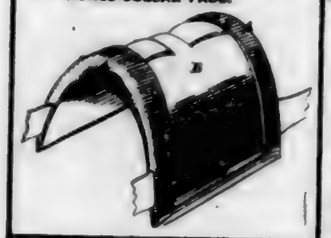
112,795. HARBERT K. FORDIS.
MAGAZINE FIRE-ARMS.



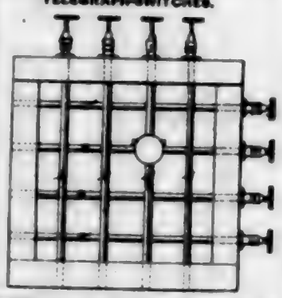
112,796. DAVID FRAKFODER. CHURNS.



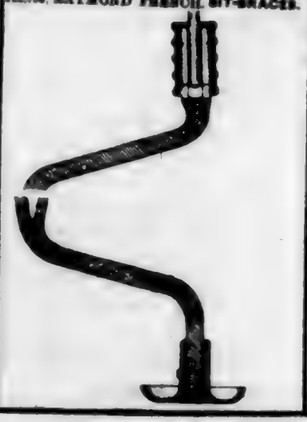
112,797. JOHN FRASER.
HORSE-COLLAR PADS.



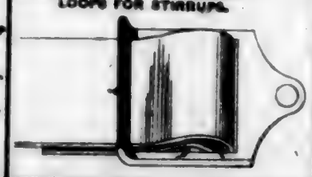
112,798. A. H. FREEMAN.
TELEGRAPH-SWITCHES.



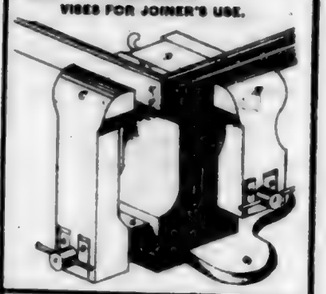
112,799. RAYMOND FRENCH, SIT-GRACER.



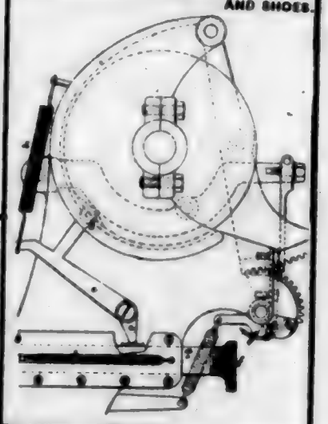
112,800. JOSIAH B. GATHRIGHT.
LOOPS FOR STIRRUPS.



112,801. JONATHAN GOOD.
VISES FOR JOINER'S USE.



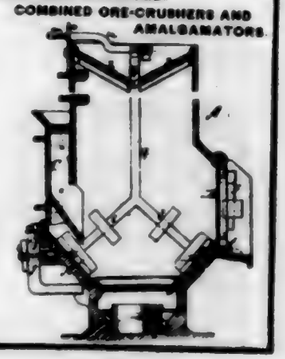
112,802. CHAS. GOODYEAR, Jr.
MACHINES FOR SEWING BOOTS AND SHOES.



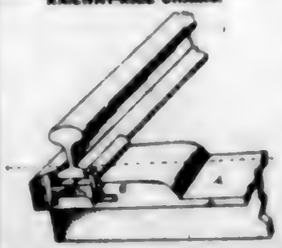
112,803. GARDNER B. GRAY.
JOSEPH H. ROMANS.
BREECH-LOADING FIRE-ARMS.



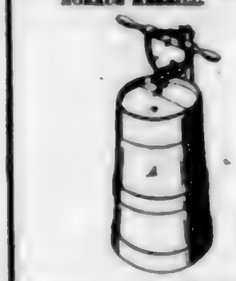
112,804. LYMAN GRISWOLD.
COMBINED ORE-CRUSHERS AND AMALGAMATORS.



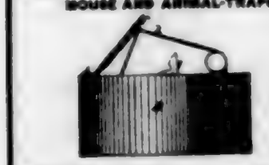
112,806. SAMUEL M. GUEST.
RAILWAY-CAR CHAIRS.



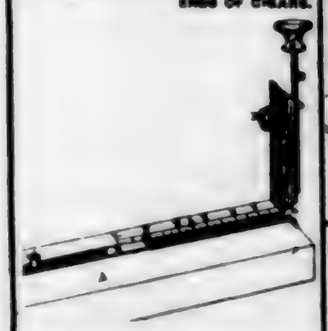
112,807. HIRAM S. GUERET, CHURNS.
HORACE MERRILL.



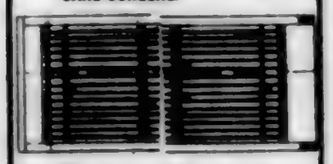
112,808. GEORGE L. HART.
MOUSE AND ANIMAL-TRAPS.



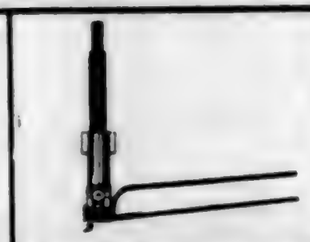
112,809. MATHIAS JOSEPH HINDEN
APPARATUS FOR CUTTING THE
ENDS OF CIGARS.



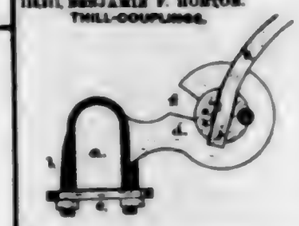
112,810. SAMUEL HOLDSWORTH.
SAND-SCREENS.



112,811. HENRY HOSE.
CORD-GUIDES FOR SEWING-MACHINES.



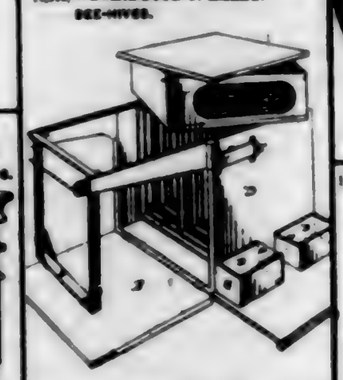
112,811. BENJAMIN F. HORTON.
THILL-COUPLINGS.



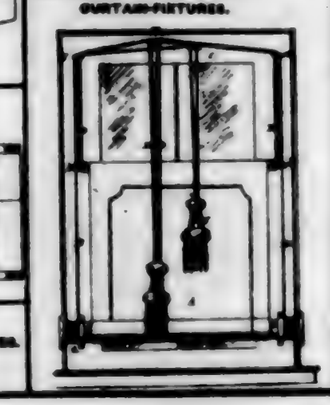
112,812. PHILO R. HOVEY.
SASH-HOLDERS.



112,813. WASHINGTON J. KELLY.
BEE-HIVES.



112,814. WILLIAM C. KENNEDY.
CURTAIN-FIXTURES.



112,815. ALEX. KING.
CLOTHES-WRINGERS.



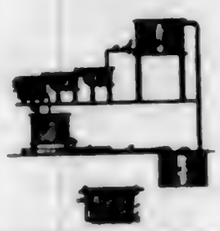
112,816. JOSEPH KINTZ.
DRAWER-PULLS.



112,817. DARIUS KNICKERBOCKER.
SAMUEL KNICKERBOCKER.
SHAFT-COUPLINGS.



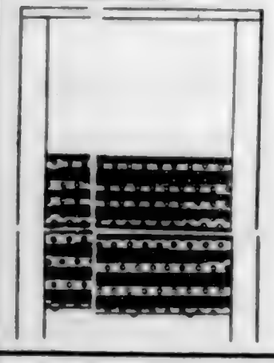
112,818. ARCHIBALD K. LEE.
RECTIFYING HIGH-WINES.



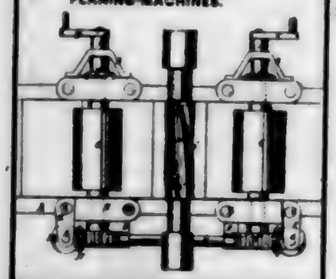
112,819. ANDREW M. LESLIE.
PHYSICIANS' SADDLE-BAGS.



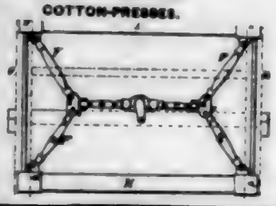
112,820. CHARLES LETTERMAN.
WASH-BOARDS.



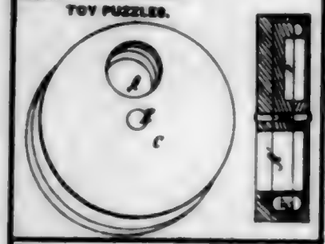
112,821. CHAS. LEVEY.
FLAMING-MACHINES.



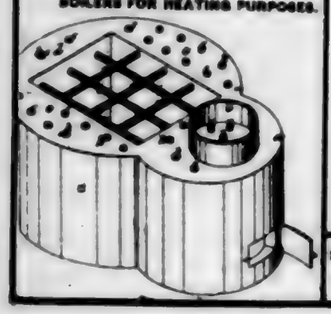
112,822. ELI W. LONG.
ISAAC N. PATTEN.
COTTON-PRESSES.



112,823. SAMUEL LOYD.
TOY PUZZLES.



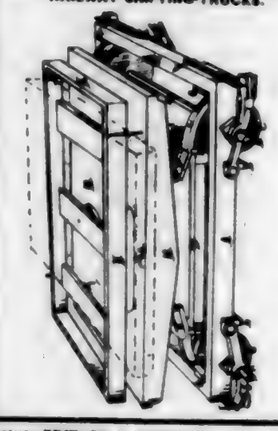
112,824. JAS. A. MAYNARD.
BOILERS FOR HEATING PURPOSES.



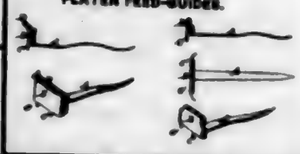
112,825. JOHN McCANN.
HYDRANTS.



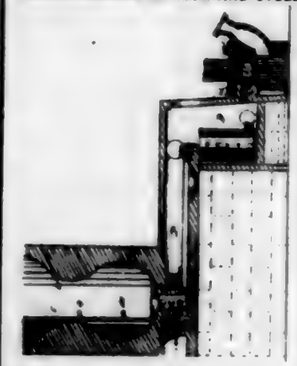
112,826. PATRICK HENRY McWILLIAMS.
RAILWAY SHIFTING-TRUCKS.



112,827. EDWARD L. MEGILL.
PLATEN FEED-GUIDES.

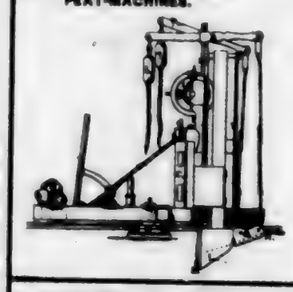


112,828. JOHN W. MIDDLETON.
MANUFACTURE OF IRON AND STEEL.

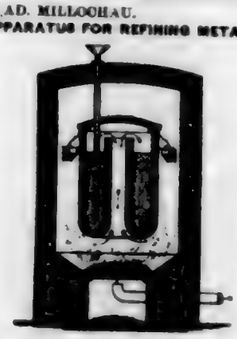


112,829. JOHN W. MIDDLETON.
CRANES.

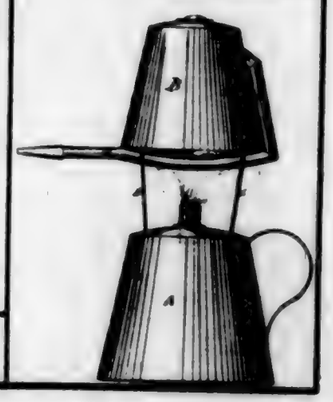
112,830. HERMANN MIELISCH.
PEAT-MACHINES.



112,831. A.D. MILLOCHAU.
APPARATUS FOR REFINING METALS.



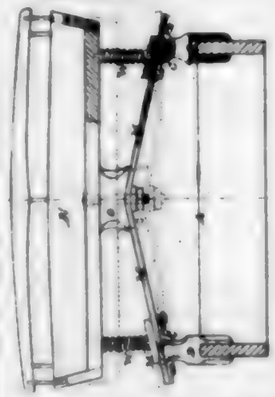
112,832. THEO. F. MOODY.
APPARATUS FOR REMOVING
PAINT, VARNISH, &c.



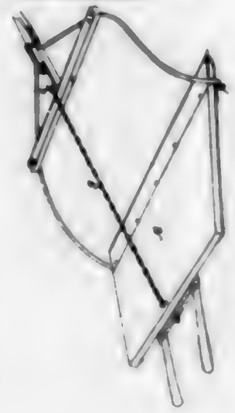
112,833. JAMES B. MORGAN.
SASH-HOLDERS.



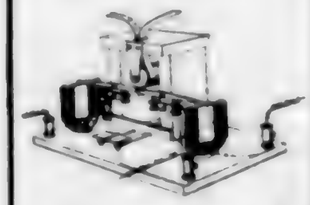
112,834. VALENTINE MYERS.
WAGON-SEATS.



112,835. WILLIAM T. NICHOLS
ROAD-SCRAPERS.



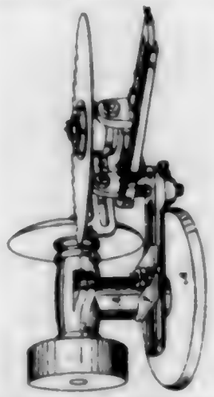
112,836. H. C. NICHOLSON.
TELEGRAPH APPARATUS



112,837. GEORGE S. NORRIS.
SWEEPING-MACHINES.

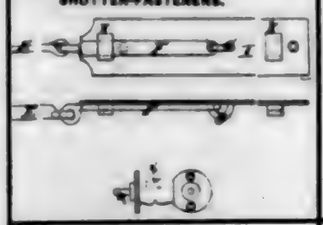


112,838. JOHN L. OTIS.
MACHINES FOR GRINDING SAW-TEETH.

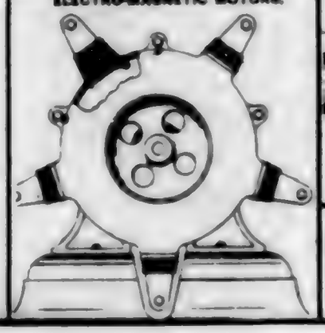


112,839. ADOLPH OTT
PREPARING TIN SALTS FROM TINNERS' WASTE.

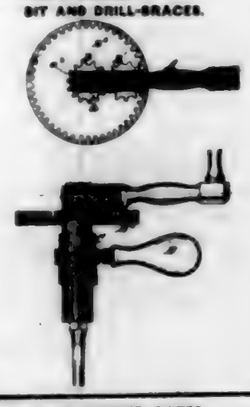
112,840. CHARLES PABST.
SHUTTER-FASTENERS.



112,841. HENRY M. PAINE.
ELECTRO-MAGNETIC MOTORS.



112,842. G. G. PARKER.
WM. P. DODGE.
BIT AND DRILL-BRACES.



112,843. NOAH PARKER. GATES.

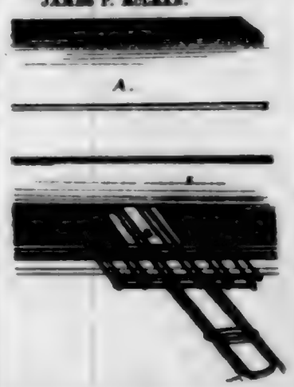


112,844. JAMES D. PELL. ANIMAL-TRAPS.



112,845. JOHN M. PETIT.
PREPARING SEED-CORN.

112,846 EDWD. B. PHELPS. BROILERS.
JAMES P. McLEAN.

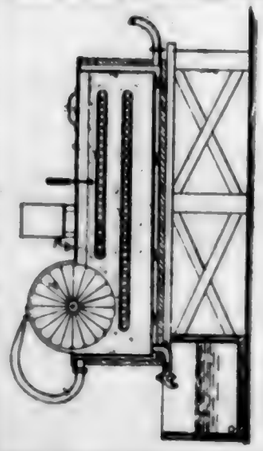


112,847. TAPPING REEVES.
LUBRICATORS.



112,848. E. A. L. ROBERTS.
MANUFACTURE OF NITRO-GLYCERINE.

112,849. E. A. L. ROBERTS.
MANUFACTURE OF NITRO-GLYCERINE.



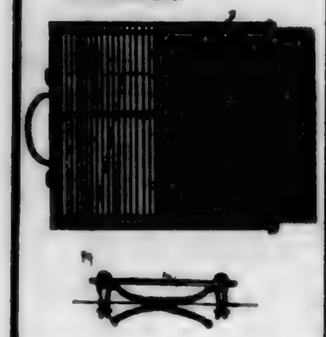
112,850 E. A. L. ROBERTS.
ELECTRIC AND OTHER FUSE-HEADS.



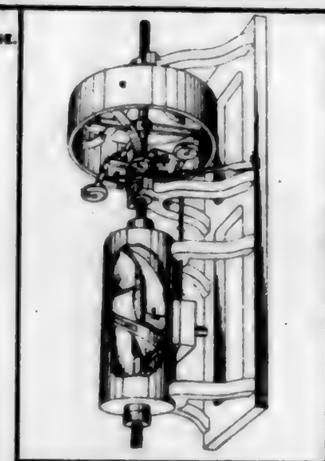
112,851. EDWD. P. ROCHE.
"CHAFE-IRONS" FOR WHEELED VEHICLE



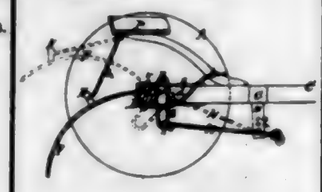
112,852. J. ROUSSILLON
WINE-BASKETS.



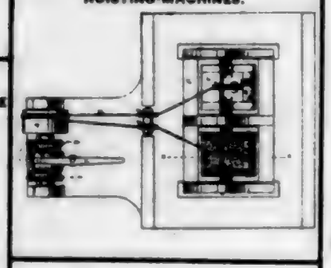
112,853 STEPHEN P. RUGGLES.
STEAM-ENGINES.



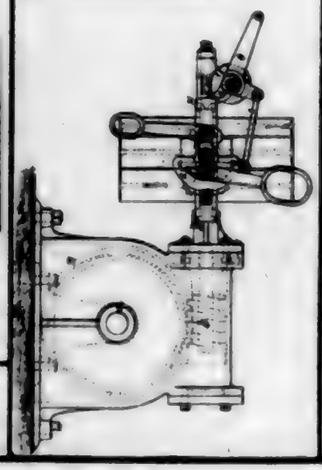
112,854. JOHN H. SCHOONMAKER.
HORSE HAY-RAKES.



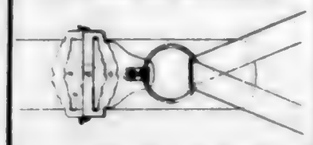
112,855. JOHN SCOTT.
HOISTING-MACHINES.



112,856. WM. SELLERS.
HOISTING-MACHINES.

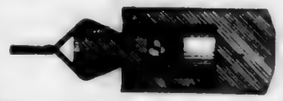


112,857 A. SHENFIELD.
BUCKLES FOR SUSPENDERS.

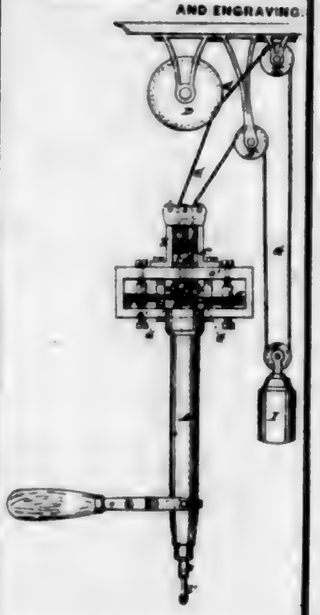


112,858. DANA SLADE.
COMPOUNDS FOR TREATING CATARRH, &c., BY INHALATION.

112,859.H. JULIUS SMITH.
ELECTRIC FUSES.



112,860.GEORGE B. SOLEY.
HAND-TOOLS FOR CARVING AND ENGRAVING.



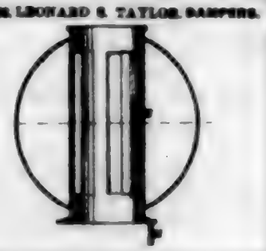
112,861. FRANKLIN L. SPRAGUE.
GAUGES FOR SAW-TABLES.



112,862. WM. D. STROUD.
CULTIVATORS.



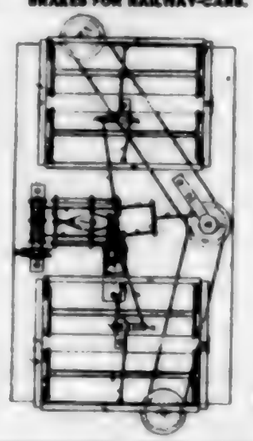
112,863. LEONARD S. TAYLOR, DAMPERS.



112,864. ALBERT D. TILYOU
STUMP-EXTRACTORS.



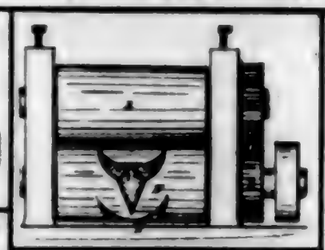
112,865. L. W. TRACY.
BRAKES FOR RAILWAY-CARS.



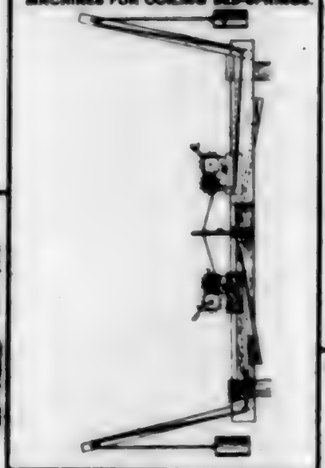
112,866. EDEN TRACY.
TUYERES.



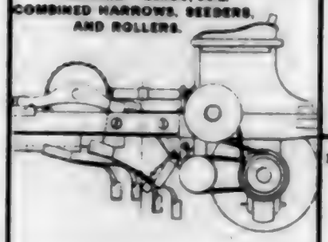
112,867. J. T. TYLER.
ROLLS FOR THE MANUFACTURE OF PLANTERS' HOES.



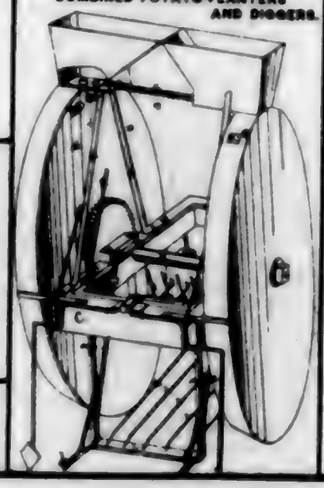
112,868. M. VAN VLECK.
MACHINES FOR COILING BED-SPRINGS.



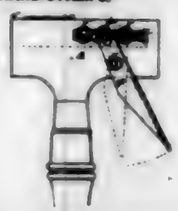
112,869. JOSEPH VERNOT, Gen'k.
SAMUEL VERNOT, Jr'k.
COMBINED HARROWS, SEEDERS, AND ROLLERS.



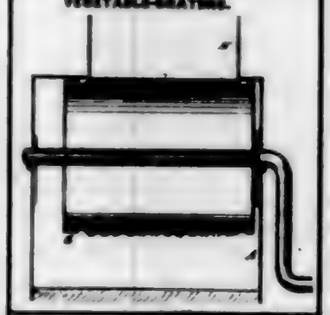
112,870. JAMES CARROLL WALKER.
COMBINED POTATO-PLANTERS AND DIGGERS.



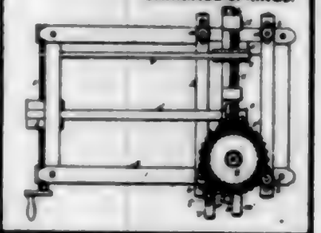
112,871. JOHN WALTERS.
HAND-STAMPS.



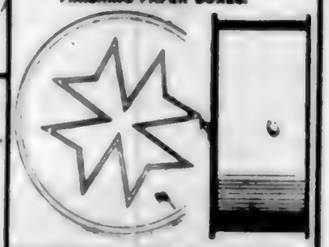
112,872. JACOB WEBERLE.
W. WITTLINGER.
VEGETABLE-GRATERS.



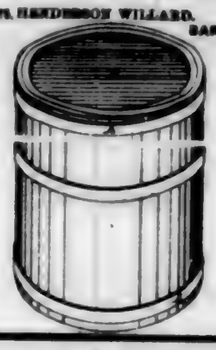
112,873. HERBON MATHEW WENTWORTH.
MACHINES FOR GRINDING CARRIAGE-SPRINGS.



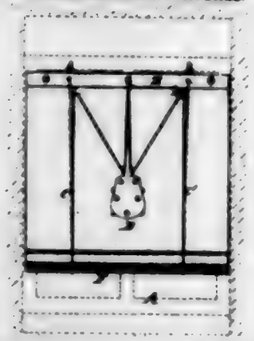
112,874. SETH WHEELER.
EDGAR JEROME.
FINISHING PAPER BOXES.



112,875. HENDERSON WILLARD.
BARRELS.

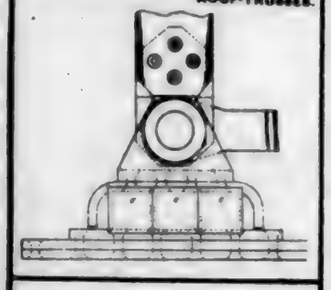


112,876. THOS. G. WILLIAMS.
WINDOW-CURTAIN FIXTURES.



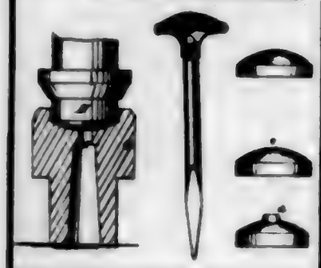
112,877. THOMAS ATWOOD WILSON.
GLASS FOR THE MANUFACTURE OF SPECTACLES.

112,878. JOS. M. WILSON.
BOLSTER-BLOCKS AND PIER OR ABUTMENT-PLATES FOR BRIDGES AND ROOF-TRUSSES.

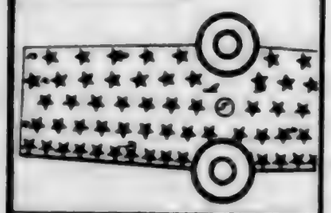


112,879. JOHN WINGER.
COMPOSITIONS FOR STAINING WOOD.

112,880. LEOPOLD WOLF.
MECHANISMS FOR MANUFACTURING HEADS FOR PICTURE-NAILS.

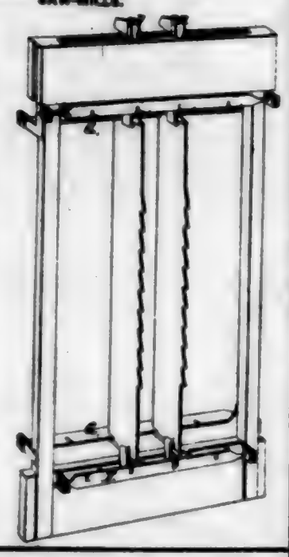


112,881. CHAS. J. WOOD.
STEAM-HEATERS.

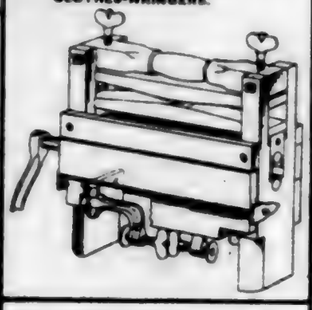


112,882. FREDERIC R. RAY.
RUFFLING ATTACHMENTS FOR SEWING-MACHINES.

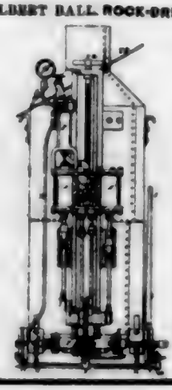
112,883. EMANUEL ANDREWS.
SAW-MILLS.



112,884. ALFRED M. BAILEY.
CLOTHES-WRINGERS.



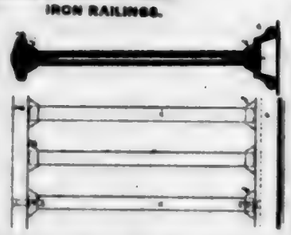
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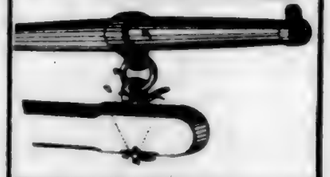
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SASH-HOLDERS.



112,887. SAMUEL S. BENT.
IRON RAILINGS.



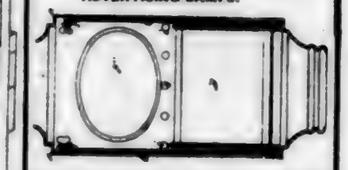
112,888. WARREN W. BENTLY.
CLEVIS-HOOKS FOR DOUBLE-TREES.



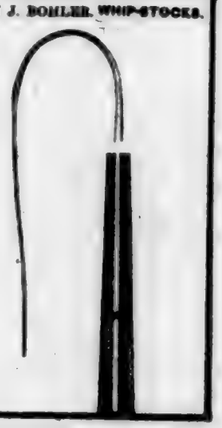
112,889. W. A. BLUNDELL.
ATTACHMENTS FOR HARNESS.



112,890. EMIL BOESCH.
ADVERTISING-LAMPS.



112,891. JOHN J. BOHLER, WHIP-STOCKS.



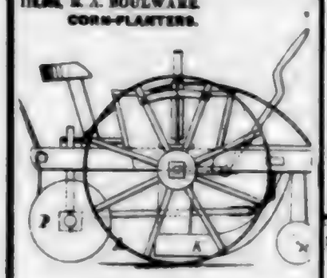
112,892. AARON BOLANDER.
MOWING-MACHINES.



112,893. T. BOOTSMANN.
PORTABLE RAILWAYS.



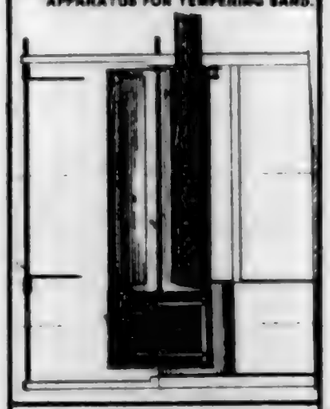
112,894. R. A. BOULWARE.
CORN-PLANTERS.



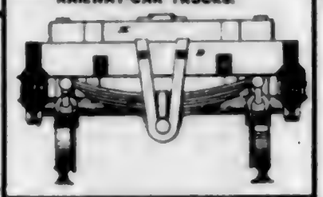
112,895. MICHAEL C. BOYER.
DEVICES FOR OPENING OYSTERS.



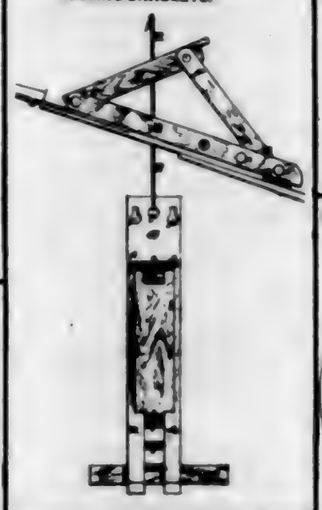
112,896. JOHN P. BROADMEADOW.
APPARATUS FOR TEMPERING SAND.



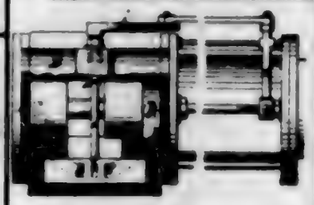
112,897. CHAUNCEY S. BUCK.
RAILWAY-CAR TRUCKS.



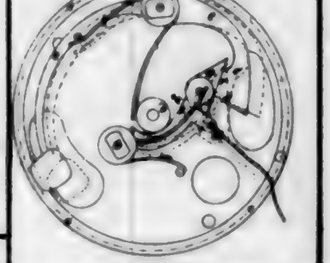
112,898. JONATHAN W. CADWELL.
ROOFING-BRACKETS.



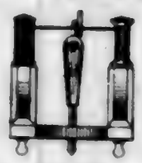
112,899. A. S. CAMERON.
VALVE-GEARS FOR STEAM-ENGINES.



112,900. JAMES A. CAMPBELL.
STILLS.



112,901. DWIGHT MADISON CHURCH.
THREAD-GUIDES FOR WINDING-MACHINES.

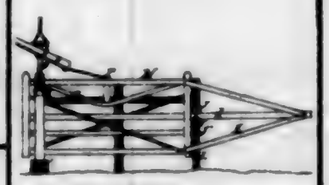


112,902. ARTHUR CLARKE.
SHOEMAKERS' HAMMERS.



112,903. JOHN P. CONNELL.
DOOR-BELLS.

112,904. PETER S. CRAWFORD.
GATES.



112,905. CORNELIUS CUSTER.
CARRIAGE-GEARINGS.



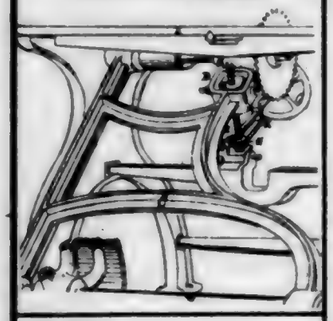
112,906. WALTER D. DAVIS.
CHAS. W. BLAKESLEE.
JOSEPH C. PECK.
HARNESS-ROSETTES.



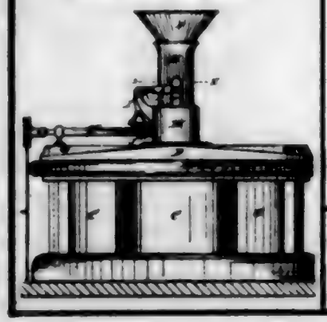
112,907. HENRY A. DIERKES.
JOHN FRETTS.
CALL-BELLS.



112,908. BENN F. DUNKLEE.
CIRCULAR-SAW BENCHES.



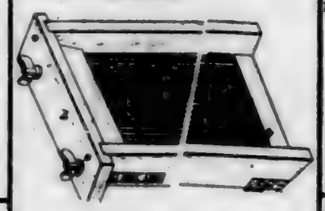
112,909. WM. T. DUVALL.
ADJUSTABLE MILL-FEEDS.



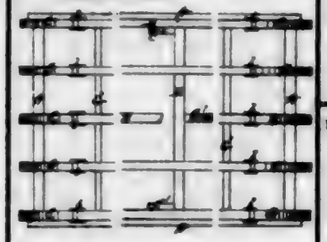
112,910. HENRY HOSEX.
LOCKED COCKS.



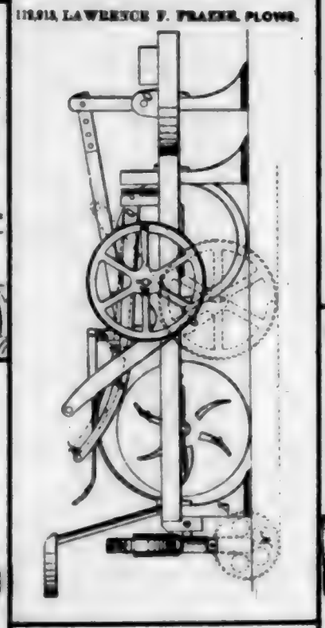
112,911. GEORGE W. FAIR.
SAND-SCREENS.



112,912. MATTHEW FALOON.
BED-BOTTOMS.

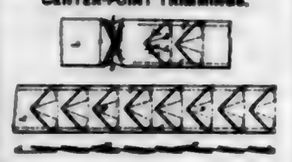


112,913. LAWRENCE F. FRAZER. PLOWS.

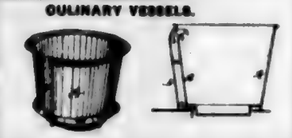


112,914. JOHN FRY.
TUYERES FOR BLAST-FURNACES.

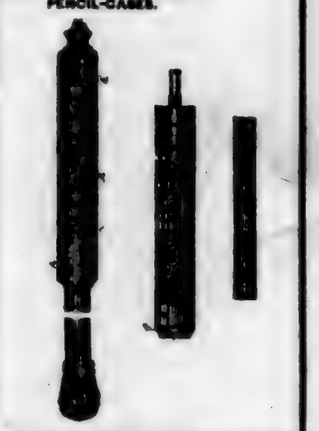
112,915. ANGEL HEORT.
CENTER-POINT TRIMMINGS.



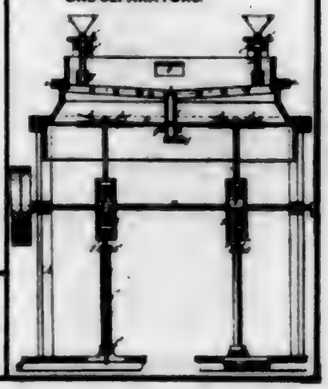
112,916. LEVI HERMANCE.
CULINARY VESSELS.



112,917. WILLIAM S. HICKS.
PENCIL-CASES.



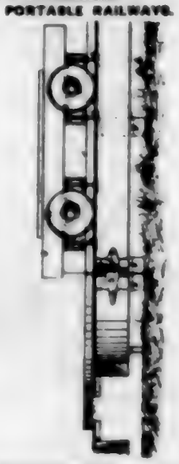
112,918. WILLIAM HOOPER.
ORE-SEPARATORS.



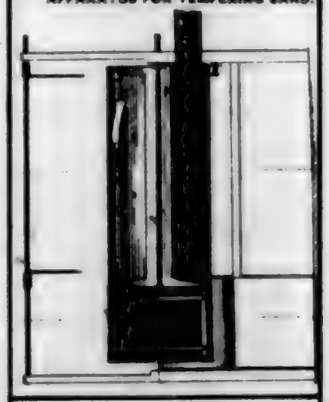
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PORTABLE RAILWAYS.



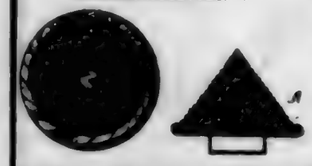
112,904. JOHN P. BROADMEADOW.
APPARATUS FOR TEMPERING SAND.



112,905. CORNELIUS CUSTER.
CARRIAGE-GEARINGS.



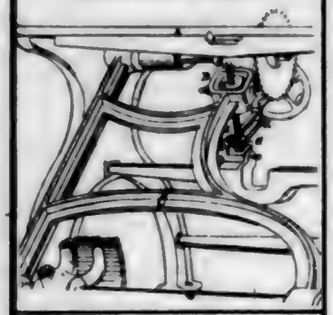
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HARNESS-ROSETTES.



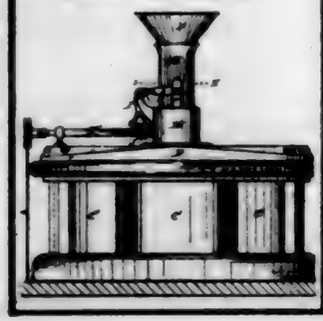
112,907. HENRY A. DIERKES.
JOHN PRETTS.
CALL-BELLS.



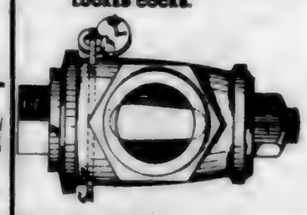
112,908. BENN F. DUNKLER
CIRCULAR-SAW BENCHES.



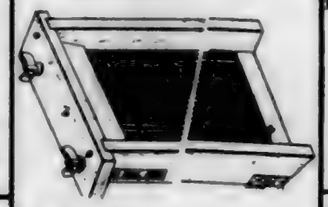
112,909. WM. T. DUVALL.
ADJUSTABLE MILL-FEEDS.



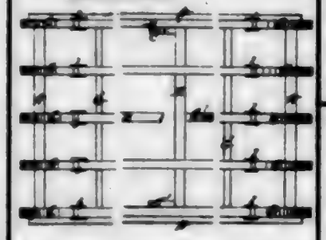
112,910. HENRY HOUCK.
LOCKED COCKS.



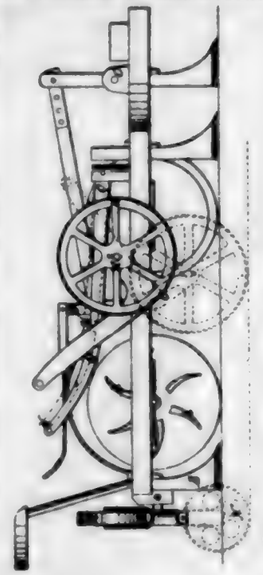
112,911. GEORGE W. FAIR.
SAND-SCREENS.



112,912. MATTHEW FALOON.
BED-BOTTOMS.

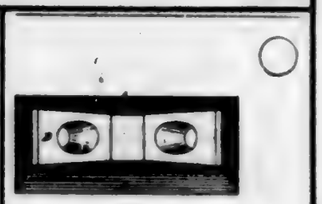


112,913. LAWRENCE P. FRAZER. PLOWS.

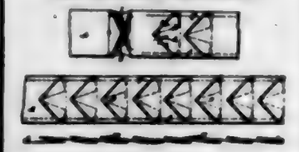


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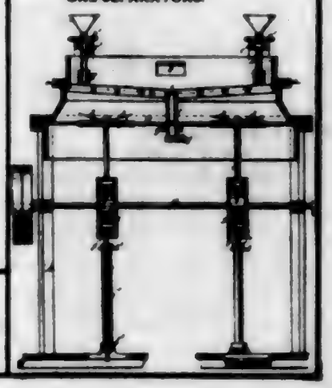
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112,917. WILLIAM S. HICKS.
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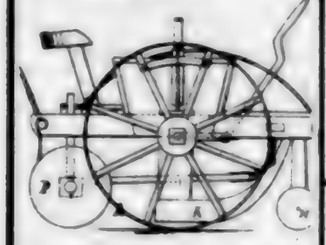
112,918. WILLIAM HOOPER.
ORE-SEPARATORS.



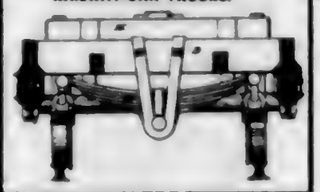
112,899. MICHAEL C. BOYER.
DEVICES FOR OPENING OYSTERS.



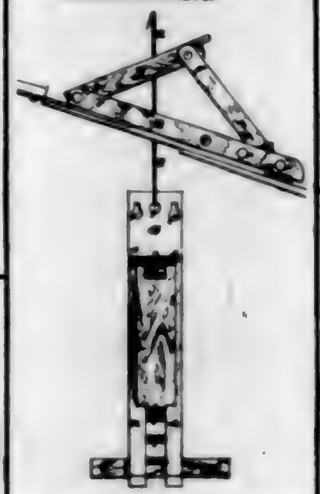
112,900. R. A. BOULWARE.
CORN-PLANTERS.



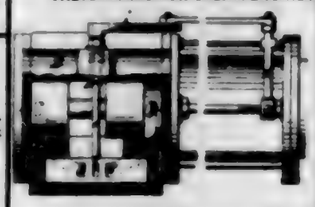
112,901. CHAUNCEY S. BUCK.
RAILWAY-CAR TRUCKS.



112,902. JONATHAN W. CADWELL.
ROOFING-BRACKETS.

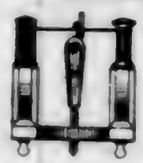


112,903. A. S. CAMERON.
VALVE-GEARS FOR STEAM-ENGINES.



112,909. JAMES A. CAMPBELL.
STILLS.

112,903. DWIGHT MADISON CHURCH.
THREAD-GUIDES FOR WINDING-MACHINES



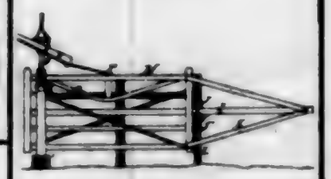
112,903. ARTHUR CLARKE.
SHOEMAKERS' HAMMERS.



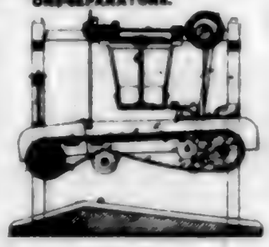
112,904. JOHN P. CONNELL.
DOOR-BELLS.



112,904. PETER S. CRAWFORD.
GATES.

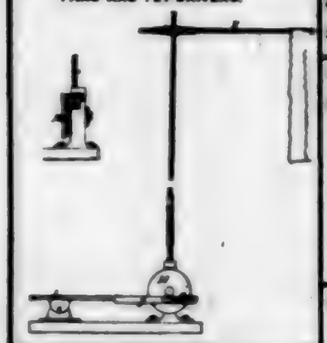


112,929. WILLIAM HOOPER.
ORE-SEPARATORS.

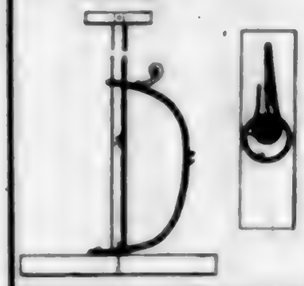


112,930. MARTHA HUDDLESTON.
MEDICAL COMPOUNDS, OR SALVES.

112,931. FRANK M. HUNT.
FANS AND FLY-DRIVERS.

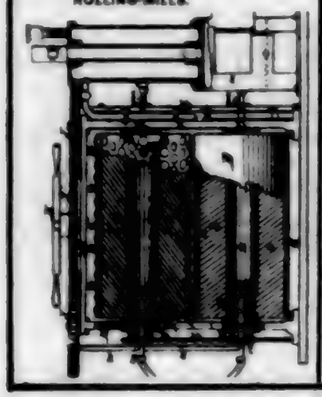


112,932. SETH T. HUTCHINS.
CATTLE-TIES.

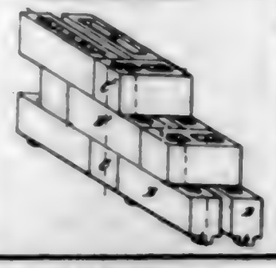


112,933 CANCELED.

112,934. ASA JOHNSON.
ROLLING-MILLS.



112,935.
HOLLOW-TILE WALLS.



112,936. GEO. H. JOHNSON,
BALTHASAR KEBISCHER.
HOLLOW-TILE FLOORS.



112,937. GEO. H. JOHNSON,
BALTHASAR KEBISCHER.
RESERVOIRS FOR GRAIN AND OTHER MATERIALS.



112,938. CHARLES P. KENYON.
FIRE-ESCAPES.

112,939. BALTHASAR KEBISCHER.
COMPOSITION-TILES FOR FIRE-PROOFING BUILDINGS.

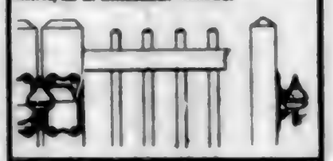
112,940. BALTHASAR KEBISCHER.
HOLLOW-TILES.

112,941. GEORGE W. LANGDON.
STOVE-PIPE SHELVES AND CLOTHES-DRIERS.

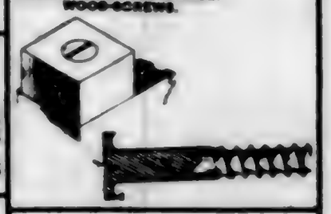
112,942. A. LABOÛR.
BELL-HANGING.

112,943. W. A. LEGGO.
LEGGOTYPING.

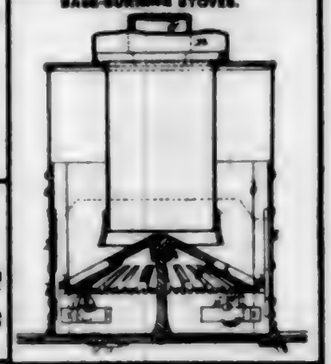
112,944. M. B. LEMMAN. Hinges.



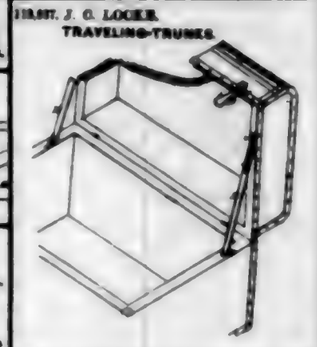
112,945. ANDREW S. LIPSEY.
WOOD-SCREWS.



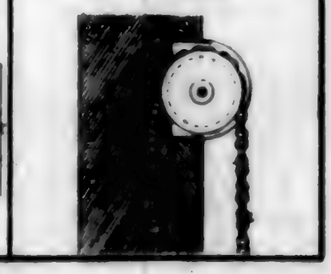
112,946. LYMAN LITCHFIELD.
BAGE-BURNING STOVES.



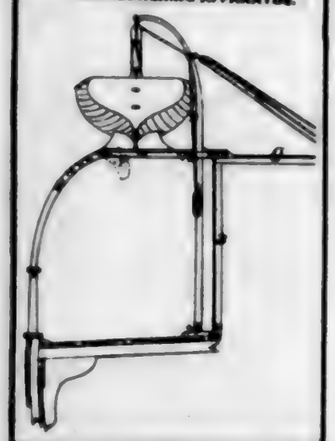
112,947. J. G. LOCKE.
TRAVELING-TRUNKS.



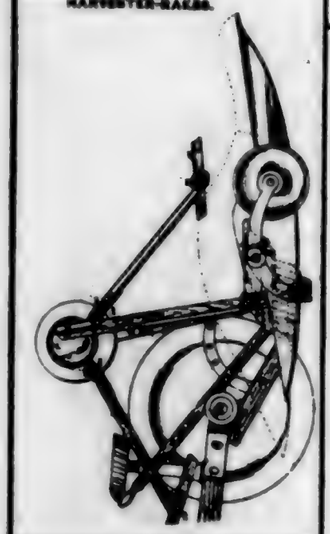
112,948. MICHAEL MAGRATH.
CHAINS FOR HANGING SASH.



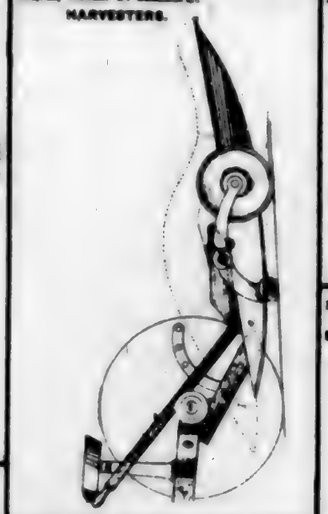
112,938. GEORGE W. MALLORY.
BOAT-LOWERING APPARATUS.



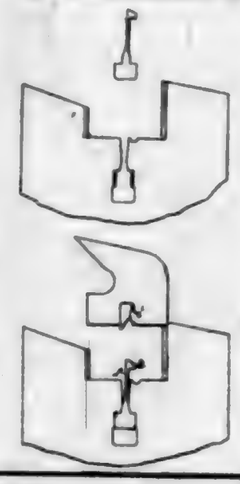
112,939. JOHN P. MANNY.
HARVESTER-RAKES.



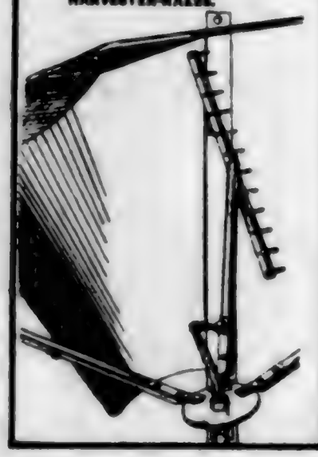
112,940. JOHN P. MANNY.
HARVESTERS.



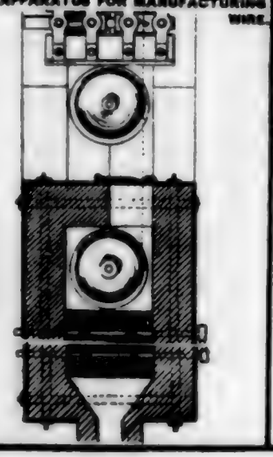
112,941. THOMAS P. MARSHALL.
SAWS WITH DETACHABLE TEETH.



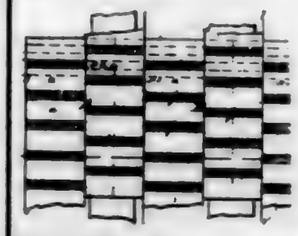
112,942. JOHN P. MANNY.
HARVESTER-RAKES.



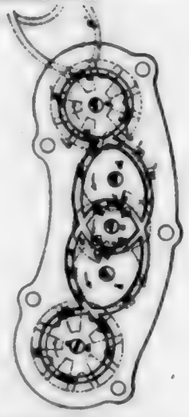
112,943. BENJ. A. MASON.
APPARATUS FOR MANUFACTURING WIRE.



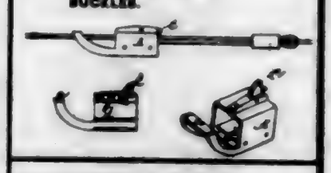
112,944. GORDON A. MAY.
WOOD PAVEMENTS.



112,945. JOHN McCAREY.
STEPHEN B. SALISBURY.
BRAIDING-MACHINES.



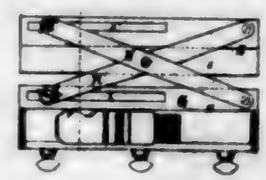
112,946. DUNCAN McMILLAN.
ABRAM ROWAN.
BUCKLES.



112,947. ROBERT B. MITCHELL.
STEAMING ATTACHMENTS FOR KEROSENE-STOVES.



112,948. ELIJA H. MORRIS.
MOLDING-PLANES.



112,950, F. B. MORSE.
KEEPS AND BRACES FOR FIFTH-WHEELS.



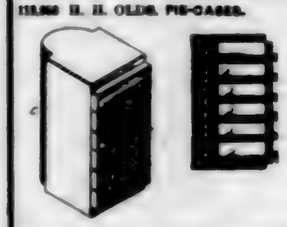
112,951, E. P. NEEDHAM.
PENCIL-SHARPENERS.



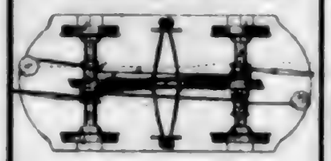
112,952, J. G. NEWANDER.
ANKLE-BRACES.



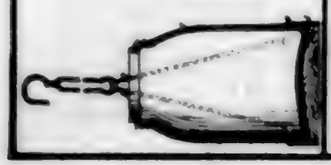
112,953, H. H. OLDS. PIE-CASES.



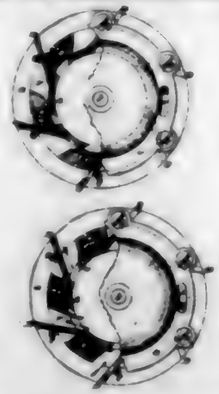
112,954, JOSEPH PARADIS.
CAR-BRAKES AND STARTERS.



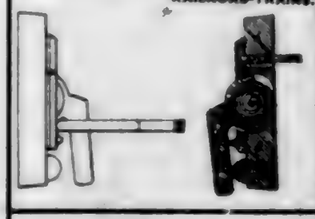
112,955, STEPHEN B. PINCKNEY.
LIFTERS FOR FRUIT-JARS.



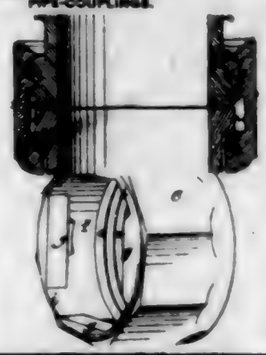
112,956, SAMUEL A. PRESCOTT.
GATES FOR TURBINE WATER-WHEELS.



112,957, P. PRUDHOMME.
APPARATUS FOR ESTABLISHING ELECTRICAL COMMUNICATION IN RAILROAD-TRAINS.



112,958, JOSEPH B. RAMP.
PIPE-COUPLINGS.



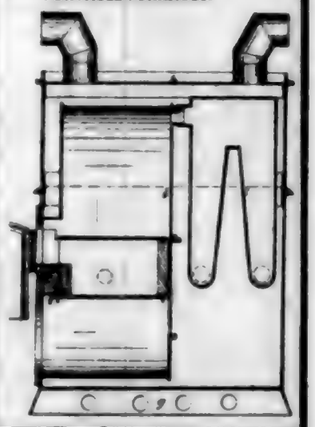
112,959, ENNIS A. RAYMOND.
PRESSED-FRUIT LIFTERS.



112,960, CHARLES L. REID. GROUND.



112,961, JESSE REYNOLDS.
PORTABLE FURNACES.



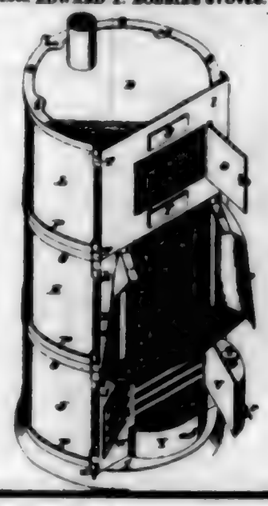
112,962, FREDK. RICHARDSON
FRANCIS HACKER.
REVERSIBLE BOOT-HEELS.



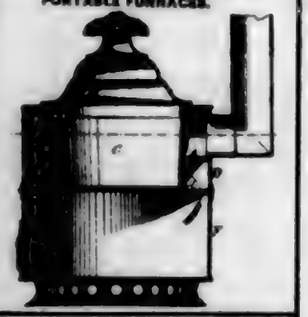
112,963, SELLYE RICHMOND.
FRUIT-DRIERS AND FOOD-WARMERS.



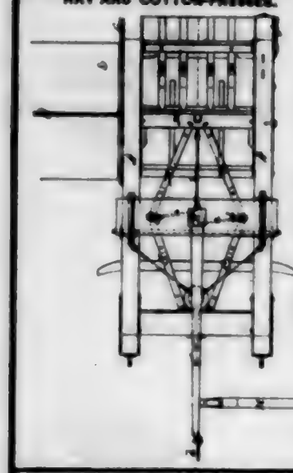
112,964, EDWARD Y. ROBBINS STOVES.



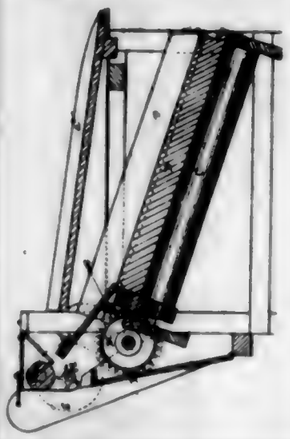
112,965, WILLIAM D. ROBERTSON.
PORTABLE FURNACES.



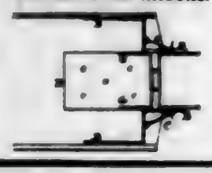
112,966, O. A. ROBINSON.
HAY AND COTTON-PRESSES.



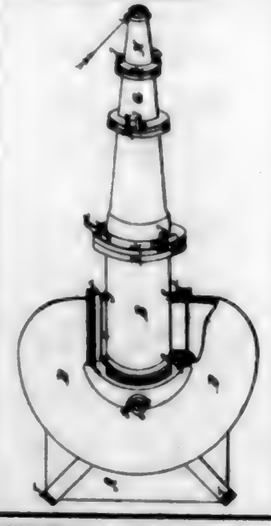
112,967, JACOB RUSSELL.
MACHINES FOR HUSKING CORN.



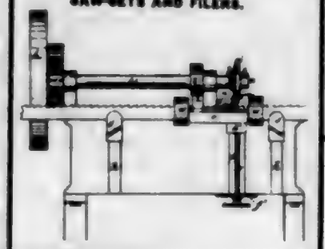
112,968, JOHN FREDERICK SEWER.
END-GATES FOR WAGONS.



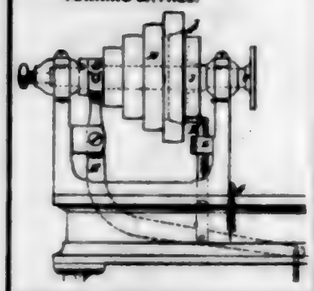
112,969, HENRY SHAW.
HYDRAULIC-NOZZLES.



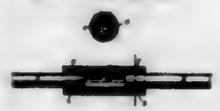
112,970, THOMAS L. SHAW.
SAW-SETS AND FILERS.



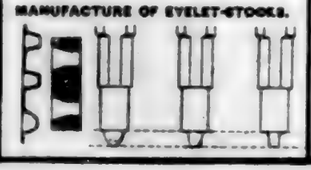
112,971, SAMUEL D. SHELDON.
TURNING-LATHES.



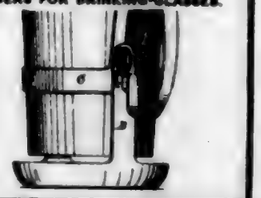
112,972, JAMES SHERRY.
SHAFT-COUPLINGS.



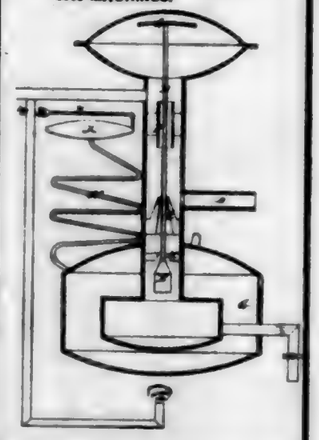
112,973, STEPHEN N. SMITH.
MANUFACTURE OF EYELET-STOCKS.



112,974, J. V. SNIDER.
HOLDERS FOR DRINKING-GLASSES.



112,975, THEODORE G. SPRINGER.
GAS-MACHINES.



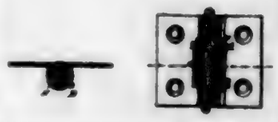
112,976, GREENLEAF STACKPOLE.
WHISK-BROOMS.



112,977, WILLIAM STERNBERG.
CHEESE-HOOPS.



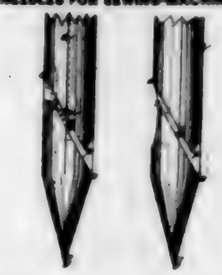
112,978, ROSWELL H. ST. JOHN.
HINGES FOR SEWING-MACHINES.



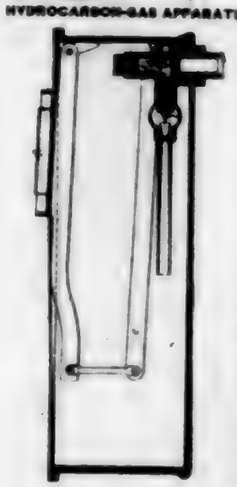
112,979. NATHANIEL F. STONE.
SAW-GUMMERS.

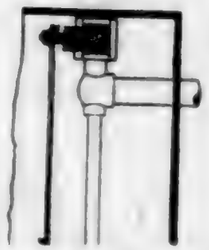


112,980. EDWIN STRAIN.
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112,981. MYRON H. STRONG,
W. I. REID.
HYDROCARBON-GAS APPARATUS.

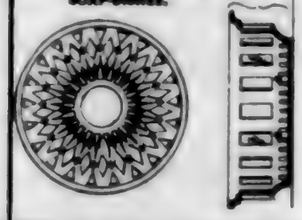




112,982. T. L. SUMMERIL. FIRE-ESCAPES.



112,983. JOHN MERRITT THATCHER.
SOAP-DISHES.



112,984. S. MILLETT THOMPSON.
BOOK-SUPPORTS.



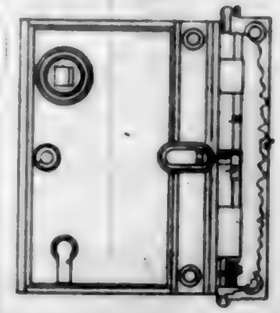
112,985. ALEXANDER THOMSON.
SASH-HOLDERS.



112,986. J. W. THORNLEY.
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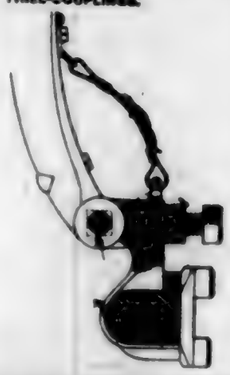
112,987. JAMES HARRY THORP.
ALARM-LOCKS.



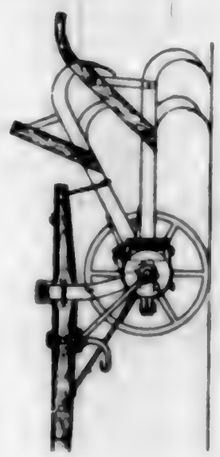
112,988. WM. H. TOWERS.
ELASTIC ROLLS.



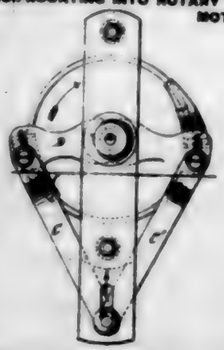
112,989. CHARLES TWOMBLY.
THILL-COUPLINGS.



112,990. JOHN VANLUVANEE.
HUGH SMITH.
WALKING-CULTIVATORS.



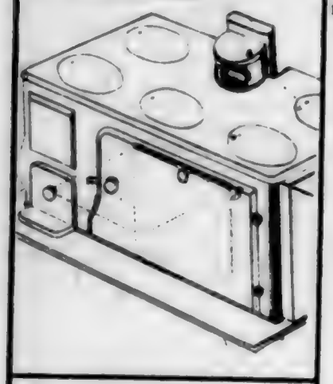
112,991. FRANZ WAGNER.
APPARATUS FOR CONVERTING RECIPROCATING INTO ROTARY MOTION.



112,992. FRANZ WAGNER. METERS.



112,993. GEO. W. WALKER.
COOKING-STOVES.



112,994. FRANCIS N. WELDEN.
CULTIVATORS.

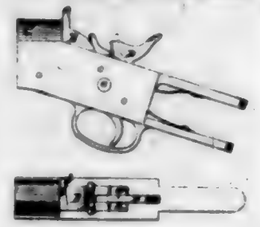


112,995. WOODWARD E. WERTENBAKER.
FUEL AND KINDLING-WOOD.

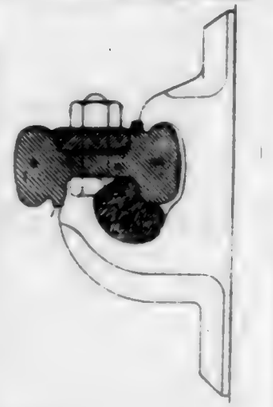
112,996. WILLIAM WESTLAKE.
ZINC-BOARDS FOR STOVES.



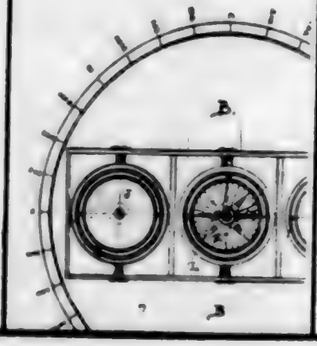
112,997. ELI WHITNEY.
BREECH-LOADING FIRE-ARMS.



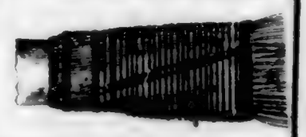
112,998. WILLIAM EDWARD WINBY.
RAILWAY-RAILS AND CHAIRS.



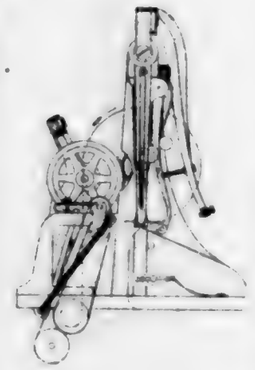
112,999. GEO. W. WOOD.
SHIPS' COMPASSES.



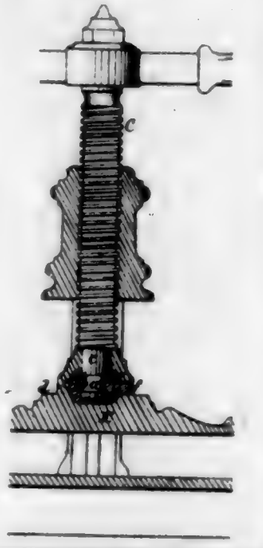
113,000. JAMES H. ANDERSON.
TYING BROOMS AND BRUSHES.



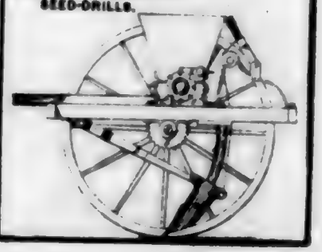
4,306. C. O. CROSBY.
SEWING-MACHINES.



4,306. E. W. FROST.
COPYING-PRESSES.



4,307. M. C. YOUNGLOVE.
SEED-DRILLS.



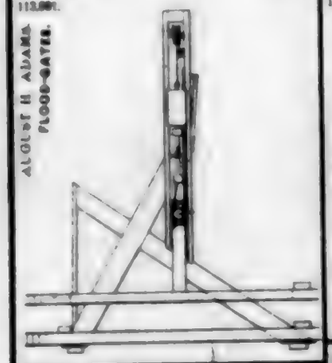
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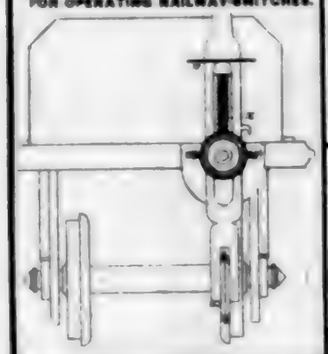
THE UNITED STATES PATENT OFFICE

MARCH 28, 1871.

113,001. ALGUST H. ADAMS. FLOOD-GATES.



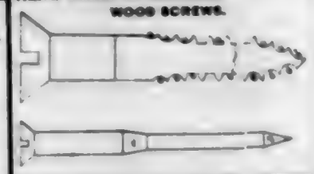
113,002. JAMES ALCORN. APPARATUS FOR OPERATING RAILWAY-SWITCHES.



113,003. WM. BARRY. ROTARY STEAM-ENGINES.



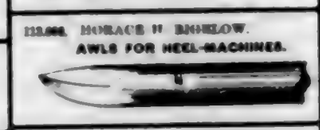
113,004. JASON A. BIDWELL. WOOD SCREWS.



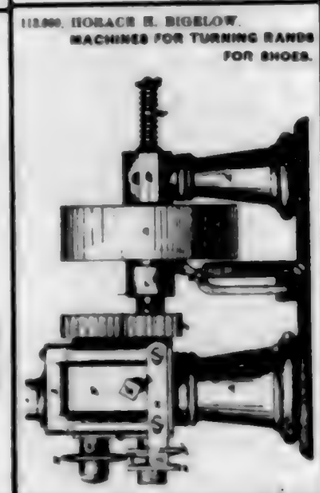
113,005. CHARLES BIHL. COMBINED BORDERING AND DRAIN-TILES.



113,006. HORACE H. BIGELOW. AWLS FOR HEEL-MACHINES.



113,007. HORACE H. BIGELOW. MACHINES FOR TURNING RANDS FOR SHOES.



113,008. LEONARD BAILEY. PLANE-STOCKS.



113,009. JOHN T. BARNETT. PATCHES FOR RAILROAD-RAILS.



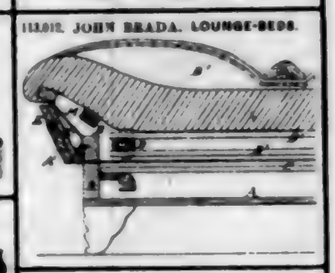
113,010. JOSEPH B. BLANCHARD. NEEDLES FOR SEWING-MACHINES.



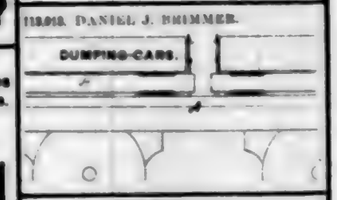
113,011. PETER BOEMER. MICHAEL BRODBEHM. CULINARY-BOILERS.



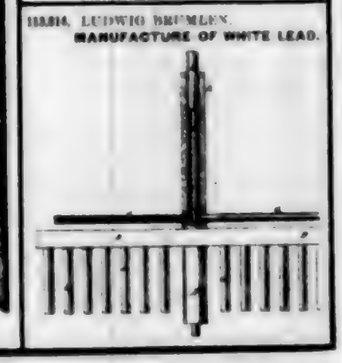
113,012. JOHN BRADA. LOUNGE-BEDS.



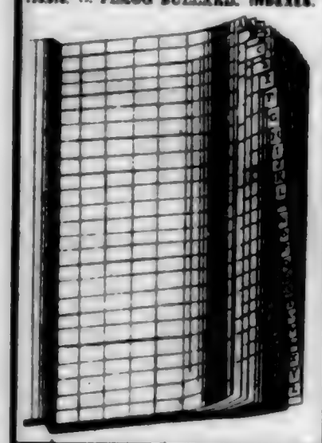
113,013. DANIEL J. BRIMMER. DUMPING-CARS.



113,014. LUDWIG BRUMLEN. MANUFACTURE OF WHITE LEAD.



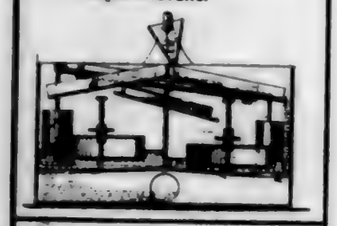
113,015. O. FLAGG BULLARD. INDEXES.



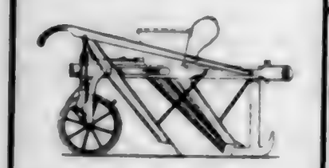
113,016. WILLIAM BUNCH. REGULATING CLASPS FOR ELASTIC TUBES.



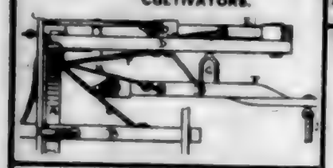
113,017. ANNA BUTTNER. LIQUID-METERS.



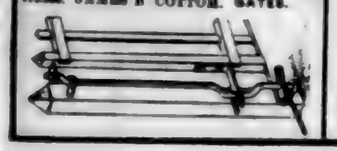
113,018. J. B. CONATY. MILTON CATT CORN-PLANTERS.



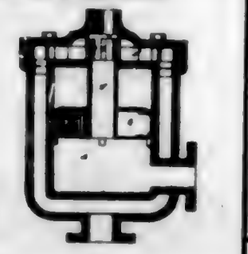
113,019. LEE W. CONNER. RICHARD G. CONNER. CULTIVATORS.



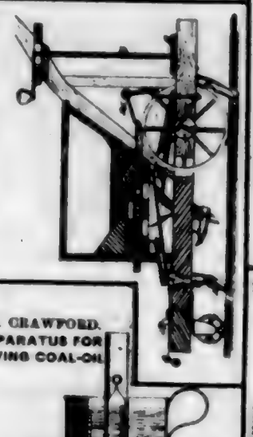
113,020. JAMES B. COTTOM. GATES.



113,021. WILLIAM CRAIG. HENRY L. BREVOORT. CONDENSERS FOR STEAM-ENGINES.



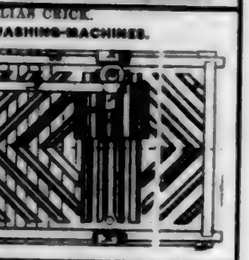
113,022. JESSE W. CRAVEN. ALBERT CLARK. GRAIN-DRILLS.



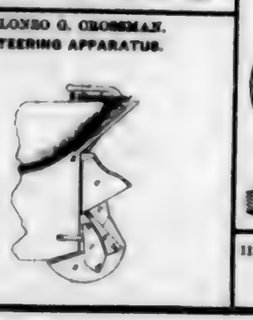
113,023. BENJ. CRAWFORD. APPARATUS FOR PURIFYING COAL-OIL.



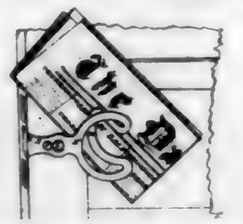
113,024. ELIAS CRICK. WASHING-MACHINES.



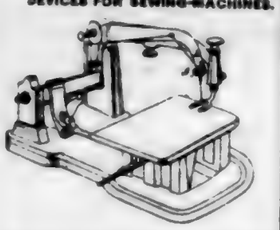
113,025. ALONZO G. CROSSMAN. STEERING APPARATUS.



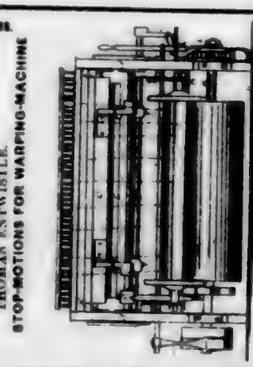
113,026. JACOB M. CRULL. PAPER-CLIPS.



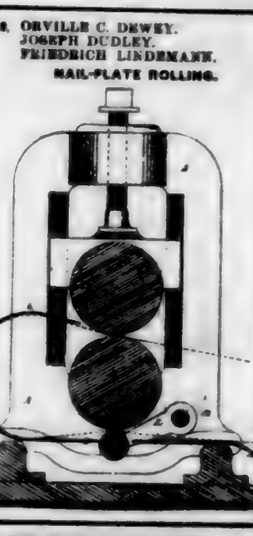
113,027. EDWIN L. CRUMB. NEEDLE-HOLDERS AND TENSION DEVICES FOR SEWING-MACHINES.



113,028. EDWIN H. CUMMINGS. GRIMSHAW HEYES. THOMAS ENTWISTLE. STOP-MOTIONS FOR WARPING-MACHINE



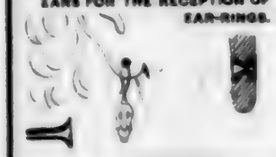
113,029. ORVILLE C. DEWEY. JOSEPH DUDLEY. FRIEDRICH LINDEMANN. NAIL-PLATE ROLLING.



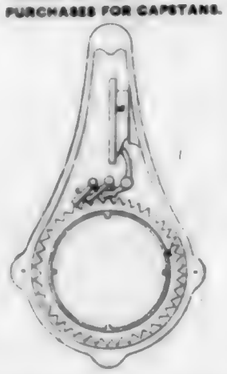
113,030. FERDINAND DIECKMANN. BRIDGES.



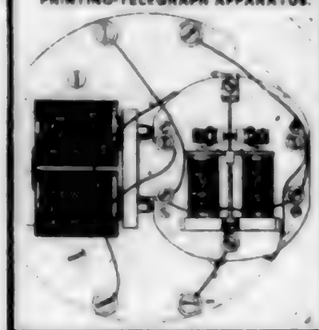
113,031. WILLIAM CHARLES EDGE.
DEVICES FOR PIERCING AND LINING EARS FOR THE RECEPTION OF EAR-RINGS.



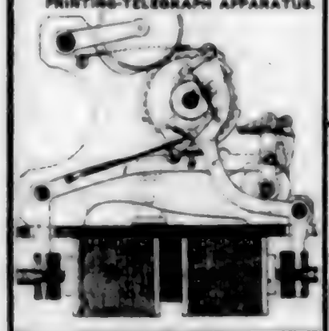
113,032. JOSEPH EDGECOMB.
PURCHASES FOR CAPSTANS.



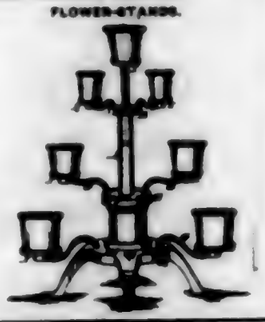
113,033. THOMAS A. EDISON.
PRINTING-TELEGRAPH APPARATUS.



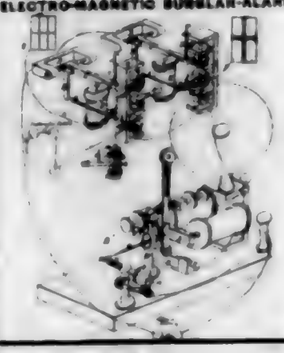
113,034. THOMAS A. EDISON.
PRINTING-TELEGRAPH APPARATUS.



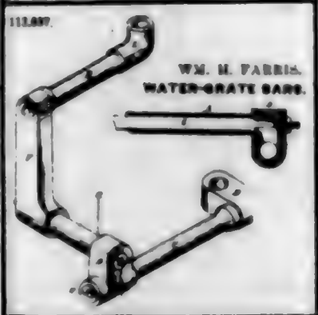
113,035. GARRETT ERKSON.
FLOWER-STANDS.



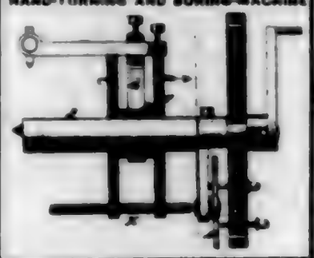
113,036. WILSON B. FACER.
ELECTRO-MAGNETIC BURGLAR-ALARM.



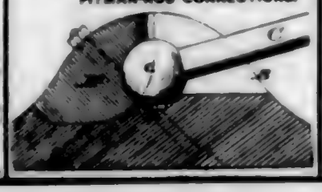
113,037. WM. H. FARRIS.
WATER-GRATE BARS.



113,038. JOHN FRANKLIN FINGER.
HAND-TURNING AND BORING-MACHINE.

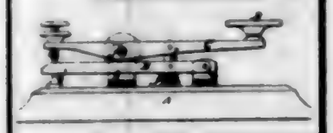


113,039. EDWARD G. FISH.
PITMAN-ROD CONNECTIONS.



113,040. RUFUS B. FOWLER.
DANIEL F. BRANDON.
COATING IRON AND STEEL WITH MOLTEN IRON.

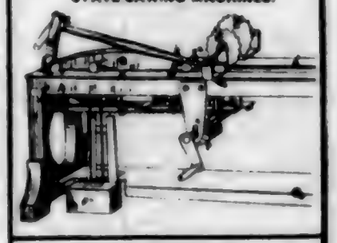
113,041. JAS. GAMBLE. MECHANICAL TELEGRAPH-INSTRUMENTS.



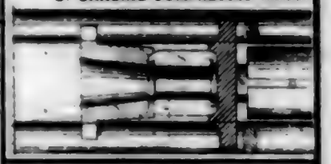
113,042. WM. GARDNER. SCROLL-SAWS.



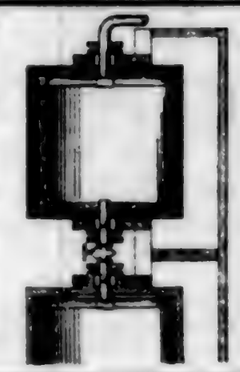
113,043. ROBERT W. GEORGE.
STAVE-SAWING MACHINES.



113,044. CHAS. B. GILMAN. METHODS OF SANDING COMPRESSED WOOD.



113,045. SAM. D. GILSON.
MANUFACTURE OF SALT FROM BRINES.

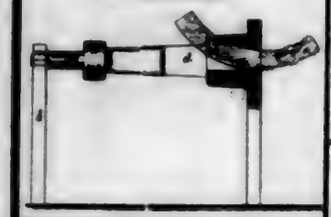


113,046. DANIEL A. HALL.
DAVID GARRISON.
CONSTRUCTION OF PIER-GLASS FRAMES AND CORNICES.

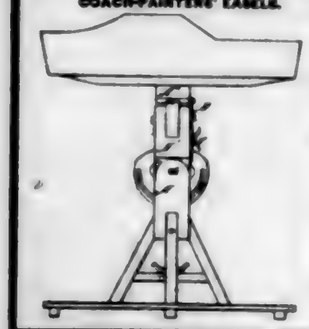


113,047. HORATIO N. HARBACH.
THEO. J. HARBACH.
CONFECTIONERY OR COCOANUT-CANDY.

113,048. PIERRE J. HARDY.
TURNING-LATHES.



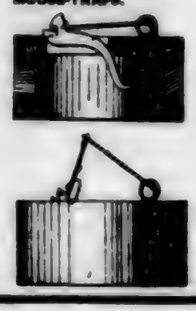
113,049. D. R. HARRIS.
COACH-PAINTERS' EASELS.



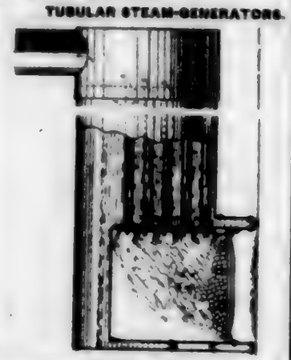
113,050. JAMES HARRIS.
WHEELS FOR VEHICLES.



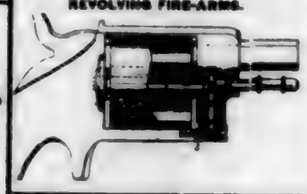
113,051. HUBERT G. HART.
MOUSE-TRAPS.



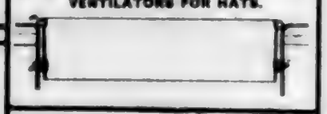
113,052. JAS. M. HICKS.
TUBULAR STEAM-GENERATORS.



113,053. SAMUEL B. HOPKINS.
REVOLVING FIRE-ARMS.

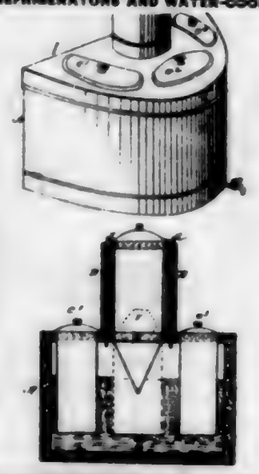


113,054. HENRY A. HOUSE.
VENTILATORS FOR HATS.

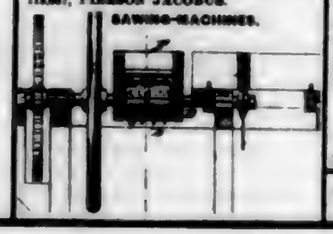


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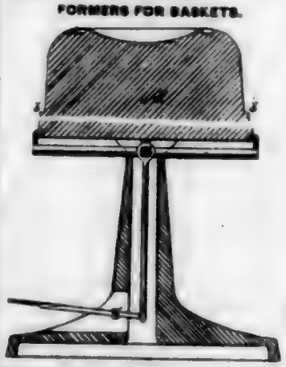
113,056. ANTHONY IKE.
REFRIGERATORS AND WATER-COOLER.



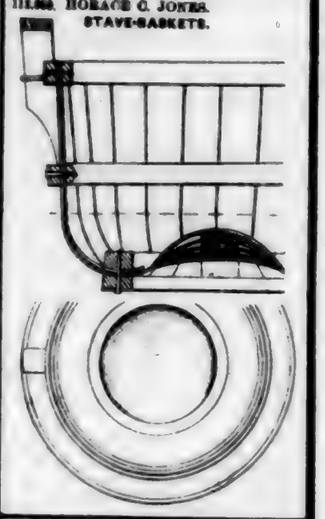
113,057. PIERSON JACOBUS.
SAWING-MACHINES.



113,058. HORACE C. JONES.
FORMERS FOR BASKETS.



113,059. HORACE C. JONES.
STAVE-BASKETS.



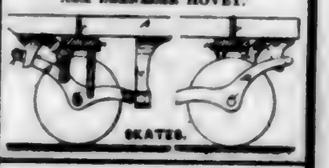
113,060. RICHD. E. JONES.
ADJUSTABLE SEATS FOR VEHICLES.



113,061. CHARLES KAST.
POLICE-BATONS.

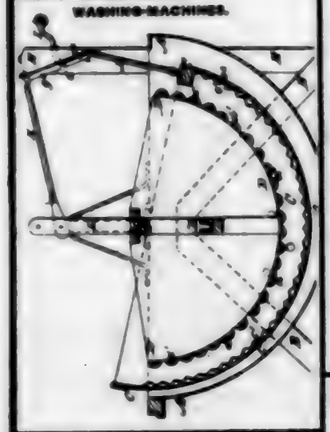


113,062. DAVID KERR.
AMA EBENEZER HOVEY.
SKATES.



113,063. ALEXANDER KIRKWOOD.
MEAT-BISCUITS.

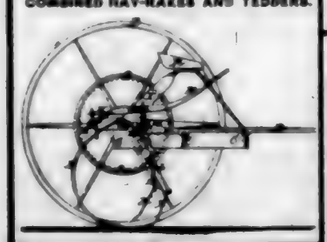
113,064. EDWIN KNOCK.
WASHING-MACHINES.



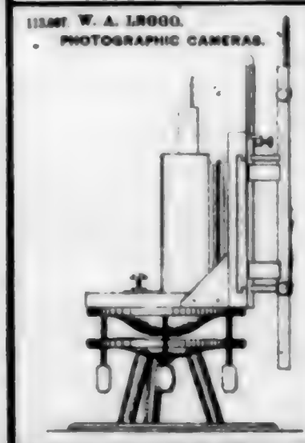
113,065. ALEXANDER LADD.
CHECK-REIN HOOKS.



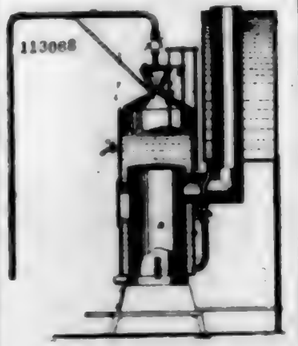
113,066. CHARLES LA DOW.
COMBINED HAY-RAKES AND TEDDERS.



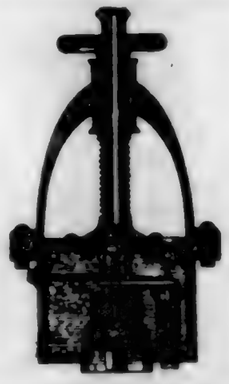
113,067. W. A. LEGGO.
PHOTOGRAPHIC CAMERAS.



113,068. OTTO LEHMANN.
STEAMING APPARATUS.



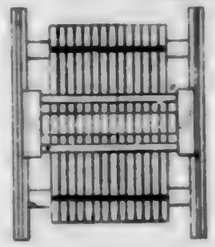
113,069. NATHANIEL C. LOCKE. STEAM AND WATER-PRESSURE REGULATORS.



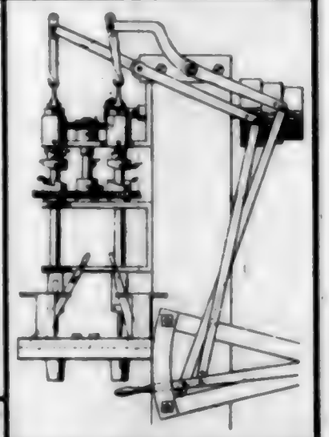
113,070. ADAM LOEFFELHOLZ.
ANTON PEIER.
SASH-HOLDERS FOR RAILROAD-CARS.



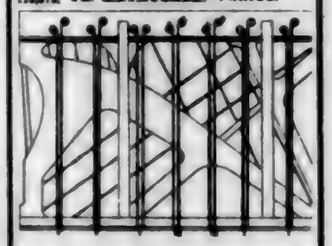
113,071. GEORGE W. MANTON.
MACHINES FOR CUTTTING VENEERING INTO STRIPS.



113,072. HENRY MARTIN.
MACHINES FOR THREADING BOLTS.



113,073. FR. MATHUSHEK. PIANOS.



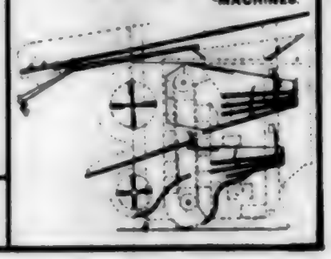
113,074.
FR. MATHUSHEK.
PIANO-FORTE ACTIONS.



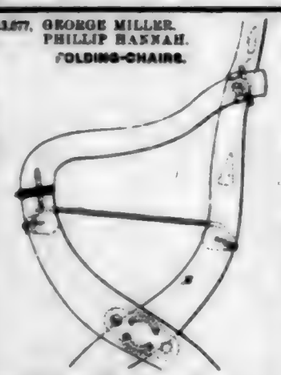
113,075. EDGAR McCONNELL.
CHISELS FOR MORTISING-MACHINES.

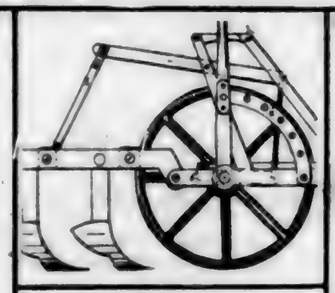


113,076. CURTIS MILLER.
SEPARATORS FOR THRASHING-MACHINES.

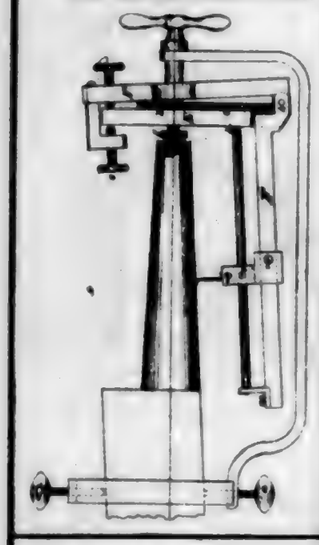


113,077. GEORGE MILLER.
PHILLIP HANNAH.
FOLDING-CHAIRS.





113,078. ARTHUR F. MOORE.
MACHINES FOR TURNING AXLES.



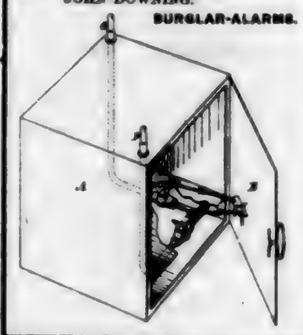
113,079. GEORGE MOTLEY.
MAKING FLOUR.

113,080. RICHARD M. MOYLE.
CATARRHAL DOUCHES.



113,081. JOHN MURRY.
GANG-PLOWS.

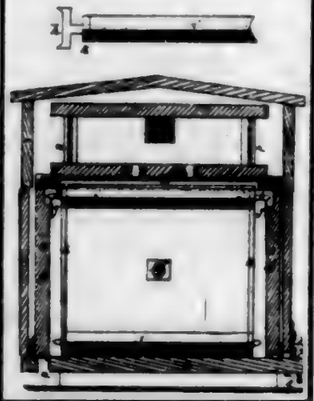
113,082. JOHN T. MYGATT.
JOHN DOWNING.
BURGLAR-ALARMS.



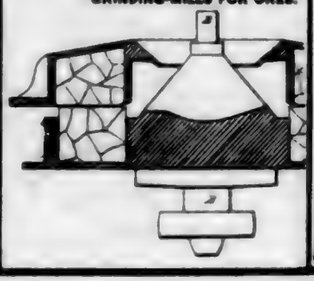
113,083. JOTHAM NEWTON.
COMPOSITION-FUELS.

113,084. PHILIP NICOLLE. BEE-HIVES.

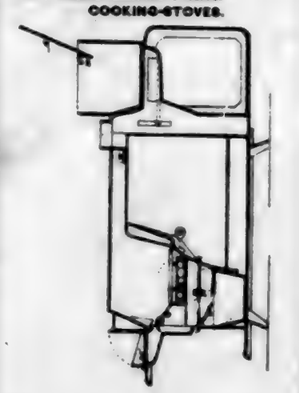




113,085. JACOB S. NISWANDER.
GRINDING-MILLS FOR ORES.



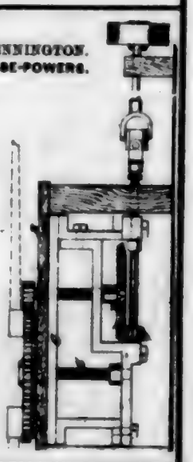
113,086. DANL. ELDON PARIS.
COOKING-STOVES.



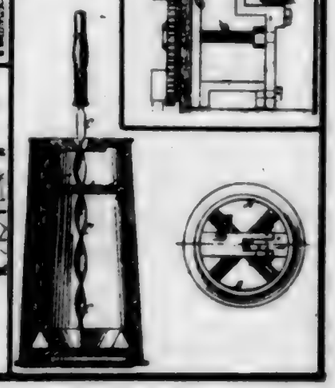
113,087. ROBERT H. PATON.
REVERSIBLE SETTEES.



113,088.
THOMAS D. PENNINGTON.
HORSE-POWERS.

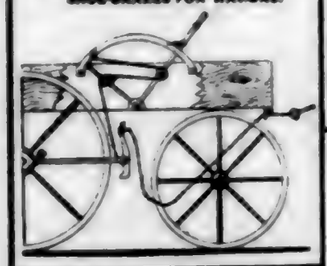


113,089.
GEORGE S. PERFATER.
CHURNS.



113,090. JOHN J. PRATT.
ELECTROPLATING LETTERS AND NUMBERS ON METALLIC PLATES FOR SIGNS.

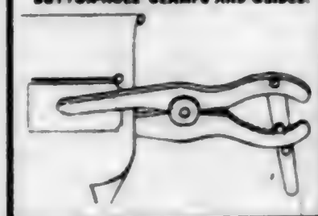
113,091. ABRAHAM QUINN.
SHOE-BRAKES FOR WAGONS.



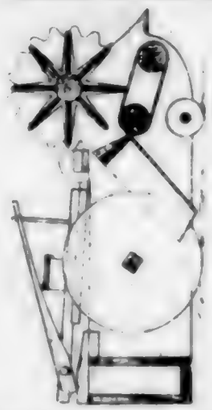
113,092. JOHN RANCEVAN.
RUNNING-GEARS FOR CARRIAGES.



113,093. LOYAL REDING.
BUTTON-HOLE CLAMPS AND GUIDES.



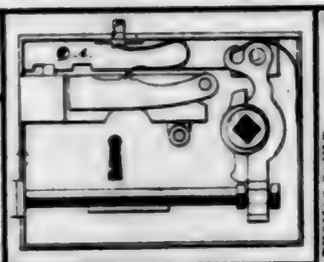
113,094. BENJAMIN M. BEEVER.
MACHINES FOR PULLING FLAX.



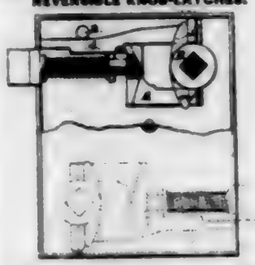
113,095. JOHN RICH.
CHUCKS FOR LATHES.



113,096. HENRY M. RITTER.
REVERSIBLE KNOB-LATCHES.



113,097. HENRY M. RITTER.
REVERSIBLE KNOB-LATCHES.



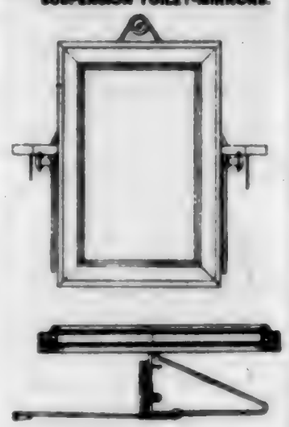
113,098. HAMILTON ROBEY.
PLOWS.



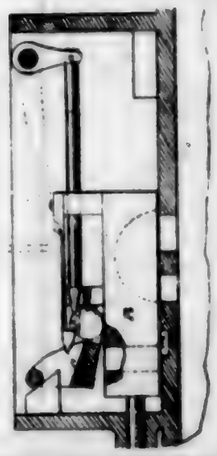
113,099. ELIJAH H. RUSSELL.
SOLDERING SPIRAL BANDS.



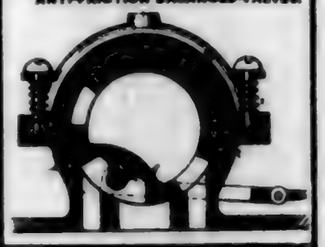
113,100. RANDOM T. SARGENT.
SUSPENSION TOILET-MIRRORS.



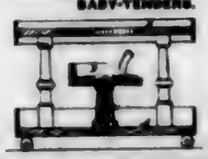
113,101. THOMAS SAULT.
CUT-OFF ATTACHMENTS TO SLIDE-VALVES.



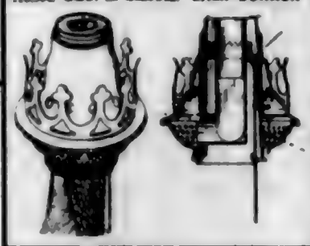
113,102. WILLIAM SIEFERT.
ANTI-FRICTION BALANCED-VALVES.



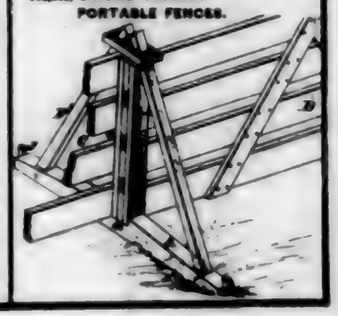
113,103. SAMUEL M. SIMONDS.
BABY-TENDERS.



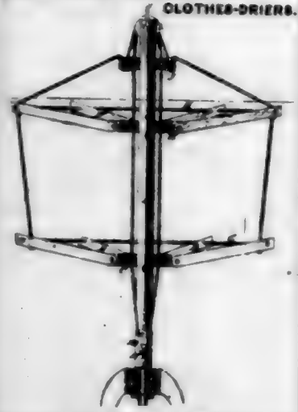
113,104. GEO. L. SMITH. LAMP-BURNER

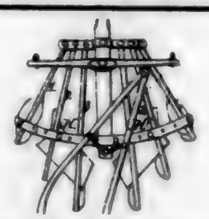


113,105. FRANK SPROUL.
PORTABLE FENCES.

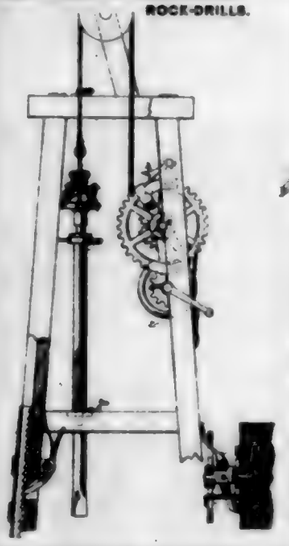


113,106. AUGUST STECHSCHULT.
CLOTHES-DRIERS.

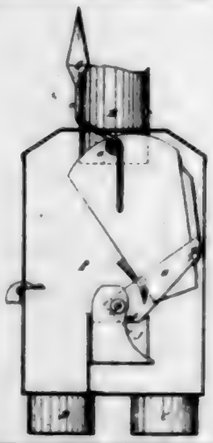




113,107. JAMES M. STEPHENSON.
ROCK-DRILLS.

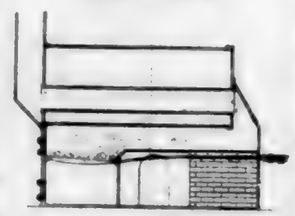


113,108. EDWARD STEWART
AUTOMATIC WATER-SPOUT CUT-OFF



113,109. MICHAEL STOLL.
CULTIVATORS.

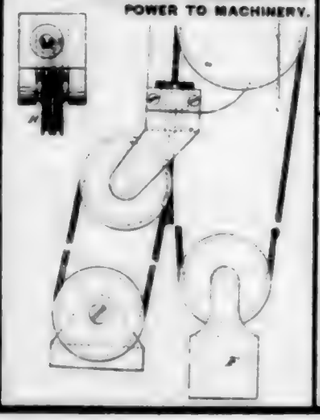
113,110. URIAH B. STRIBLING
BOILER-FURNACES.



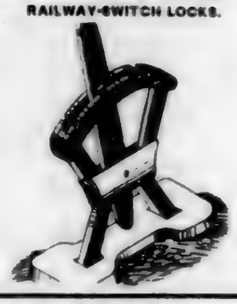
113,111. COLUMBUS P. STURGIS.
SHEET-METAL FRUIT-CANS.



113,112. WM. H. THORNE.
APPARATUS FOR TRANSMITTING POWER TO MACHINERY.



113,113. ARCHIBALD THOMSON.
RAILWAY-SWITCH LOCKS.

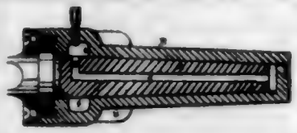


113,114. FRANCIS B. TORREY.
THE MANUFACTURE OF COMPOSITION-ROLLER BUSHINGS.

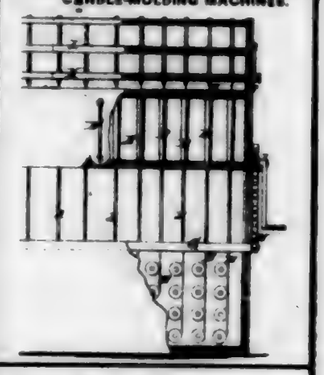
113,115. JACOB VAN NORMAN.
FORCING LIQUIDS.



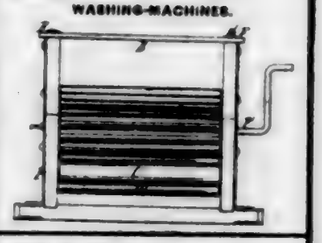
113,116. ERNEST VON JEINSEN.
JAMES MONROE McDONALD.
AXLES AND AXLE-BOXES FOR VEHICLES.



113,117. JOB. WALES.
CANDLE-MOLDING MACHINES.



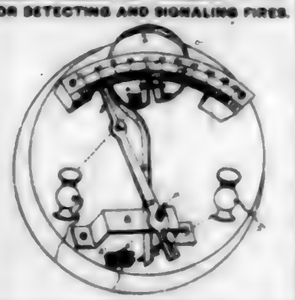
113,118. GEO. S. WALKER.
WASHING-MACHINES.



113,119. EDMUND R. WARE.
MEN'S GAITERS.



113,120. WILLIAM B. WATKINS. MEANS FOR DETECTING AND SIGNALING FIRES.



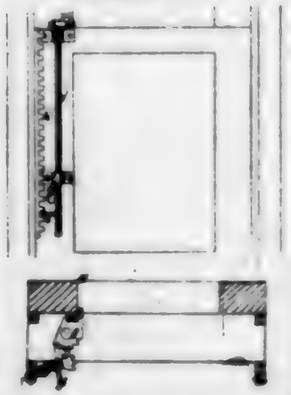
113,121. BENJAMIN WEBB. HORSE-RAKES.



113,122. CHARLES H. WHITE. BUTTER-TUBS.

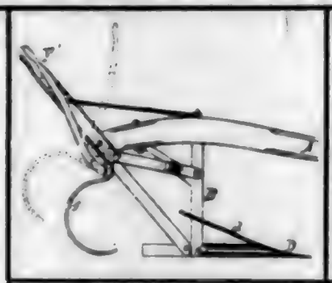


113,123. B. M. WHITING. SASH-HOLDERS.

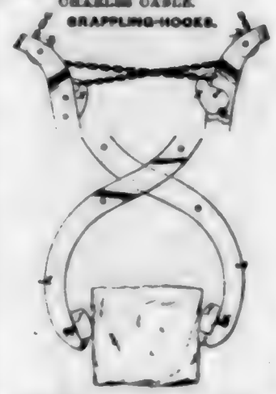


113,124. THOMAS ATWOOD WILLSON. TINTED GLASS FOR SPECTACLES.

113,125. JACOB A. WOOD. THOMAS WOOD. BEAN-HARVESTERS.



113,126. ELIAS ZIEGLER. CHARLES CABLE. GRAPPLING-HOOKS.

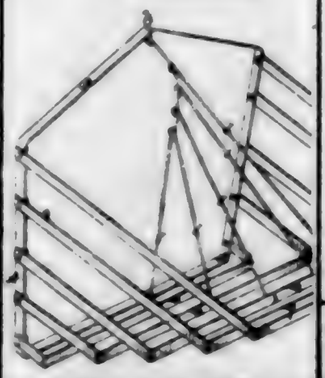


113,127. JOHN ZENGELER. COLORING AND STAINING MARBLE.

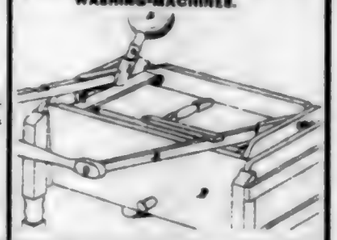
113,128. JOHN H. ANDRUS. SKIN UNDER-GARMENTS.



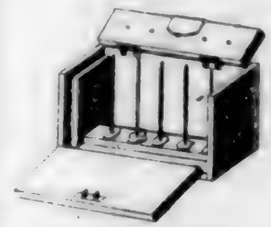
113,129. HENRY M. ANDRUS. JEHIEL M. CLEVELAND. CLOTHES-RACKS.



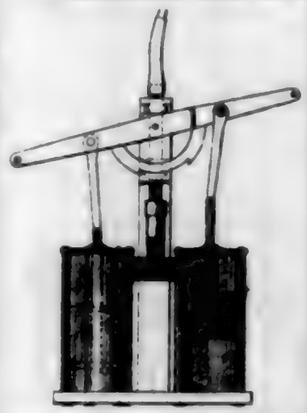
113,130. ALFRED M. BAILEY. WASHING-MACHINES.



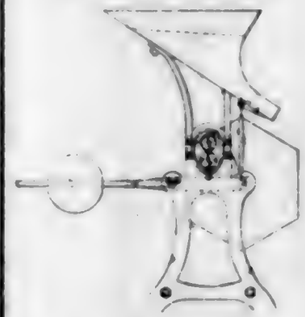
113,131. ANDREW A. BAKER. CHECK-HOLDERS.



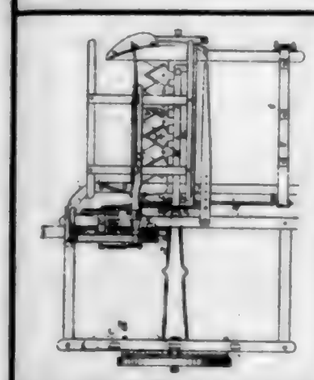
113,132. JEREMIAH BARNEY. DOUBLE-ACTING FORCE-PUMPS.

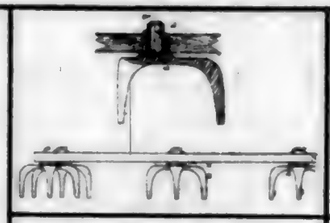


113,133. WILLIAM HY. BAXTER. GRAIN-WEIGHING REGISTERS.



113,134. J. H. BEAM. HARVESTERS.





113,135. THOMAS T. BISHOP. HENRY J. MERRET. SEWING-MACHINE CASTERS.



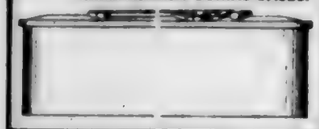
113,136. VALENTIN BORST. HARNESS-SADDLES.



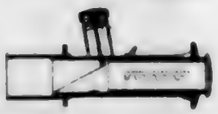
113,137. J. A. BOSTWICK. NOZZLES FOR OIL-CANS.



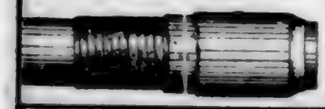
113,138. FRED. W. BROWN. COMPOSITION BURIAL-CASES.



113,139. GEORGE D. CAPEWELL. GEORGE A. CAPEWELL. JOSEPH T. CAPEWELL. SHOT-CHARGERS.

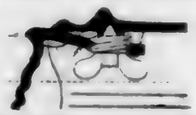


113,140. WM. A. CASWELL. TOP-ROLLS FOR SPINNING.

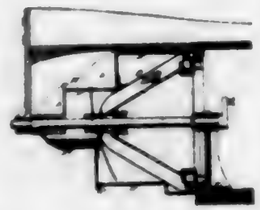


113,141. JOHN F. CHASE. ROTARY-HARROWS.

113,142. THOS. J. CLOSE. STOVE-LEGS.



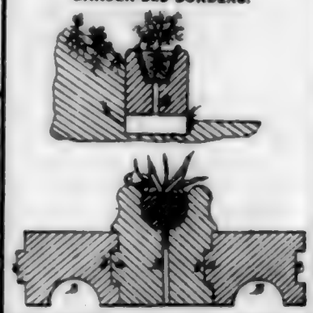
113,143. GEORGE B. COCKS. MARINE PROPELLERS.



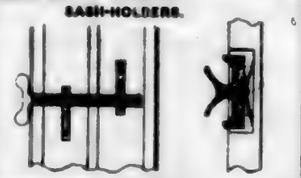
113,144. NATHAN T. COFFIN. PUMPS.



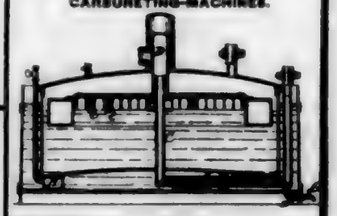
113,145. JOSEPH EDGAR DICKSON. EELYE RICHMOND. GARDEN-BED BORDERS.



113,146. JACOB J. DIEHL. SASH-HOLDERS.



113,147. A. B. DUPAS. ARTHUR BARBARIN. CARBURETING-MACHINES.



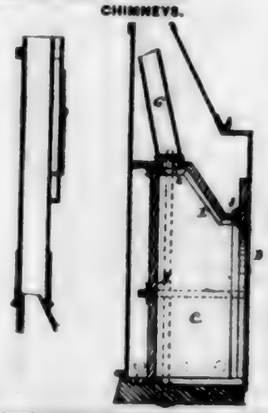
113,148. DAVID EDWARDS. CULTIVATORS.



113,149. THOS. R. EVANS. SHOES AND OVER-GAITERS.



113,150. ALVAN B. EWING. CHIMNEYS.



113,151. PHILIP FAY. MEDICAL COMPOUNDS FOR CURE OF SCROFULA, LIVER COMPLAINT,

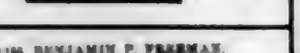
113,152. HENRY FELLOWS. SPURS.



113,153. DANIEL FISHER.
WILLIAM CUMMLG.
VALVES FOR OIL-TANKS.



113,154. DAVID A. FOOT.
GEO. S. KNAPP.
LIGHTNING-RODS.



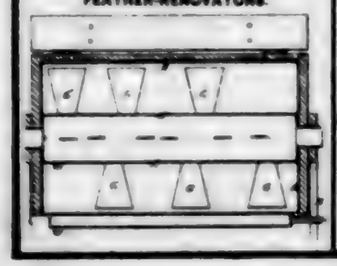
113,155. BENJAMIN P. FREEMAN.
PAT. PAYTON.
SPARK-ARRESTERS FOR LOCOMOTIVE



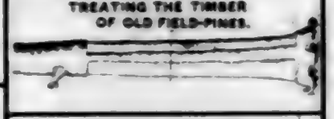
113,156. DANIEL S. FRENCH.
COFFEE-POTS.



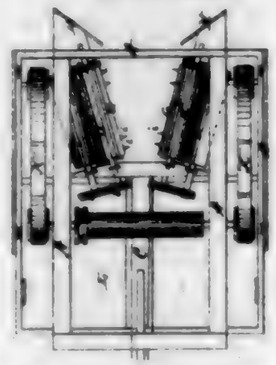
113,157. JONATHAN GARRETT.
JONAS R. BAUCH.
FEATHER-RENOVATORS.



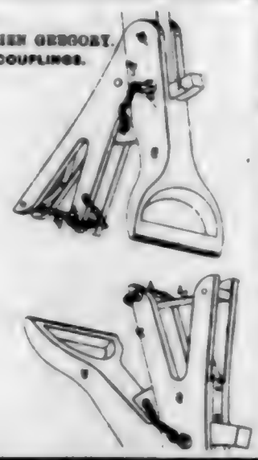
113,158. JAMES H. GATLING.
TREATING THE TIMBER OF OLD FIELD-PINES.



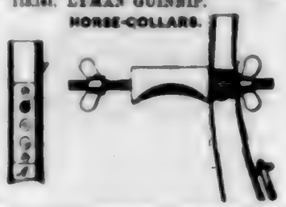
113,159. WILLIAMSON GOODWIN.
SINCLAIR D. G. BILES.
COTTON-PICKERS.



113,160.
STEPHEN GREGORY.
CAR-COUPLINGS.



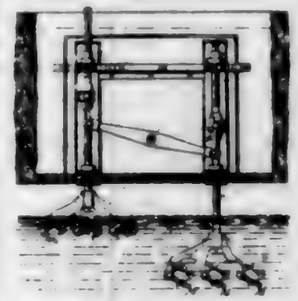
113,161. LYMAN GUINIP.
HORSE-COLLARS.



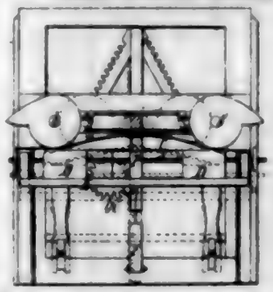
113,162. T. C. HARGRAVE
WATER-METERS.



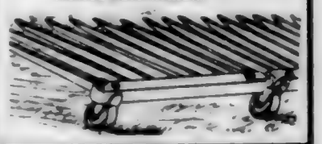
113,163. C. A. S. HARRIS.
PROPELLERS FOR VESSELS.



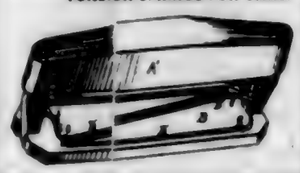
113,164. WM. HARTY. MACHINES FOR FORMING CARRIAGE-SPRINGS.



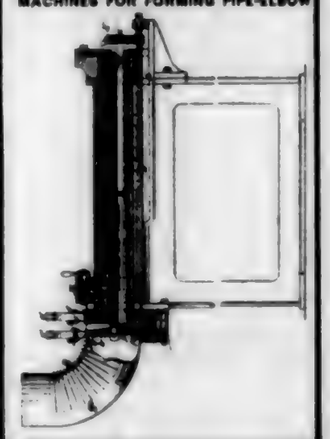
113,165. JOHN F. HENKLE.
HORSE HAY-RAKES.



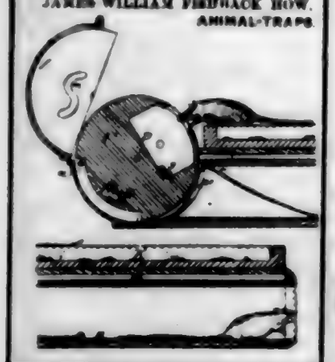
113,166. BENJAMIN HERSHEY.
TORSION-SPRINGS FOR CARS.



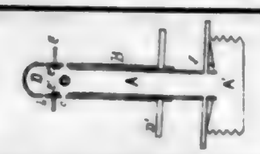
113,167. CHARLES HOELLER.
MACHINES FOR FORMING PIPE-ELBOW



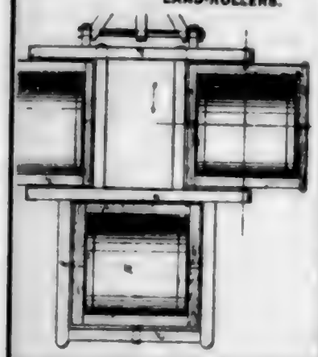
113,168.
JAMES WILLIAM FIELDBACK HOW.
ANIMAL-TRAPS.



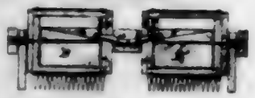




113,169. JOHN T. HUDNET.
HOLLOWAY W. MATHEWS.
LAND-ROLLERS.



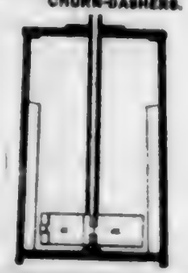
113,170. JNO. HUGHES.
COTTON-PICKERS.



113,171. WM. C. JOHNSON.
HUBS FOR WHEELS.

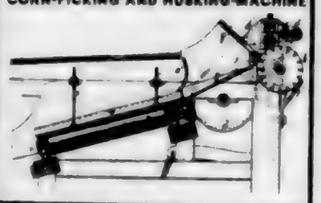


113,172. COLUMBUS JOHNSTON.
CHURN-DASHERS.

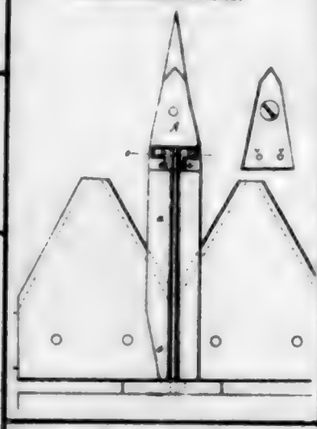


113,173. WILLIAM R. JUSTUS.
HORSESHOE-MACHINES.

113,174. SILAS B. KENYON.
CORN-PICKING AND HUSKING-MACHINE

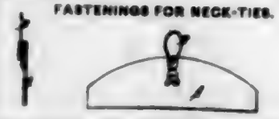


113,175. WM. G. KENYON.
HARVESTER-CUTTERS.

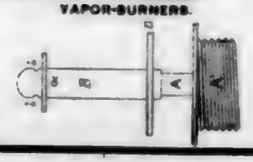


113,176. RUDOLPH C. KLEIN.
COMPOSITIONS FOR LUBRICATING JOURNALS.

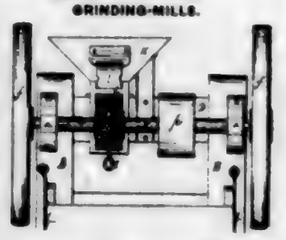
113,177. A. KOMP.
FASTENINGS FOR NECK-TIES.



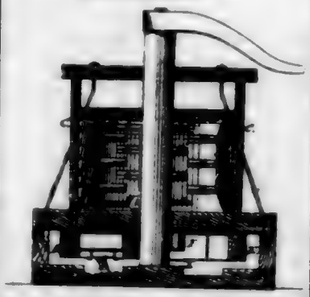
113,178. WM. H. LAWRENCE.
VAPOR-BURNERS.



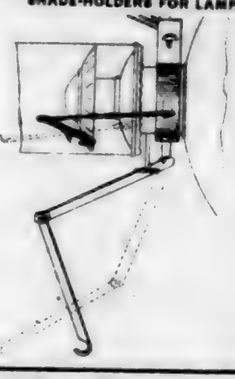
113,179. EDWIN D. LITTLE.
EDGAR C. LITTLE.
GRINDING-MILLS.



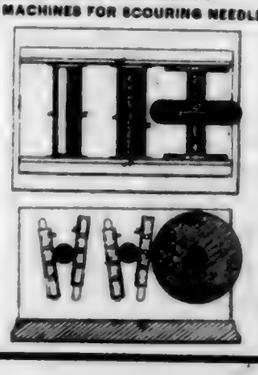
113,180. ZALMON LUDINGTON.
PEAT-MACHINES.



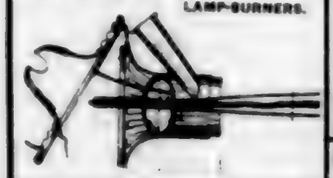
113,181. JAMES W. LYON.
SHADE-HOLDERS FOR LAMPS.



113,182. FRANCIS W. MALLETT.
MACHINES FOR SCOURING NEEDLES.



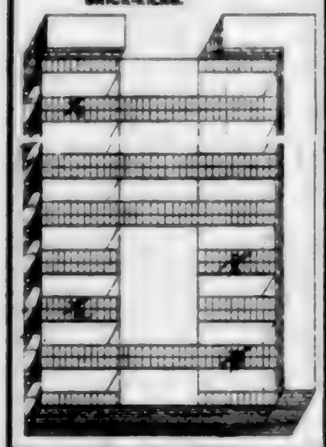
113,183. CHAS. B. MANN.
LAMP-BURNERS.



113,184. ROBERT J. MANN. SEWER.



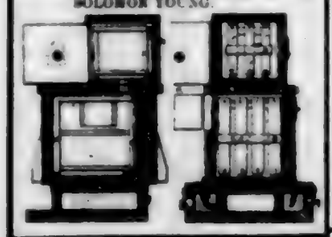
113,185. J. M. McCARTHY.
BRICK-KILNS.



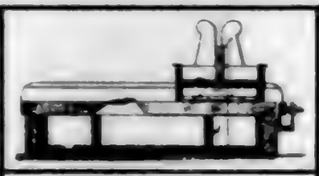
113,186. JAMES MEGRATTEN.
EARTH-CLOSETS.



113,187. JOHN F. METHERD. BEE-HIVES.
SOLOMON YOUNG.



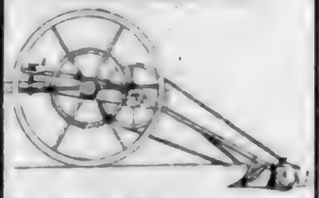
113,188. MOUSSET, FRANCISQUE.
VEGETABLE-CUTTERS.



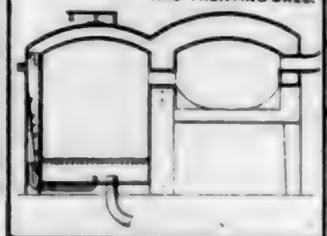
113,189. CHAS. E. MORRILL.
JOHN E. COFFIN.
GEO. F. HALL.
MACHINES FOR STRIPING AND CUTTING LEATHER



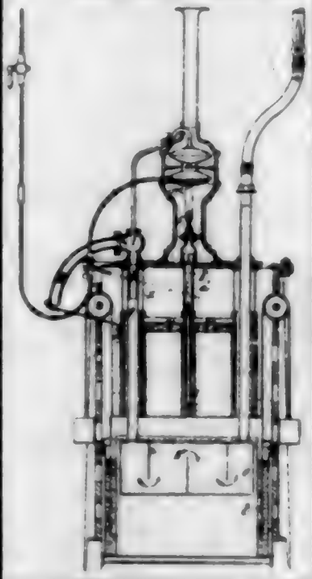
113,190. J. B. MORRIS.
ROTARY SUBSOIL-PLOWS.



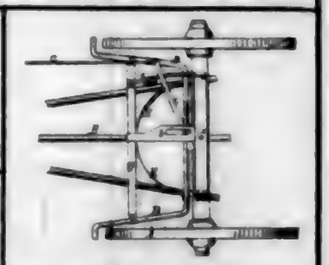
113,191. JOSEPH E. MORRIS.
FURNACES FOR PRODUCING HYDROGEN AND TREATING ORES.



113,192. X.E. MOUSSARD. PRODUCING GASES FROM HYDROCARBONS.



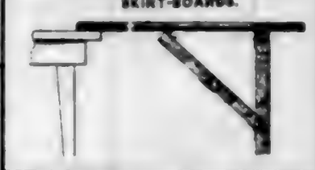
113,193. ISAAC LAMBORN MYERS.
BUGGY-BRAKES.



113,194. ROBERT NENNINGER.
BREECH-LOADING FIRE-ARMS.

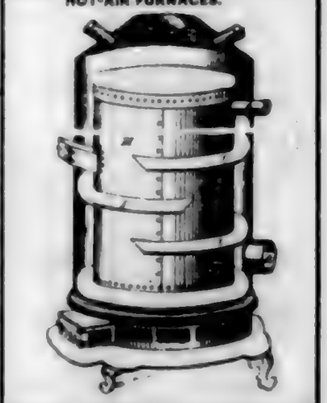


113,195. JOHN F. NETTLETON
SKIRT-BOARDS.



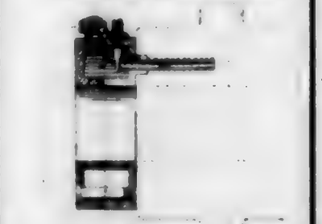
113,196. ERNST B. NEWMAN.
MOLDED SADDLE-TREES AND COMPOSITIONS FOR THE SAME.

113,197. JAMES R. NICHOLS.
HOT-AIR FURNACES.

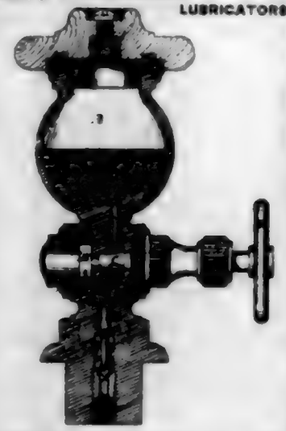


113,198. JOHN NORCROSS.
MEDICINES OR POWDERS FOR HORSES.

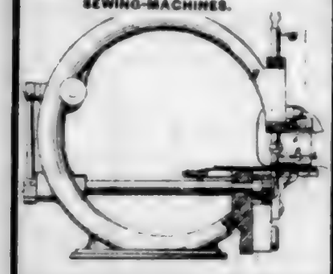
113,199. STEPHEN R. NORRIS.
OILERS FOR LOOSE-PULLEYS.



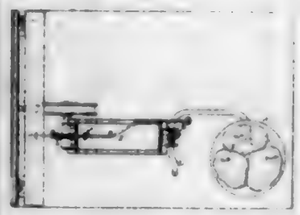
113,200. T. J. NOTTINGHAM.
LUBRICATORS.



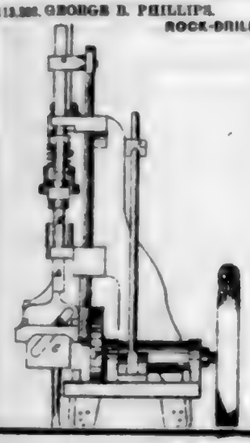
113,201. CHARLES O. PARMENTER.
SEWING-MACHINES.



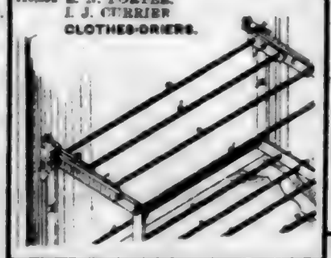
113,202. JOHN L. PEAKE. METHODS OF SCENE-SHIFTING FOR THEATRICAL AND ANALOGOUS PURPOSES.



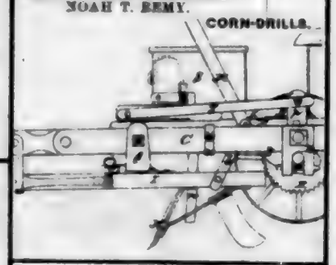
113,203. GEORGE B. PHILLIPS.
ROCK-DRILLS.



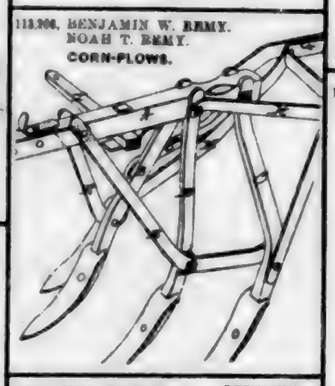
113,204. E. N. PORTER.
I. J. CURRIER
CLOTHES-DRIERS.



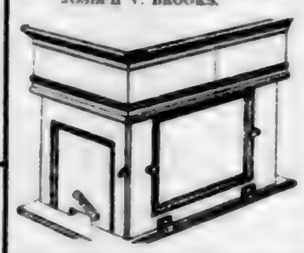
113,205. BENJAMIN W. REMY.
NOAH T. REMY.
CORN-DRILLS.



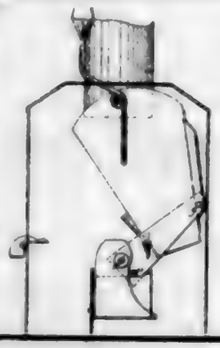
113,206. BENJAMIN W. REMY.
NOAH T. REMY.
CORN-PLOWS.



113,207. WM. REYNOLDS.
JOSEPH V. BROOKS.
BEE-HIVES.



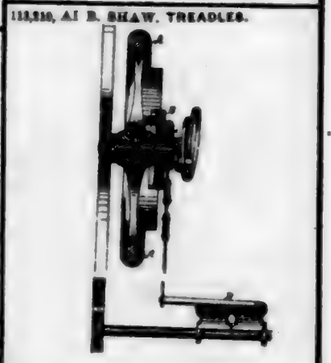
113,208. EUGENE M. RIOTTE.
CHLORIDIZING SILVER ORES.



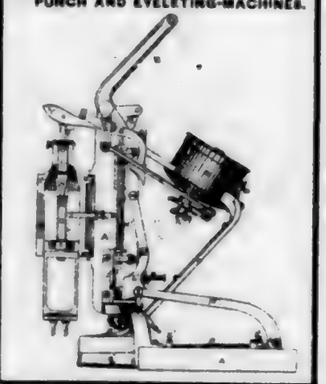
113,209. CHAS. ROE SCOTT.
WARDROBE OR HAT-HOOKS.



113,210. AI B. SHAW. TREADLES.



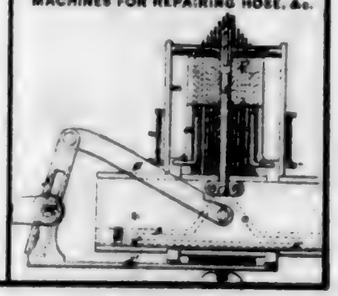
113,211. ELIJAH SHAW.
PUNCH AND EYELETING-MACHINES.



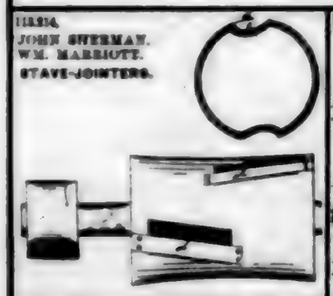
113,212. SAML. SHEBLE.
FORKS, HOES, &c.



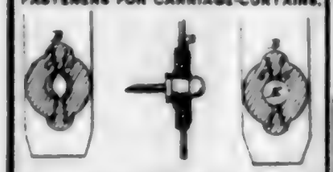
113,213. ALFRED SHEDLOCK.
MACHINES FOR REPAIRING HOSE, &c.



113,214. JOHN SHERMAN. WM. MARRIOTT. STAVE-JOINTERS.



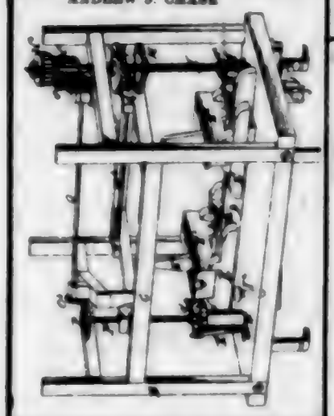
113,215. SAMUEL SHUTE. FASTENERS FOR CARRIAGE-CURTAINS.



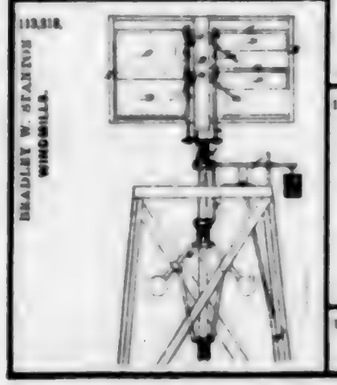
113,216. ALBERT S. SMITH. LOCOMOTIVES.



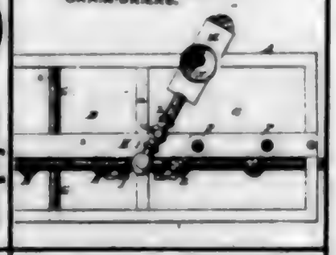
113,217. W. DEAN SMITH. SAW-MILLS. ANDREW J. CHASE



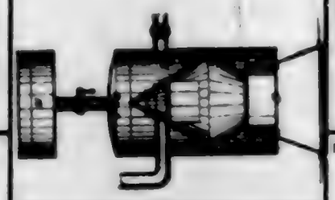
113,218. BRADLEY W. STANTON. WINDMILLS.



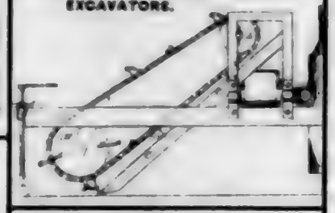
113,219. WILLIAM STARK. JOSEPH G. FISHER. GRAIN-DRIERS.



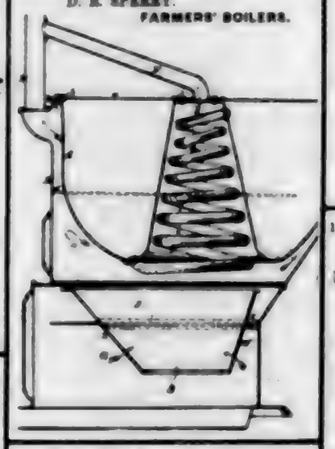
113,220. WILLIAM STARK. JOSEPH G. FISHER. HEATING-STOVES.



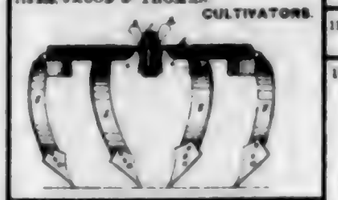
113,221. BARNA T. STOWELL. EXCAVATORS.



113,222. R. W. THICKINS. D. R. SPERRY. FARMERS' BOILERS.

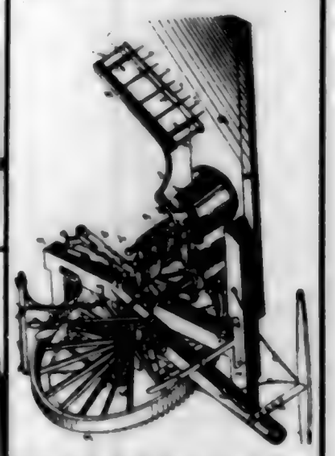


113,223. JACOB S. THOMAS. CULTIVATORS.

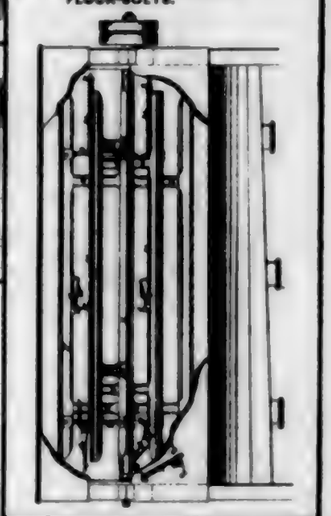


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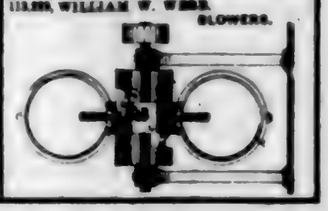


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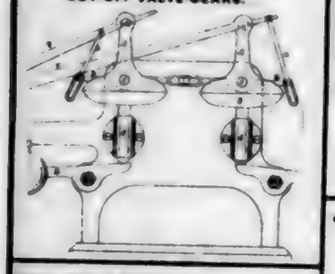
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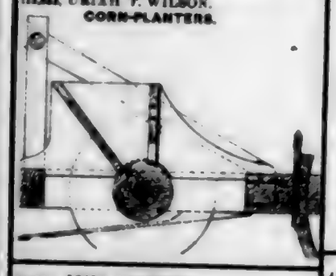
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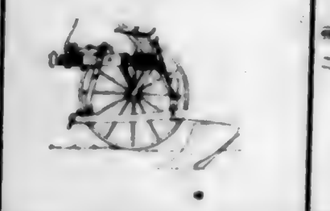
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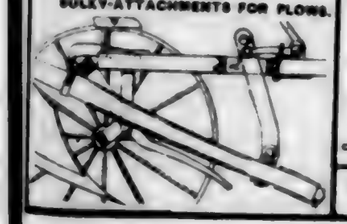
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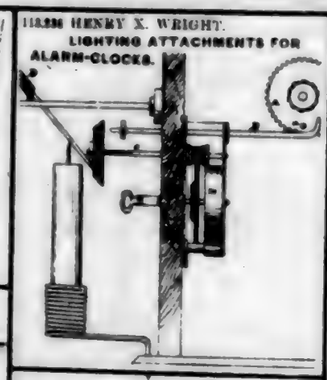
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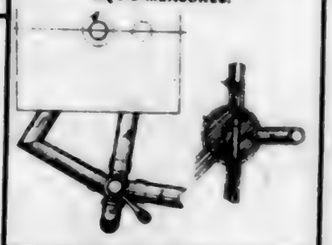
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113,236. HENRY X. WRIGHT. LIGHTING ATTACHMENTS FOR ALARM-CLOCKS.



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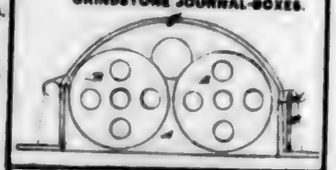
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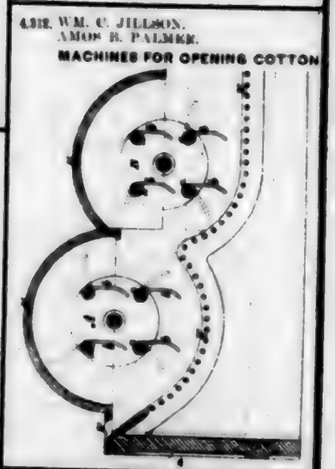


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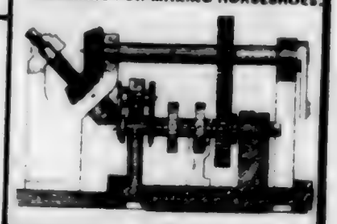


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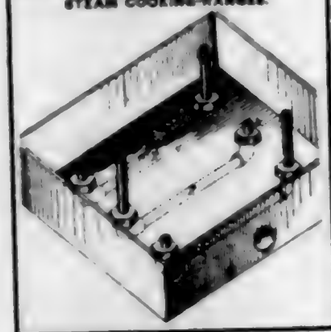
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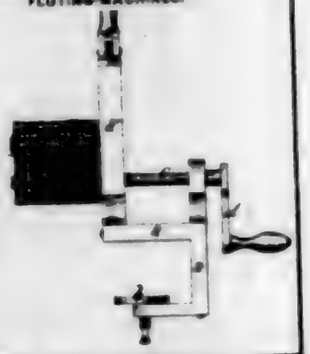
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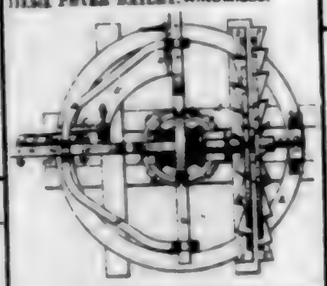
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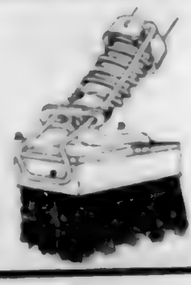
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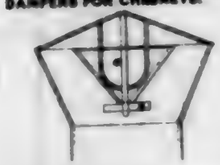
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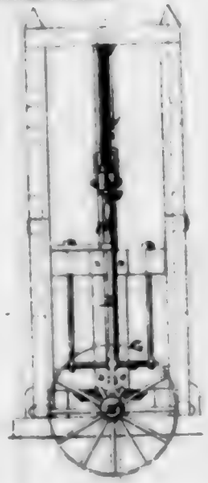
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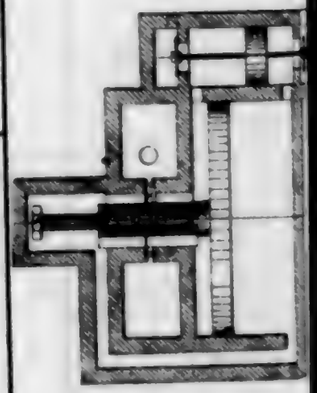
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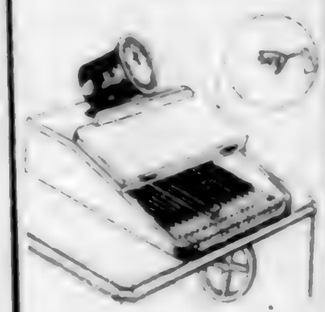
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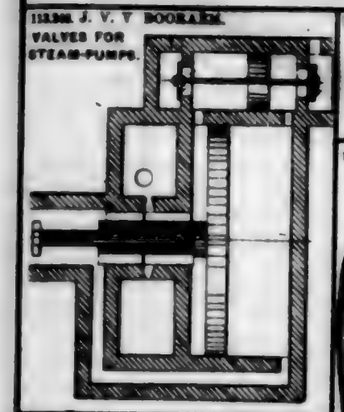
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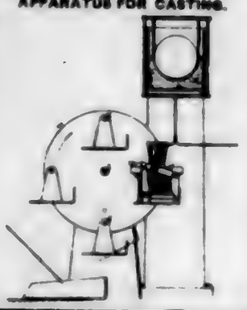
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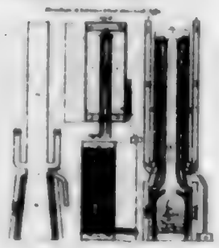
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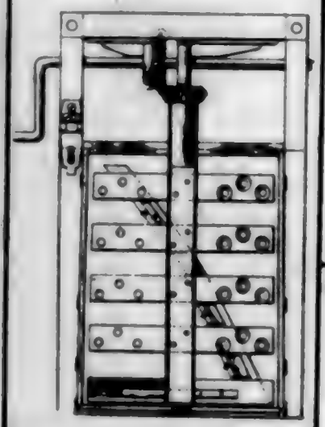
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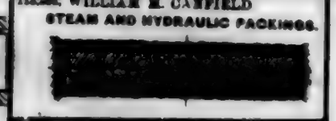
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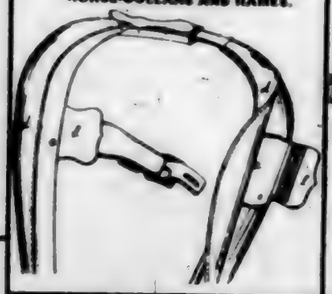
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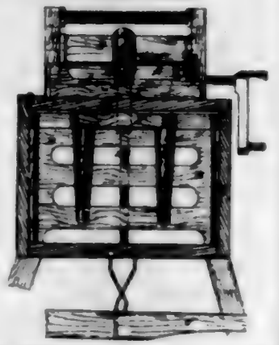
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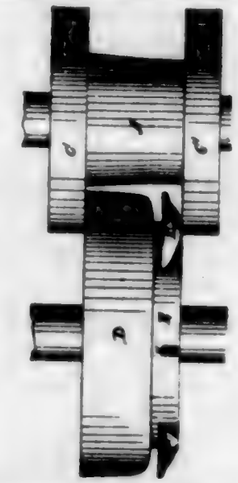
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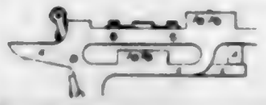
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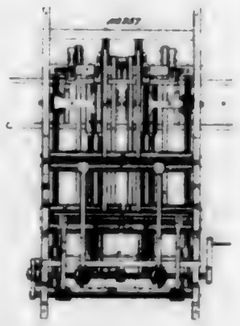
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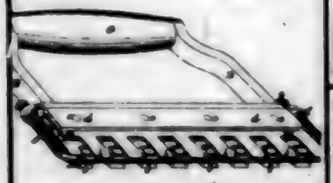
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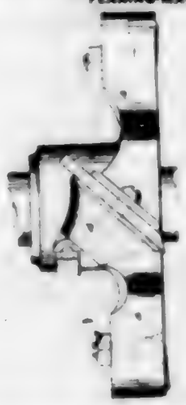
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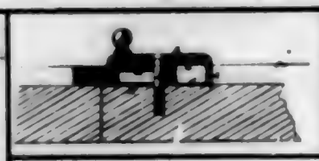
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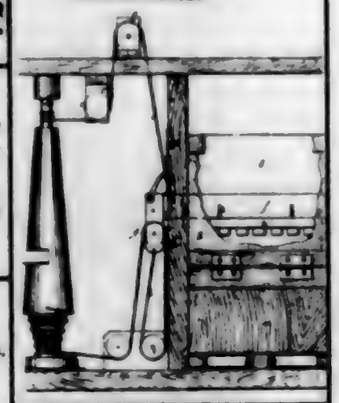
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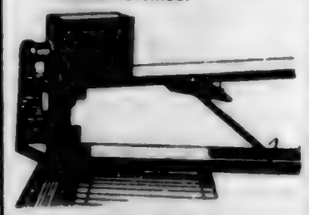
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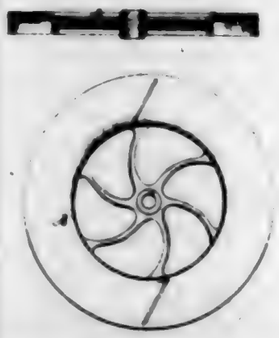
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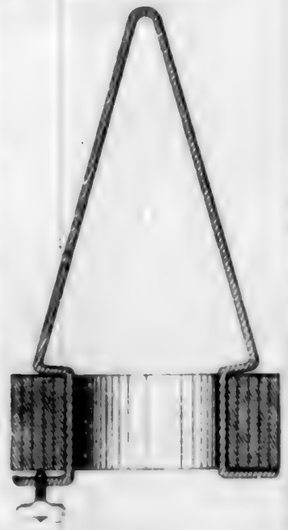


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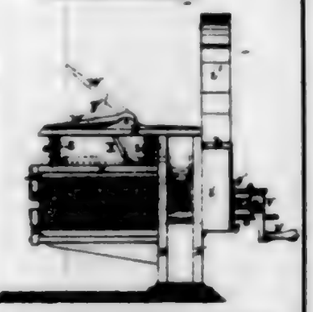


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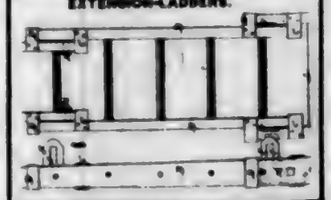
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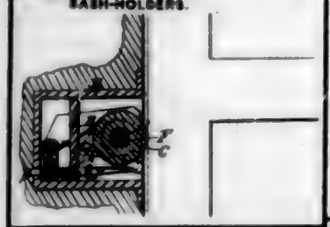


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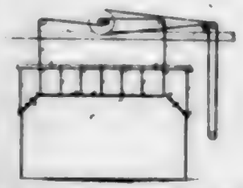
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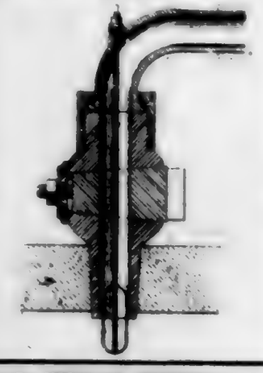


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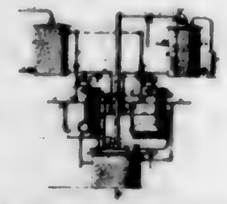
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113,279. Dr. HERMANN ESSFELDT.
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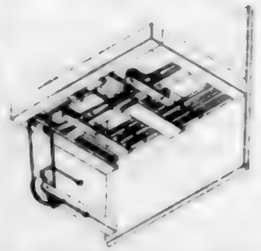
113,280. PHILIP ESLY.
BOLT-HEADING DIES.



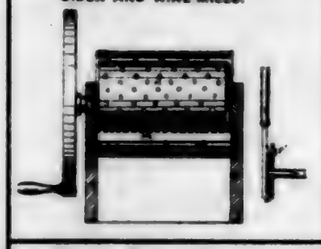
113,281. JULIUS EISON.
WATCH-REGULATORS.



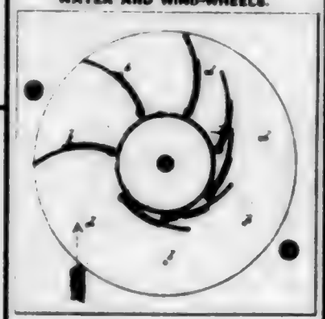
113,282. JAMES B. ERWIN. GATES.



113,283. W. B. FARRAR.
CIDER AND WINE-MILLS.



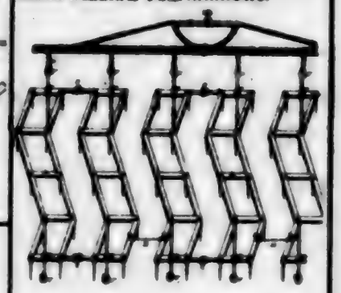
113,284. ANDREW FOLSOM.
WATER AND WIND-WHEELS.



113,285. GEO. B. FOWLER
WAGON-JACKS.



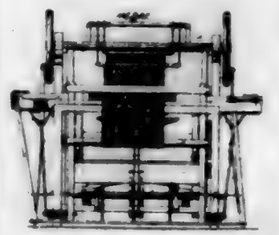
113,286. WILLIAM FOX. HARROWS.



113,287. GEO. GARDNER. CHAIRS.



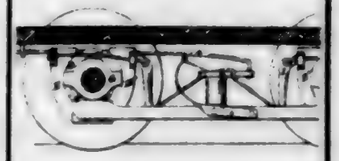
113,288. WILLIAM B. GIFFARD.
WILLIAM B. GIFFARD, Jr.
JAMES A. GIFFARD.
LOOMS.



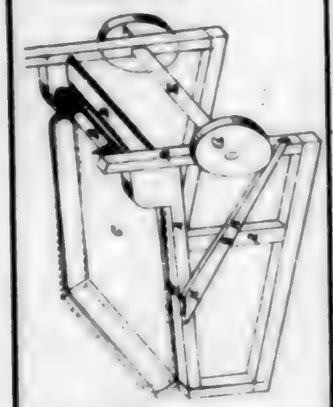
113,289. KEYES H. GOSS.
CLOTHES-PINS.



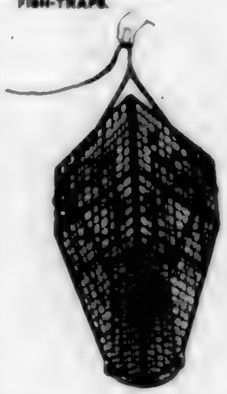
113,290. JOHN C. GOVE.
RAILROAD-CAR BRAKES.



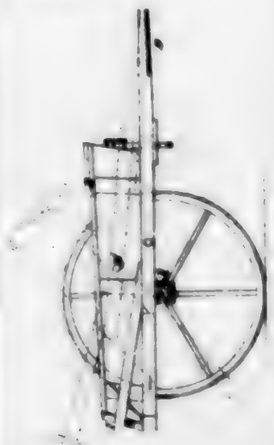
113,291. JOHN A. GRAVES.
PAPER-FEEDERS.



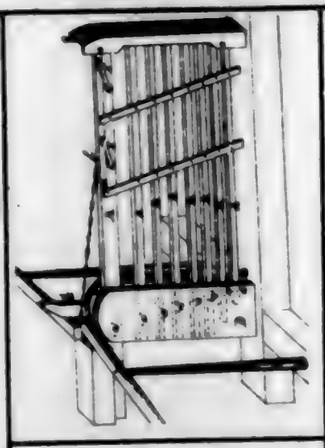
113,292. JOB B. HAMMOND.
FISH-TRAPS.



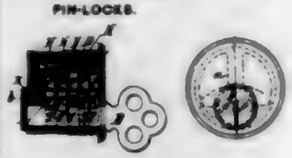
113,293. WM. HAND.
DUMPING-CARTS.



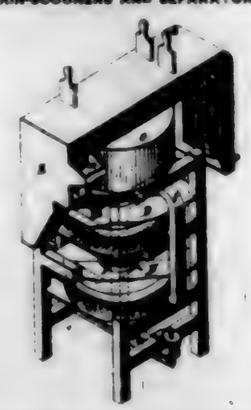
113,294. URIAH W. HARDY.
GATES.



113,295. AUGUST HERMANN.
W. H. TAYLOR.
PIN-LOCKS.



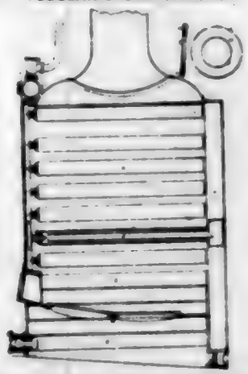
113,296. SAMUEL H. HINSDELL.
HENRY W. DRAKE.
CORNELIUS B. WAY.
GRAIN-SCOURERS AND SEPARATORS.



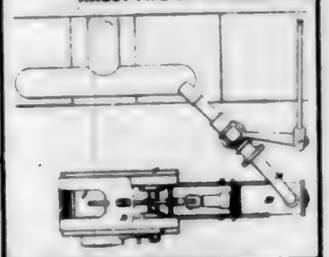
113,297. WILLIAM M. HOWLAND.
WOOD-PULP MACHINES.



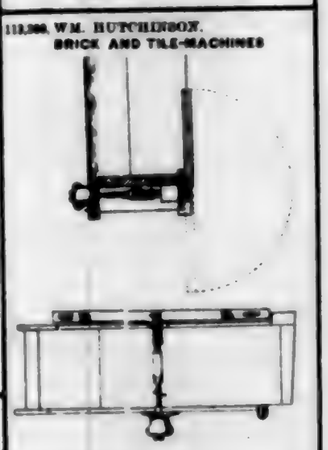
113,298. JAMES HOWARD.
EDWARD TENNEY BOUSFIELD.
TUBULAR STEAM-BOILERS.



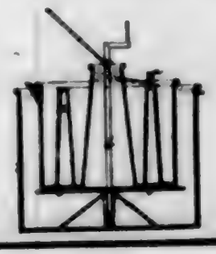
113,299. RALPH G. HUSE, Jr.
AUTOMATIC APPARATUS FOR OPERATING THE VALVE OF THE EXHAUST-PIPE OF LOCOMOTIVES.



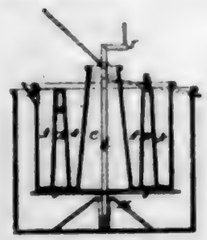
113,300. WM. HUTCHINSON.
BRICK AND TILE-MACHINES



113,301. GEORGE JENNISON.
MERRICK F. OTIS.
WINDOW-BLIND OPERATORS.



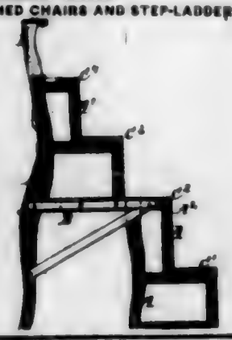
113,302. NELSON JOHNSON.
RANSOM E. JOHNSON.
MILK-COOLERS.



113,303. WM. G. JONES.
SAMUEL M. RANKIN.
SASH-HOLDERS.



113,304. ID JORGENSON.
RASMUS OLSON.
COMBINED CHAIRS AND STEP-LADDERS.



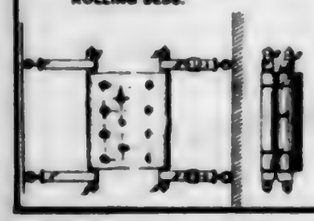
113,305. DANIEL J. KELLOGG.
FOUNTAIN PAINT-BRUSHES.



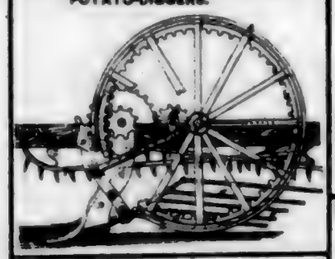
113,306. ALBERT H. KENNEDY
CULTIVATORS.



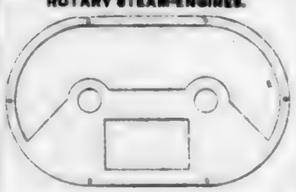
113,307. JULIUS KRINCH.
CHARLES THOENER.
ROLLING BEDS.



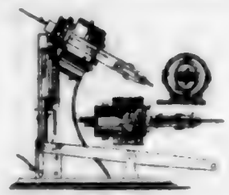
113,308. JOSEPH PRESTON LAFRENZ.
POTATO-DIGGERS.



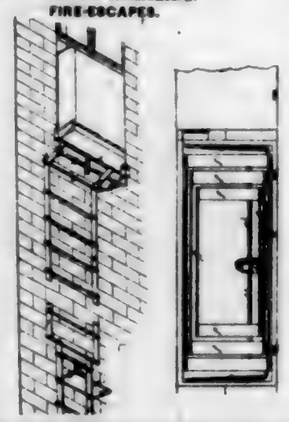
113,309. T. S. LA FRANCE.
ROTARY STEAM-ENGINES.



113,310. HENRY B. LANDERS.
FEEDERS FOR NAIL-MACHINES.



113,311. GEORGE LAYKOR.
HARRY HELMLING.
FIRE-ESCAPES.

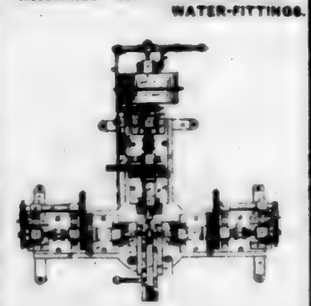


113,312. ALBERT C. LEWIS.
COVERINGS FOR MELTING-POTS.



113,313. ANDREW B. LIPSEY.
CLOTHES-PINS.

113,314. CHARLES B. LONG.
MACHINES FOR TAPPING GAS AND WATER-FITTINGS.

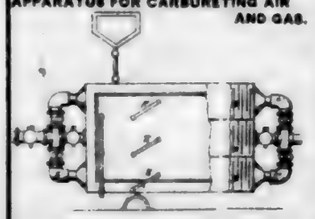


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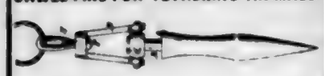
113,316. SAMUEL LOYD.
COMBINATION LOCKS.



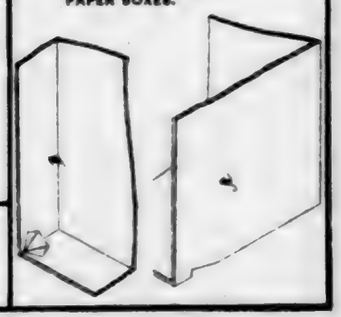
113,317. FRANCIS H. LUTKEWITTE.
APPARATUS FOR CARBURETING AIR AND GAS.



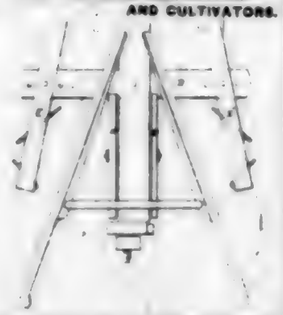
113,318. WILLIAM LYON.
SWIVEL-PINS FOR TETHERING ANIMALS.



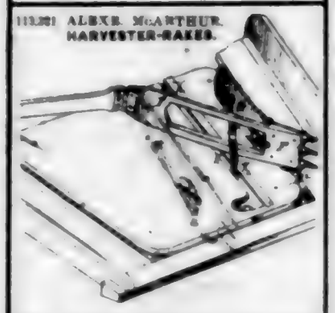
113,319. BERNARD J. MAGEE.
JAMES F. WALL.
PAPER BOXES.



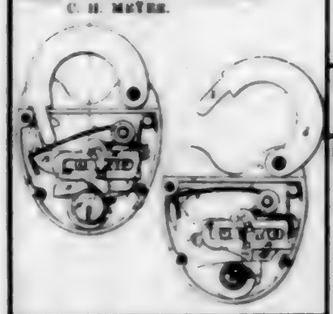
113,320. C. MARSH, 2nd.
COTTON-SCRAPERS, HILLERS, AND CULTIVATORS.



113,321 ALEXR. McARTHUR.
HARVESTER-RAKES.



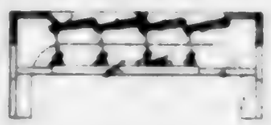
113,322. G. MERKEL. PADLOCKS.
C. H. METER.



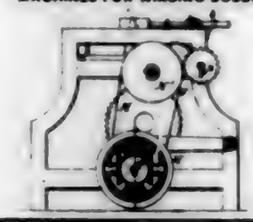
113,323 SIMON MOFFITT
AWNINGS FOR ANIMALS.



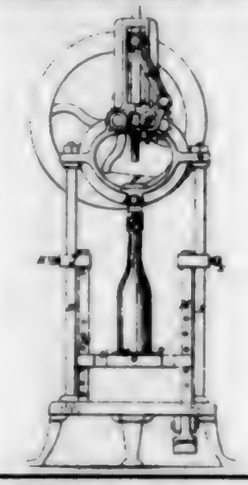
113,324. GEO. B. MOORE.
FURNACE-GRATES.



113,325 FRANKLIN H. MORRILL.
MACHINES FOR WINDING BOBBINS.

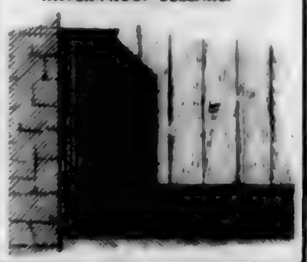


113,326 D. MUELLER.
MACHINES FOR CORKING BOTTLES.



113,327. PETER H. MURRAY
MODES OF PREPARING PAPER FOR PHOTOGRAPHIC PURPOSES.

113,328. TOBIAS NEW.
WATER-PROOF CELLARS.



113,329. GEO. H. NICHOLS. FIRE-ESCAPES.

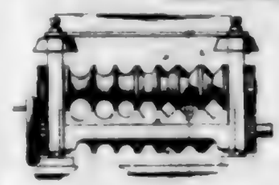


113,330. CHARLES HORACE NOYES.
COMBS.

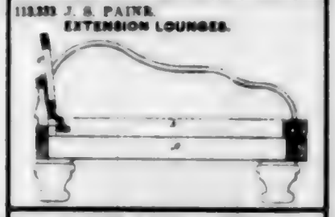


113,331. RICHARD O'NEIL.
ORNAMENTING THE SURFACE OF METALS BY ELECTRO-DEPOSITIONS FROM SOLUTIONS.

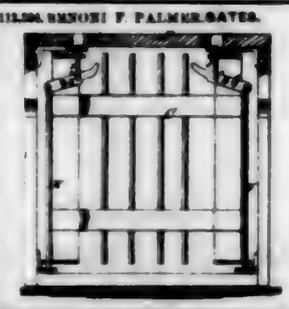
113,332 JONATHAN OSTRANDER.
MACHINES FOR ROLLING HOLLOW BARS FOR NUTS.



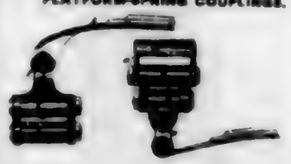
113,333 J. S. PAINE.
EXTENSION LOUNGES.



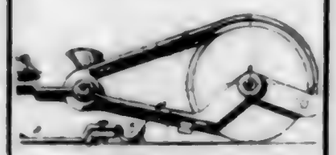
113,334. SIMEON F. PALMER-GATES.



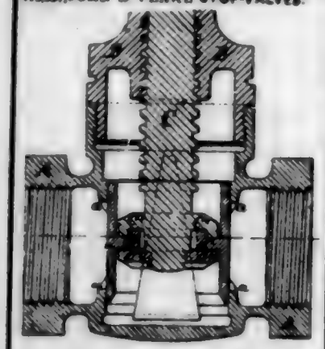
113,335 BENJAMIN T. PARSELL
JOHN L. HEDGES.
PLATFORM-SPRING COUPLINGS.



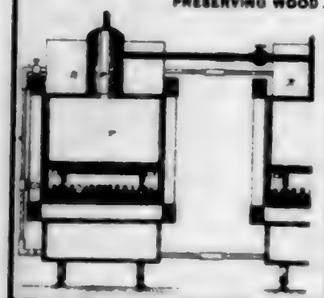
113,336. EBENEZER G. PASSMORE.
LAWN-MOWERS.



113,337. JOHN L. PEAKE STOP-VALVES.



113,338 WILLIAM TILDEN PELTON
PORTABLE APPARATUS FOR PRESERVING WOOD.



113,339. E. CONSTANTIN PFAFF.
APPARATUS FOR STRIPPING THE TOP FLATS OF CARDING-MACHINES.



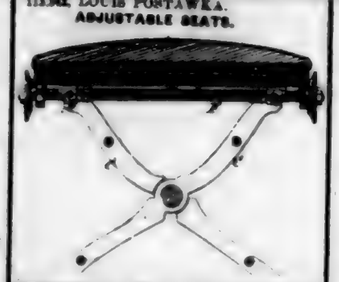
113,340. LEONCE PICOT. COMBS.



113,341. SAMUEL W. POPE. SHOVEL-PLOW

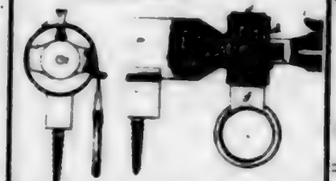


113,342. LOUIS PORTAWKA.
ADJUSTABLE SEATS.

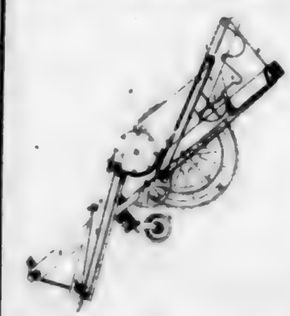


113,343. LOUIS PRANG.
PRINTING SILKS AND OTHER TEXTILE FABRICS.

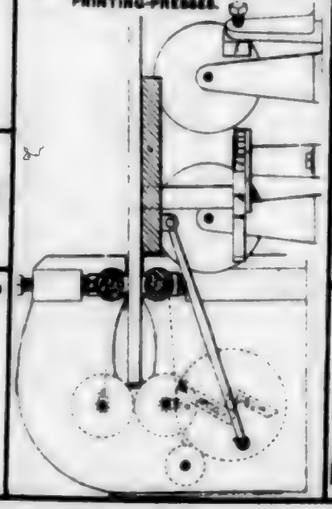
113,344. W. H. RAND.
DRILL-STOCKS.



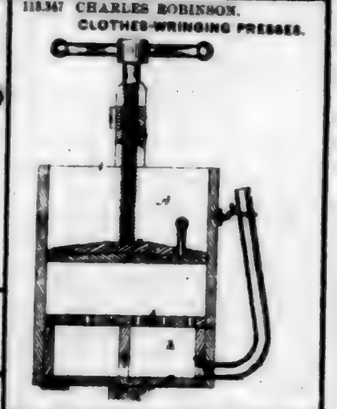
113,345 GEORGE RIEKE.
FIELD THRASHING-MACHINES.



113,346 JUDAH TOURO ROBERTSON.
PRINTING-PRESSES.



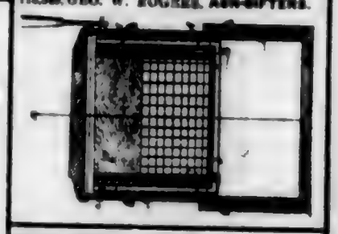
113,347 CHARLES ROBINSON.
CLOTHES-WRINGING PRESSES.



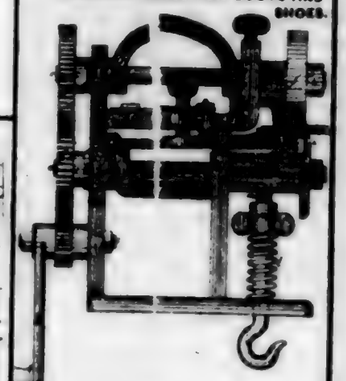
113,348 A. M. RODGERS.
RAILROAD-CAR HEATERS.



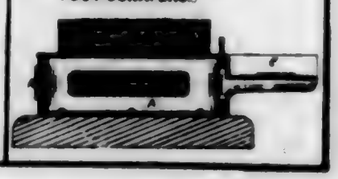
113,349. GEO. W. ROGERS. ASH-SIFTERS.



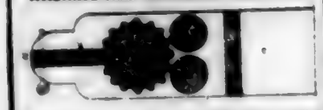
113,350. JOHN G. ROSS.
MACHINES FOR CHANNELING AND BEVELING SOLES FOR BOOTS AND SHOES.



113,351. AUGUST SAHLSTROM.
FOOT-SCRAPERS.



113,352 JACOB S. SANDT.
WASHING AND WRINGING-MACHINES.



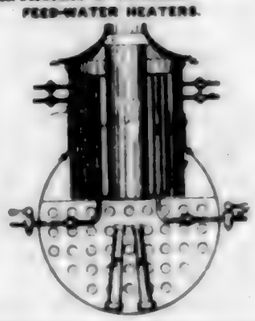
113,353 WILLIAM S. SHACKLETON
COAL-DELIVERING SACKS.



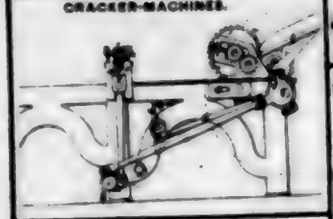
113,354 W. W. SIMONS.
HOLDBACKS FOR VEHICLES.



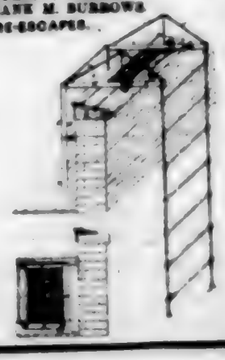
113,355 THOMAS D. SIMPSON.
FEED-WATER HEATERS.



113,356 GEO. B. SKILLMAN.
CRACKER-MACHINES.



113,357 GEORGE C. SMITH.
FRANK M. BURROWS.
FIRE-ESCAPES.



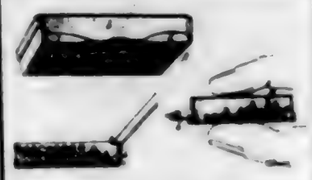
113,358 G. STACKPOLE. WHISK BROOMS.



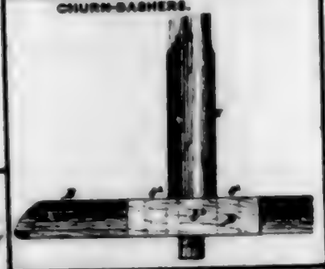
113,359 HUGH M. STEPHENSON.
JOHN B. TYER.
MAIL-BAG FASTENERS.



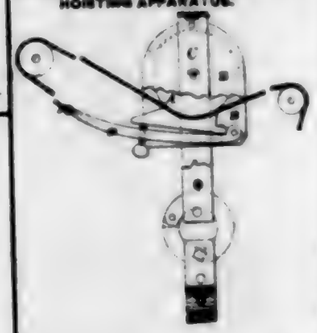
113,360 WILLIAM STINE. MATCH-SAFES.



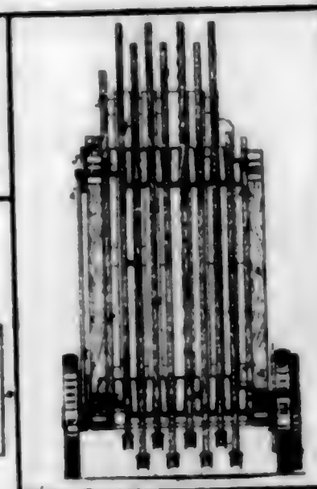
113,361 STEPHEN STOUT.
CHURN-DASHERS.



113,362 LEVERETT W. STUART.
HOISTING APPARATUS.



113,363 LUMAN D. TAYLOR.
HAY-LOADERS.



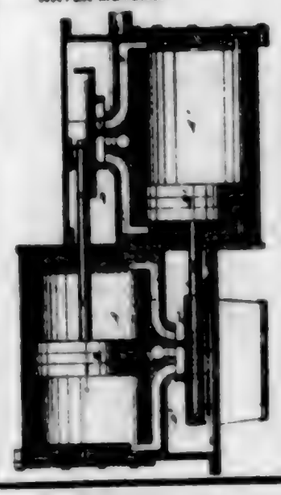
113,364 NATHAN THOMPSON.
WINDOW-SHADE FIXTURES.



113,365 OSBORN W. THOMSON.
COATING LAMPS.



113,366 ISAAC P. TICE.
WATER-METERS.

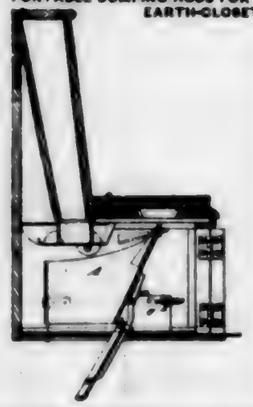


113,367 THOMAS H. TRANTHAM.
COTTON-SCRAPERS.

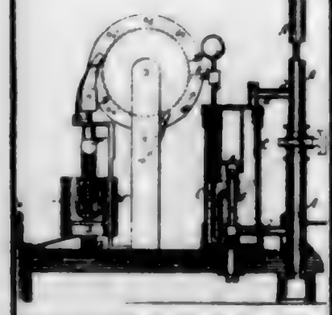


113,368 S. THURCOTT. RUBBER PAINT.

113,369 K. W. C. VANDERVEER.
PORTABLE BUMPING-HODS FOR EARTH-CLOSETS.



113,370 JOHN VANSANT.
ELECTRIC GAS-LIGHTING AND EXTINGUISHING APPARATUS.



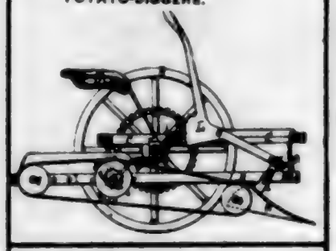
113,371 CORNELIUS B. VERONEE.
ANIMAL-TRAPS.



113,372 JOHN VAN VLECK.
BED-LOUNGES.

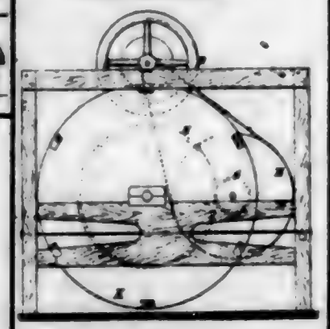


113,373 JOHN A. WADHAMS.
POTATO-DIGGERS.



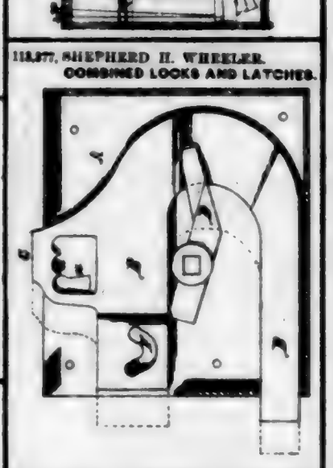
113,374 JOHN B. WALSH.
COFFER-DAMS.

113,375 WILLIAM W. WATERBURY.
JOHN M. WATERBURY.
SAWING-MACHINES.

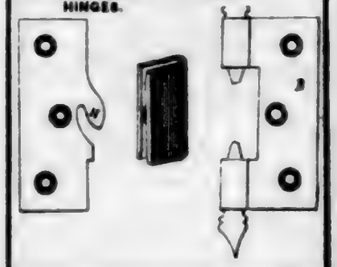


113,376 DR. ADAM WESTON.
VOTE-RECORDING MACHINES.

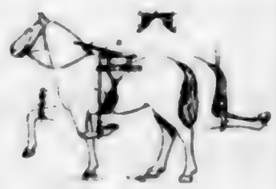
113,377 SHEPHERD H. WHEELER.
COMBINED LOCKS AND LATCHES.



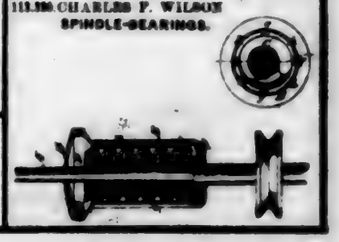
113,378 SHEPHERD H. WHEELER.
HINGES.



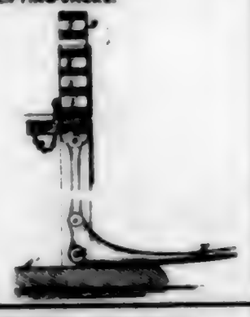
113,379 THOMAS C. WILLIAMS.
FOOT-LIFTERS FOR BLACKSMITHS.



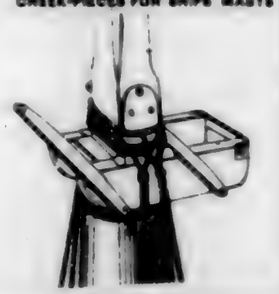
113,380 CHARLES P. WILSON.
SPINDLE-BEARINGS.



113,392. HIRAM J. WILSON.
LIFTING-JACKS.



113,393. JOSEPH BAYMORE.
CHEEK-PIECES FOR SHIPS' MASTS



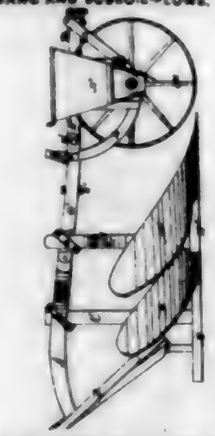
113,394. JAMES HENRY LAURENCE WILSON.
GRIB ATTACHMENTS FOR BEDSTEADS.



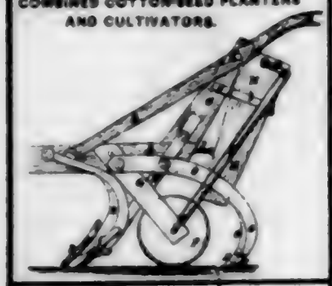
113,395. SYLVESTER W. BEACH.
ADJUSTABLE CARRIAGE-SEATS.



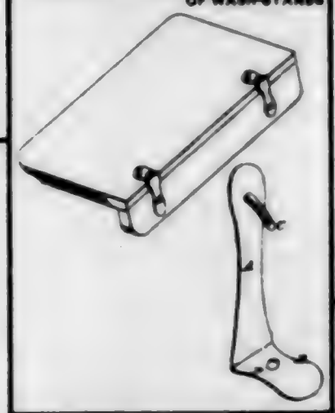
113,396. JOEL L. BOND
SAND AND SUBSOIL-PLOWS.



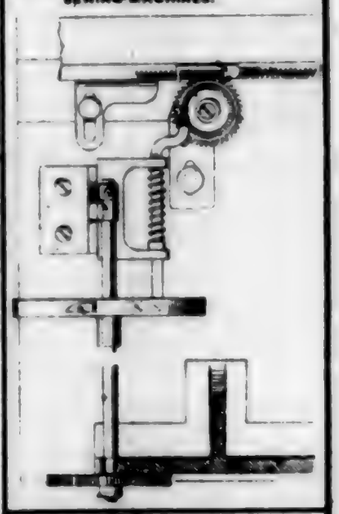
113,397. JAMES A. WRIGHT.
COMBINED COTTON-SEED PLANTERS AND CULTIVATORS.



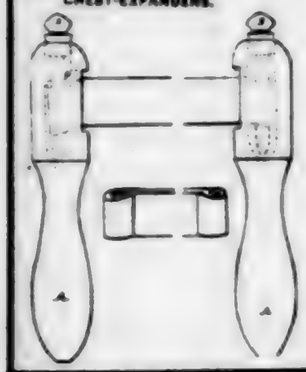
113,398. WILLIAM J. BENDER.
ATTACHING MARBLE TOPS AND BACKS OF WASH-STANDS



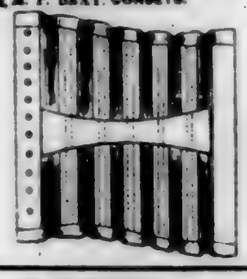
113,399. T. W. BRACHER.
SEWING-MACHINES.



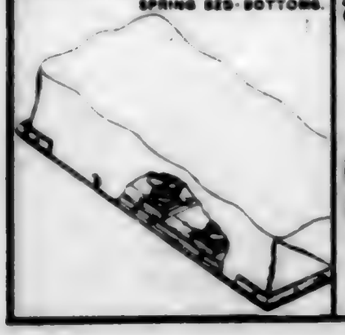
113,400. SAMUEL M. BARNETT
CHEST-EXPANDERS.



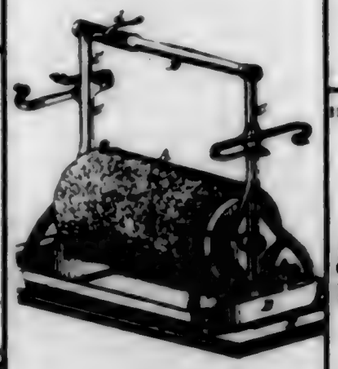
113,401. M. P. BRAY. CORSETS.



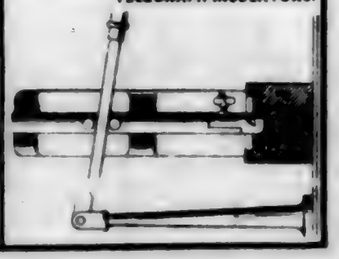
113,402. LYMAN M. BATES
SPRING BED-BOTTOMS.



113,403. NORBORNE BERKELEY.
DOOR-MATS.



113,404. WM. BROOKFIELD.
MODES OF MAKING TELEGRAPH-INSULATORS.



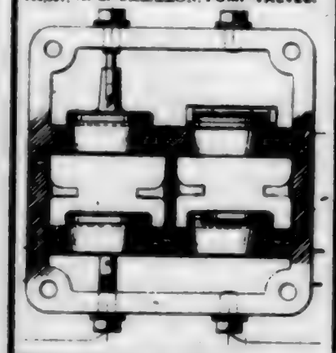
113,394. MORGAN W. BROWN.
PACKAGES FOR HYDROCARBONS AND OTHER LIQUIDS.



113,395. MORGAN W. BROWN.
PACKAGES FOR OYSTERS, CLAMS, &c.

113,396. MORGAN W. BROWN.
COVERINGS FOR SAUSAGES AND OTHER MEATS.

113,397. A. S. CAMERON. PUMP-VALVES.



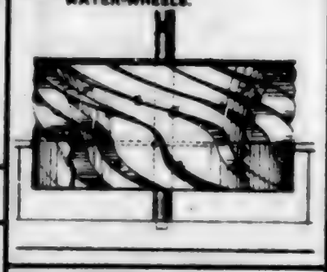
113,398. J. FRANK CHANDLER
TOWEL-BRACKETS AND SPONGE-HOLDERS.



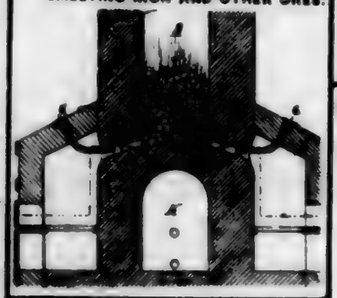
113,399. D. M. COOK.
ELECTRIC BATTERIES FOR TELEGRAPHING AND OTHER PURPOSES.



113,400. GARDNER COX.
WATER-WHEELS.



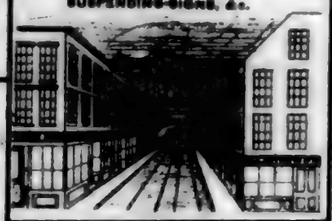
113,401. RICHARD D. COX.
WILLIAM F. COX.
SMELTING IRON AND OTHER ORES.



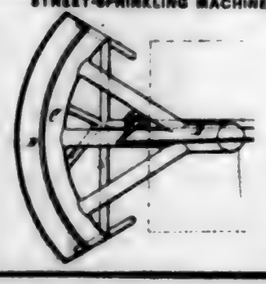
113,402. BENJAMIN F. CRANDALL, Jr.
CHILDREN'S CARRIAGES OR PERAMBULATORS.



113,403. JOHN H. CRANE.
CHAS. W. CRANE.
SUSPENDING SIGNS, &c.



113,404. SAML. E. CURSONS.
STREET-SPRINKLING MACHINES.



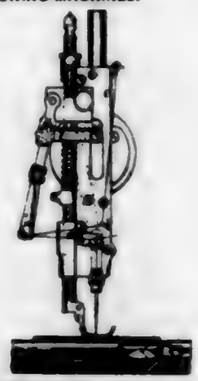
113,405. COLLINS W. DEANE.
SEDIMENT-COLLECTORS FOR STEAM-BOILERS.



113,406. MYRON H. DENSMORE.
TRACE-BUCKLES.



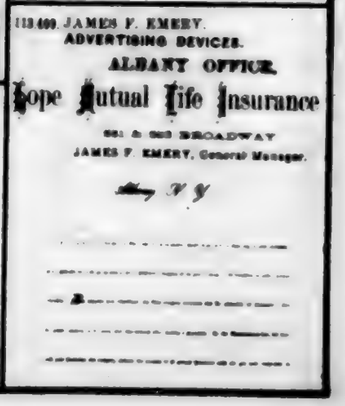
113,407. A. S. DINSMORE.
SEWING-MACHINES.



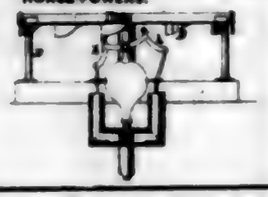
113,408. WILLIAM C. DODGE.
BREECH-LOADING FIRE-ARMS.



113,409. JAMES F. EMERY.
ADVERTISING DEVICES.



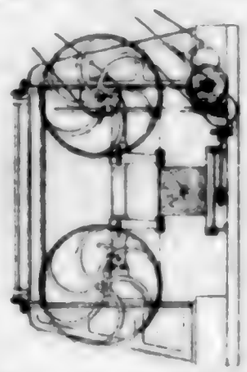
113,410. THOMAS ADDIS EMMET EVANS.
HORSE-POWERS.



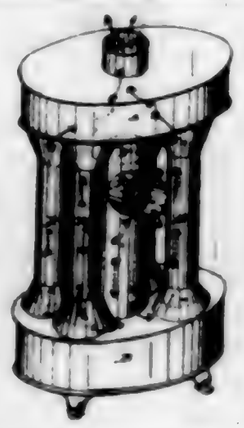
113,411. BENJAMIN FERRIS.
EARTH-CLOSETS.



113,412. GEORGE FINNEGAN. SAW-MILLS.



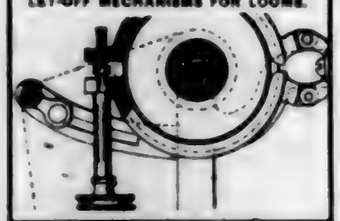
113,413. CHAS. FISHER. STOVE-DRUMS.



113,414. CHARLES FLESCH.
TUMBLERS FOR PERMUTATION-LOCKS.

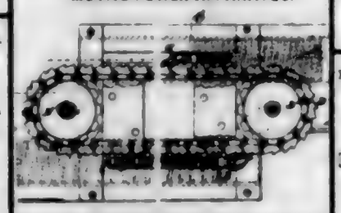


113,415. W. T. FLINN.
LET-OFF MECHANISMS FOR LOOMS.



113,416. DAVID FORBES.
ASTLEY PASTON PRICE.
TREATMENT OF SEWAGE AND THE MANUFACTURE OF FERTILIZERS.

113,417. JOHN T. GILBERT.
MOTIVE-POWER APPARATUS.



113,418. THOS. S. GILBERT.
SKELETON CORSETS.



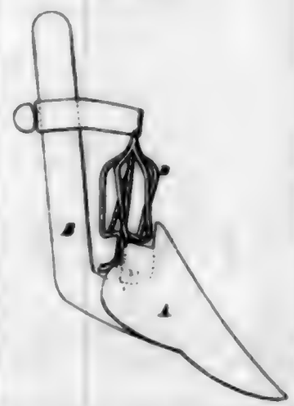
113,419. THOS. S. GILBERT.
CORSETS.



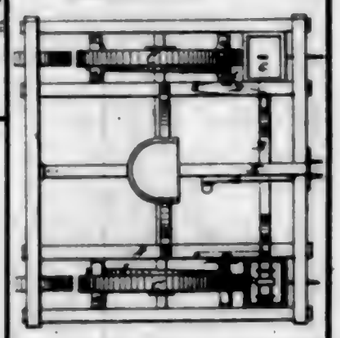
113,420. CHAS. GOODYEAR, Jr.
JOSE DA SILVA.
BOOT AND SHOE-SOLES.

113,421. C. M. GORDON.
PLOW-COLTERS.

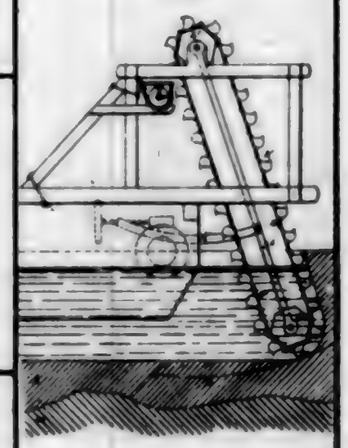




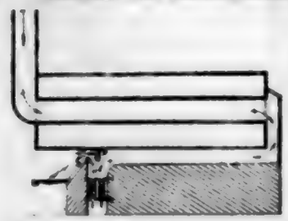
113,422. LEWIS GRAHAM.
CORN-PLANTERS.



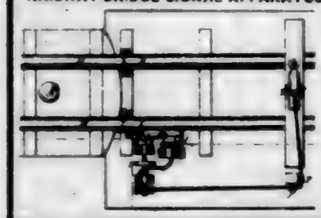
113,423. ROBERT ARTHUR GRIFFIN.
MANUFACTURE OF PEAT-FUEL.



113,424. JOHN C. GRIPP.
FURNACES FOR STEAM-BOILERS.



113,425. THOMAS S. HALL.
RAILWAY-BRIDGE SIGNAL APPARATUS

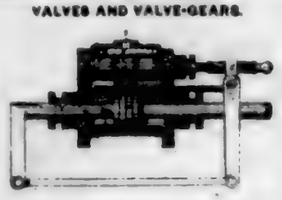


113,426. HENRY HAPPEL.
COMPOSITIONS FOR COATING PHOTOGRAPH-PICTURES.

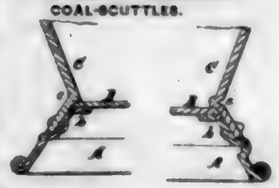
113,427. THOMAS C. HARGRAVE.
ROLLED METALLIC STRIPS FOR WASHERS.



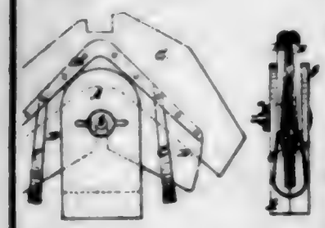
113,428. WILLIAM E. HATCHER.
VALVES AND VALVE-GEARS.



113,429. GEORGE H. HAZELTON.
DWIGHT W. HAZELTON.
COAL-SCUTTLES.



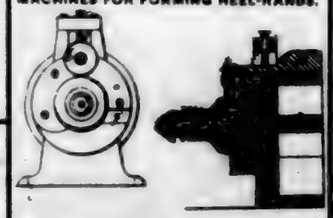
113,430. HENRY HENLEY.
BOOT-CRIMPERS.



113,431. ALFRED C. HOBBS.
BULLET-PATCHES.



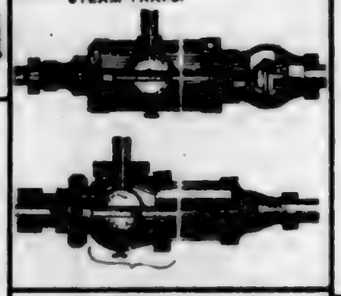
113,432. SUMNER HOLMES.
JOE F. SARGENT
MACHINES FOR FORMING HEEL-RANDS.



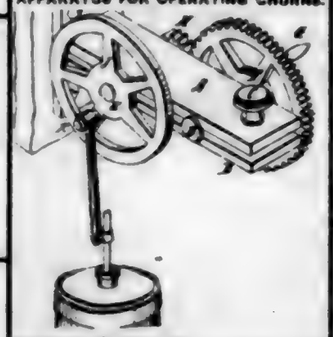
113,433. EDMUND S. HOWLAND.
GRINDING-PLATES.



113,434. JOHN JOS. JORDAN.
STEAM-TRAPS.



113,435. P. L. JORDAN.
APPARATUS FOR OPERATING CHURNS.



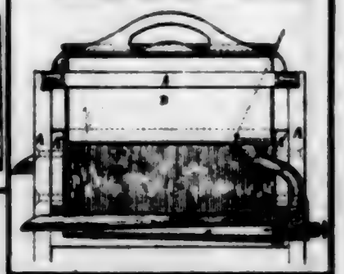
113,436. JOHN LANE, Jr.
PLOWS.



113,437. E. C. LITTLE.
D. H. NATION.
COOKING-STOVES.

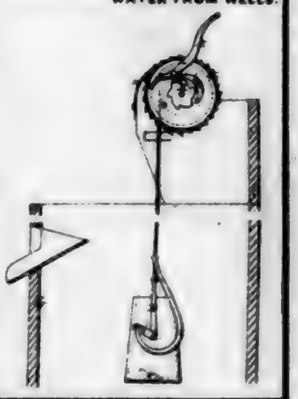


113,438. JOHN R. McKAY.
APPARATUS FOR COOLING MILK.

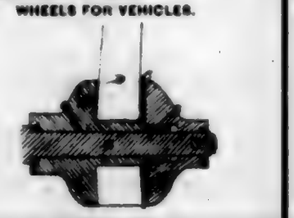


113,439. EDGAR C. MERRILL.
MANUFACTURE OF EMERY-WHEELS AND ARTIFICIAL STONE.

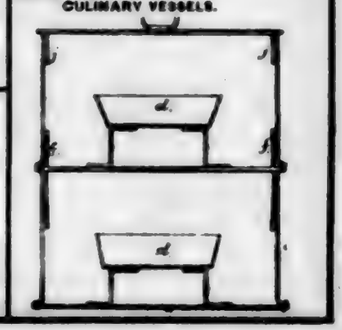
113,440. MERRICK A. MIHILLS.
APPARATUS FOR DRAWING WATER FROM WELLS.



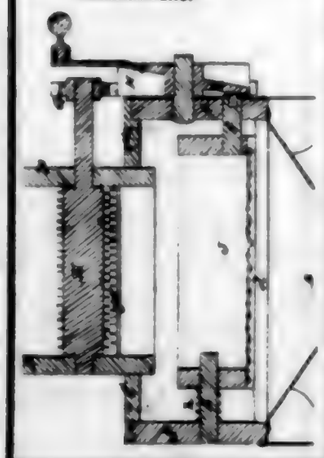
113,441. JAMES R. MILLS.
WHEELS FOR VEHICLES.



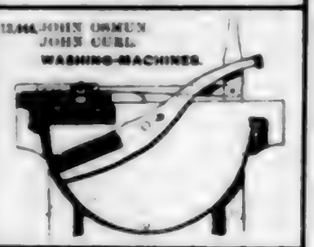
113,442. WM. H. MURCH.
CULINARY VESSELS.



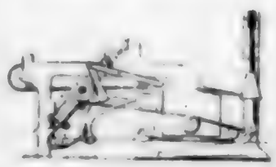
113,443 OLIVER D. MYERS.
FLOUR-SIFTERS.



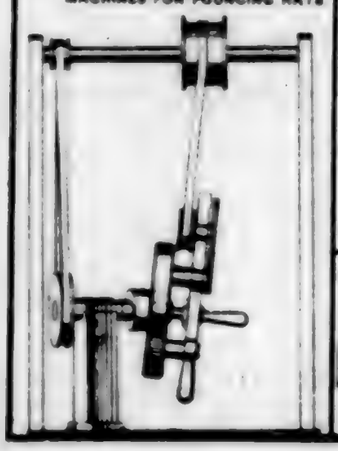
113,444 JOHN OMMUN
JOHN CURL.
WASHING-MACHINES.



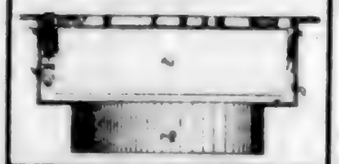
113,445 CHARLES BRAHAM PARKINSON
AARON METCALF
JOHN METCALF
WILLIAM HESKETH DEALD
SELF-ACTING MULES FOR SPINNING



113,446 A. PELISSE.
GEORGE W. STOUTE.
MACHINES FOR POUNCING HATS



113,447. HUGH M. PHINNEY.
HOT-AIR REGISTERS.



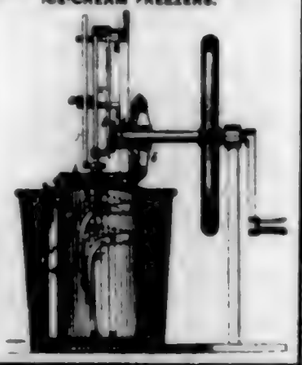
113,448. MARY FLORENCE POTTS
SAD-IRONS.



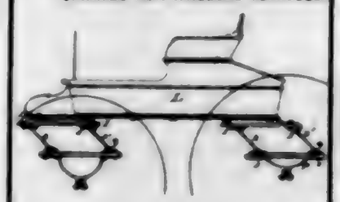
113,449. JOHN P RADLEY.
POTATO-DIGGERS.



113,450 JOHN FRANKLIN ROTH.
ICE-CREAM FREEZERS.



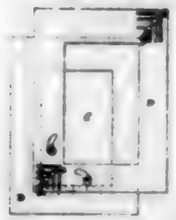
113,451. CYRUS W. SALADEE.
SPRINGS FOR WHEELED VEHICLES.



113,452 DANIEL SAYLOR.
LAURITZ ANDERSON
TABLE-LEAF SUPPORTS.

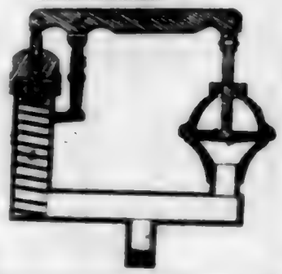


113,453 ADOLPH J. SCHAFHIRT.
APPARATUS FOR SPREADING MEDICAL PLASTERS



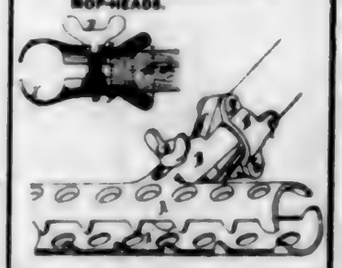
113,454 AUGUSTUS T. SCHMIDT.
TREATING PAPER AND VEGETABLE FIBROUS SUBSTANCES

113,455. MATTHEW SCRANNAGE.
EDWARD SCRANNAGE, Jr.
SAFETY-VALVES.

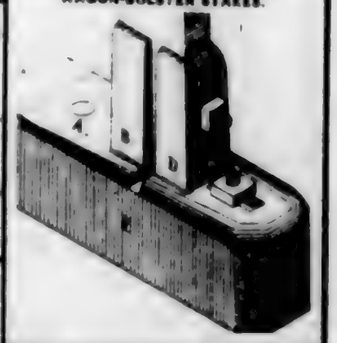


113,456. ANTHONY SEABOLD.
CORN-SALVES.

113,457. SAMUEL SELDEN.
MATTHEW GRISWOLD, Jr.
MOP-HEADS.



113,458 LEWIS W. SHAFFER.
WAGON-BOLSTER STAKES.



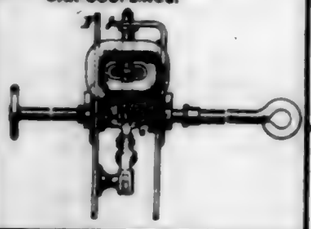
113,459 WM. T SHERMAN
COMPOUNDS FOR CURE OF FOOT-ROT IN SHEEP.

113,460. HORATIO N. SHULTZ.
FIRE-ALARMS.

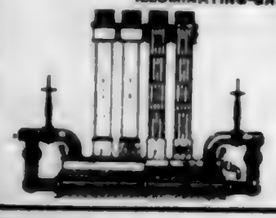


113,461, ISAAC A. SINGER.
BIRD-CAGE MATS.

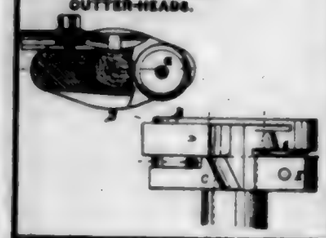
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CAR-COUPLINGS.



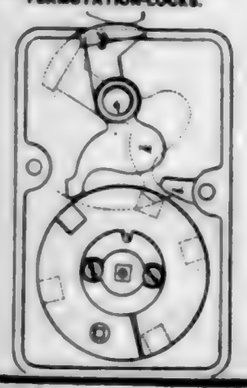
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S. O. ROCKWELL.
FRICTION-CONDENSERS FOR ILLUMINATING-GAS.



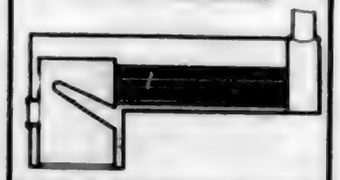
113,464. ALONZO L. SWEET.
CUTTER-HEADS.



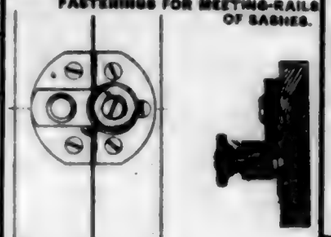
113,465. WILLIAM TERWILLIGER.
PERMUTATION-LOCKS.



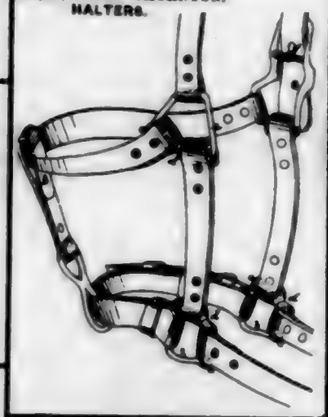
113,466. CHARLES A. THOMPSON.
TUBULAR STEAM-BOILERS.



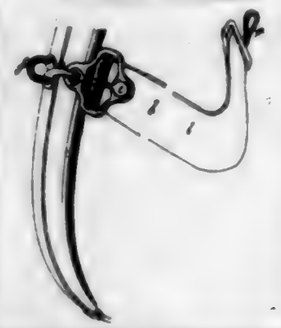
113,467. NATHAN THOMPSON
FASTENINGS FOR MEETING-RAILS OF SASHES.



113,468. JAMES THORNTON.
HALTERS.



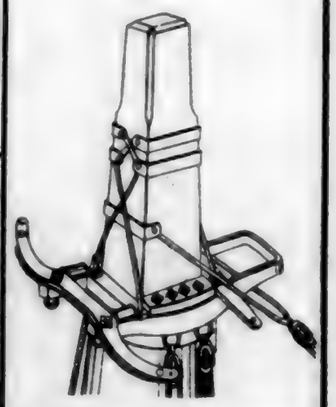
113,469. JAMES THORNTON.
EMMIT G. LATTA.
ATTACHMENTS TO HAMES.



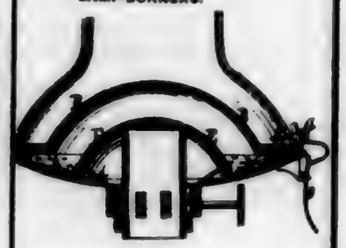
113,470. FRANK TIPPING.
CHARLES GERNER.
BREECH-LOADING FIRE-ARMS.



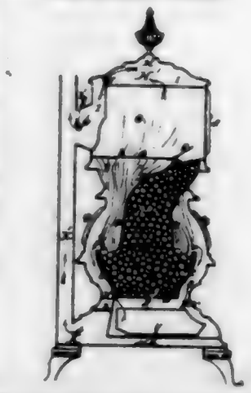
113,471. HENRY TOWNSEND.
SHIPS' TRESTLE-TREES.



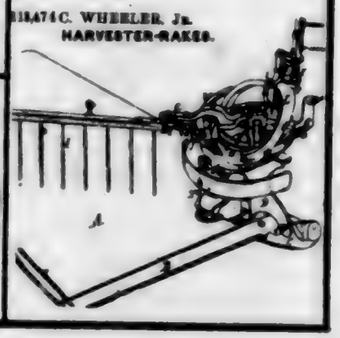
113,472. JOSEPH TRENT.
LAMP-BURNERS.



113,473. JASPER VAN WORMER.
BASE-BURNING STOVES.



113,474 C. WHEELER, Jr.
HARVESTER-RAKES.



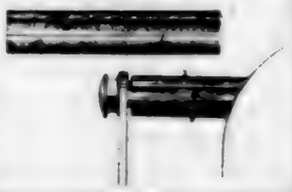
113,476. C. WHEELER, Jr. HARVESTERS.
CALVIN YOUNG



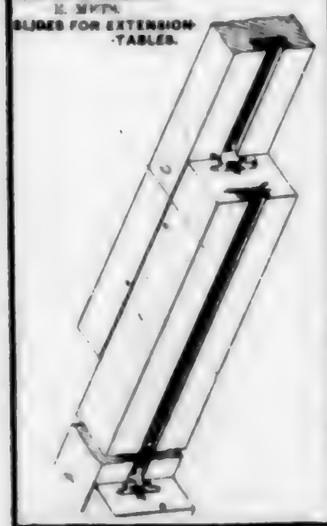
113,479. DOUGLAS JOSEPH WILLIAMS.
MOVABLE PARTITIONS.



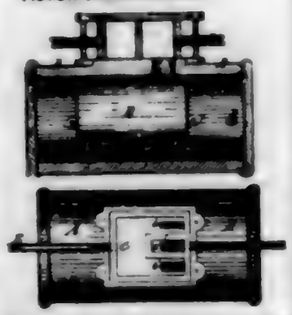
113,477. JOHN J. WILSON.
BLOCKS FOR TOP-PROP JOINTS FOR CARRIAGES.



4,317. M. B. CARTER.
E. MUNN.
SLIDES FOR EXTENSION-TABLES.



4,318. ROBT. C. GRAY.
W. B. BRITTINGHAM.
PISTON STEAM-VALVES.



4,320. CHARLES GRAEBE.
CHARLES LIEBERMANN.
MANUFACTURE OF ALIZARINE.

4,321. CHARLES GRAEBE.
CHARLES LIEBERMANN.
DYES OR COLORING MATTERS FROM ANTHRACINE.

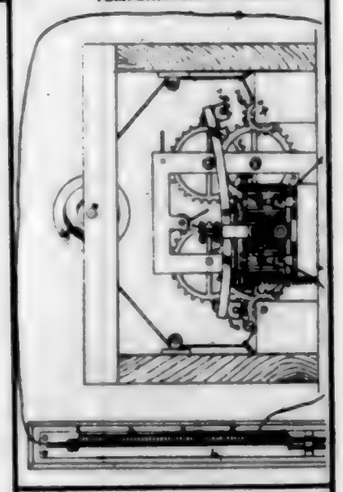
4,322. ROBERT W. McCLELLAND.
CARRIAGE-WHEELS.



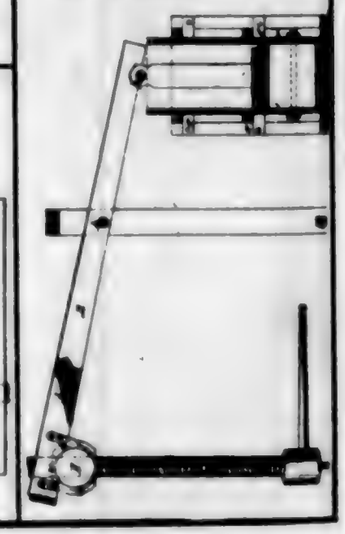
4,325. JOHN ROUSE.
HARNESS FOR HORSES.



4,326. GEO. M. STERNBERG.
ELECTRO-MAGNETIC REGULATORS FOR TEMPERATURE IN ROOMS, &c.

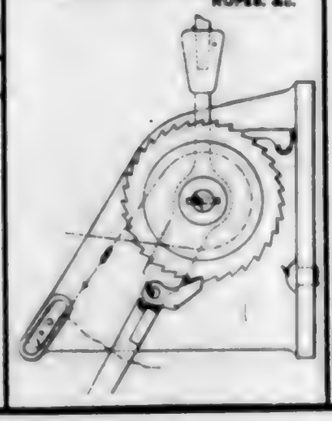


4,327. PAUL WILLIAMS.
COTTON-PRESSES.



4,328. FRANCIS C. MENDE.
THEODORE F. MENDE.
MANUFACTURE OF GERMAN HAND-CHEESE.

4,324. ARTHUR PAGET.
MACHINES FOR TIGHTENING ROPES, &c.

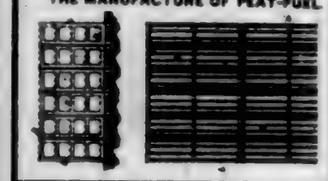


4,316. KINGSTON GODDARD.
WATER-PITCHERS AND OTHER VESSELS.

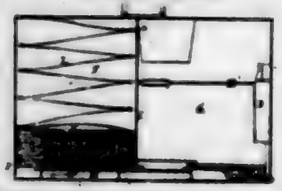


ILLUSTRATIONS OF PATENTS
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THE UNITED STATES PATENT OFFICE
APRIL 11, 1871.

113,478. DAVID AIKMAN.
THE MANUFACTURE OF PEAT-FUEL.

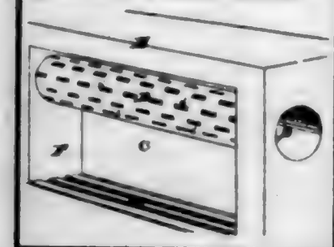


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TICKET-HOLDERS.

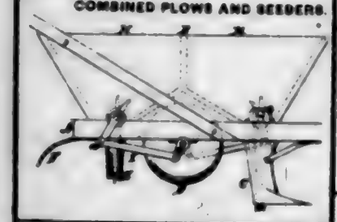


113,480. WM. ANHEUSER.
PITCHING BARRELS.

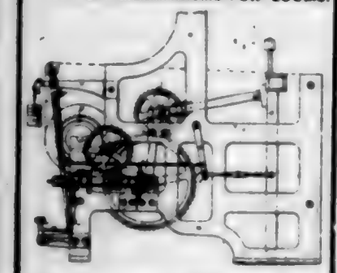
113,481. WILLIAM FORDYCE BROOKE.
FIRE-CHAMBERS OF PUDDLING, STEAM-BOILER, AND OTHER FURNACES.



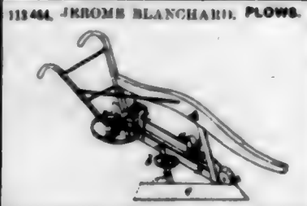
113,482. WILLIAM C. BIBB.
COMBINED PLOWS AND SEEDERS.



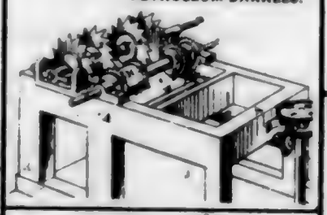
113,483. ERASTUS BRIGHAM BIGELOW.
LET-OFF MECHANISMS FOR LOOMS.



113,484. JEROME BLANCHARD. PLOWS.

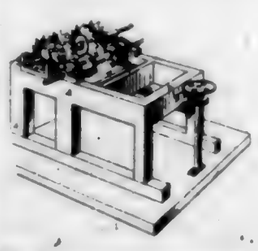


113,485. J. J. K. BOOTE.
W. A. GIBSON.
ELASTIC CEMENTS FOR LINING PETROLEUM-BARRELS.

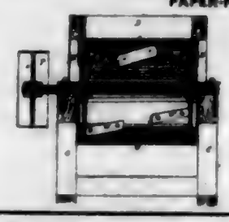


113,486. AUGUSTUS O. BOURK.
ISAAC F. WILLIAMS.
MANUFACTURE OF RUBBER-BELTING.

113,487. H. E. BRADT. EDGING-MACHINES.

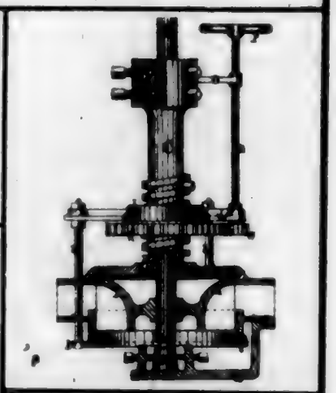


113,488. JAMES BRIDGE.
MACHINES FOR REDUCING WOOD FOR THE MANUFACTURE OF PAPER-PULP.



113,489. McKENDREE A. BROOKS.
TURBINE WATER-WHEELS.

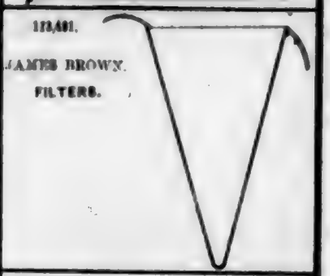




113,490. ARTHUR GIBSON BROWN.
JOURNAL-BOXES.



113,491.
JAMES BROWN.
FILTERS.



113,492. ESEK BUSHEY.
HEATING-STOVES.



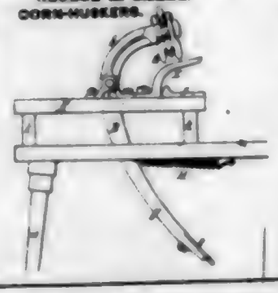
113,493. JOHN B. CARROLL.
JOHN LORD.
WASHING-MACHINES.



113,494. WILLIAM T. CARROLL. JOURNAL-BOXES.



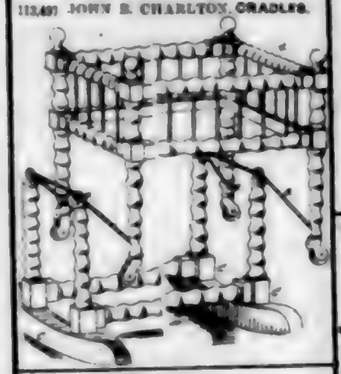
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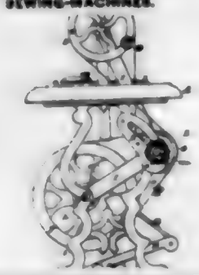
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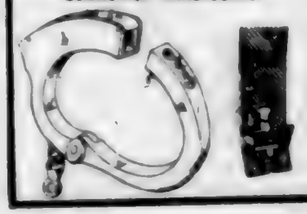
113,497. JOHN B. CHARLTON. CRADLES.



113,498. MILTON CHASE. SEWING-MACHINES.



113,499. HORACE H. CHENEY. LOCKS FOR HAND-CUFFS.

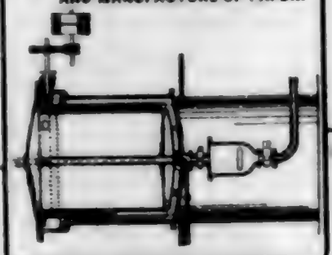


113,500. FRANKLIN A. COATS. WEATHER-STRIPS.

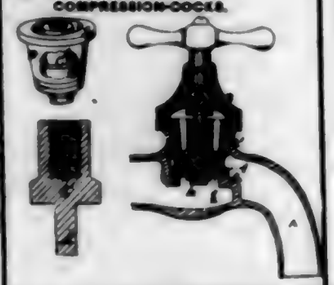


113,501. JOHN J. CROOKE. LEWIS CROOKE. PLATED BUTT-HINGES.

113,502. J. DENIS. PREPARATION OF PAPER-PULP AND MANUFACTURE OF PAPER.



113,503. WILLIAM DINNEY. COMPRESSION-COCKS.



113,504. LEWIS E. DODDS. CARRIAGE-SEATS AND TOPS.



113,505. WILLIAM DUGAN. PRESERVING AND TRANSPORTING FRESH MEATS.

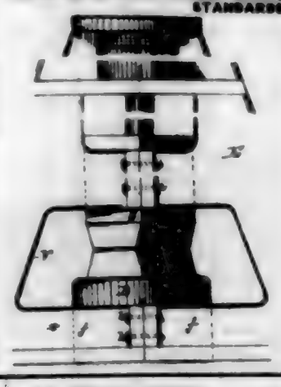
113,506. JOHN A. EVARTS. PIETRO CINQUINI. DRAWER-PULL LABEL-HOLDERS.



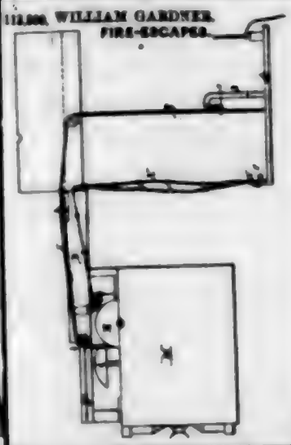
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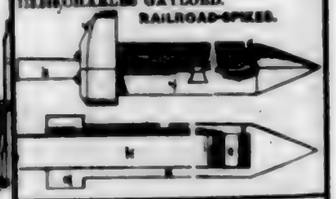
113,508. OSCAR O. FERRIS. FREDERICK B. MILES. CONSTRUCTION OF STEAM-HAMMER STANDARDS.



113,509. WILLIAM GARDNER. FIRE-ESCAPES.



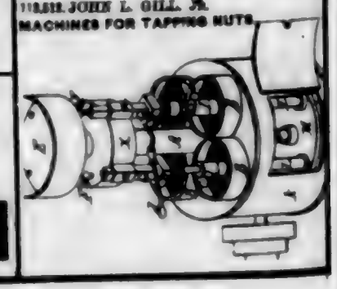
113,510. CHARLES GAYLORD. RAILROAD-SPIKES.



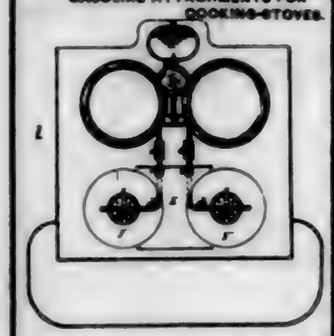
113,511. JULIUS GERBER. HORACE BROWN. CULTIVATORS.



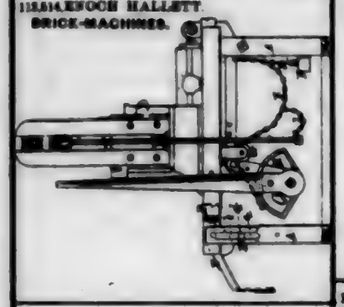
113,512. JOHN L. GILL, JR. MACHINES FOR TAPPING NUTS.



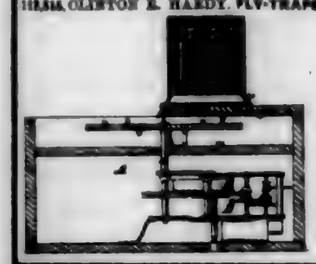
113,513. FREDERICK HAINSWORTH. GASOLINE ATTACHMENTS FOR COOKING-STOVES.



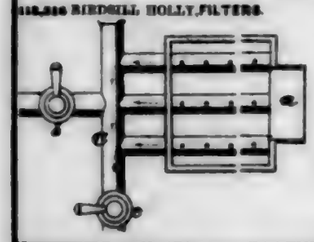
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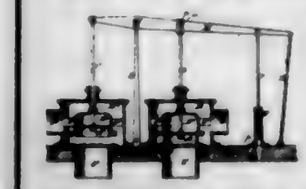
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113,516. BIRDSILL HOLLY. FILTERS.



113,517. BIRDSILL HOLLY. REGULATING AND SAFETY VALVES



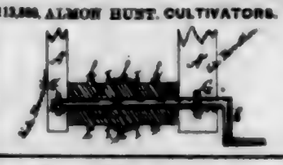
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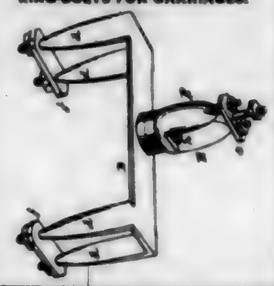
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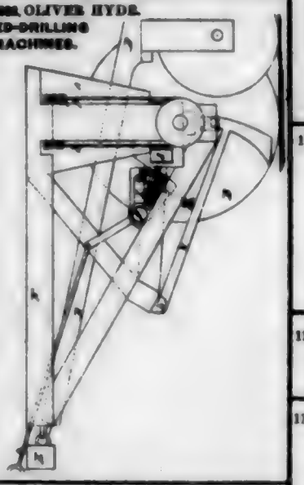
113,520. ALMON HUNT. CULTIVATORS.



113,521. DWIGHT HYDE. EPHRAIM H. ANDREWS. KING-BOLTS FOR CARRIAGES.



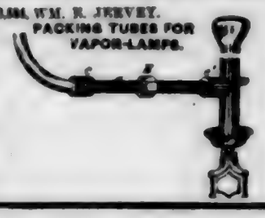
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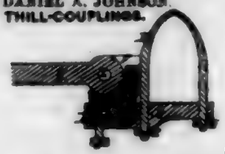
113,523. NELSON JENKINS. BALANCE-VALVES FOR STEAM-ENGINES.



113,524. WM. R. JERVEY. PACKING TUBES FOR VAPOR-LAMPS.



113,525. DANIEL A. JOHNSON. THILL-COUPLINGS.

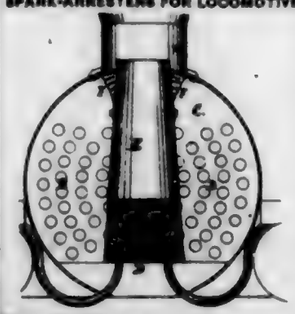


113,526. EZRA A. JOHNSON. SOAPS FOR POLISHING METALS, &c.

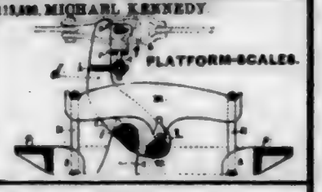
113,527. MICHAEL S. KAVANAGH. CHIMNEY-TOPS.



113,528. FRANCIS KEARNEY. LUKE P. TRONSON. SPARK-ARRESTERS FOR LOCOMOTIVES.



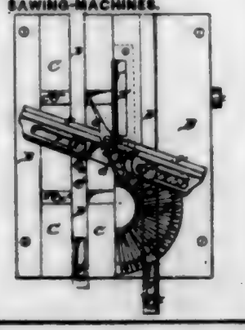
113,529. MICHAEL KENNEDY. PLATFORM-SCALES.



113,530. LEWIS KING. LIGHTNING-RODS.



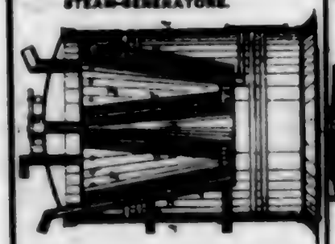
113,531. PHINEAS P. KING. EDWIN A. KING. SAWING-MACHINES.



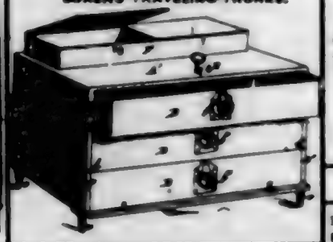
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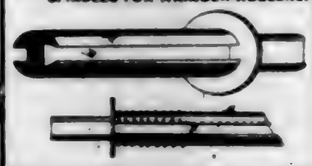
113,542. ERASMUS D. LACY.
STEAM-GENERATORS.



113,543. HECTOR MACKENZIE.
BUREAU TRAVELING-TRUNKS.

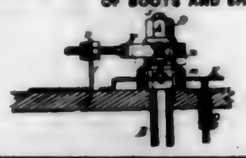


113,544. THOMAS E. McDONALD.
SPINDLES FOR WRINGER-ROLLERS.



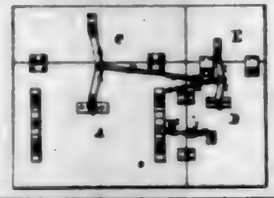
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113,546. DANIEL McLAUGHLIN.
MACHINES FOR TRIMMING THE SOLES OF BOOTS AND SHOES.

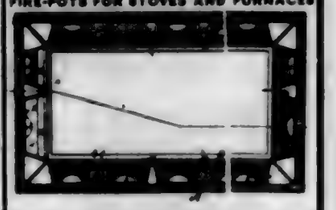


113,547. JOHN C. MERRIAM.
PACKING PISTONS OF STEAM-ENGINES, &c.

113,548. CHARLES W. MILLS.
FOLDING TABLE-TOPS.



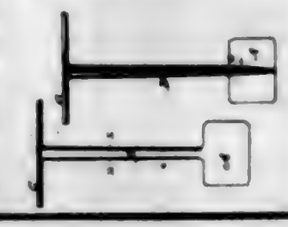
113,549. EDWARD MINOAY.
FIRE-POTS FOR STOVES AND FURNACES



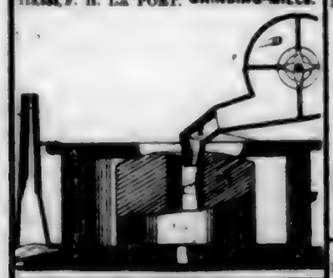
113,550. WM. MORRISON.
CORN-PLANTERS.



113,551. F. P. MORSE.
CARRIAGE-STEPS.



113,541. F. H. LA POST. GRINDING-MILLS.



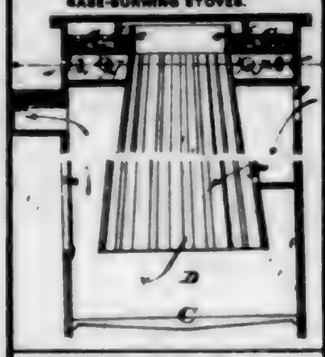
113,540. BENJ. F. MANIER.
BERTHS FOR SLEEPING-CARS.



113,539. HENRY MARTIN.
BRICK AND OTHER MOLDS.



113,538. SILAS HOFFMAN LA RUE.
BASE-BURNING STOVES.



113,537. JOHN H. MARTIN.
HARNESS SADDLE-TREES.



113,536. CHAS. F. MARTINE.
NEEDLE-SETTERS AND THREADERS.



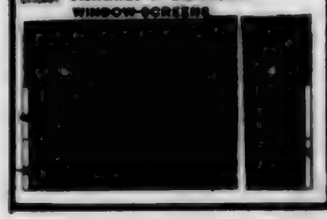
113,535. WM. H. McCORMICK.
WEIGHING ATTACHMENTS TO WAGONS.



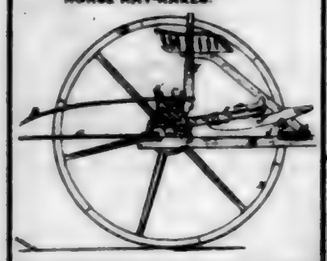
113,534. FREDERICK C. LELAND.
SAMUEL W. POLAND.
DEPURATORS.



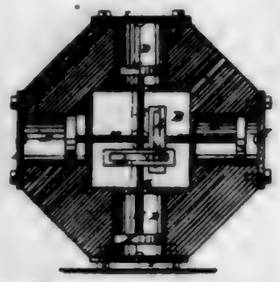
113,533. CHARLES F. LINSCOTT.
WINDOW-SCREENS



113,552. WILLIAM A. MYERS.
HORSE HAY-RAKES.



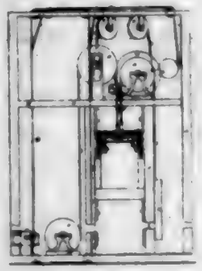
113,553. NATHAN B. NASH.
STEAM-ENGINES.



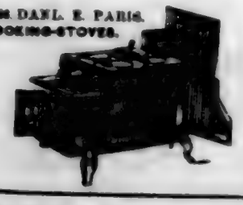
113,554. MATTHEW NEWLOVE.
WEATHER-BOARD GAUGES.



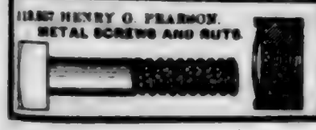
113,555. CHAS. R. OTIS.
NORTON P. OTIS.
HOISTING APPARATUS.



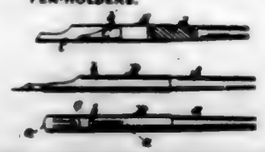
113,556. DANL. E. PARIS.
COOKING-STOVES.



113,557. HENRY O. PEARSON.
METAL SCREWS AND NUTS.



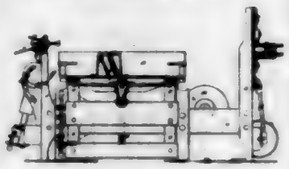
113,558. OLIVER A. PENNOYER.
PEN-HOLDERS.



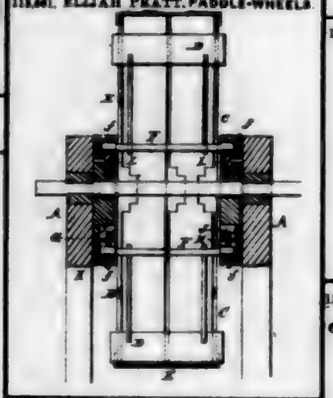
113,559. GEORGE C. PERKINS.
FRAMES FOR WIRE-MATTRESSES.



113,560. DAVID POMEROY.
DOVETAILING-MACHINES.

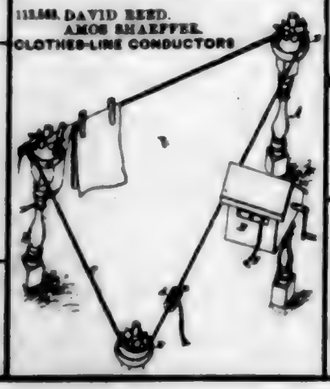


113,561. ELIJAH PRATT. PADDLE-WHEELS.

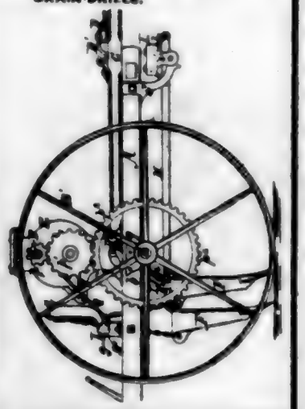


113,562. WILLIAM J. RAND, Jr.
ARTICLES FOR FOOD FROM ALGÆ OR SEA-MOSSES.

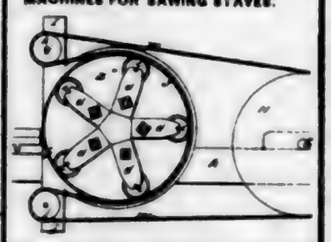
113,563. DAVID REED.
AMOS SHAEFFER.
CLOTHES-LINE CONDUCTORS.



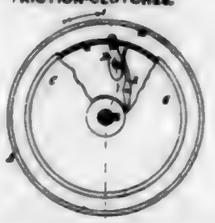
113,566. DANIEL RENTCHLER.
GRAIN-DRILLS.



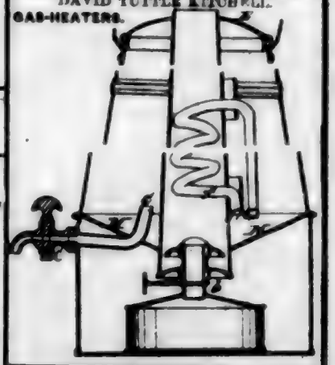
113,565. ASSARIA REWRICK.
MACHINES FOR SAWING STAVES.



113,564. GEORGE S. REYNOLDS.
FRICTION-CLUTCHES.



113,567. ORLANDO McKNIGHT REYNOLDS.
DAVID TUTTLE KITCHELL.
GAS-HEATERS.

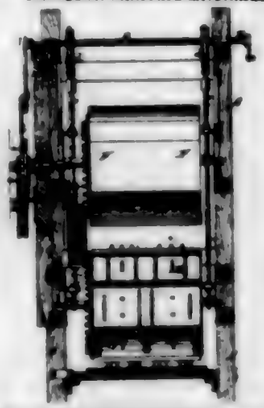


113,568. JOSEPH H. RIGGS.
WHIFFLETREES.

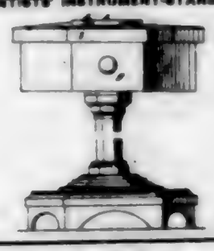


113,569. JOSEPH A. ROBBINS.
MEDICAL COMPOUNDS.

113,570. CHARLES BOMMEL.
OIL-CLOTH PRINTING-MACHINES.



113,571. JOHN J. ROSS, D. D. S.
DENTISTS' INSTRUMENT-STANDS.



113,572. BENJAMIN RYDER, Jr.
FISH-NET SUPPORTERS.



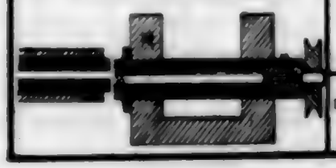
113,573. CYRUS W. SALADEE.
SPRINGS FOR VEHICLES.



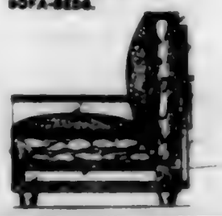
113,574. CYRUS W. SALADEE.
SPRINGS FOR VEHICLES.



113,575. JACOB H. SAWYER.
RING-SPINNING MACHINES.



113,576. CHARLES C. SCHMITT.
SOFA-BEDS.

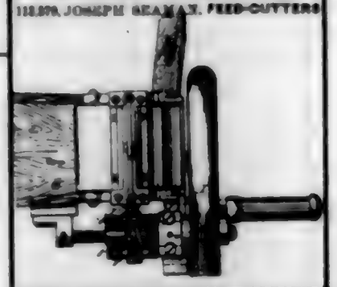


113,577. G. A. SCHULTZ. BUTTONS.

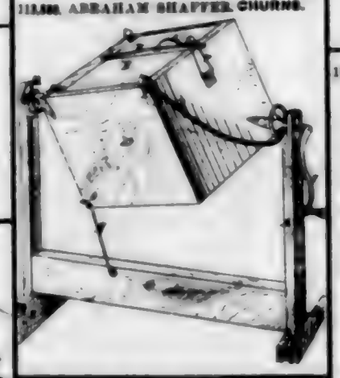


113,578. THEODORE SCHWARTZ.
KINDLING MATERIALS.

113,579. JOSEPH SEAMAN. FEED-CUTTERS.



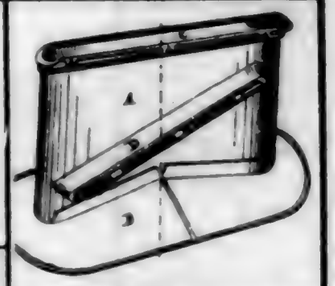
113,580. ABRAHAM SHAFFER. CHURNS.



113,581. DAVID SHANKLAND, EMERSON B. HOPKINSON.
FLY-BRUSHES.



113,582. JOHN H. SIEDCKE.
WASH-BOILERS.

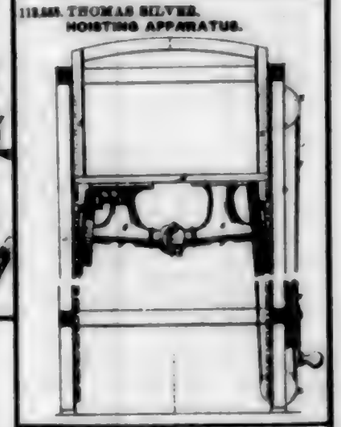


113,583. ALEXANDER H. SIEGFRIED.
REFINING IRON AND STEEL.

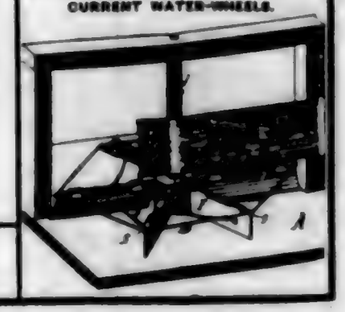
113,584. C. WILLIAM SIEMENS.
PROCESSES AND APPARATUS FOR THE PRODUCTION OF CAST-STEEL FROM ORES.



113,585. THOMAS SILVER.
HOISTING APPARATUS.



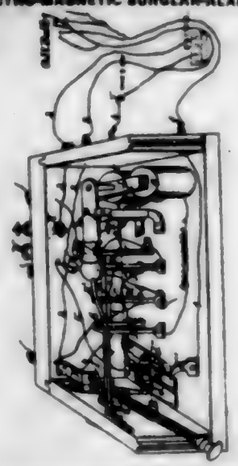
113,586. HERMAN D. SINCLAIR.
CURRENT WATER-WHEELS.



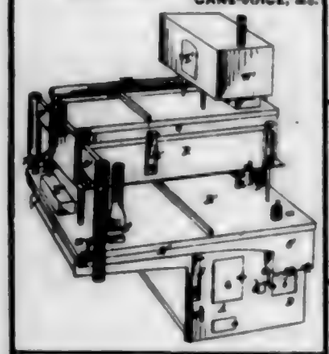
113,587. FRED. J. SLADE.
MANUFACTURE OF STEEL.

113,588. JACOB H. SMYSER.
ROOFING-COMPOSITIONS.

113,589. JAMES P. SNYDER.
ELECTRO-MAGNETIC BURGLAR-ALARMS.



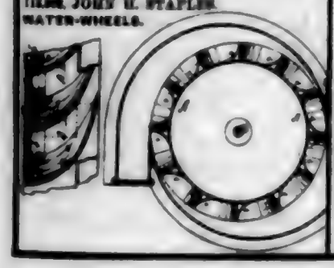
113,590. BREWSTER SPERRY.
APPARATUS FOR EVAPORATING CANE-JUICE, &c.



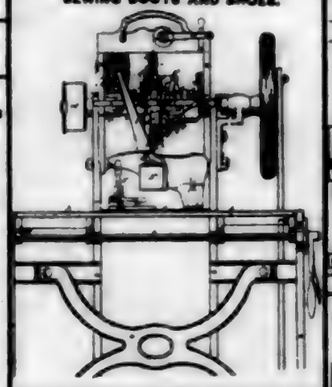
113,591. D. R. SPOONER.
LIQUID AND GAS-METERS.



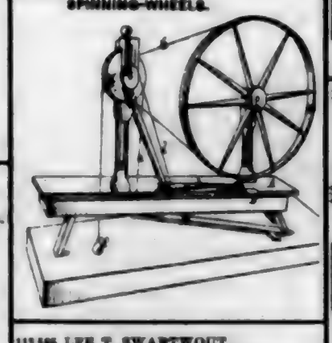
113,592. JOHN H. STAPLES.
WATER-WHEELS.



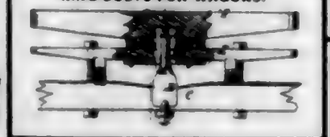
113,593. MICHAEL J. STEIN.
SEWING BOOTS AND SHOES.



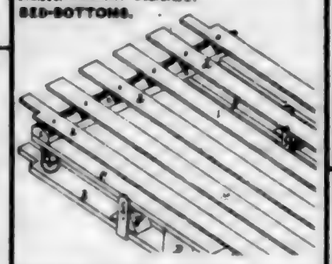
113,594. JOSEPH STRAIN.
SPINNING-WHEELS.



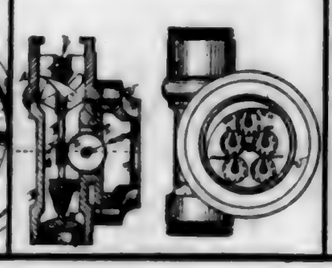
113,595. LEE T. SWARTWOUT.
KING-BOLTS FOR WAGONS.



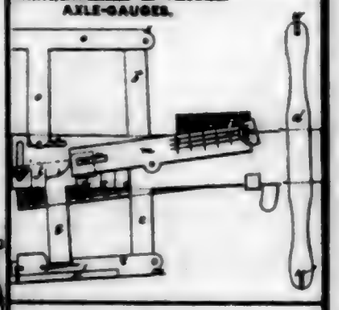
113,596. JOSEPH TINNEY.
BED-BOTTOMS.



113,597. WILLIAM VAN ANDEN.
WATER-METERS.



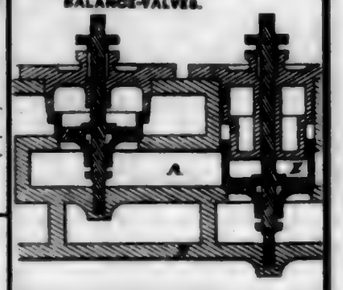
113,598. RICHARD K. VESTAL.
AXLE-GAUGES.



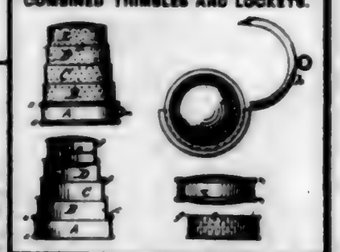
113,599. ERNEST VON JEINSEN, JAMES M. McDONALD.
OIL-RESERVOIRS FOR AXLE-BOXES.



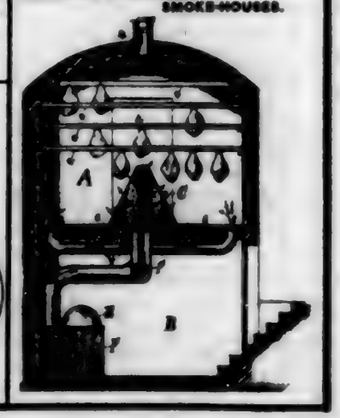
113,600. ALEXANDER WANIOH.
BALANCE-VALVES.



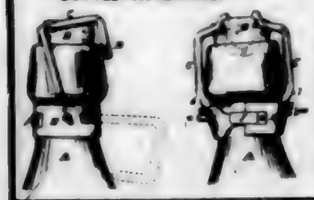
113,601. WILLIAM A. WANSLEBEN.
COMBINED THIMBLES AND LOCKETS.



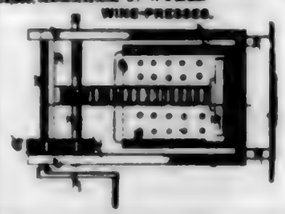
113,602. ADA WATERMAN.
SMOKE-HOUSES.



113,603. EPHRAIM D. WEATHERBEE.
BOTTLE-FASTENINGS.



113,604. ABRAHAM P. WYKER.
WIRE-PRESSES.



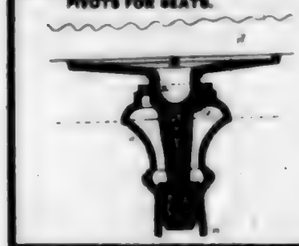
113,605. JAY J. WIGGIN.
MACHINES FOR THE MANUFACTURE OF COMPOSITION-ROOFING.



113,606. GEORGE B. WILLMOT.
FENDERS OR CUSHIONS FOR FURNITURE.



113,607. JOHN J. WILSON.
PIVOTS FOR SEATS.



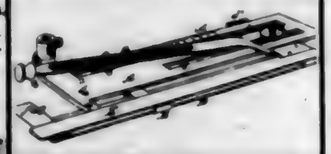
113,608. JOHN J. WILSON.
BRACKET SEATS.



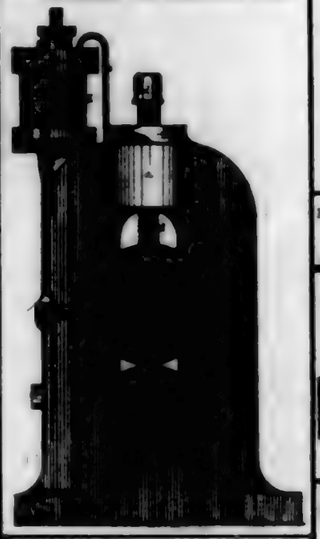
113,609. JOHN T. WILSON.
BUFFER-HEADS AND DRAW-BARS FOR RAILWAY-CARS.



113,610. ENOCH S. TENTERS.
ATTACHMENTS FOR SEWING-MACHINES.

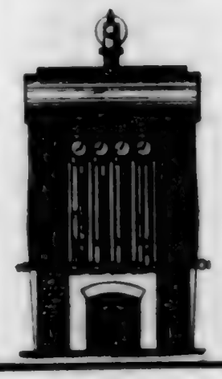


113,611. CHRISTOPHER SUG.
MACHINES FOR SCRAPING IRON.



113,612. ISAAC ADAMS, JR.
ELECTROPLATING WITH NICKEL.

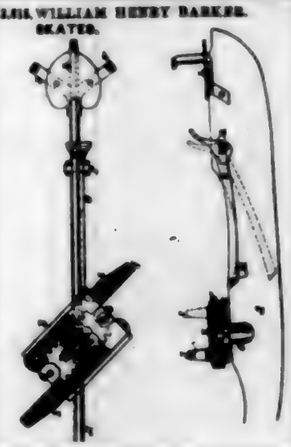
113,613. JOHN F. ALLEN.
STEAM-GENERATORS.



113,614. WM. AUSTIN.
WM. ORDYKE.
PIPE-ELBOWS.



113,615. WILLIAM HENRY BARKER.
SKATES.

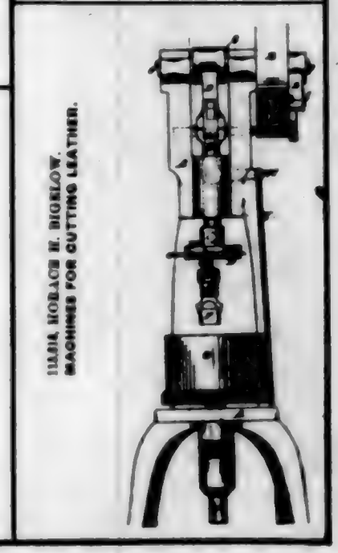


113,616. ALBERT G. BARRETT.
BALANCED SLIDE-VALVES.

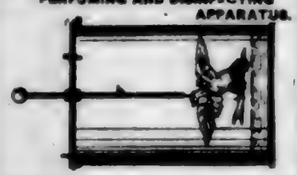


113,617. DR. BENJAMIN BATES.
ROOT OR TONIC BEER.

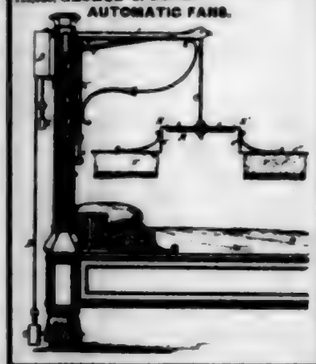
113,618. HORACE H. BIGELOW.
MACHINES FOR CUTTING LEATHER.



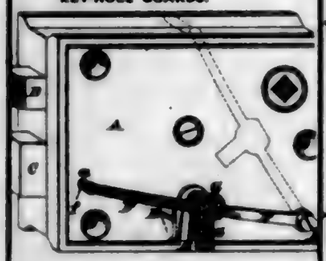
113,619. OTTO BOLDEMANN.
PERFUMING AND DISINFECTING APPARATUS.



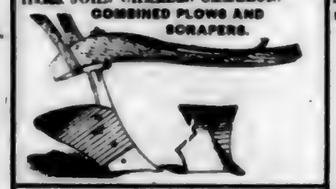
113,620. GEORGE G. BOVEY.
AUTOMATIC FANS.



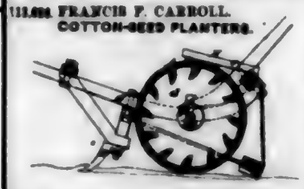
113,621. GEORGE G. BOVEY.
KEY-HOLE GUARDS.



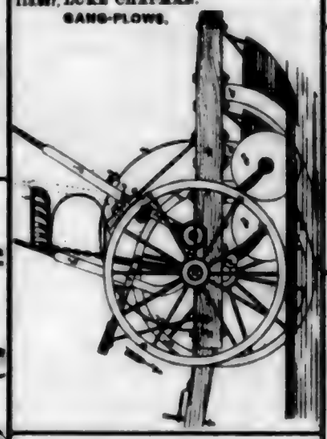
113,622. JOHN CHARLES CAMERON.
COMBINED PLOWS AND SCRAPERS.



113,623. FRANCIS P. CARROLL.
COTTON-SEED PLANTERS.



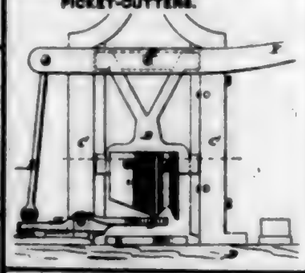
113,624. LUKE CHAPMAN.
GANG-PLOWS.



113,625. JOHN CIPPERLEY.
MASTIC ROOFING.



113,626. JAMES W. CLARK.
PICKET-CUTTERS.



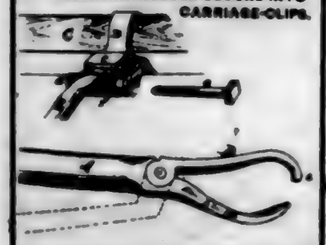
113,627. HENRY BRAUNHOLD.
CASKS FOR PASTE.



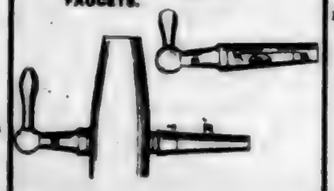
113,628. G. B. BROAD. SHAWL-STRAPS.



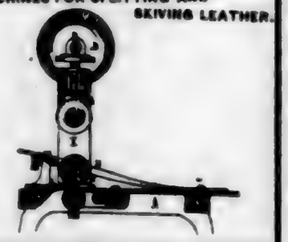
113,629. THOMAS H. BROWN.
CHAS. B. GILMAN.
APPARATUS FOR COMPRESSING AND INSERTING RUBBER BLOCKS INTO CARRIAGE-CLIPS.



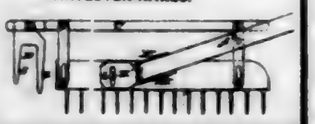
113,630. JOHN S. CLUTE.
HENRY W. TRIMMER.
WALTER D. TRIMMER.
FAUCETS.



113,631. ALEXANDER COCHRAN.
MACHINES FOR SPLITTING AND SKIVING LEATHER.



113,632. O. B. COLCORD.
HARVESTER-RAKES.



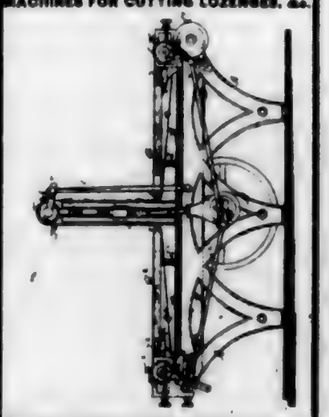
113,633. JOSEPH B. CRABILL.
CONNECTIONS FOR RAILWAY CARS.



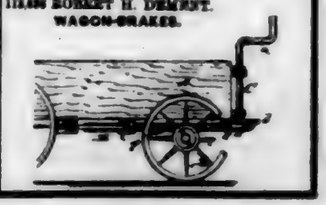
113,634. SILAS CRISPIN.
METALLIC CARTRIDGES.



113,635. WILLIAM EDWARD DAMANT.
MACHINES FOR CUTTING LOZENGES, &c.



113,636. ROBERT H. DEMENT.
WAGON-BRAKES.



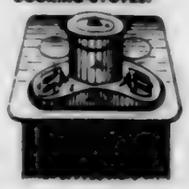
113,637 DANIEL M. DENDON
STALLS FOR HORSES.



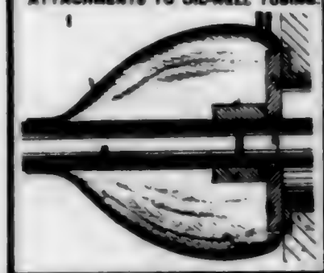
113,638 ISAAC T. DYER.
MOLD-BOARDS FOR PLOWS.



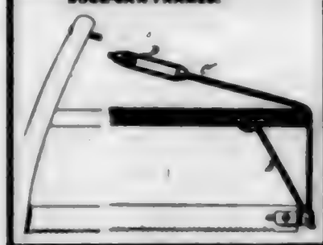
113,639 JAMES EASTERLY.
COOKING-STOVES.



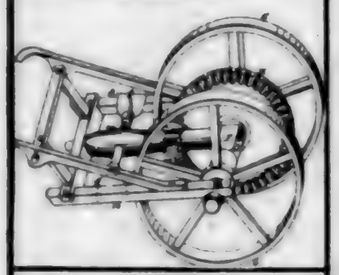
113,640 WILLIAM W. DEWEY.
ATTACHMENTS TO OIL-WELL TUBING.



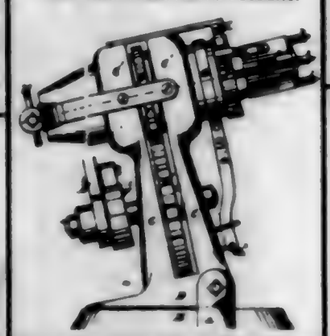
113,641 JEROME C. DIETRICH.
BUCK-SAW FRAMES.



113,642 CHARLES BRYANT DOUGLAS.
COTTON-CHOPPERS.



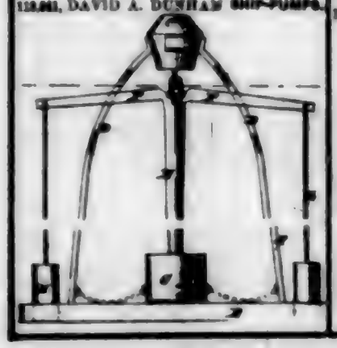
113,643 DAVID J. FARMER.
NAIL AND TACK-PLATE FEEDERS.



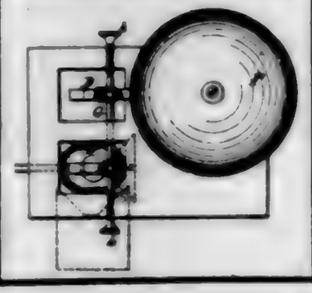
113,644 VALENTINE FOGERTY.
NON-FREEZING WATER-PIPES.



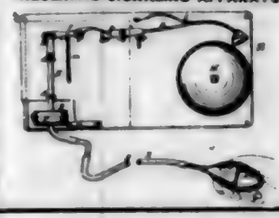
113,645 DAVID A. DUNHAM SHIP-PUMPS.



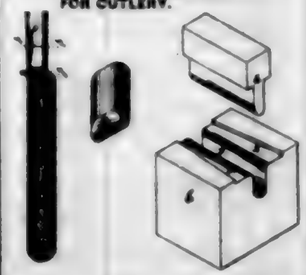
113,646 WM. FOSTER, Jr.
PNEUMATIC SIGNALING APPARATUS.



113,647 WM. FOSTER, Jr.
PNEUMATIC SIGNALING APPARATUS.



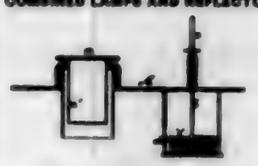
113,648 JAMES D. FRARY.
MANUFACTURE OF BOLSTERS FOR CUTLERY.



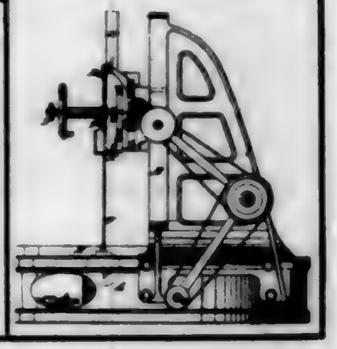
113,649 JOHN E. GAMEWELL.
FIRE-ALARM TELEGRAPH APPARATUS.



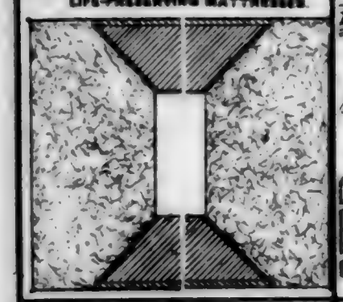
113,650 HENRY J. GOFF.
COMBINED LAMPS AND REFLECTORS.



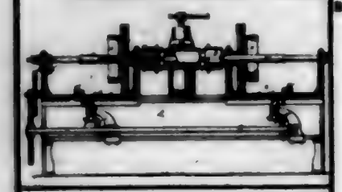
113,651 G. A. GRAY, Jr.
TURNING AND BORING-MILLS.



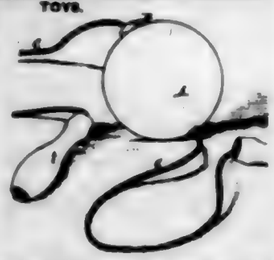
113,652 J. DURELL GREENE.
LIFE-PRESERVING MATTRESSES.



113,653 JOHN GRIFFITH.
G. W. WUNDRAM.
MACHINES FOR FACING T-HEADS.



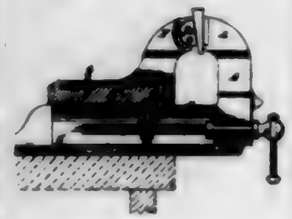
113,654 JOHN HAMILTON HARRISON.
TOYS.



113,655 WILLIAM HENRY HARDING.
GEORGE FREDERIC MOSER.
DUMPING-CARS.

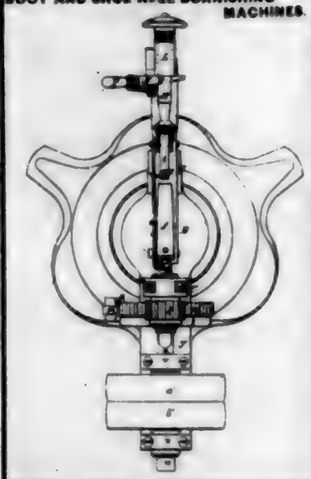


113,656 WILLIAM P. HARWOOD.
VISES.



113,657 HENRY P. HASKIN.
FARM-GATES.

113,658 GARDNER G. HAWKINS
ALBERT G. MEAD
KIMBALL SPEAR,
BOOT AND SHOE HEEL BURNISHING MACHINES.

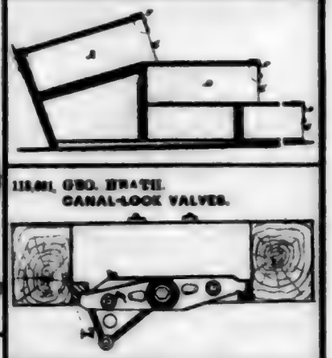


113,659 JAMES HAYDEN.
SHIRTS.

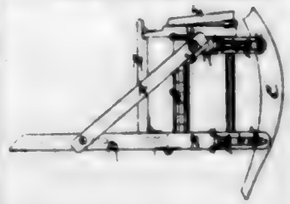


113,660 GEORGE A. HEARN, Jr.
SHOW-CASES.

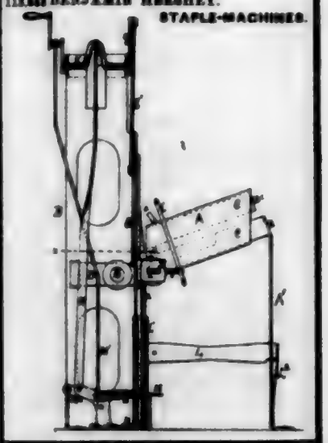
113,661 GEO. HEATH.
CANAL-LOCK VALVES.



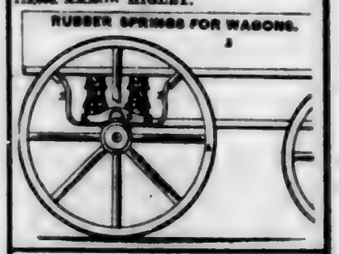
113,662 GABRIEL D. HEATWOLE.
CHAIRS AND BEDS COMBINED.



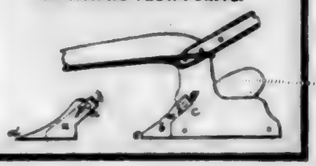
113,663 BENJAMIN HERSHEY.
STAPLE-MACHINES.



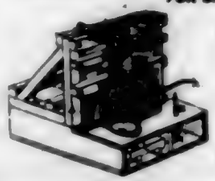
113,664 AARON HIGLEY.
RUBBER SPRINGS FOR WAGONS.



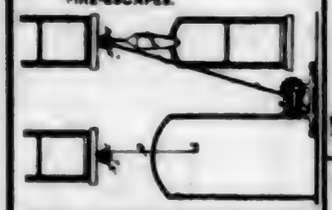
113,665 G. W. HILDRETH.
ATTACHING PLOW-POINTS.



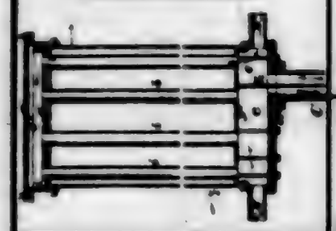
113,666. GEORGE W. HINKLEY.
MACHINES FOR SAPPING TIMBER FOR SHINGLES.



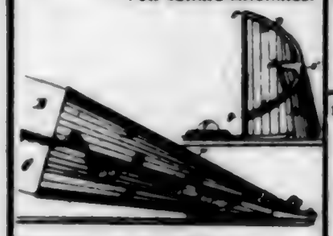
113,667. JOSEPH HOEFLINGER.
FIRE-ESCAPES.



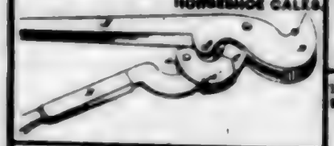
113,668. BIRDSILL HOLLY.
SURFACE-CONDENSERS.



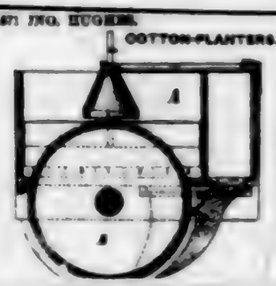
113,669. ELIJAH LEAVITT HOWARD.
RUFFLE-GUIDES AND SAND-FOLDERS FOR SEWING-MACHINES.



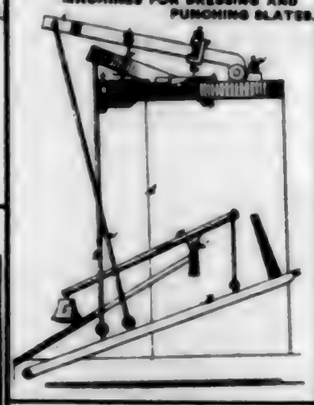
113,670. HAMILTON HOWELL.
MACHINES FOR SHARPENING HORSESHOE CALKS.



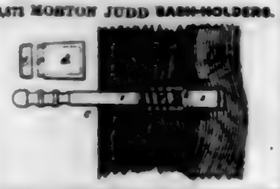
113,671. JNO. HUGHES.
COTTON-PLANTERS.



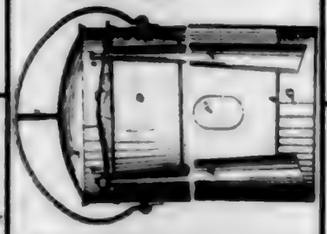
113,672. JULIUS JABOER.
MACHINES FOR DRESSING AND PUNCHING SLATES.



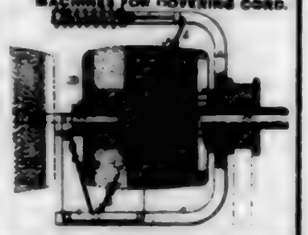
113,673. MORTON JUDD SASH-HOLDERS.



113,674. RICHARD H. KUPER.
COFFEE-POTS.



113,675. REUBEN LEWIS.
MACHINES FOR COVERING CORD.



113,676. JACOB LINDENFELTER.
MILLSTONE EXHAUSTS.



113,677. CHAS. W. LOVETT, Jr.
SHOT-CARTRIDGES.



113,678. PETER LUGENBELL.
WILLIAM A. FORD.
SLATE-FRAMES.

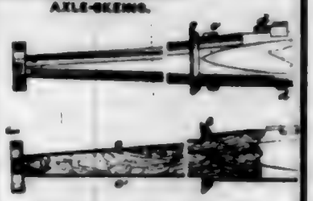


113,679. JOHN J. LUNDY.
LUBRICATING WOOL DURING THE PROCESS OF MANUFACTURE.

113,680. JOHN T. LYNAM. BIT-BRACES.



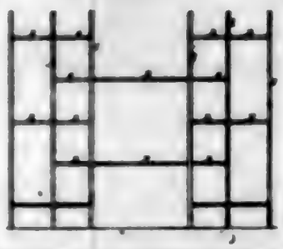
113,681. ORENZO MAYHEW.
AXLE-SKEINS.



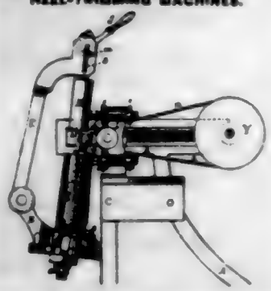
113,682. ROBERT W. McCLELLAND.
WHEELS FOR VEHICLES.



113,683. SOPHIA H. MERCER.
EXTENSIBLE SHELVING.



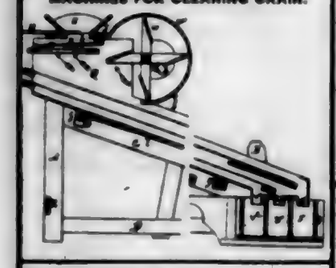
113,684. JOHN Q. MOULTON.
HEEL-TRIMMING MACHINES.



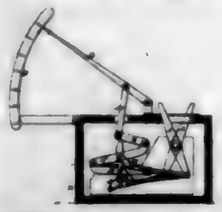
113,685. JOHN W. MURPHY
LUBRICATING PIVOTS FOR TURN-TABLES.



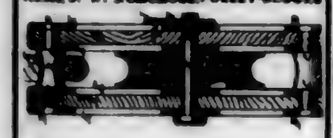
113,686. MOSES T. NESBITT.
MACHINES FOR CLEANING GRAIN.



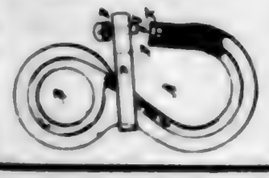
113,687. ARCHIBALD NIMMO.
MECHANICAL MOVEMENTS.



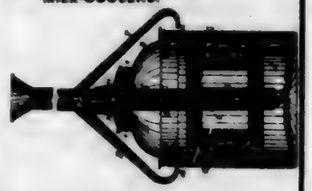
113,688. J. W. NORCROSS, PULLEY-BLOCKS



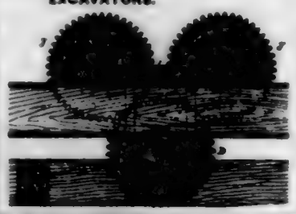
113,689. JOSEPH W. NORCROSS.
TACKLE-HOOKS.



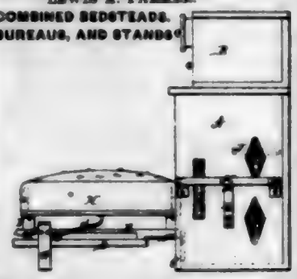
113,690. ALBERT NORTHROP.
MILK-COOLERS.



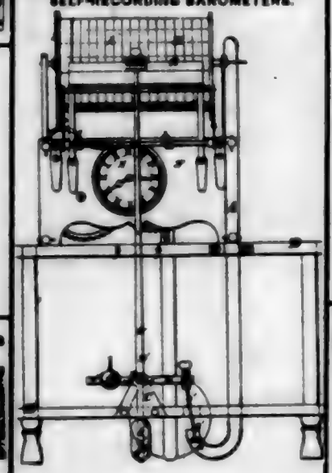
113,691. JASON C. OSGOOD.
EXCAVATORS.



113,692. ANNA PARKER.
LEWIS A. PARKER.
COMBINED BEDSTEADS, BUREAUS, AND STANDS.



113,693. DAVID PERLOR.
SELF-RECORDING BAROMETERS.



113,694. WILLIAM L. PHILLIPS.
STOVE-PIPE DRUMS.



113,695. JOHN H. PUTMAN. GLOVES.



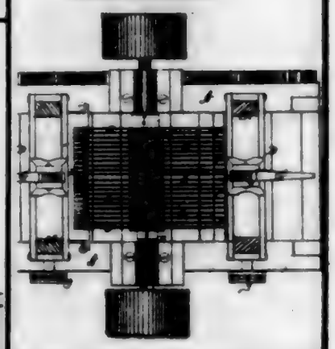
113,696. SAMUEL L. REYNOLDS.
JOHN W. REYNOLDS.
WHIFFLETREES.



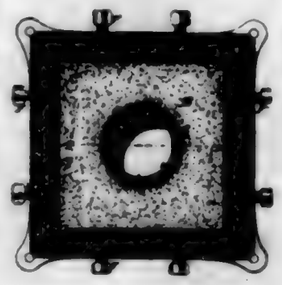
113,697. GEORGE RUMSEY.
SLIDING-DOOR HANGERS.



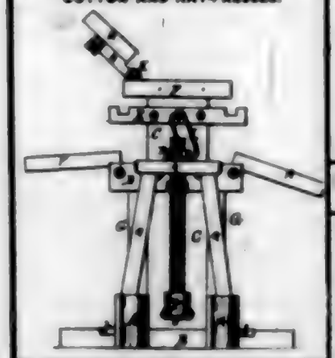
113,698. SAML. S. SHERMAN.
H. B. GUNN.
SAWING-MACHINES.



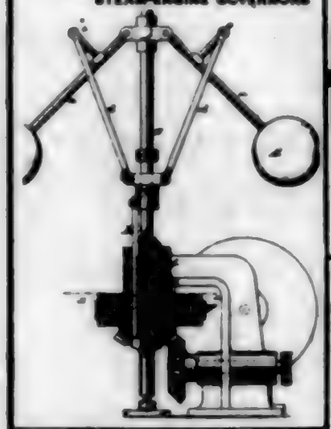
113,699. JOHN JOB. CHAS. SMITH.
DIES FOR TAKING IMPRESSIONS FROM CLOTH, &c.



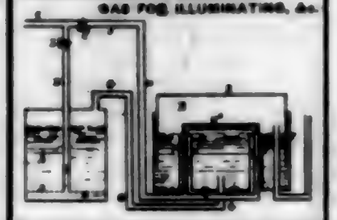
113,700. REUBEN STALLION. COTTON AND HAY-PRESSES.



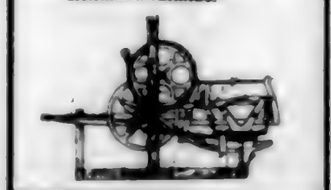
113,701. SAML. STANTON. VARIABLE ECCENTRICS FOR STEAM-ENGINE GOVERNORS.



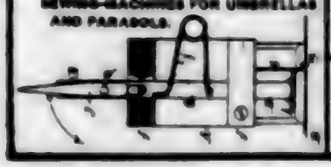
113,702. J. W. STOW. MANUFACTURE OF PNEUMATIC GAS FOR ILLUMINATING, &c.



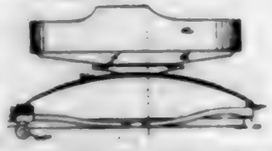
113,703. JEROME B. SWEETLAND. SAWING-MACHINES.



113,704. WM. J. TATE. SEWING-MACHINES FOR UMBRELLAS AND PARASOLS.

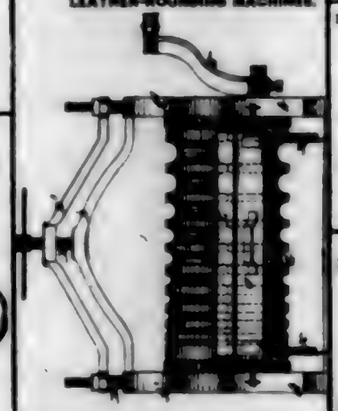


113,705. CHAUNCEY THOMAS. CARRIAGES.

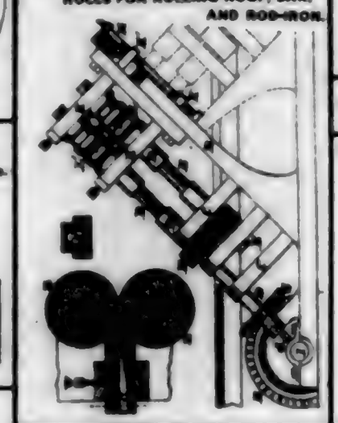


113,706. NATHAN H. THOMAS. PRESERVING WOOD.

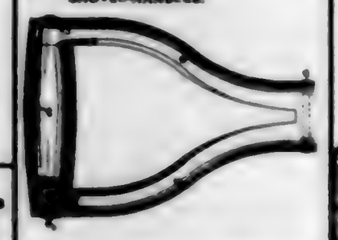
113,707. JAMES H. TIMMINS. LEATHER-ROUNDING MACHINES.



113,708. JAMES TRANTER. JOSEPH KIRKBY. ROLLS FOR ROLLING HOOP, BAR, AND ROD-IRON.

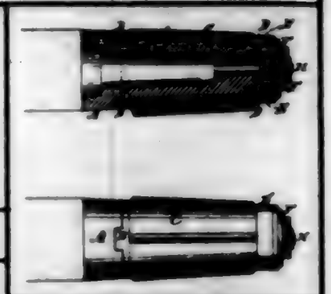


113,709. HENRY C. TRASK. SHOVEL-HANDLES.

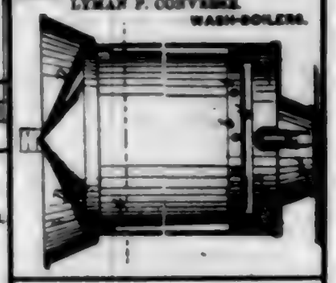


113,710. JAMES MONROE WALTERS. HASON-SPINDLES.

113,711. STEWART WATT. STOVE UTENSIL-HOLDERS.

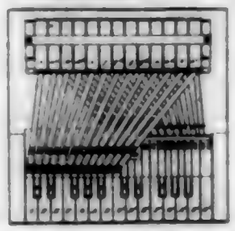


113,712. W. A. WELLS. LYMAN P. CONVERSE. WASH-BOILERS.

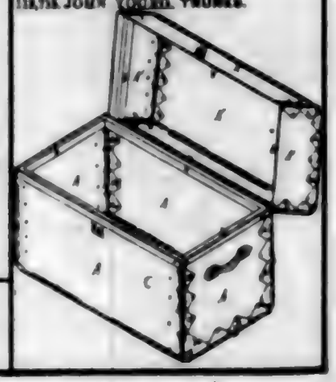


113,713. SAMUEL B. WHITLOW. MEDICAL COMPOUNDS OR BITTERS.

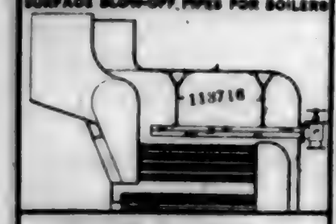
113,714. GEORGE W. WOODRUFF. REED-ORGANS.



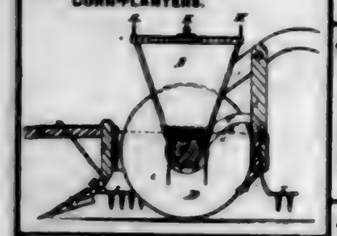
113,715. JOHN TOLEDO. TRUNKS.



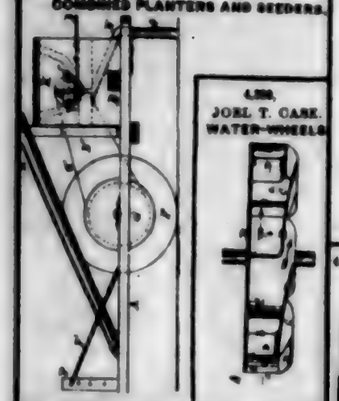
113,716. JAMES PERKINS. SURFACE BLOW-OFF PIPES FOR BOILERS.



113,717. GEORGE W. LEWIS. CORN-PLANTERS.



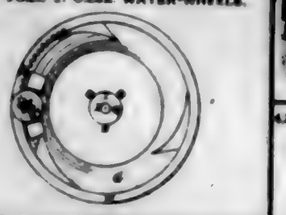
113,718. SAMUEL HIBSTAND. COMBINED PLANTERS AND SEEDERS.



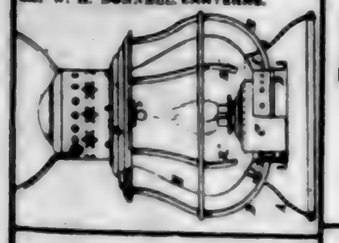
4,339. JOEL T. CASE. WATER-WHEELS.

4,339. JOSEPH ALBERT. PRINTING PHOTOGRAPHS.

4,339. JOEL T. CASE WATER-WHEELS.



4,331. W. H. BONNELL. LANTERNS.

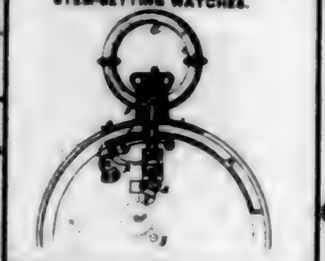


4,332. W. H. BONNELL. LANTERNS.

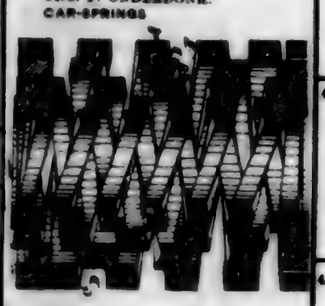
4,332. WILLIAM W. DRAPER. TOOL-HOLDERS.



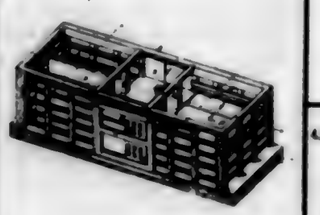
4,334. JULES JURGENSEN. STEM-SETTING WATCHES.



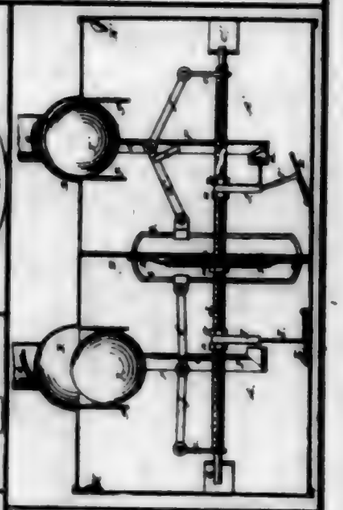
4,335. ALBERT HESBARD. JNO. P. ONDERDONK. CAR-SPRINGS.



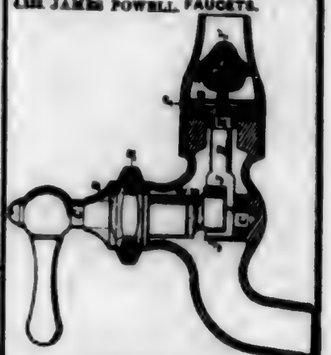
4,336. WILLIAM SWEARINGEN. STOCK-CARS.



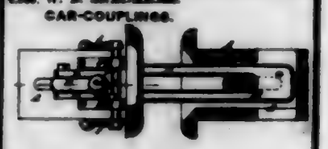
4,337. JOHN S. PATRIC. AIR-COMPRESSING APPARATUS.



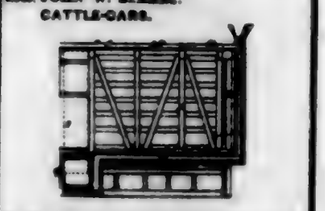
4,338. JAMES POWELL. FAUCETS.



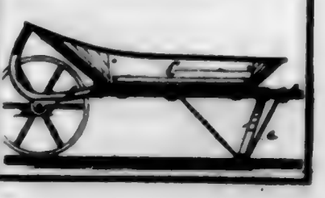
4,340. W. B. SHEDAKER. CAR-COUPLINGS.



4,340. JOHN W. STRENT. CATTLE-CARS.



4,341. BECKWITH W. TUTHILL. WHEELBARROW-FRAMES.



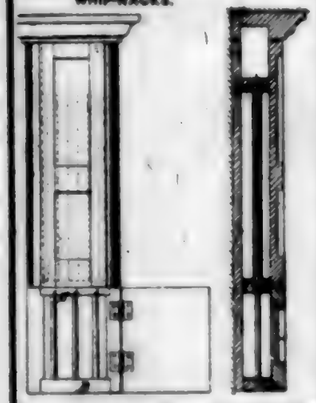
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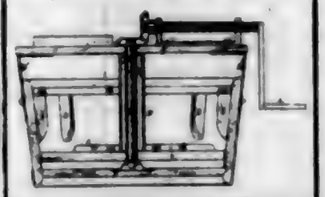
APRIL 18, 1871.

113,719. ROBERT J. ANDERSON. WHIP-RACKS.

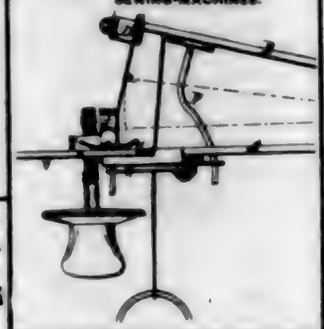


113,720. GEO. S. BARTON. EXPANDING PULLEYS.

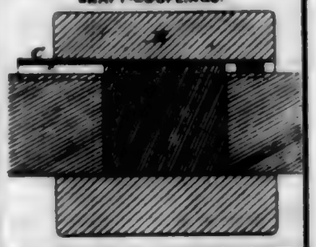




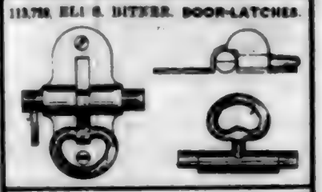
113,721. WILLIAM G. BROKWITH. SEWING-MACHINES.



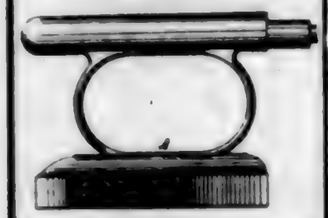
113,722. JAMES H. BLESSING. SHAFT-COUPLINGS.



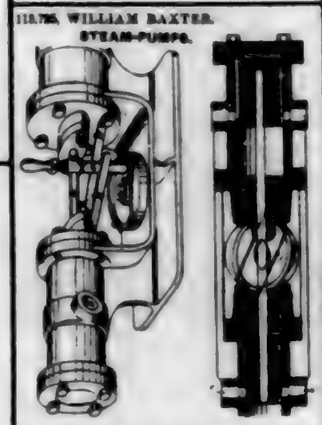
113,723. ELI S. BITNER. DOOR-LATCHES.



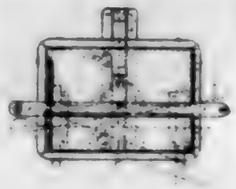
113,724. AARON E. ARMSTRONG. CHARLES S. DUDLEY. SMOOTHING AND RUFFLE-IRONS.



113,725. WILLIAM BAXTER. STEAM-PUMPS.

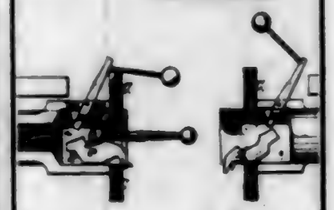


113,726. THEODORE BERGNER. RULER ATTACHMENTS FOR DRAWING-BOARDS.

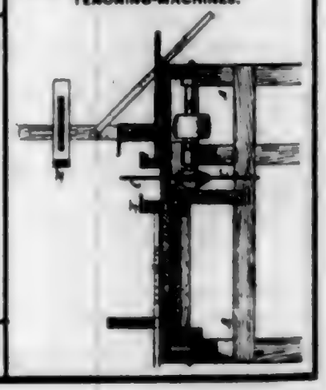


113,727. CHARLES HEELSTON BERRY. WASHING-MACHINES.

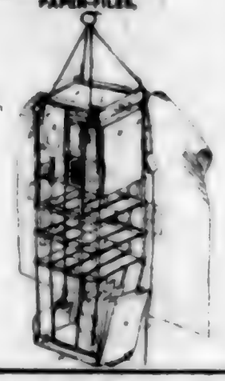
113,728. LYCURGUS J. BOSWORTH. CAR-COUPLINGS.



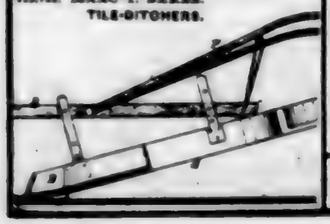
113,729. MELTON S. BOURLAND. TENONING-MACHINES.



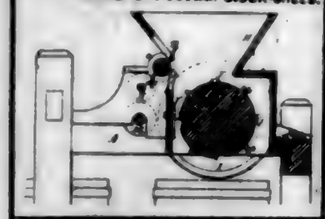
113,731. ALBERT BAKER. PAPER-FILES.



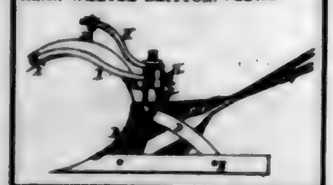
113,730. ISAAC T. BAKER. TILE-DITCHERS.



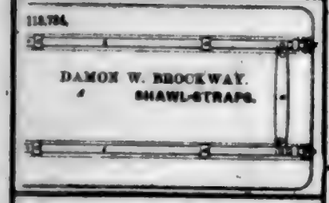
113,732. JESSE BOWEN. AARON T. FOSTER. CIDER-MILLS.



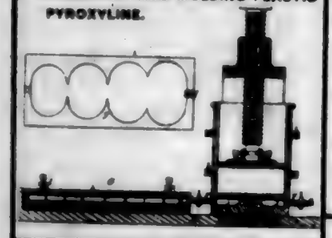
113,733. WALTER BRITTON. PLOWS.



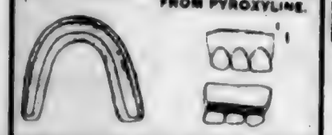
113,734. DAMON W. BROCKWAY. SHAWL-STRAPS.



113,735. JOSEPHUS BROCKWAY. APPARATUS FOR COMPRESSING, STRAINING, AND MOLDING PLASTIC PYROXYLINE.



113,736. JOSEPHUS BROCKWAY. MANUFACTURE OF DENTAL-PLATES FROM PYROXYLINE.

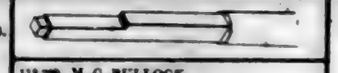


113,737. PETER BROOKS. MACHINES FOR PUNCHING CORSET-SPRINGS.



113,738. LEVERETT BROWN. THE MODES OF ATTACHING TOPMASTS AND TOP-GALLANT-MASTS.

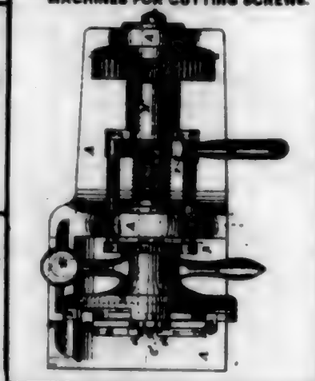




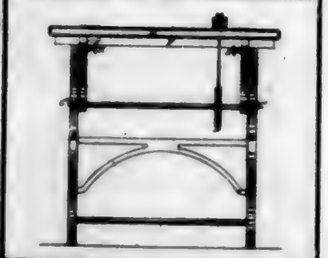
113,739. M. C. BULLOCK. SELF-CENTERING BOXES OR BEARINGS.



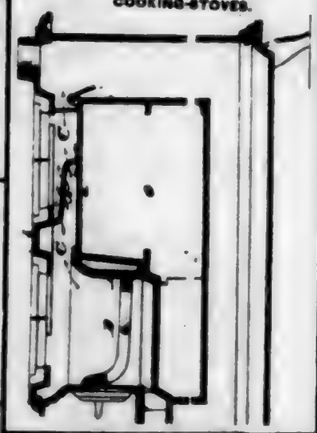
113,740. JAMES M. CARPENTER. MACHINES FOR CUTTING SCREWS.



113,741. EDWIN CHESTERMAN. TABLES FOR SEWING AND KNITTING-MACHINES.



113,742. FRANKLIN CLEMENT. COOKING-STOVES.

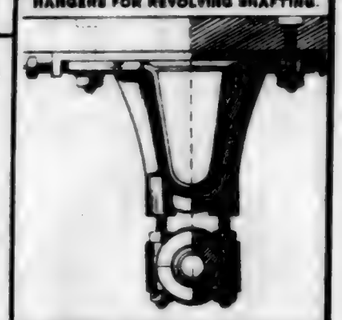


113,743. AUBY G. COBB. THE MODES OF FORMING THE HEADS OF WRENCH-BARS.

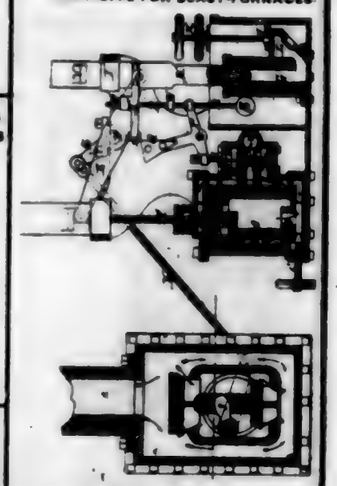




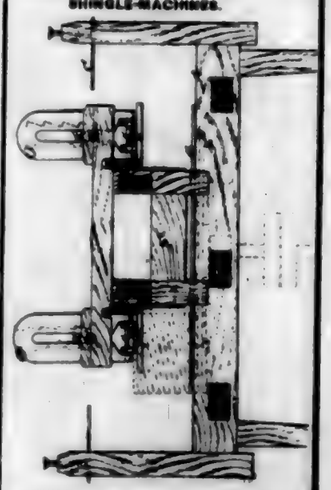
113,744. ALFRED B. COUCH. HANGERS FOR REVOLVING SHAFTING.



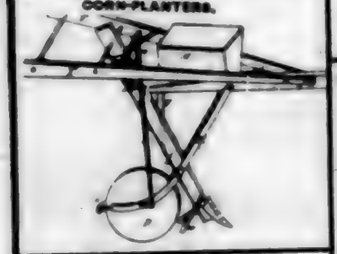
113,745. HENRY DAVIES. CUT-OFFS FOR BLAST-FURNACES.



113,746. JAMES DECKER. SHINGLE-MACHINES.



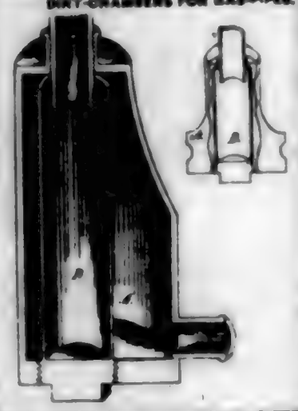
113,747. J. DYSON DELAP.
CORN-PLANTERS.



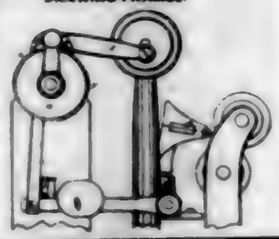
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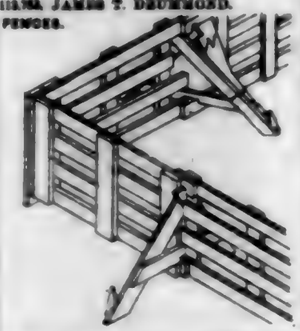
113,749. MARTIN B. DIAL.
DIRT-CHAMBERS FOR GAS-PIPES.



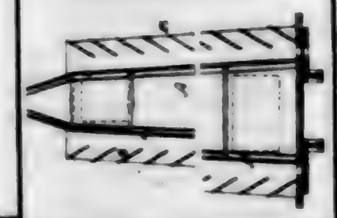
113,750. GEORGE DRAPER.
DRAWING-FRAMES.



113,751. JAMES T. DRUMMOND.
FENCES.



113,752. PETER FARLEY.
DRYING BONE-BLACK.

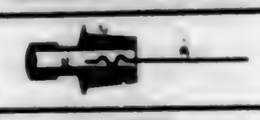


113,753. ALONZO FARRAR.
COMPOSITIONS FOR PRINTING OR PAINTING ON SURFACES.

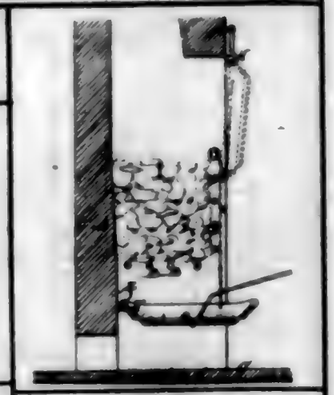
113,754. JOHN FOGARTY.
SIGNALS FOR RAILROADS.



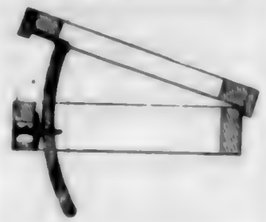
113,755. WILLIAM H. GARRETT.
FIRE-PLACE GRATES.



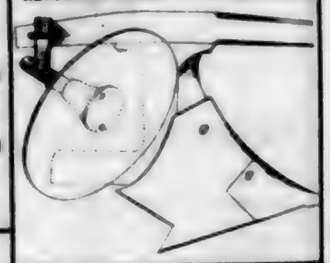
113,756. BENJAMIN GEORGE GEORGE.
ORNAMENTATION OF METAL, GLASS.

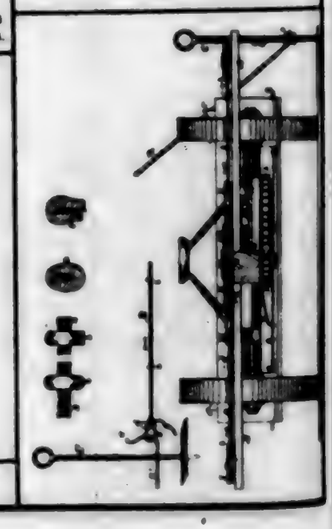


113,756. THOMAS J. GIFFORD.
SCUTTLE FASTENINGS.

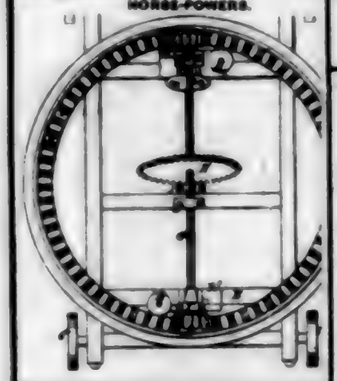


113,757. JOSEPH S. GODFREY.
REVOLVING MOLD-BOARDS FOR PLOWS.





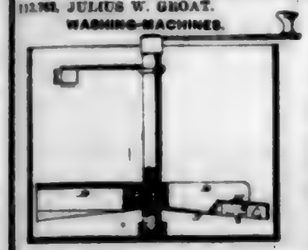
113,758. WILLIAM W. DINGEE.
HORSE-POWERS.



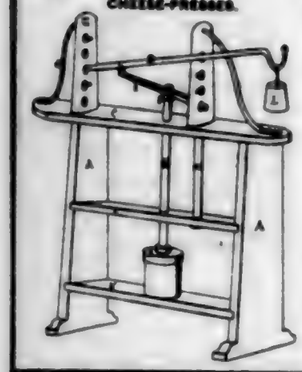
113,759. LOUIS DOVELL.
BOTTLE-STOPPERS.



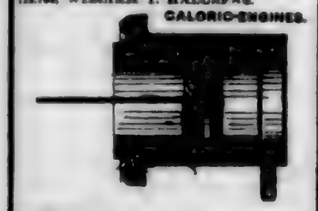
113,762. JULIUS W. GROAT.
WASHING-MACHINES.



113,763. CHARLES L. HAINES.
CHEESE-PRESSES.



113,764. WILLIAM T. HALLEPAS.
CALORIC-ENGINES.



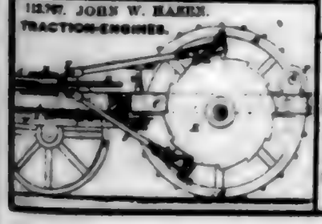
113,765. JOHN R. HARRINGTON.
CARPET-LININGS.



113,766. BENJ. HAVILAND.
GEO. P. GUNN.
PARLOR AIR-PISTOLS.



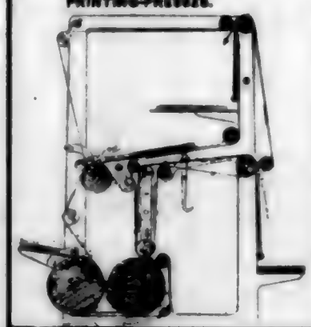
113,767. JOHN W. HAMEN.
TRACTION-ENGINES.



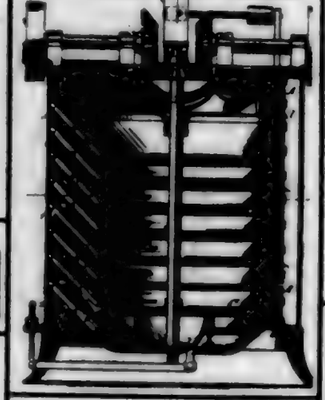
113,768. ALBERT HEBBARD.
CAR-SPRINGS.



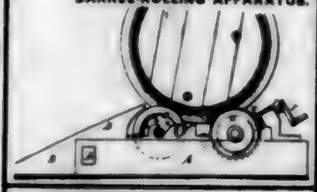
113,769. RICHD. M. HOE.
PRINTING-PRESSES.



113,770. MICHAEL HOFFMANN.
GRAIN-HULLING MACHINES.

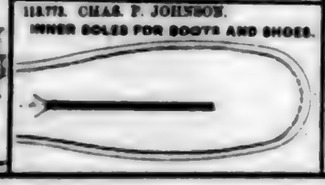


113,771. LEWIS L. HYATT.
ADOLPH O. HÜPPEL.
BARREL-ROLLING APPARATUS.

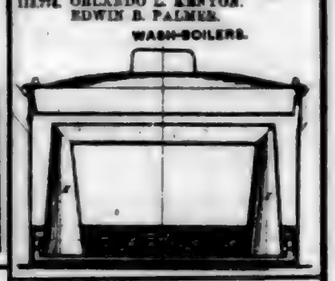


113,772. ELIAS INGRAHAM
THE APPLICATION OF BRONZE AND GILDING TO PLATE GLASS.

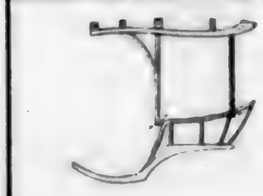
113,773. CHAS. P. JOHNSON.
INNER SOLES FOR BOOTS AND SHOES.



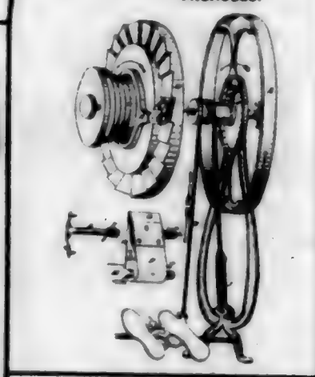
113,774. ORLANDO L. KENYON.
EDWIN B. PALMER.
WASH-BOILERS.



113,775. CHARLES P. KIMBALL.
SHIFTING TOPS FOR BASKET-PHAETONS



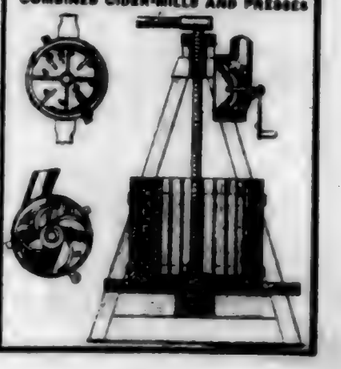
113,776. GEO. BYRON KIRKHAM.
TREADLES.



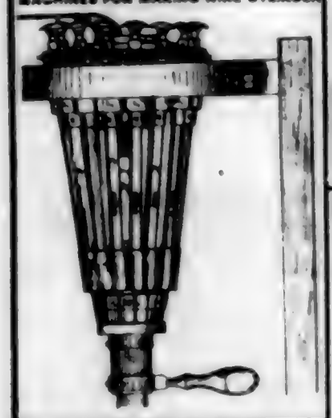
113,777. MILTON W. KIRKWOOD.
SOLOMON H. RILEY. HOPS.



113,778. DANIEL H. KRAUSER.
COMBINED CIDER-MILLS AND PRESSES



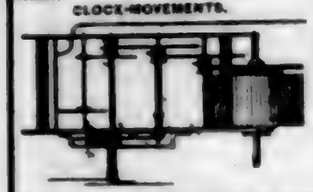
113,779. CYRUS H. LATHAM.
MACHINES FOR MAKING WIRE CYLINDER



113,780. CHRISTOPHER P. LAWTON.
NECK-TIE RETAINERS.



113,781. BENJAMIN R. LEWIS.
CLOCK-MOVEMENTS.

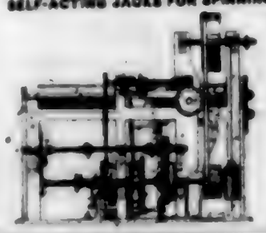


113,782. ROBERT G. LOFTUS.
PURIFICATIONS OF OILS AND FATS BY ACIDS.

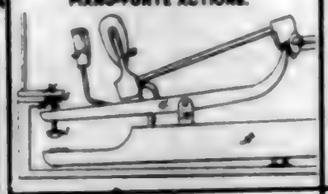
113,783. DONALD D. MACKAY.
CYRUS BUTLER.
PLUMBAGO OIL-CANS.



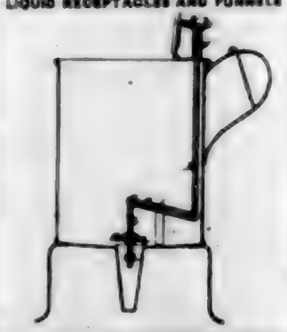
113,784. PETER McGOVERN.
SELF-ACTING JACKS FOR SPINNING.



113,785. F. S. McGREGOR.
PIANO-FORTE ACTIONS.



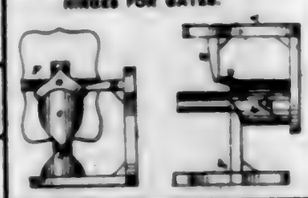
113,786. WILLIAM H. MUMLER.
LIQUID RECEPTACLES AND FUNNELS



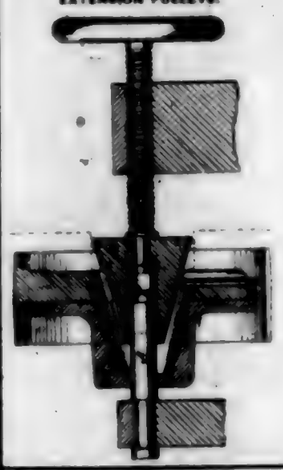
113,787. TOBIAS NEW. WATER-PROOF FLOORS.



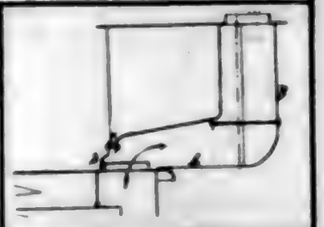
113,788. EDWIN D. NORTON.
HINGES FOR GATES.



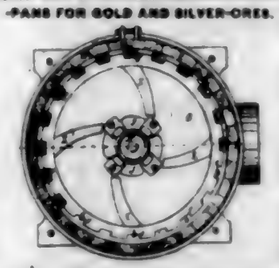
113,789. WILLIAM ONIONS.
ISAAC HAGNALL.
EXTENSION PULLEYS.



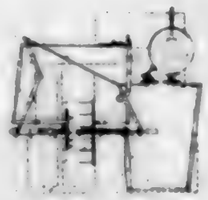
113,790. DANL. B. PARIS.
COOKING-STOVES.



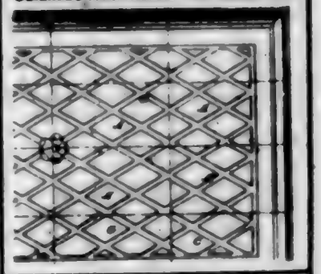
113,791. IRA S. PARKS, AMALGAMATING PANS FOR GOLD AND SILVER-ORES.



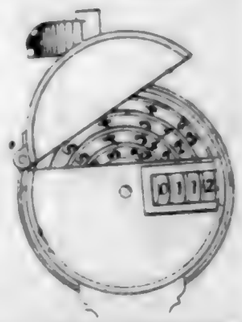
113,792. PREVIER A. PERRY.
GRAIN-BINDERS.



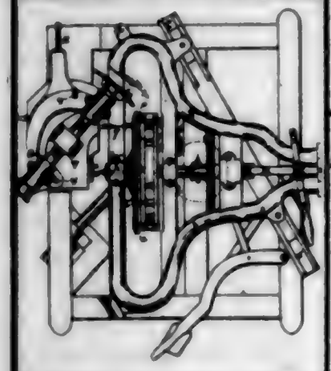
113,793. CHARLES H. POOLE.
CEILINGS AND WALLS FOR BUILDINGS.



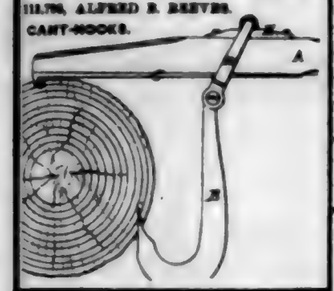
113,794. CHARLES W. PYLE.
COUNTING-REGISTERS.



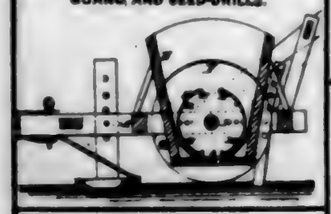
113,795. JOHN JACKSON RALYA.
MACHINES FOR TURNING BARREL-HEAD



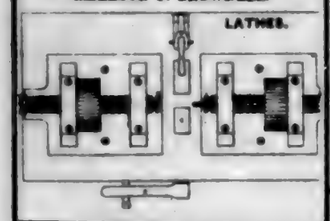
113,796. ALFRED B. REEVES.
CANT-HOOKS.



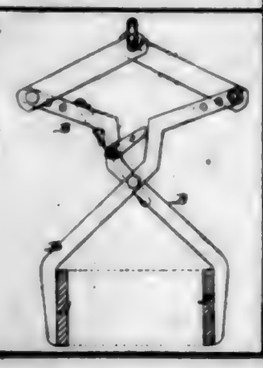
113,797. LEONIDAS M. RHODES.
GUANO AND SEED-DRILLS.



113,798. JOHN F. C. RIDER.
EMERSON P. BROWNELL.
LATHES.



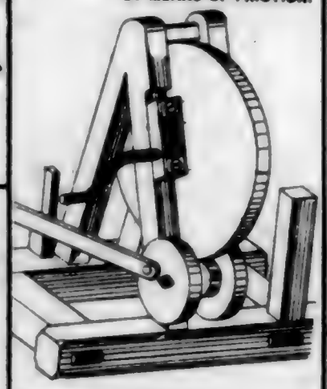
113,799. E. JULIUS RUGG.
BRICK-LIFTERS



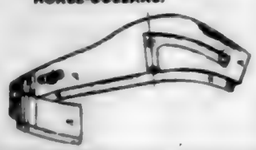
113,800. NATHANIEL RUSSELL.
PLANING-TOOLS.



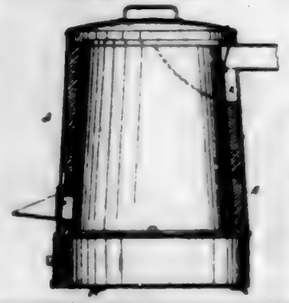
113,801. RICHARD SAMMER.
APPARATUS FOR CONVERTING ROTARY INTO RECIPROCATE MOTION BY MEANS OF FRICTION.



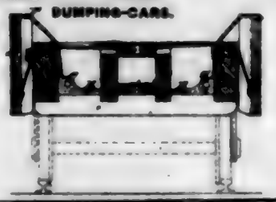
113,802. JOHN W. SCHWAFER.
HORSE-COLLARS.



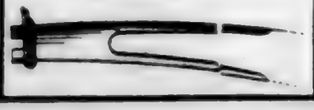
113,803. CONRAD SEIMEL.
SOLDERING-FURNACES.



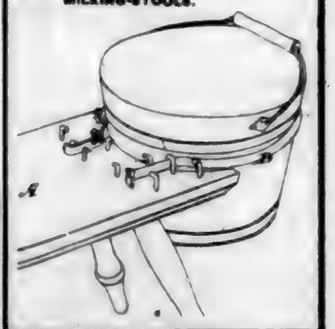
113,804. WM. A. SHARP.
DUMPING-CARS.



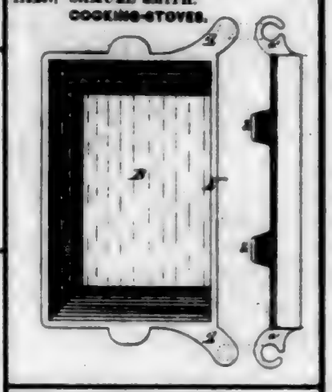
113,805. DOLPHIN G. SMITH.
FERRULES.



113,806. GEORGE SMITH.
MILKING-STOOLS.



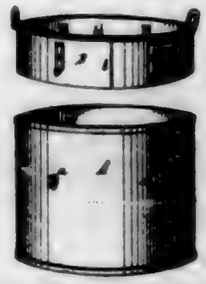
113,807. SAMUEL SMITH.
COOKING-STOVES.



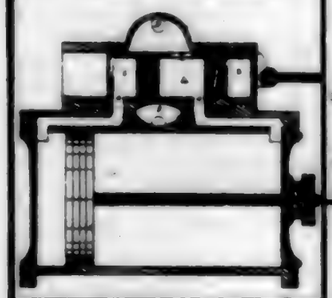
113,808. J. M. SPRING.
HOOKS FOR BIRD-CAGES.



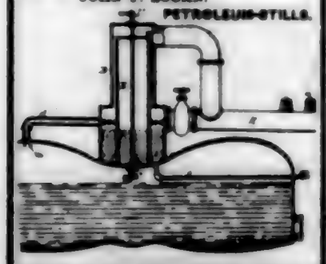
113,809. WILLIAM STERNBERG.
CHEESE-HOOPS.



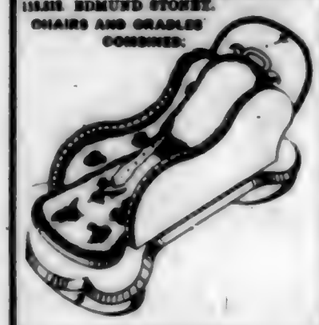
113,810. NATHAN PAGE STEVENS.
STEAM-ENGINE VALVES.



113,811. JOHN L. STEWART.
JOHN P. LOGAN.
PETROLEUM-STILLS.



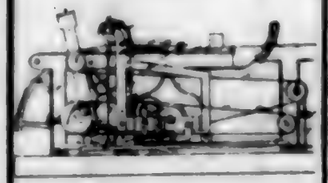
113,812. EDMUND STONEY.
CHAIRS AND CRADLES COMBINED.



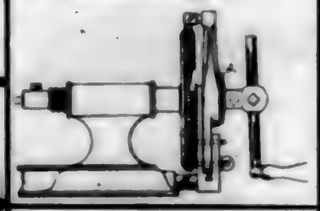
113,813. OLE O. STORLE.
HORSE HAY-RAKES.



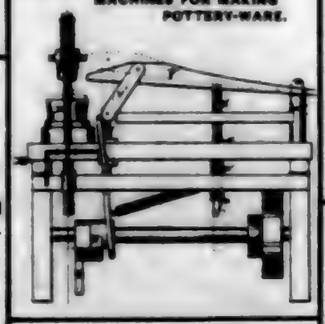
113,814. JAMES SUTHERLAND.
SELF-ACTING MULES FOR SPINNING.



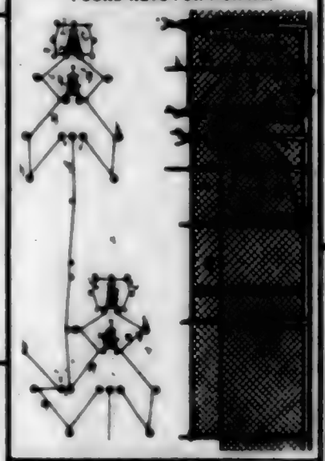
113,815. GEO. C. TAFT.
DRILLING-MACHINES.



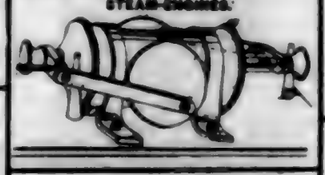
113,816. SAMUEL B. THOMPSON.
MACHINES FOR MAKING POTTERY-WARE.



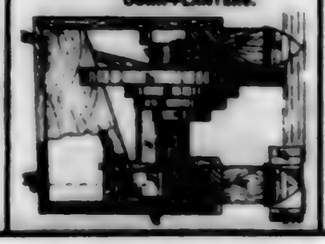
113,817. PATRICK S. TIERNAN.
POUND-NETS FOR FISHING.



113,818. SAMUEL D. TILLMAN.
STEAM-ENGINES.

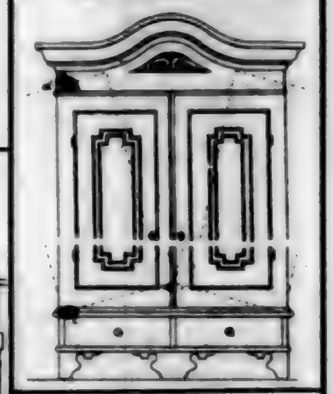


113,819. GRANVILLE J. VAUGHT.
CORN-PLANTERS.

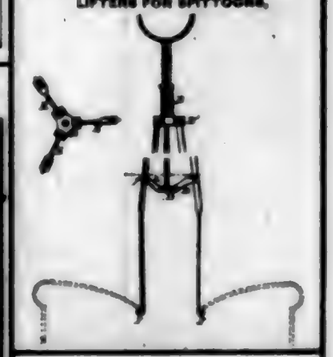


113,820. GUILLAUME VIQUE.
DISINFECTING COMPOUNDS.

113,821. FERDINAND F. VOIGT.
WARDROBES AND BOOK-CASES.



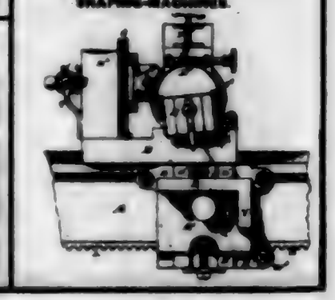
113,822. JAMES WALKER.
HENRY F. LILLY.
LIFTERS FOR SPITTOONS.



113,823. JOHN S. WARREN.
WATER-WHEELS.



113,824. W. H. WARREN.
SHAPING-MACHINES.



113,825. CHARLES WEILER.
COMBS FOR COMBING-MACHINES.



113,826. GEORGE W. WESLEY.
SELF-RELEASING CLUTCHES FOR WATER-WHEELS.



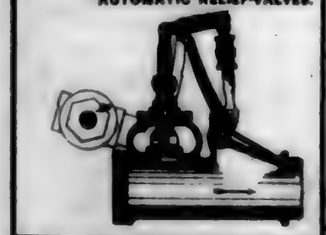
113,827. SAMUEL WHITAKER.
CASES FOR RIBBONS, LACES,



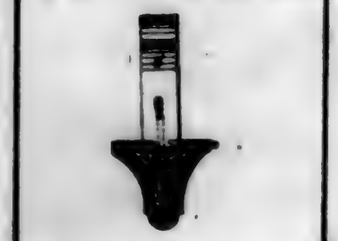
113,828. EDWIN A. WOOD.
TIME-INDICATORS FOR OFFICES.



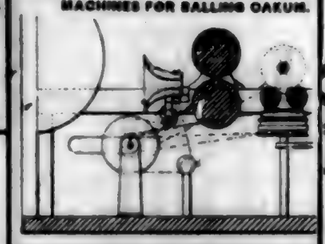
113,829. ALBERT F. ALLEN.
AUTOMATIC RELIEF-VALVES.



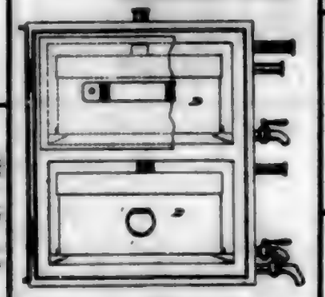
113,830. JOHN B. ANDERSON. PORTABLE ROLLERS FOR MOVING HEAVY BODIES.



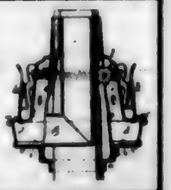
113,831. SAMUEL GEORGE ARCHIBALD.
MACHINES FOR BALLING OAKUM.



113,832. JOHN ASHCROFT.
APPARATUS AND PROCESSES FOR TREATING COFFEE.



113,833. L. J. ATWOOD.
LAMP-BURNERS.



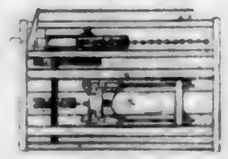
113,834. CLASP-FASTENERS FOR BAGS.
ALFRED HOLME BALCH
WOLFRED DAVID AMELIUS NELSON.



113,835. RICHD. BARTON.
TONGUE-AND-GROOVE JOINTS.



113,836. JAS. BATES.
HOISTING-MACHINES.



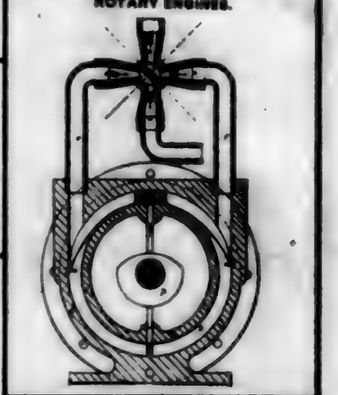
113,837. THOMAS VANDOLAH BAYLY.
HAY-ELEVATORS.



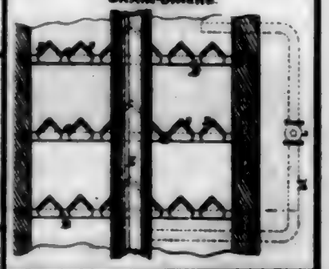
113,838. G. A. BEIDLER.
WOODEN PAVEMENTS.



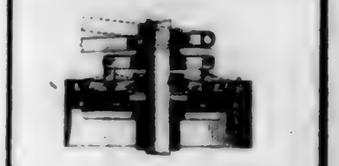
113,839. HENRY L. BENNISON.
ROTARY ENGINES.



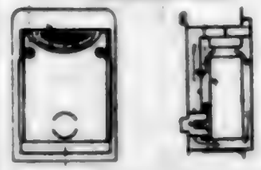
113,840. WILLIAM BLAKEY.
GRAIN-DRIERS.



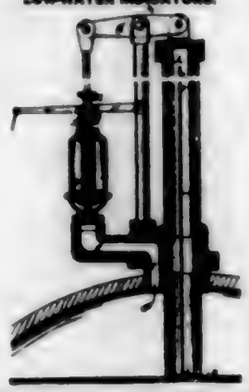
113,841. JAMES H. BLEMING.
FRICTION-CLUTCHES FOR BELT-PULLEY



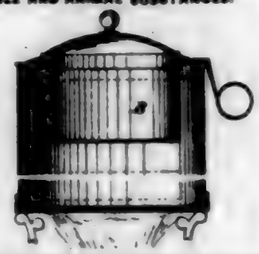
113,842. MARY ANN BOUGHTON.
COOKING-STOVES.



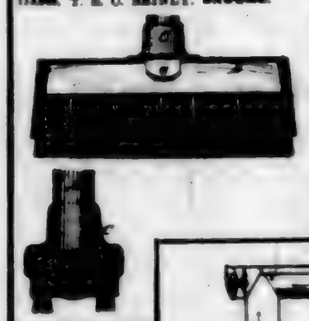
113,844. W. A. BRADFORD.
LOW-WATER INDICATORS.



113,845. LOUIS BRAUER. APPARATUS FOR MAKING EXTRACTS FROM VEGETABLE AND ANIMAL SUBSTANCES.



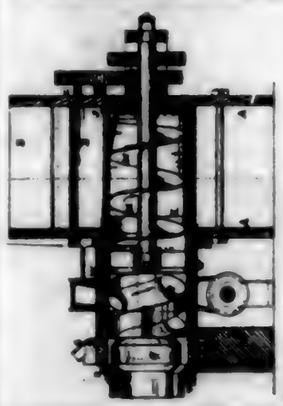
113,847. T. E. C. BRINLY. BROOMS.



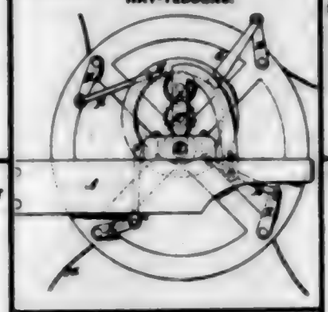
113,849. DOMINICUS BRIX.
COOKING-STOVES.



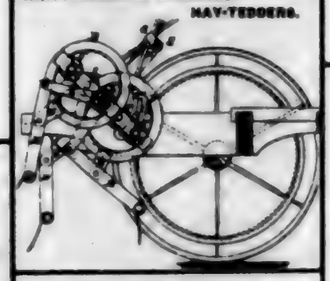
113,847. I. C. BRYANT. MACHINES FOR MAKING BRICKS AND TILES.



113,848. HIRAM M. BURDICK.
HAY-TEDDERS.



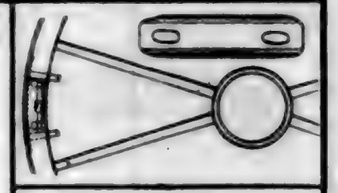
113,849. HIRAM M. BURDICK.
HAY-TEDDERS.



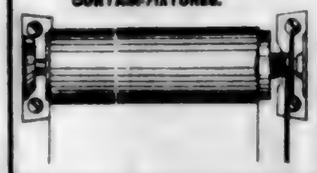
113,850. CHARLES BURLEIGH.
MACHINERY FOR DRILLING ROCKS



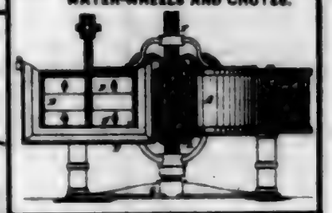
113,851. GARRETT G. W. BURNHAM.
CARRIAGE-WHEELS.



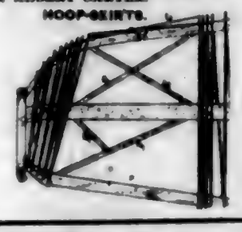
113,852. WM. CAMPBELL.
CURTAIN-FIXTURES.



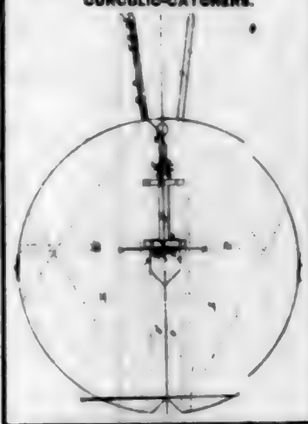
113,853. ELISHA P. H. CAPRON.
WATER-WHEELS AND CHUTES.



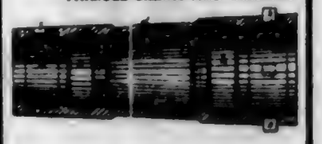
113,854. ALBERT CARTER.
HOOP-SKIRTS.



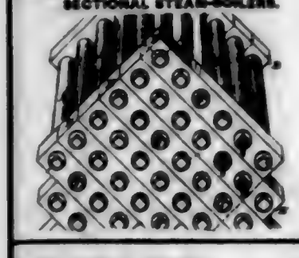
113,855. FRANK J. CLAXTON.
CHARLES D. STEVENS.
CURCULIO-CATCHERS.



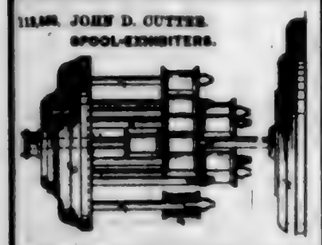
113,856. MORIS COLLINS.
THIMBLE-SEAMS AND BOXINGS.



113,857. WM. H. CORNELL.
SECTIONAL STEAM-BOILERS.



113,858. JOHN D. CUTTER.
SPOOL-EXHIBITERS.

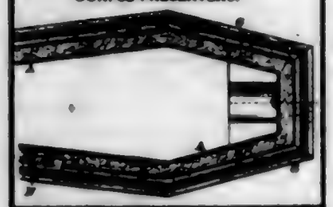


113,859. WM. G. DEAN. PREPARING FLOUR FOR USE IN CONFECTIONERY.

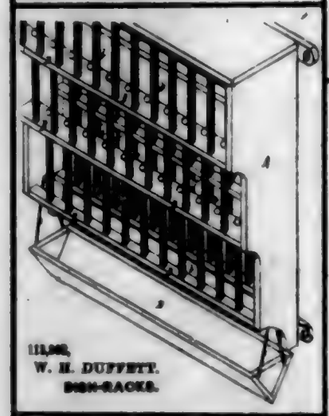
113,860. PATRICK S. DEVLAN.
LUBRICATORS FOR JOURNALS.



113,861. HENRY M. DIGGINS.
CORPSE-PRESERVERS.

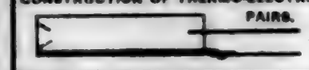


113,862.
W. H. DUFFETT.
DISH-RACKS.

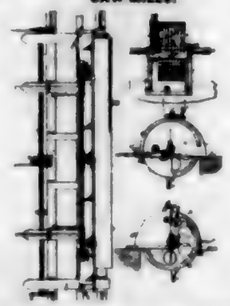


113,863. ABA EGGLESTON.
MACHINES FOR PIERCING LEATHER.

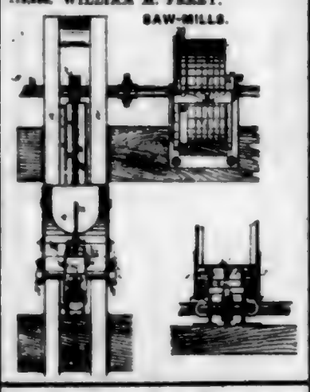
113,864. MOSES G. FARMER.
CONSTRUCTION OF THERMO-ELECTRIC PAIRS.



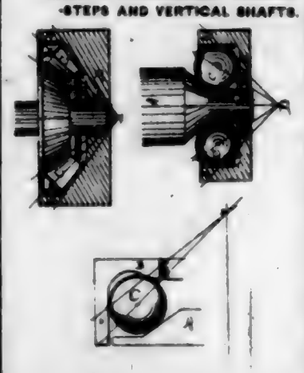
113,865. WILLIAM M. FERRY.
SAW-MILLS.



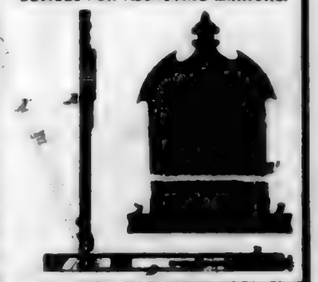
113,866. WILLIAM M. FERRY.
SAW-MILLS.



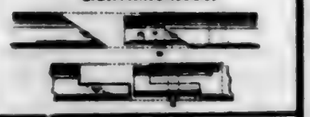
113,867. F. A. GARDNER. BEARING -STEPS AND VERTICAL SHAFTS.



113,868. O. L. GARDNER.
WILLIAM GARDNER.
DEVICES FOR ADJUSTING MIRRORS.



113,869. ALBERT A. GAYLORD.
LIGHTNING-RODS.



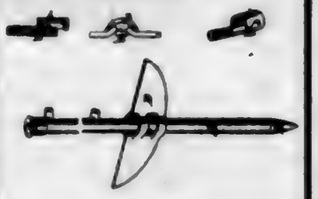
113,870. DANIEL GERHART. BEE-HIVES.



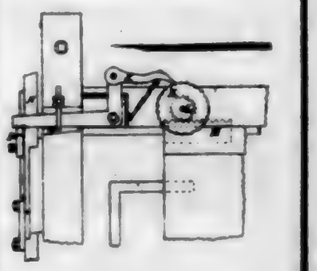
113,871. JAMES S. GIBBONS.
SLIDES FOR DRAWERS.



113,872. ANDREW J. GILL.
FENCE-POSTS.



113,873. WILLIAM GILMORE.
TENON-MACHINES.



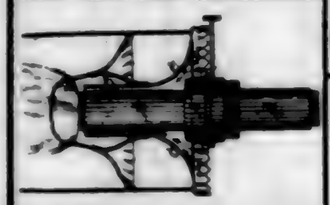
113,874. A. GIVAUDAN.
CARPET-FASTENERS.



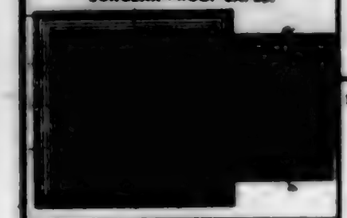
113,875. WILLIAM GORDON.
WATER-CLOSET VALVES.



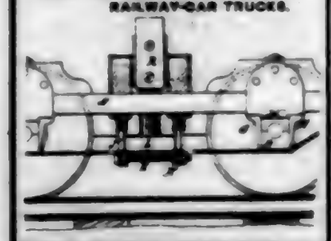
113,876. WM. H. GRAY. LAMP-BURNERS.



113,877. EDWARD E. HALL.
BURGLAR-PROOF SAFES.



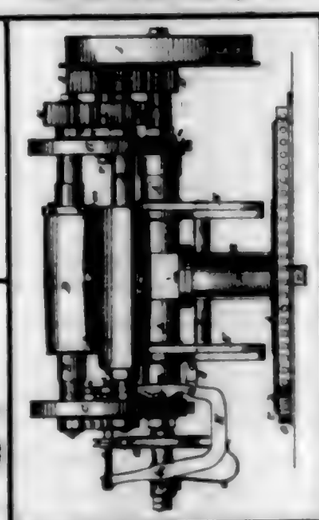
113,878. FRANCIS S. HARRINGTON.
RAILWAY-CAR TRUCKS.



113,879. STEWART HARTSHORN.
SPRING-ROLLER SHADES.



113,880. ISRAEL A. HEALD.
CIGAR-MACHINES.



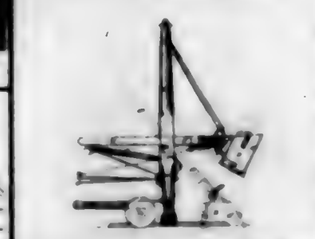
113,881. CONSTANTINE HENDERSON.
ARCHED STRUCTURES.



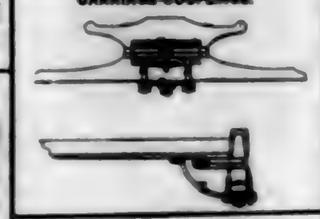
113,882. THOMAS E. HICKOCK.
METAL-CLAD SHINGLES.



113,883. MARCUS M. HODGMAN.
EXCAVATORS.



113,884. JACOB HOLLINGER.
CARRIAGE-COUPLINGS.



113,885. ALBERT G. HOTCHKISS.
MACHINES FOR REDUCING
OR POINTING WIRE.

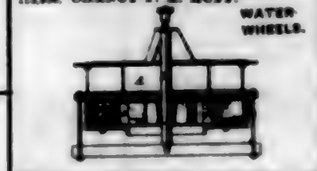
113,886. WM. T. HOWARD.
BROILERS.



113,887. THOMAS HOWELL.
HAND SEED-SOWERS.



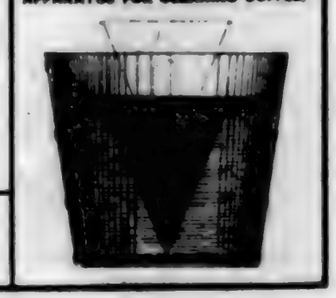
113,888. CHANCY P. H. HUFF.
WATER-WHEELS.



113,889. JOSEB JOHNSON.
PEANUT-HULLERS.

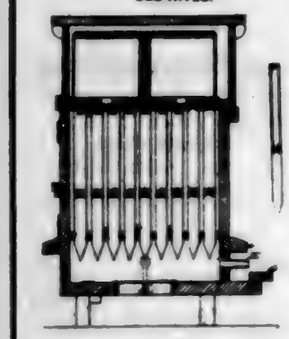


113,890. JOSEB JOHNSON.
APPARATUS FOR CLEANING COFFEE.

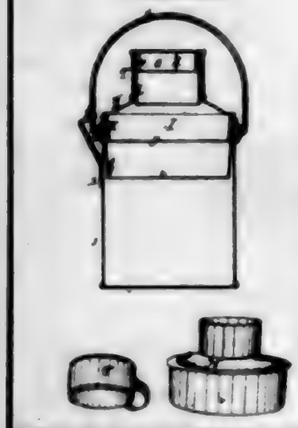


113,891. ALGERNON K. JOHNSTON.
PIPES FOR WATER, GAS.

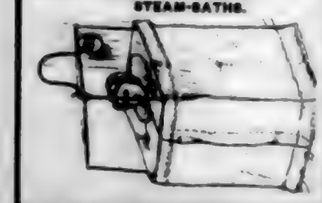
113,892. CAMPBELL JONES.
ALBERT JONES.
BEE-HIVES.



113,893. HUMPHRYS JOYCE.
ANTHONY BENNET.
DINNER-PAILS.



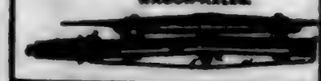
113,894. CHARLES KAESTNER.
STEAM-BATHS.



113,895. DAVID W. KAUFFMAN.
DOUBLE-TREES.

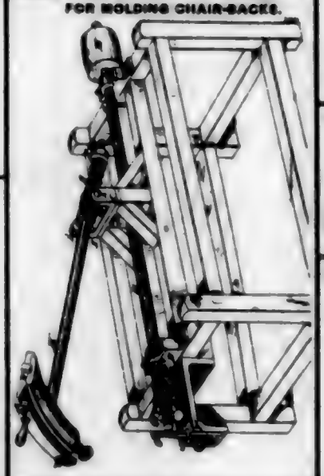


113,896. AUGUST KESSBERGER.
WAGON-AXLES.

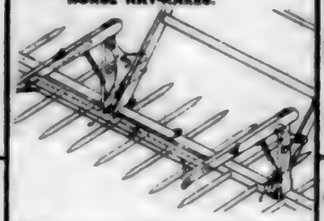


113,897. LUCIUS J. KNOWLES.
STEAM-PUMPS.

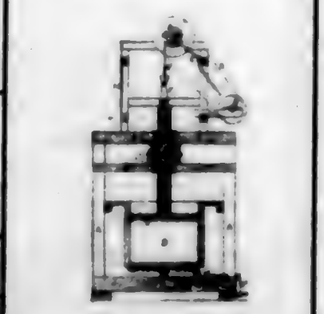
113,898. JOHN LEMMAN. MACHINES
FOR MOLDING CHAIR-BACKS.



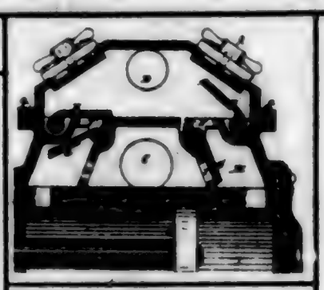
113,899. WM. H. LOCKE.
HORSE HAY-RAKES.



113,900. C. K. MARSHALL.
COTTON AND HAY-PRESSES.



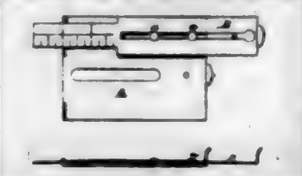
113,901. C. K. MARSHALL.
COTTON-PRESSES AND TRAMPERS.



113,902. JOHN H. MARTIN. BUCKLES.



113,903. WILLIAM NELSON MARTIN.
HEMMING AND TUCKING
ATTACHMENTS FOR SEWING-MACHINE

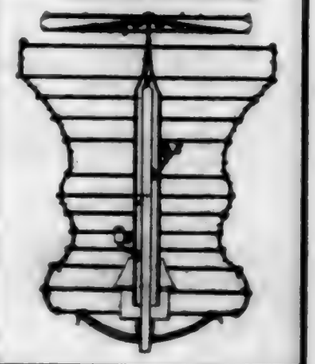


113,904. W. McCONNELL.
SHADE-CORD RETAINERS.

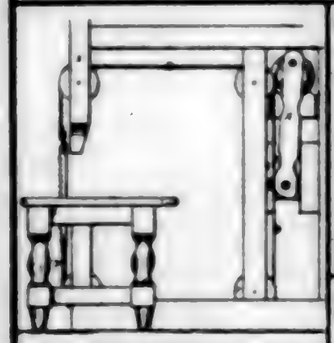


113,905. GEORGE McKENNIE.
COMBINING CARBONACEOUS MATTERS
FOR THE MANUFACTURE OF GAS.

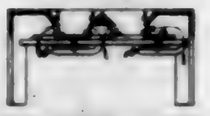
113,906. FREDERICK McLEWEE.
REVOLVING GAS-BURNERS.



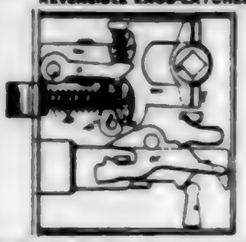
113,907. LOUIS MILLER.
SCROLL-SAWS.



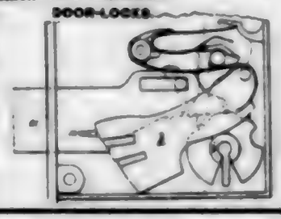
113,909. GEO. B. MOORE, FIRE-GRATES.



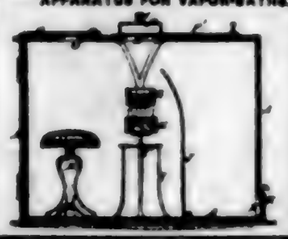
113,910. W. T. MUNGER.
REVERSIBLE END-LATCHES.



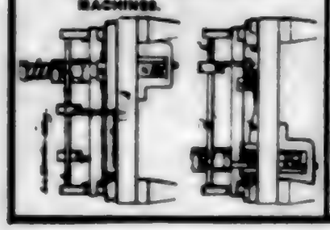
113,911. W. T. MUNGER.
DOOR-LOCKS.



113,912. GEORGE F. MUNRO.
APPARATUS FOR VAPOR-BATHS.



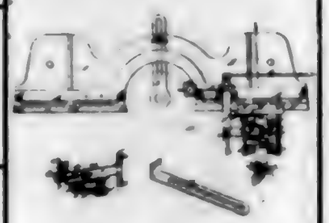
113,913. F. M. NEFF.
JOHN R. SCRUGGS.
TYPE-SETTING AND DISTRIBUTING MACHINES.



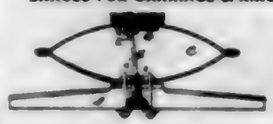
113,913. HENRY HICK.
SHEAVE OR PULLEY-BLOCKS.



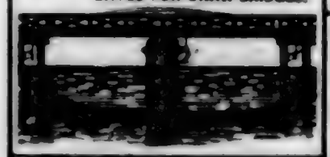
113,914. JOHN FORMAN.
MACHINES FOR DRESSING MILLSTONES.



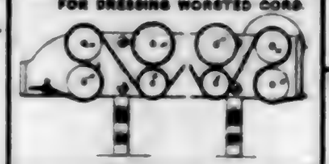
113,915. DANIEL W. HORRIS.
BRACES FOR CARRIAGE-SPRINGS.



113,916. FERDINAND FAIRAY.
GATES FOR DRAW-BRIDGES.



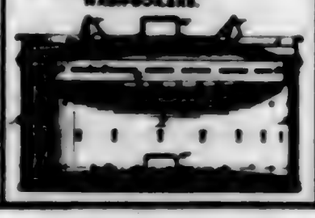
113,917. ISAAC S. PALMER, MACHINES FOR DRESSING WORSTED CORD.



113,918. ALFRED PARAF.
PRODUCTS FROM MADDER.

113,919. ALFRED PARAF.
COMPOSITIONS OF MADDER FOR PRINTING CLOTHS.

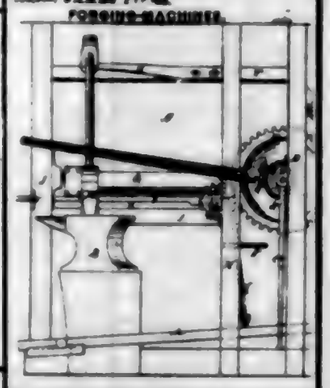
113,920. HENRY W. PELL.
WASH-BOILERS.



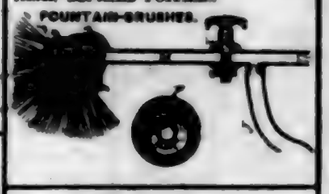
113,921. THEODORE WILLIAM PHINNAY.
EARTH-MATTRESSES.



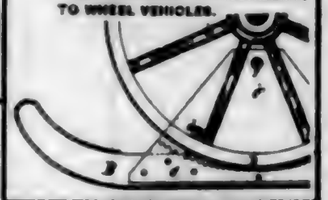
113,922. JAMES PIPER.
FORGING-MACHINES.



113,923. SEPHIRE POITRAS.
FOUNTAIN-BRUSHES.



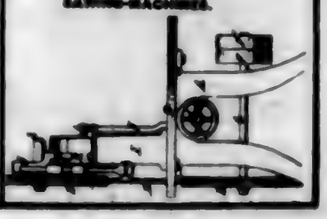
113,924. SIMRI L. PRATT.
SLEIGH-RUNNER ATTACHMENTS TO WHEEL VEHICLES.



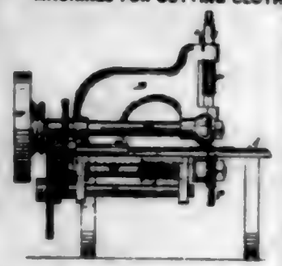
113,925. REBEN M. PRICE.
BEDSTEAD-FASTENINGS.

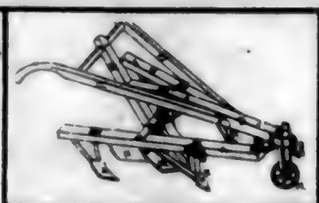


113,926. PAUL PRYIBIL.
SAWING-MACHINES.



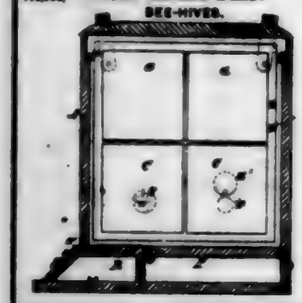
113,927. WILLIAM RANCOHLR.
MACHINES FOR CUTTING CLOTH.



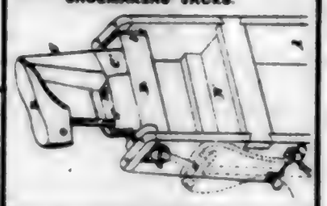




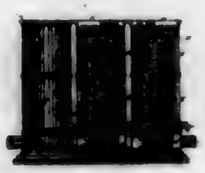
113,928. DWIGHT RIPLEY READ.
BEE-HIVES.



113,929. AUGUST RUST.
SHOEMAKERS' JACKS.



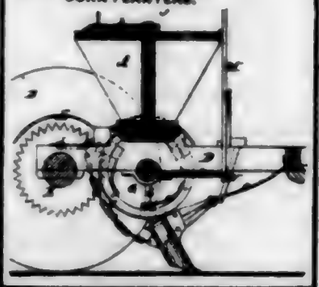
113,930. IRA E. STANLEY.
GAS-CONDENSERS.



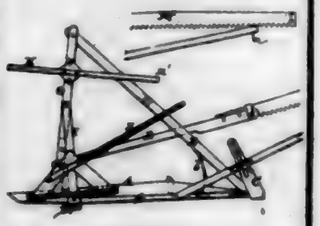
113,931. P. H. REINHARD.
E. F. H. FAERTZ.
WOOD PAVEMENTS.



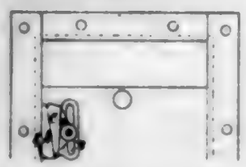
113,932. WILLIAM J. SAGER.
CORN-PLANTERS.



113,933. WILLIAM STEBOHULT.
SAWING-MACHINES.



113,934. GEORGE W. REIGHNER.
SASH-HOLDERS.

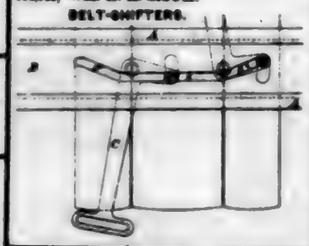


113,935. OBSON W. STOW.
SEAMING-MACHINES.



113,936. WM. T. SHERWOOD.
MEDICAL COMPOUNDS OR BITTERS.

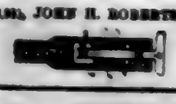
113,937. WM. H. H. SIBUM.
BELT-SHIFTERS.



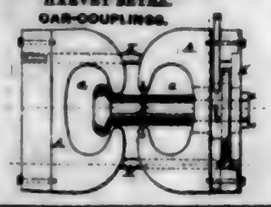
113,938. JAMES THORNTON.
EMMIT G. LATTA.
HAMES FOR HARNESS.



113,939. JOHN H. ROBERTSON.
CAR-DOORS.



113,940. W. BOLTON ROGERSON.
HARVEY BETEA.
CAR-COUPLINGS.



113,941. SAMUEL TRUMBORE. SEALS FOR HYDRAULIC MAINS OF GAS-WORKS.



113,942. GERVAS E. ROSE.
WELDING-POWDER FOR IRON.

113,943. GUILFORD D. ROWELL.
HORSE HOES AND CULTIVATORS.

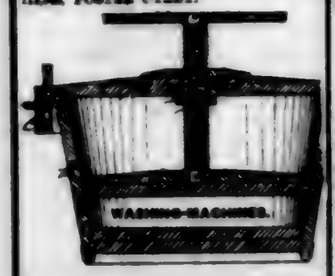
113,944. CHARLES W. SMALL.
REVERBERATING REED-CELLS FOR ORGANS OR MELODEONS.



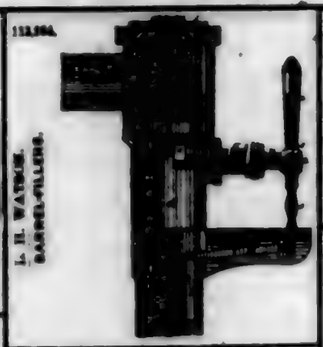
113,945. ALDEN SOLMANS.
HAT-VENTILATORS.

113,947. MARSHALL TURLEY.
PRINTERS' INK.

113,963. FOSTER UTLEY.



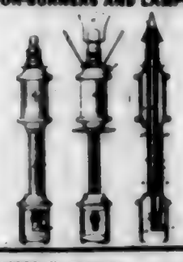
113,964.



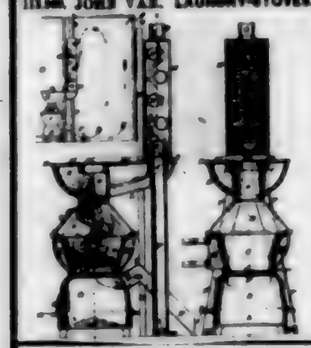
113,965. CHARLES A. BEARD.
E. B. EVANS. PLOWS.



4,342. BENJAMIN D. EVANS. COMBINED VAPOR-BURNERS AND LAMP-POSTS.



113,966. JOHN VAN. LAUNDRY-STOVES.



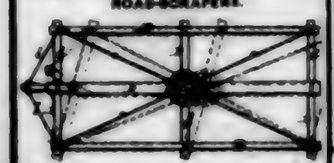
113,967. ELIJAH WESTON.
STEAM-GENERATORS.



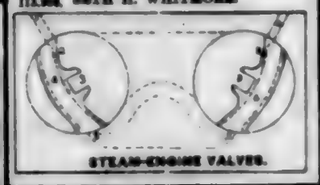
4,343. JAMES H. PRATT.
CLOTHES-WRINGING HOOKS.



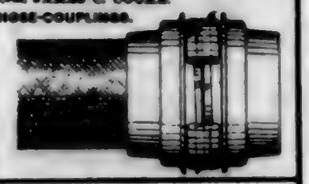
113,968. H. B. VAN VOORHIS.
ROAD-SCRAPERS.



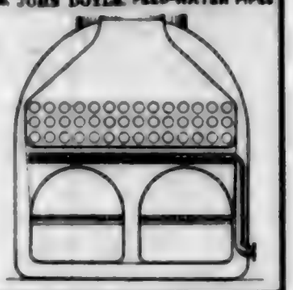
113,969. SETH B. WHITMORE.



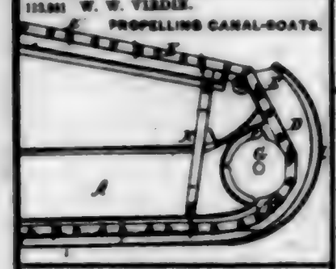
4,344. JAMES C. COOKE.
HOSE-COUPLINGS.



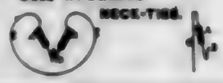
4,345. JOHN DOYLE. FEED-WATER PIPES



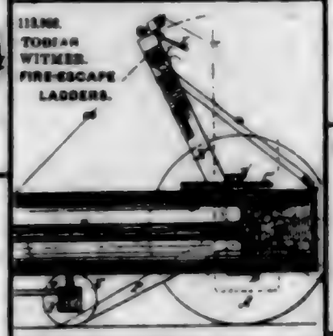
113,970. W. W. VERDIN.
PROPELLING CANAL-BOATS.



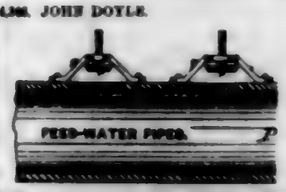
113,971. JOSEPH S. WILDER.
OTIS W. FELCH.
NECK-TIES.



113,972.
TOBIAS WITMER.
FIRE-ESCAPE LADDERS.



4,346. JOHN DOYLE.

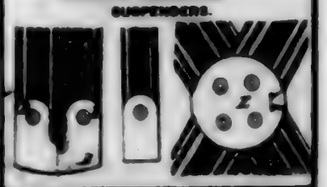


113,973. GEO. W. WALKER.
COOKING-RANGES.

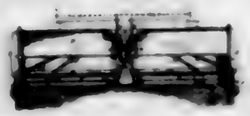


4,347. WILLIAM HAINSWORTH.
GRANT M. LOVERIDGE. MOLDS.

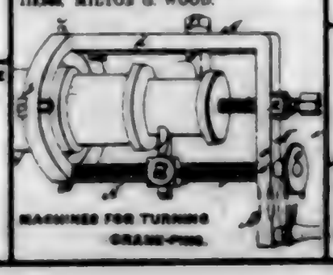
4,348. JAMES B. SHARP.
WILLIAM SEYMOUR.
SUSPENDERS.



113,974. GEORGE WALTERS. TURN-TABLE



113,975. MILTON G. WOOD.

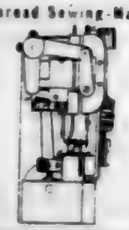


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
APRIL 25, 1871.

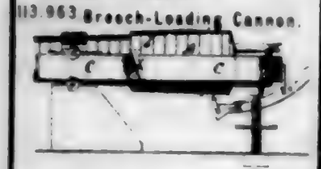
113,961. W. N. ABBOTT.
Chimney-Cowls.



H. P. ALBRICH.
Waxed Thread Sewing-Machines
113,962



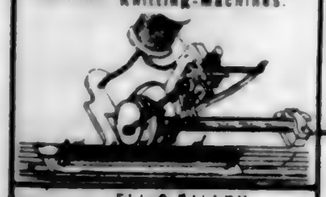
HIRAM J. ALLEN.
113,963 Breech-Loading Cannon.



C. ANDREWS.
Machines for Making Skewers.
113,964

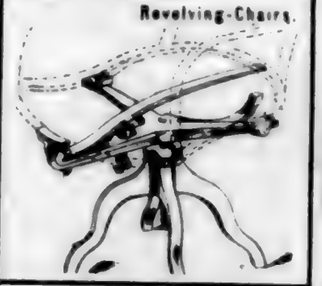


JOHN M. ARMOUR.
113,965 Knitting-Machines.



ELLIS BALLOU
113,966. Dumb-Bells

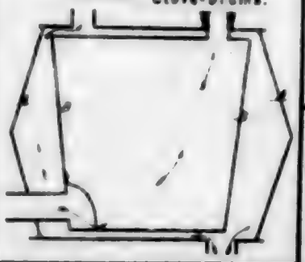
113,967. F. BARBER.
Revolving-Chairs.



CHARLES C. BEERS. 113,968
Apparatus for Carbureting Air.



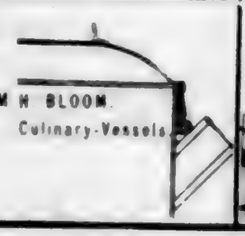
G. C. BENTON.
113,969. Stove-Drums.



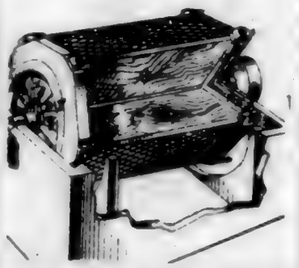
I. G. BLAKE. 113,970.
Watchmen's Time-Checking Clocks.



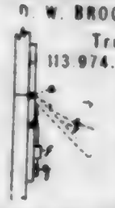
113,971
WILLIAM H. BLOOM.
Culinary-Vessels.



JOHN R. BRADFIELD.
113,972. Flour-Bolts and Reels.



O. W. BROCKWAY.
Trunk-Fasteners
113,974.

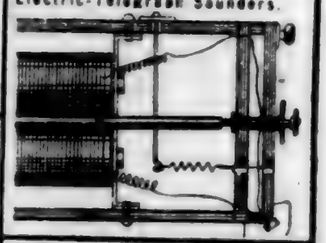


113,971.
LEOPOLD BRANDEIS.
MATERIALS FOR FILTERING.

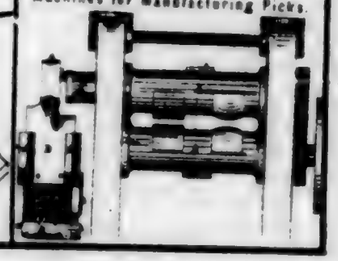
JOHN T. H. BROWN.
113,975. Elevator Hay-Forks.



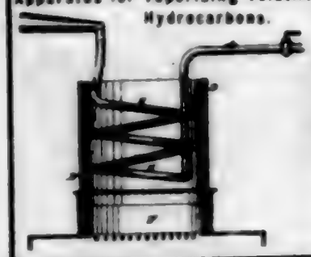
H. S. L. BRYAN. 113,976.
Electric-Telegraph Sounders.



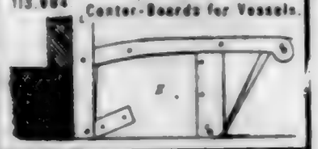
A. BUERKLE 113,977.
Machines for Manufacturing Picks.

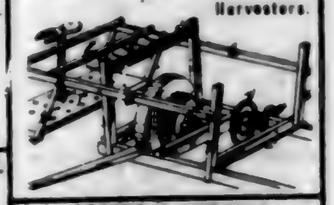


JOHN BUTLER. 113,978.
Apparatus for Vaporizing Volatile Hydrocarbons.

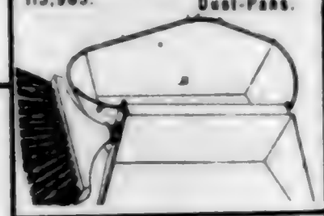


A. G. CROSSMAN.
113,984. Center-Boards for Vessels.





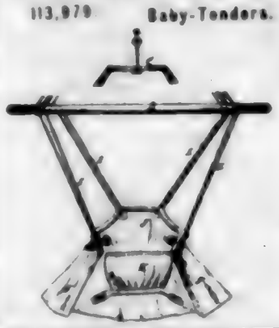
F. L. DANIELS & JOHN RUSSELL
113,985. Dust-Pans.



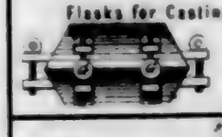
GEORGE W. EMERSON.
113,991. Paper-Files.



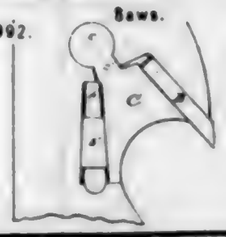
A. H. CARSON & A. BROWN.
113,979. Baby-Tenders.



JOHN DEMAREST. 113,986.
Flasks for Casting Pipes.



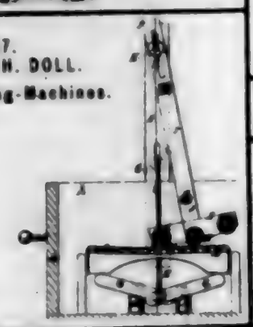
JAMES E. EMERSON.
113,992. Saws.



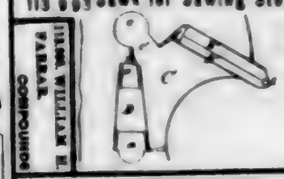
E. A. CASTELLAW. 113,980.
Locomotive Smoke-Stacks.



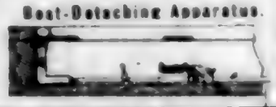
113,987.
JOHN H. DOLL.
Washing-Machines.



JAMES E. EMERSON.
113,993. Saws for Sawing Stone.

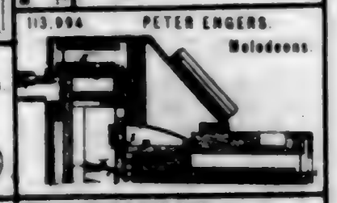


DAVID L. COHEN. 113,981.
Boat-Detaching Apparatus.



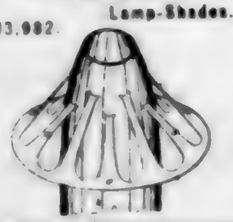
JAMES DUNNING. 113,988.
Watchmen's Time-Detectors



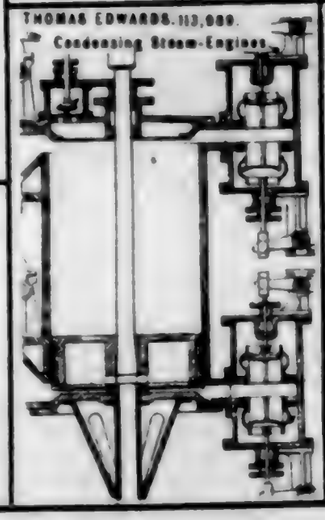


113,994 PETER ENGERS.
Melodeons.

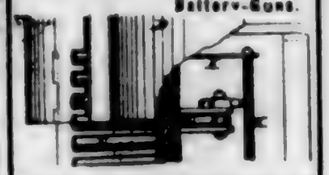
M. H. COLLINS.
113,982. Lamp-Shades.



THOMAS EDWARDS. 113,989.
Condensing Steam-Engines.



113,995 WILLIAM FIELDS.
Battery-Guns.



A. G. CROSSMAN.
113,983. Apparatus for Roofing Sails.

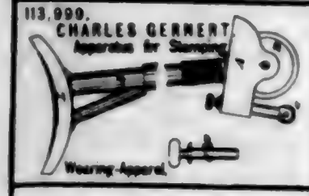


113,997.
CHAS. H. FRINGS.
PREPARING AND MASHING GRAIN.

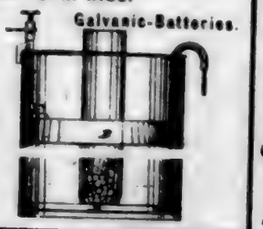
GEORGE GARRETT.
113,998. Hinges for Gates.



113,999.
CHARLES GERNERT.
Apparatus for Stamping Wearing-Apparel.



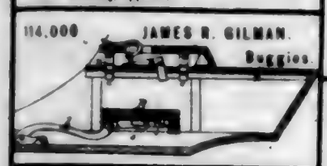
114,006. E. A. HILL.
Galvanic-Batteries.



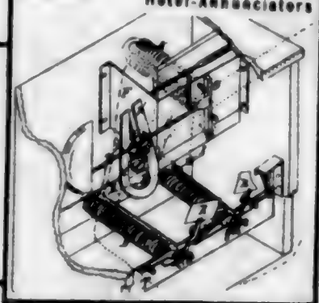
INMAN & WITHINGTON.
114,012. Coffee-Pots



114,000 JAMES R. GILMAN.
Buggies.



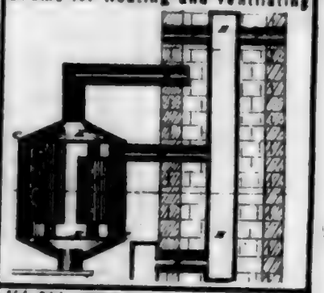
114,007. E. A. HILL.
Hotel-Annunciators



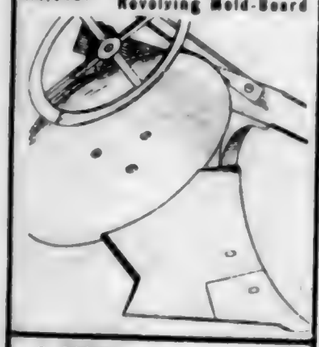
L. C. GOSSON.
114,001. Burglar-Alarms



R. JENNINGS. 114,013.
Drums for Heating and Ventilating



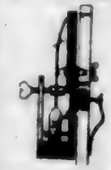
J. S. GODFREY.
114,002. Revolving Mold-Board



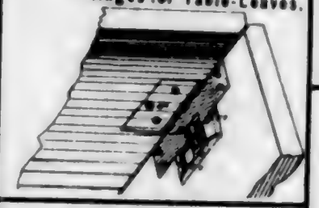
C. HINGHER. 114,008.
Tatting-Shuttles and Crochet-Needles.



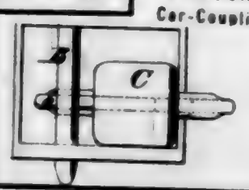
114,014. WILLIAM JOHNSON.
Pendulum-Levels and Clinometers



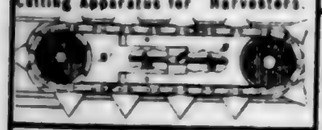
114,009. P. HIRES.
Hinges for Table-Leaves.



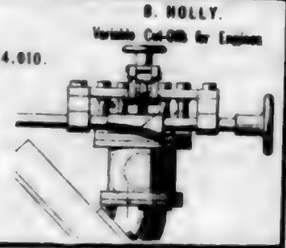
114,015
J. W. JONES
Car-Couplings.



P. GREGG. 114,003.
Cutting Apparatus for Harvesters.



B. HOLLY.
Variable Cut-Offs for Engines.
114,010.



114,016. WILLIAM F. JONES.
Churn-Dashers.

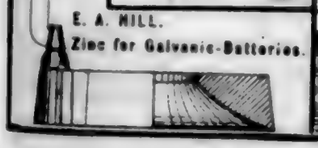


114,017. WILLIAM H. JORDAN.
IMPROVEMENT IN PAINTS.

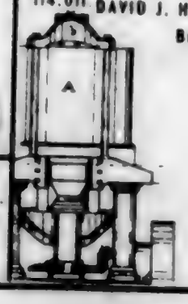
MARION GREEN. 114,004.
Slitting and Joining Rags



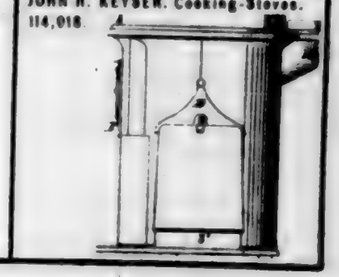
114,005.
E. A. HILL.
Zinc for Galvanic-Batteries.



114,011 DAVID J. HUNTER.
Brick-Machines



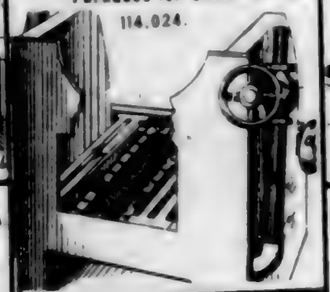
JOHN H. KEYSER. Cooking-Stoves.
114,018.



WILLIAM J. LEWIS 114,019.
Machines for Making Strap-Hinges.



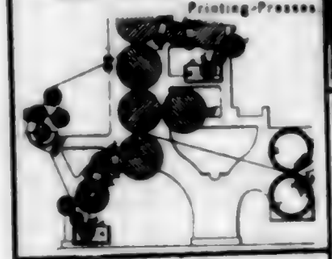
THOMAS F. MORRISON.
Furnaces for Steam-Boilers
114,024.



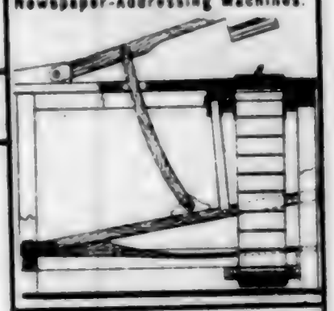
O. NORELIUS.
Paper-Feeding Machines.
114,031.



114,020 MACDONALD & CALVERLY.
Printing-Presses.



P. O'CONNER. 114,032
Newspaper-Addressing Machines.

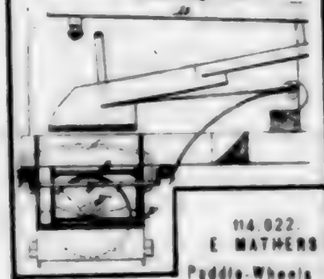


114,025 FRANCIS B. MORSE
Making Carriage-Steps.

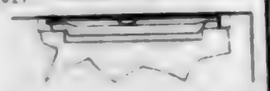


SUPERSEDED 114,026

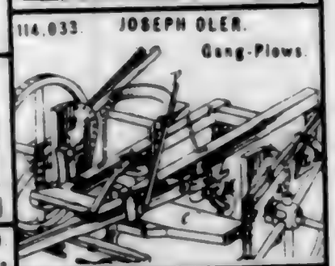
114,021. M. H. MANSFIELD
Discharge-Spouts



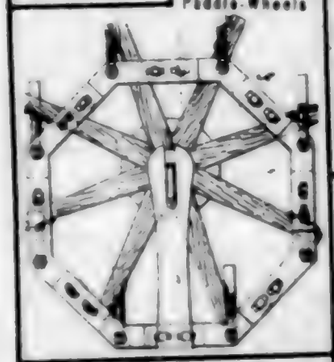
J. MORSS & F. B. ABEL.
114,027 Adjustable Spirit-Levels



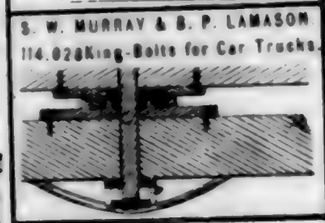
114,033. JOSEPH OLER.
Gang-Plows.



114,022.
E. MATHERS
Paddle-Wheels



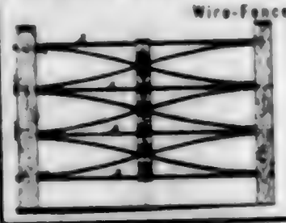
S. W. MURRAY & B. P. LAMASON
114,028 King-Bolts for Car Trucks.



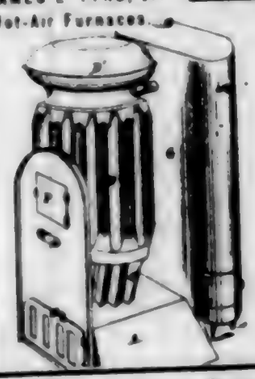
114,034.
JAMES D. PETTIT.
Scaffolding.



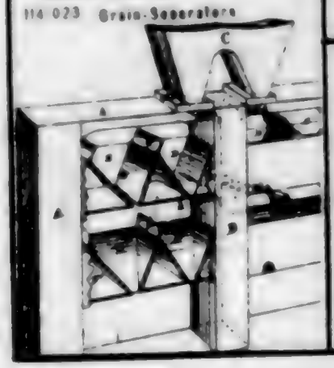
114,029. Z. NICHOLSON.
Wire-Fences.



114,035.
JAMES L. PFAU, Jr.
Hot-Air Furnaces.



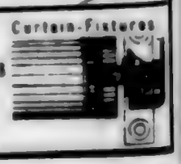
JOSEPH MILLER.
114,023 Grain-Separators



JAMES M. NOBLE.
Washing-Machines.
114,030



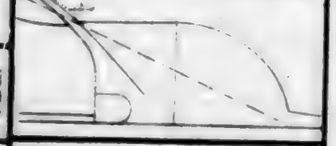
Curtain-Fixtures
114,036.
P. W. PHILLIPS



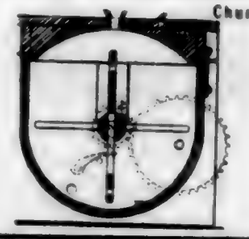
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Shutter-Fasteners.

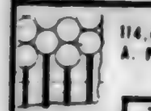


114,044 L. P. RIDER.
Plow Mold-Boards.



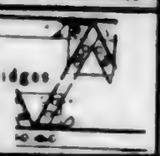
114,050 H. SCHULTDREES.
Churns.





114,038.
A. POTTS.
Wood Pavements.

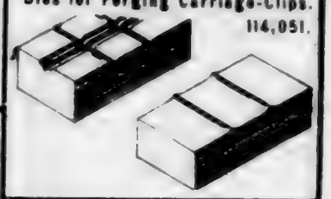
T. W. PRATT.
Truss-Bridges.
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114,045 P. M. ROCHE.
Fire-Places.



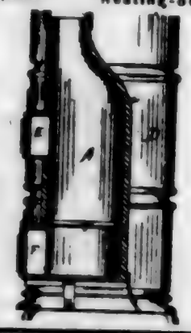
M. SEWARD.
Dies for Forging Carriage-Clips.
114,051.



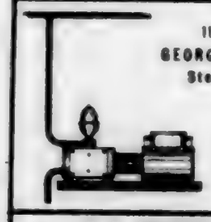
J. M. PYLE.
Cultivators.
114,040.



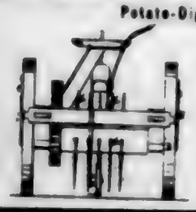
P. RONDIN & C. OSTERGREN.
114,046. Heating-Stoves.



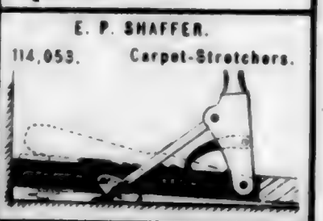
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GEORGE SEWELL.
Steam-Boilers.



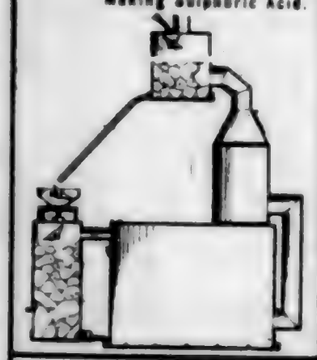
114,041 SQUIRE RANSOM.
Potato-Diggers.



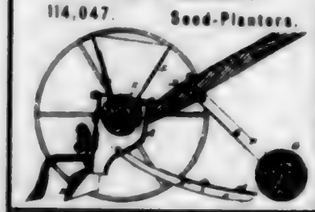
E. P. SHAFFER.
114,053. Carpet-Stretchers.



114,042. ST. J. RAVENEL
Making Sulphuric Acid.



CHARLES R. SARGENT.
114,047. Seed-Planters.



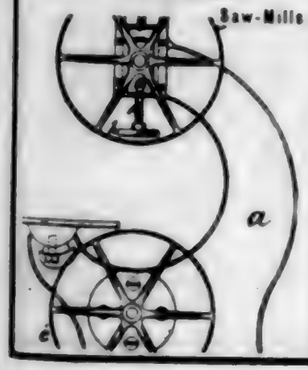
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Wagon-Brakes.



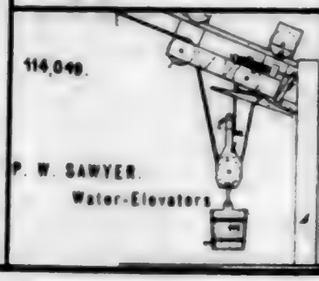
CHARLES G. SARGENT.
114,048 Machines for Oiling Wool.



114,043. J. RICHARDS.
Saw-Mills

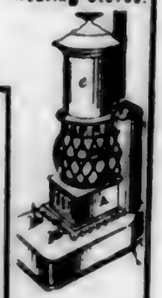


114,049.



P. W. SAWYER.
Water-Elevators

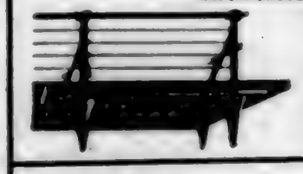
114,055. A. S. SHONTZ.
Heating-Stoves.



114,056
F. SIMMONS.
Cotton-Presses.



114,057. A. C. SISSON. Wire-Fences.



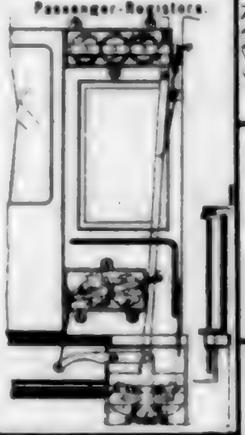
JAMES Y. SITTON. 114,058. Carriage-Wheels.



114,059. JOSEPH SMITH. Fallers for Spinning-Mules.



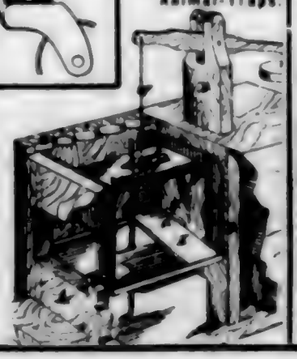
N. SPRINGWOTER. 114,060. Passenger-Registers.



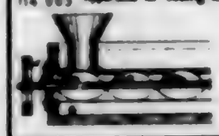
A. G. STEVENS. 114,061. Furniture-Casters.



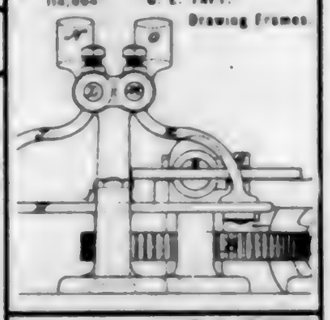
114,062. STOWE & LOOP. Animal-Traps.



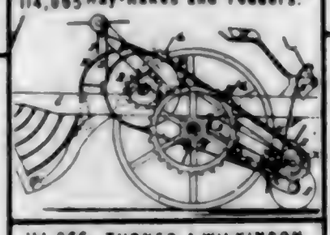
JAMES D. STURGES. 114,063. Apparatus for Coating and Mixing Soap.



114,064 G. E. TAFT. Drawing Frames.



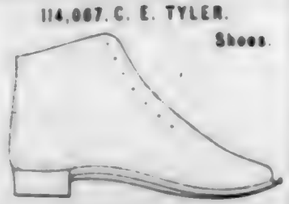
F. A. THAYER. 114,065 Hay-Rakes and Tedders.



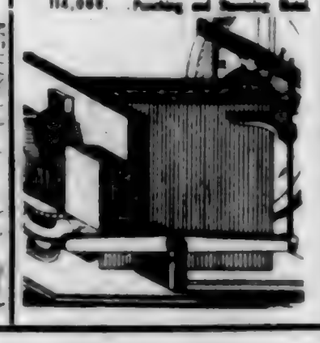
114,066 TURNER & WILKINSON. Seed-Planters.



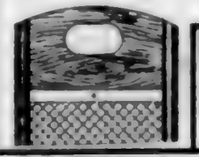
114,067. C. E. TYLER. Shoes.



I. VAN HAGEN. 114,068. Planing and Beveling Mill.

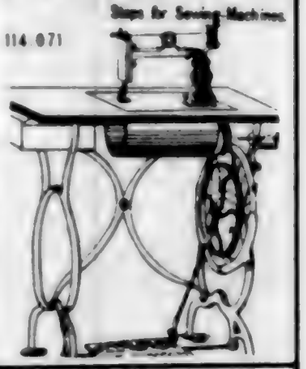


114,070. H. C. WHITE. Graters.

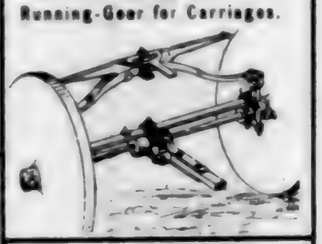


114,069 JOHN MURRAY WALLACE. RECOLORING FABRICS.

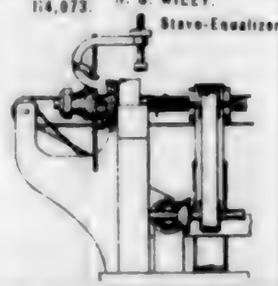
F. E. WHITESIDE. Stops for Sewing-Machines. 114,071



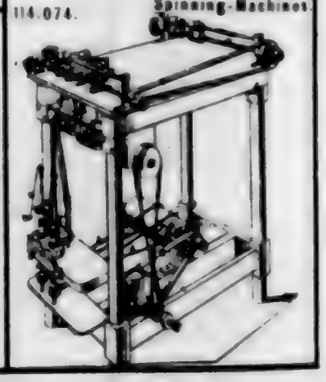
ELI WIGLE. 114,072. Running-Gear for Carriages.



114,073. H. S. WILEY. Stave-Equalizers.



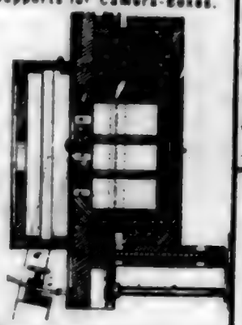
S. M. WILLIAMS & H. M. WILLIAMS. 114,074. Spinning-Machines.



114,075. J. E. WOOD. Fire-Places.



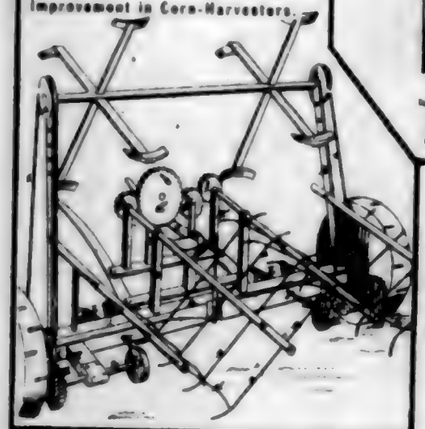
D. ACKERMAN. 114,082. Supports for Camera-Boxes.



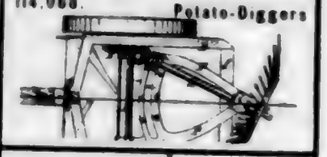
ANDREWS, RANDALL & CLAGUE. 114,087. Paper-Feeding Machines.



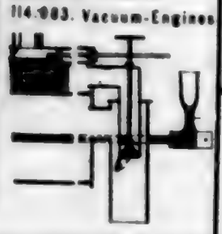
114,076. A. M. WOODARD. Improvement in Corn-Harvesters.



S. E. ANTHONY. 114,088. Potato-Diggers



HENRY W. ADAMS. 114,083. Vacuum-Engines



J. APPLEGATE & C. FEIOCK. 114,089. Coopers' Crozes.



H. WOODMAN. 114,077. Dividing-Wheels

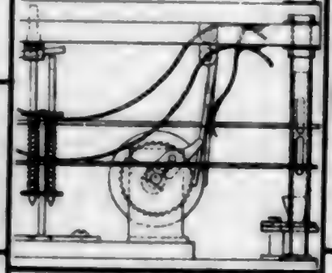


114,091. AVERY & AVERY. Gloves.

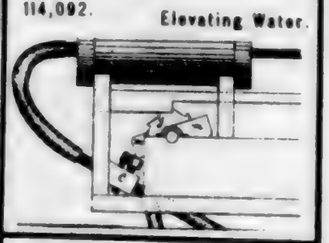


114,090. EDWARD T. ATWOOD. FLUXES FOR REFINING IRON

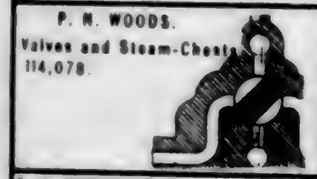
GEORGE H. ALDRICH. 114,084. Passenger-Recorders



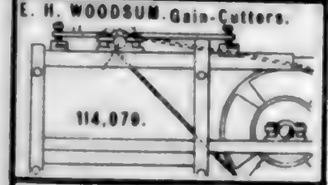
J. A. AYRES. 114,092. Elevating Water.



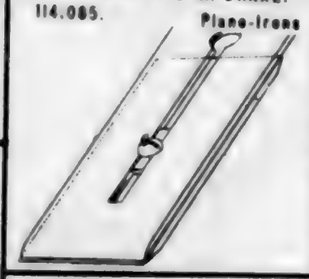
P. N. WOODS. Valves and Steam-Chests. 114,078.



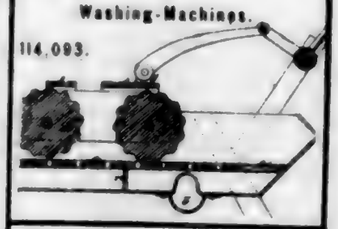
E. H. WOODSUM. Gain-Cutters. 114,079.



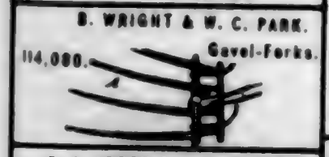
I. ALMY & S. A. DRAKE. 114,085. Plane-Irons



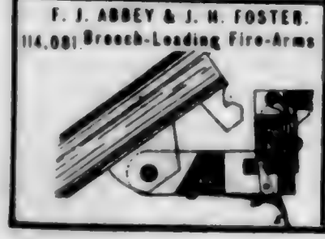
J. S. BALSLY. Washing-Machines. 114,093.



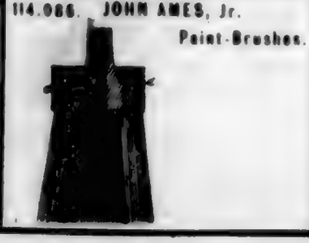
B. WRIGHT & W. C. PARK. Gavel-Forks. 114,080.



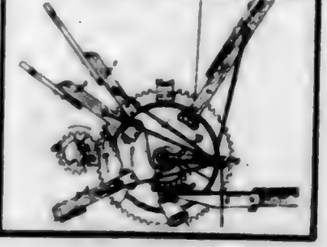
F. J. ABBEY & J. H. FOSTER. 114,081 Breech-Loading Fire-Arms



114,086. JOHN AMES, Jr. Paint-Brushes.



JOHN BARNES. 114,094. Harvester-Rakes.



A. BATCHELAR
114,095. Kilns

E. A. BELL. Adjustable Bevels.
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DANIEL BEST.
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SAMUEL BEVAN
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114,103.
D. D. BREWSTER.
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114,104. A. CALIFF. Lime-Ovens.

A. CAMPBELL. Printing-Presses.
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I. W. CAMPBELL, Sr.
114,107. Burglar-Proof Safes.

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JOHN CORLEY.
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114,111.

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114,113. Camp-Chimneys.

114,114 L. DIMOCK.
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M. DURNELL & W. MILNER.
114,116 Double-Trees.

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114,117 Spark-Arresters.

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114,118. Improvement in Weather-Strips

114,119. GEORGE A. ENGLAND.
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CHARLES FISCUS.
114,120. Broom-Heads.

B. F. FISK & M. B. STONE.
114,121. Heel-Dies.

114,122. W. H. FITZ GERALD.
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114,124. E. L. FOREMAN.
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114,125 DAVID R. FRASER.
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114,126. Washing-Machines

JAMES H. GATLING. 114,127.
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114,128.

J. GOODRICH & H. J. COLBURN.
114,129. Self-Oiling Pulleys.

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WILLIAM H. GRAY.
114,131. Horse-Collars.

CHARLES S. S. GRIFFING.
114,132 Feed-Water Heaters.

114,133. WILLIAM HARKNESS, HAMILTON.
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G. W. HAWK.
114,135. Wheel-Skates.

B. HERSHEY.
114,136. Torsion-Springs

CHARLES H. HERSEY.
114,137 Driers.

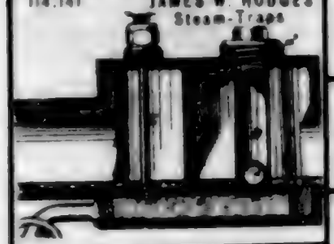
IRA HERSEY.
114,138. Telegraph-Poles.

D. HITCHCOCK & W. GIBBS.
114,139. Manufacture of Reeds.

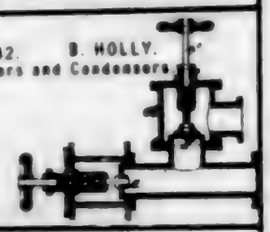
HOBBS, BROCKUNIER & LEIGHTON
Manufacture of Lamp-Shades.
114,140.



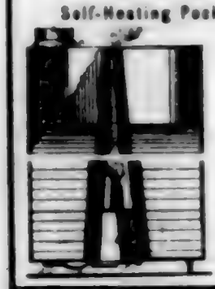
114,141 JAMES W. HODGES
Steam-Traps



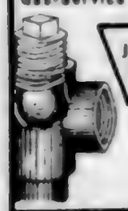
114,142. B. HOLLY.
Heaters and Condensers.



S. HUGHES. 114,143
Self-Heating Pocket-Flasks.



W. HUMPHREYS. 114,144.
Gas-Service Pipes



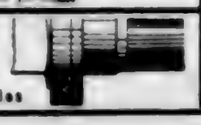
JOHN M HUNTER.
114,145. Shoe-Soles.



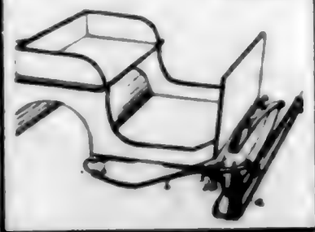
WILLIAM H. IVENS.
Steam-Generators.
114,146.



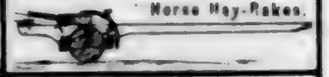
114,148
114,147.
E. W. IVES.
Carriage-Axles



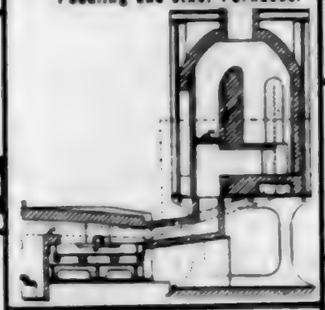
114,149. ROBERT JACK.
Vehicles.



114,150. O. S. JARVIS.
Horse Hay-Rakes.



114,151 JONES HOWSON & GJERS.
Puddling and other Furnaces.



ALBERT D. JUDD.
114,152. Cupboard-Latches.



JUDSON N. KNAPP 114,153. Milking-Stools.



114,154. JOHN L. KURTZ.
Water-Wheels.



114,155.
J. KUTTNER.
Shuttles for Looms.



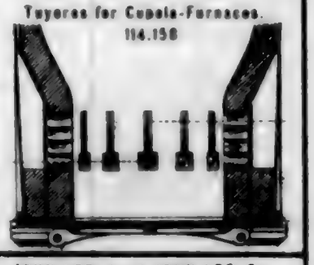
R. LAIDLAW & JOHN THOMSON.
114,156. Apparatus for Exhausting Gas



114,157 CARRIE R. LAMAN.
Lubricating Railway-Journals.



F. LAWRENCE.
Tuyeres for Cupola-Furnaces.
114,158



JOHN LEE, Jr. & JOHN LEE, Sr
Bead-Cutting Attachments for Threading-Machines.
114,159.



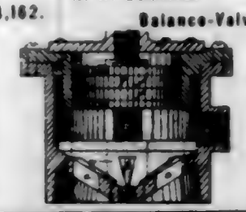
114,160. WILLIAM D. C. LLOYD.
Cooking-Stoves.



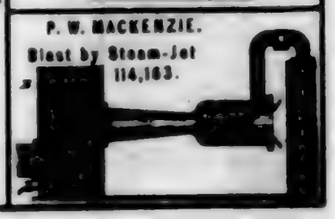
P. LOCKWOOD.
114,161. Envelopes.



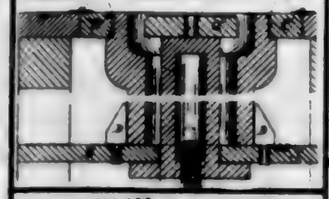
K. H. LOOMIS.
114,162. Balance-Valves.



P. W. MACKENZIE.
Blast by Steam-Jet
114,163.



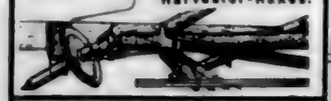
T. MADELEY.
114,164. Molds for Sewer-Pipe.



114,165. J. P. MANNY.
Harvester-Rake.



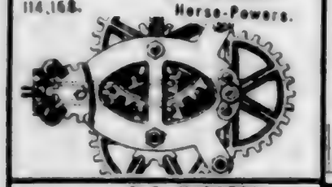
114,166. JOHN P. MANNY.
Harvester-Rakes.



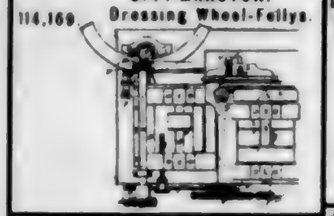
114,167. E. W. MARBLE.
Shuttles for Looms.



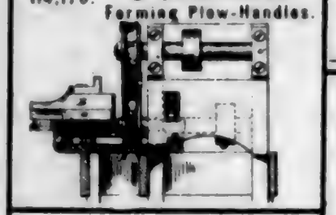
D. G. MARDEN.
114,168. Horse-Powers.



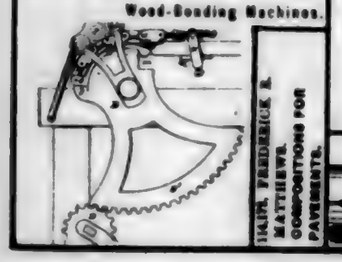
D. P. MARSTON.
114,169. Dressing Wheel-Fellys.



114,170. E. G. MATTHEWS.
Forming Plow-Handles.



114,171. E. G. MATTHEWS.
Wood-Sanding Machines.



114,172. WM. F. McCOOKELL.
METALS FROM ORES.

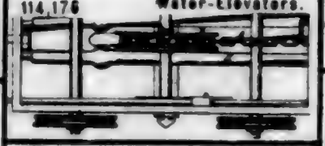
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Dumping-Wagons.



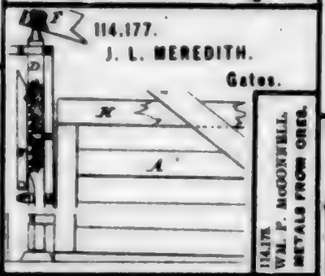
114,174. McCONNELL & PIERCE.
Making Roofing-Fabrics



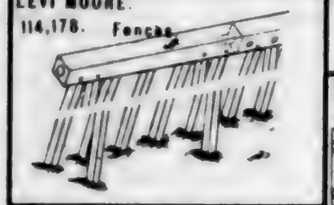
McPHEETERS & McPHEETERS.
114,176 Water-Elevators.



114,177.
J. L. MEREDITH.
Gates.



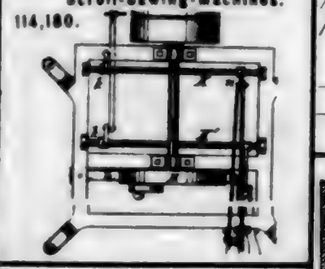
LEVI MOORE.
114,178. Fences.



114,179. F. B. MORSE.
Wrenches.



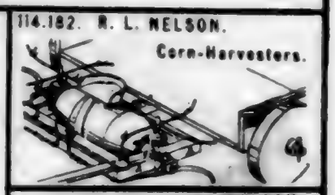
J. S. MOSELEY.
Scroll-Sawing-Machines.
114,180.



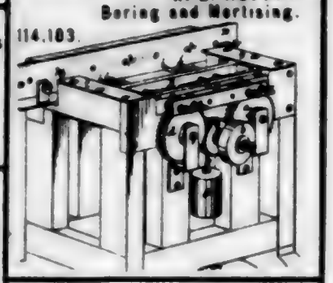
DANIEL MURPHY.
Stove-Pipe Cleaners.
114,181.



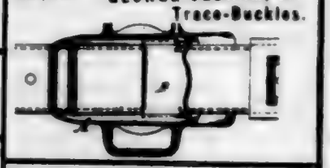
114,182. R. L. NELSON.
Corn-Harvesters.



R. L. NELSON.
Boring and Mortising.
114,183.



114,184 GEORGE OLDHAM, Jr.
Trace-Buckles.



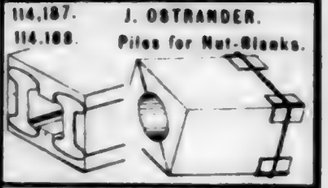
THOMAS ORCHARD.
114,185. Earth-Augers.



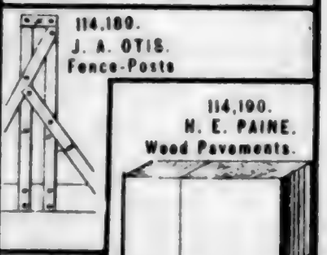
114,186.
JOHN W. OSBORNE
Stooping-Tanks.



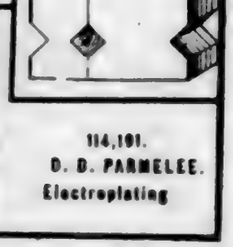
114,187.
114,188. J. OSTRANDER.
Piles for Nut-Blanks.



114,189.
J. A. OTIS.
Fence-Posts

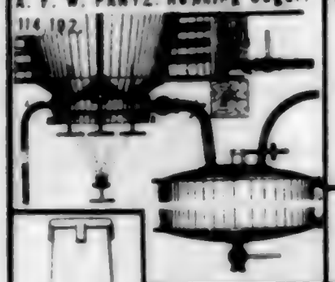


114,190.
H. E. PAINE.
Wood Pavements.

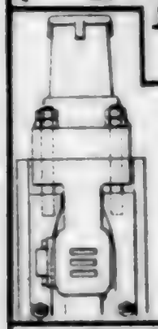


114,191.
D. D. PARMELEE.
Electroplating

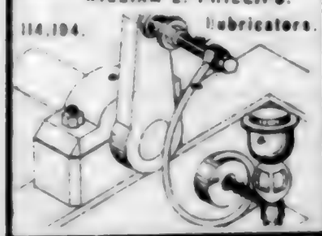
A. F. W. PARTZ. Reaping Sugar.
114,192.



114,193
C. S. PATTISON
Drill-Cylinders.



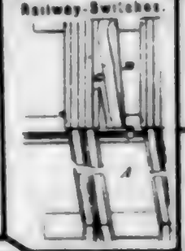
WILLIAM E. PHILLIPS.
114,194. Lubricators.



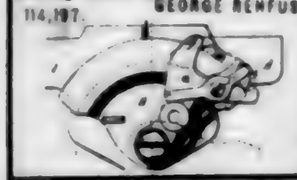
L. RANSOM.
Trunk-Fastenings.
114,195



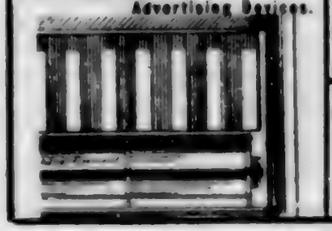
114,196
P. V. M. RAYMOND
Railway-Switches.



Sewing-Machines.
114,197. GEORGE RENFUSS



W. H. REIFF. 114,198.
Advertising Devices.



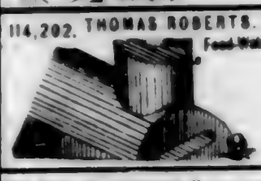
114,199. F. W. RICHARDSON.
Folding-Chairs.



A. M. RICHMOND.
114,200. Button-Fasteners.



WILLIAM G. RILEY.
114,201. Trace-Buckles.



114,202. THOMAS ROBERTS.
Feed-Water

114,203. M. ROHRER Harvesters.



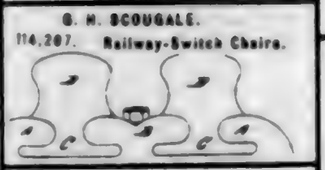
ROWLAND & ENGLISH.
Wire-Thread for Sewing Leather.
114,204.



114,205. A. G. SAFFORD
Pole-Adjusters

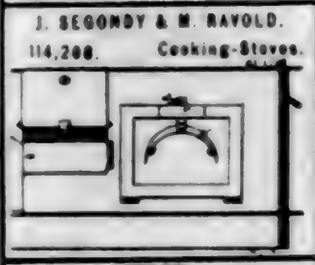


HENRY SCHUTTE.
114,206. Gas-Regulators.



G. H. SCOUGALE.
114,207. Railway-Switch Chairs.

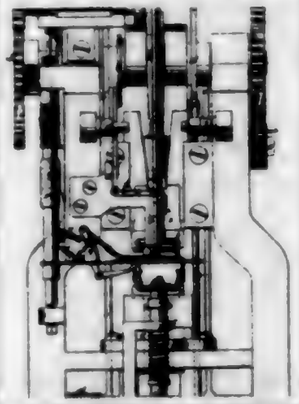
J. SEGONDY & M. RAVOLD.
114,208. Cooking-Stoves.



SHOREY & BUTLER.
114,209 Slats for Window-Shades.



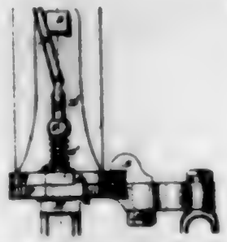
114,210. T. J. SLOAN
Porcelain-Knob Machines.



114,211. E. L. SMALL.
Water-Wheels



SMALL, MATTHEWS & HOLBROOK
Swivel-Clevises for Plows.
114,212.



114,213. A. V. SMITH.
Store-Trucks



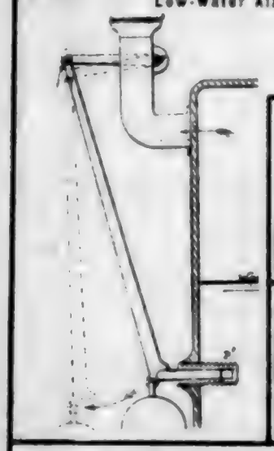
114,214.. SMITH & SMITH.
Buckles.



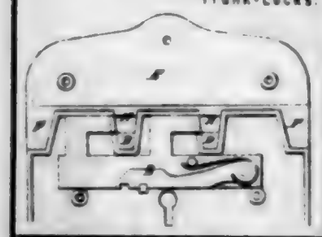
JAMES W. SMITH.
Grist-Mills and Cotton-Seed Hullers
114 215.



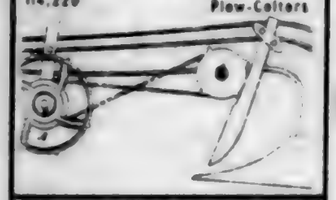
JOHN STANTON.
114,216. Low-Water Alarms.



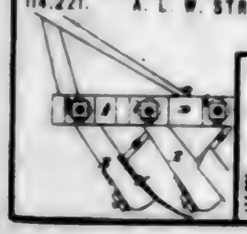
114,217. JOSEPH STANTON.
Trunk-Locks.



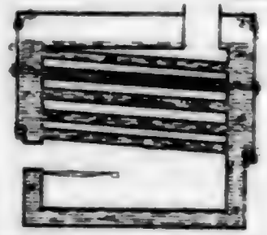
W. M. STONE
114,220 Plow-Colters



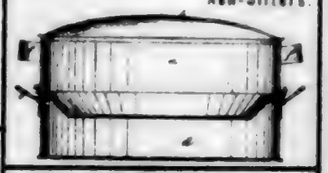
114,221. A. L. W. STROUD.
Plow



114,222. DANIEL SULLIVAN.
Boilers.



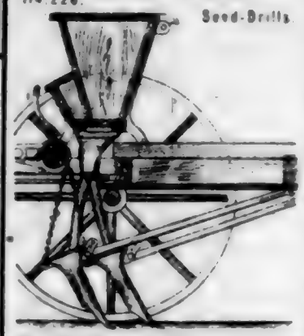
114,224. G. W. TAYLOR.
Ash-Sifters.



A. E. THAYER.
114,225. Spring Bed-Bottoms.



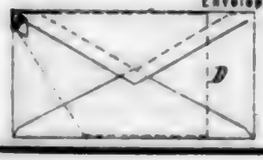
114,226. JOHN H. THOMAS
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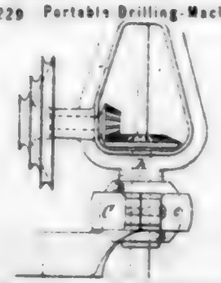
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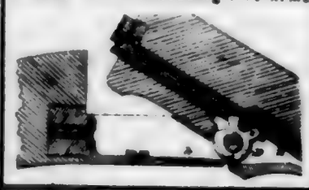
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F. TIESING & C. GERNER
114,230 Breech-Loading Fire-Arms.



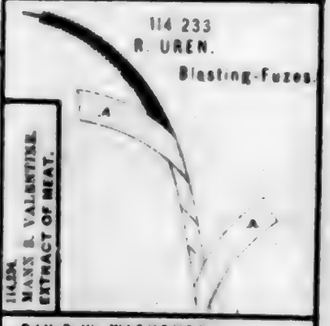
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WILLIAM H. TOWERS.
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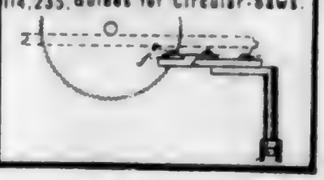
114,232. J. T. TROWBRIDGE.
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114,233
R. UREN.
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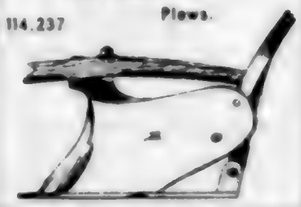
DAVID W. WASHBURN.
114,235. Guides for Circular-Saws.



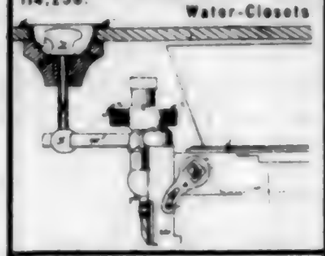
114,236. FRANCIS WATKINS. Bale-Ties.



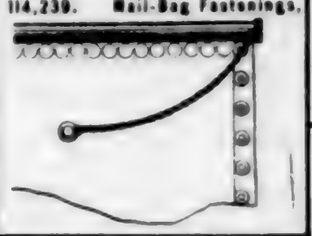
ADAM WEABER. 114,237 Plows.



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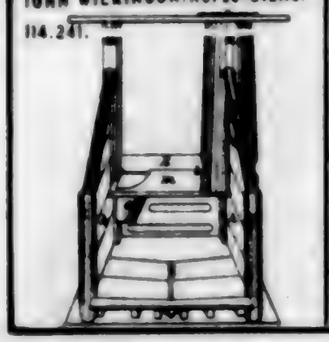
M. V. B. WHITE. 114,239. Mail-Bag Fastenings.



114,240 F. W. WILD Balance-Wheels.

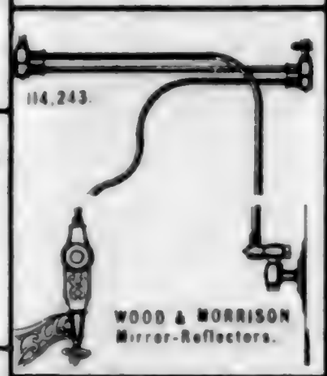


JOHN WILKINSON. Horse-Stalls. 114,241.

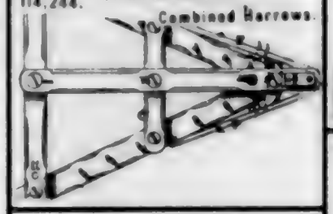


REV. RICHARD H. WINSBOROUGH. PREPARATION AND APPLICATION OF PYROXYLINE FOR DENTAL PLATES.

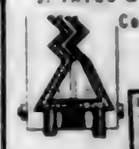
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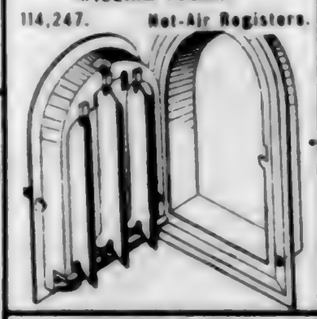


J. YATES & E. DEUELL. Condensers for Stills 114,245

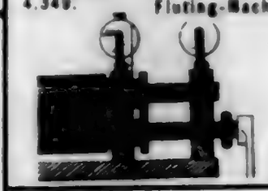


114,246. ROBERT W. YOUNG. COMPOSITION BLACKBOARDS.

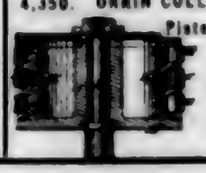
WILLIAM YOUNG. 114,247. Hot-Air Registers.



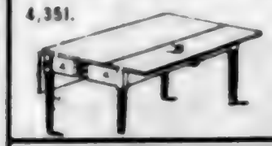
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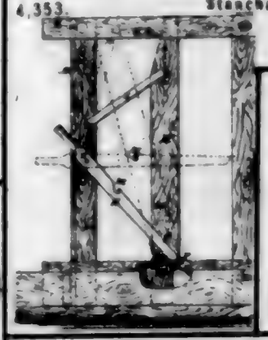
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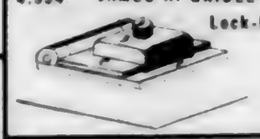


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4,355. LEWIS KING. Lightning-Rods.



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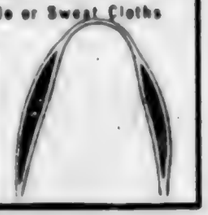


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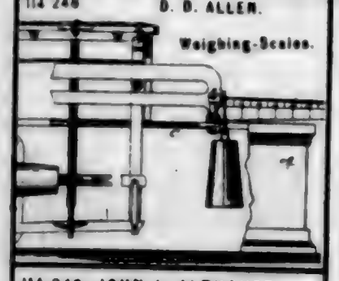
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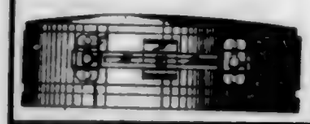
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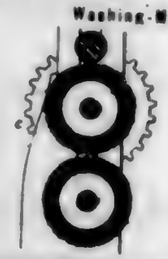
114,248 D. D. ALLEN. Weighing-Scales.



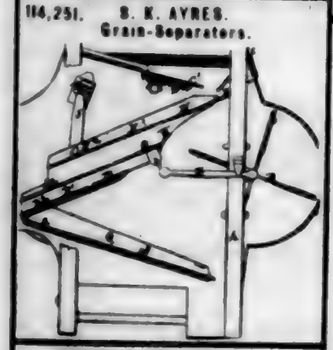
114,249. JOHN A. ALTHOUSE. Millstone-Balances.



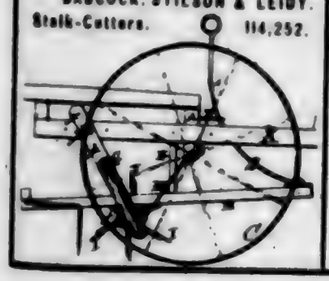
114,250. A. ASSMANN. Washing-Machines.



114,251. S. K. AYRES. Grain-Separators.



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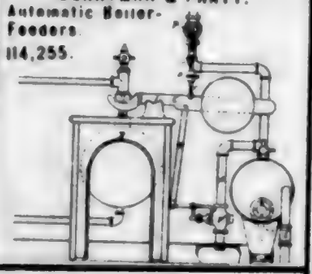
WILLIAM BACHELLER. Sash-Holders. 114,253.



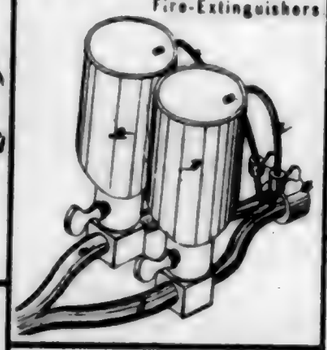
N. BARNUM & R. S. BARNUM. Carding Attachments for Sewing-Machines. 114,254.



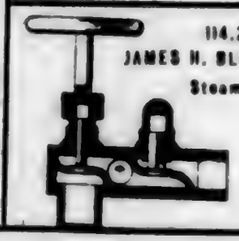
BERRYMAN & PRATT. Automatic Boiler-Feeders. 114,255.



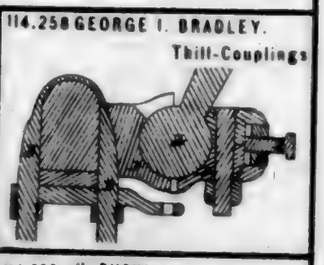
114,256. C. BLAKE. Fire-Extinguishers



114,257. JAMES H. BLESSING. Steam-Traps.



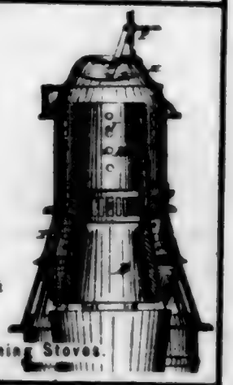
114,258 GEORGE I. BRADLEY. Thill-Couplings



114,259. H. BUCHNER. Breech-Loading Fire-Arms.



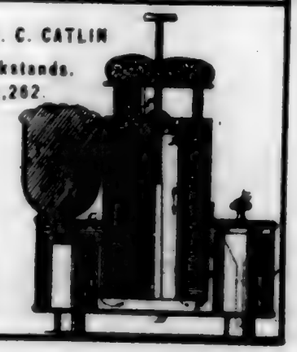
114,260 BUSSEY & HAMLIN. Base-Burning Stoves.



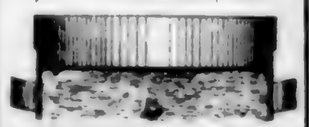
WILLARD M. CARPENTER. Infants' Shoes. 114,261.



S. C. CATLIN Inkstands. 114,262.

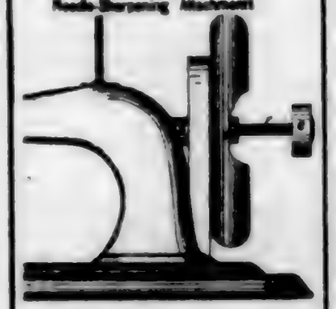


114,263 A. CHANDLER.
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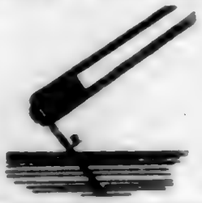


114,264 ALBION R. CLAPP.
MEDICAL PURPOSES.

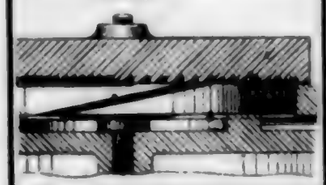
114,265 CELIA P. CLARK.
Needle-Sharpening Machines.



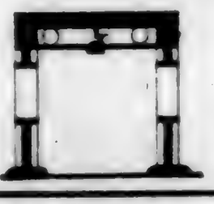
114,266
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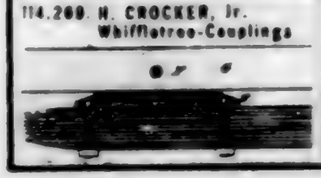
114,267.
THOMAS COOK & JOHN WATSON.
Meters.



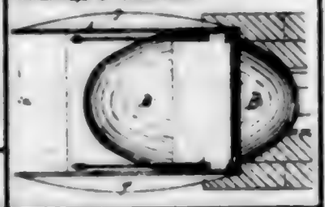
114,268. C. B. COTTRELL.
Printing-Presses.



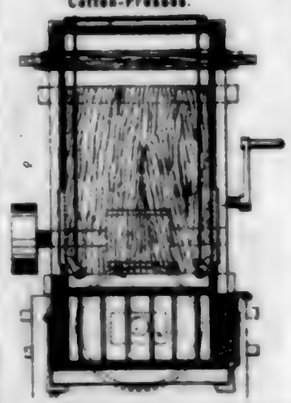
114,269. H. CROCKER, Jr.
Whiffletree-Couplings



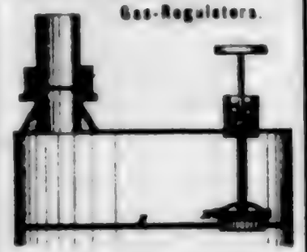
114,270. THOMAS DARK.
Steam-Traps for Street-Sewers.



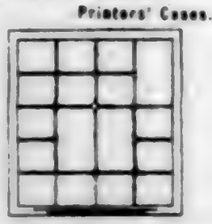
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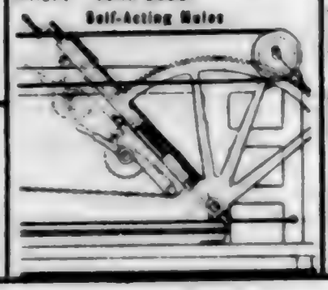
114,272. O. DEAN.
Gas-Regulators.



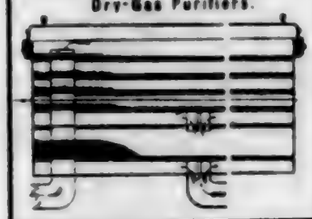
114,273. A. T. DE PUY.
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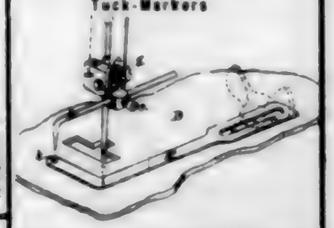
114,274 JOHN DODD.
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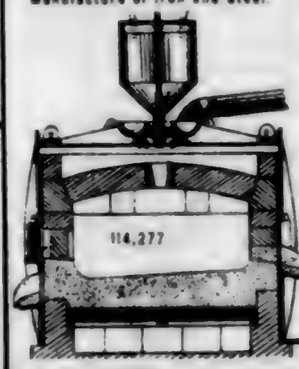
114,275. EDWARD DUFFEE.
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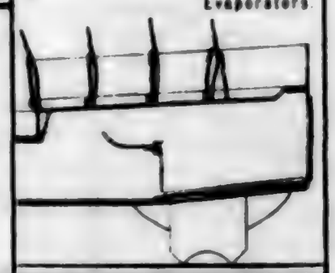
114,276. G. L. DULANEY.
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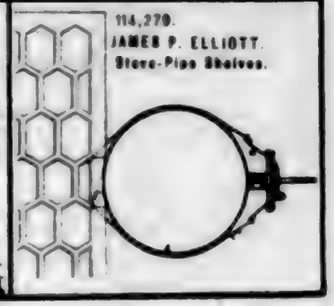
Z. S. DURFEE.
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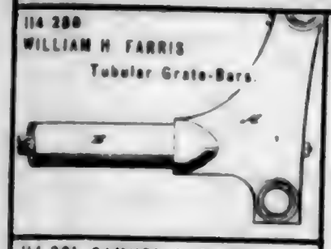
114,278. STEPHEN P. DYER.
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114,279.
JAMES P. ELLIOTT.
Stove-Pipe Shelves.



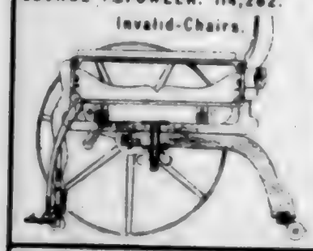
114,280
WILLIAM H. FARRIS
Tubular Grate-Bars.



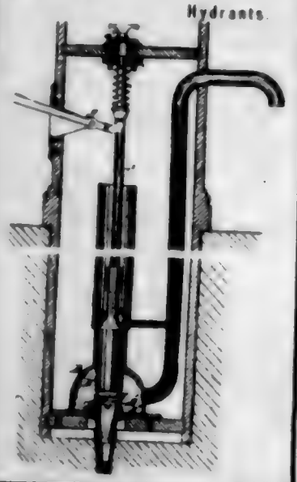
114,281. SAMUEL C. FOSTER.
Nipple-Shields.



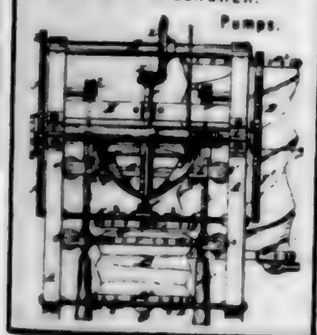
GEORGE T. FOWLER. 114,282.
Invalid-Chairs.



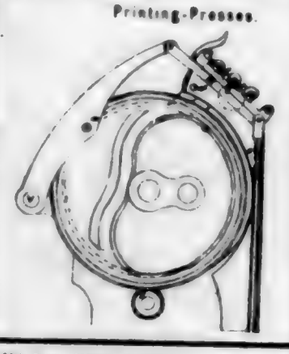
114,283. J. P. GALLAGHER.
Hydrants.



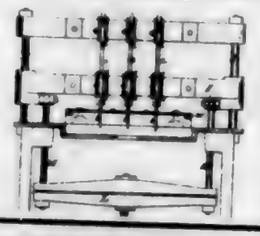
114,284. J. P. GALLAGHER.
Pumps.



114,285. M. GALLY.
Printing-Presses.

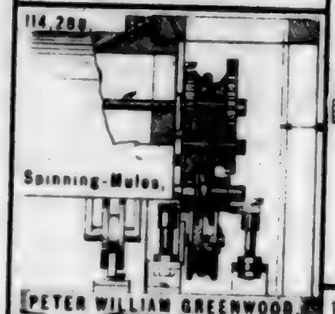


114,286 JOHN GLASS.
Book-Binding Machines.



114,287. JOHN GREAGEN, JR.,
MANUFACTURE OF RUBBER.

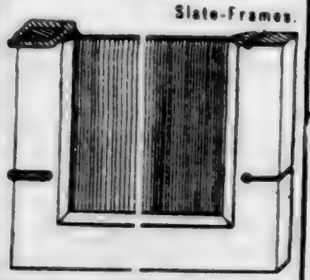
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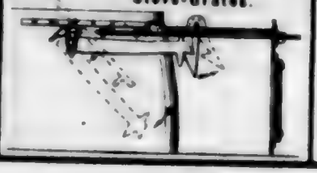
Spinning-Mules.

PETER WILLIAM GREENWOOD.

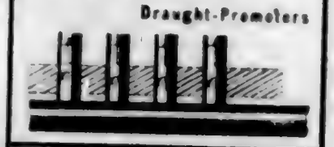
114,289. W. W. HAMILTON.
Slate-Frames.



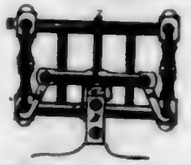
114,290. HARVEY & FOOTE.
Stove-Grates.



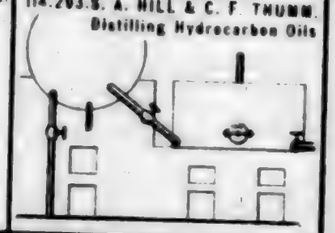
114,291. B. A. HAYCOCK.
Draught-Promoters



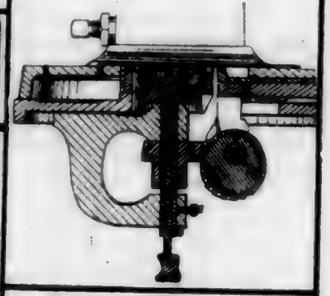
114,292. W. T. HAZARD.
Cribs or Cradles.



114,293. S. A. HILL & C. F. THUMM.
Distilling Hydrocarbon Oils



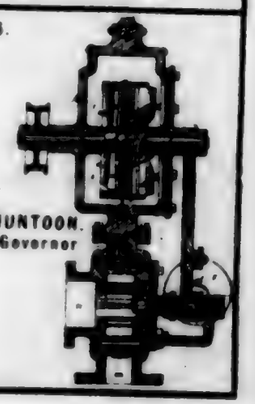
114,294 J. A. HOUSE & H. A. HOUSE
Sewing-Machines.



114,295. JOHN HOWARTH.
Apparatus for Evaporating Liquids

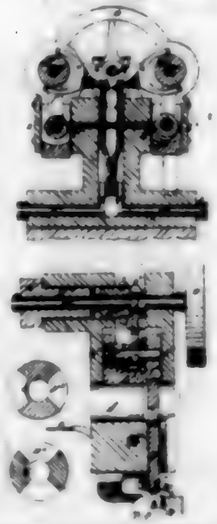


114,296.



R. K. HUNTOON.
Engine-Governor

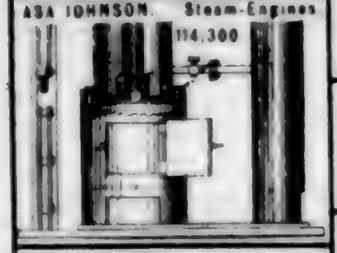
114,297 Ives & Brake. Punching Metals.



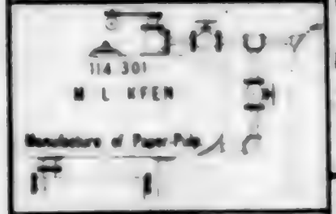
114,298. JAMES IVES. Lubricating Axles.

114,299. JAY AND RAFTER. CAST-STEEL.

ASA JOHNSON. Steam-Engines. 114,300.



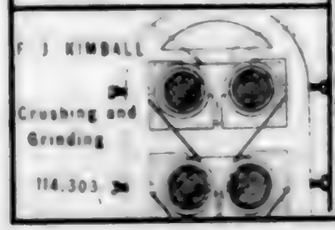
114,301. M. L. KYEN. Manufacture of Paper-Pulp.



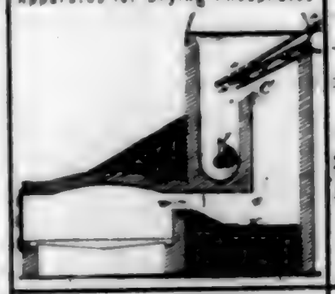
114,302. H. KELLEY & W. H. LOCKE. Lamp-Collars.



F. J. KIMBALL. Crushing and Grinding. 114,303.

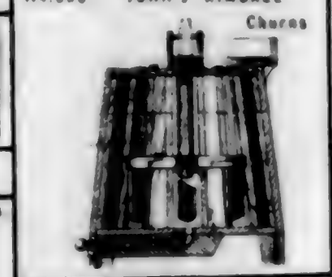


114,304. F. J. KIMBALL. Apparatus for Drying Phosphates.

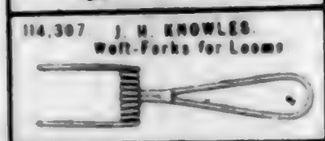


JAMES M. KIMBALL. Washing-Machines. 114,305.

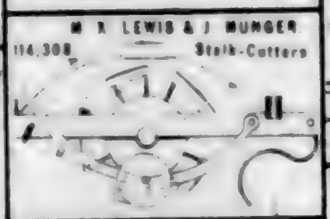
114,306. JOHN J. KIMBALL. Churns.



114,307. J. H. KNOWLES. Weft-Forks for Looms.



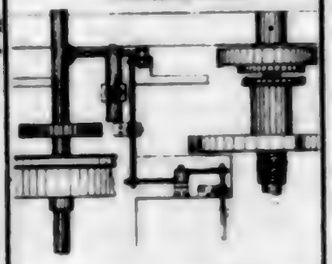
M. R. LEWIS & J. HUNGER. 114,308. Stalk-Cutters.



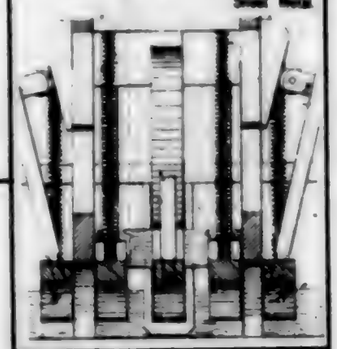
114,309. MABIE & LITTLE. Windmills.



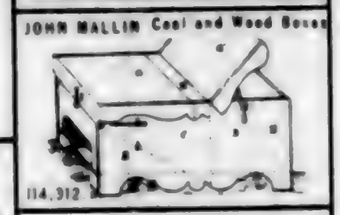
114,310. H. MACON. Belt-Shipping Devices.



114,311. J. R. MAITLAND. Machines for Cutting and Bending Sheet Metal.

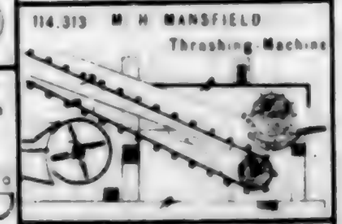


JOHN MALLIN. Coal and Wood Boxes.

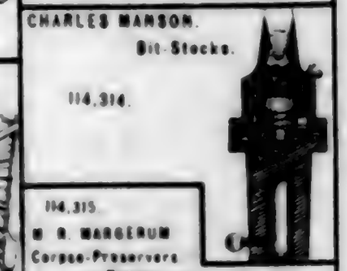


114,312.

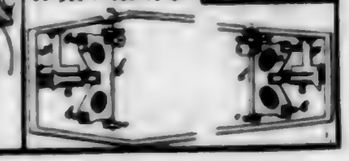
114,313. M. H. MANSFIELD. Threshing-Machine.



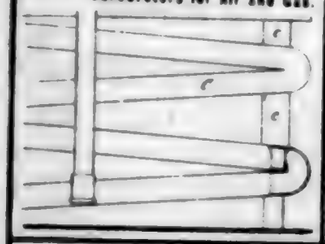
CHARLES MANSON. Bit-Stocks. 114,314.



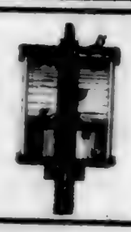
114,315. M. R. MARGERUM. Corpse-Preservers.



114,316. LOUIS MARKS. Carburetors for Air and Gas.



114,317. C. MATHER. Lubricators.



114,318. A. McCRACKEN. Harness.

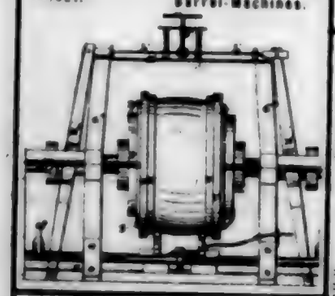


114,319. F. MENZER. Extension-Tables.

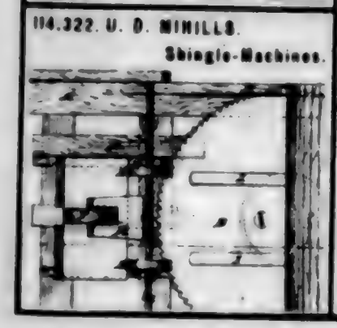


114,320. CANCELED.

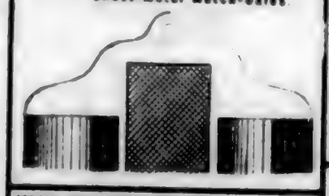
W. R. MIDDLETON & E. MIDDLETON. 114,321. Barrel-Machines.



114,322. U. D. MINILLS. Shingle-Machines.

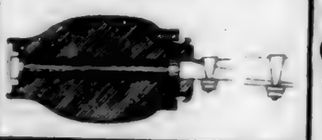


114,323. JOSEPH MUSGROVE. Sheet-Metal Match-Safes.

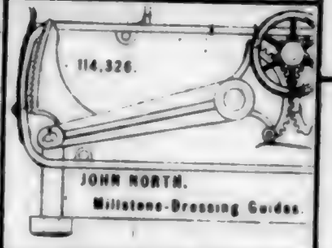


114,325. ELIAKIM P. NEWTON. ROOFING COMPOSITIONS.

GEORGE H. NEVERS. 114,324. Sand-Caps for Hubs for Vehicles.



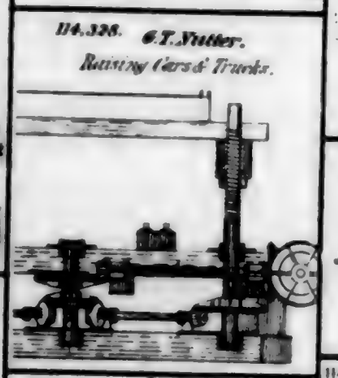
114,326. JOHN NORTH. Millstone-Dressing Guides.



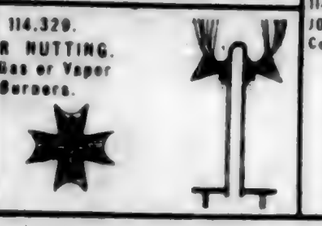
Northrop & Emmons. Alluring Hat Bodies. 114,327.



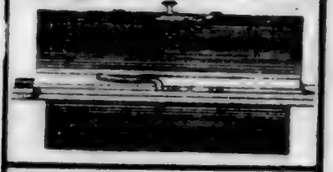
114,328. G. T. Potter. Raising Cars & Trucks.



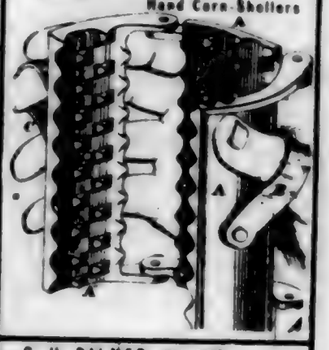
114,329. R. NUTTING. Gas or Vapor Burners.



114,330. A. OBST. Coffee-Roasters.



114,331. C. M. O'HARA. Hand Corn-Shellers.



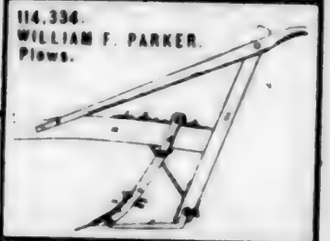
C. H. PALMER. 114,332. Manufacture of Split-Needles.



114,333. I. E. PALMER. Tackle-Blocks.



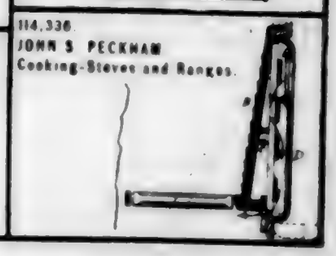
114,334. WILLIAM F. PARKER. Plows.



114,335. JAMES C. PARRISH. Coal-Scuttles.



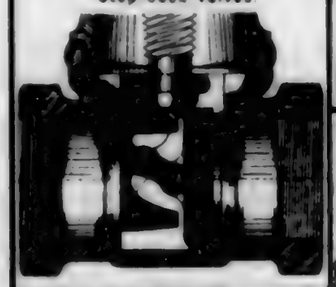
114,336. JOHN S. PECKHAM. Cooking-Stoves and Ranges.



114,337
EDWARD L. PERRY.
Rubber Play-Pipes for Hose.



114,338. GEORGE PIERCE.
Stop-Cock Valves.



114,339. P. F. POWERS.
Hydraulic Apparatus.



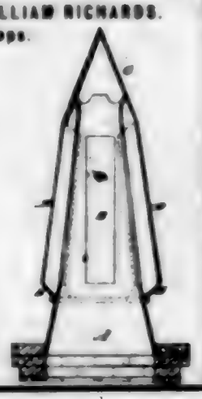
114,340. PRUSHA & WALES.
Boots and Shoes.



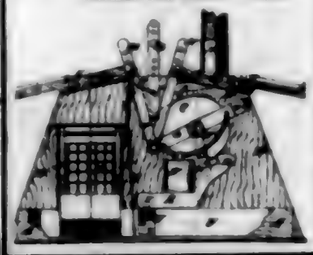
114,341
PETER F. RANDOLPH.
Polishing-Machines.



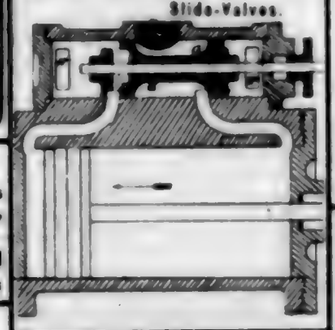
114,342. WILLIAM RICHARDS.
Chimney-Tops.



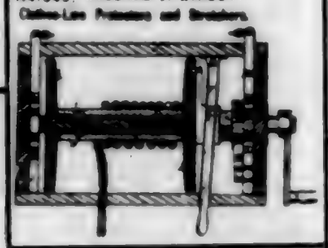
114,343. JAMES H. RICHARDSON.
Animal and Game Traps.



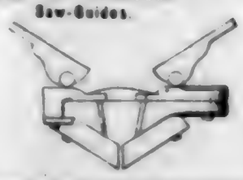
114,344. A. K. RIDER.
Slide-Valves.



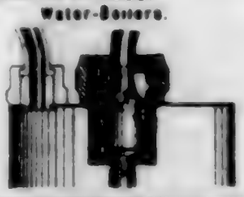
114,345. WILLIAM J. RIPLEY.
Clothes-Line Pressers and Dryers.



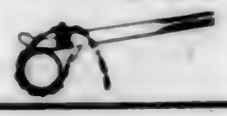
114,346. A. RITTENHOUSE.
Saw-Guides.



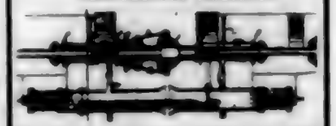
114,347. A. R. ROBB.
Water-Bonnets.



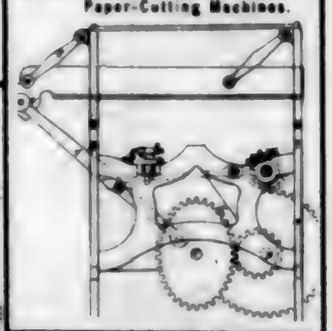
114,348. E. H. ROBBINS.
Pipe-Wrenches.



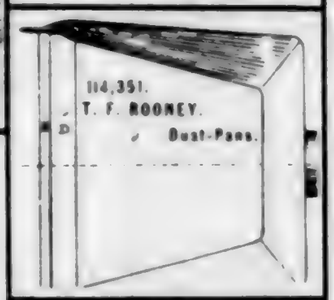
114,349. HENRY R. ROBBINS.
Railroad-Car Heaters.



114,350. THOMAS C. ROBINSON.
Paper-Cutting Machines.

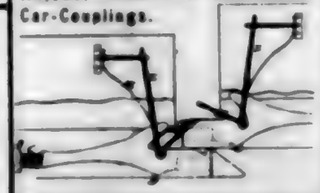


114,351.
T. F. ROONEY.
Dust-Pans.



[illegible], SMOKING-TOBACCO.
ALBERT R. ROSENBAUM.

114,353. SAMUEL S. SARTWELL.
Car-Couplings.

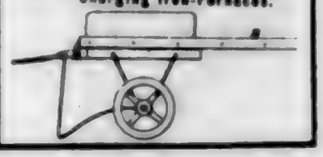


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LEATHER-POLISH.

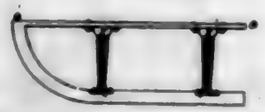
114,355. CHARLES S. SCHENCK.
Bird-Cage Mats



114,356. EDWARD G. SCOVIL.
Charging Iron-Furnaces.



114,357 C. SHAW.
Sled-Knees.



114,358.
W. A. SIMONDS.
Gas-Machines.



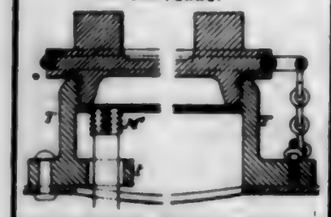
114,359. WILLIAM SISSON.
Machines for Cutting Staves.



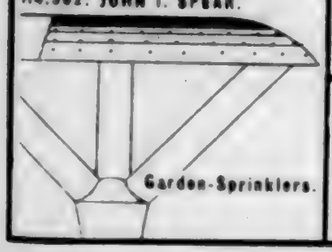
114,360. W. H. SMITH.
Grocers' Canisters.



114,361. SNYDER & SNYDER.
in Oil-Tanks.



114,362. JOHN I. SPEAR.
Garden-Sprinklers.



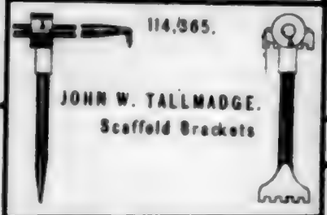
CHARLES F. SREEVES.
114,363. Bridges.



114,364. HENRY W. STOW.
Carriage-Hubs.



114,365.
JOHN W. TALLMADGE.
Scaffold Brackets



ADALINE L. THOMSON.
114,366. Childrens' Bibs.



114,367. HENRY B. TODD.
Dish-Washers.



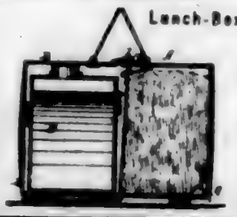
114,368. R. M. TREAT.
Horse-Hay-Rakes.



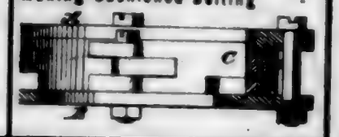
114,369. C. W. TREMAIN.
Wheels for Traction-Engines.



114,370. D. TROXELL.
Lunch-Boxes.



114,371. S. W. TYLER.
Making Cushioned Belting

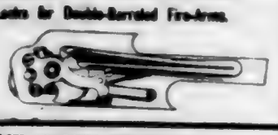


114,372. A. WADSWORTH.
Pallets of Watches.



114,373. ENOCH WAITE.
FABRICS FROM WASTE LEATHER.

114,374. DANIEL B. WESSON.
Locks for Double-Barrelled Fire-Arms.

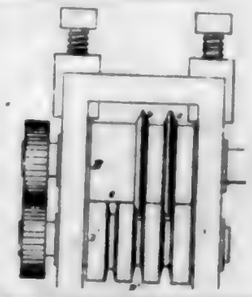


114,375. WALTER WHEELOCK.
MERCURIAL SALVES.

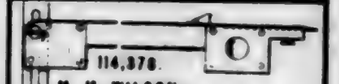
114,376. E. R. WHITE.
Tilting-Chairs.



114,377. EDWIN WIGHT.
Rolling Umbrella-Connections.



114,378.
M. M. WILSON.
Square, Bevel, Plumb, and Gauge.



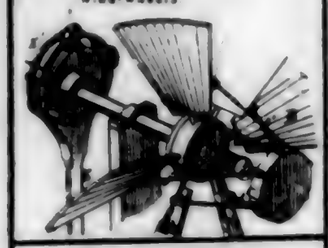
114,379 L. B. WITHERELL
Door-Springs.



114,380. J. A. WOOD
Washing-Machines.



114,381. HORACE WOODRUFF
Wind-Wheels



114,382 WYLAND & RATHMELL.
Propellers for Canal-Boats



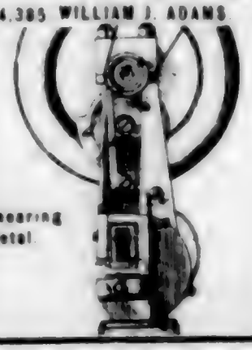
114,383.
WILLIAM E. YEAGER.
Bolt-Cutters



114,384.
JOHN P. ZELLER
Cups for Grain-Drills



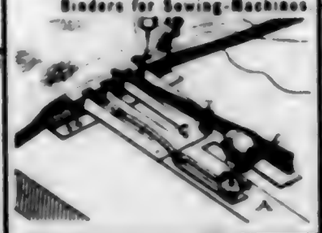
114,385 WILLIAM J. ADAMS
Shearing Metal



114,386 AKINS & ABELL
Padlocks.



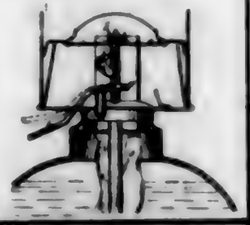
114,387 ALLEBAUGH & CUFFELL
Binders for Sewing-Machines



114,388 JOLINE.
ANDROVATT &
Kitchen-Knives.



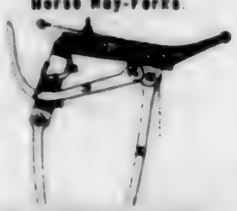
114,389
W. W. BATCHELDER
Self-Lighting Lamps.



114,390 H. BAUGHMAN.
Corn-Planters.



114,391. CHARLES BEAN.
Horse Hay-Forks.



114,392. S. S. BENT
Stable-Fixtures



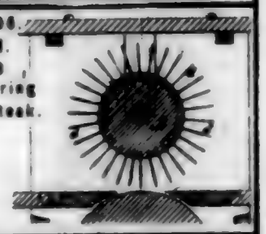
114,394. JAMES B. BIRD
Rubber-Tubes for Grain-Drills.



Ditching Mach.
I Bois.
114,395



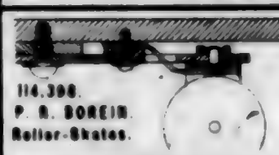
114,396.
ASA M.
BOND
Preparing
Beefsteak.



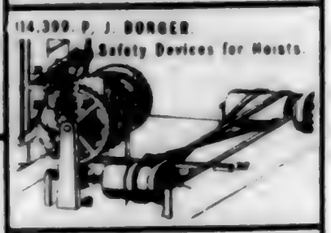
114,397.
HENRY BOOT.
Knitted Fabrics.



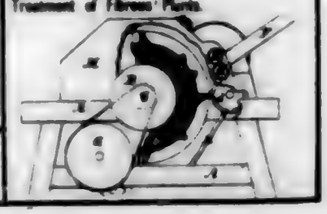
114,398.
P. A. BOREIN.
Roller-Skates.



114,399. P. J. BORGER.
Safety Devices for Hoists.

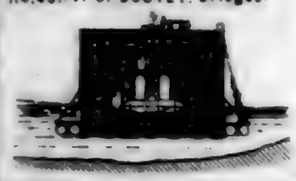


114,400. A. BOUCHARD.
Treatment of Fibrous Plants.

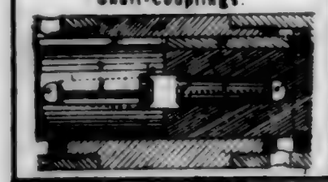


114,401. JOHN T. BEVER AND
PAULINE S. BEVER.
SOAPS.

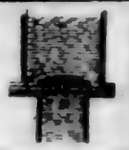
114,401. T. C. BOUTET. Bridges.



114,402. S. BROADBENT
Shaft-Couplings.



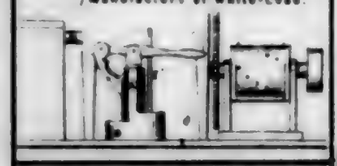
114,403.
A. P. BROWN.
Pumps.



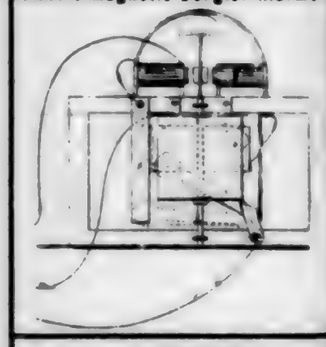
114,404. J. BROWN, Jr
Safety Pocket-Books.



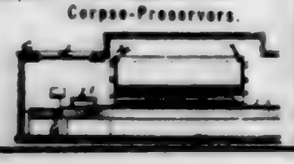
114,405. THOMAS H. BURRIDGE
Manufacture of White-Lead.



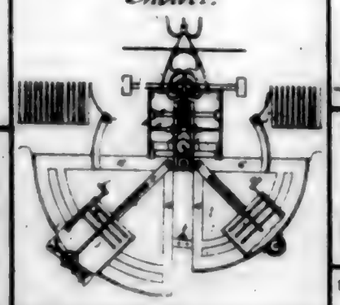
114,406. JOHN G. BUTLER.
Electro-Magnetic Burglar-Alarms.



114,407. J. T. CARPENTER.
Corpse-Preservers.



114,408. G. H. Clark,
Mower.



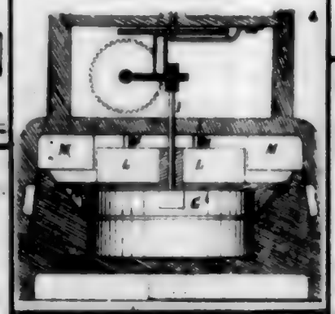
114,409. JOHN W. CLOSE.
Railway-Frogs



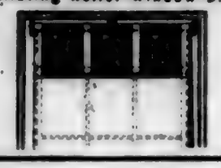
114,410. H. W. OLLENDER
Billiard-Table Cushions



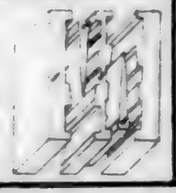
114,411. THOMAS COOK.
Liquid-Meters



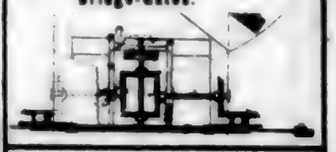
114,412. A. COOPER.
Ventilating Roller Window-Blinds.



114,413.
H. D. COWLES
& G. STACY.
Horseshoe-Nail
Machines.



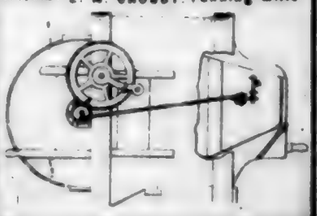
114,414. EDWARD R. COYNE.
Bridge-Gates.



114,415. JOSEPH W. CREMIN.
Water-Meters.



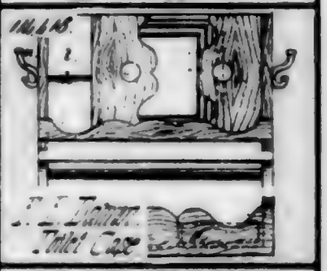
114,416 L. M. CROSBY. Fanning-Mills.



114,417. W. S. CURTISS, Jr
Raisin-Seeders.



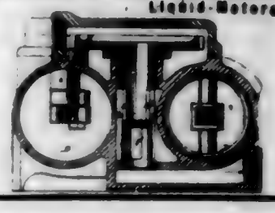
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114,419 J. F. DE NAVARRO.
Water-Meters



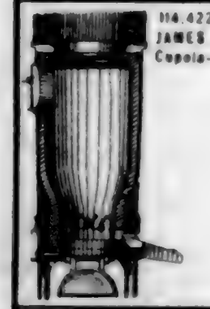
114,420 DE NAVARRO SERGEANT
Liquid-Meters



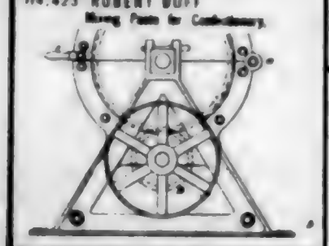
114,421. WILLIAM DE PEW.
Improvement in Fire-Escapes.



114,422
JAMES DOUGHERTY
Cupola-Furnaces.



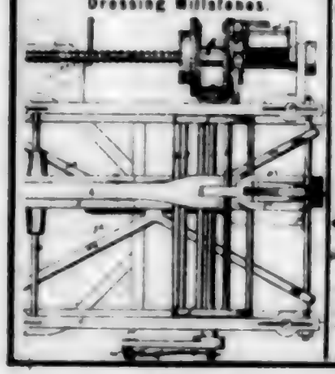
114,423 ROBERT DUFF
Mixing Paints for Conditioning.



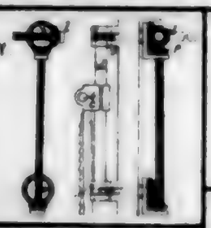
114,424
GEORGE L. DULANEY.
Sewing-Machines.



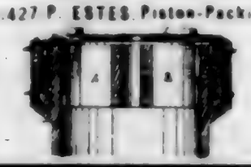
114,425. SAMUEL EAST
Dressing Millstones.



114,426.
M. J. EGERY
Saw-Mills



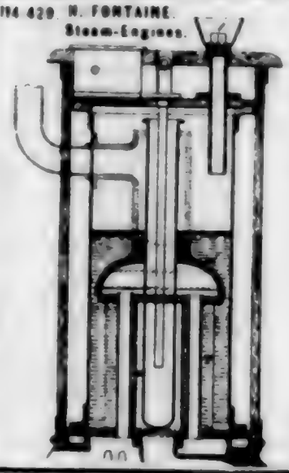
114,427 P. ESTES. Piston-Packing



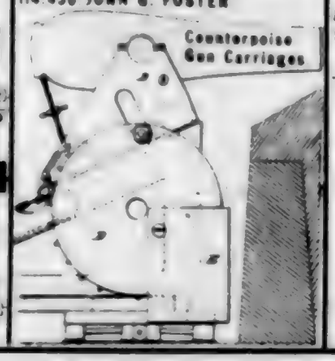
114,428 BELENA C. EWING.
Division-Plates for Cooking-Stoves.



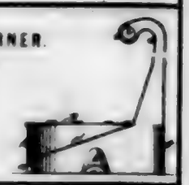
114,429. N. FONTAINE.
Steam-Engines.



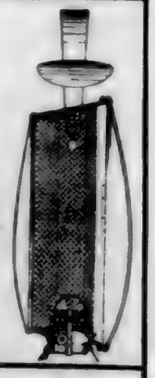
114,430 JOHN B. FOSTER
Counterpoise Gun Carriages



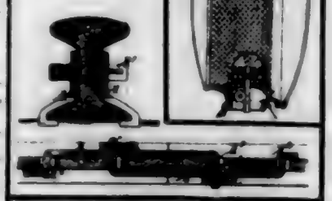
114,431.
JAMES H. GARNER.
Wash-Boilers.



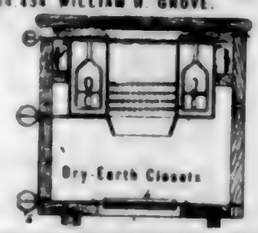
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N. GEAR
Lanterns



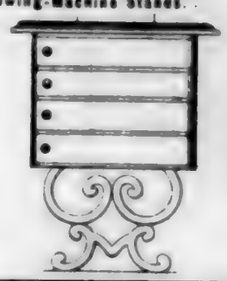
114,433.
WILLIAM F GRASSLER.
Rail-Joints.



114,434 WILLIAM H. GROVE.



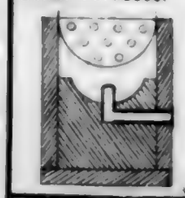
114,435 W. H. GROVE.
Sewing-Machine Stands.



114,436.
J. G. HAM.
Bushes of Carriage-Boxes



114,437.
CHARLES J. HARRIS
Return-Flue Boiler-Furnaces.



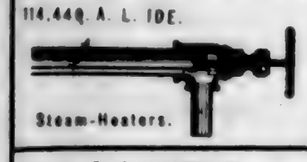
114,438.
C. HAVARD.
MANUFACTURE OF CANDLES.

114,439.



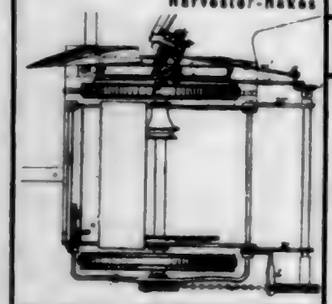
JOHN F. HOLLISTER.
Construction of Bedsteads.

114,440. A. L. IDE.



Steam-Heaters.

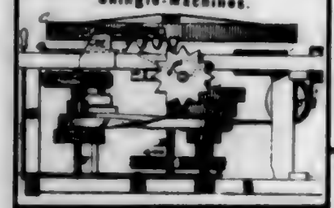
114,441. B. ILLINGWORTH
Harvester-Rakes



114,442 T. M. JENKS.
Bobbin-Winders for Sewing-Machines.



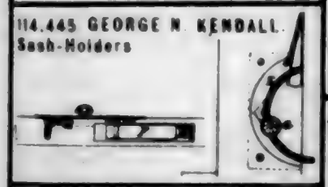
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Shingle-Machines.



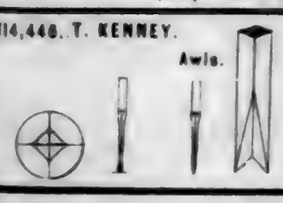
114,444 A. JONES.
Potato-Baking Pans.



114,445 GEORGE N. KENDALL.
Sash-Holders

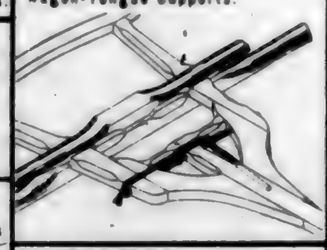


114,446. T. KENNEY.
Awls.



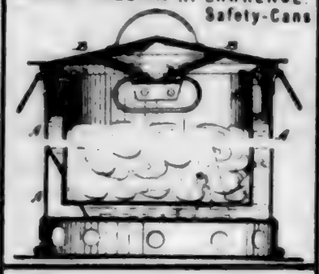
114,447. SILAS P. KNIGHT.
ELECTROTYPE-MOLDS.

114,448 JOHN KREMBIEL.
Wagon-Tongue Supports.

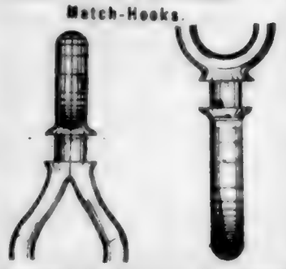


114,449. BALTHASAR KREISCHER.
MANUFACTURE OF FIRE-BRICKS.

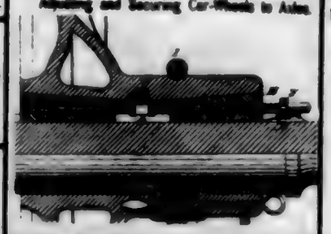
114,450. WILLIAM H. LAWRENCE.
Safety-Cans



114,451. JOSEPH D. LEACH.
Match-Hooks.



114,452. GEORGE G. LOBDELL.
Adjusting and Securing Car-Wheels to Axles.



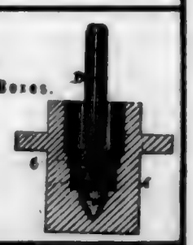
114,453.
ERNEST LOHSAND.
Stove-Dampers.



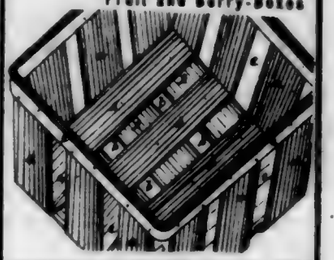
114,454. CHARLES H. MACK.
Securing Dental Fillings.



114,455.
LEWIS MAISH
Spindle-Step Boxes.



114,456. JOSHUA H. MARVIL.
Fruit and Berry-Boxes



114,457. DAVID McCLEARY.
Wash-Boilers.



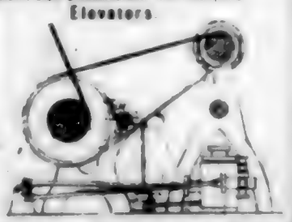
114,458 ROBERT W. McCLELLAND
Wheels for Vehicles.



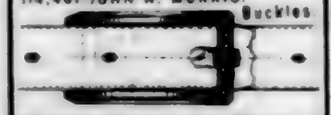
114,459. WILLIAM E. MEYER.
Sail-Hanks.



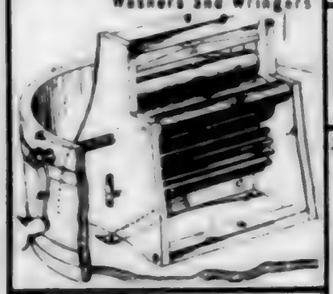
114,460. CHARLES E. MOORE
Elevators.



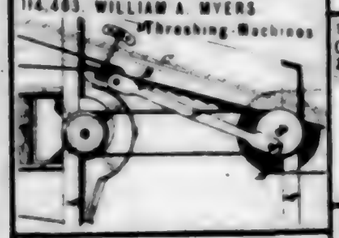
114,461. JOHN H. MORRIS.
Buckles.



114,462. JESSIE H. MURRAY
Washers and Wringers.

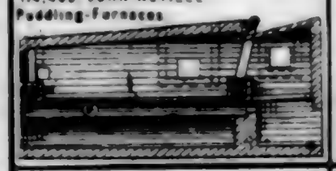


114,463. WILLIAM A. MYERS
Threshing-Machines.



114,464. EDWARD HENRY NEILL.
WASHING-FLUIDS.

114,465. JOHN NEVILLE
Puddling-Furnaces.

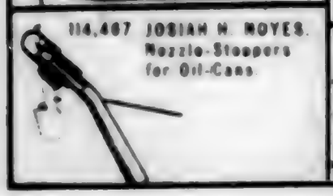


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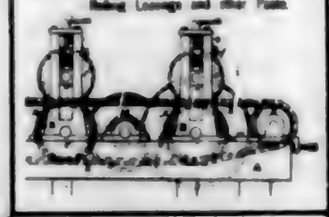


ALFRED NORTON.
Sleigh-Hooters.

114,467. JOSIAH H. NOYES.
Nozzle-Stoppers for Oil-Cans.



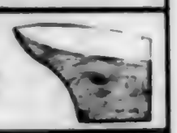
114,468. CHARLES A. OEHL
Baking Lozenge and other Pans.



114,469. JAMES OLIVER
Chills for Plow-Castings.



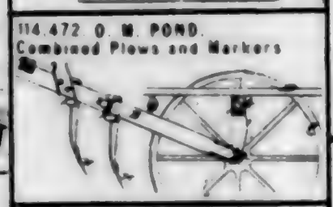
114,470.
C. H. ORCUTT
Enameling Boot and Shoe Heels.



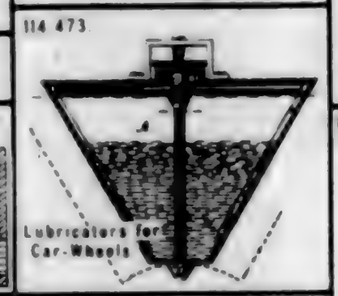
114,471.
JOHN ORPHY.
Lanterns.



114,472. O. M. POND.
Combined Plows and Markers.



114,473.

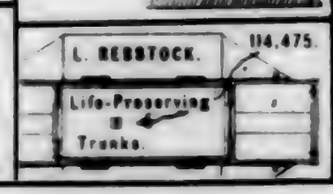


Lubricators for Car-Wheels.

114,474.
PETER F. RANDOLPH.
Nut-Locks.

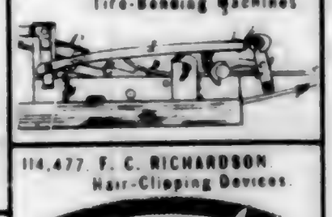


L. REBSTOCK. 114,475.

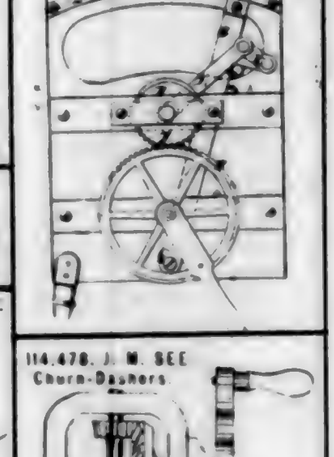


Life-Preserving Trunks.

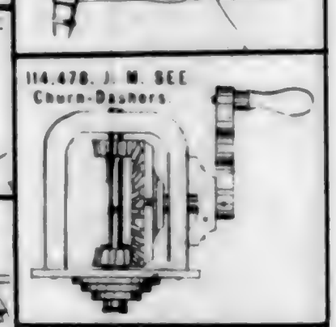
114,476. GEORGE J. RIBLET.
Tire-Bending Machines.



114,477. F. C. RICHARDSON.
Hair-Clipping Devices.



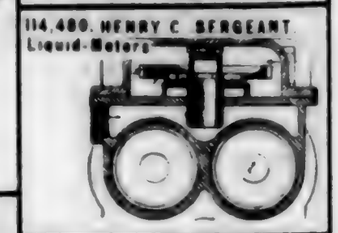
114,478. J. M. SEE
Churn-Dashers.



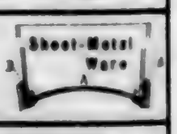
114,479. JACOB SEEBOLD
Bridges.



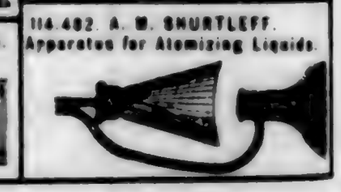
114,480. HENRY C. SERGEANT
Liquid-Meters.



114,481
HENRY W. SHEPARD
Bottoms for



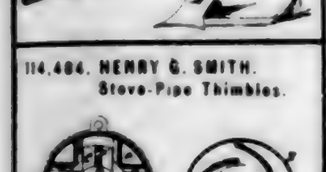
114,482. A. W. SHURTLEFF.
Apparatus for Atomizing Liquids.



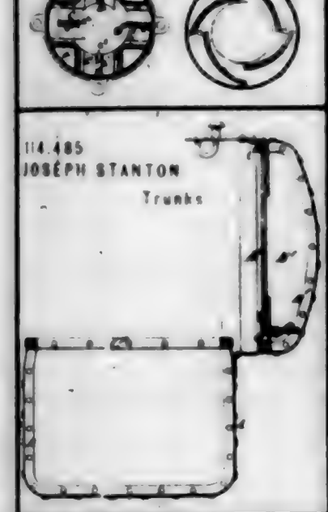
114,483. M. P. SIMPSON
Cultivators.



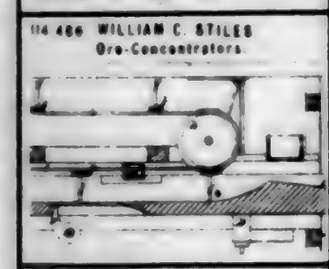
114,484. HENRY G. SMITH.
Stove-Pipe Thimbles.



114,485
JOSEPH STANTON
Trunks.



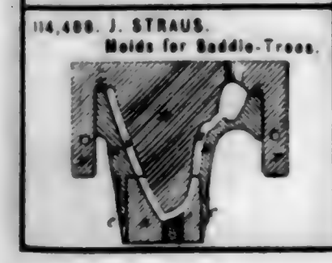
114,486 WILLIAM C. STILES
Ore-Concentrators.



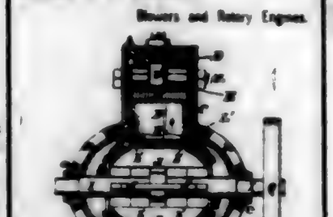
114,487. O. O. STORLE.
Snap-Hooks.



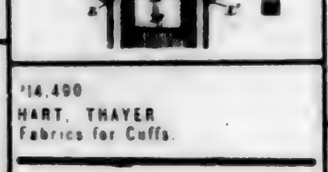
114,488. J. STRAUS.
Molds for Saddle-Trees.



114,489. H. P. TENANT.
Blowers and Rotary Engines.



114,490
HART. THAYER
Fabrics for Cuffs.

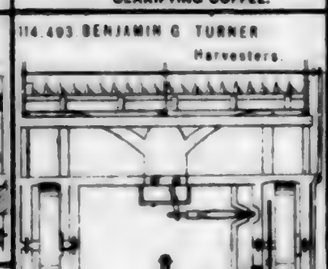


B. D. THOMPSON. 114,491
Automatic Fans.

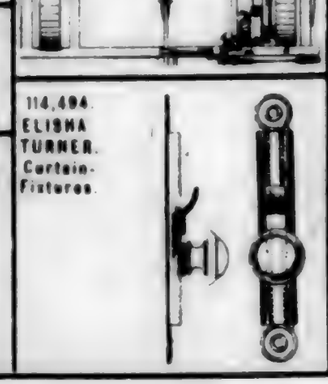


114,492. CHARLES L. TUCKER.
CLARIFYING COFFEE.

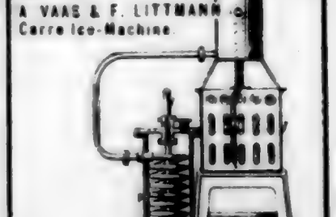
114,493 BENJAMIN G. TURNER
Harvesters.



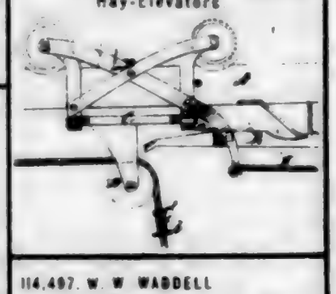
114,494.
ELISHA TURNER.
Curtain-Fixtures.



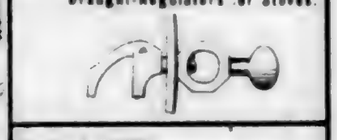
114,495
A. VAAS & F. LITTMANN
Carre Ice-Machine.



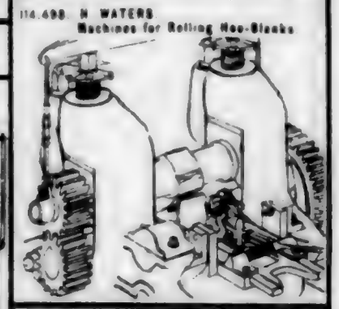
114,496. VAN DEMARK & BARLOW
Hay-Elevators.



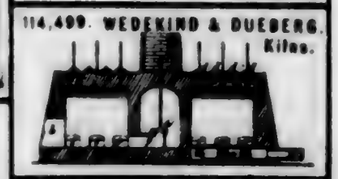
114,497. W. W. WADDELL
Draught-Regulators for Stoves.



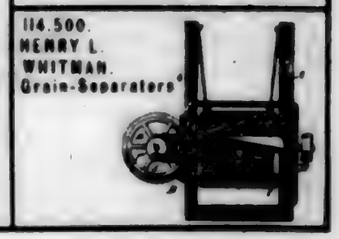
114,498. N. WATERS
Machines for Rolling Hoe-Blanks.



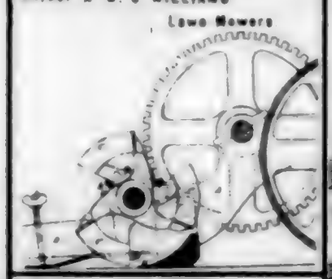
114,499. WEDEKIND & DUEBERG.
Kilns.



114,500.
HENRY L. WHITMAN.
Grain-Separators.



114,501 A. W. C. WILLIAMS
Lawn-Mowers

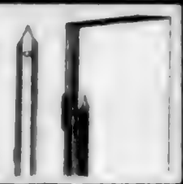


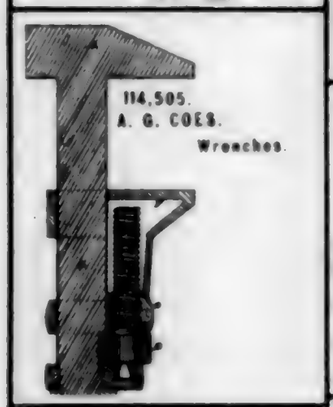
114,502. J. E. WOOD.
MANUFACTURE OF SODA-WATER.

F. A. WOODSON.
114,503. Steam-Boilers.



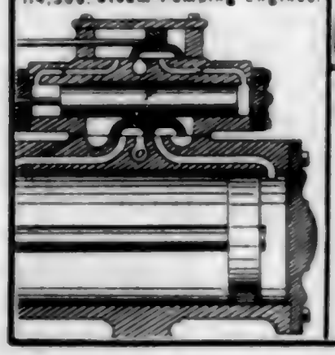
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S. W. YOUNG.
Paper-Files.



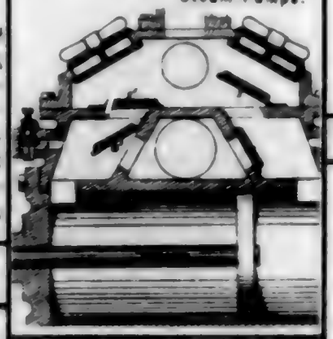


114,505.
A. G. COES.
Wrenches.

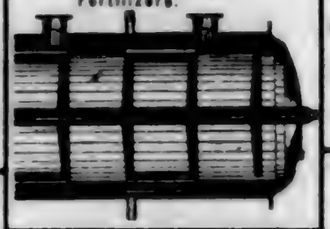
L. J. KNOWLES.
114,506. Steam-Pumping Engines.



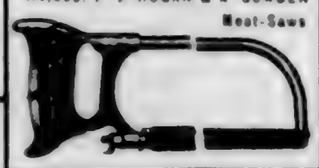
114,507. L. J. KNOWLES.
Steam-Pumps.



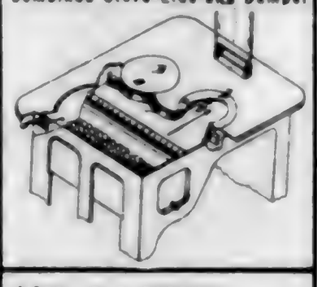
114,508. H. A. NOGEL.
Fertilizers.



114,509. P. J. HOGAN & A. SOWDEN
Hoot-Saws



4,359. WILLIAM DOYLE.
Combined Stove-Lids and Damper



4,360. B. S. FOREMAN
Preserving Wood Railroad-Ties.



4,361.
JOHN P. HAINES.
Oil-Cups.

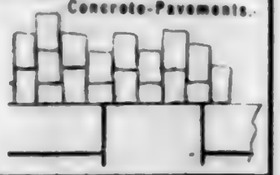


4,362. F. MYERS.
Sad and Fluting Irons.

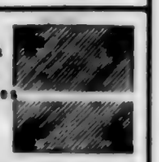


4,363. ALFRED PARAF.
COLORS UPON CLOTH BY PRINTING.

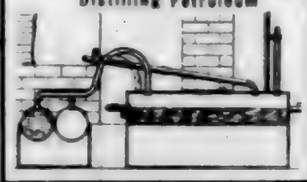
4,364 JOHN J. SCHILLINGER.
Concrete-Pavements.



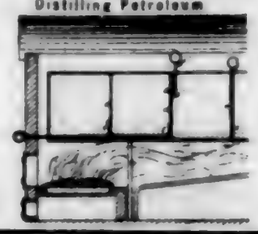
4,365.
E. A. STRATTON &
C. M. STRATTON.
Metal Corner-Pieces



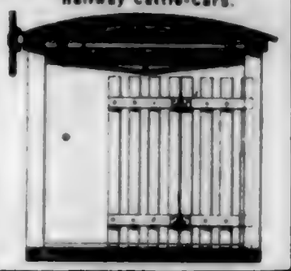
4,366. A. H. TAIT & J. W. AVIS.
Distilling Petroleum



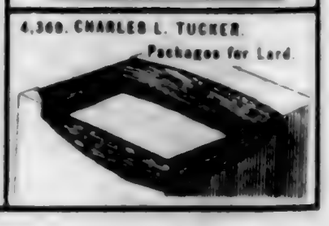
4,367. A. H. TAIT & J. W. AVIS
Distilling Petroleum



4,368. JOHN B. SHAFER.
Railway Cattle-Cars.

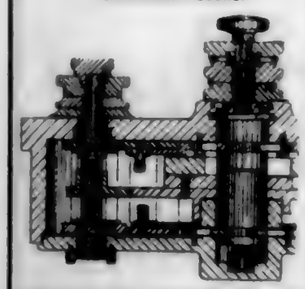


4,369. CHARLES L. TUCKER.
Packages for Lard.

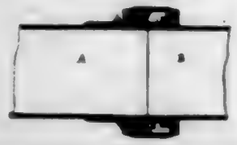


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ISSUED FROM
THE UNITED STATES PATENT OFFICE
MAY 9, 1871.

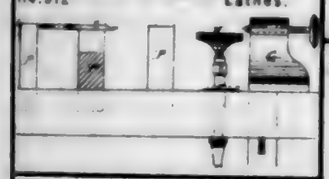
114,510 JAMES T. ADAMS.
Permutation-Locks.



114,511 WILLIAM D. ALFORD.
Pipe-Couplings.



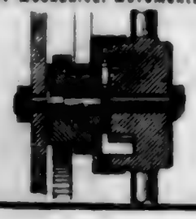
114,512 JOHN P. ALLEN. Lathes.



114,513. JOSEPH N. ARONSON.
Street-Lamps



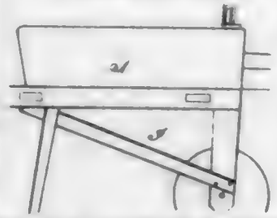
J. BARNES & W. F. BARNES.
114,514 Mechanical Movements.



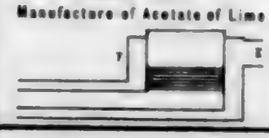
114,515. A. G. BEEK.
Ironing-Boards.



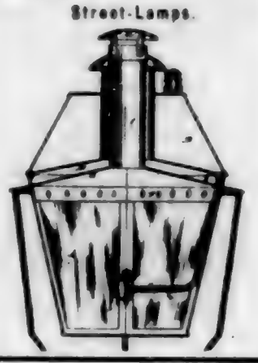
114,516 L. BEEMER.
Portable Batter-Trays.



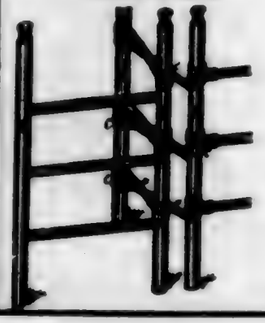
JOHN BELL. 114,517.
Manufacture of Acetate of Lime



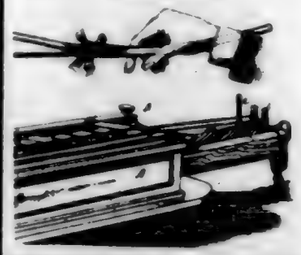
114,518. JOHN BENSON.
Street-Lamps.



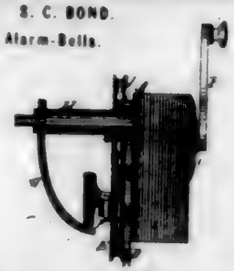
114,519. H. S. BLACK.
Clothes-Driers.



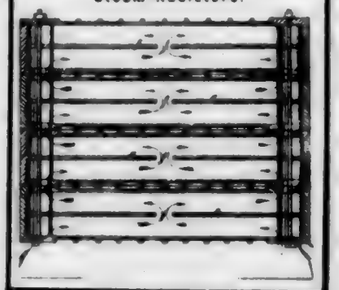
114,520 E. D. BLAKEMAN.
Piano-Violins.



S. C. BOND.
114,521 Alarm-Bells.

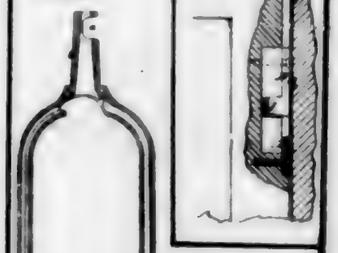


114,522. E. M. BOSLEY.
Steam-Radiators.



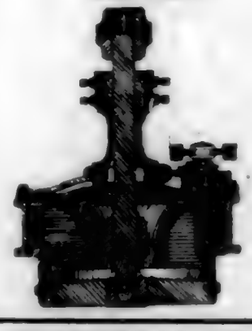
114,523 FREEMAN BRADY, Jr.
Attachments for Sash-Weights.

114,524

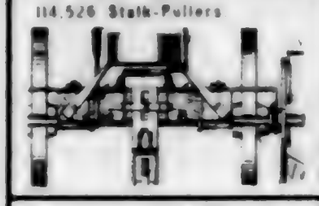


JAMES S. BROWN.
Fliers for Spinning.

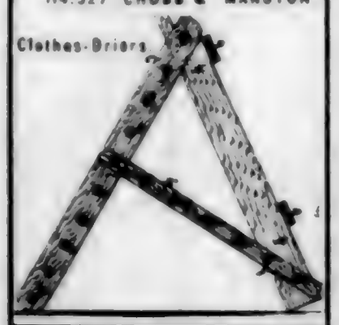
114,525 N. F. BURNHAM
Water-Wheels



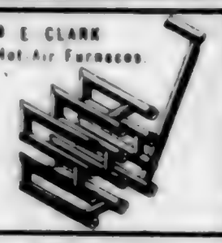
H. BUTTENBERG & J. L. STRONG
114,526 Stalk-Pullers



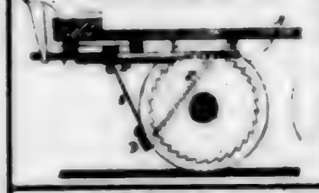
114,527 CHUBB & MARSTON
Clothes-Driers



114,528 E. CLARK
Hot-Air Furnaces



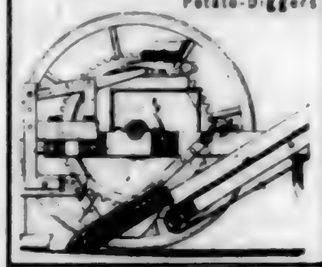
114,529 JOSEPH A. CODY.
Car-Brakes and Starters.



114,530 A. H. COLE
Trace-Buckles.



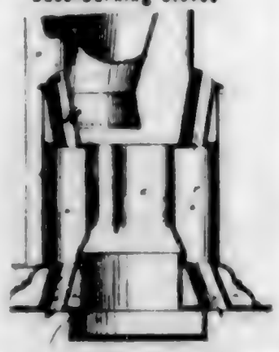
114,531 CLARK COONEY.
Potato-Diggers



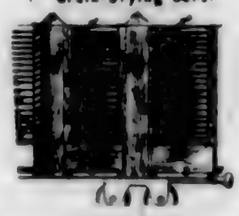
114,532. SAMUEL W. COZZENS
Sewing-Machine Chairs



114,533 ROBERT DIVEN
Base-Burning Stoves



114,534. CHARLES S. DOLE.
Grain-Drying Cars.



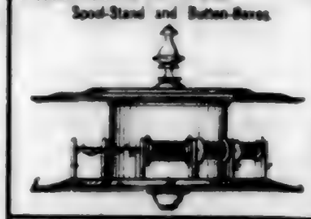
114,535 CHARLES E. DONNELLAN
Machines for Making Straw-Rope.



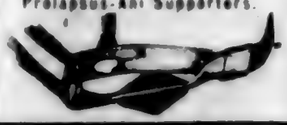
GEORGE DRAPER.
Spindle-Steps.
114,536



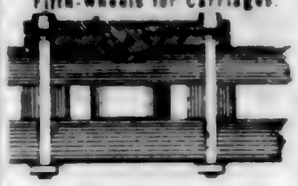
114,537. JOHN H. DRUM.
Spool-Stand and Button-Boxes.



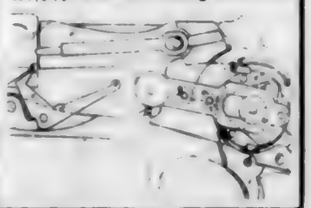
114,538 A. M. DYE.
Prolapsus-Ani Supporters.



114,539 P. S. EASTMAN.
Fifth-Wheels for Carriages.



WILLIAM H. ELLIOT
114,540 Breech-Loading Fire-Arms



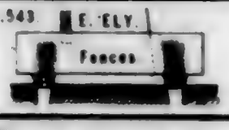
114,541 W. R. ELLIOTT.
Sash-Holders.



S. C. ELLIS
Journal-Boxes
114,542



114,543 E. ELY.
Fences

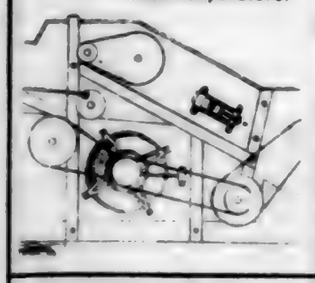


114,544
JOHN FAY.
MEDICAL COMPOUNDS.

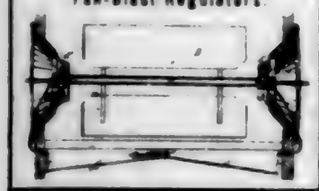
114,545
WILLIAM FRANKEL
Ratchet-Drills.



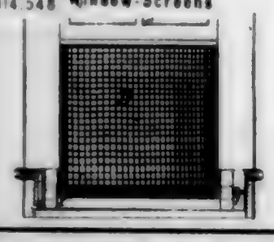
114,546. DANIEL GARVER.
Grain-Separators.



114,547. DANIEL GARVER.
Fan-Blast Regulators.



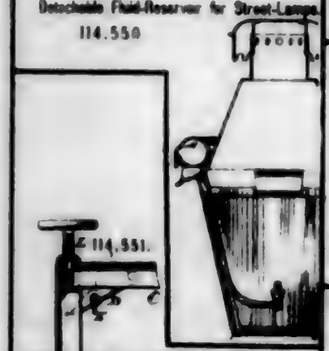
BENJAMIN GIROUX
114,548 Window-Screens



114,549 HOMER GLASS.
Horse-Powers.



L. A. GOUCH.
Detachable Fluid-Reservoir for Street-Lamps.
114,550

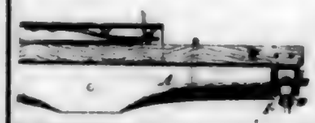


114,551.

JAMES S. GRIFFITH.
Surface-Blow-Offs

114,552.
SAMUEL GROSS.
FLAVORING WHISKY.

114,553 JOHN L. HAMILTON.
Horse-Detaching Apparatus.

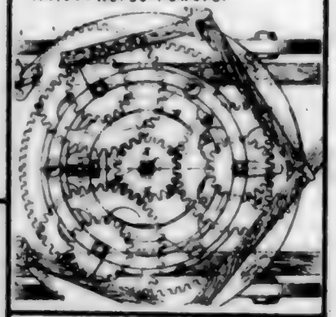


L. HANCOCK. 114,554



Buck-Saw Frames

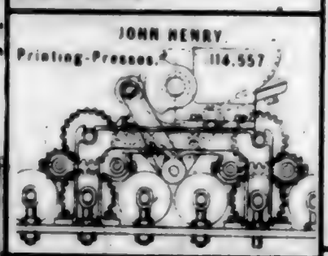
HARRISON & BUCHANAN
114,555 Horse-Powers.



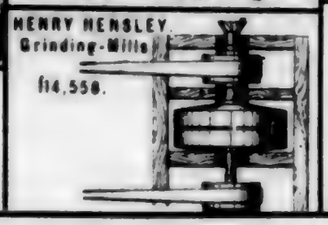
R. F. S. HEATH.
Mosquito-Bars.
114,556.



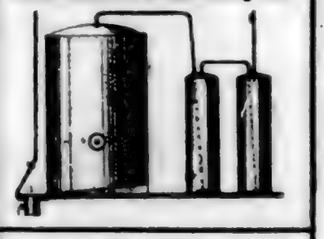
JOHN HENRY.
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HENRY HENSLEY.
Grinding-Mills
114,558.



114,559. SAMUEL HEYNER.
Manufacture of Illuminating Gas



114,560. HENRY HOLCROFT.
Curtain-Cord Retainers.



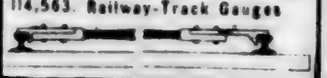
114,561. JULIUS L. HORNIG.
Propulsion of Canal-Boats.



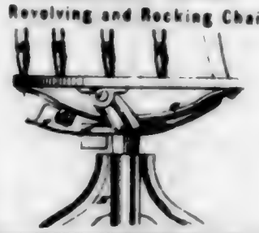
HILAND HOWARD.
Fringe-Twisters.
114,562.



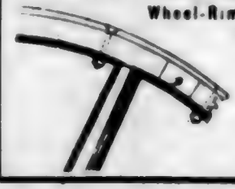
WILLIAM S. HUNTINGTON.
114,563. Railway-Track Gauges



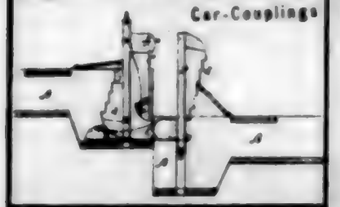
P. C. INGERSOLL. 114,564.
Revolving and Rocking Chairs



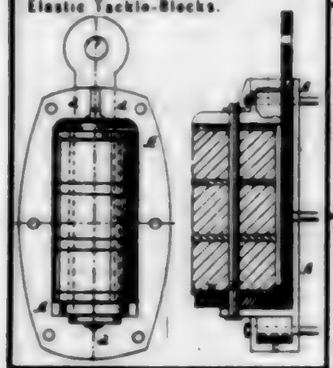
DANIEL A. JOHNSON.
Wheel-Rims
114,565



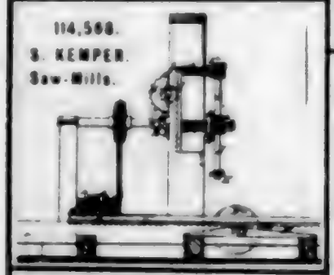
114,566. WILLIAM JOHNSTON. Car-Couplings



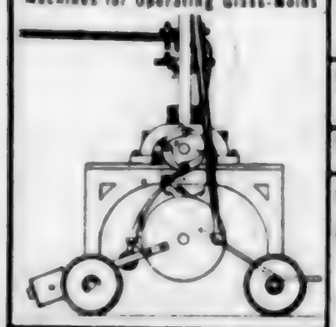
114,567. JOHN E. JONES. Elastic Tackle-Blocks.



114,568. S. KEMPER. Saw-Mills.



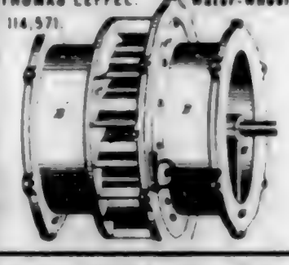
114,569. WILLIAM C. KING. Machines for Operating Glass-Molds



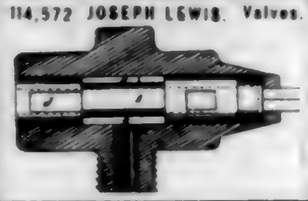
114,570. G. W. KNIGHT & G. DRAPER. Spindle-Stop



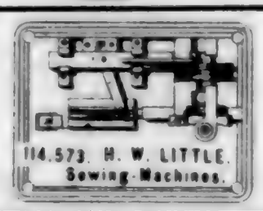
114,571. THOMAS LEFFEL. Water-Wheels.



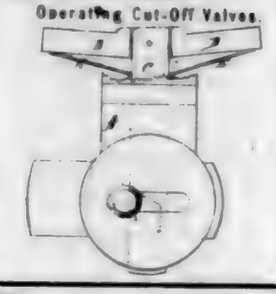
114,572. JOSEPH LEWIS. Valves.



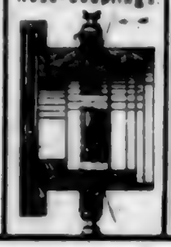
114,573. H. W. LITTLE. Sewing-Machines.



114,574. K. H. LOOMIS. Operating Cut-Off Valves.



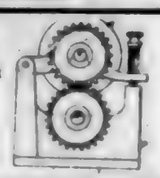
114,575. J. J. LOVELL. Hose-Couplings.



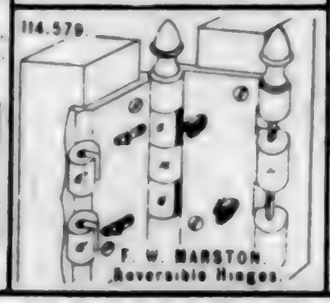
114,576. WILLIAM NEWTON MacCARTNEY. REDUCING RUBBER.

114,577. THOMAS MADELEY. ARTIFICIAL STONE.

114,578. E. J. MARCH. Knife and Fork Scourers.



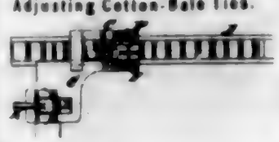
114,579. F. W. MARSTON. Reversible Hinges.



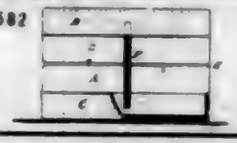
114,580. JOHN F. MARTIN. Buckles



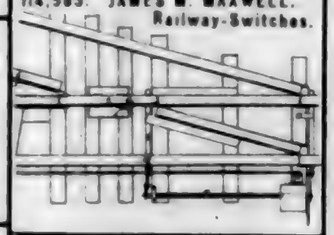
114,581. M. MARTIN. Adjusting Cotton-Bale Ties.



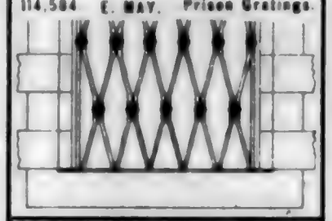
HENRY MATIER. Paper-Boxes. 114,582



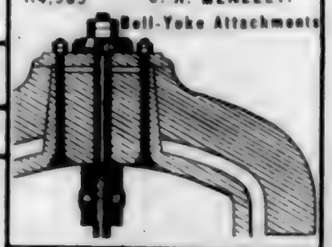
114,583. JAMES H. MAXWELL. Railway-Switches.



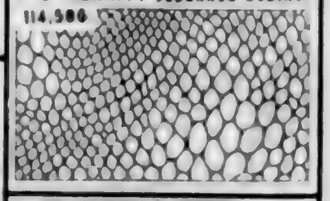
114,584. E. MAY. Prison Gratings.



114,585. C. H. MENEELY. Bell-Yoke Attachments



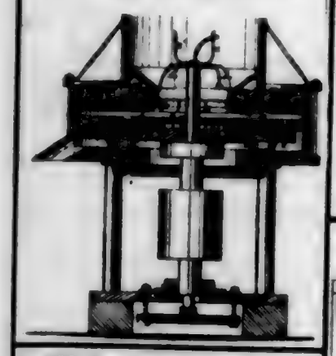
F. S. MERRITT. Japanned Leather. 114,586



114,587. GEORGE F. MORSE. Railway-Car and Engine Trucks.



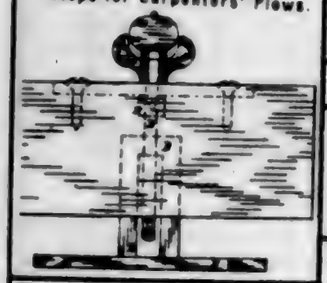
114,588. M. MORSE & C. H. MORSE. Flock-Cutting Machines.



114,589. E. NEWCOMER. Chopping-Machines



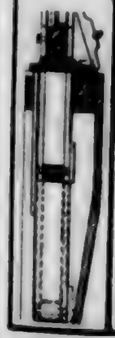
114,590. THOMAS NICHOLS. Stops for Carpenters' Plows.



114,591. GEORGE NOTMAN. Horse Hay-Rakes.



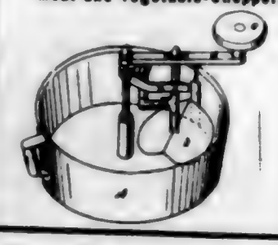
114,592. CHARLES OBLENIS. Carriage-Windows.



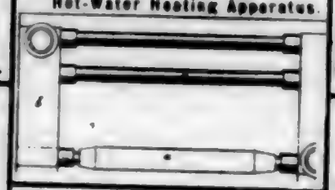
114,593. Construction of Bird-Cages. G. R. OSBORN & D. A. DRAYTON.



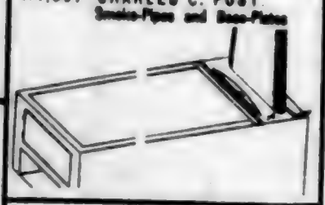
114,594. WILLIAM H. PIERCE. Meat and Vegetable-Choppers.



114,595. A. C. PENTLAND. Hot-Water Heating Apparatus.



114,597. CHARLES C. POST. Smoke-Pipes and Base-Plates



114,598. GEORGE PILE. TANNING

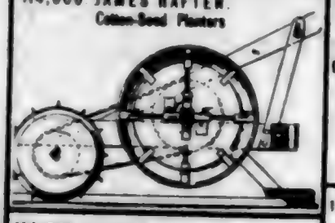
114,598. JOHN G. POWELL. Button-Hole Cutters.



114,599. PROCTOR & HAMILTON. Treadles.



114,600. JAMES RAFTER. Cotton-Seed Planters

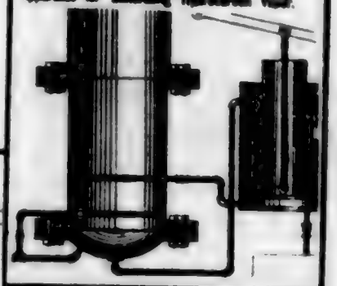


114,601. JAMES REES. Adjustable Cut-Offs



114,602. NATHANIEL B. RICE. OBTAINING GELATINE FROM BONES, HORN-PITH,

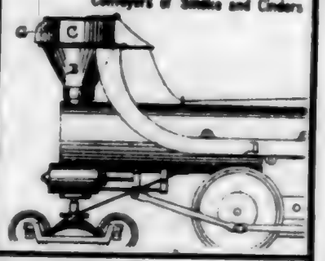
114,603. W. B. ROBERTS. Apparatus for Burning Hydrocarbon Vapor.



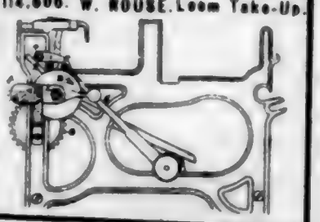
114,604. CHARLES E. ROBINSON. Tuck-Creasers



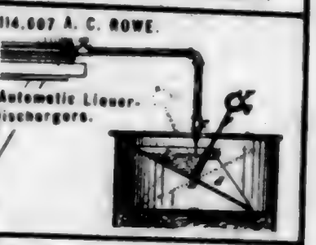
114,605. AUGUSTA M. RODGERS. Conveyers of Smoke and Cinders



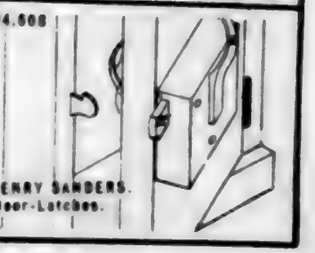
114,606. W. ROUSE. Loom Take-Up.



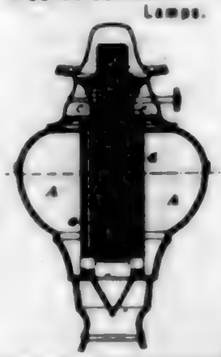
114,607. A. C. ROWE. Automatic Lifter-Dischargers.



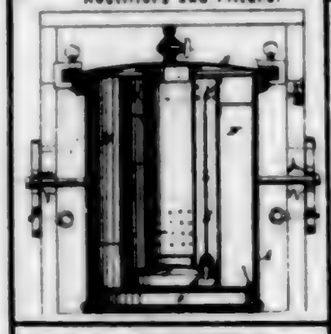
114,608. HENRY SANDERS. Door-Latches.



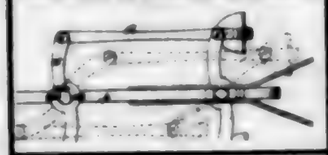
114,609. WILLIAM SCARLETT. Lamps.



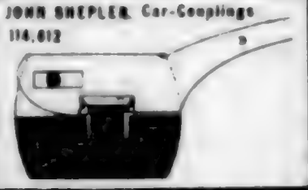
114,610. JOHN C. SCHNELL. Rectifiers and Filters.



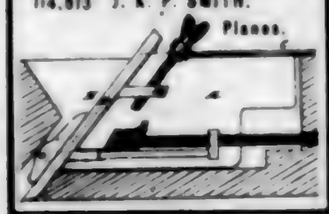
114,611. M. R. SHALTERS. Plows.



JOHN SHEPLER. Car-Couplings 114,612



114,613. J. K. P. SMITH. Planes.



114,614. SAMUEL SMITH. Heating-Stove.



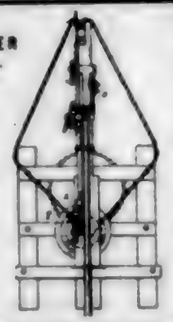
114,615. JOHN SMITLEY. Surgical-Bandages.



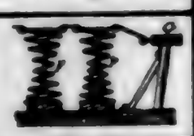
114,616. DANIEL SNELL. Tumbling-Shafts.



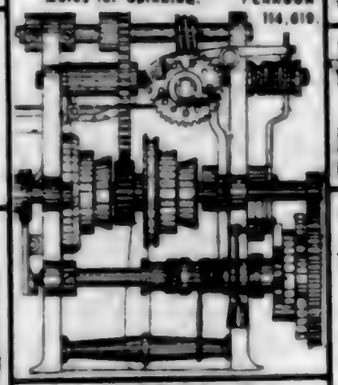
114,617. J. W. SPANGLER & W. L. BOYD. Rock-Drilling Machines.



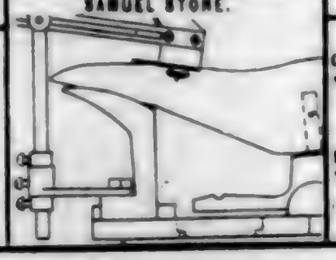
114,618. GEORGE SPECKNER. Spring Bed-Bottoms.



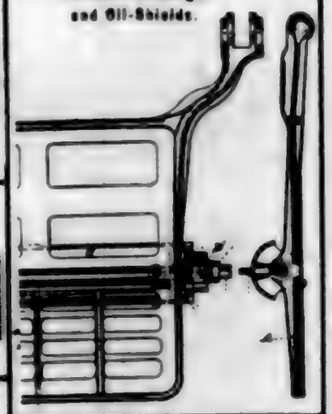
J. STEAD, J. HOLCROFT & F. R. PEARSON. Mules for Spinning. 114,619.



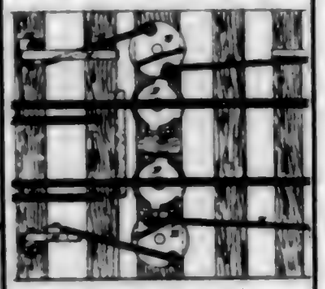
114,620. Shank Marking-Tools. SAMUEL STONE.



114,621. H. B. STOOPS. Treadle-Bearings and Oil-Shields.



114,622. H. STRAIT. Railway-Switches.



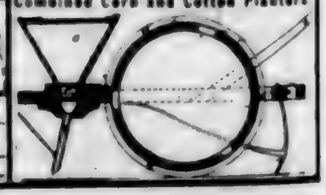
114,623. A. STUTZMAN. Snow-Plows.



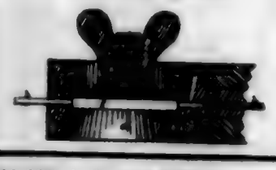
114,624. A. W. THOMAS. Tenoners.



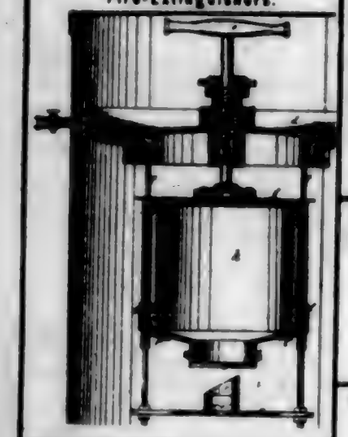
114,625. WILLIAM B. TOWNES. Combined Corn and Cotton Planters.



114,626. J. A. TRAUT. Adjustable Bevels.



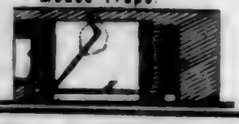
114,627. J. S. VAN DYNE. Fire-Extinguishers.



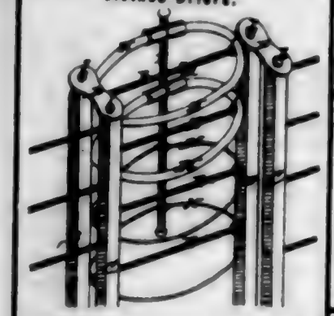
114,628. P. H. WATSON. Car-Wheels.



114,629. HENRY S. WELLER. Mouse-Traps.



114,630. L. M. WHITMAN. Clothes-Driers.

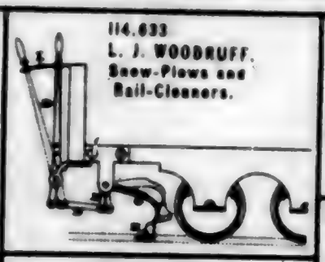


114,631. H. B. WILKIN. Buckles.

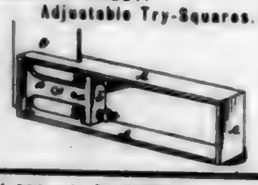


114,632. W. WILSON. WALL-PAPERS.

114,633. L. J. WOODRUFF. Snow-Plows and Rail-Cleaners.



114,634. L. BAILEY. Adjustable Try-Squares.



114,635. A. BARROWS. Pipe Attachments in Plumbing.



114,636. HENRY B. BEACH. Tea-Trays.



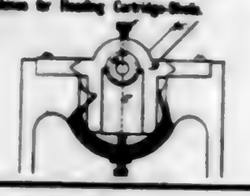
114,637. GEORGE A. BEIDLER. Propulsion of Vessels.



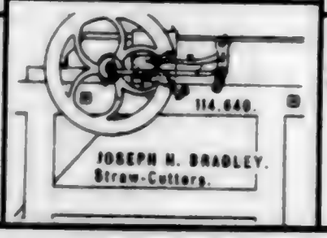
114,638. J. BOOKER. Tree-Tubs.



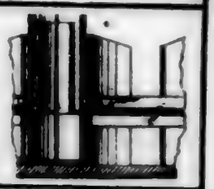
114,639. T. V. BOYDON. Machine for Heading Cartridge-Shells.



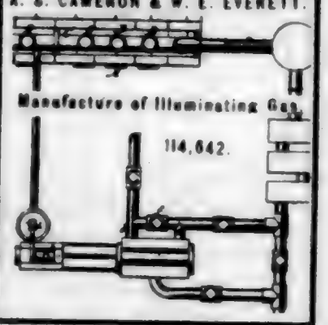
114,640. JOSEPH H. BRADLEY. Straw-Cutters.



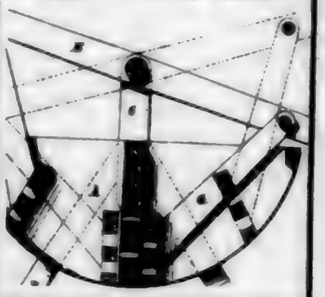
114,641. S. BUNN. Puddling-Furnaces.



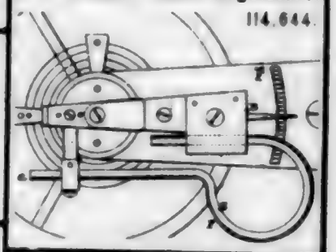
A. S. CAMERON & W. E. EVERETT. Manufacture of Illuminating Gas. 114,642.



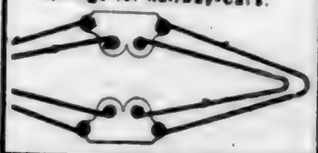
EDWARD R. CHAMBERLIN. 114,643. Washing-Machines.



J. P. CLARK. Watch-Regulators. 114,644.



114,645. EDWARD CLIFF. Springs for Railway-Cars.



114,646. E. P. COOLEY. Whisk-Brooms.



114,647. B. A. COOPER & C. SOUTHWORTH. Tassel-Heads.



114,648. R. T. CORNELL. Spring-Mattresses.



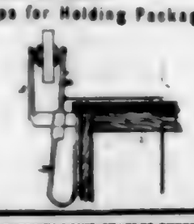
114,649. C. U. CRANDALL. School-Desk Joints.



114,650. DAVIS & BUNNELL. Water-Wheel Gates.



114,651. D. DICK. Clamps for Holding Packages.

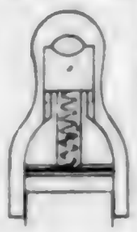


114,652. CHARLES PITKIN. PRODUCING THE ELECTRIC LIGHT.

114,653 WILLIAM C. DODGE. Breech-Loading Fire-Arms



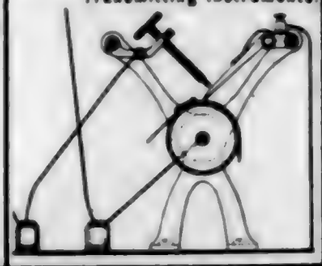
114,654. A. B. DOWELL. Trace-Fasteners.



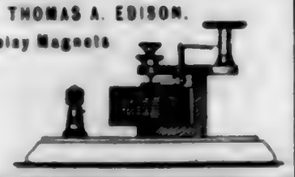
114,655. N. DUBRUL. Cigar-Molds.



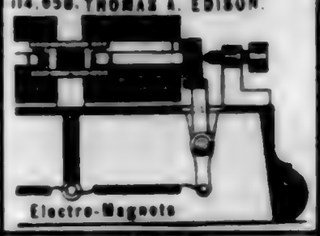
114,656 THOMAS A. EDISON. Transmitting Instruments.



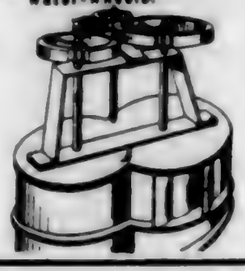
114,657 THOMAS A. EDISON. Relay Magnets



114,658. THOMAS A. EDISON. Electro-Magnets

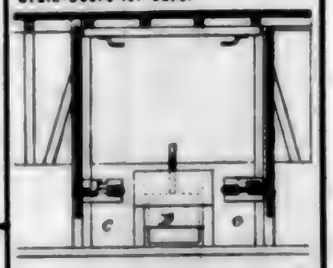


114,659 M. FLANIGAN. Water-Wheels.



114,660 CANCELED.

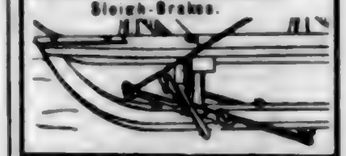
114,661 L. F. FRAZEE. Grain-Doors for Cars.



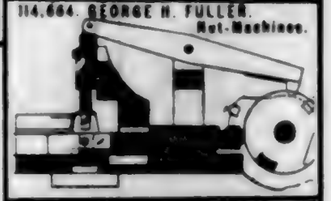
114,662. M. G. FREEMAN. Iron-Culverts.



114,663. GEORGE C. FULLER. Sleigh-Brakes.



114,664. GEORGE H. FULLER. Nut-Machines.



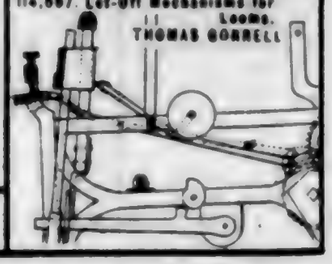
114,665. THOMAS GARRICK. Household Implements.



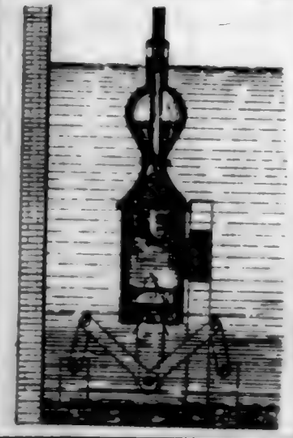
114,666. F. W. GORDON. Steam-Boilers.



114,667. Let-Off Mechanisms for Looms. THOMAS GORRELL



114,668. T. B. GOULDING. Pumps.



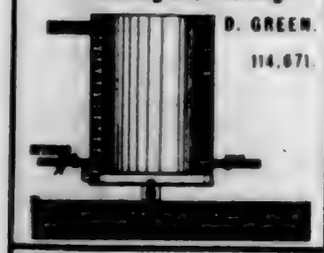
114,669. E. A. GRANT. Surgical Instruments



114,670. GEORGE A. GRAY, Jr. Car-Axle Lathes.



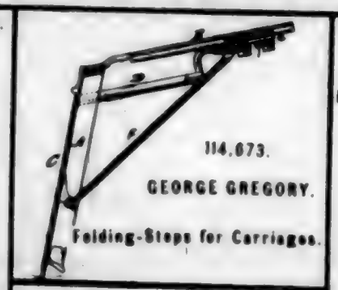
Mashing and Brewing. D. GREEN. 114,671.



114,672. H. K. GREGG. Envelopes.



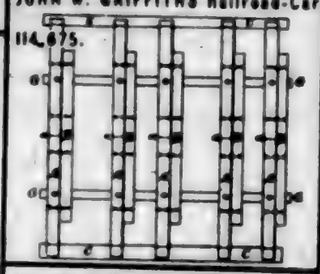
114,673. GEORGE GREGORY. Folding-Steps for Carriages.



D. A. GRIFFITH. Stock-Markers. 114,674.



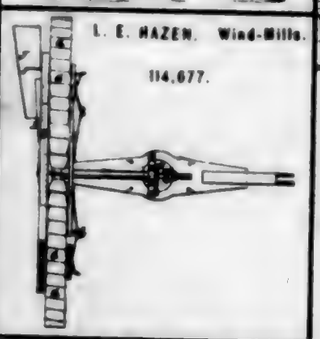
JOHN W. GRIFFITHS Railroad-Car 114,675.



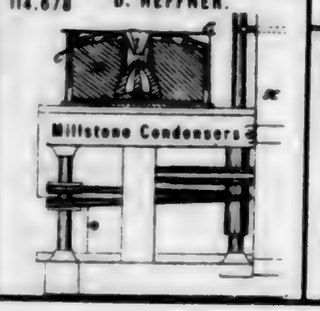
Attaching Springs to Carriages. U. S. HALL. 114,676.



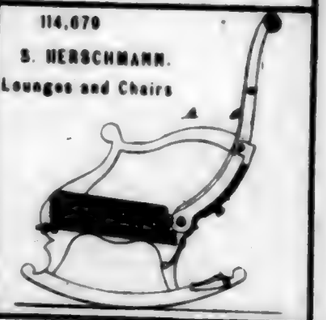
L. E. HAZEN. Wind-Mills. 114,677.



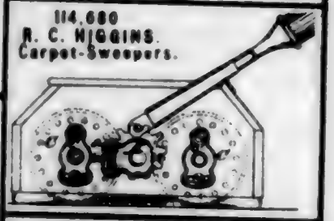
114,678 D. HEFFNER. Millstone Condensers



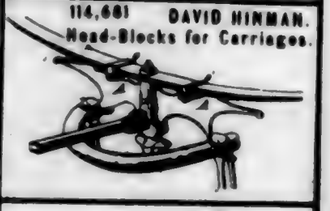
114,679 S. HERSCHMANN. Lounges and Chairs



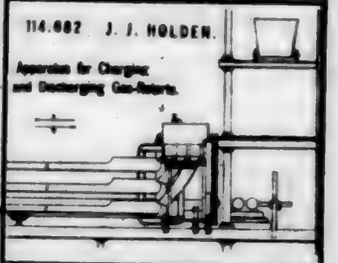
114,680 R. C. HIGGINS. Carpet-Sweepers.



114,681 DAVID HINMAN. Head-Blocks for Carriages.



114,682 J. J. HOLDEN. Apparatus for Charging and Discharging Gas-Retorts.



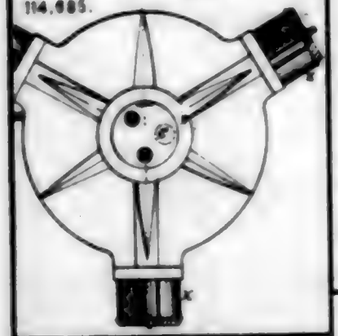
114,683 B. HOLLY. Pressure-Regulators.

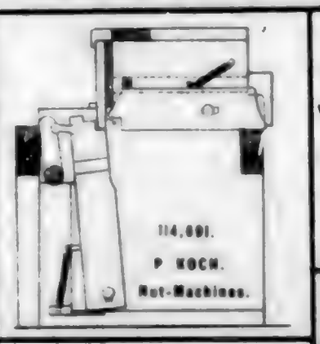


C. F. H. HUFF. A Sofa Bedsteads. 114,684



ROBERT HUGHES. Rotary-Engines.
114,685.

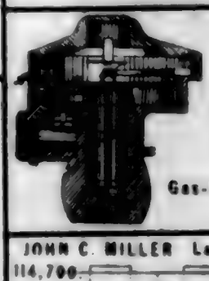




114,691.
P. KOCH.
Nut-Machines.

114,697
R. V. MARTIN
Whisk-Brooms.

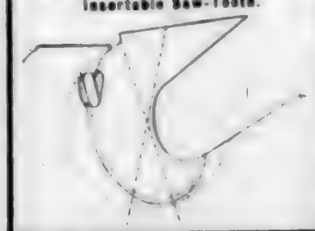




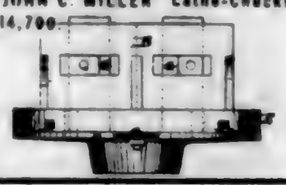
114,692.
MARSHALL LEFFERTS.
Chemical Electric-Telegraphs.

114,690.
JOSEPH S. MERRIKEN.
Gas-Regulators

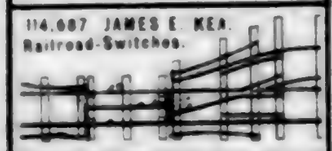
114,686 WILLIAM H. JVENS.
Insertable Saw-Teeth.



JOHN C. MILLER. Lathe-Chucks.
114,700.



114,687 JAMES E. KEA.
Railroad-Switches.

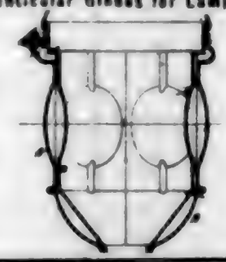


114,693. GEORGE T. LEWIS.
GRINDING PHOSPHATE SUBSTANCES.

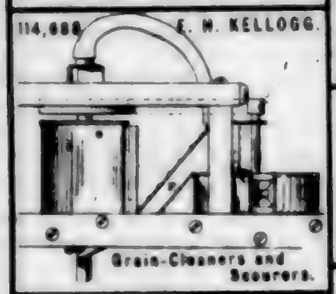
114,694.
JOHN P. LINDSAY.
Water-Meter



114,701 GEORGE W. MORRISON.
Lenticular Globes for Lamps.

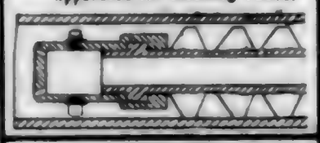


114,688 E. M. KELLOGG.

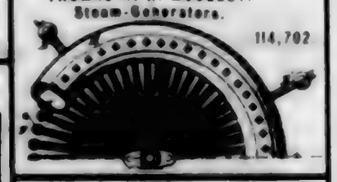


Grain-Cleaners and Scourers.

114,695. CHARLES LUNGLEY.
Apparatus for Cleaning Tubes.



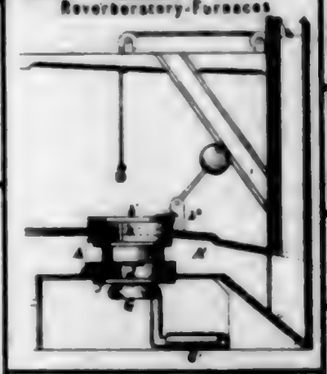
THOMAS W. H. MOSELEY.
Steam-Generators.
114,702.



114,689 EDWARD S. KENNEDY.
Securing Collars to Lamps, &c.



114,696. THOMAS W. LYON.
Reverberatory-Furnaces



JOSEPH N. NEWELL. Wrenches.
114,703.



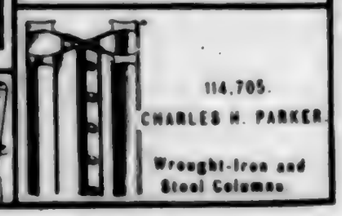


114,699.
WILLIAM R. KING.
Bee-Hives.

114,704. O. S. OSGOOD.
Bed-Bottoms.

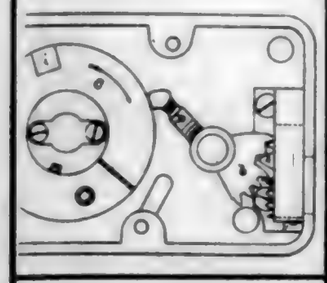
ROBERT McGRATH.
Sad-Irons
114,698.



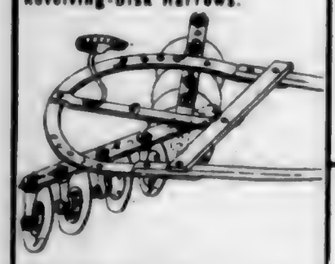


114,705.
CHARLES H. PARKER.
Wrought-Iron and Steel Columns.

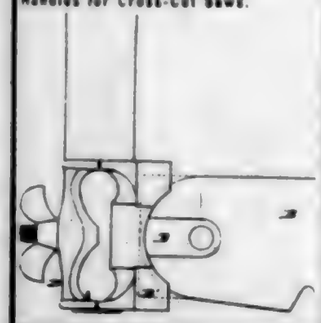
O. E. PILLARD. 114,706.
Permutation-Locks.



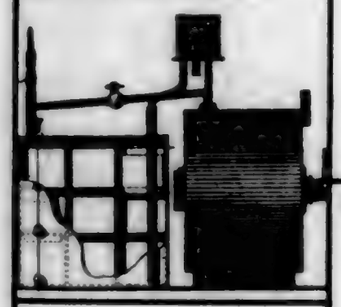
114,707. J. F. POND.
Revolving-Disk Harrows.



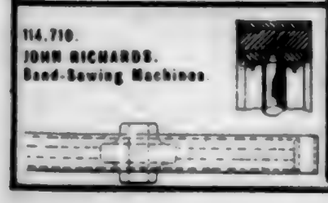
114,708. ROBERT REID.
Handles for Cross-Cut Saws.



114,709. GEORGE REX.
Apparatus for Carbureting Air.

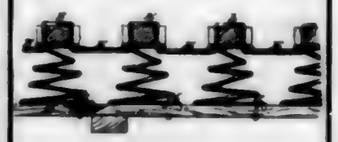


114,710.
JOHN RICHARDS.
Band-Sawing Machines.

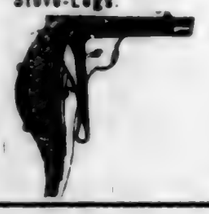


114,711. HARVEY SAWYER.
MEDICAL COMPOUNDS FOR CURE OF RHEUMATISM.

114,712. GEORGE W. ROBBINS.
Spring Bed-Bottoms.



114,713 BENJAMIN F. ROBERTS.
Stove-Legs.



114,714. A. ROBERTSON.
Butter-Pails, &c.



114,715. JOB ROBINSON.
Washing-Machines.

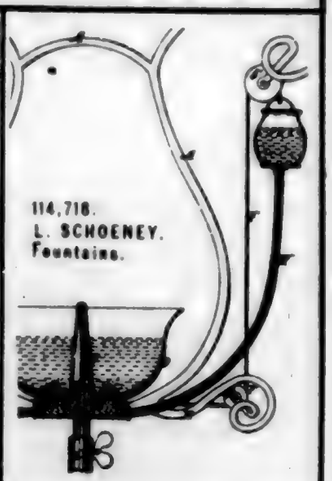


114,716. W. G. RYAN. Lubricators.

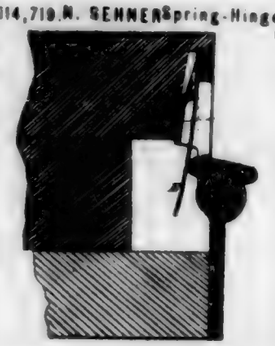


114,717. JOHN RILEY.
COMPOSITIONS FOR COVERING STEAM-BOILERS, &c.

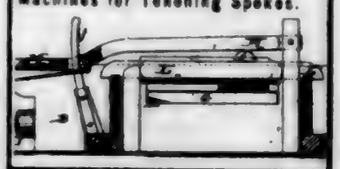
114,718.
L. SCHOENEY.
Fountains.



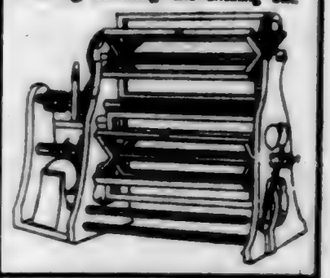
114,719. N. SENNER. Spring-Hinges



114,720. A. SHERMAN.
Machines for Tenoning Spokes.



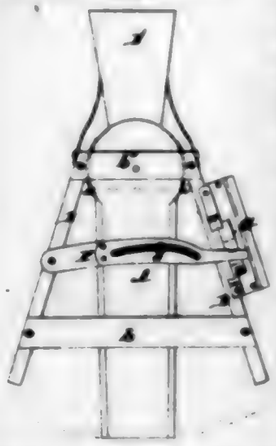
114,721. SAMUEL K. SMITH.
Measuring, Stretching and Shaving Silk.



114,722.
F. SOUWEINE.
Extension-Tables.



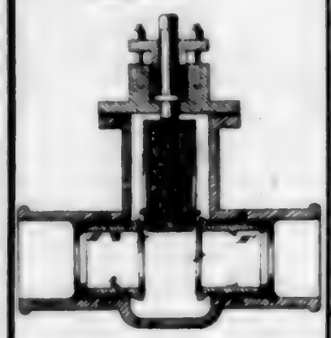
114,723.
WILLIAM HENRY STINSON
Grain-Registering Devices.



114,724
L. R. STOCKBRIDGE.
Balmorals or Laced Boots.



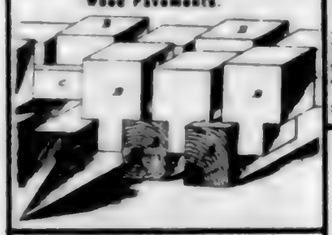
114,725. J. H. STRENLI.
Stop-Valves.



114,726.
L. S. TEWELL.
Cultivator-Plows.



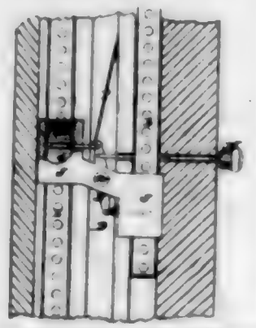
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Wood Pavements.



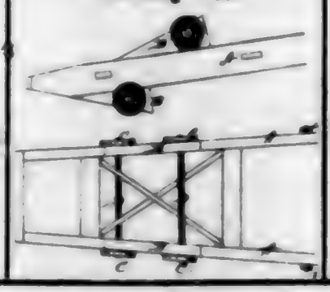
114,728. C. L. TOPLIFF
Clothes-Line Holder



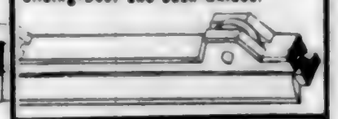
114,729 C. VAN HOASEN
Sash-Balances



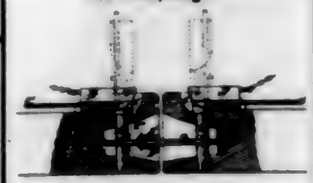
114,730. WAGNER & BUSHNELL
Elevating Truck



114,731 GEORGE L. WAITT.
Sliding-Door and Sash Guides.



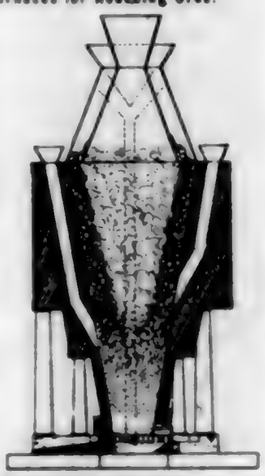
114,732. WILLIAM K. WALLACE &
EDWARD C. RUTLEDGE.
Car-Couplings.



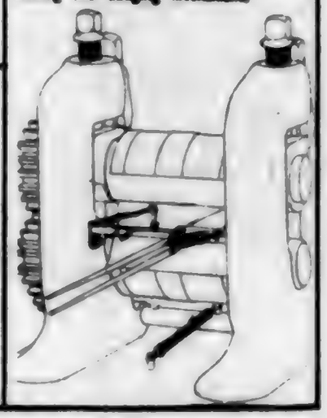
114,733. JOHN C. WANDS.
Metallic Roofings.



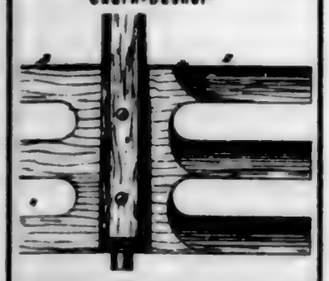
114,734. JOSEPH E. WARE.
Furnaces for Reducing Ores.



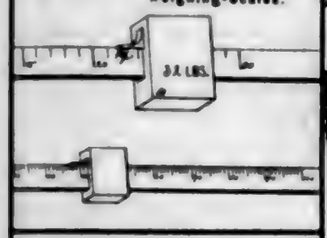
114,735. H. WATERS.
Guiding and Gauging Mechanism.



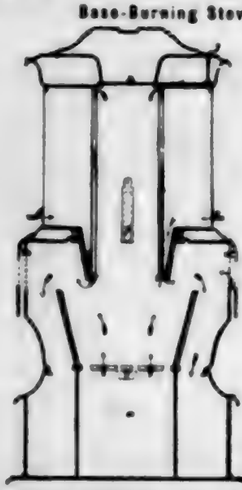
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Churn-Dasher.



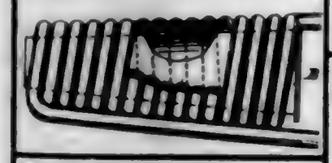
114,737. H. P. WHEELER.
Weighing-Scales.



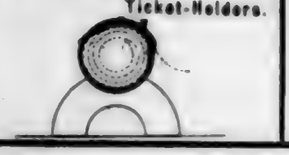
114,738 A. WHITE.
Base-Burning Stoves.



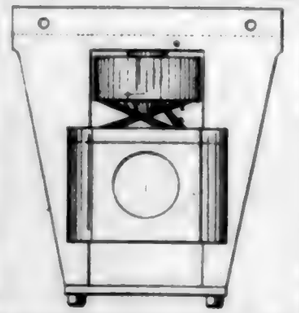
114,739 JOHN WOOD, Jr.
Tuyeres.



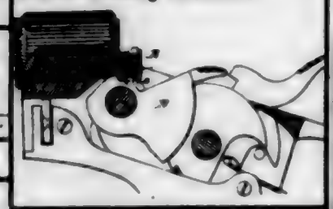
114,740. E. M. WRIGHT.
Ticket-Holders.



114,741. S. YERKES, Jr.
Railway-Car Springs

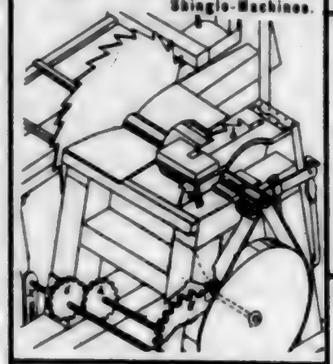


114,742. J. YGLESIAS.
Breech-Loading Fire-Arms.

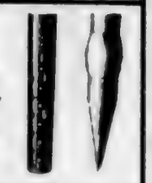


4,370. WILLIAM BERRY.
DETERGENT COMPOUNDS.

4,371 W. R. CLOSE.
Shingle-Machines.

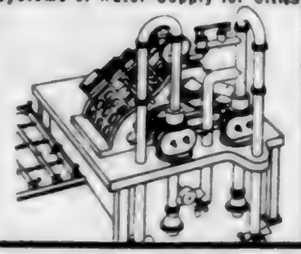


4,372

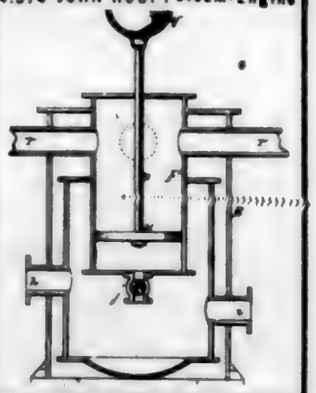


N. W. Green,
Well Tubing.

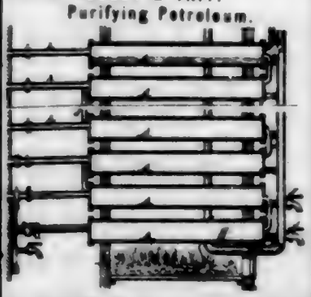
4,373. B. HOLLY.
Systems of Water-Supply for Cities



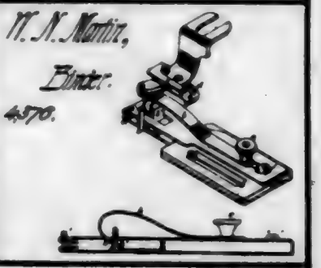
4,374 JOHN HOUPT Steam-Engine



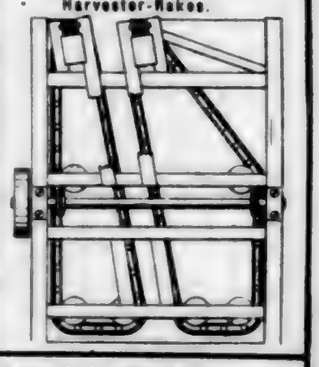
4,375. KELLEY & TAIT.
Purifying Petroleum.



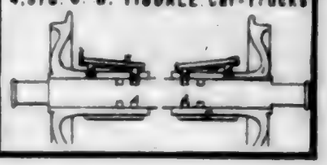
W. N. Martin,
Binder.
4,376.



4,377. C. G. DICKINSON.
Harvester-Rakes.



4,378. C. D. TISDALE. Car-Trucks



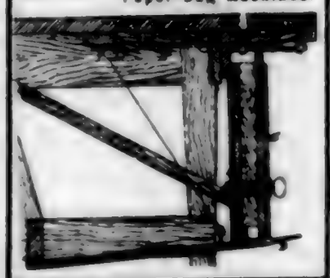
ILLUSTRATIONS OF PATENTS

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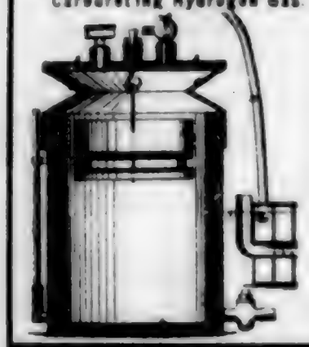
THE UNITED STATES PATENT OFFICE

MAY 16, 1871.

114,743. A. ADAMS. Paper-Bag Machines.



114,744. JACOB AMBUHL. Carbureting Hydrogen Gas.



CHARLES C. ASH. 114,745. Car-Replacers.



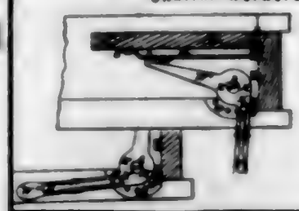
WILLIAM B. BAKER. Carriage Holdbacks. 114,746.



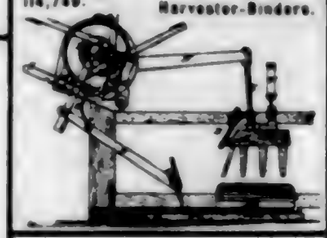
114,747. JOHN BARNES. Harvesters.



114,748. HENRY H. BARR. Shutter-Workers.

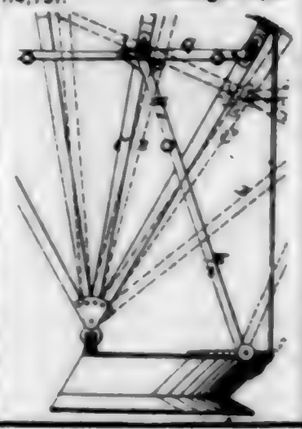


114,749. JOSEPH BARTA. Harvester-Binders.

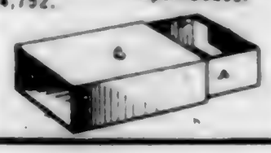


114,750. J. C. BATTERSBY. Sticking or Adhesive Plasters.

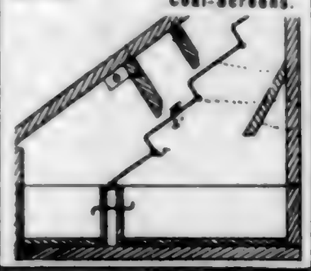
WILLIAM BAUDER. 114,751. Carriage-Tops.



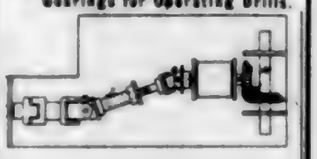
P. BEER. 114,752. Paper-Boxes.



114,753. E. G. BELKNAP. Coal-Screens.

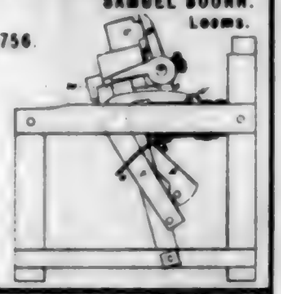


114,754. A. BLATCHLY. Gearings for Operating Drills.

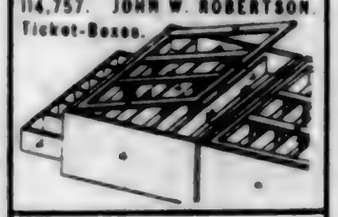


E. BOLMAN & G. S. W. CLARKE. Car-Couplings. 114,755.

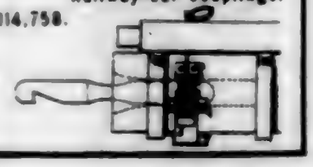
SAMUEL BOORN. Looms. 114,756.



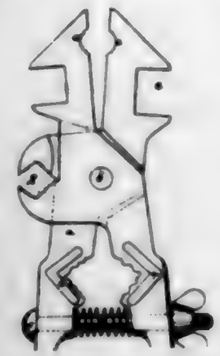
N. C. BURSON & JOHN W. ROBERTSON. 114,757. Ticket-Boxes.



P. CAMPBELL. Railway-Car Couplings. 114,758.



GEORGE J. CAPEWELL. 114,759. Combined Tools.



WILLIAM J. CARROLL. 114,760. Cotton-Bale Ties.

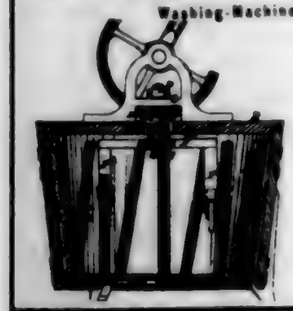


114,761. ISAAC CHARLES. CEMENTS FOR COATING AND SEALING COFFINS, &c.

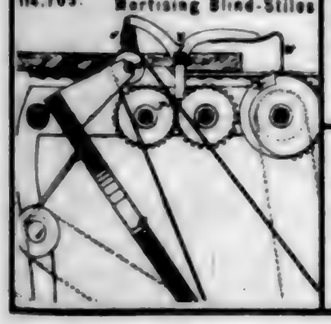
114,762. JOHN CHURCHMAN. Grates for Stoves, &c.



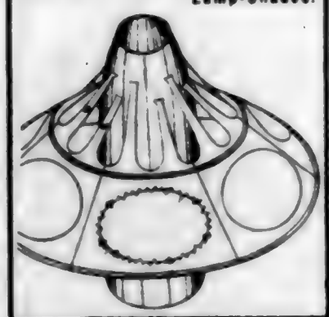
114,764. H. G. CLARY. Washing-Machines.



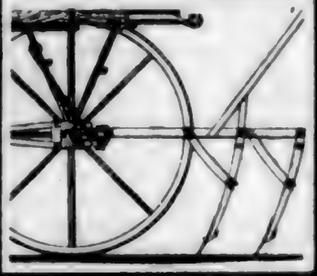
L. H. COLLINS. 114,765. Mortising Blind-Stiles.



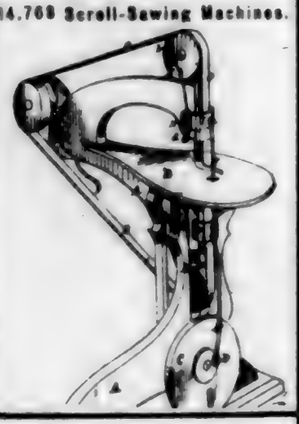
114,766. H. H. COLLINS. Lamp-Shades.



114,767. JOHN H. CONLEY. Cultivators.

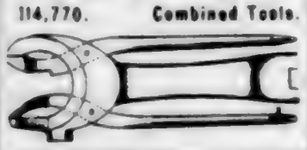


GEORGE COOK. 114,768 Scroll-Sawing Machines.

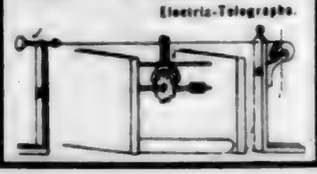


114,769 CANCELED.

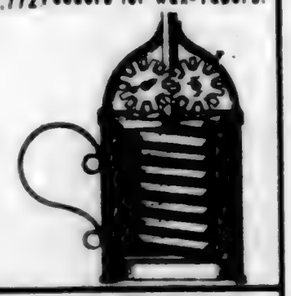
JOHN W. CURRIER. 114,770. Combined Tools.



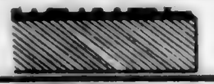
114,771. L. G. D'ARLINCOURT. Electric-Telegraphs.



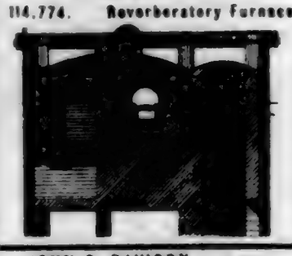
SAMUEL G. DARE. 114,772. Feeders for Wax-Tapers.



Elastic Types. 114,773. H. J. DAVIES.



JOSEPH DAVIS. 114,774. Reverberatory Furnaces.

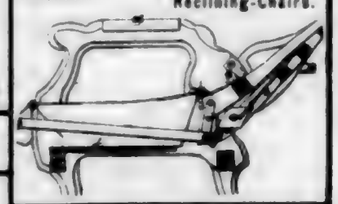


JOHN C. DAVISON. 114,775. Acid Bottles for Fire-Extinguishers.

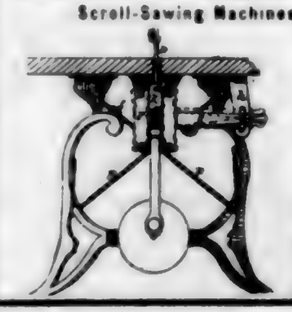


114,776 GEORGE O. LOUIS DEGENHARDT. PURIFYING WATER FOR STEAM-BOILERS.

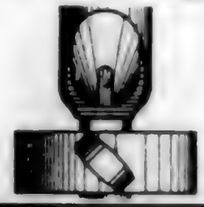
EDWARD DIETZ. 114,777. Reclining-Chairs.



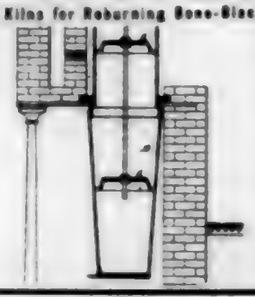
WILLIAM H. DOBSON. 114,778. Scroll-Sawing Machines.



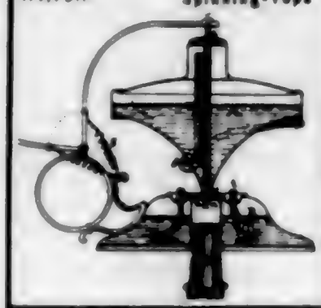
114,778. JOHN E. DONALDSON.
Molding-Planes.



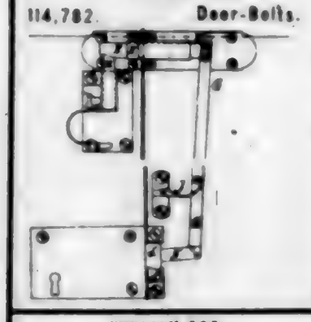
EDWARD P. EASTWICK. 114,780
Kilns for Reburning Bone-Black.



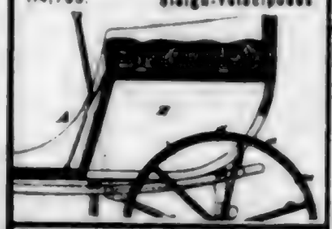
P. ELEY.
114,781. Spinning-Tops



F. ENGELBRECHT.
114,782. Door-Bolts.

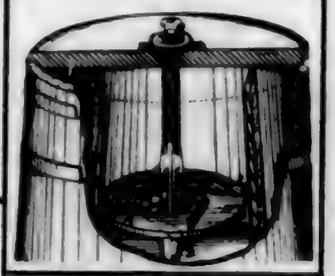


WILLIAM ERD.
114,783. Sleigh-Velocipedes



[114,784] WILLIAM P. FENNELL.
COMPOUNDS FOR CURE OF CHILLS

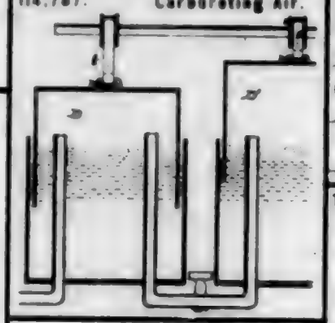
114,785. JOHN E. FINLEY.
Churns.



JAMES FISH.
114,786 Stereotype-Blocks.



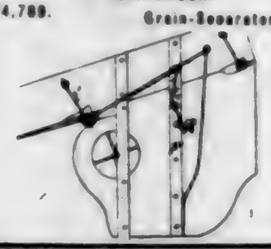
R. F. FITTS.
114,787. Carbureting Air.



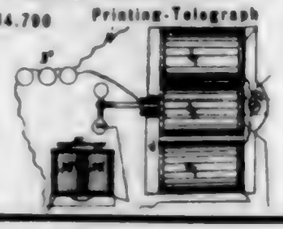
B. G. FITZHUGH.
114,788. Cooking-Stoves.



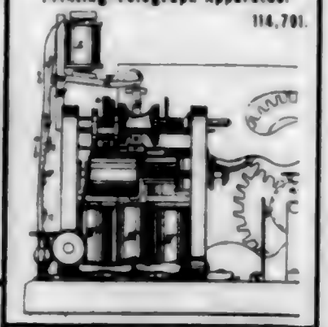
P. FLICKINGER.
114,789. Grain-Separators



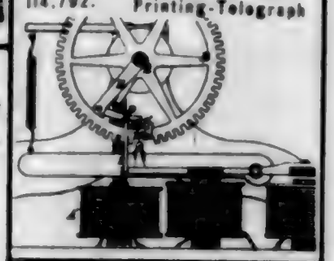
FOOTE & RANDALL
114,790 Printing-Telegraph



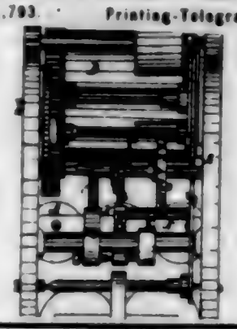
T. M. FOOTE & CHARLES A. RANDALL
Printing-Telegraph Apparatus.
114,791.



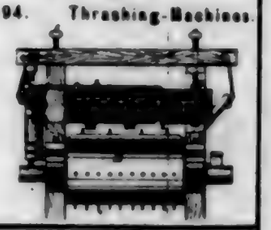
FOOTE & RANDALL.
114,792. Printing-Telegraph



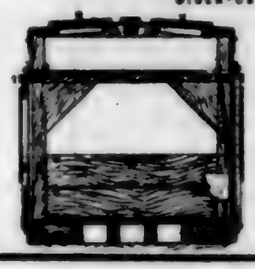
T. M. FOOTE & CHARLES A. RANDALL
114,793. Printing-Telegraphs.



JOHN FOREMAN.
114,794. Threshing-Machines.



G. W. FOX.
114,795. Stock-Cars.



114,796. N. FREY.
Wagon-Springs.



114,797. E. M. GEORGE.
Car-Couplings.

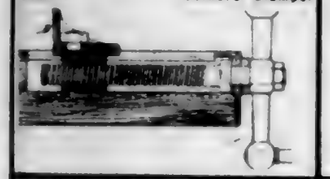


[114,798] LEANDER C. GIFFORD.
COMPOUNDS FOR PRESERVING FRUIT-TREES.

114,799. JACOB L. GOOD.
Meat-Choppers



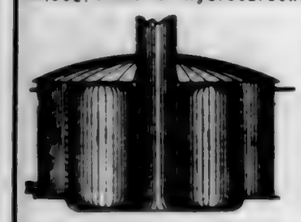
WILLIAM H. GOODCHILD.
114,800. Joiners' Clamps.



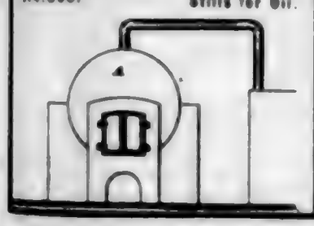
WILLIAM H. GOODCHILD.
114,801. Joiners Clamps.



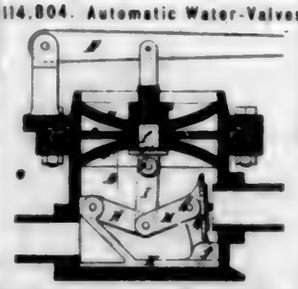
J. GRACIE.
114,802. Stills for Hydrocarbons.



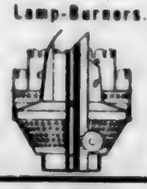
J. GRACIE.
114,803. Stills for Oil.



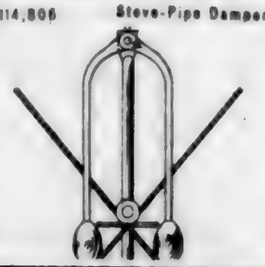
JOSEPH GUILD.
114,804. Automatic Water-Valves



E. J. HALE.
114,805. Lamp-Burners.



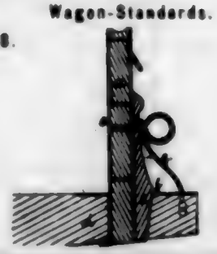
E. R. HALL & D. A. KEYES.
114,806 Stove-Pipe Dampers.



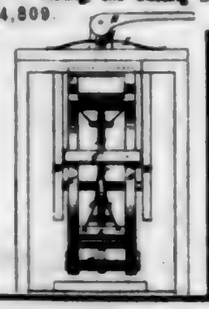
WILLIAM H. GOODCHILD.
114,807. E. C. HANCOCK. Projectiles.



J. HARDING.
Wagon-Standards.
114,808.



D. HARRINGTON.
Polishing, and Glossing Leather.
114,809.

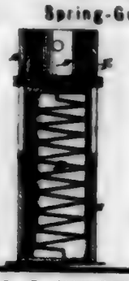


JAMES HARRISON.
COMPOUNDS
[114,810]

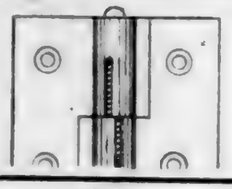
114,811. JAMES HARRISON.
Signs.



D. F. HARTMAN.
114,812. Spring-Guards



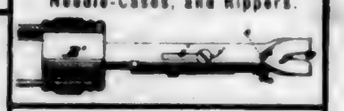
D. B. HAWKES.
114,813 Spring-Hinges.



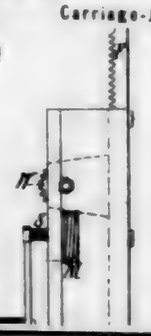
E. HEATH.
114,814 Dovetailing-Machines.



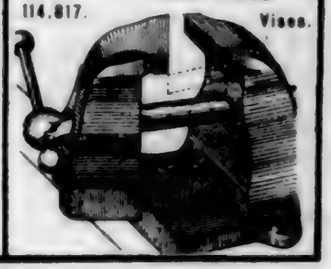
114,815 E. E. HENDRICK.
Needle-Cases, and Rippers.



DAVID HIESTAND.
114,816. Carriage-Jacks.



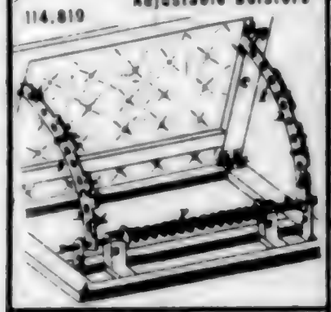
FRANK HIGEL.
114,817. Vises.



114,818. E. HOARE.
Traveling and Toilet Chairs.



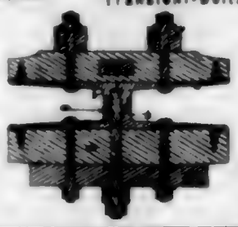
JACOB HOFMANN.
Adjustable Bolsters
114,819



114,820.
H. S. HOLMES & B. WILLIAMS.
Punch, Awl, and Knife.



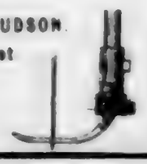
C. G. HOLSTEN.
114,821. Transient-Bolts



114,822. H. S. HOXIE.
Plow-Colters.



114,823
THOMAS HUDSON.
Presser-Foot



114,824. A. HYLAND.
Files.



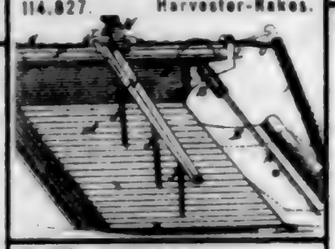
W. JOHNSON. 114,825.
Rack-Pulley Shade-Fixtures.



GEORGE F. JORDAN.
114,826 Washing-Machines.



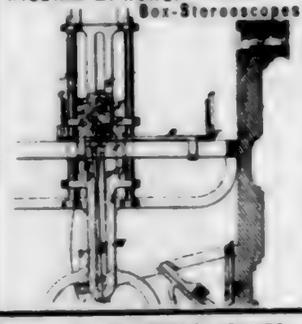
D. A KELLOGG.
114,827. Harvester-Rakes.



114,828. ROBERT P. KNAPP.
Improvement in Umbrellas.



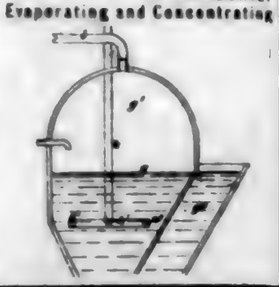
WILLIAM M. KOHL. 114,829
Box-Stereoscopes



114,830. CHARLES P. LEAVITT.
Treadles.



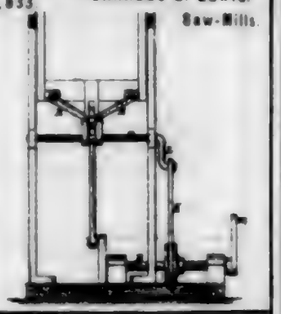
114,831. R. G. LECKIE.
Evaporating and Concentrating



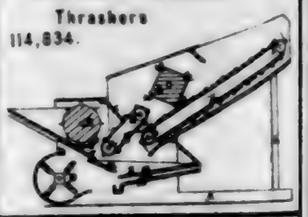
S. LEE.
114,832 Marine-Locomotives.



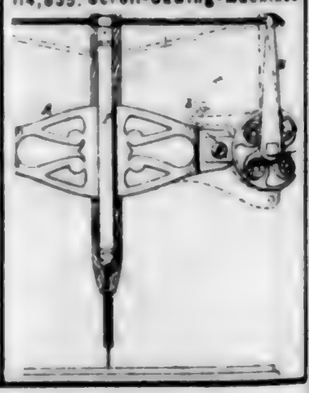
CHARLES E. LEWIS.
114,833 Saw-Mills.



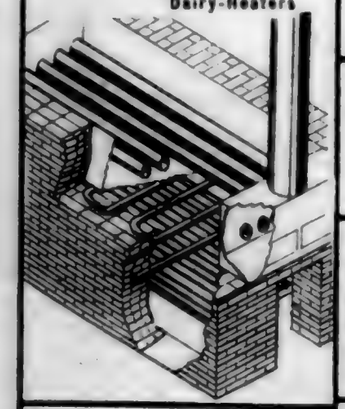
WILLIAM C. LEYBURN.
Thrashers
114,834.



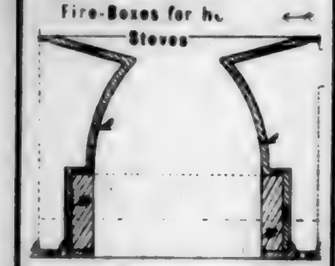
S. G. MASON.
114,835. Scroll-Sawing-Machines



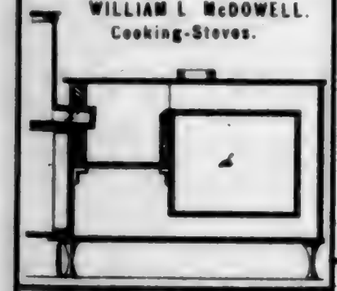
114,836.
GEORGE W. McCAMMON
& D. H. BURRELL
Dairy-Heaters



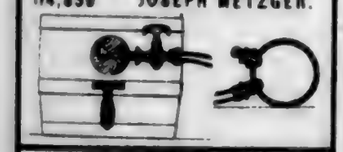
WILLIAM L. McDOWELL. 114,837
Fire-Boxes for ho ⟵
Stoves



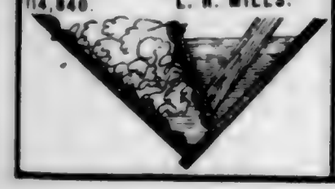
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WILLIAM L McDOWELL.
Cooking-Stoves.



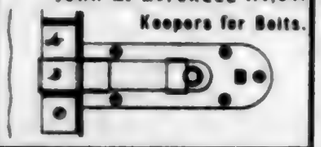
Aerating Beer-Barrels.
114,839 JOSEPH METZGER.



Washing-Machines.
114,840. L. R. MILLS.



JOHN M. MITCHELL 114,841
Keepers for Bolts.



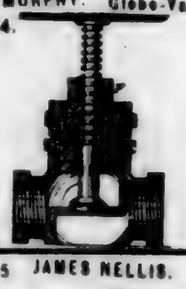
JOHN H. MORSE.
114,842. Sash-Holders.



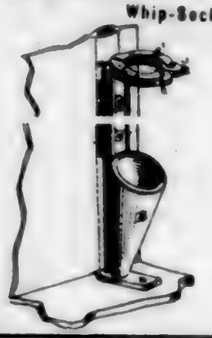
B. MOSER.
114,843. Curtain-Fixtures.



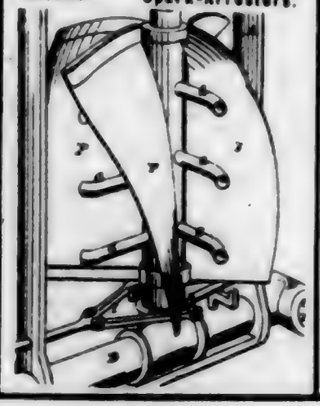
M. MURPHY. Globe-Valves.
114,844.



114,845 JAMES NELLIS.
Whip-Sockets.



MICHAEL O'CONNOR.
114,846. Spark-Arresters.

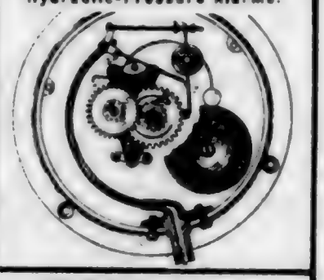


JOHN W. OSBORNE.
114,847. Foot-Brushes

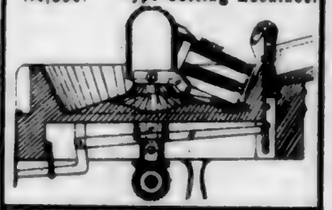


JOSIAH R. PHILLIPS.
PREVENTING THE
FLOW OF MERCURY.

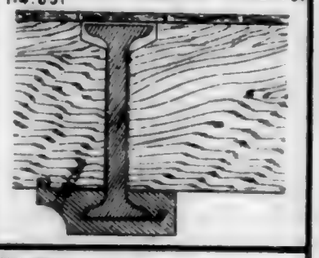
SHORB. PILLSBURY & 114,848
Hydraulic-Pressure Alarms.



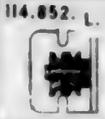
THOMAS J. PLUNKET
114,850. Type-Setting Machines.



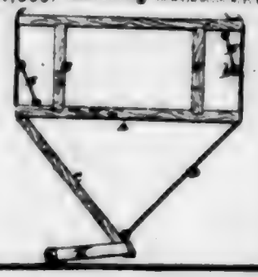
J. PRESTON.
Girder-Rests for Timbers.
114,851



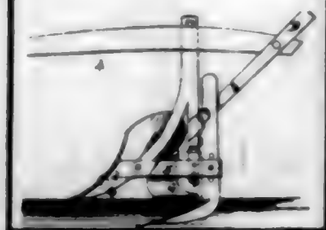
114,852. L. C. PRINDLE.
Curtain-Fixtures



F. W. RANDALL.
114,853. Securing Horse-Powers.



114,855. T. H. REYNOLDS. Plows.



114,856. ABRAM KEENE. "FIX" FOR PUDDLING AND OTHER FURNACES.

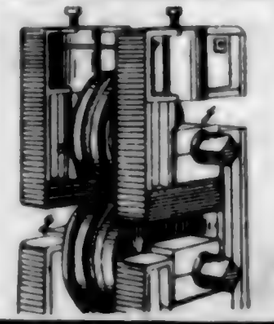
RICHMOND & CARPENTER 114,856. Finger-Rings.



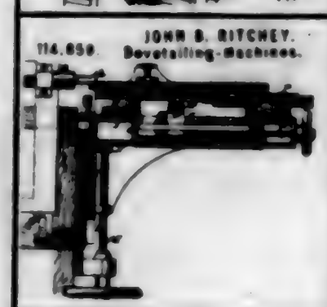
114,857 WILLIAM H. RIDLEY. Toggle-Pins for Nail-Machines.



JOHN RIGBY. 114,858 Housings for Rolls



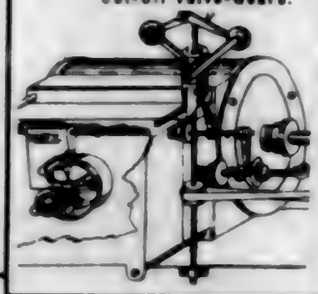
114,859. JOHN B. RITCHEY. Dovetailing-Machines.



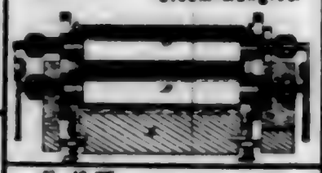
H. T. ROBBINS. 114,860. Kettle-Handles.



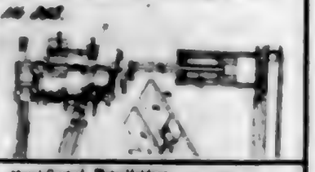
114,861. S. W. ROBINSON. Cut-Off Valve-Gears.



114,863. P. RUNDQUIST Steam-Mangles.

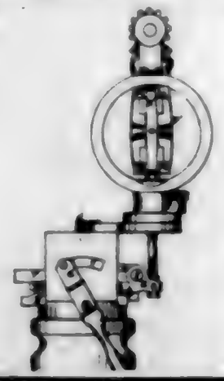


M. M. Fairchild. Sewing Silver. No. 2,862.

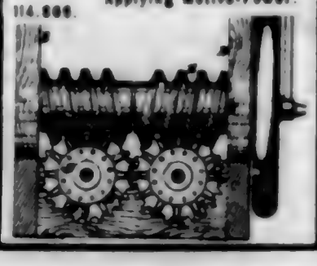


Metal-Covered Plate-Holders. 114,864. JAMES F. RYDER.

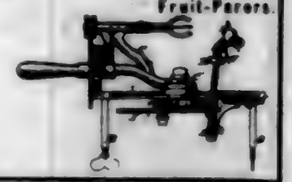
ROBERT SANDERSON. Steam-Valves and Governors. 114,865



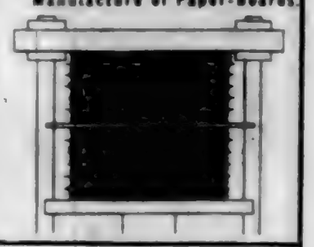
J. SCHLEY. Applying Motive-Power. 114,866.



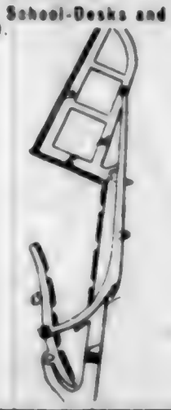
114,867. R. P. SCOTT. Fruit-Parers.



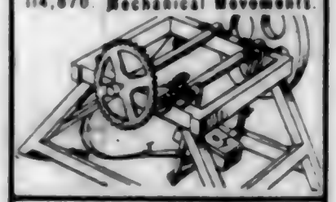
E. A. SEELEY. 114,868. Manufacture of Paper-Boards.



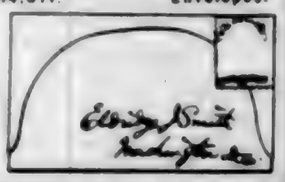
H. G. SELLMAN. School-Desks and Seats. 114,869.



ABRAM SHEAR. 114,870. Mechanical Movements.



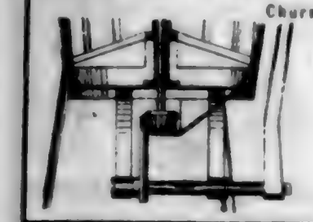
E. J. SMITH. 114,871. Envelopes.



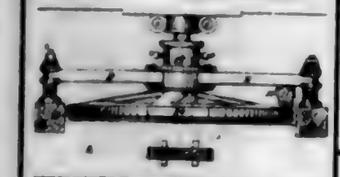
JAMES H. SMITH. 114,872 Gas-Retorts.



114,873 S. H. STEELE. Churns.



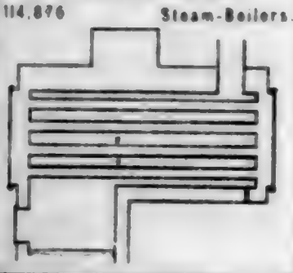
H. B. STEVENS. 114,874 Horse-Powers.



F. STRATTNER. 114,875 Shutter-Workers



DANIEL SULLIVAN. 114,876 Steam-Boilers.



JOHN B. SUTHERLAND. 114,877. Railway Axle-Boxes.

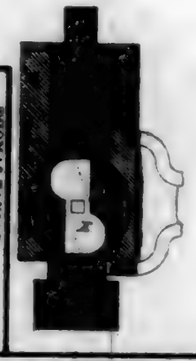


114,878 THOMAS SYMONDS Excavators.



THOMAS TAYLOR. IMPR. PAPER-PULP.

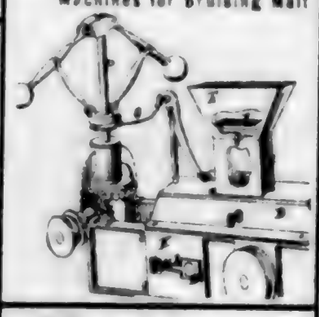
114,879. C. G. TAFT. Jr Hand-Stamps.



N. S. THOMPSON. 114,881 Seeding-Cultivators.



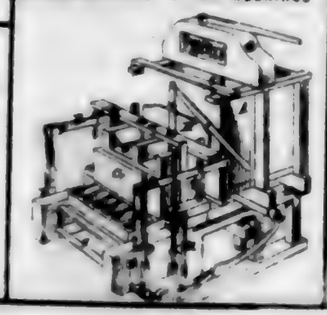
JAMES F. TIBBLE. 114,882 Machines for Bruising Malt



114,883. W. TOEPFER. Smoke-Stacks



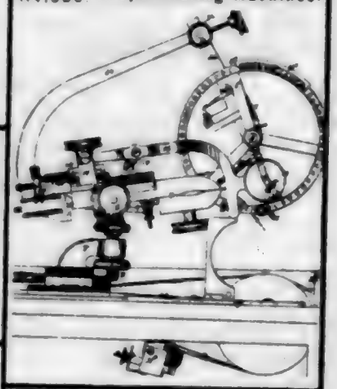
114,884. J. V. TOMPKINS. Brick-Machines



114,885. I. N. TOPLIFF Carriage-Bow Covers and Slat-irons.



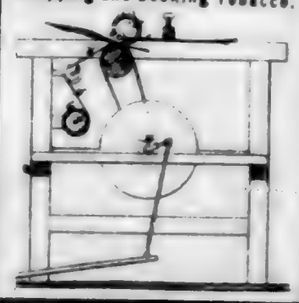
JAMES TREGURTHA. 114,886. Paper-Ruling Machines.



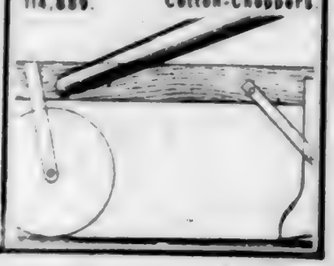
J. R. TUNNICLIFF. 114,887. Wrapper-Cutters.



J. R. TUNNICLIFF. 114,888 Stripping and Booking Tobacco.



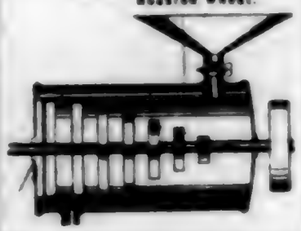
E. B. TURNIPSEED. 114,889. Cotton-Choppers.



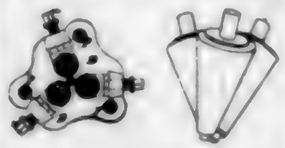
114,890 WILLIAM A. VANCE. Millstone-Balances.



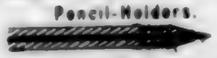
114,891 G. W. WAITT. Roasted Wheat.



WHILE, LEWIS, STRICKLAND & CADDICK. 114,892 Apparatus for Rolling Metal.



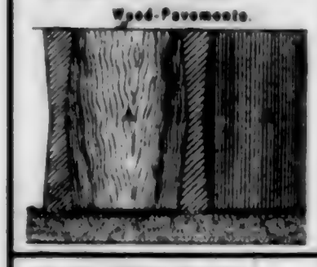
114,893. H. S. WICKHAM. Pencil-Holders.



114,894. JOHN B. WIGHTMAN. Measuring-Pails.



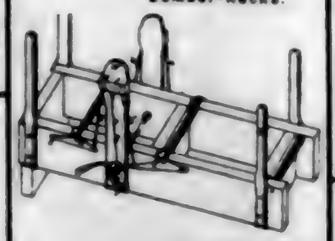
114,895 B. H. WILLET. Wood-Pavements.



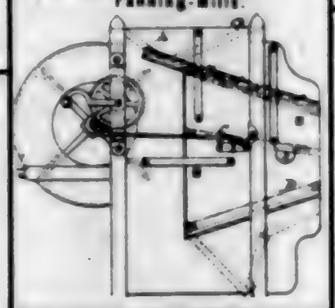
114,896 JAMES WILSON. Millstone-Dress.



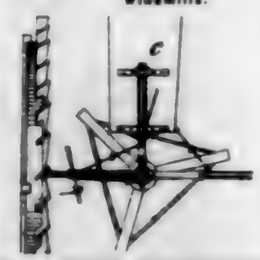
114,897. B. B. WOODCOCK. Lumber-Racks.



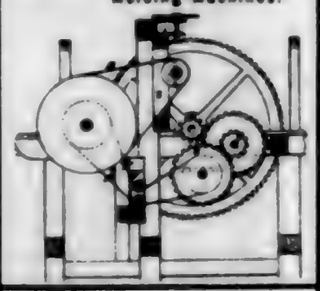
114,898 P. YOUNG. Fanning-Mills.



114,899 S. B. ABBOTT. Windmills.

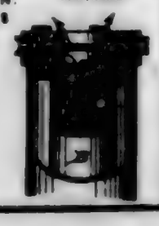


114,900. JOSEPH ALBRIGHT Holding-Machines.



114,901. DAVID ALONZO ALDEN. PREPARATION OF TOBACCO FOR CHEWING.

V. D. ANDERSON. 114,902. Steam-Radiators



114,903. V. D. ANDERSON. Pipe-Couplings.

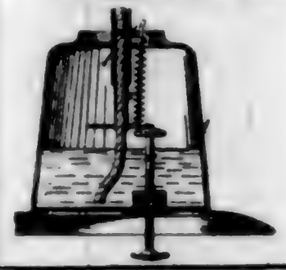


114,904. THOS. J. BARRON. WATER AND DRAIN-PIPES.

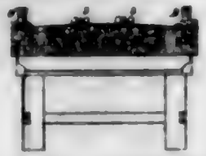
114,905. THOMAS J. BARRON. Improvement in Molds.



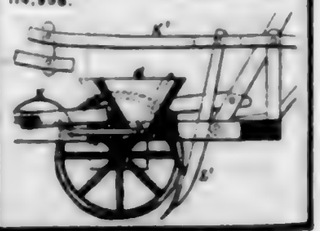
HENRY BEEBE. 114,906. Wick-Regulators for Lamps.



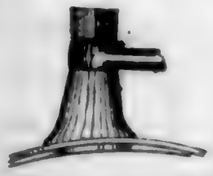
114,907 JOHN W. BOUGHTON & E. C. HUSSEY Tables for Making Wainscoting.



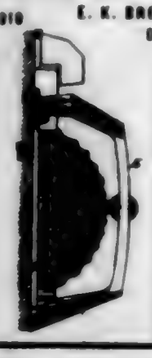
WILLIAM C. BOWMAN. 114,908. Corn-Planters.



114,909. F. A. BRADLEY. Top-Props for Carriages.

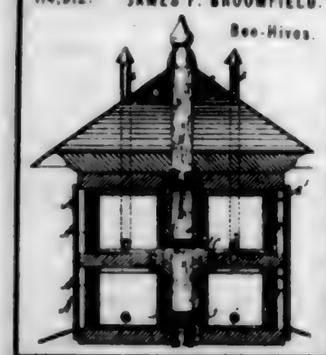


114,910 E. K. BRECKENRIDGE. Door-Latches.

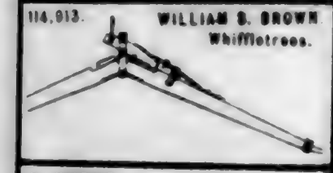


114,911. DAVID BROOKS. GALVANIC BATTERIES.

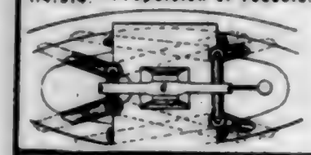
114,912. JAMES F. BROOMFIELD. Bee-Hives.



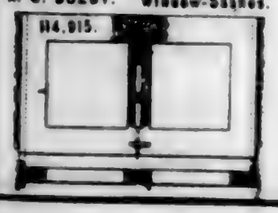
114,913. WILLIAM S. BROWN Whiffletrees.



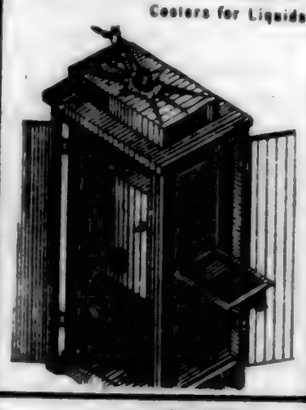
P. BURKE. 114,914. Propulsion of Vessels.



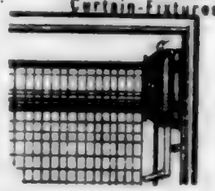
A. G. BUZBY. Window-Sashes. 114,915.



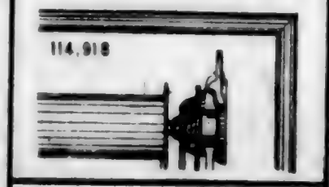
114,916. JOHN W. CAMPBELL, Sr. Coolers for Liquids.



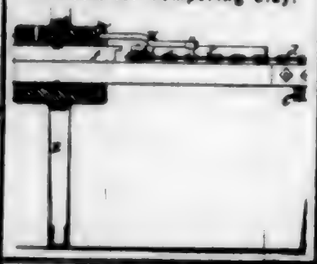
114,917. N. CAMPBELL Curtain-Fixtures.



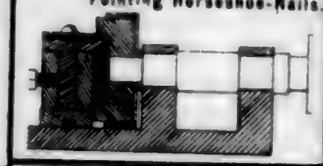
114,918



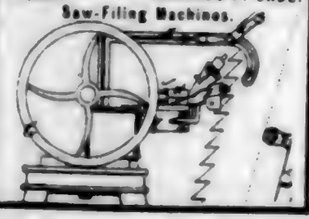
114,919 F. L. CARNELL. Wheels for Tempering Clay.



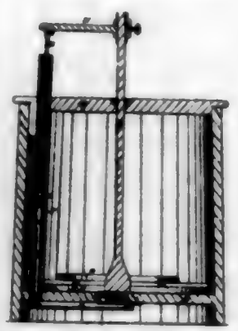
114,920. A. H. CARYL. Pointing Horseshoe-Nails.



114,921. CHARLES P. CASE. Saw-Filing Machines.



114,922. S. S. CASE. Churns.



114,923. JAMES P. CHAMBERLIN. Bed and Seat Springs.



114,924. S. CHESTER. Telegraph-Insulators.



F. L. CHURCHILL & R. C. BEACH Breeching-Holders for Harness. 114,925.



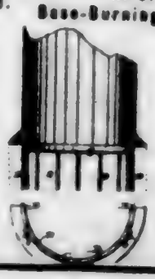
GEORGE W. COLBORN. 114,926. Attaching Saws



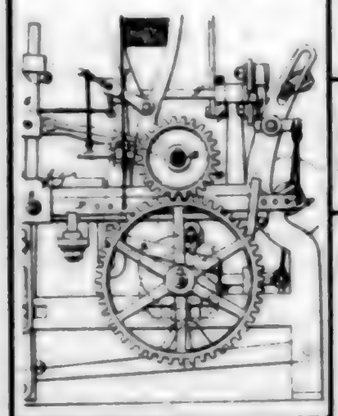
114,927. SAMUEL C. COLLIS. Metallic-Signs.



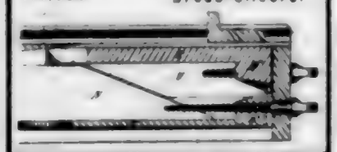
114,928. A. C. CORSE. Base-Burning Stoves.



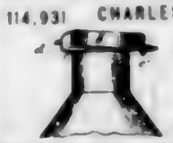
114,929 J. F. CROWLEY. Looms



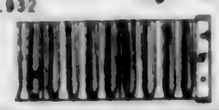
114,930 J. W. CURRIER. Bread-Slicers.



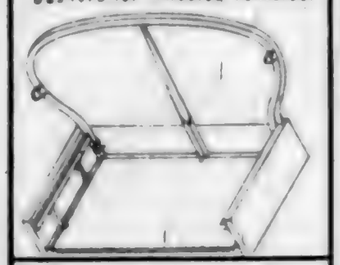
114,931 CHARLES E. DAYTON. Can-Tops



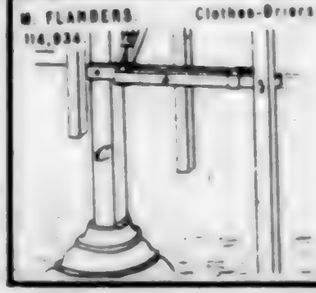
N. DUBRUL. 114,932 Cigar-Molds.



114,933 W. FISHER Dashers for Wheeled Vehicles.



H. FLANDERS. 114,934. Clothes-Driers.



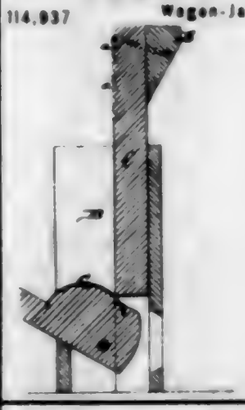
114,935 GEORGE H. FOX. Screw-Taps.



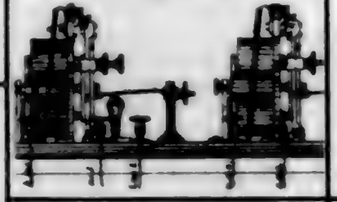
SAMUEL FRENCH. 114,936 Railroad-Switches.



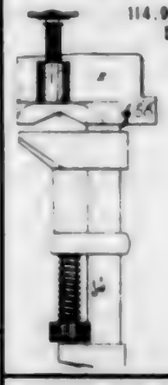
A. R. GILES. 114,937 Wagon-Jacks.



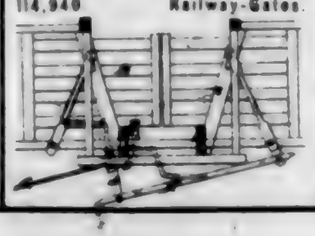
ELISHA GRAY. 114,938 Telegraph Repeaters.



114,939 D. HARRIGAN. Pipe-Cutters.



S. H. HEATWOLE 114,940 Railway-Gates.

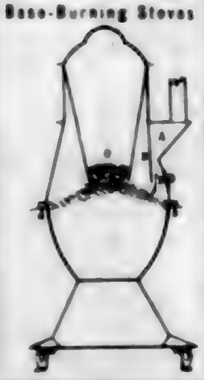


114,941. ALLEN HIRST. IMPROVEMENT IN TANNING COMPOUNDS.

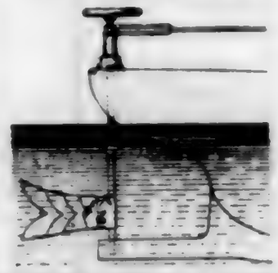
R. B. HUGUNIN 114,942. Sash-Holders



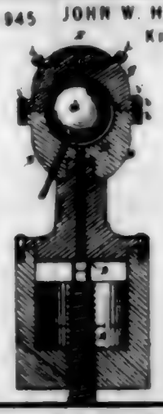
114,943. Z. HUNT. Base-Burning Stoves



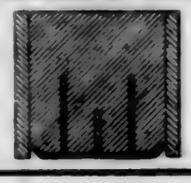
114,944 ROBERT HUNTER. Flexible Propellers.



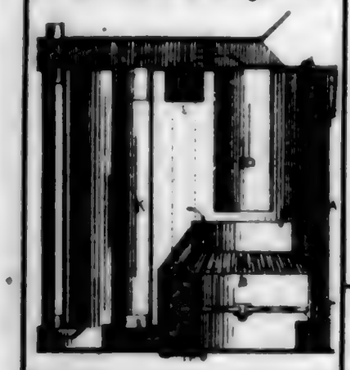
114,945 JOHN W. HYATT, Jr. Knife-Handles.



114,946 JAMES J. JOHNSTON Artificial Stone for Buildings



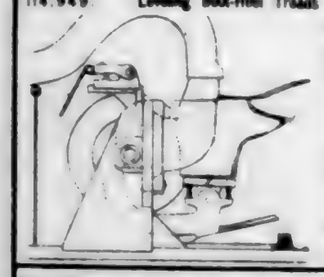
114,947 WILLIAM M. JONES. Base-Burning Stoves



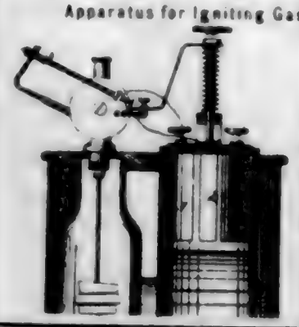
114,948 A. D. JUDD. Bird-Cage Brackets.



114,949 A. B. KEITH Leveling Boot-Heel Treads



114,950 W. KLINKERFUES. Apparatus for Igniting Gas



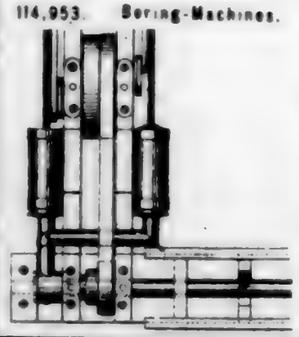
JAMES LEE. 114,951. Breech-Loading Fire-Arms.



114,952 WILLIAM P. LELAND. Grain-Bag Holders.



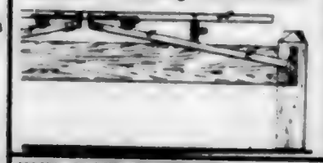
ROBERT LITTLE. 114,953. Boring-Machines.



C. B. MANN & S. S. MANN. 114,954. Improvement in Lamps.

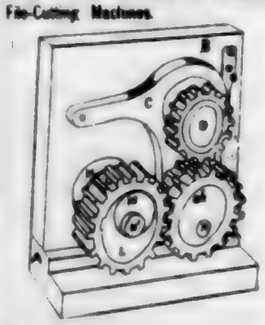


114,955. Spring Bed-Bottoms



114,956. CALEB MARSHALL. MANUFACTURE OF SHEET IRON AND REMOVING SCALE FROM IRON FOR COATING WITH OTHER METALS.

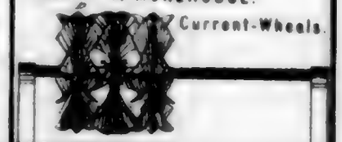
114,957 CHARLES E. MOORE. File-Cutting Machines.



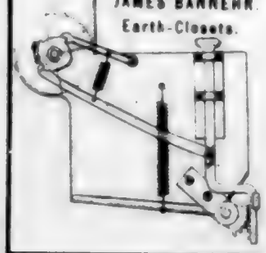
MORANGE & MORANGE. 114,958. Casting Car-Wheels.



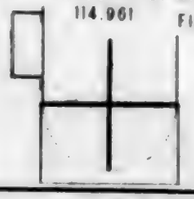
114,959. C. MOREHOUSE. Current-Wheels.



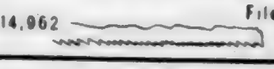
114,960 HENRY MOULE & JAMES BANNEHR. Earth-Closets.



WILLIAM B. NICHOLS. 114,961 Flour-Sifters.



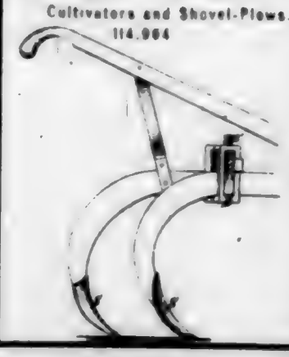
H. B. NICKERSON. 114,962 Files.



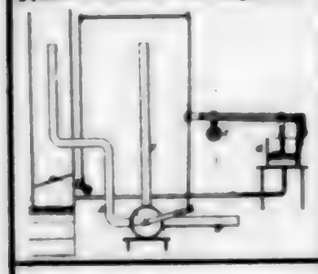
114,963 A. C. PAQUET. Bank-Checks.



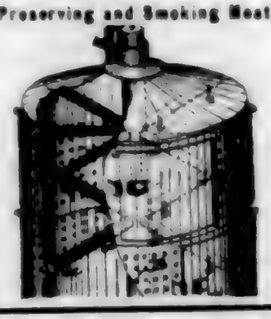
PARSONS & FINNEY Cultivators and Shovel-Plows. 114,964



114,965. WILLIAM E. PEARSON. Boiler-Furnace Draft-Regulators.

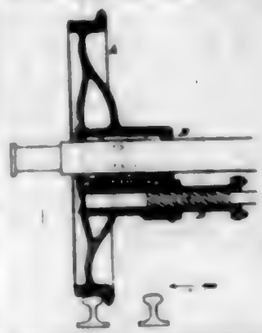


A. ROBERTSON. 114,972. Preserving and Smoking Meats.

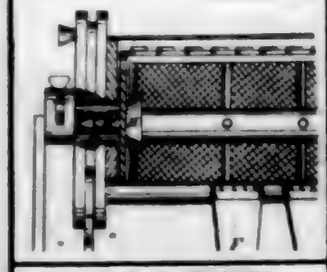


114,978. JOHN CARRINGTON SELLARS. METAL-FOUNDERS' BLACKING.

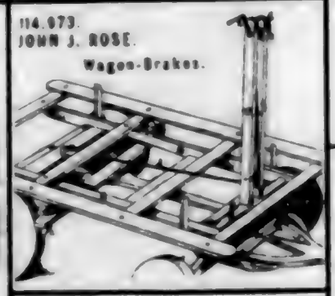
GEORGE SEWELL. 114,979. Self-Adjusting Car-Wheel Gears.



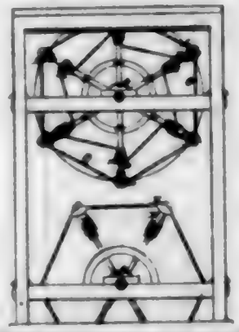
114,966. D. N. M. PEREGOY. Flour-Bolts.



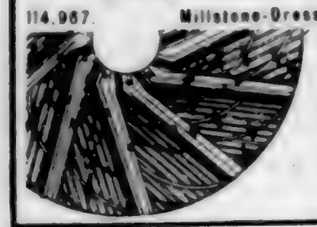
114,973. JOHN J. ROSE. Wagon-Brakes.



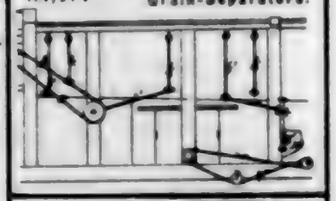
DAVID SHAMP. 114,980. Flour-Bolting Reels.



D. N. M. PEREGOY. 114,967. Millstone-Dress.



L. C. ROYER. 114,974. Grain-Separators.

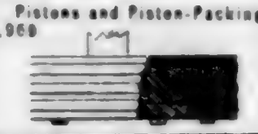


114,968. ISAAC EBEN. COPYING COLORED AND DEFECTIVE DRAWINGS.

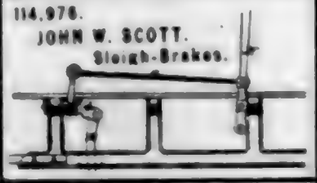
M. RUFE. 114,975. Skinning-Knives.



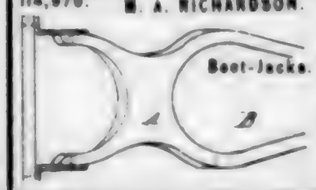
GEORGE H. REYNOLDS. Pistons and Piston-Packings. 114,969.



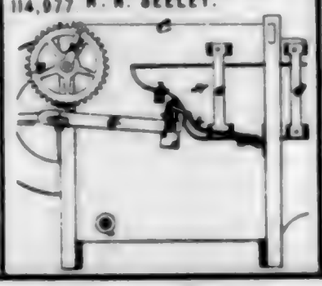
114,976. JOHN W. SCOTT. Sleigh-Brakes.



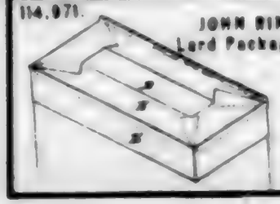
114,970. M. A. RICHARDSON. Boot-Jacks.



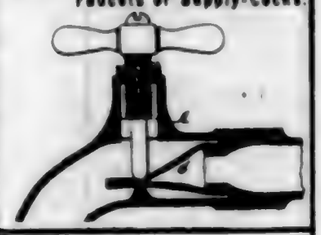
Fanning-Mills. 114,977. M. M. SEELEY.



114,971. JOHN RING. Lard Packages.



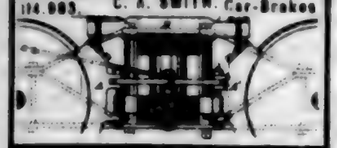
114,981. E. F. SHOENBERGER. Faucets or Supply-Cocks.



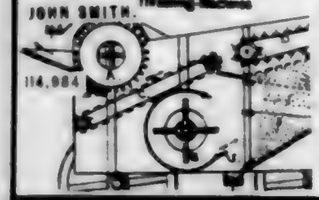
114,982. E. F. SHOENBERGER. Hitching-Posts.



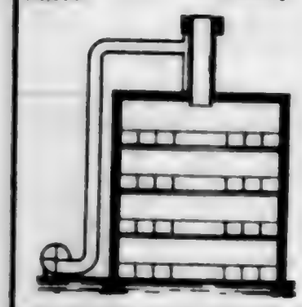
114,983. C. A. SMITH. Car-Brakes.



JOHN SMITH. Threshing-Machines. 114,984.



D. E. SOMES & F. C. SOMES. 114,985. Milk Cooling



114,986. K. STEEN. Adjustable Squares.



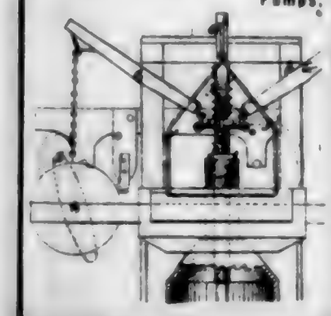
Rule Joints D. H. STEPHENS. 114,987.



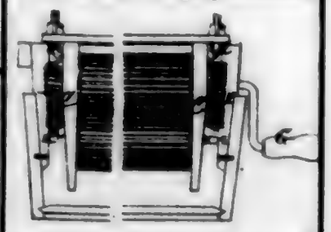
Draft-Equalizers. 114,988. WILLIAM STEVENSON.



114,989. Z. T. SWEET. Pumps.



JOHN TABER. 114,990. Washing and Wringing-Machines.



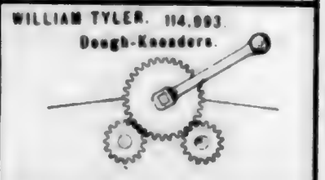
114,991. SAMUEL I. THOMPSON. Nut-Locks.



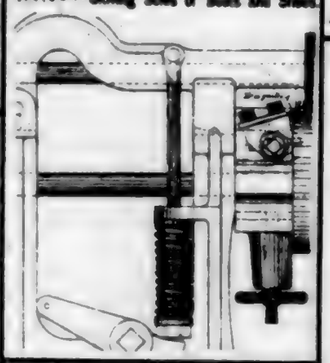
L. TOBEY. Key-Fasteners. 114,992.



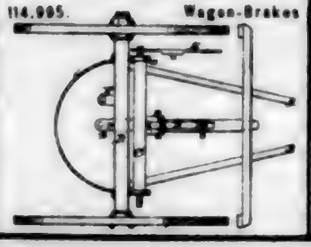
WILLIAM TYLER. 114,993. Dough-Kneaders.



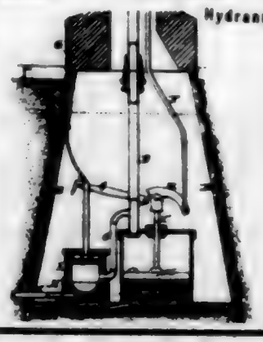
HENRY S. VROOMAN. 114,994. Shaving Soles of Boots and Shoes.



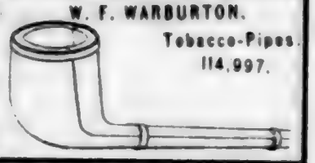
HENRY WALMER. 114,995. Wagon-Brakes.



JAMES WALSH. 114,996. Hydrants.



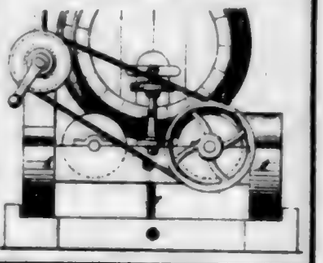
W. F. WARBURTON. Tobacco-Pipes. 114,997.



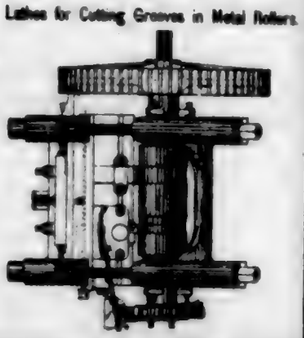
M. WARNE. 114,998. Ice-Creepers.



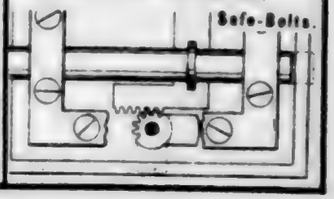
A. WARTH. 114,999. Machines for Pitching Casks



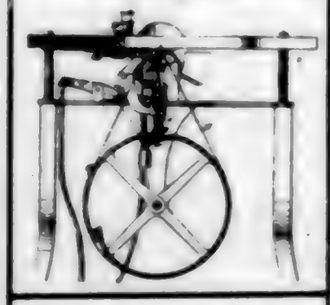
H. WATERS. 115,000. Lathes for Cutting Grooves in Metal Rollers.



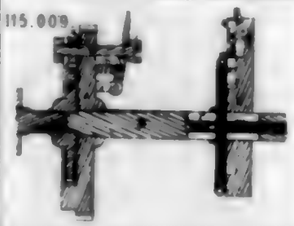
JACOB WEIMAR. 115,001. Safe-Bolts.



115,002
JOHN WETTSTEIN.
Machines for Making Cigars



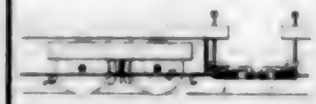
O. P. BRIGGS & L. W. BRIGGS.
Machines for Cutting Screw-Threads
115,009.



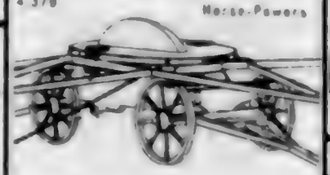
4,383 THOMAS McQUISTON.
Cultivators



F. E. WHITESIDE. 115,003
Railway-Alarms for Trucks.

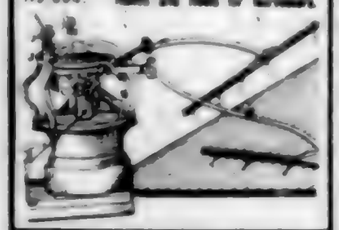


4,370 H. ALDRIDGE
Horse-Powers

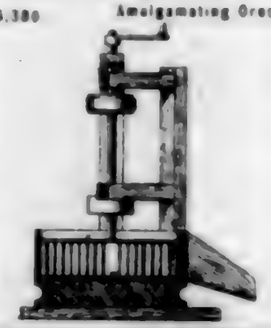


4,384. HENRY H. BEACH.
PROCESSES OF SEASONING LUMBER.

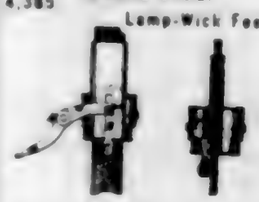
J. B. WHITING.
115,004. Plows and Tools for Harvesters.



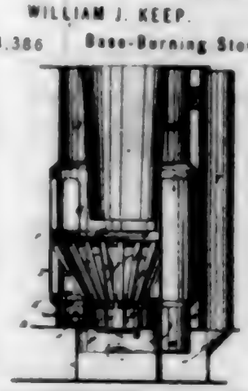
THOMAS BATES
4,380 Amalgamating Ores.



4,385 GEORGE CADE.
Lamp-Wick Feeders

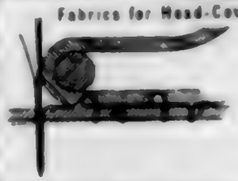


WILLIAM J. KEEP.
4,386 Base-Burning Stoves



115,006.
JAMES M. WILLCOX.
PAPER FOR BANK-NOTES, BONDS.

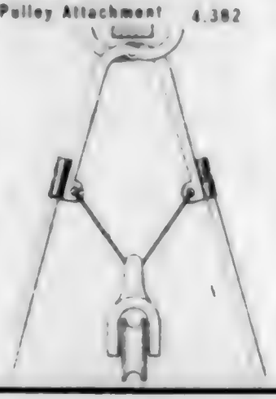
CHARLES F. BOSWORTH. 4,391
Fabrics for Head-Covering



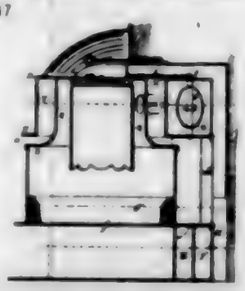
115,008 DANIEL WRIGHT.
Shuttles for Looms



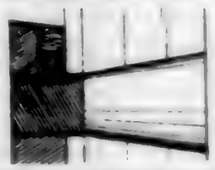
GEORGE W. GREGORY.
Pulley Attachment 4,392



Base-Burning Fireplace-Heaters.
4,387 DAVID STUART & LEWIS BRIDGE



115,007.
CHARLES O. YALE
Self-Locking Screw-Bolts



115,008 G. B. YOUNG.
Hammers.

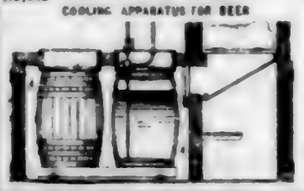


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
MAY 23, 1871.

ADAMS AND MAYHEW,
FOLDING SETTEES.
115,010



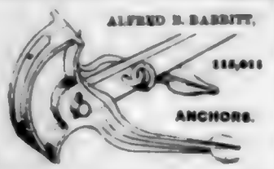
115,018 BERGNER AND REINER.
COOLING APPARATUS FOR BEER



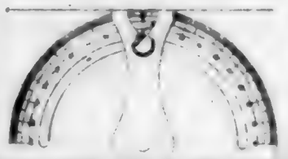
115,021 ROBERT ALEX CANNELL.
EARTH-CLOSETS.



ALFRED B. BABBITT,
115,011
ANCHORS.



115,019 EDWARD POSTOCK.
ADJUSTABLE RULERS.



115,022 CLINTON AND LAVINIA.
STOVE-PIPE DAMPERS.



115,012 BENJAMIN F. BARR.
DOOR-SECURERS.



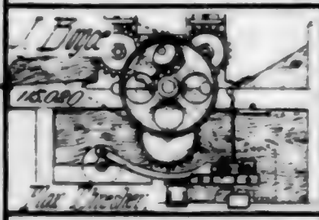
J. H. Bates
Tool Cutter & Plow.
115,013.



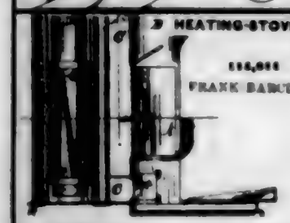
115,023 ROBERT J. COLVIN.
HARROW, ROLLER, AND SEED-PLANTER.



J. Boyce
115,080.



HEATING-STOVES.
115,014
FRANK BARULAT.



115,024 JOSEPH H. CONNELLY
HEATING AND LIGHTING LOCOMOTIVES



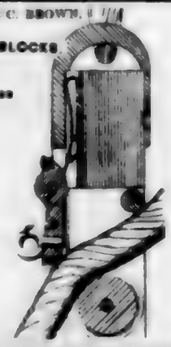
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PARDON BOYDEN
STOVE-GRATES.



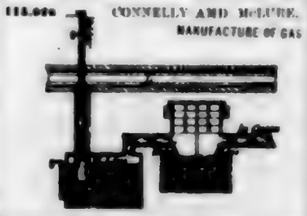
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WILLIAM H. BARTLETT.
VAPOR-BURNERS.



GEORGE C. BROWN.
PULLEY-BLOCKS.
115,000



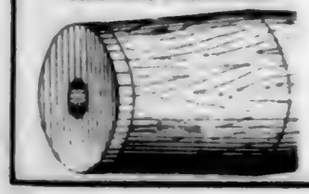
115,025 CONNELLY AND McLURE.
MANUFACTURE OF GAS



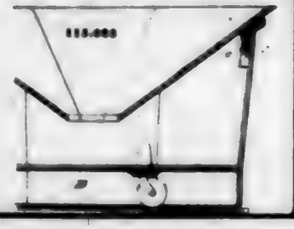
WILLIAM BERRY.
WAGON-TONGUE SUPPORTS.
115,016



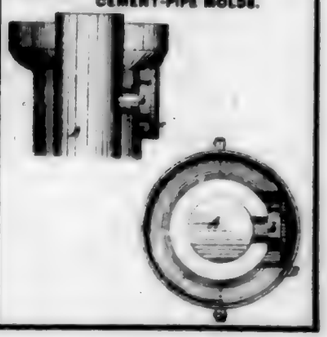
115,017 AUGUST BENEKOHOPEN.
SEASONING WAGON-HUBS.



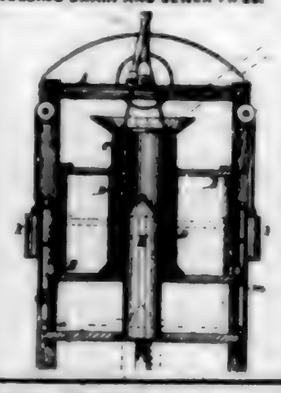
SPITTOONS. SAMUEL G. CABELL.
115,000



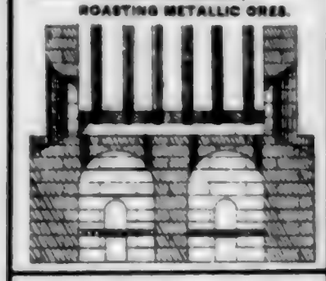
115,026 DAVID COPELAND.
CEMENT-PIPE MOLDS.



115,030 DAVID CONKLAND.
MOLDING DRAIN AND SEWER PIPES.



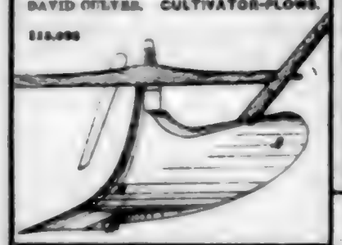
115,031 FRANCIS W. CROSBY.
ROASTING METALLIC ORES.



115,032 CHARLES P. CROSSMAN.
MEDICINES FOR COUGHS, COLDS.

DAVID CULVER. CULTIVATOR-PLOWS.

115,033

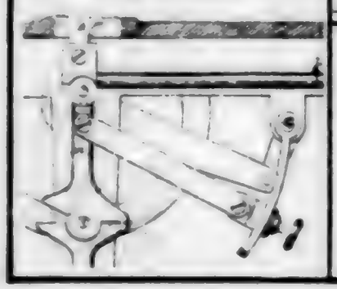


THOMAS HENRY DANIELS.
WAGON-SIDE BRACES.

115,034



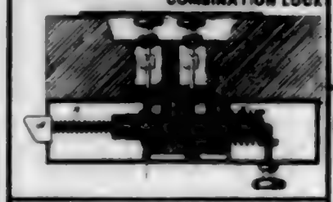
115,035 DIEHL AND OEHRING.
FEEDING MECHANISMS



115,036 DENIS AND EDELINE.
LANTERN-GLOBE HOLDERS.



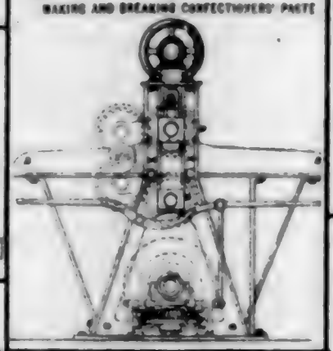
115,037 JOHN W. H. DOEBLER.
COMBINATION LOCK



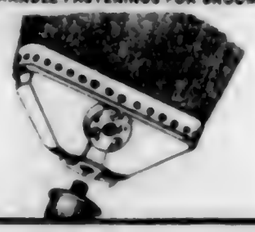
115,038
DOYLE AND BERRI.
DOOR-STOPS.



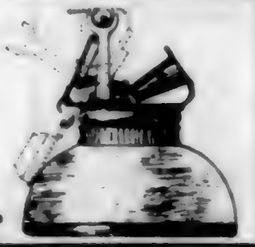
115,039 ROBERT DUFF.
MAKING AND BREAKING CONFECTIONERY PASTE



115,040 ELIJAH F. DUHAWAY.
HANDLE-FASTENINGS FOR BROOMS



115,041 THOMAS DUNCAN INKSTANDS.



115,042 ALBERT E. EATON.
REVERSIBLE CRIBS.



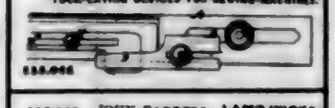
MANNASSEH W. FARRAR.
SPRINGS FOR BED-BOTTOMS.

115,043



THOMAS MANCHESTER FARRAND.
TUCK-LAYING DEVICES FOR SEWING-MACHINES.

115,044

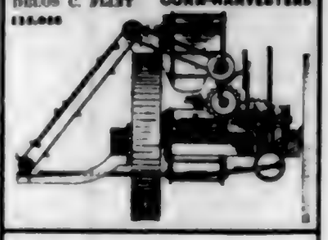


115,045 JOHN FARRELL. LAMP-WICKS.



DELOS C. FLINT CORN-HARVESTERS

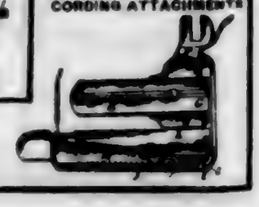
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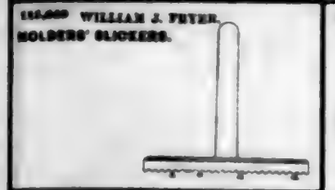
115,047
DEVICE-SEARCHERS AND CLEANERS
WILLIAM FORKER.



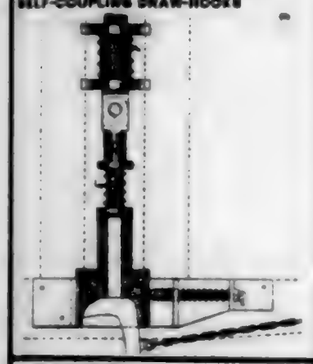
115,048
FOWLER AND PETTINGILL.
CORDING ATTACHMENTS



115,049 WILLIAM J. FEYER.
HOLDERS' SLICKERS.

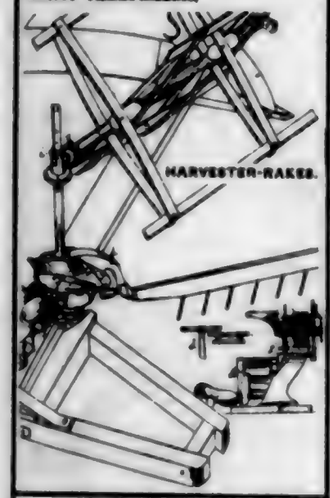


115,050 PERRY G. GARDINER.
SELF-COUPLING DRAW-HOOKS



115,051. J. J. GROSHEINZ.
GLUCOSE SIRUPS AND SUGARS.

115,052 JAMES HARRIS.

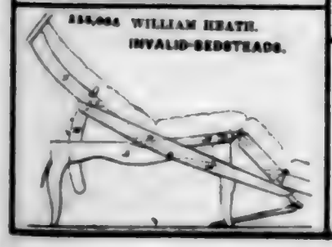


HARVESTER-RAKES.

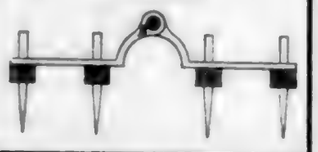
115,053 ABARIA HORACE HASTINGS.
FRONT-FALLS FOR PIANOS.



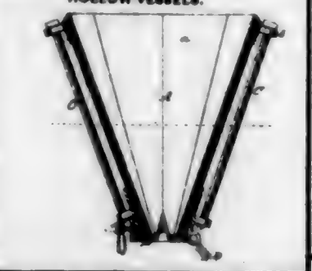
115,054 WILLIAM HEATH.
INVALID-BEDSTEADS.



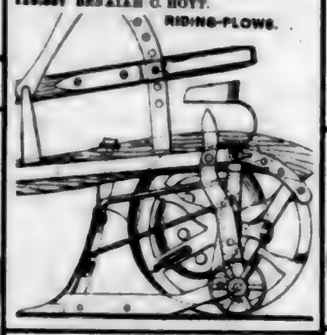
115,055 GEORGE HILL.
CORN-HARROWS.



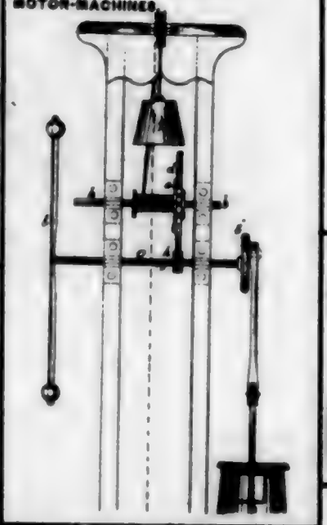
115,056 WILLIAM P. HOLAKE.
HOLLOW VESSELS.



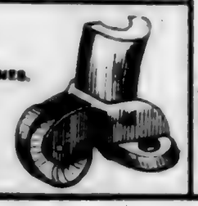
115,057 BENAIAH C. HOYT.
RIDING-PLOWS.



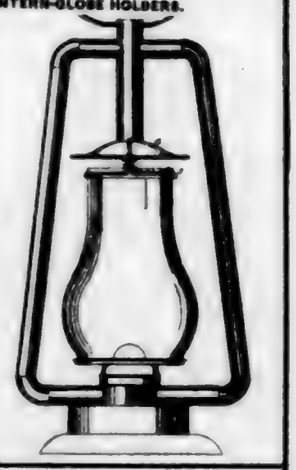
115,058 ISAAC G. HUBBARD.
MOTOR-MACHINES.



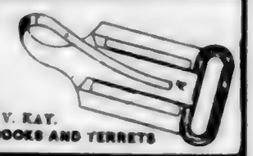
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HARRY JOHN.
CASTERS FOR
SEWING-MACHINES.



115,060 JOHN H. IRWIN
LANTERN-GLOBE HOLDERS.



115,061



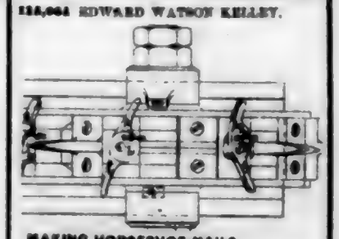
WILLIAM V. KAY.
CHECK-HOOKS AND TERRETS

115,062



WILLIAM V. KAY.
HARNESS PAD-TREES.

115,063 EDWARD WATSON KELLEY.



MAKING HORSESHOE-NAILS.

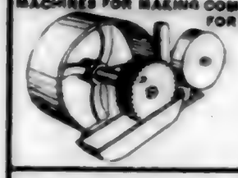
115,064
PETER KEFFER.
SHUTTER-
FASTENERS.



115,065
KEPPERLING AND
KREITER
ARTIFICIAL LIMBS.



115,066 HOMER A. KING.
MACHINES FOR MAKING COMB-GUIDES FOR BEE-HIVES.



115,067 AUGUST KNOCHE. HEAT-GATES.



115,068
GEORGE W. LANE.
SHARPENING CALKS.



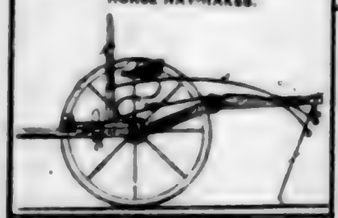
115,069 JOHN L. LAUGHLIN.
ATTACHING HANDLES TO PLOWS.



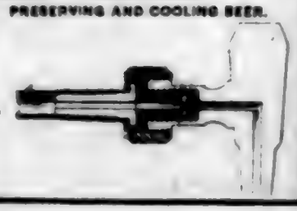
115,070 HENRY LAURENCE.
FILE-HOLDERS AND POLISHERS.



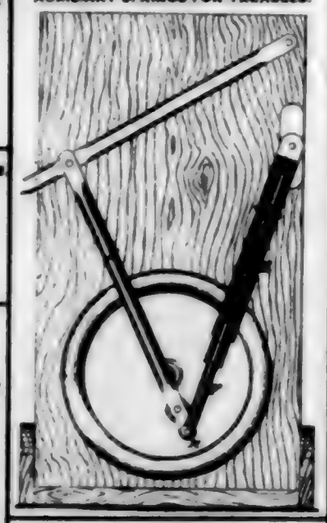
115,071 J. GEORGE LOCKWOOD.
HORSE HAY-RAKES.



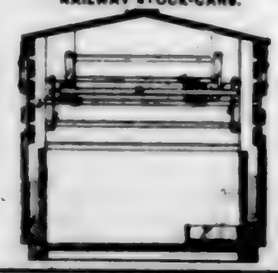
115,072 JACOB LORENZ.
PRESERVING AND COOLING BEER.



115,073 HARVEY LULL.
AUXILIARY SPRINGS FOR TREADLES.



115,074 WILLIAM M. LYON.
RAILWAY STOCK-CARS.

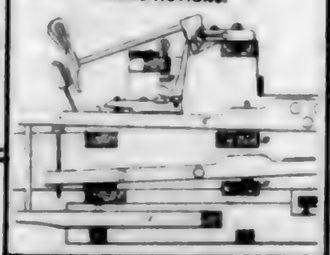


115,075 FRANK MARQUARD.
COMPOSITION SOLE AND SHOE HEELS.

115,076 MARR AND MACGHLIN.
WASHING-MACHINES.



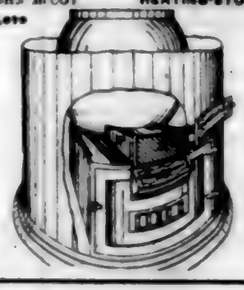
115,077 MATT AND GRUNTER.
PIANO ACTIONS.



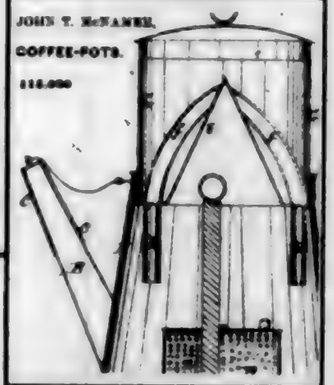
115,078 ROBERT W. McCLELLAND.
WHIFFLETREES.



115,079 JOHN McCOY HEATING-STOVES.

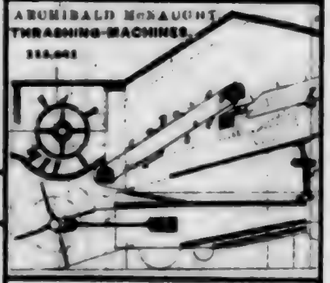


115,080 JOHN T. McNAMER.
COFFEE-POTS.



ARCHIBALD McNAUGHT.
THRASHING-MACHINES.

115,081

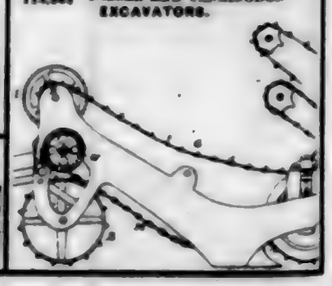


115,082 ALANSON H. MERRIMAN.
WATER-WHEELS.



115,083 FRANKLIN S. MERRITT.
MANUFACTURE OF JAPANNED LEATHER

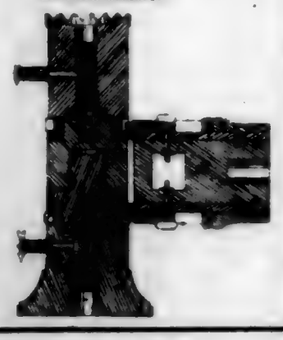
115,084 MILLER AND CLARINGDON
EXCAVATORS.



115,085 HENRY C. MILLIGAN.
SPOONS.



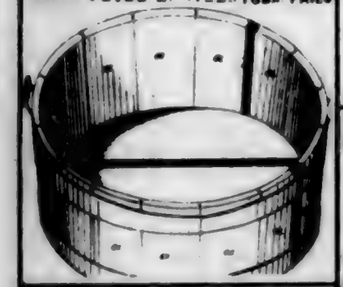
115,086 HACKLEY T. MORRISON.
LIFTING-JACKS.



115,087 STEPHEN B. NASH.
EXTENSION-TABLE SLIDES.



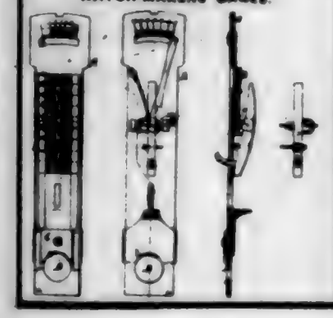
115,088 PETER H. NILESTUBB PAILS



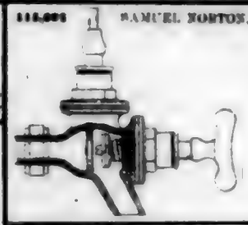
115,089
ALANSON F. NOBLE.
VAPOR-BURNERS.



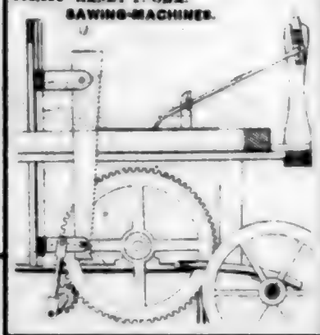
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WATCH-MAKERS' GAGES.



115,091 SAMUEL NORTON. COCKS.



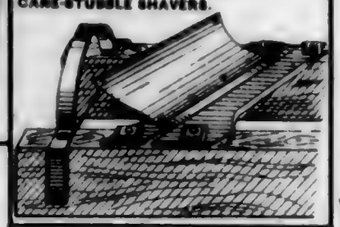
115,092 HENRY P. OHM.
SAWING-MACHINES.



115,093 JOHN HANSON PARKER.
KEY-HOLE PROTECTORS.



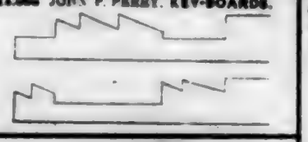
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CANE-STUBBLE SHAVERS.



115,095 OLIVER PEARL.
GUIDE-BOARDS



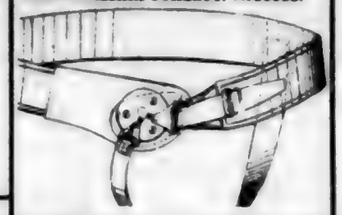
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115,097 WILLIAM A. PLANTZ.
BARREL-CARS.



115,098 WILLIAM POMEROY. TRUSSES.

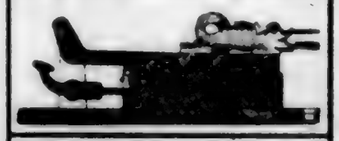


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CLOTHES-CLAMPS.

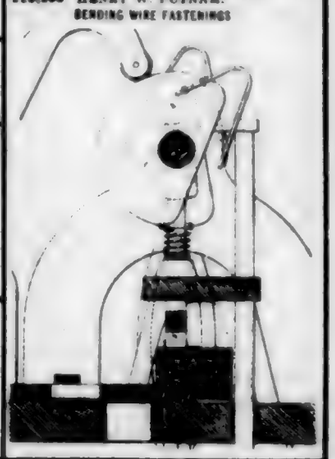


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PREPARATION OF MATERIALS FOR TANNING.

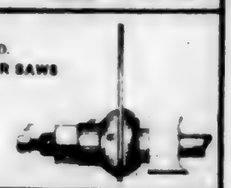
115,101 JOHN PRENTICE. CIGAR-MOLDS.



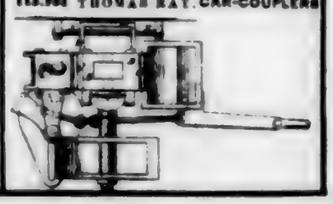
115,102 HENRY W. PUTNAM.
BENDING WIRE FASTENINGS



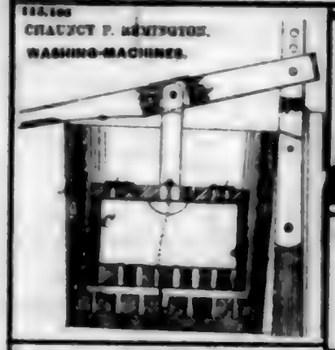
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JACOB RAND.
ARBORS FOR SAWS



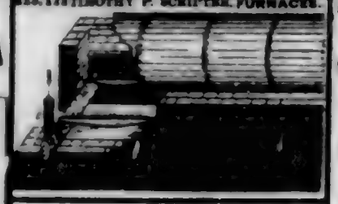
115,104 THOMAS RAY. CAR-COUPLERS



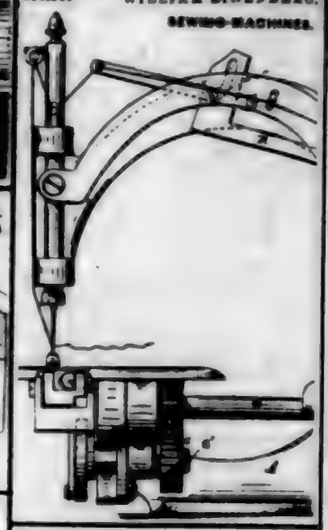
115,105 CHAUNCY P. BENNINGTON. WASHING-MACHINES.



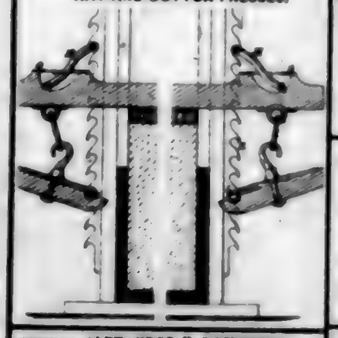
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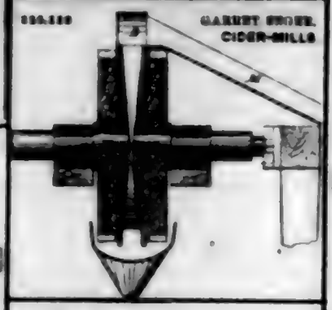
115,107 WILLIAM SIDEBERG. SEWING-MACHINES.



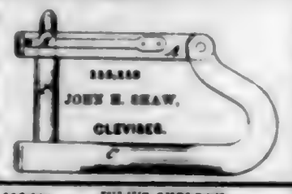
115,108 EUGENE ROCK. HAY AND COTTON PRESSES.



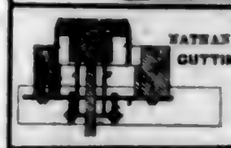
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115,110 JOHN H. SHAW. CLEVISES.



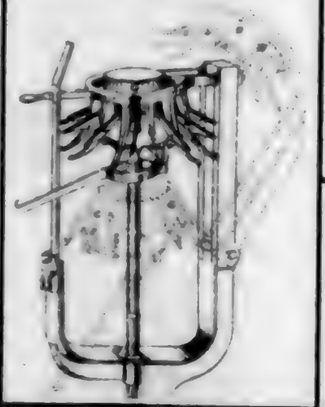
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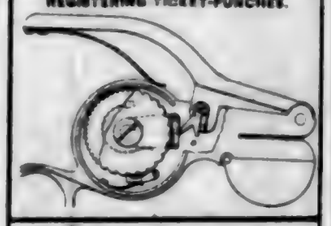
115,112 ALEXANDER Y. ROSENBURY. COMPOSITIONS FOR STUPEFYING BEES.



115,113 JULIUS SHELDON. STRETCHING THE BRIMS OF HATS.

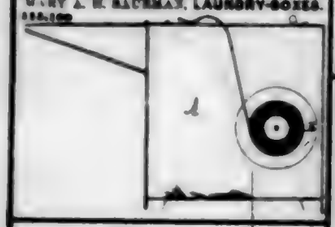


115,114 JAMES H. SMALL. REGISTERING TICKET-PUNCHES.

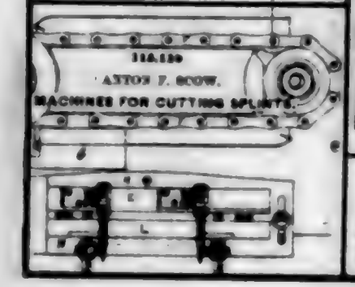


115,115 ALBERT J. RUSSELL. INVALID-BEDSTEADS.

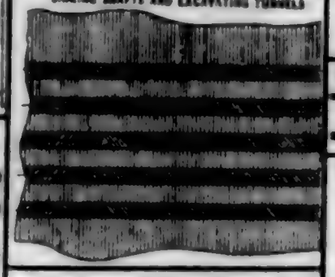
MARY A. H. SAUERMAN. LAUNDRY-BOXES.



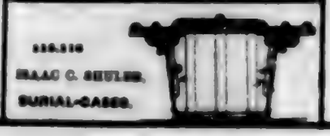
115,116 ANTON F. SCOW. MACHINES FOR CUTTING SPLINTS.



115,117 SHELLEY AND BULLOCK. SINKING SHAFTS AND EXCAVATING TUNNELS.



115,118 ISAAC C. SHULER. BURIAL-CASES.



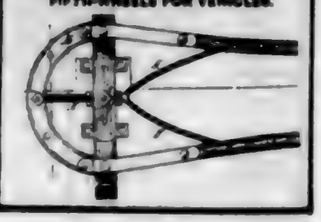
115,119 ALEXANDER SMITH. UNLOADING AND MOVING HAY.



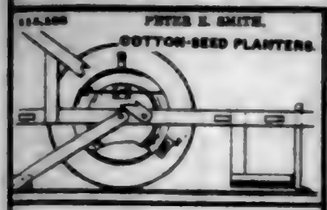
HENRY M. SMITH. MEDICINE-CASES. 115,121



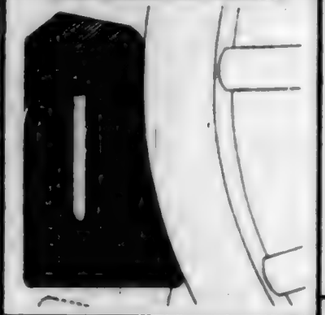
115,120 JAMES P. SMITH. FIFTH-WHEELS FOR VEHICLES.



115,099 PETER H. SMITH. COTTON-SEED PLANTERS.



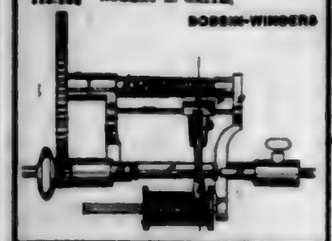
115,100 ISAAC W. SPORR. BRAKE-BLOCKS FOR VEHICLES.



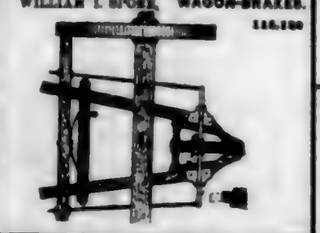
115,101 ALBERT TRACY. DAMPERS.



115,102 ROBERT H. SMITH. BOBBIN-WINDERS.

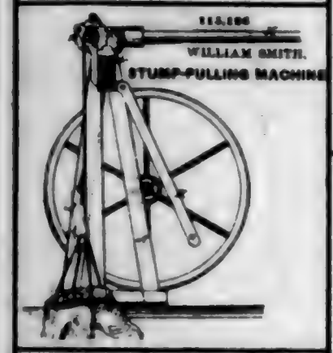


WILLIAM I. SPORR. WAGON-BRAKES. 115,103

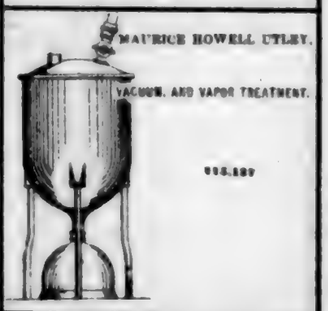


115,104 JOHN FREDERICK UHLHORN. PRINTERS' FURNITURE.

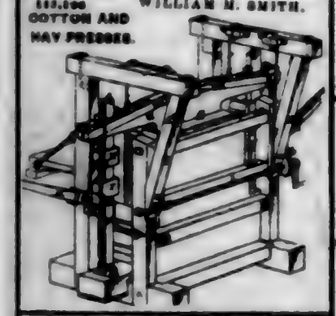
115,105 WILLIAM SMITH. STUMP-PULLING MACHINE.



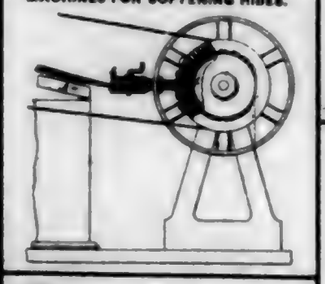
115,106 MAURICE HOWELL UTLEY. VACUUM AND VAPOR TREATMENT. 115,107



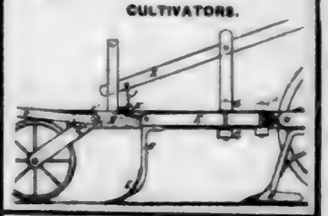
115,108 WILLIAM M. SMITH. COTTON AND HAY PRESSES.



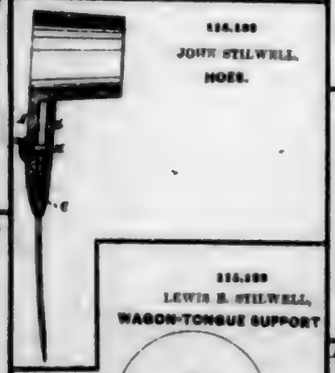
115,109 STANLEY AND DRAPER. MACHINES FOR SOFTENING HIDES.



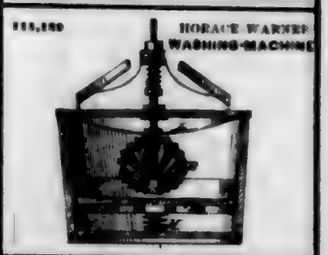
115,110 LEANDER WALKER. CULTIVATORS.



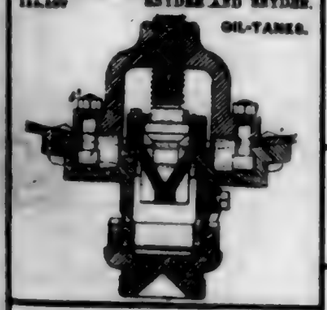
115,111 JOHN STILWELL. HOES.



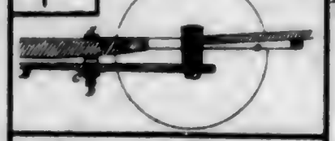
115,112 HORACE WARNER. WASHING-MACHINE.



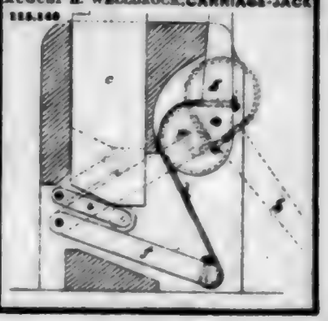
SNYDER AND SNYDER. OIL-TANKS.



115,113 LEWIS B. STILWELL. WAGON-TONGUE SUPPORT.



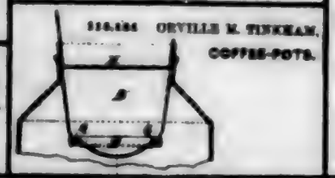
AUGUST H. WELLBROCK. CARRIAGE-JACK. 115,114



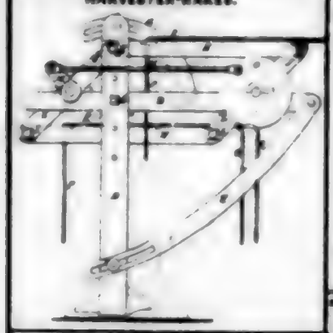
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115,116 ORVILLE M. TINKHAM. COFFEE-POTS.



115,141 GEORGE E. WELLER.
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115,142 EDWARD WILLIAMS.
RAILROAD RAILS.



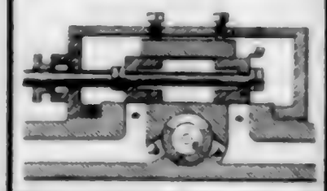
115,143 WILLIAM C. WINFIELD.
MINERS' LAMPS.



115,144 PHILANDER G. WOODARD.
BUTTER-WORKERS.



115,145 JOHN C. WINNEHEAD.
STEAM-ENGINES.

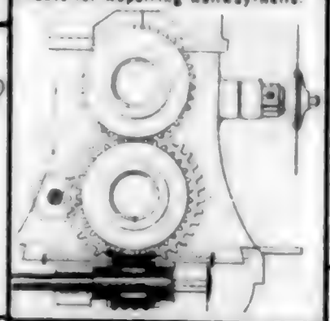


115,146 GILBERT L. BAILEY.
SASH-FASTENERS.

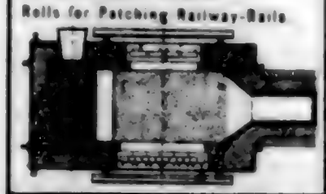


115,147 CHARLES EDWIN BAGON AND WILLIAM JOHNS EAST.
NAME-PLATES FOR ORGAN-STOPS.

115,148 HUGH BAINES.
Plants for Repairing Railway-Rails.



115,149 HUGH BAINES.
Rolls for Patching Railway-Rails.

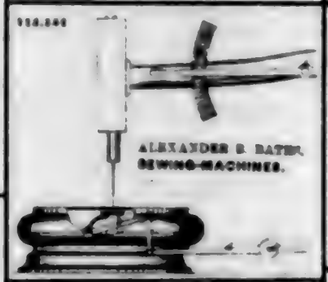


115,150 ALBRIDGE G. W. BARTLETT.



CLOTHES-WRINGERS.

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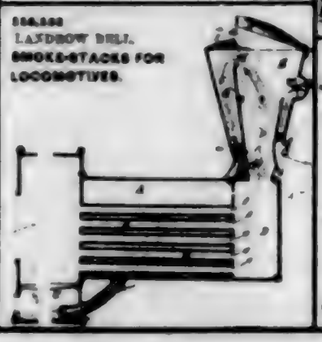
ALEXANDER B. BATES.
SEWING-MACHINES.

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SYLVESTER W. BEACH.
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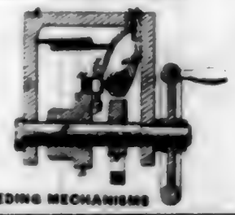
115,153 LAXDROW DELL.
SMOKE-STACKS FOR LOCOMOTIVES.



115,154 AUGUSTE FROMPER BENLOIS.
ELECTRIC LIGHTING APPARATUS.

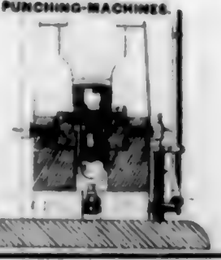


115,155 CHARLES BEUTTEL.

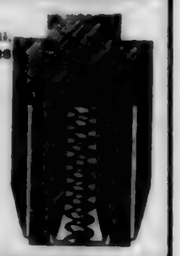


FEEDING MECHANISMS.

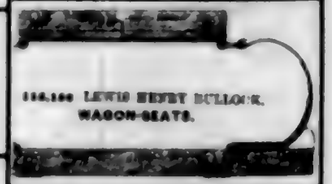
115,156 BROWN, AND LOUD.
PUNCHING-MACHINES.



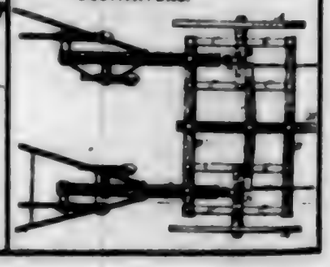
115,157
BROWN, AND LOUD.
CUTTING WASHERS FROM LEATHER.



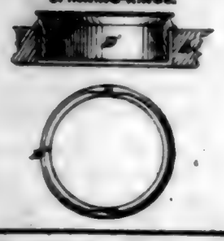
115,158 LEWIS HERBT BULLOCK.
WAGON-SEATS.



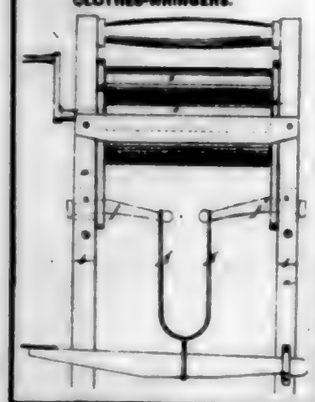
115,159 THEOPHILUS P. CAPP.
CULTIVATORS.



115,160 WILLIAM T. CARROLL.
SPINNING-RINGS.



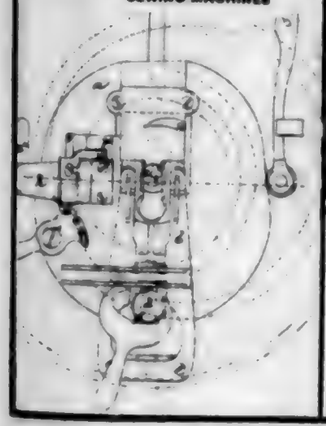
115,161 CYRUS H. CARTER.
CLOTHES-WRINGERS.



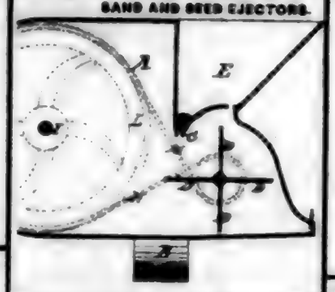
115,162 BENJAMIN B. CHADWICK.
PLANT-GROWERS.



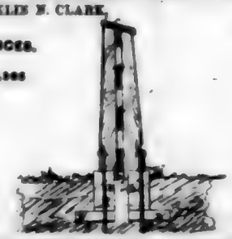
115,163 WILLIAM CRICKER.
SEWING-MACHINES.



115,164 MARTIN CHRISTIANSEN.
SAND AND SEED EJECTORS.



115,165 LOCKIE N. CLARK.
FENCES.



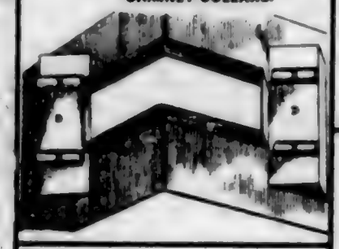
115,166 LEVI DEWES CLIFT.
MAKING SPADES AND SHOVELS.



115,167 COCHRAN AND HAWKINS.
GATES.



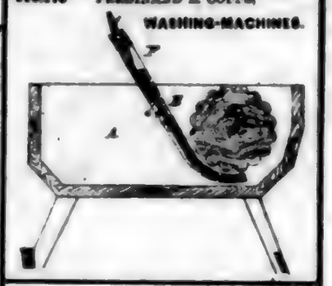
115,168 JOSEPH H. CONDON.
CHIMNEY-COLLARS.



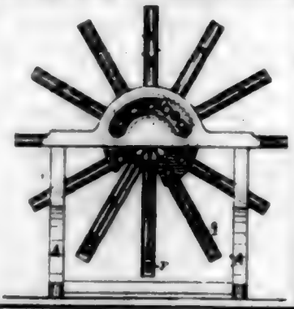
115,169 ELISHA S. CONVERSE.
SHOES.



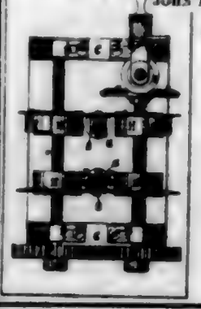
115,170 FERDINAND L. COPPS.
WASHING-MACHINES.



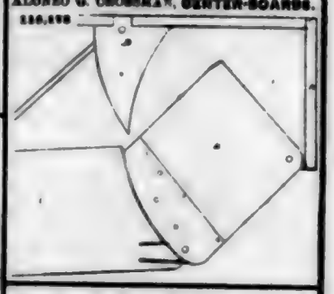
115,171 JAMES COX.
ROTARY ENGINES.



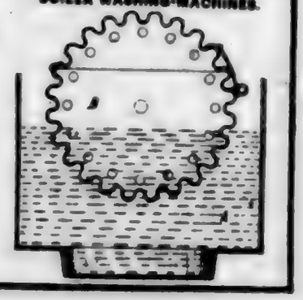
JOHN M. CRAWFORD.
STAMP-MILLS.
115,172



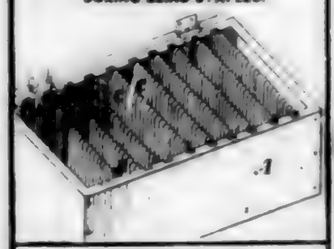
ALONZO G. CROSSMAN.
CENTER-BOARDS.
115,173



115,174 JAMES CURTIS.
BOILER WASHING-MACHINES.



115,175 HIRAM C. DAVIS.
BOXING BLIND-STAPLES.



115,176 JACOB Z. DAVIS.
FASTENERS FOR DOORS



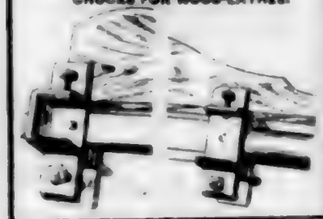
115,177 SAMUEL P. DOLLOFF.
CHURN-DASHERS.



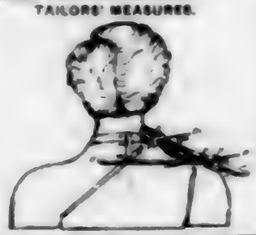
115,178 ALFRED S. DICKERSON
WINDOW-SHADE FIXTURES.



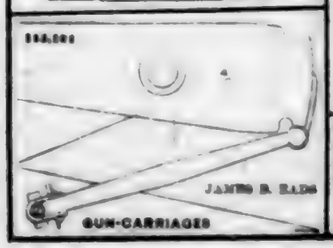
115,179 ROBERT H. DOWLING.
CHUCKS FOR WOOD-LATHES.



115,180 ITHAMAR DU BOIS.
TAILORS' MEASURES.

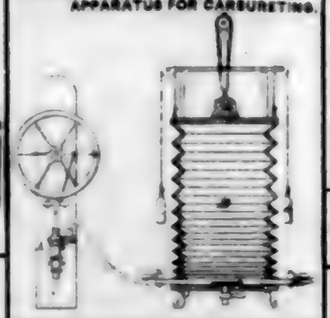


115,181



JAMES B. EADS
GUN-CARRIAGES

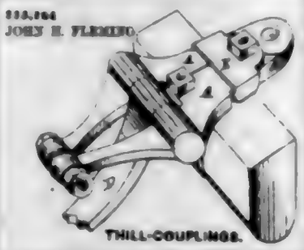
115,182 GEORGE EDMONDS.
APPARATUS FOR CARBURETING.



115,183
ERFELDING AND
ERFELDING.
FOLDING BOXES.

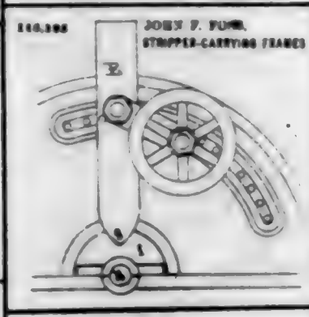


115,184
JOHN H. FLEMING.

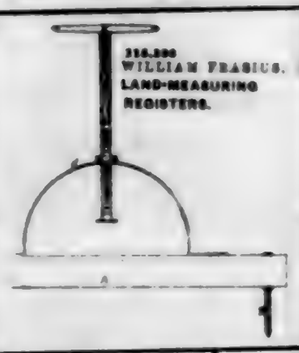


THILL-COUPLINGS.

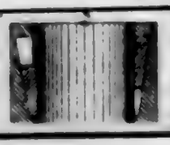
115,185 JOHN F. FUHR.
STRIPPER-CARRYING FRAMES



115,186
WILLIAM FRASIUS.
LAND-MEASURING
REGISTERS.



115,187
GIDEON FRISBEE,
ROCK-SPALLING
MACHINES.

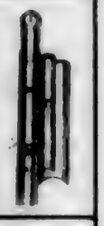


115,188 JOHN C. W. FRIEDMUTH.



SAMPLE-BOXES FOR CIGARS.

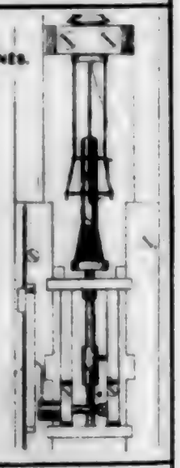
115,189
GATES AND FRITCHEY
VAPOR-BURNERS.



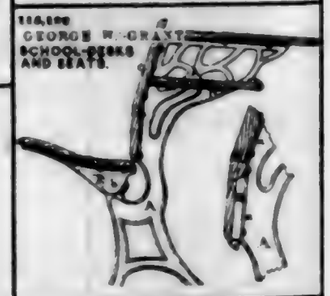
115,190
WILLIAM P. GOODMAN.
PLATFORM-SCALES.



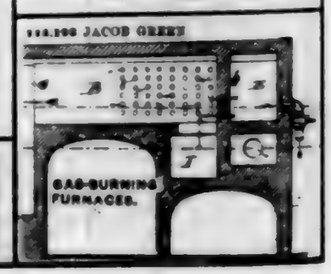
115,191
JOHN GOULDING.
SPINNING-MACHINES.



115,192
GEORGE W. GRANT.
SCHOOL-DESKS
AND SEATS.



115,193 JACOB GREEN



GAS-BURNING
FURNACES.

115,194 DAVID S. GRIFFEN.
TURNING AND CANTING LOGS.



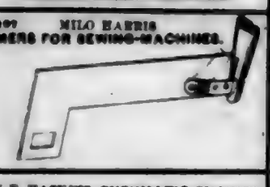
115,195 WILLIAM HENRY GROVE.
SHOW-CASES.



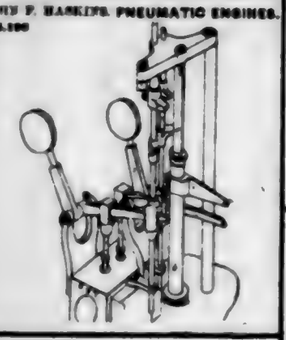
115,196 JOHN HARRINGTON
DIES FOR FORGING AXLES.



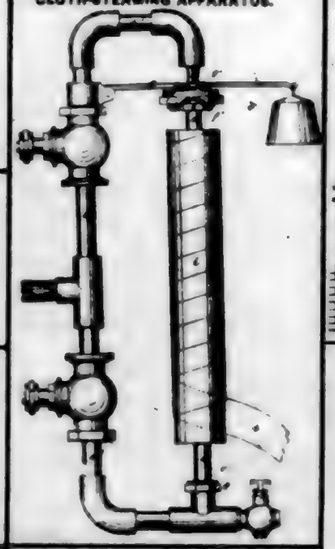
115,197 MILO HARRIS
HEMMERS FOR SEWING-MACHINES.



115,198 JOHN P. HASKINS. PNEUMATIC ENGINES.



115,199 LUKE M. HEERY.
CLOTH-STEAMING APPARATUS.



115,200 JOHN HELM.
BLEACHING RUBBER, GUTTA-PERCHA,

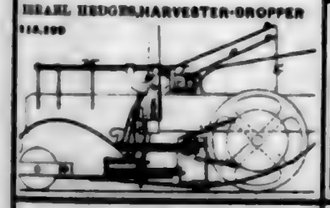
115,201 CONRAD HEYBACH.
PRESSES FOR FINISHING CLOTH,



115,202 REUBEN W. HEYWOOD.
PROPULSION OF VESSELS.



115,203 HIRAM HEDGES, HARVESTER-DROPPER



JOSEPH B. RICE
FIRE-KINDLER



115,205
AUGUSTUS L.
HOLMANDE.
HEELS FOR BOOTS
AND SHOES.



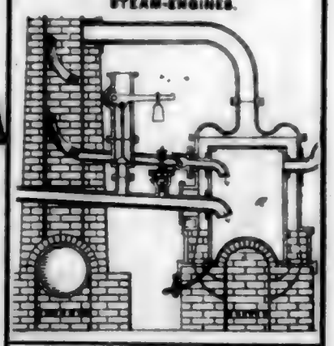
115,206 GEORGE W. HINGES.
COMBINED THRASHERS, GRAIN
SEPARATORS, AND CLEANERS.



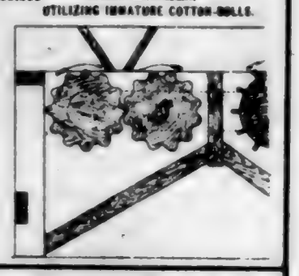
115,207
HOTCHKISS, AND
ALLERTON.
VULCANIZING APPARATUS.



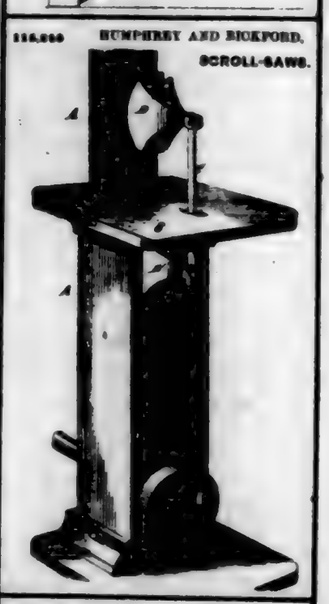
115,208 JOHN HOUPT.
STEAM-ENGINES.



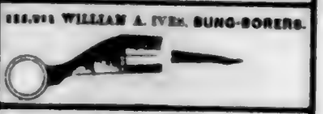
115,209 JOHN HUGHES.
UTILIZING IMMATURE COTTON-BOLLS.



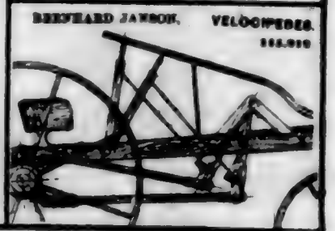
115,210 HUMPHREY AND RICKFORD.
SCROLL-SAWS.



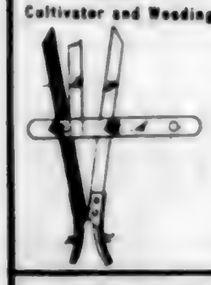
115,211 WILLIAM A. IVES. BUNG-BORERS.



BERNARD JAWSON. VELOCIPEDES.
115,212



H. JOHNSON. 115,213.
Cultivator and Weeding-Machines.



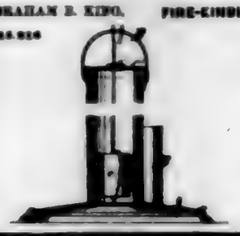
EDWARD P. JOHNS. MOLDERS' FLASKS.



JAMES M. KEEP.
ROACH OR BUG TRAPS.



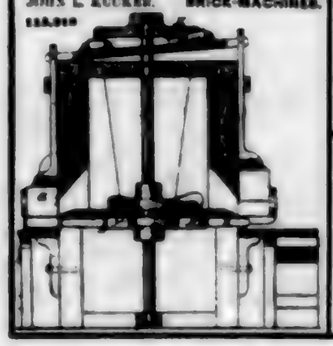
ABRAHAM B. KIPP. FIRE-KINDLERS.



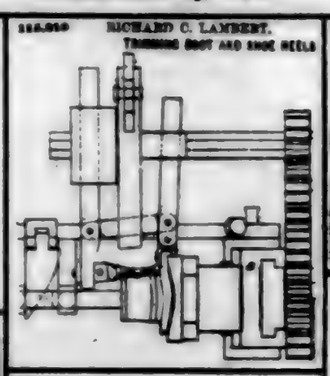
JOHN J. KNOWLTON.
TURBINE WATER-WHEELS.



JOHN L. KUCKER. BRICK-MACHINES.



RICHARD C. LAMBERT.
TRIMMING BOOT AND SHOE HEELS



LEVI AND KUE-SEL.
ALLOYS OR BRONZES.

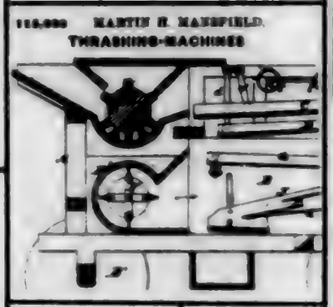
LEWIS AND STERLING. SAFES.



CHRISTOPHER LONG.
ANIMAL-TRAPS.



MARTIN H. MANSFIELD.
THRASHING-MACHINES



ARNOLD P. MASON.
CHECK-REIN SWIVELS



115,225.

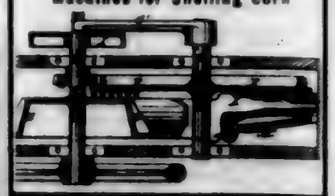


McCLINTOCK & CUMBERLAND.
Cotton-Bale Ties.

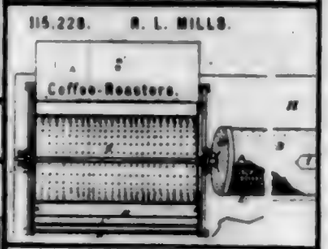
115,226. F. M. McMEEKIN.
Cotton-Gins.



115,227. MILLER & M. DUBRUL.
Machines for Shelling Corn



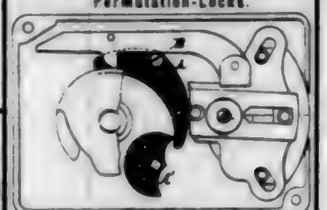
115,228. R. L. MILLS.
Coffee-Roasters.



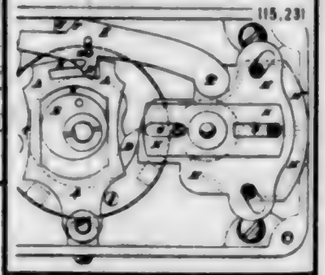
115,229. GEORGE W. NASH.
Corpse-Preservers.



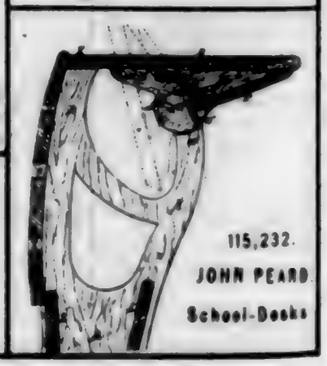
115,230 JACOB OBERMESSER.
Permutation-Locks.



115,231



115,232.
JOHN PEARD.
School-Desks



115,233.
Spindle-Steps and Covers for Spinning-Machines.
OLIVER PEARL.



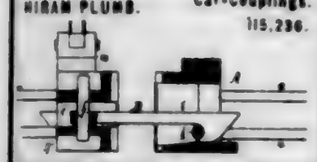
115,234. HENRY W. PELL.
Wash-Boilers.



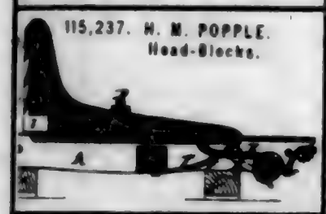
115,235.
G. T. Fenn
Fortt.



HIRAM PLUMB. Car-Couplings. 115,236.



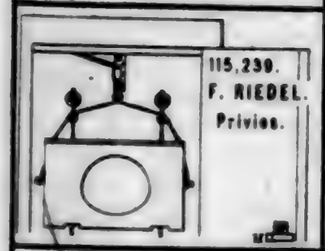
115,237. H. M. POPPLE.
Head-Blocks.



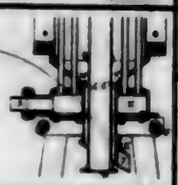
115,238.
P. H. RAIFORD.
Attaching Booms to the Poles.



115,239.
F. RIEDEL.
Privies.



115,240.
A. ROBERT.
Grain-Driers.



115,241.
E. ROGERS.
Attaching Booms to Masts.



ROYAL, LENTZ & DEIBERT.
115,242. Car-Couplings.



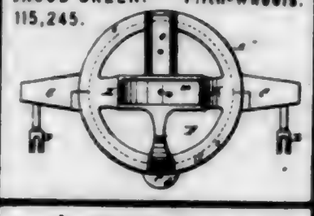
115,243. H. L. SEYMOUR. PREPARING AND TREATING IRON ORES IN THE MANUFACTURE OF STEEL.

JACOB SKEEN. Dumping-Wagons

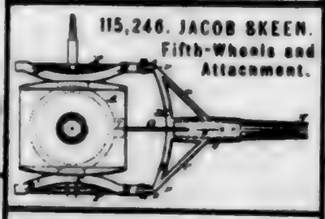


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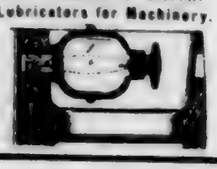
JACOB SKEEN. Fifth-Wheels.
115,245.



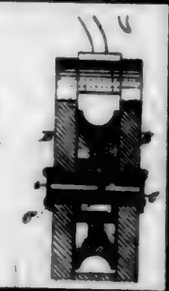
115,246. JACOB SKEEN.
Fifth-Wheels and Attachment.



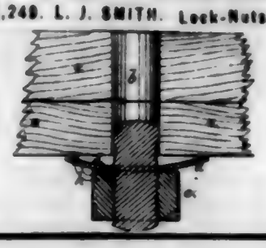
115,247 GEORGE E. SMITH.
Lubricators for Machinery.



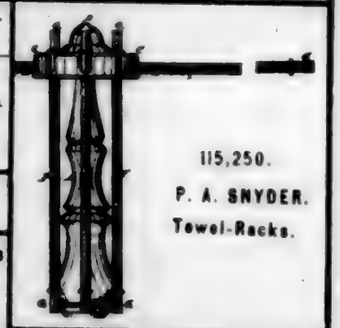
115,248.
HENRY SMITH.
Pulley-Blocks.



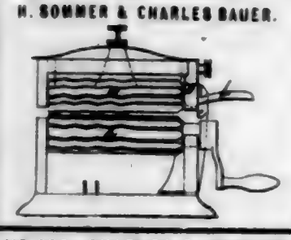
115,249. L. J. SMITH. Lock-Nuts.



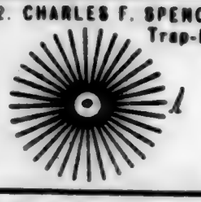
115,250.
P. A. SNYDER.
Towel-Racks.



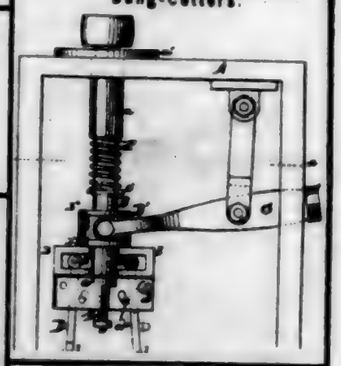
115,251. Fluting-Machines.
H. SOMMER & CHARLES BAUER.



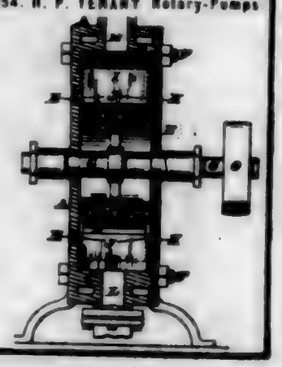
115,252. CHARLES F. SPENCER
Trap-Balls



115,253. A. W. C. STERNBERG.
Bung-Cutters.



115,254. H. P. TENANT Rotary-Pumps



115,255. GEORGE THOMPSON. Fan Attachment for Sewing-Machines.



115,257 CHARLES G. WEGNER



Handles for Shoemakers' Tools.

115,256. CHARLES A. WAKEFIELD. Earth-Closets.



115,258. ELI WHITNEY. Revolving Fire-Arms.

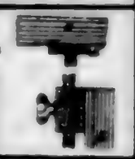


115,259 JAMES H. WILLIAMS

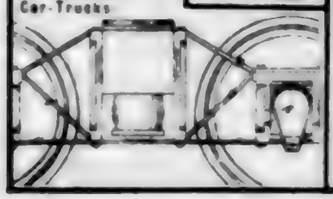


Blowing-Machines.

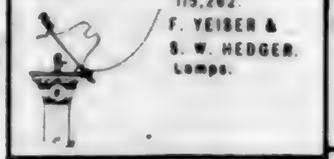
115,260 B. WILMOT. Sash-Holders.



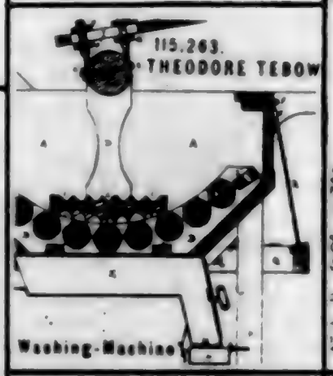
115,261. R. WINSLOW. Car-Trucks.



115,262. F. YEISER & S. W. HEDGER. Lamps.

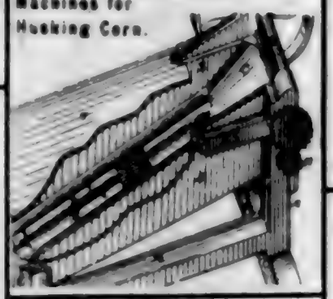


115,263. THEODORE TEBOW

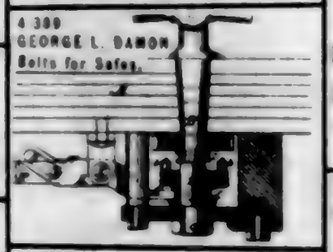


Washing-Machine.

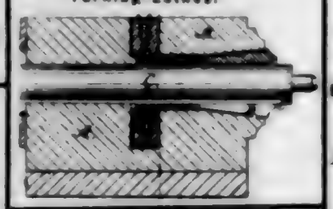
4,388. L. A. ASPINWALL. Machines for Husking Corn.



4,389 GEORGE L. DAMON. Bolts for Safes.



4,390 L. R. FAUGHT. Turning-Lathes.



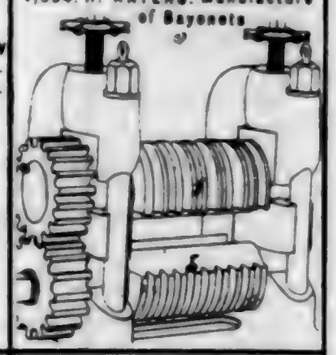
4,391 H. F. READ 4,392. Screw-Propellers for Water-Motors



4,393 WILLIAM B. SCAIFE. Kitchen-Boiler.



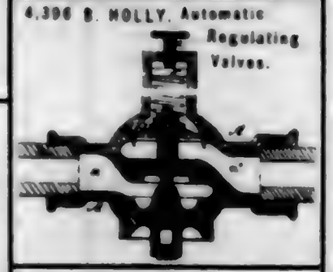
4,394. H. WATERS. Manufacture of Bayonets



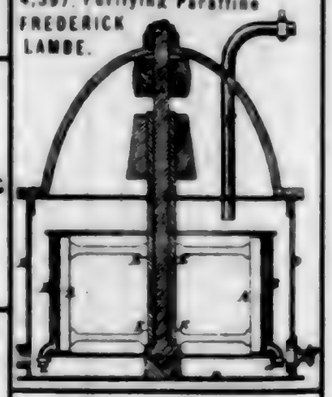
4,395. JOHN C. DURBOROW. Harvester-Rakes.



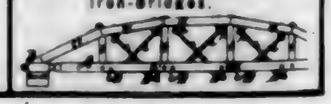
4,396 B. HOLLY. Automatic Regulating Valves.



4,397. Purifying Paraffine FREDERICK LAMBE.



4,398 DAVID H. MORRISON. Iron-Bridges.



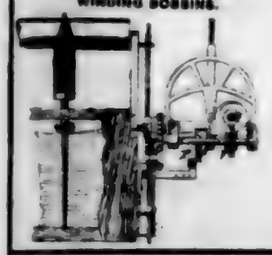
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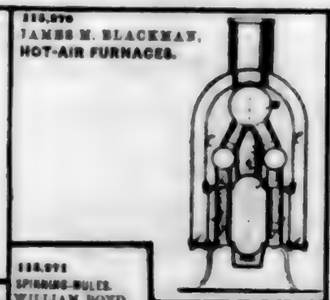
THE UNITED STATES PATENT OFFICE

MAY 30, 1871.

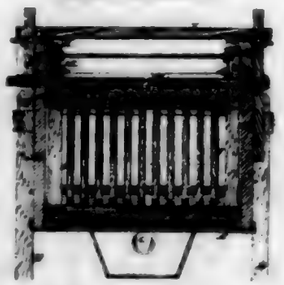
115,266 ADAMS AND TOLMAN. WINDING BOBBINS.



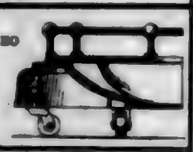
115,270 JAMES M. BLACKMAN. HOT-AIR FURNACES.



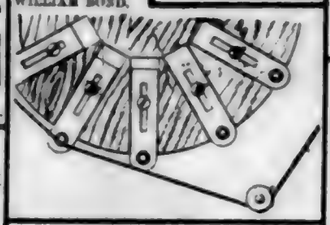
115,276 JOHN BROWN. WASHING-MACHINES.



114,963 CHARLES G. ALGEO FIRE-PLACE FENDERS.



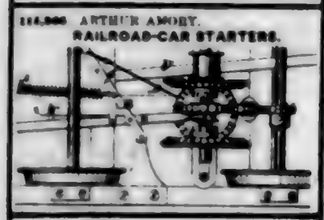
115,271 SPINNING-MULES. WILLIAM BOND.



115,277 REMUS D. BURR. GLOVES.



114,966 ARTHUR AMORY. RAILROAD-CAR STARTERS.

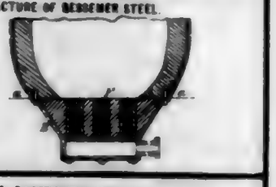


115,272 NATHAN BOOTH. WASHING-MACHINES.

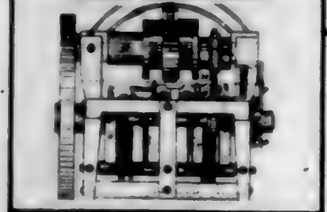


115,278 GEORGE A. BURROUGH. MANUFACTURE OF ARTICLES OF ENAMELLED METALS.

115,279 HENRY CHISHOLM MANUFACTURE OF BESSEMER STEEL.



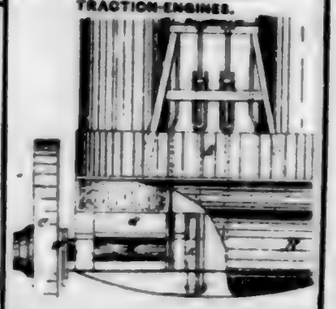
114,967 DANIEL ARMSTRONG. MAKING WROUGHT-NAILS.



115,273 WILLIAM BOYD CLAMPS FOR THILL-COUPLINGS.



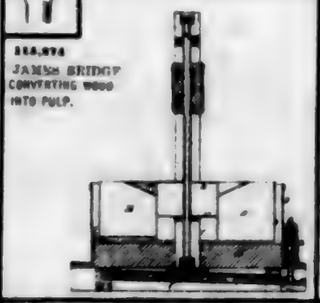
115,280 JAMES HENRY CLAPHAM. TRACTION-ENGINES.



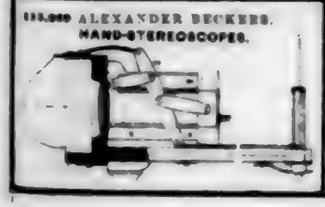
114,968 BAKER, BOOT AND CADE. PLATFORM WEIGHING SCALES.



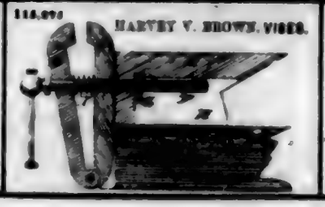
115,274 JAMES BRIDGE CONVERTING WOOD INTO PULP.



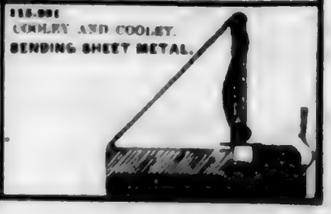
115,269 ALEXANDER BECKERS. HAND-STEREOSCOPES.



115,275 HARVEY V. BROWN. VISES.



115,281 COOLEY AND COOLEY. BENDING SHEET METAL.



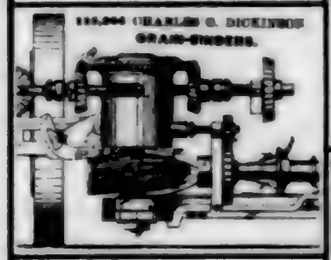
115,282
DANIEL M. DARBY,
HEMMERS FOR SEWING-MACHINES.



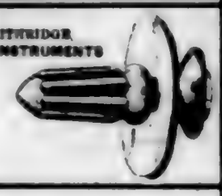
115,283
HENRY WILLIAM DEE,
LIQUID-FLASKS.



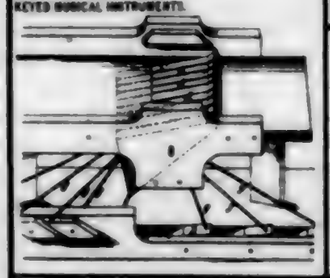
115,284 CHARLES G. DICKINSON
GRAIN-BINDERS.



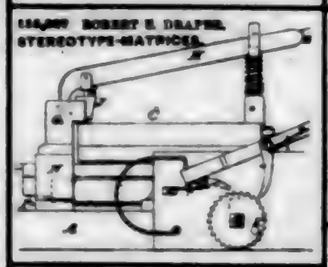
115,285
EDWARD DITHRIDGE,
SURGICAL INSTRUMENTS.



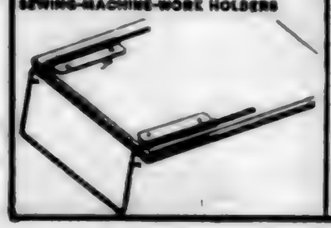
115,286
HARRISON DOWNS,
KEYED SURGICAL INSTRUMENTS.



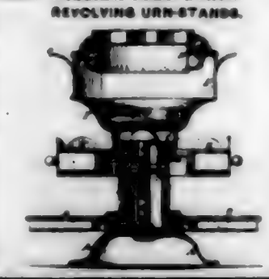
115,287 ROBERT E. DRAPER,
STEREOTYPE-MATRICES.



115,288 HENRY EDDY,
SEWING-MACHINE-WORK HOLDERS.



115,289 WILLIAM JOHN EVANS,
REVOLVING URN-STANDS.



115,290 LUTHER R. FAUGHT,
HOLD-FASTS FOR LATHE-SPINDLES.

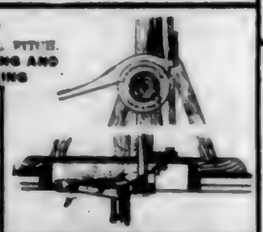


115,291 LUTHER R. FAUGHT,
DIE-STOCKS FOR CUTTING SCREWS.



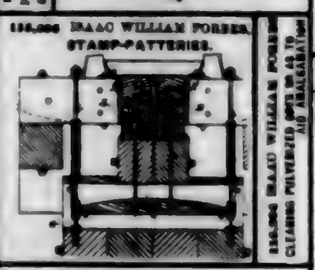
115,292
RUSH L. FITCH,
HOISTING AND LOWERING

115,293 ISAAC WILLIAM FORBES,
FURNACE, PUDDLING, FOR PRECIOUS METALS.



115,294 ISAAC WILLIAM FORBES,
STAMP-BATTERIES.

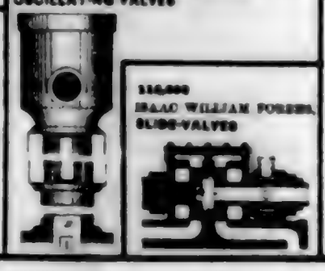
115,295 ISAAC WILLIAM FORBES,
CLEANING PULVERIZED ORES IN AIR BLAST.



115,296 ISAAC WILLIAM FORBES,
OSCILLATING VALVES.

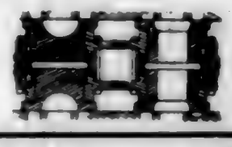


115,297 ISAAC WILLIAM FORBES,
OSCILLATING VALVES.



115,298
ISAAC WILLIAM FORBES,
SLIDE-VALVES.

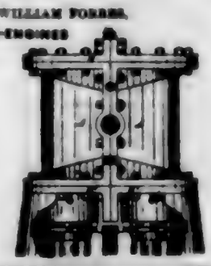
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SLIDE-VALVES.



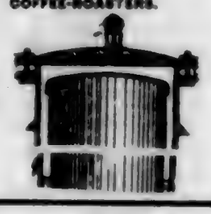
115,300 VALVE-GEARS
ISAAC WILLIAM FORBES.



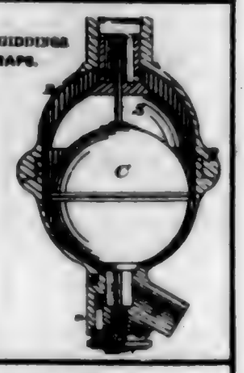
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ISAAC WILLIAM FORBES,
STEAM-ENGINES.



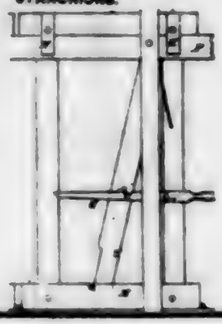
115,302 JAMES GALLOWAY
COFFEE-ROASTERS.



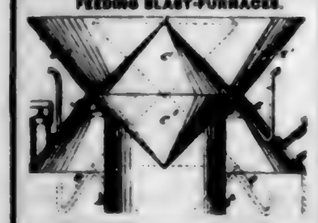
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ISAAC'R. GIDDINGS
STEAM-TRAPS.



115,304 WALTER G. GIFFORD,
STANCHIONS.

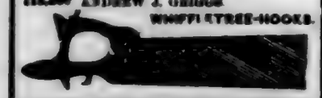


115,305 LEVET S. GOODRICH,
FEEDING BLAST-FURNACES.

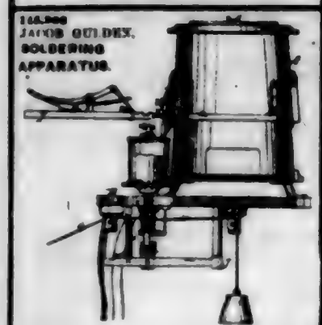


115,306
ALEXANDER GREGG,
PACKING-BOXES.

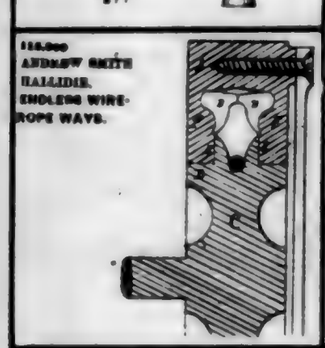
115,307 ANDREW J. GRIGGS
WHIFFLETREE-HOOKS.



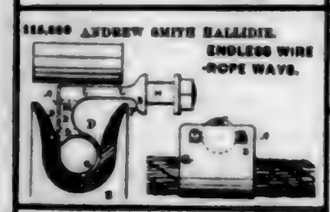
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JACOB GULDEN,
SOLDERING APPARATUS.



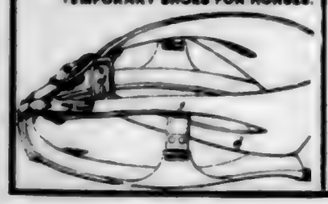
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ANDREW SMITH HALLIDIE,
ENDLESS WIRE-ROPE WAYS.



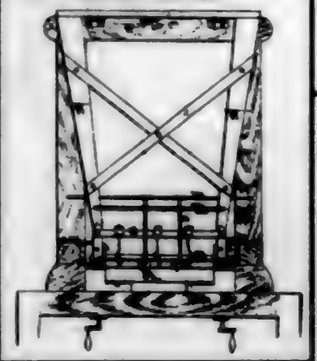
115,310 ANDREW SMITH HALLIDIE,
ENDLESS WIRE-ROPE WAYS.



115,311 WILLIAM HUTSON HAISEY,
TEMPORARY SHOES FOR HORSES.



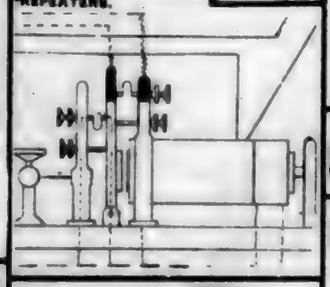
115,312 BENJAMIN R. HAMILTON,
CREASING LEATHER.



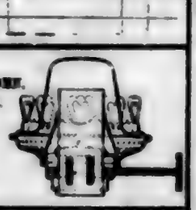
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WILLIAM HARKERVILL,
TURPENTINE-BOXES.



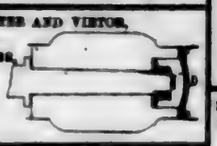
115,314
CHARLES H. HASKINS,
AUTOMATIC TELEGRAPH REPEATERS.



115,315
HIRAM W. HAYDEN,
LAMP-BURNERS.



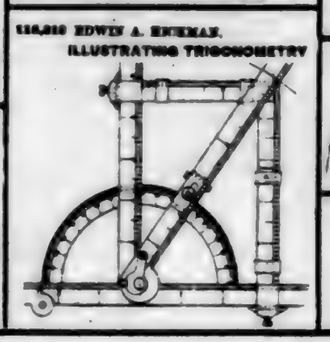
115,316 HEATER AND VIETOR,
ATTACHING CAPS TO HUBS.



115,317 HERRMANN AND HERRMANN,
WAGON-AXLES.



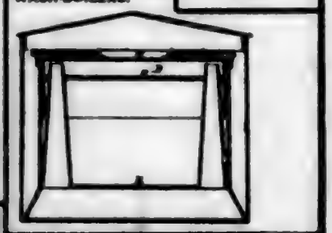
115,318 EDWIN A. HERMAN,
ILLUSTRATING TRIGONOMETRY.



115,319
JAMES HOPKINS,
ANIMAL-POKES.



115,320
HARVEY L. HORTON,
WASH-BOILERS.



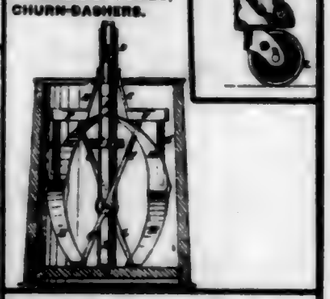
115,321 JEROME B. HULBERT,
DUMPING CARTS.



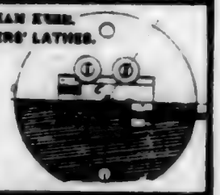
115,322.
H. A. HUMPHREY.
Casters for Stove-Legs.



115,323
WILLIAM F. JONES,
CHURN-DASHERS.



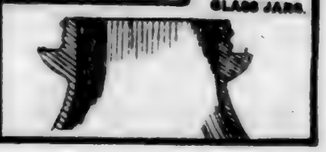
115,324 WILLIAM KYER,
WATCHMAKERS' LATHES.



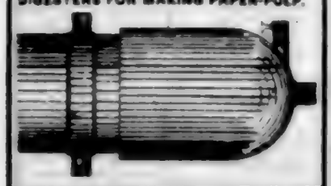
115,325
BENJAMIN KIFER,
WASHING-MACHINES.



115,326
WILLIAM H. KIRCHNER,
GLASS JARS.



115,327 WILLIAM P. LADD.
DIGESTERS FOR MAKING PAPER-PULP.



115,328
ORRIN H. LANGDON.
HANDSAWS.



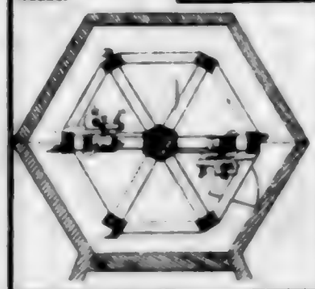
115,329 LAMPS.
HENRY E. LAUCHLIN.



115,330
GEORGE C. LAWTON.
GATE AND DOOR LATCHES.



115,331
PITCH B. LEWIS.
FLOUR-BOLTING REELS.



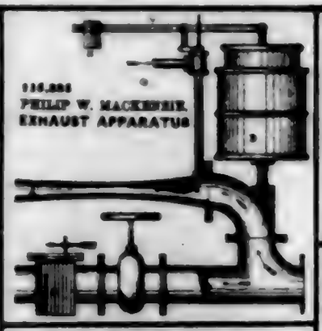
115,332 JOHN B. LOMAS.
MUSIC-STOOLS AND BOOK-RACKS



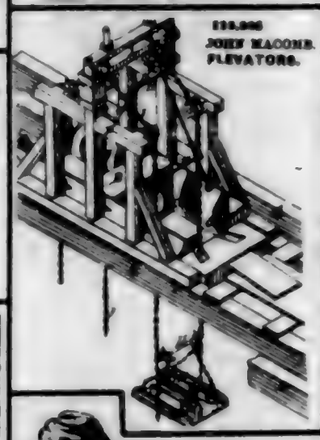
115,333 THOMAS M. LYONS.
SHEAVES AND RAILS



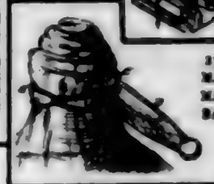
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PHILIP W. MACKENZIE.
EXHAUST APPARATUS



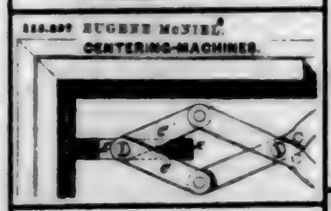
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JOHN MACOMB.
ELEVATORS.



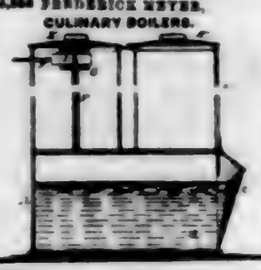
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BAG-TIES.



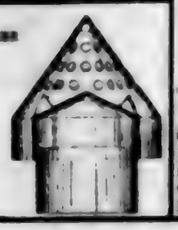
115,337 EUGENE McVIEL.
CENTERING-MACHINES.



115,338
FREDERICK MEYER.
CULINARY BOILERS.



115,339
BENJAMIN F. MILLER.
VENTILATORS.



115,340
BUTLER B. MILLER.
EAVES-TROUGHS

115,340
ABSOLUTE MILLER.
LUBRICATING COMPOUNDS.

115,341
WILLIAM MILLER.
SASHES.



115,342
GEORGE T. MORSE.
CHANGEABLE-GAGE CAR-TRUCKS.



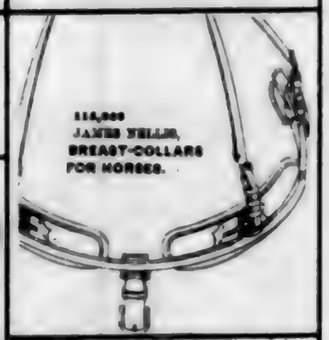
115,343 PETER W. NESFUS.
DRAINERS FOR TUMBLERS



115,344 PETER W. NESFUS. DOOR-MATS



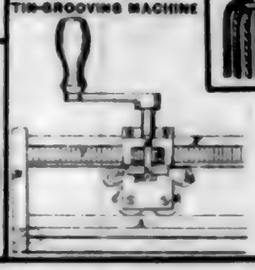
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JAMES NELLIS.
BREAST-COLLARS FOR HORSES.



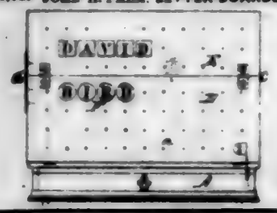
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JAMES NORMAN.
TASSELS.



115,347
HORATIO J. NOYES.
TIN-GROOVING MACHINE



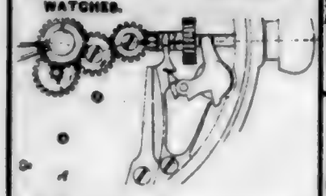
115,349 JOHN H. PALM. LETTER-BOARDS



115,350
GEORGE T. PARRY.
VAPOR-BURNERS.



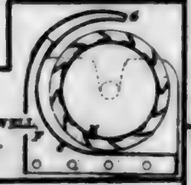
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EDWIN HATHAWAY PERRY.
STEM-WINDING WATCHES.



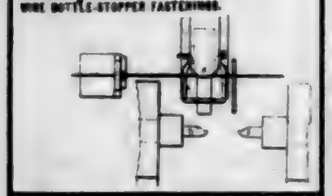
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ARCHIBALD A. PORTER.
GARDEN IMPLEMENTS.



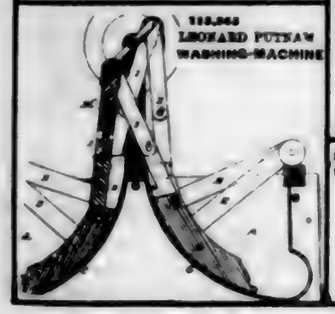
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CHARLES W. POWELL.
WASH-BOILERS.



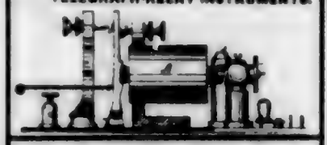
115,354 HENRY W. PUTNAM.
WIRE BOTTLE-STOPPER FASTENINGS.



115,355
LEONARD PUTNAM.
WASHING-MACHINE



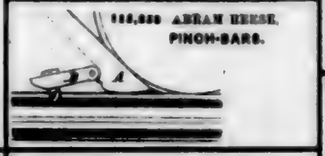
115,356 CLARENCE RATHBONE.
TELEGRAPH-RELAY INSTRUMENTS.



115,357 MONTAGUE REDGRAVE.
BAGATELLES.



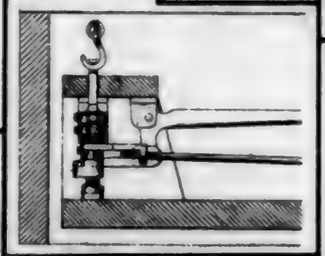
115,358 ABRAM REESE.
PINCH-BARS.



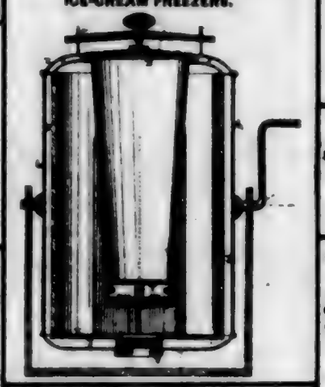
115,359
HENRY R. REMBEY
BASE-BURNING STOVES.



115,360
IRA ARIEL RICHARDS.
BOAT-DETACHING APPARATUS.



115,361 MORITZ ROSENTHAL.
ICE-CREAM FREEZERS.



115,362 REUBEN R. ROYER.
WATER-WHEELS.



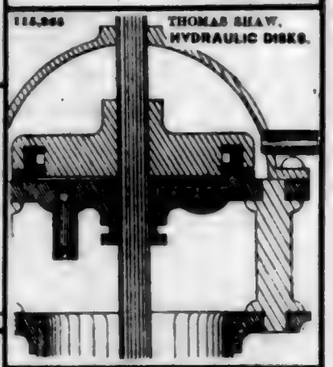
115,363
WILLIAM G. RUGH
TOBACCO-PIPES.



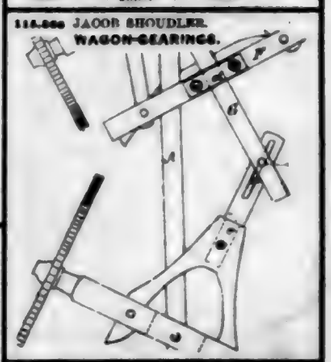
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ALBERT P. SEYMOUR.
SHUTTER-FASTENINGS.



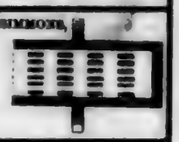
115,365 THOMAS SHAW.
HYDRAULIC DISKS.



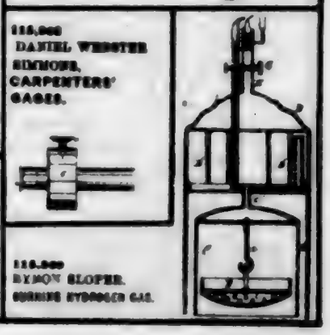
115,366 JACOB SHOUDLER.
WAGON-GEARINGS.



115,367 ALONZO J. SIMMONS.
SEPARATING FROM BOILING LIQUIDS.



115,368
DANIEL WEBSTER SIMMONS.
CARPENTERS' GAGES.

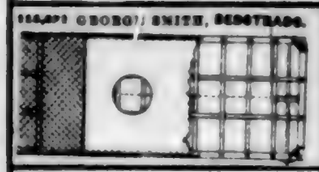


115,369
HYMON SLOPER.
BURNING HYDROCARBON GAS.

115,370 DEXTER SMITH, SHOT-GUNS.



115,371 GEORGE SMITH, SEED-TRAPS.



115,372 HAMILTON B. SMITH, CLOTHES-WRINGERS.

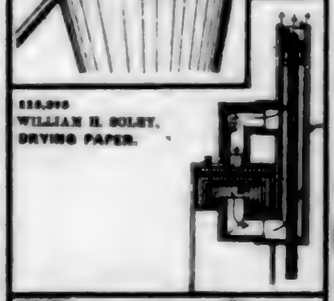


115,373 WILLARD H. SMITH, IGNITING GAS AND OTHER LIGHTS.

115,374 WILLIAM SOHIER, FLY-NETS.



115,375 WILLIAM H. SOLEY, DRYING PAPER.



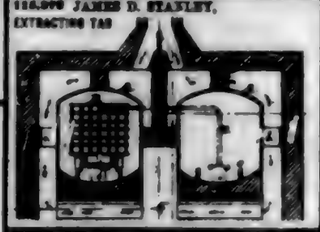
115,376 SOUDER AND MILLER, HARVESTERS.



115,377 CARL STADELMANN, GLASS-MOLDS.



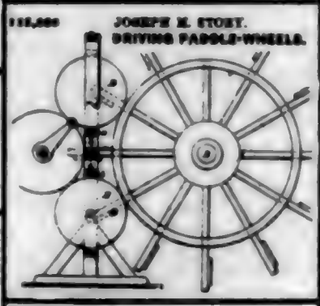
115,378 JAMES D. STANLEY, EXTRACTING TAR



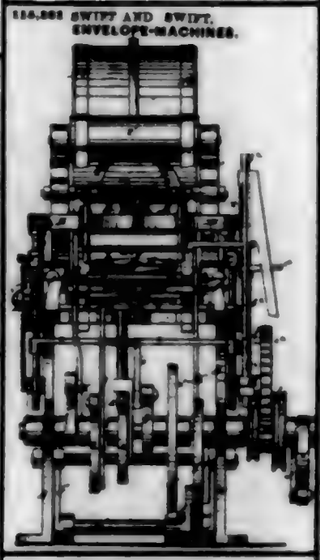
115,379 DAVID B. STEARNS, POWERS FOR SEWING-MACHINES.



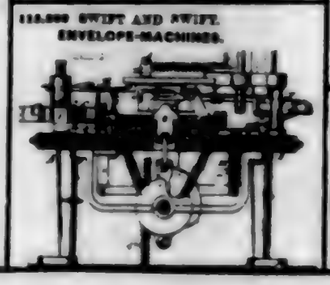
115,380 JOSEPH M. STORY, DRIVING PADDLE-WHEELS.



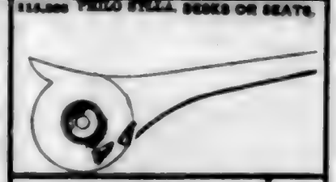
115,381 SWIFT AND SWIFT, ENVELOPE-MACHINES.



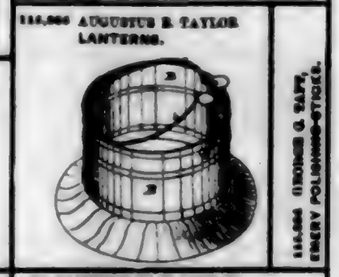
115,382 SWIFT AND SWIFT, ENVELOPE-MACHINES.



115,383 PEDRO STALA, DESKS OR SEATS.



115,384 AUGUSTUS B. TAYLOR, LANTERNS.

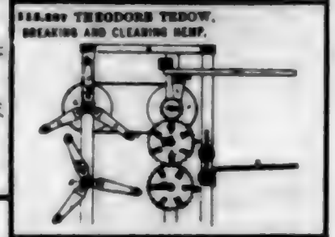


115,385 GEORGE G. TAPP, EMERY POLISHING-STICKS.

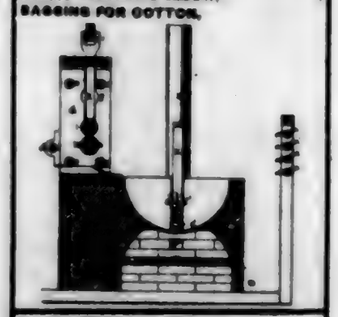
115,386 BENJAMIN W. TAYLOR, LIFE-PRESERVERS.



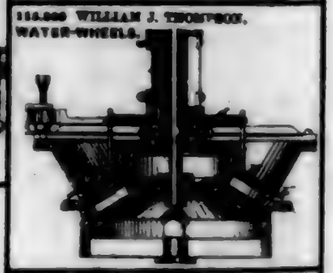
115,387 THEODORE TEBOW, BREAKING AND CLEANING HEMP.



115,388 THEODORE TEBOW, BAGGING FOR COTTON.



115,389 WILLIAM J. THOMPSON, WATER-WHEELS.



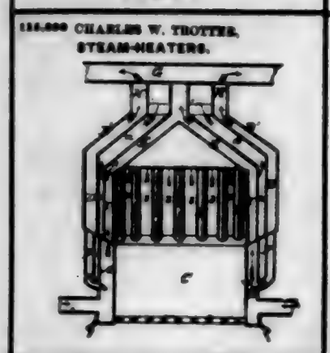
115,390 WENZEL TOEPFER, STIRRING SALT IN THE KILN.



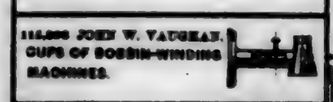
115,391 WILLIAM H. R. TOTH, PRINTING-PRESSES.



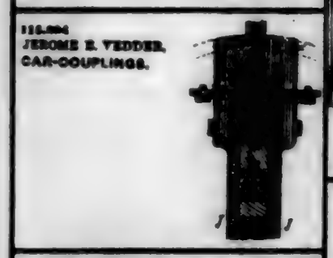
115,392 CHARLES W. TROTTER, STEAM-HEATERS.



115,393 JOHN W. VAUGHAN, CUPS OF BOBBIN-WINDING MACHINES.



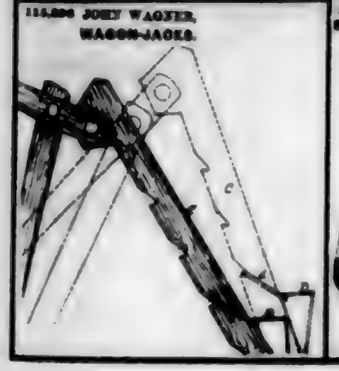
115,394 JEROME B. VEDDER, CAR-COUPLINGS.



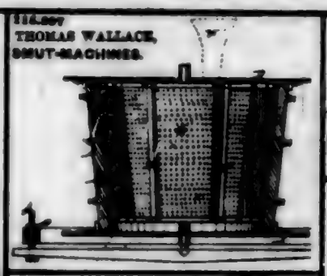
115,395 ISAM VEST, BOILING SUGAR.



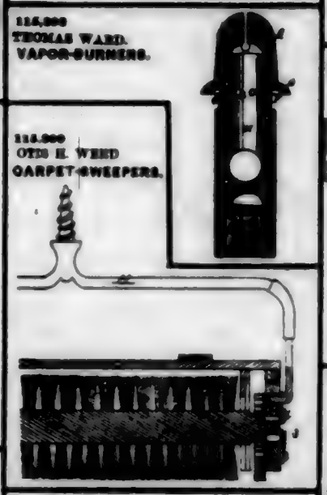
115,396 JOHN WAGNER, WAGON-JACKS.



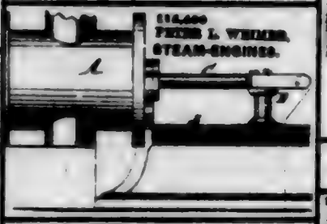
115,397 THOMAS WALLACE, SNUT-MACHINES.



115,398 THOMAS WARD, VAPOR-BURNERS.



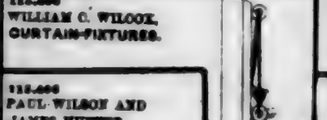
115,399 OTIS H. WEED CARPET-SWEEPERS.



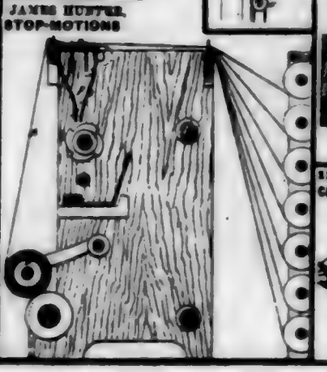
115,400 PETER L. WEIMER, STEAM-ENGINES.



115,401 SAMUEL WHITESIDES, PLANING-MACHINES.



115,402 WILLIAM C. WILCOX, CURTAIN-FIXTURES.



115,403 PAUL WILSON AND JAMES HUNTER, STOP-MOTIONS

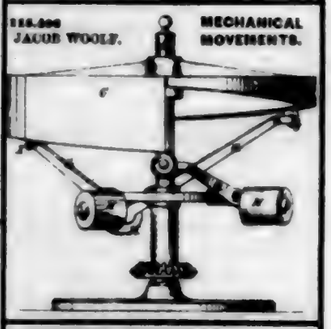
115,404 WILLIAM H. WINDSOR, PRINTERS' FURNITURE.



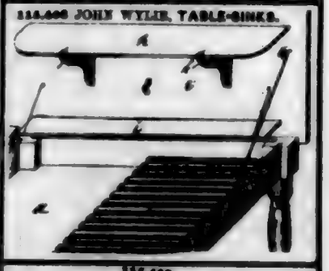
115,405 EDWIN D. WIPPERN, SWEDGES FOR HORSESHOE-CALKS.



115,406 JACOB WOOLF, MECHANICAL MOVEMENTS.

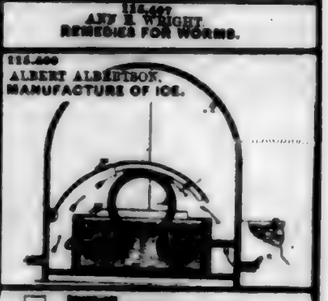


115,407 JOHN WYLIE, TABLE-SINKS.



115,408 ANN E. WRIGHT, REMEDIES FOR WORMS.

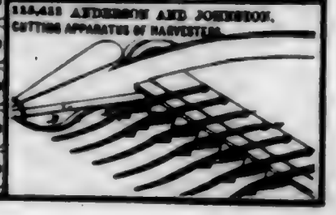
115,409 ALBERT ALBERTSON, MANUFACTURE OF ICE.



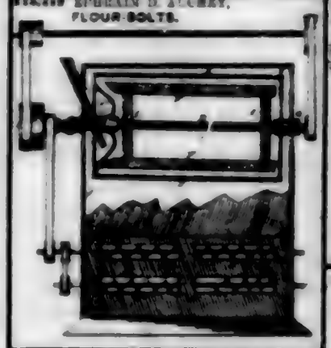
115,410 SOLOMON A. ALEXANDER, SPRING-ADJUSTERS.



115,411 ANDERSON AND JOHNSON, CUTTING APPARATUS OF HARVESTERS.



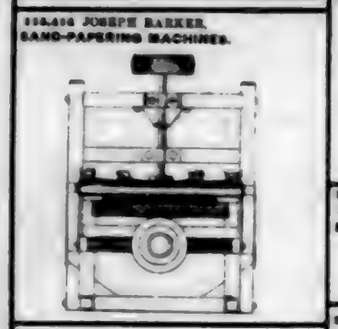
115,412 EPHRAIM D. ACHEY, FLOUR-BOLTS.



115,413 THOMAS BAGGOTT, MAKING SPIRAL-WIRE SPRINGS.



115,414 JOSEPH BARKER, SAND-PAPERING MACHINES.



115,415 ALBERT BARLING, PRUNING-SHEARS.



115,416 HARWELL E. BELLOWS, WASH-BOARDS.

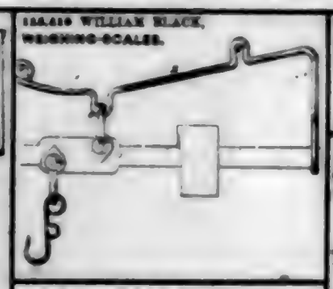


115,417 WILLIAM BENDER, REFINING RAW SUGAR.

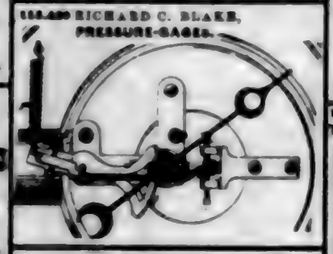
115,418 GEORGE W. BISHOP, SASH-BALANCES.



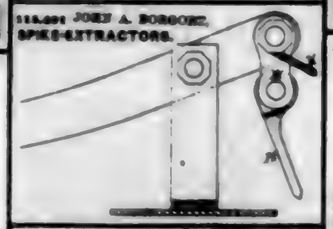
115,419 WILLIAM BLACK, WEIGHING-SCALES.



115,420 RICHARD C. BLAKE, PRESSURE-GAGES.



115,421 JOHN A. BORGOS, SPIKE-EXTRACTORS.



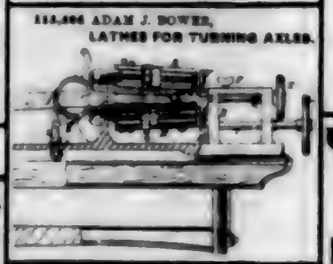
115,422 AUGUSTUS O. BOURE, BOOTS AND SHOES.



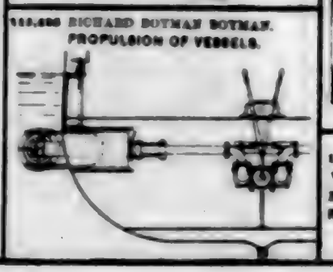
115,423 NOAH BOWEN, STEAM-HEATER



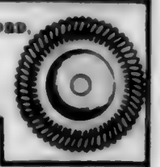
115,424 ADAM J. BOWER, LATHES FOR TURNING AXLES.



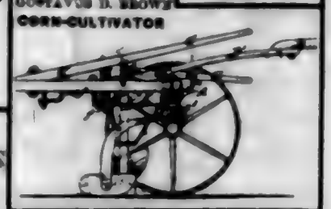
115,425 RICHARD BOTMAN BOTMAN, PROPULSION OF VESSELS.



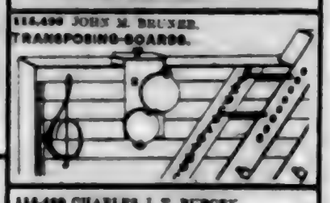
115,426 HORACE G. BRADFORD, SINKER-WHEELS



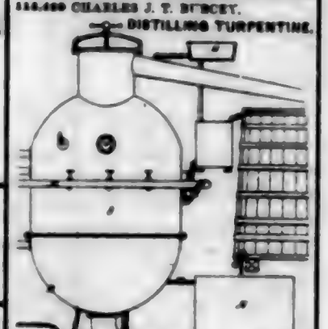
115,427 GUSTAVUS D. BROWN, CORN-CULTIVATOR



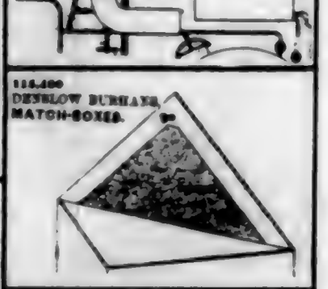
115,428 JOHN M. BRUNER, TRANSPOSING-BOARDS.



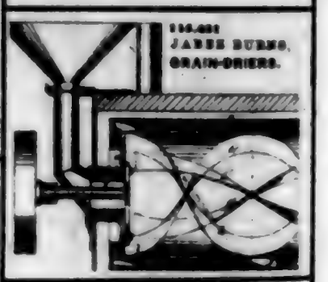
115,429 CHARLES J. T. BURCEY, DISTILLING TURPENTINE.



115,430 DENSLOW BURHANS, MATCH-BOXES.



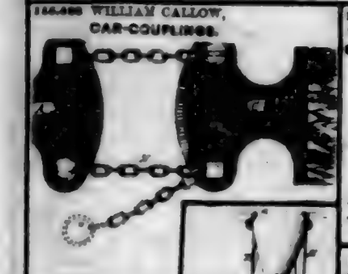
115,431 JAMES BURNS, GRAIN-DRIERS.



115,432 WILLIAM BUTTERFIELD, RIVETS.



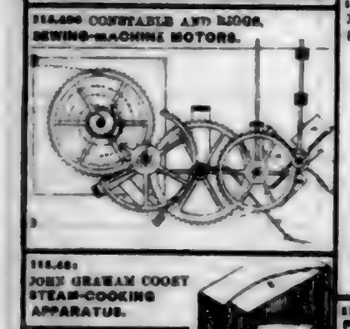
115,433 WILLIAM CALLOW, CAR-COUPLINGS.



115,434 WILLIAM D. CHAPMAN, MINNOW-PROPELLERS.



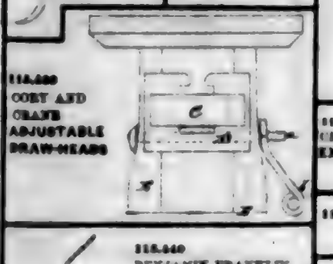
115,435 JOHN W. CHAPPELL, TWISTING AND SPINNING HEADS.



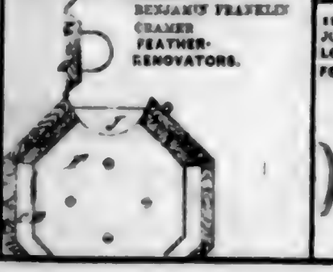
115,436 CONSTABLE AND RIDGE, SEWING-MACHINE MOTORS.



115,437 JOHN GRAHAM COOEY STEAM-COOKING APPARATUS.



115,438 WILLIAM F. CORNELL, SURFACE-GAGES.

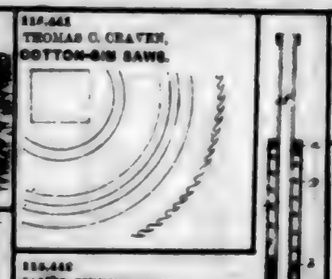


115,439 COBY AND CRANE ADJUSTABLE DRAW-HEADS

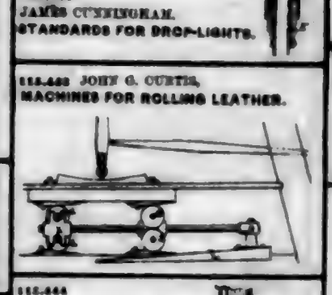


115,440 BENJAMIN FRANKLIN CRAMER FEATHER-RENOVATORS.

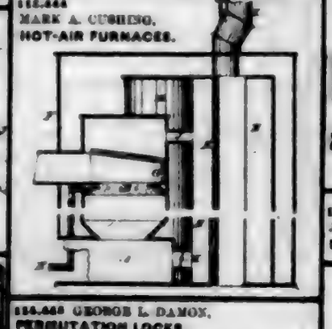
115,441 THOMAS C. CRAVEN, COTTON-GIN SAWS.



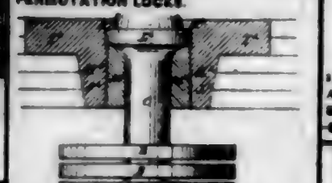
115,442 JAMES CUNNINGHAM, STANDARDS FOR DROP-LIGHTS.



115,443 JOHN G. CURTIS, MACHINES FOR ROLLING LEATHER.



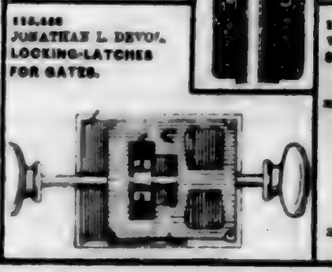
115,444 MARK A. CUSHING, HOT-AIR FURNACES.



115,445 GEORGE L. DAMON, PERMUTATION LOCKS.



115,446 CHARLES DRAVE, EXTENSION DROP-LIGHTS

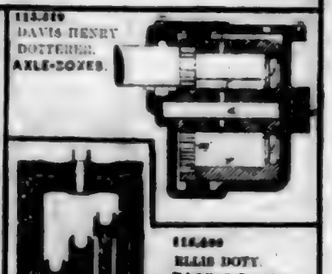


115,447 REBA DAVIS, SEASONING WOOD.

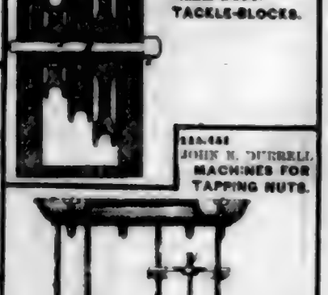
115,448 JONATHAN L. DEVO, LOCKING-LATCHES FOR GATES.



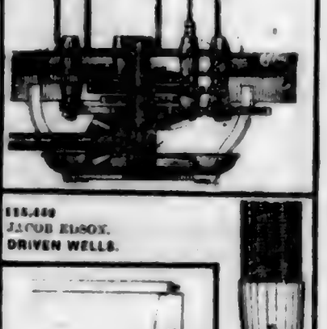
115,449 DAVIS HENRY DOTTERER, AXLE-BOXES.



115,450 ELLIS DOTY, TACKLE-BLOCKS.



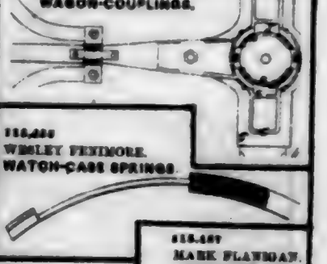
115,451 JOHN H. DURRELL, MACHINES FOR TAPPING NUTS.



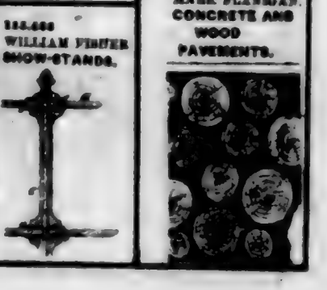
115,452 JACOB EISON, DRIVEN WELLS.



115,453 AMOS FASSETT, SPRING WAGON-SEATS



115,454 AMOS FASSETT, WAGON-COUPLINGS.



115,455 WESLEY FENIMORE, WATCH-CASE SPRINGS.



115,456 WILLIAM FISHER SHOW-STANDS.

115,457 MARK FLANIGAN, CONCRETE AND WOOD PAVEMENTS.

115,480 SAMUEL W. POWLER. LAMP-CHIMNEYS.

115,481 GEORGE E. COLTEY, FREDERICK V. HOGARTH. MEDICAL COMPOUNDS.

115,482 CONRAD FURST. CULTIVATORS.

115,483 GODDARD AND BRENNAN. CLOTHES-DRIERS.

115,484 HALL AND LOCKER. STUFFING-BOXES.

CANCELLED.

115,485 JOHN F. HASKINS. ALARM-GATONS.

115,486 WILLIAM P. HATCH. HAND-SPINNING

115,487 JOHN HEBBERLING. COFFEE-POTS.

115,488 HIRAM W. HAYDEN. LAMP-BURNERS.

115,489 JOHN M. HEDD. PRESERVING SILK

115,490 JOHN JOSEPH HENRY. THREAD-CUTTERS.

115,491 BENJAMIN HISKLEY. RAILWAY SWITCHES.

115,492 HODGSON AND BROWN. FIRE-PROOF ROOFS.

115,493 HODGSON AND BROWN. FIRE-PROOF BEAMS.

115,494 JAMES HOSKINSON. [illegible] AND SHAVING SKINS

115,495 GEORGE HOLZMANN. OYSTER-SHUCKERS.

115,496 WILLIAM WHEELER HUBBELL. PAVEMENTS.

115,497 JAMES G. HUNT. STOVES AND FIRE-PLACES.

115,498 ALBERT L. IDE. STEAM-HEATERS

115,499 SIMON INGERSOLL. VALVE-MOTIONS.

115,500 GEORGE H. IRELAND. SAFES.

115,501 CHARLES FRED. JOHNSON. CUTTING OFF HORSESHOE-NAILS.

115,481 GEORGE A. JONES. STRIKING MECHANISMS OF CLOCKS.

115,482 JAMES JONES. ROCKING-GRATE BARS.

115,483 BENJAMIN FRANKLIN JOSLYN. REVOLVING FIRE-ARMS.

115,484 MICHAEL LALLY. BEDSTEADS.

MICHAEL KELLER. STAINING WOOD. 115,484.

115,485 GEORGE LANDER. MACHINES FOR WASHING COAL.

115,486 WILLIAM AUGUSTUS LEGGO. GRANULATED PHOTOGRAPHS.

115,487 WILLIAM AUGUSTUS LEGGO. PROCESSES FOR OBTAINING MOLDS FOR ELECTROTYPING PURPOSES.

115,488 JOHN MAERCKENBY. ROLLERS FOR WRINGERS.

115,489 HENRY R. MARTIN. HEAD-BLOCK.

115,490 WILLIAM MAY. PIERCING SIDE SEAMS OF BOOTS.

115,491 HARRY W. McALLISTER. ELECTRIC ADVERTISING CABINET.

115,492 SKATES. BENCHER M. LANE.

115,493 TOLBERT LANSTON. COMBS AND BRUSHES.

115,494 JOHN McCLELLAND. FIRE-PLUGS.

115,495 JACOB W. McCLURE. CHURN-DASHER

115,496 JOHN McCREERY. CARRIAGE-WHEELS.

115,497 ISAAC M. MILRAYE. CARTRIDGES.

115,498 HENRY S. MILLER. SAW-FRAMES.

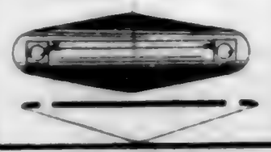
115,499 HENRY S. MILLER. SAW-FRAMES.

115,500 FRANK MILLWARD. HIGH-AND-LOW-WATER INDICATORS

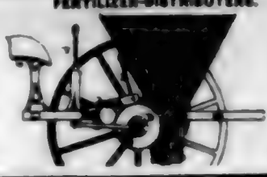
115,501 ALEXANDER MONCRIEFF. WORKING ORDNANCE.

115,502 DUNCAN MORRISON. ROCK-DRILLS.

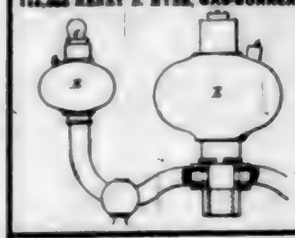
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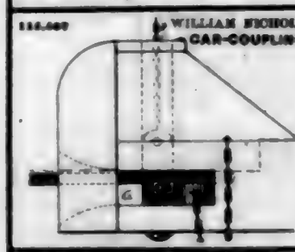
115,505 JOHN A. MORTON, FERTILIZER-DISTRIBUTERS.



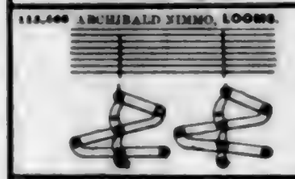
115,506 HENRY B. MYER, GAS-BURNERS.



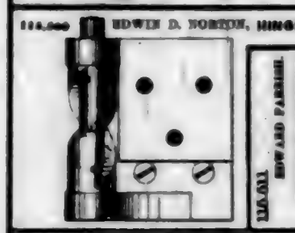
115,507 WILLIAM NICHOLS, CAR-COUPLINGS.



115,508 ARCHIBALD YIMMO, LOOMS.



115,509 EDWIN D. NORTON, HINGES.



115,510 WILLIAM PALMER, CHAIRS FOR RAILROAD CARS.



115,511 JOHN PECKHAM, BUCKLES.

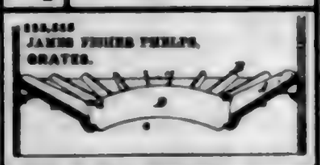


115,512-115,513 ABIRA B. PEARL, COMPOUNDS FOR EXTERMINATING VERMIN.

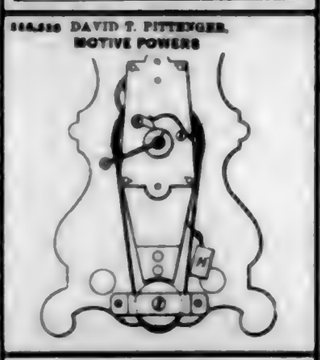
115,514 ALOIS PETHLER, DUMPING-CARS.



115,515 JAMES FISHER PHELPS, GRATES.



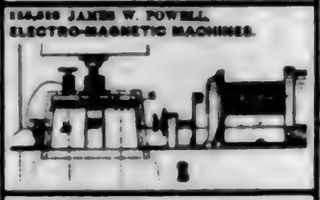
115,516 DAVID T. PITTENGER, MOTIVE POWERS



115,517 ALBERT PORTER, CAR-COUPLINGS.

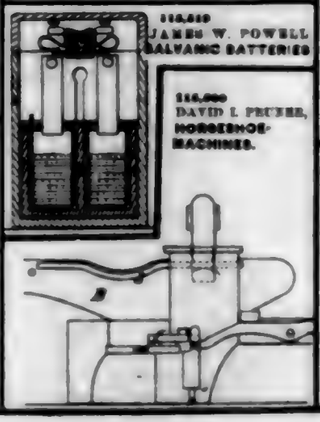


115,518 JAMES W. POWELL, ELECTRO-MAGNETIC MACHINES.



115,519 JAMES W. POWELL, GALVANIC BATTERIES

115,520 DAVID I. PRUNER, HORSESHOE-MACHINES.



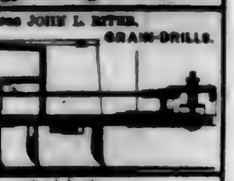
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115,522 WILLIAM RICHARDS, JR. CAR-COUPLINGS.



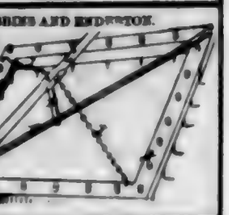
115,523 JOHN L. RITER, GRAIN-DRILLS.



115,524 HORACE T. ROBBINS, LAMP-WICKS.



115,525 ROBBINS AND EMERSON, HARROWS.



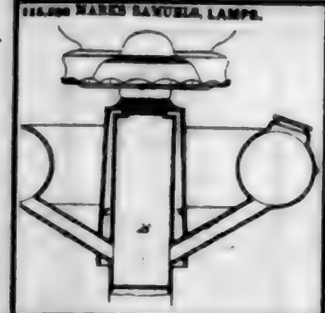
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115,527 EDWIN SHUMELL, LAMP-SHADE SUPPORTERS.



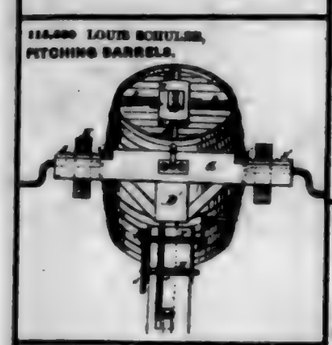
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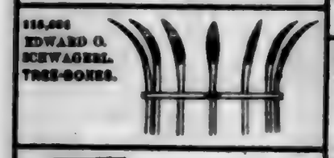
115,529 CHARLES SCHLEICHER, NEEDLE-WRAPPERS.



115,530 LOUIS SCHULER, PITCHING BARRELS.



115,531 EDWARD O. SCHWAGERL, TREE-BOXES.



115,532 JAMES M. SHARP, AX-HANDLES.



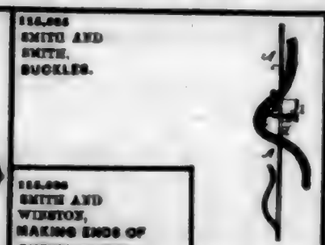
115,533 JOSEPH SHAKLETON, RAILROAD-CAR HEATERS.



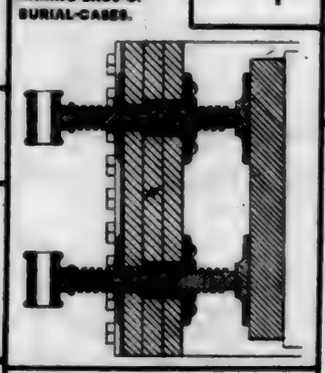
115,534 CHARLES D. SHEEVER, SHADE ROLLERS AND FIXTURES.



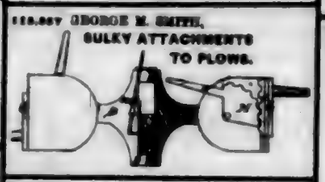
115,535 SMITH AND SMITH, BUCKLES.



115,536 SMITH AND WIRSTON, MAKING ENDS OF BURIAL-CASES.



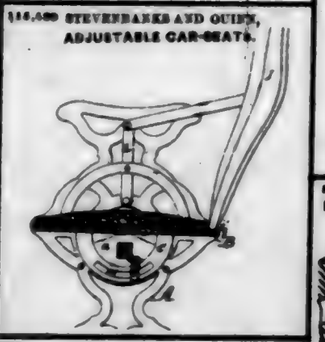
115,537 GEORGE M. SMITH, SULKY ATTACHMENTS TO PLOWS.



115,538 HENRY F. SNYDER, ROLLS FOR GANG SAW-MILLS.



115,539 STEVENBANKS AND QUIRY, ADJUSTABLE CAR-SEATS.



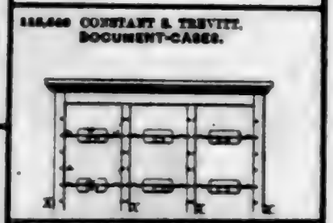
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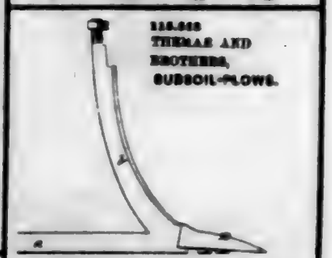
115,541 JAMES SWAN, AUGERS.



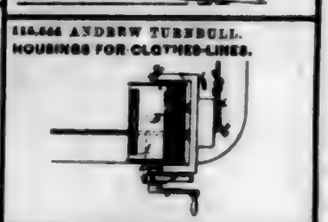
115,542 CONSTANT A. TREVITT, DOCUMENT-CASES.



115,543 THOMAS AND BROTHERS, SUBSOIL-PLOWS.



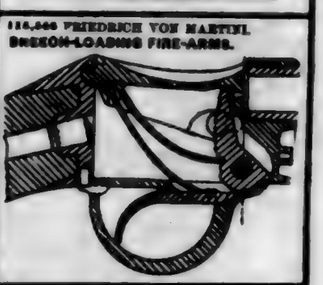
115,544 ANDREW TURNBULL, HOUSINGS FOR CLOTHES-LINES.



115,545 AMOS M. ULMER, WEATHER-STRIPS.



115,546 FRIEDRICH VON MARTINI, BREECH-LOADING FIRE-ARMS.



115,547 CHARLES S. WELLS, CARTRIDGES.



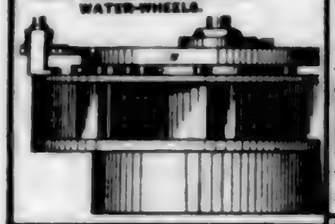
115,548 ROBERT AMBROSE WALTON, MEDICINES FOR THE CURE OF DIARRHŒA.

115,549
DAVID C. WESSELL,
AXLE-GAGES.

115,550
JAMES M. WHITING,
BRACKETS.



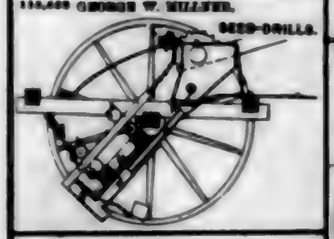
115,551 TITUS WHITMORE,
WATER-WHEELS.



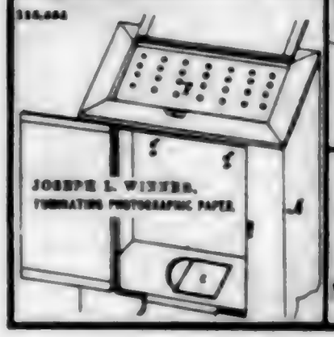
115,552 JAMES B. WILLIAMS, CHURNS.



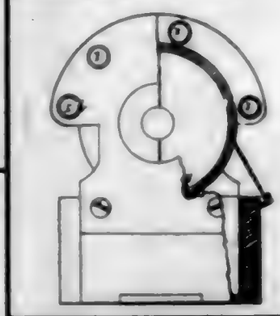
115,553 GEORGE W. MILLER,
SEED-DRILLS.



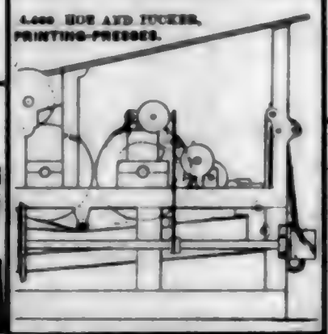
115,554
JOSEPH L. WINNER,
TONING PHOTOGRAPHIC PAPER.



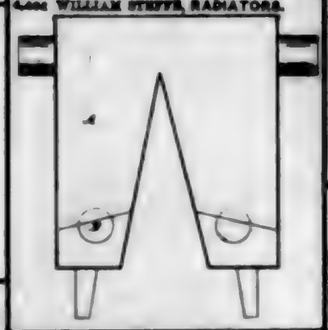
4,409 SAMUEL D. GILSON,
EVAPORATING SALT BRINES.



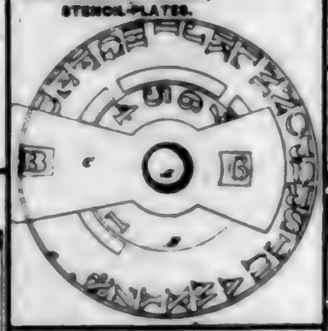
4,409 HOE AND TUCKER,
PRINTING-PRESSES.



4,409 WILLIAM STEVE, RADIATORS.



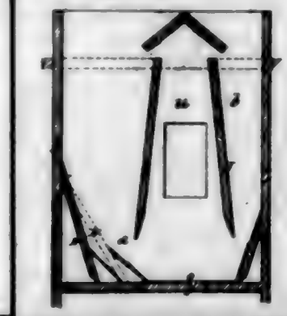
4,409 EUGENE L. TABOR,
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4,409 ALDIN WARTH 4,409
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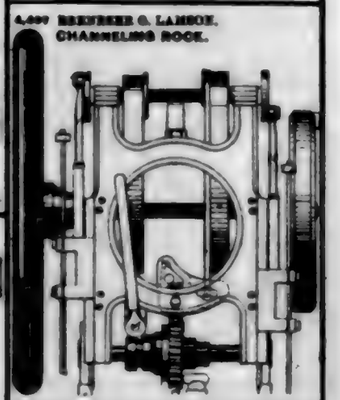
4,409 HENRY EDDY,
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4,409 JAMES H. GRIDLEY,
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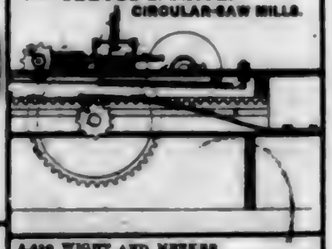
4,409 REUBEN G. LAMSON,
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4,409 GEORGE M. PETERS,
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4,409 SAMUEL B. SMITH,
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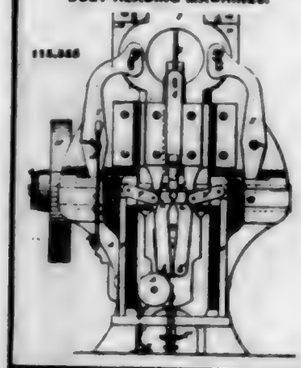
4,410 WIGHT AND MERKER,
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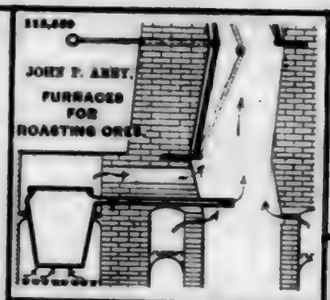
ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
JUNE 6, 1871.

JOHN B. ABBE,
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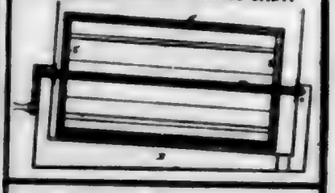
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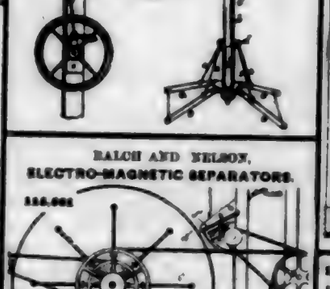
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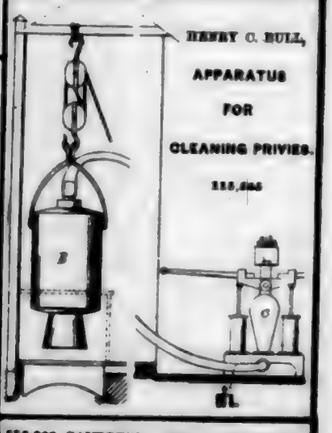
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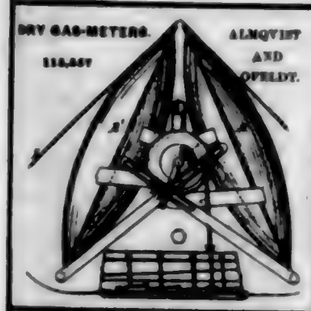
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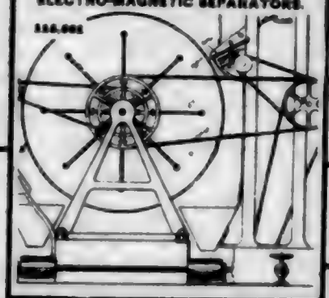
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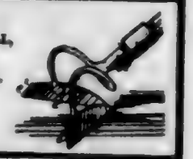


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115,569 CAMPBELL AND WOODWARD,
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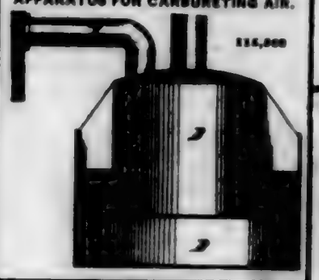
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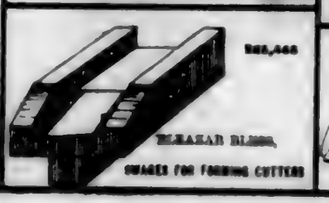
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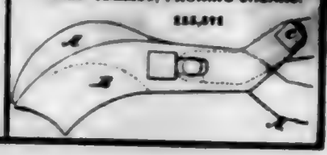
CORRUGATED
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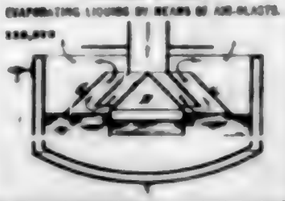


JOHN CHRISTY, PRUNING-SHEARS.

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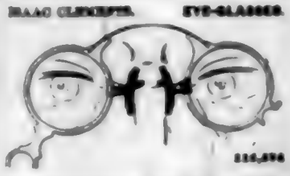
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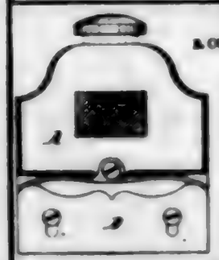


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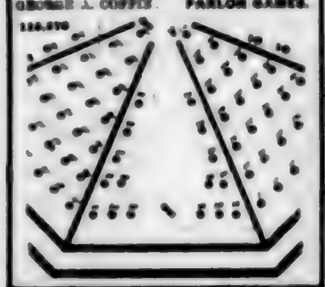
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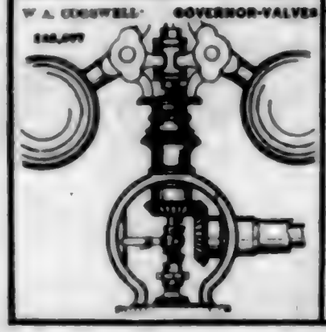
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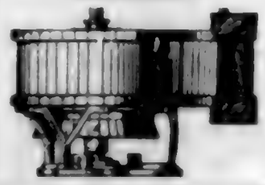
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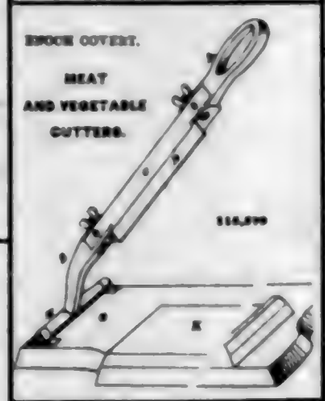
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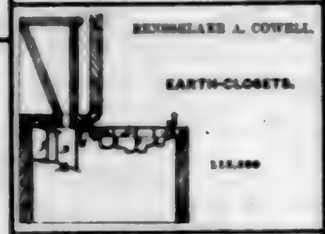
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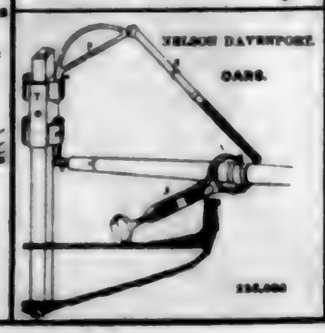
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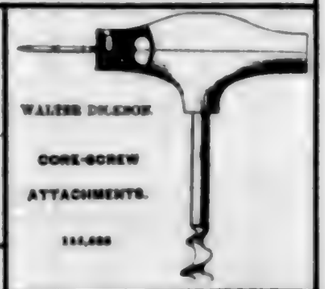


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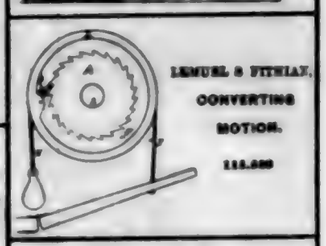
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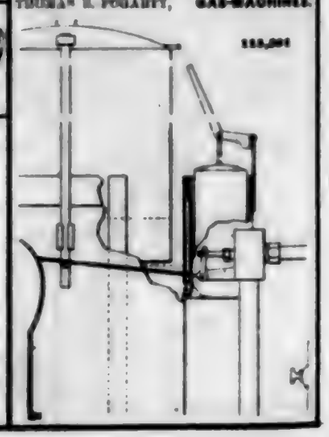
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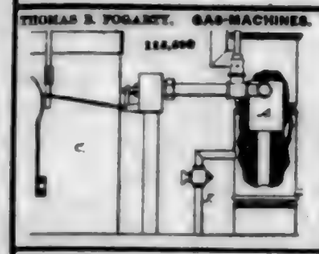
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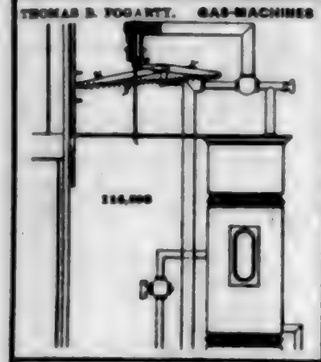
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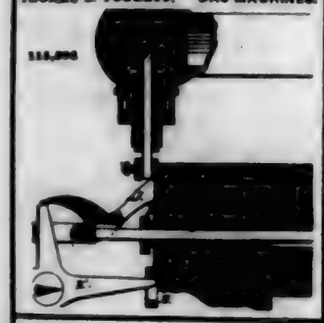
THOMAS B. FOGARTY, GAS-MACHINES. 115,592



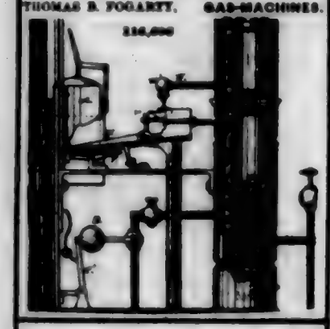
THOMAS B. FOGARTY, GAS-MACHINES. 115,593



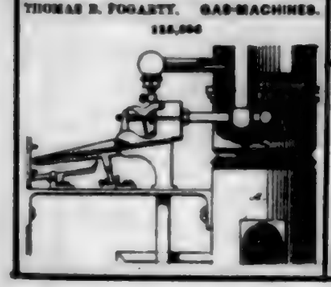
THOMAS B. FOGARTY, GAS-MACHINES. 115,594



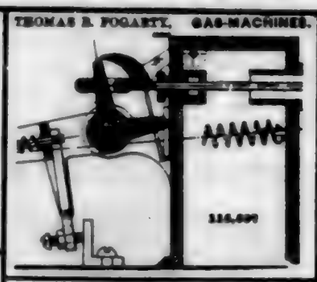
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THOMAS B. FOGARTY, GAS-MACHINES. 115,596



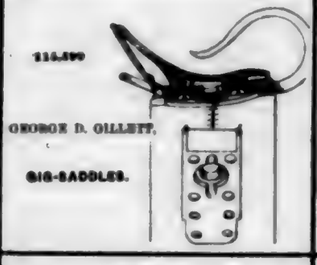
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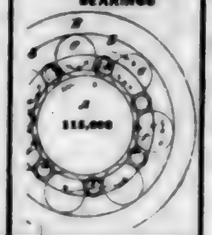
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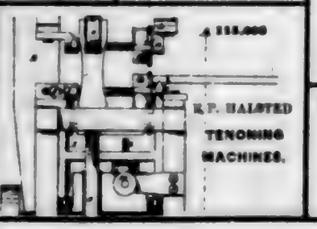
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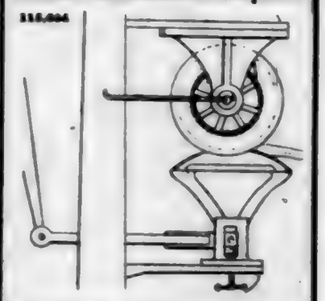
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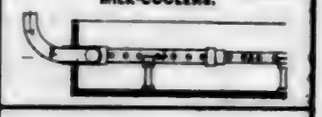
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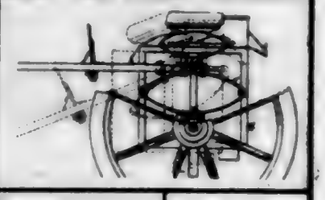
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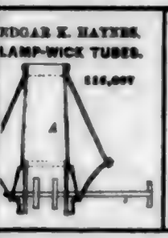
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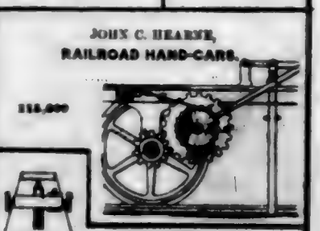
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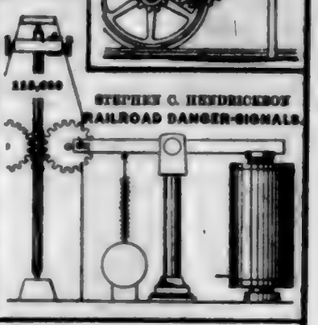
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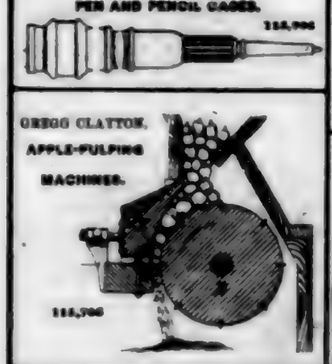
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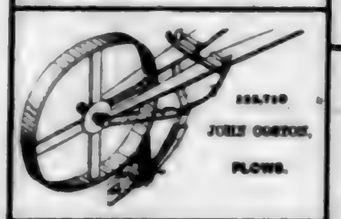
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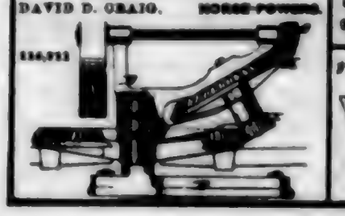
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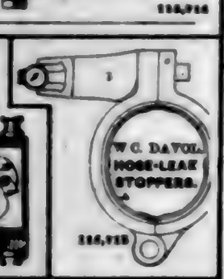
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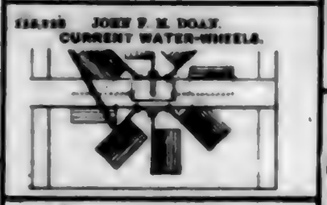
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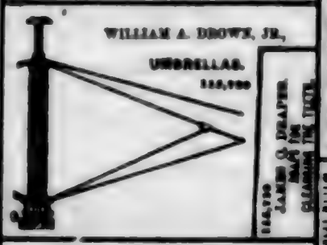
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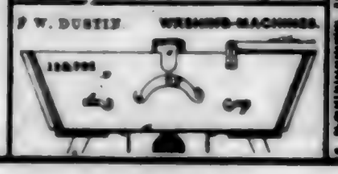
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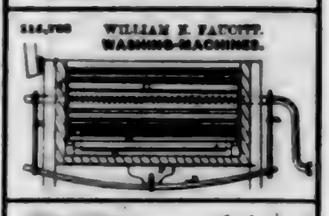
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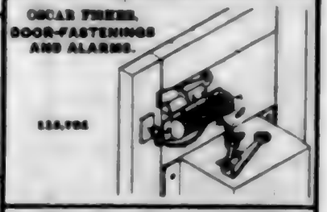
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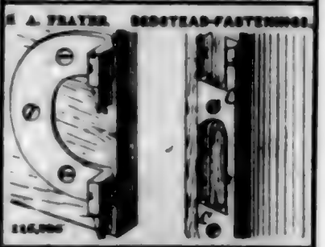
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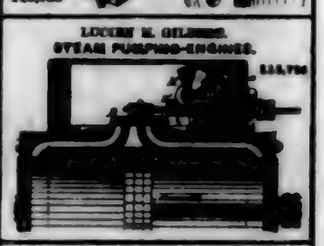
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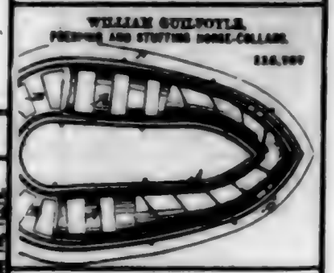
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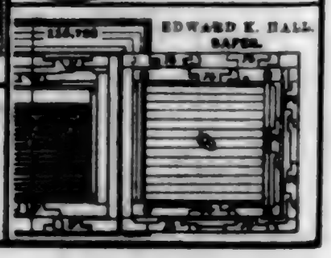
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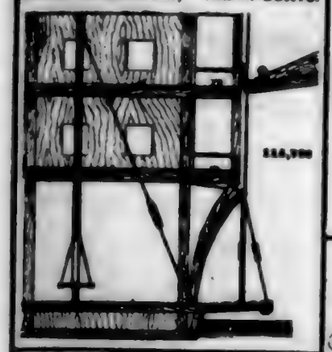
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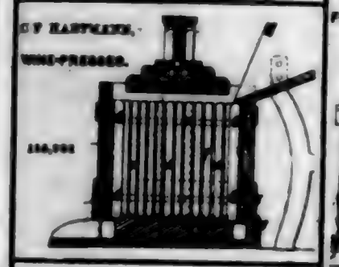
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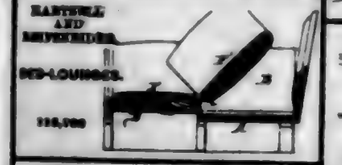
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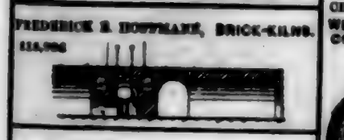
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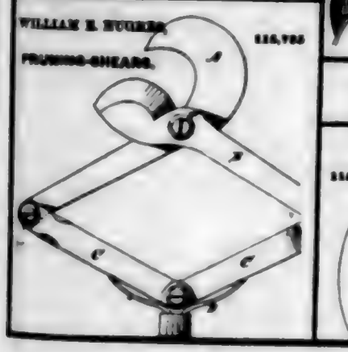
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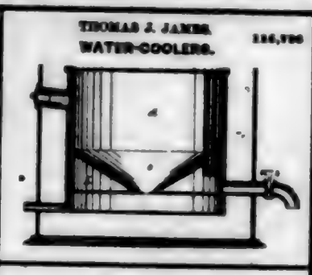
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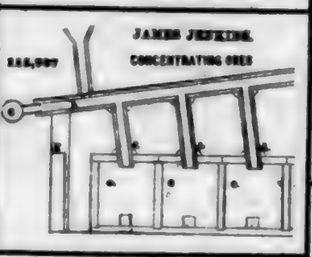
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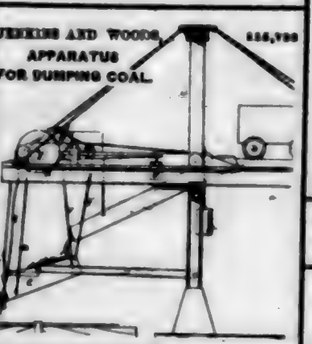
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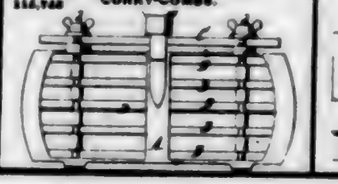


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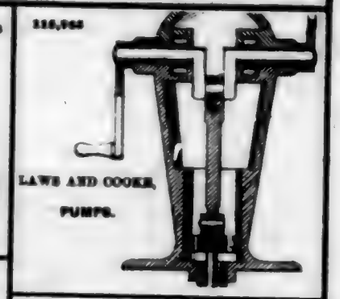


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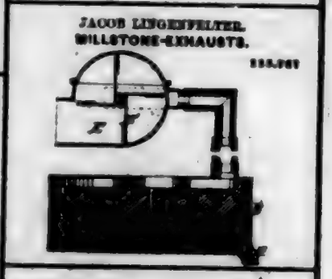
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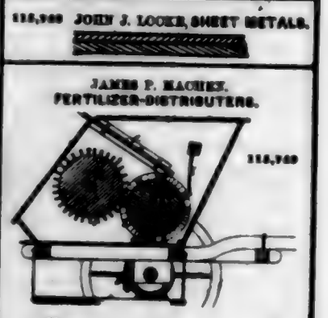


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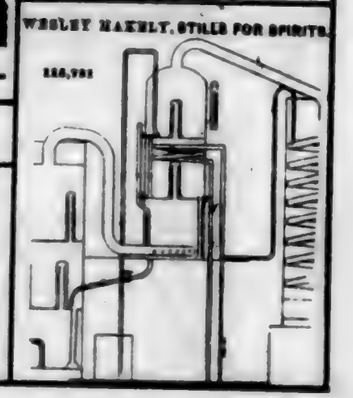
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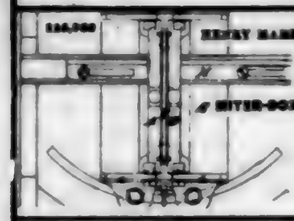




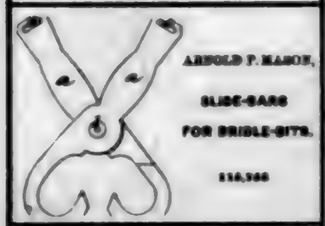
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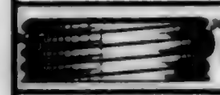
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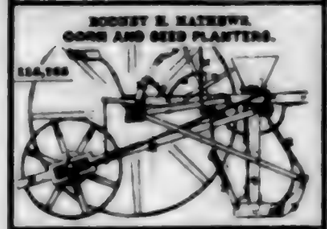
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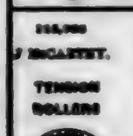
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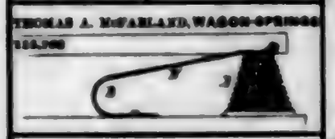
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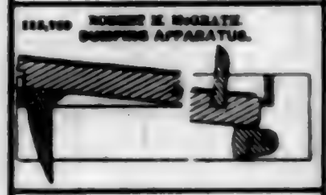
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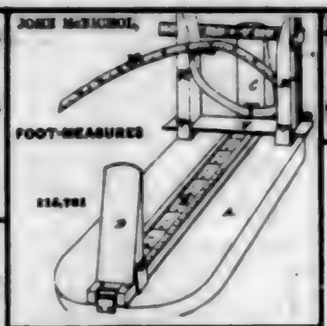
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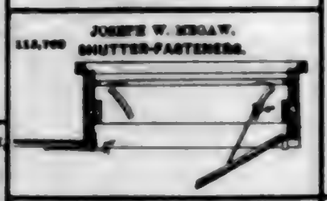
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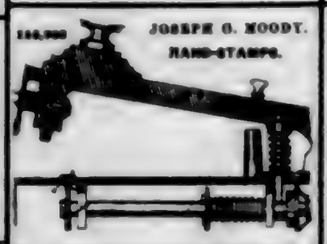
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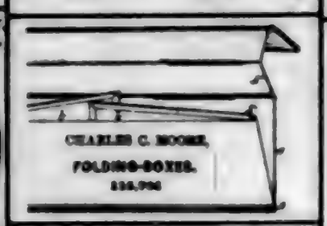
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JOSEPH G. MOODY. HAND-STAMPS. 115,773



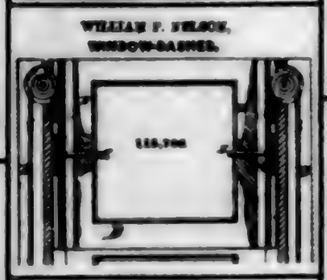
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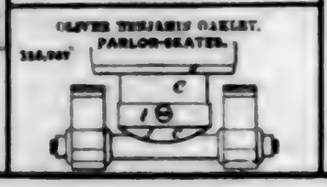
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OLIVER BENJAMIN OAKLEY. PARLOR-SKATES. 115,777



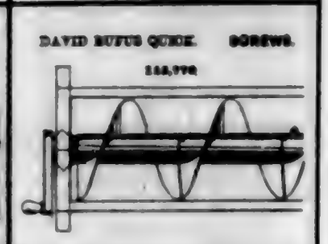
GEORGE W. PAGETT. DOOR-CHECKS. 115,778



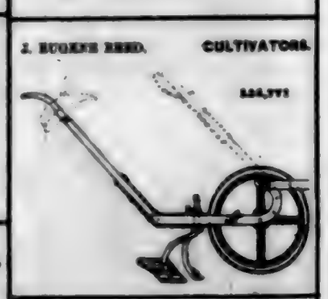
IRA M. PHELPS. FURNACES FOR OXIDIZING ORES. 115,779



DAVID RUFUS QUICK. SCREWS. 115,780



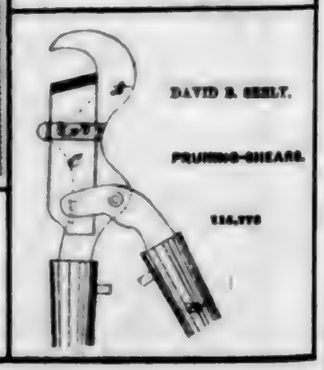
J. EUGENE REED. CULTIVATORS. 115,781



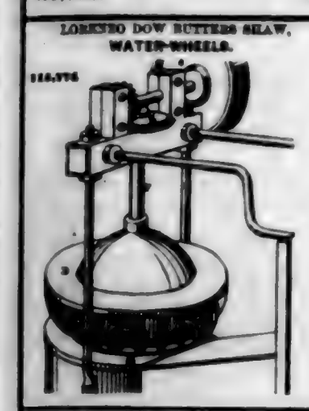
GEORG F. SCHMIDT. RIDING-SADDLES. 115,782



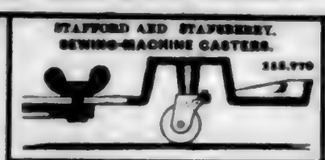
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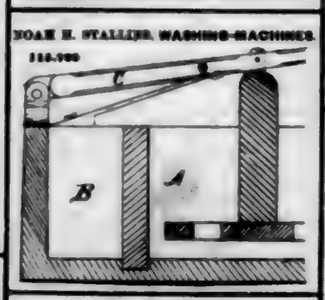
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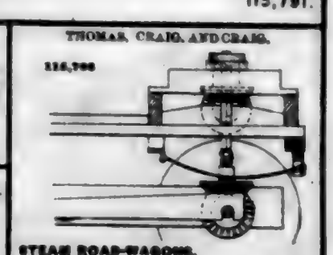
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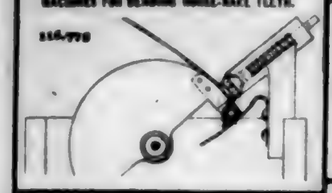
NOAH H. STALLER. WASHING-MACHINES. 115,777



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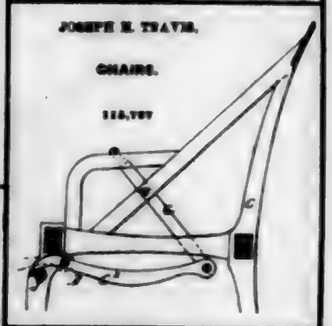
GEORGE F. SIMONDS. MACHINES FOR DRESSING DOUBLE-RACK TEETH. 115,779



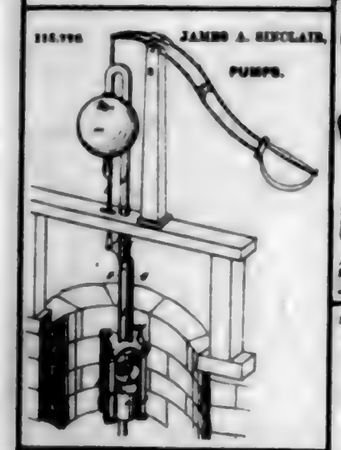
ELDRIDGE J. STEELE. FASTENINGS FOR WINDOW-SHUTTERS. 115,781



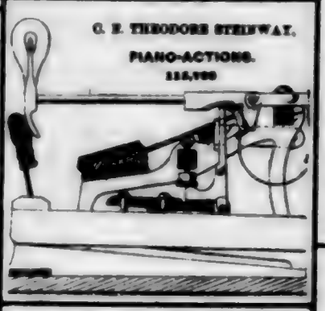
JOSEPH H. TRAVIS. CHAIRS. 115,787



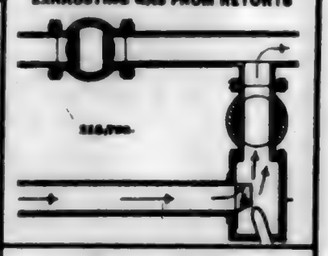
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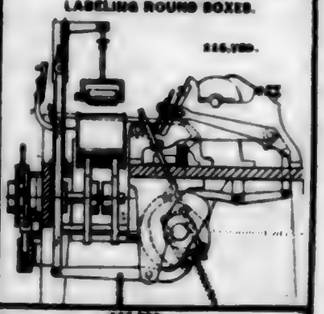
SAMUEL THURBORN. EXHAUSTING GAS FROM RETORTS 115,790.



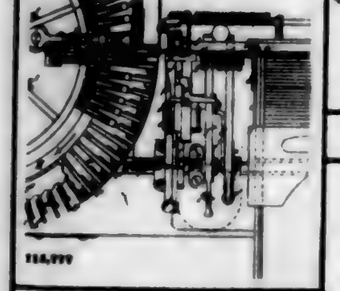
ALEXANDER STREAM. HAY-GATHERERS. 115,788



EDWARD TYRRELL. LABELING ROUND BOXES. 115,789.



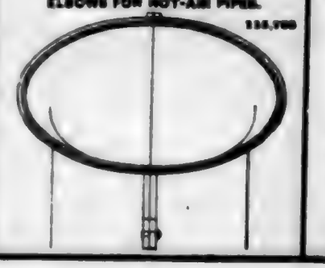
JOHN T. SLINGERLAND. TYPE-DISTRIBUTING MACHINES. 115,779



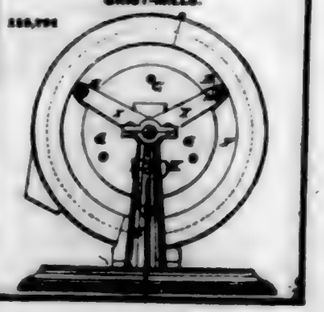
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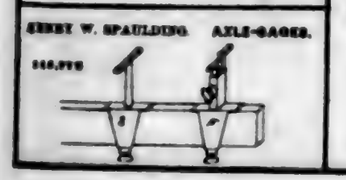
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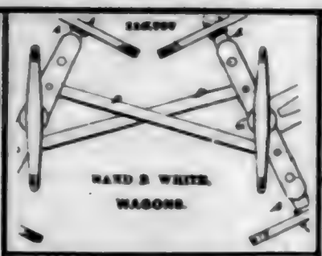
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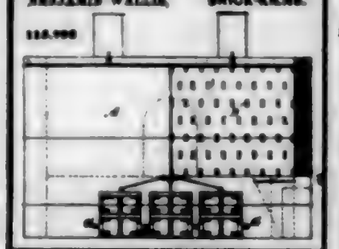
ALBERT G. WALNO. FRICTION-BRAKES



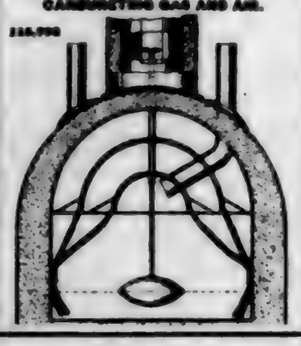
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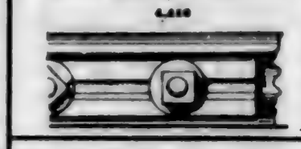
BENJAMIN WALLIS. BRICK-KILNS.



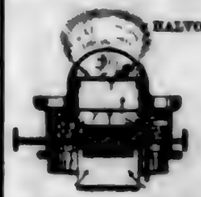
SAMUEL WHITNEY. CARBURETING GAS AND AIR.



PIERRE L. GIBBS. LOCK-NUTS.



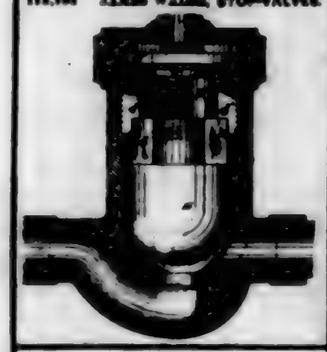
HALVOR HALVORSON. LAMPS.



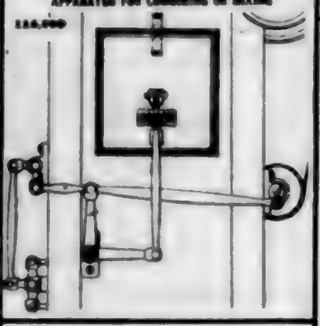
FRANÇOIS LAVAUX. BEDSTEADS AND TESTERS.



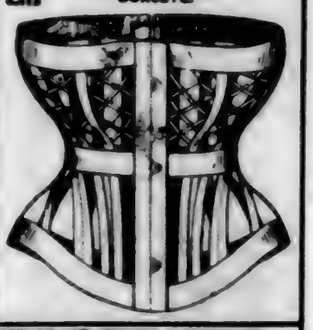
JAMES WALSH. STOP-VALVES.



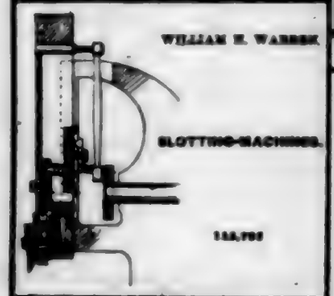
GEORGE W. WILSON. APPARATUS FOR CONDUCTING OR MIXING



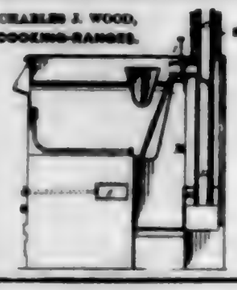
CLEMENTINE D. RUTHERFORD. CORSETS.



WILLIAM H. WARREN. SLOTTING-MACHINES.



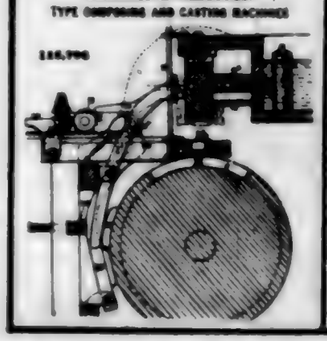
CHARLES J. WOOD. COOKING-RANGES.



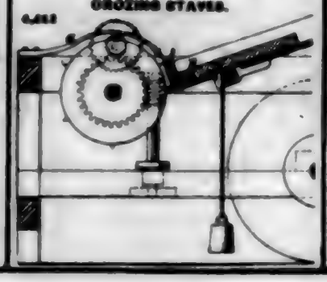
STUART AND STUART. CHEESE-VATS.



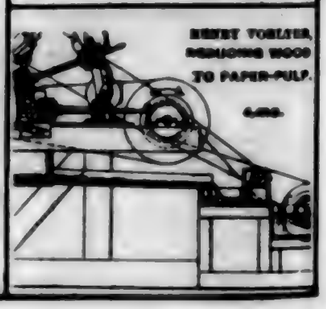
CHARLES S. WESCOTT. TYPE COMPOSING AND CASTING MACHINES



ELLIOTT, SMITH, AND GRAY. GROZING STAVES.

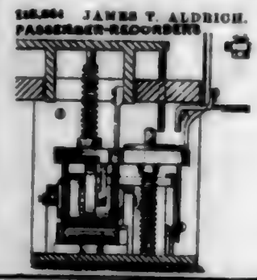


HENRY TORLTER. REDUCING WOOD TO PAPER-PULP.



ILLUSTRATIONS OF PATENTS
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JUNE 13, 1871.

JAMES T. ALDRICH. PASSENGER-RECORDERS



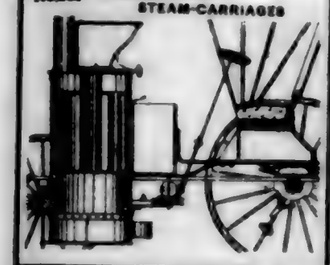
GEORGE W. BANKER. BARRELS, KEGS, AND PAILS.



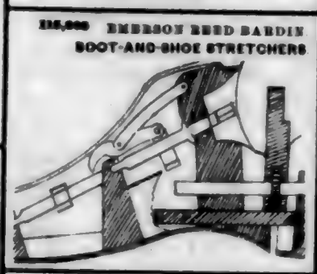
JOSIAH BISHOP. ELEVATORS.



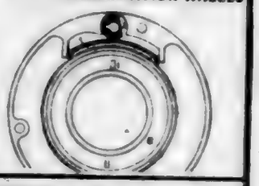
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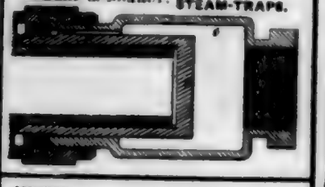
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JOHN BRIBER. MOP-HEADS.

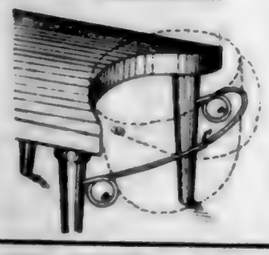


WILLIAM WESCOTT. VARNISHES FOR COATING THE SURFACES OF BODIES OR METAL.

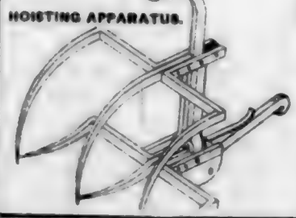
WILLIAM J. BRUNDRED. APPARATUS FOR OIL-TANKS.



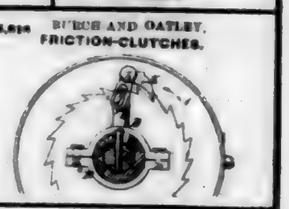
LEVI O. ALLEN. MILKING-STOOLS.



JOSEPH B. BENEDICT. HOISTING APPARATUS.



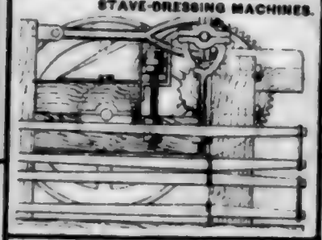
BUSH AND OATLEY. FRICTION-CLUTCHES.



ANDERSON AND BOGARDUS. REFRIGERATORS.



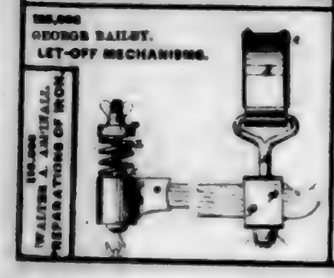
BENSON AND BENSON. STAVE-DRESSING MACHINES.



EUGENE CAMPBELL. CAR-COUPLINGS.



GEORGE BAILEY. LET-OFF MECHANISMS.

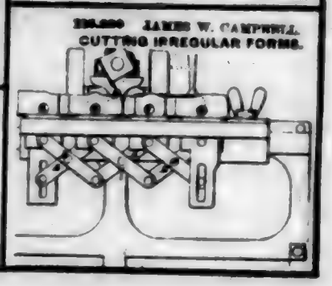


WALTER A. ANSHALL. SEPARATING OF IRON.

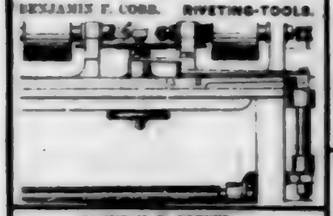
LYMAN G. BIGELOW. PHOTOGRAPHIC BACKGROUNDS.



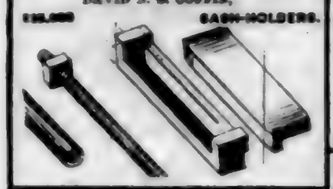
JAMES W. CAMPBELL. CUTTING IRREGULAR FORMS.



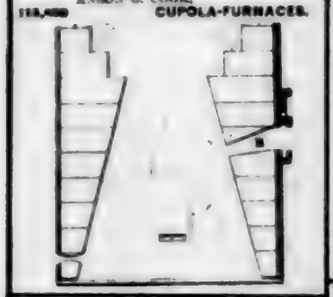
115,821 BENJAMIN F. COBB. RIVETING-TOOLS.



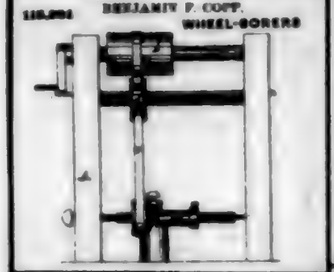
DAVID N. S. COFFIN, 115,822 SASH-HOLDERS.



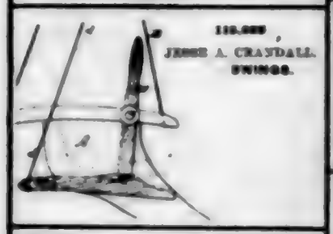
AMOS G. COOK, 115,823 CUPOLA-FURNACES.



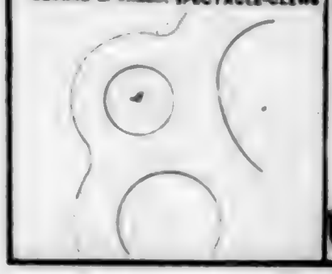
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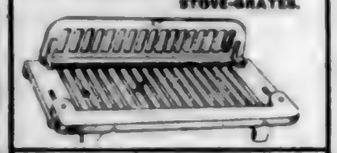
115,825 JESSE A. CRANDALL. SWINGS.



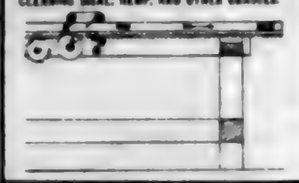
115,826 GEORGE B. CREED. SPECTACLE-CLEWS



115,827 SALMON P. DAVIS. STOVE-GRATES.



115,828 CHARLES A. DEAN. CLEANING SEAL, HEMP, AND OTHER GRAINS.



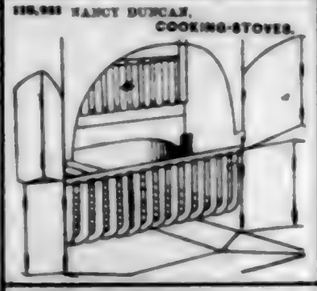
115,829 JOHN E. DERBY. CLOTHES-DRIERS.



115,830 HENRY DEYOE. FENCES.



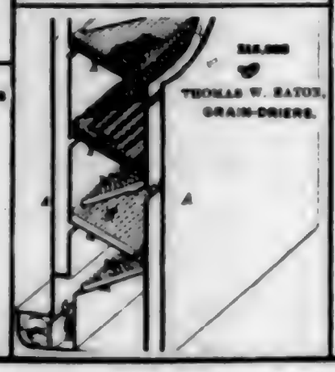
115,831 NANCY DUNCAN. COOKING-STOVES.



115,832 GEORGE B. EAGER. PANTALOONS.



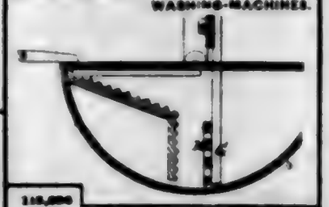
115,833 THOMAS W. EATON. GRAIN-DRIERS.



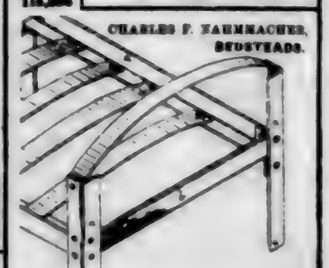
115,834 PETER EBERLE. PRUNING-SAWS.



115,835 FRANCIS M. ELLIS. WASHING-MACHINES.



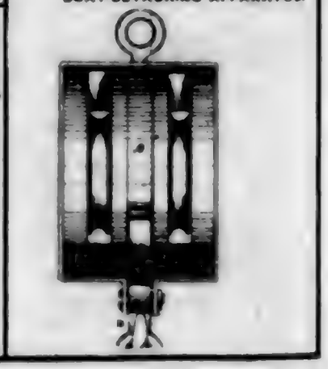
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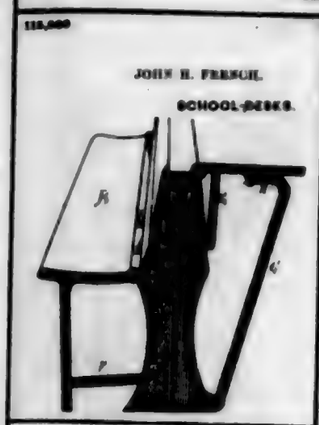
115,837 WILLIAM FARINI. PROJECTORS.



115,838 HERMAN R. FOSTER. BOAT-DETACHING APPARATUS.



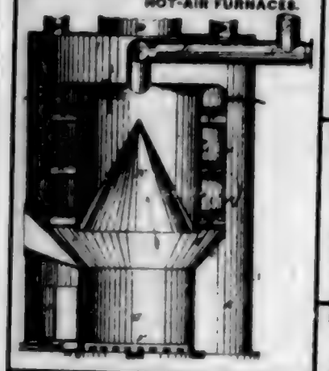
115,839 JOHN H. FRENCH. SCHOOL-DESKS.



115,840 EDWARD L. GAYLORD. PIN-CLAMPS FOR RIVETING.



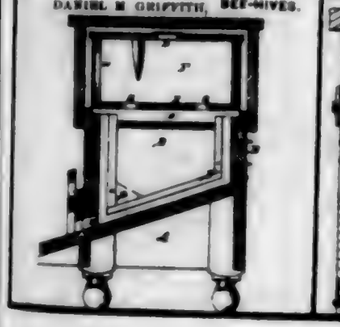
115,841 WILLIAM B. GEDDES. HOT-AIR FURNACES.



115,842 SIMON PETER GRAHAM. CARRIAGE-SEATS.



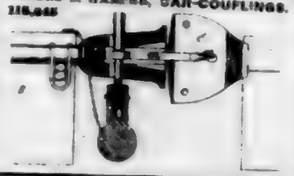
115,843 DANIEL M GRIFFITH. BEE-HIVES.



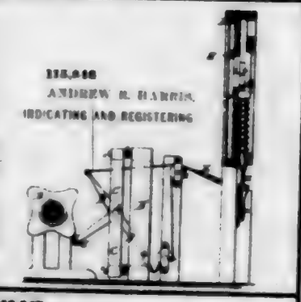
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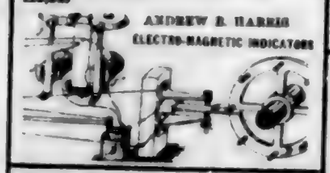
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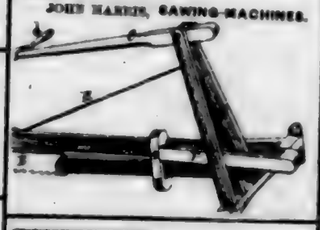
115,846 ANDREW B. HARRIS. INDICATING AND REGISTERING



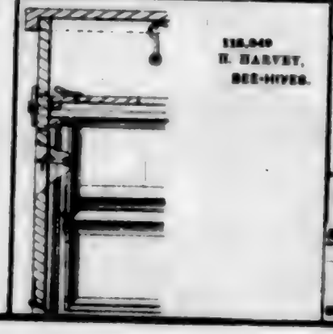
115,847 ANDREW B. HARRIS. ELECTRO-MAGNETIC INDICATORS



115,848 JOHN HARRIS. SAWING-MACHINES.



115,849 H. HARVEY. BEE-HIVES.



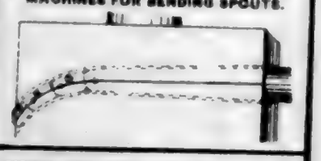
115,850 GEORGE M. HASSINGER. BEER-COOLERS.



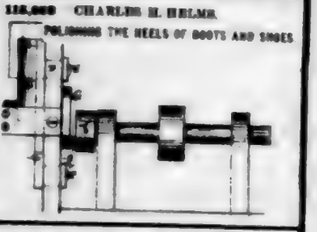
115,851 CHARLES F. HAWLEY. ANGULAR STRAP-HINGES.



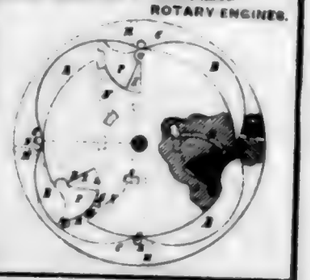
115,852 HAYES AND MARTEN. MACHINES FOR BENDING SPOUTS.



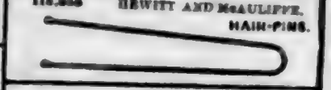
115,853 CHARLES H. HELMS. POLISHING THE HEELS OF BOOTS AND SHOES



115,854 BENJAMIN I. HENDERSON. ROTARY ENGINES.



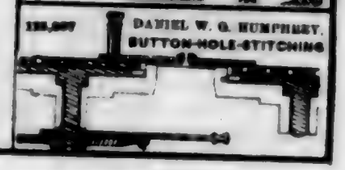
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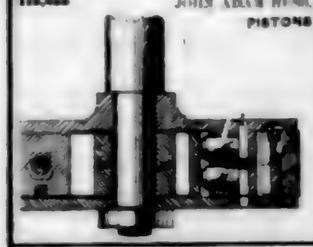
115,856 CHARLES B. HISSTER. EXERCISING-CLUBS.



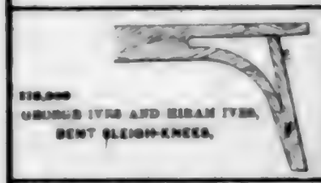
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115,858 JOHN ADAM HUNT. PISTONS

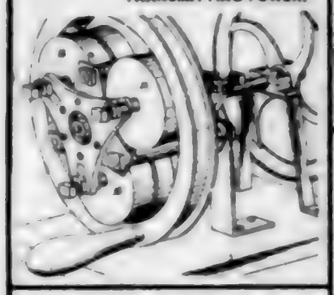


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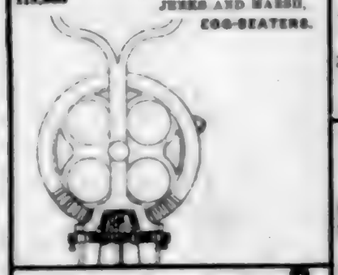


115,860 GEORGE IVES AND HIRAM IVES. BENT SLEIGH-KNEES.

115,861 FREDERICK P. JAQUITH. TRANSMITTING POWER.



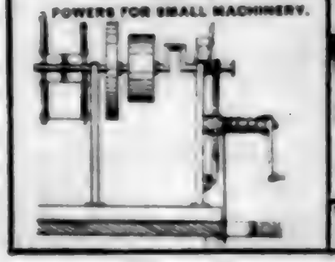
115,862 JEREMIAH JONES AND JOHN MARSH. EGG-BEATERS.



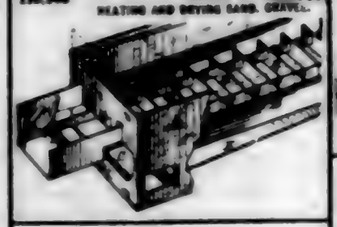
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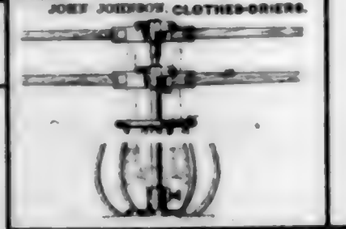
115,864 CHARLES L. JOHNSON. POWERS FOR SMALL MACHINERY.



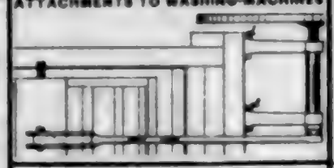
115,865 HIRAM R. JOHNSON. HEATING AND DRYING SAND, GRAVEL.



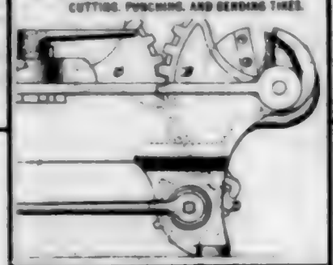
115,866 JOHN JOHNSON. CLOTHES-DRIERS.



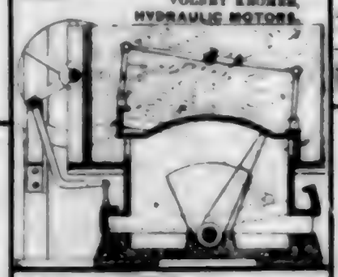
115,867 WILLIAM H. JOHNSTON. ATTACHMENTS TO WASHING-MACHINES



115,868 JAMES O. JOHNSTON. CUTTING, PUNCHING, AND BENDING TIRES.



115,869 VOLNEY KROMER. HYDRAULIC MOTORS.



115,870 GABRIEL H. LAGOBUE. BLAST-HEATING FURNACES



115,871 FREDERICK LAMER. TREATING SOLID AND LIQUID HYDROCARBONS.

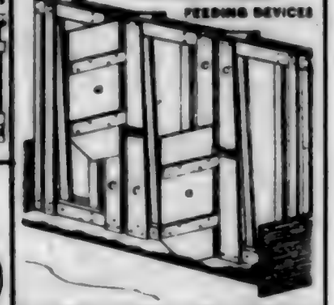
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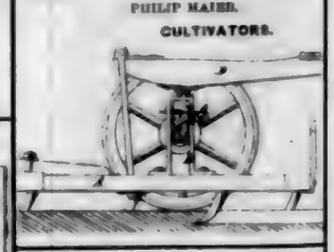
115,873 CHARLES B. LOVELAND. CARBURETING HYDROGEN GAS.



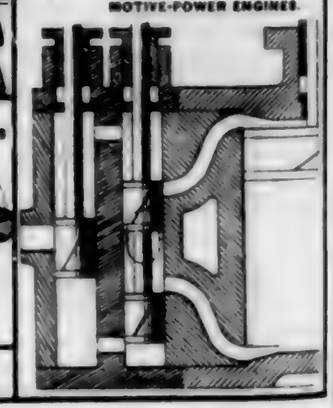
115,874 ARIEL E. MANAX. FEEDING DEVICES



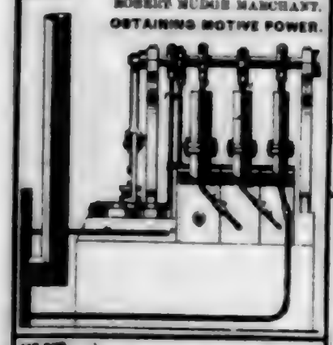
115,875 PHILIP MAIER. CULTIVATORS.



115,876 ROBERT MUDGE MARCHANT. MOTIVE-POWER ENGINES.



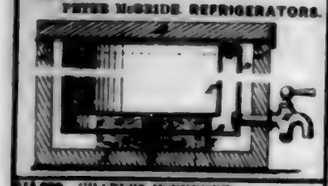
115,877 ROBERT MUDGE MARCHANT. OBTAINING MOTIVE POWER.



115,878 SLIDE-VALVES. MARTIN AND PERROW,

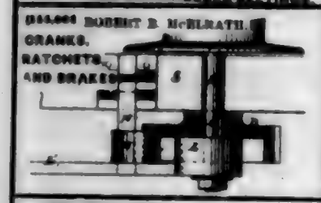


115,879 PETER McBRIDE. REFRIGERATORS.



115,880 CHARLES McBURNEY. FINISHING VULCANIZED INDIA-RUBBER BELTINGS.

115,881 ROBERT B. McELRATH. CRANKS, RATCHETS, AND BRAKES.



115,882 HUGH MEEHAN. NON-FREEZING HYDRANTS.



115,883 GERSHOM MOTT, GATES.



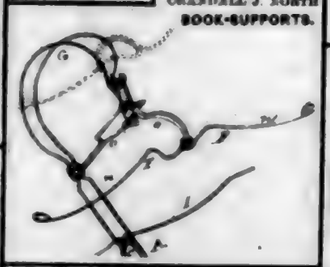
115,884 FORDYCE M. MOULTON. ANIMAL-POKER.



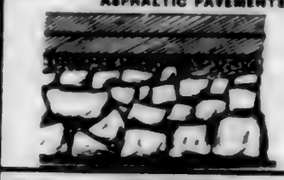
115,885 DAVID S. NEAL, KNIFE-SCOURERS.



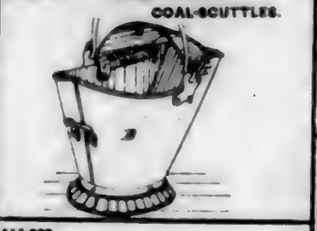
115,886 CRANDALL J. NORTH BOOK-SUPPORTS.



115,887 WILLIAM B. PARIBEN. ASPHALTIC PAVEMENTS.



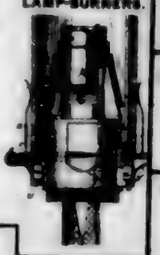
115,888 JOHN PFEIFER. COAL-SCUTTLES.



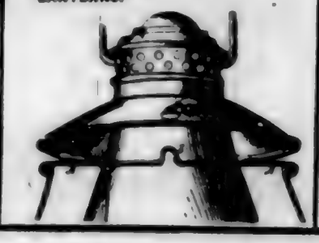
115,889 NUT-LOCKS. WILLIAM H. PHIPPS.



115,890 SEABURY B. PLATT. LAMP-BURNERS.



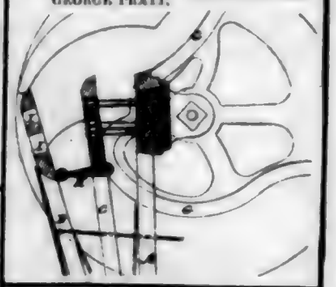
115,891 WILLIAM PORTER, JR. LANTERNS.



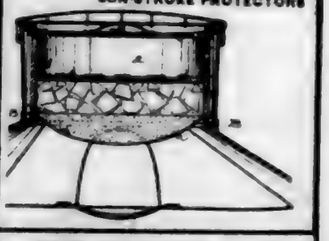
115,892 TIMOTHY J. POWERS. METALLIC CARTRIDGES.



115,893 GEORGE PRATT. RAISIN-SEEDERS.



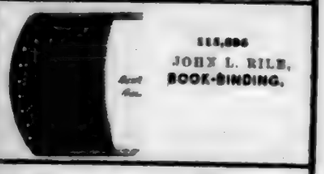
115,894 HELLWIG PREVÔT. SUN-STROKE PROTECTORS



115,895 ADAM B. REESE. HOSE-PIPES.



115,896 JOHN L. RILE. BOOK-BINDING.



115,897 JULIUS ROBBINS. SNAP-HOOKS.



115,898 GEORGE S. ROBERTS. ADJUSTABLE MIRRORS.

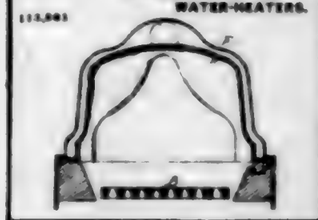


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THOMAS P. BOUNEY.

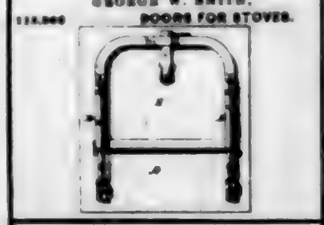


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ROTH AND FURST.
ROLLERS AND MARKERS.

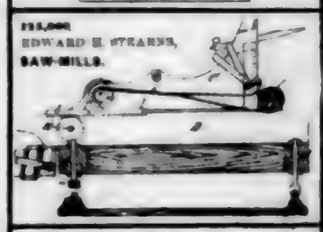
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WATER-HEATERS.



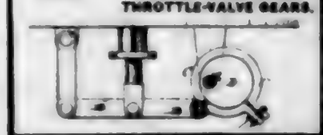
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GEORGE W. SMITH,
DOORS FOR STOVES.



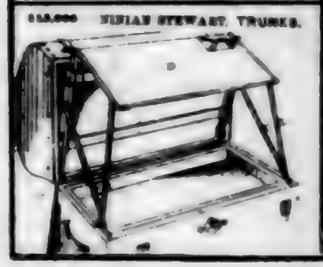
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EDWARD H. STEARNS,
SAW-MILLS.



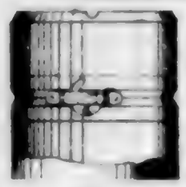
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THROTTLE-VALVE GEARS.



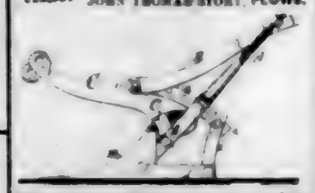
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115,906
WILLIAM STINE.
STOVE-PIPE JOINTS.



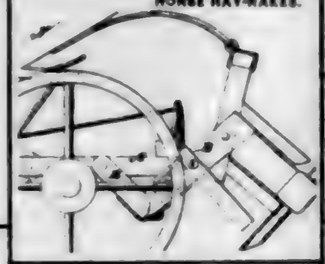
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JOHN THOMAS STORY, PLOWS.



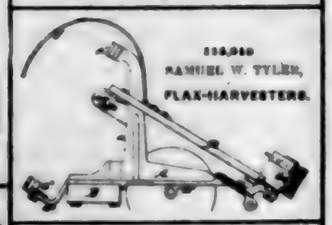
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ALVAH SWEETLAND,
HAMES-FASTENERS.



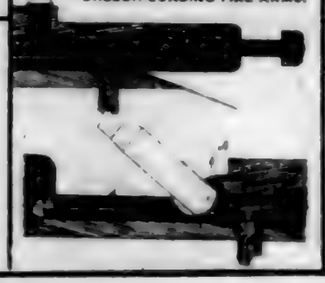
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MARTIN W. TREMOTT,
HORSE HAY-RAKES.



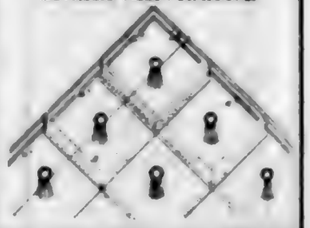
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SAMUEL W. TYLER,
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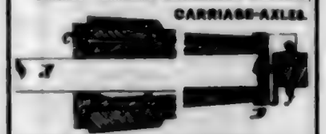
115,911
SILVANUS FREDERICK VAN CHOATE,
BREECH-LOADING FIRE-ARMS.



115,912
CORNELIS G. VAN PAPPELENDAM,
METALLIC TILES FOR ROOFS.



115,913 ERNST FRIEDRICH WAGNER,
CARRIAGE-AXLES.



115,914 CHARLES A. WAKEFIELD,
LUBRICATING ARRANGEMENTS FOR AXLES



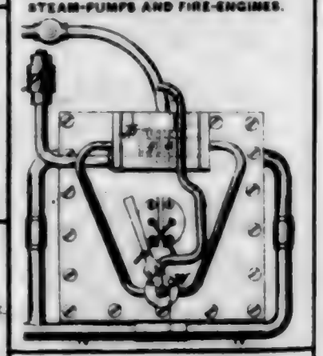
115,915 EDWARD F WALSH AND
SAFFORD DURYEA,
WRITING-INKS.

115,916
FRANKLIN WEBBER,
REVOLVING FIRE-ARMS.



115,917
LEVI WHARTON,
HOSE-COUPLINGS.

115,918 JAMES W. WHITAKER,
STEAM-PUMPS AND FIRE-ENGINES.



115,919. PUMP-RAKE.

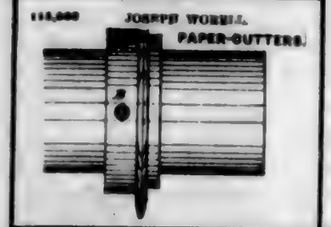
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JOHN B. WHITMAN,
CHILDREN'S CARRIAGES.



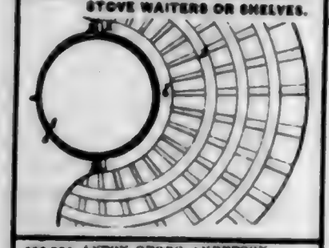
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JOHN V. WOODHOUSE,
FURNACES FOR SMELTING LEAD ORES.



115,922
JOSEPH WORRELL,
PAPER-CUTTERS.

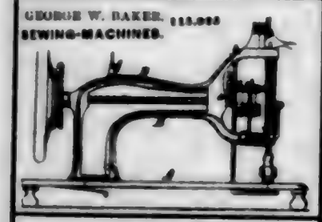


115,923
CHARLES D. WRIGHT,
STOVE WAITERS OR SHELVES.



115,924 ANTON GEORG ANDERSON
COMPOSITION PAVEMENTS.

115,925
GEORGE W. BAKER,
SEWING-MACHINES.

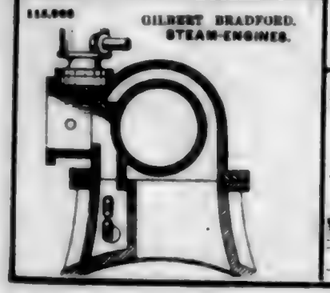


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LOUIS R. BOYD,
SCREW-CAPS FOR CANS.



115,927
JOHN EDWARD BINGHAM,
ELECTRO PLATING WITH TIN.

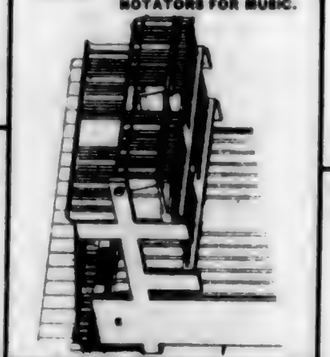
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GILBERT BRADFORD,
STEAM-ENGINES.



115,929
THOMAS R. C. BRINLY,
COTTON-SEED PLANTERS.

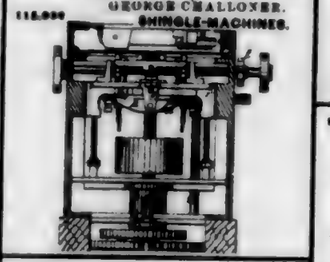


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SAMUEL R. BROOKS,
NOTATORS FOR MUSIC.

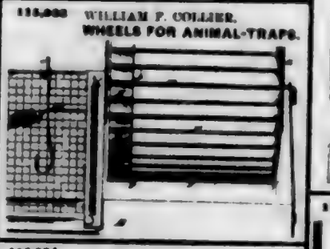


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SAMUEL P. BROWN,
PRESERVING WOOD.

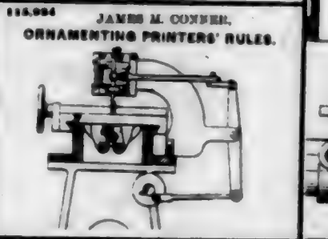
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GEORGE CHALLONER,
SHINGLE-MACHINES.



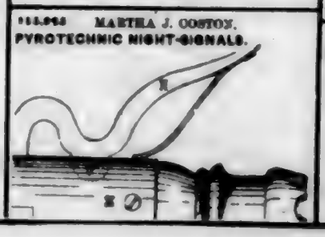
115,933
WILLIAM F. COLLIER,
WHEELS FOR ANIMAL-TRAPS.



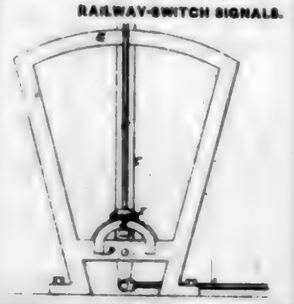
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JAMES M. CONNER,
ORNAMENTING PRINTERS' RULES.



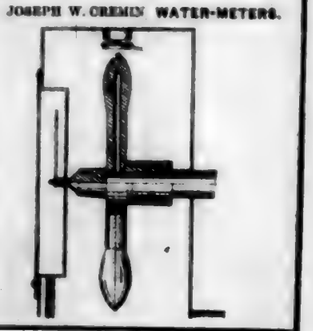
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MARTHA J. COSTON,
PYROTECHNIC NIGHT-SIGNALS.



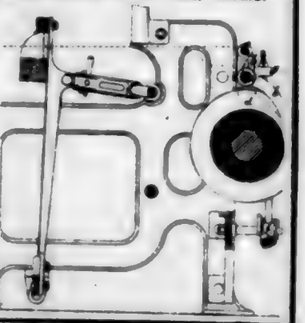
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ALONZO W. CRAM,
RAILWAY-SWITCH SIGNALS.



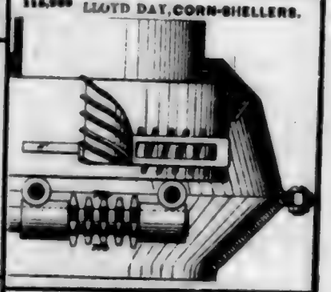
115,937
JOSEPH W. CREMIN WATER-METERS.



115,938 DAVIES AND YATES, LOOMS.



115,939 LLOYD DAY, CORN-SHELLERS.



115,940
AUGUSTUS M. DE SOUCHET,
WATER-METERS.



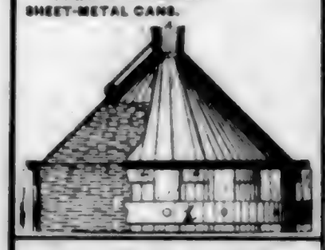
115,041 DERRICK AND HIVES. BEE-HIVES.



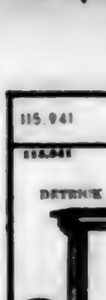
115,042 CHARLES H. DOUGLAS, LIFTING APPARATUS.



115,043 JOHN G. EVENDEN SHEET-METAL CANS.



115,044 JOSEPH FANTON, APPLYING REMEDIES TO THE EAR.



115,045 HENRY FELLOWS. WEATHER-BOARD GAUGES.

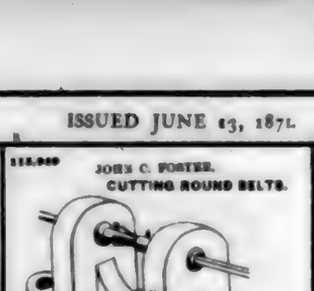
115,046 R. BERKELEY FITS, PREPARING GRAIN FOR FOOD.



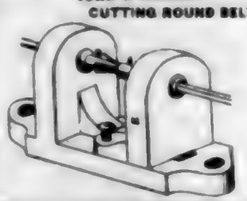
115,047 JOHN W. FIELDER, PRESERVING WOOD BY THE ROBBINS PROCESS.

115,048 FREDERIC G. FORD, INVALID BEDSTEADS.

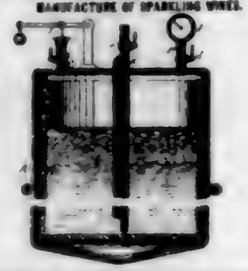
115,049 JOHN GOULDING, OSCILLATING ENGINES.



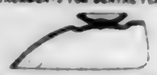
115,050 JOHN C. FOSTER, CUTTING ROUND BELTS.



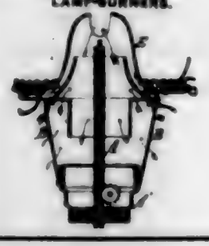
115,051 WILLIAM GILHAM, MANUFACTURE OF SPARKLING WINES.



115,052 JAMES P. GILLESPIE, ATTACHMENTS FOR DENTAL-PLATES.



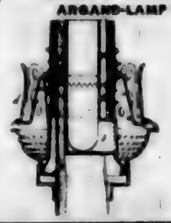
115,053 WILLIAM H. GRAY, LAMP-BURNERS.



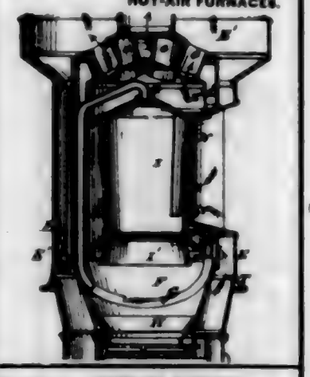
115,054 THOMAS F. HAMILTON, CORSETS.



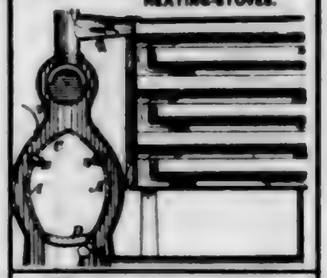
115,055 HIRAM W. HAYDEN, ARGAND-LAMP BURNERS.



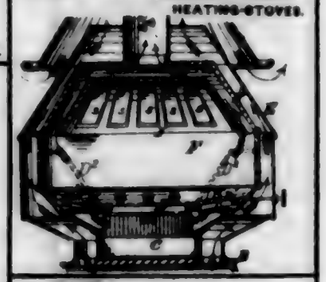
115,056 SHUBAEL B. HEWES, HOT-AIR FURNACES.



115,057 SHUBAEL B. HEWES, HEATING-STOVES.



115,058 SHUBAEL B. HEWES, HEATING-STOVES.



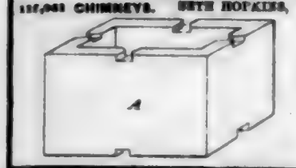
115,059 SHUBAEL B. HEWES, BASE-BURNING STOVES.



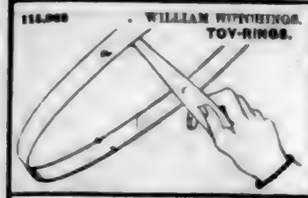
115,960 LYSANDER HILL. WOOD PAVEMENTS.



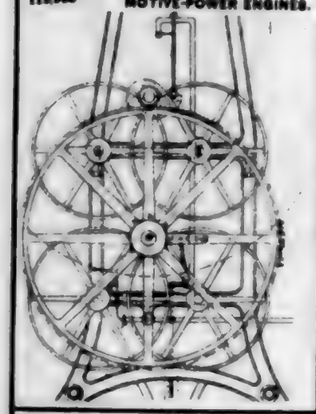
117,061 CHIMNEYS. SETH HOPKINS,



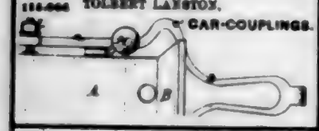
115,962 WILLIAM HUTCHINGS. TOY-RINGS.



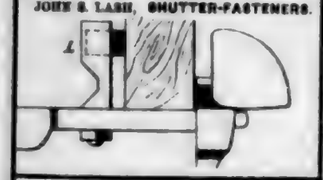
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115,964 TOLBERT LANSTON. CAR-COUPLINGS.



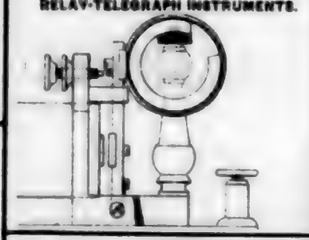
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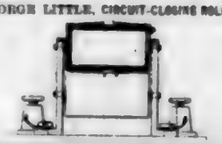
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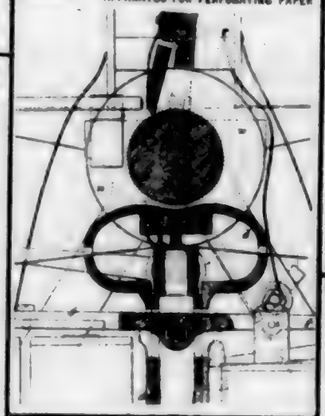
115,967 GEORGE LITTLE, RELAY-TELEGRAPH INSTRUMENTS.



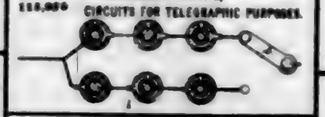
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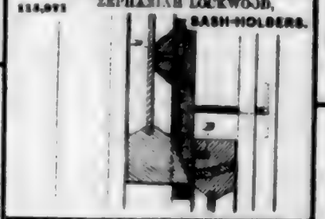
115,969 GEORGE LITTLE, APPARATUS FOR PERFORATING PAPER



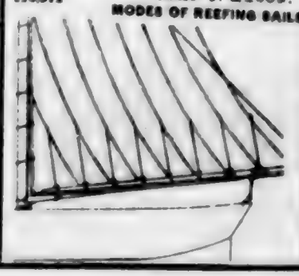
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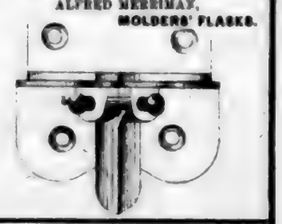
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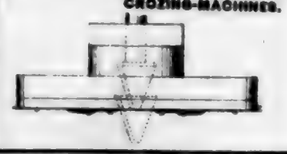
115,972 JOHN J. MASON. MODES OF REEFING SAILS.



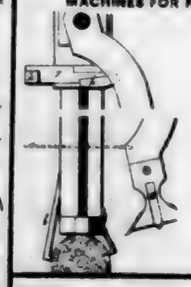
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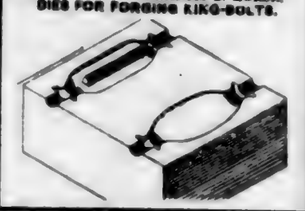
115,974 WILLIAM B. MIDDLETON, CROZING-MACHINES.



115,975 ENOCH B. MORRISON. MACHINES FOR FELLING TREES.



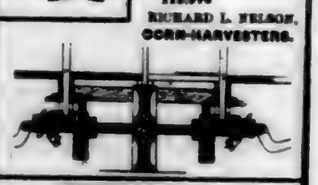
115,976 FRANCIS B. MORSE. DIES FOR FORGING RIKO-BOLTS.



115,977 HENRY MYERS. CUT-OFFS



115,978 RICHARD L. NELSON, CORN-HARVESTERS.



115,979 HENRY OCOBB CHAIR AND STOOL IRONS.



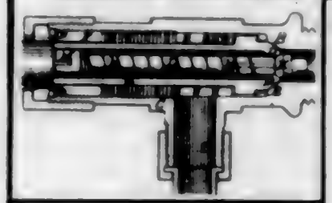
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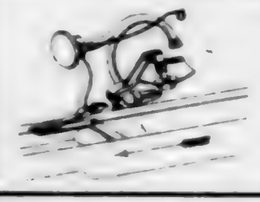
115,981 JOSEPH C. PIERCE. WHEELS FOR VEHICLES.



115,982 JOHN PORTEOUS. PRESSURE AND VACUUM VALVES.



115,983 HENRY PUDDER. KNITTING-MACHINES.



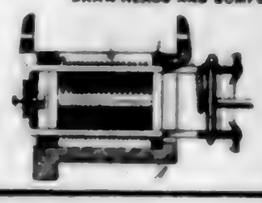
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115,985 BUSH AND DE LA MATER. BUCKLES.



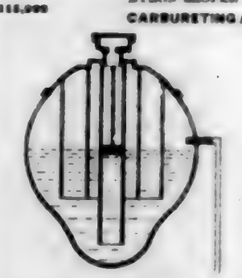
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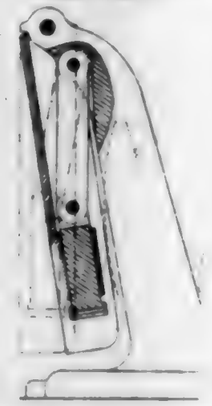
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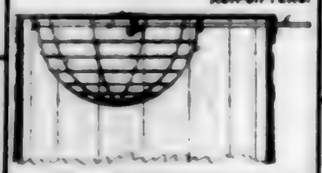
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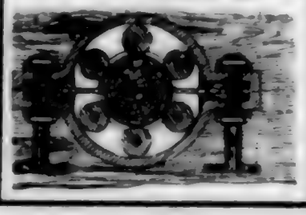
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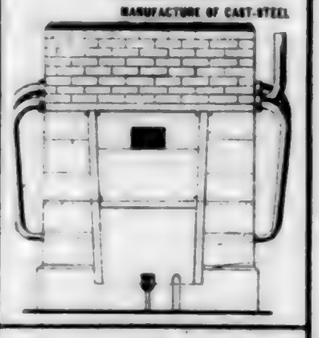
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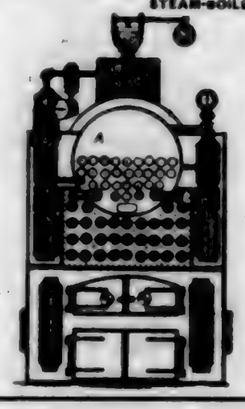
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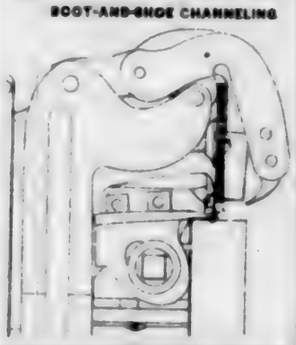
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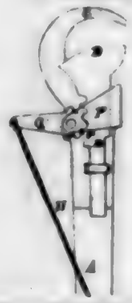
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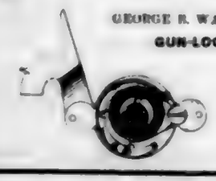
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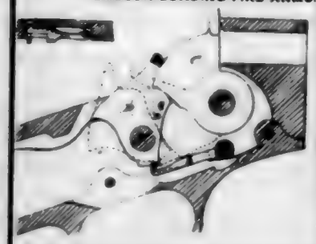
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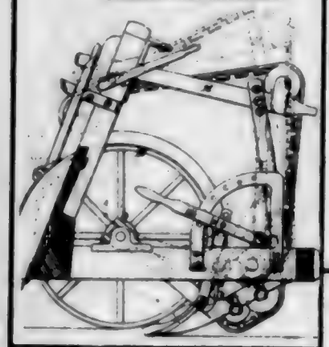
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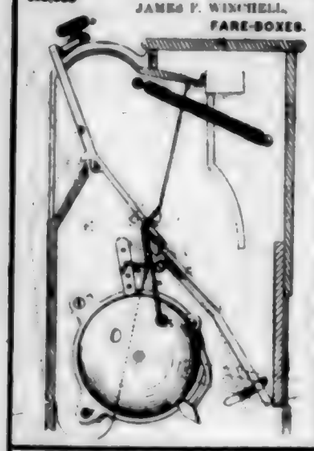
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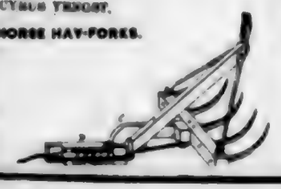
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115,999 JAMES P. WINCHELL. FARE-BOXES.



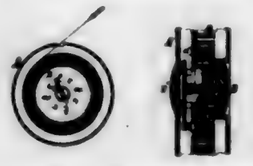
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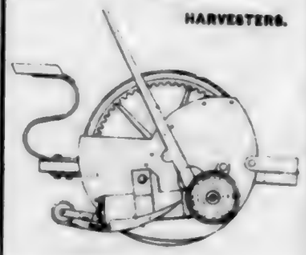
4,419 SHELDON P. GILBERT. LIGATURES, PROTECTORS, AND FERTILIZING GAGS



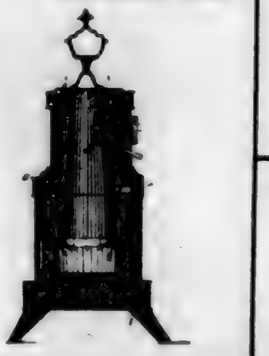
4,419 LEWIS P. BRADLEY. TAPE-MEASURES.



4,420 JOHN BUTTER, HARVESTERS.



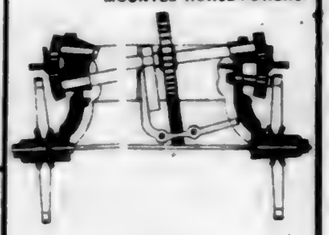
4,421 ALBERT G. CORSE. BASE-BURNING STOVES.



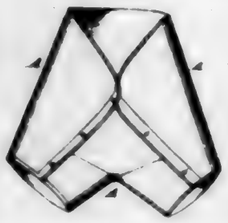
4,422 CHARLES STORY DUXBRACK. BOOTS AND SHOES.



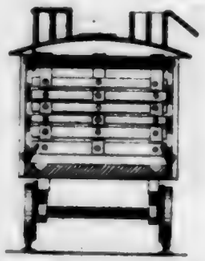
4,423 MAGENA B. ERSKINE. MOUNTED HORSE-POWERS.



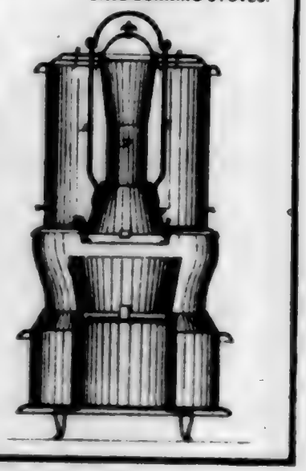
4,424 JOHN C. HEMPEL. DIAPERS.



4,425 STOCK-CARS. AMOS RANK

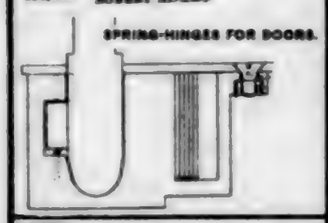


4,426 ALEXANDER WHITE. BASE-BURNING STOVES.

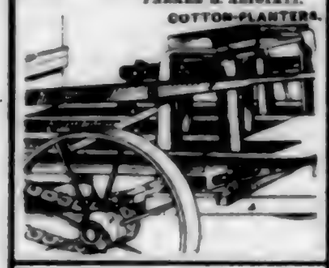


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
JUNE 20, 1871.

116,002 ROBERT ADAMS. SPRING-HINGES FOR DOORS.



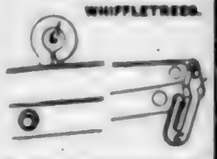
116,003 PARKER H. ALDSTATT. COTTON-PLANTERS.



116,004 WILLIAM AMES. ATTACHMENTS FOR VACUUM-CUPS.



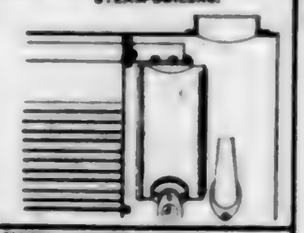
116,005 JOSEPH D. AMES. WHIFFLETREES.



116,006 STEPHEN D. ARNOLD. FASTENINGS FOR MEETING-RAILS



116,007 JOHN BOWMAN ATWATER. STEAM-BOILERS.

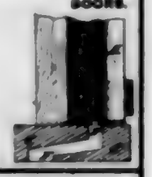


116,008 MICHAEL D. BALCH. SOAP.

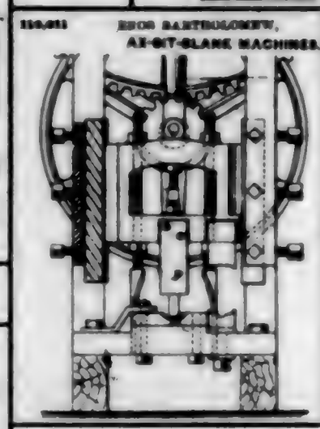
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116,010 BENJAMIN F. BARKER. DOORS.



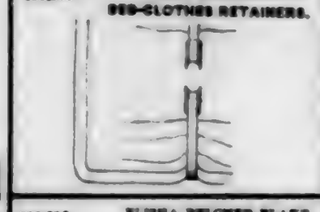
116,011 HIRAM BARTHOLOMEW. AX-CUT-BLANK MACHINES.



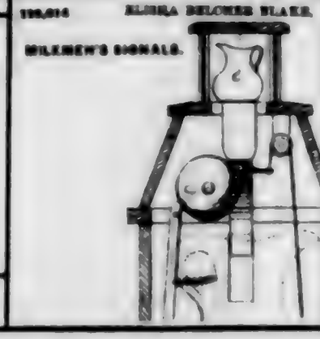
116,012 HENRY H. BESCHER. FORMING CARRIAGE-SHACKLES.



116,013 JOHN BIRKENHEAD. BED-CLOTHES RETAINERS.



116,014 ELISHA BELCHER BLAKE. MILKMEN'S SIGNALS.



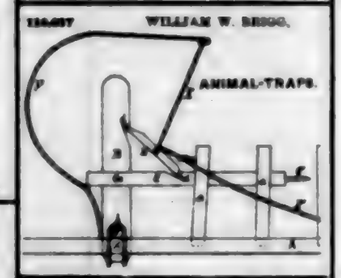
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116,016 SAMUEL C. BREWER. BRICK-KILNS.



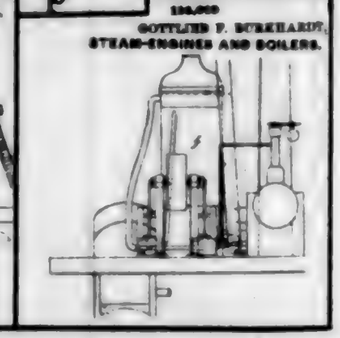
116,017 WILLIAM W. BRIGGS. ANIMAL-TRAPS.



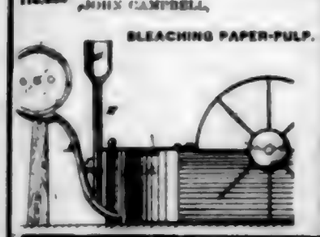
116,018 LEWIS BURDSS. OFFICE-INDICATORS



116,019 GOTTLIEB F. BURKHARDT. STEAM-ENGINES AND BOILERS.



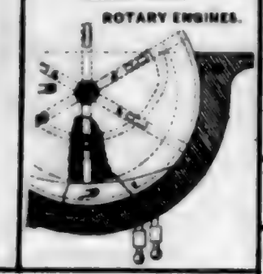
116,020 JOHN CAMPBELL. BLEACHING PAPER-PULP.



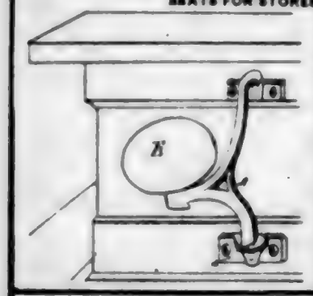
116,021 ALANSON CARY. TELEGRAPH-WIRE COUPLINGS.



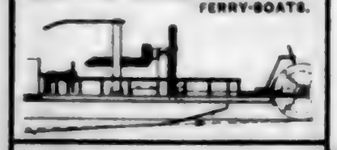
116,022 WARREN CASE. ROTARY ENGINES.



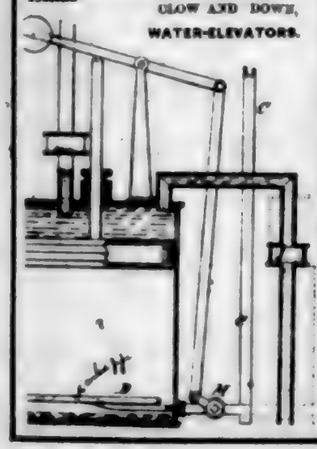
116,023 DANIEL CHRISTIAN. BEATS FOR STORES.



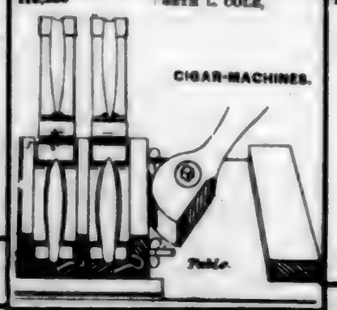
116,024 HENRY CLENNY. FERRY-BOATS.



116,025 GLOW AND DOWE. WATER-ELEVATORS.



116,026 SETH L. COLE. CIGAR-MACHINES.



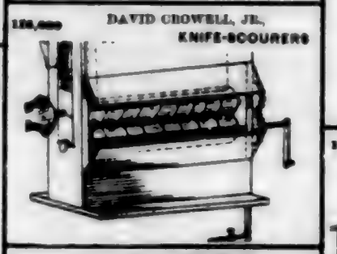
116,027 FREDERICK COULON. BAND-KNIVES.



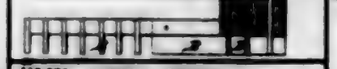
116,028 THOMAS CRAKES. HARNESS-BUCKLES.



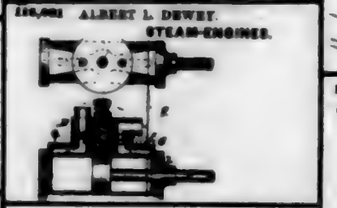
116,029 DAVID CROWELL, JR. KNIFE-SCOURERS



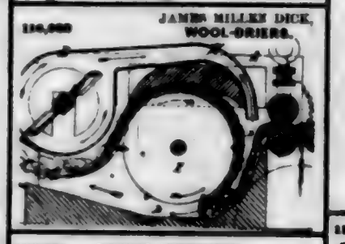
116,030 WILLIAM DEVLIEG. SCRUBBING-BRUSHES.



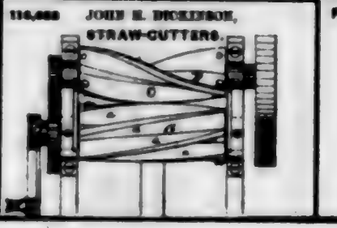
116,031 ALBERT L. DEWEY. STEAM-ENGINES.



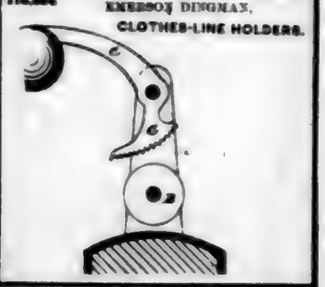
116,032 JAMES MILLER DICK. WOOL-DRIERS.



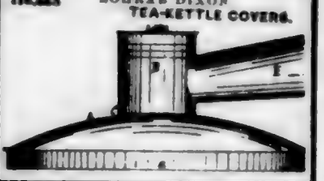
116,033 JOHN H. DICKINSON. STRAW-CUTTERS.



116,034 EMERSON DINSMAN. CLOTHES-LINE HOLDERS.



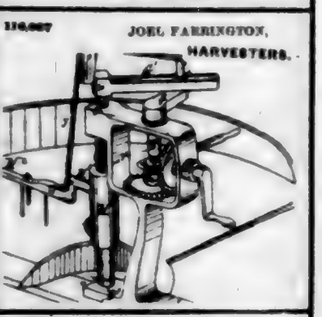
116,035 SOHRAB DIXON. TEA-KETTLE COVERS.



116,036 EDGAR ELTINGE. COAL-SCUTTLES.



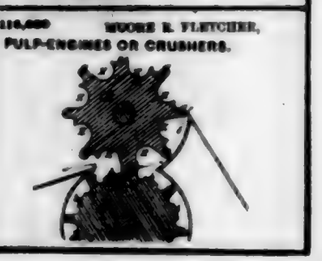
116,037 JOEL FARRINGTON. HARVESTERS.



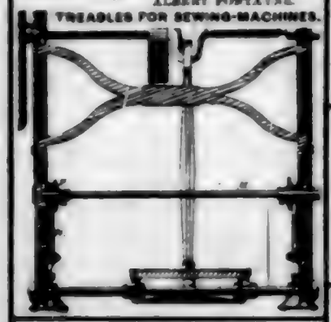
116,038 JOEL FARRINGTON. GEARING FOR HARVESTERS.



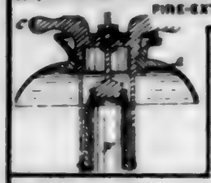
116,039 MOORE R. FLETCHER. PULP-ENGINES OR CRUSHERS.



116,040 ALBERT POSTAYNE. TREADLES FOR SEWING-MACHINES.



116,041 FORD AND KLEY. FIRE-EXTINGUISHERS.



116,042 CHARLES H. FRINGS. FERMENTING MASHES.

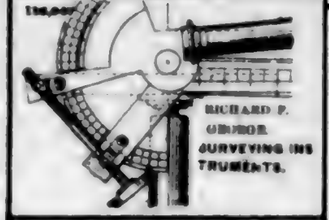
116,043 CHARLES H. FRINGS. PREVENTING WASTE OF ALCOHOL IN FERMENTING-TANKS.

116,044 PHINEAS FROST. PAPER-PULP ENGINES.



JAMES PROVEN, EDWARD HEMMINGS AND JAMES SHELDON. MANUFACTURING RAIL-PLATES AND SHEET-STRIPS. 116,045

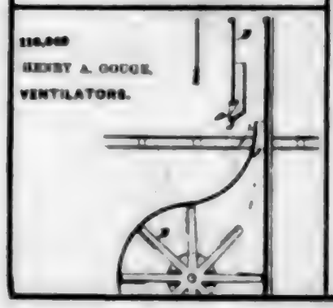
116,046 RICHARD P. GRIDER. SURVEYING INSTRUMENTS.



116,047 MARTIN L. GIBBS. PLOWS.



116,048 HENRY A. GOUGH. VENTILATORS.



116,049 DAVID GRIM. FELLY-CLIPS



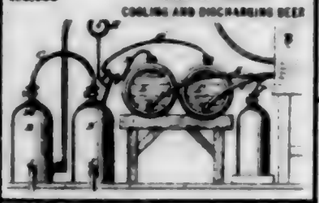
116,050 THOMAS HAINES. DIRECT-ACTING ENGINES.



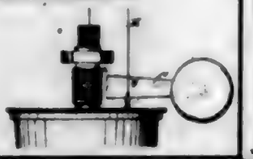
116,051 GEORGE L. HART. TRACE-LOCKS.



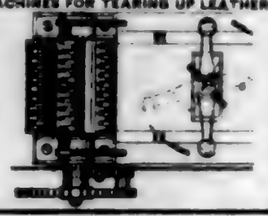
116,052 JOHN M. HEINS. COOLING AND DISCHARGING BEER



116,053 HEYL AND DIEHL. GAS-LIGHTING APPARATUS.



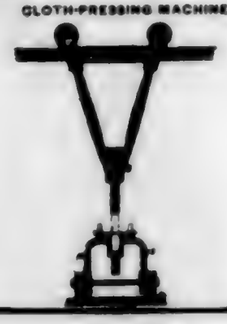
116,054 EDWARD S. HIDDEN. MACHINES FOR TEARING UP LEATHER.



ELIJAH LEAVITT HOWARD. 116,055 SAND AND EDGING-GUIDES



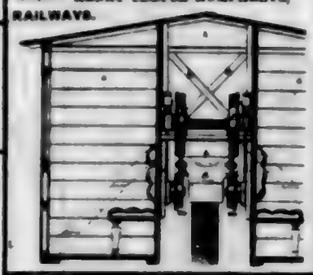
116,057 PATRICK HOWE. CLOTH-PRESSING MACHINES.



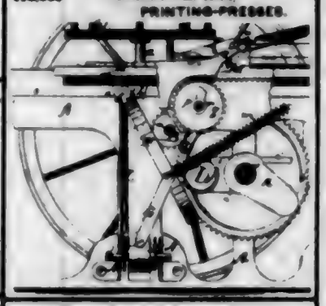
116,058 RONWORTH AND LA RUE. COOKING-STOVES.



116,059 HENRY TEMPLE HUMPHREYS. RAILWAYS.



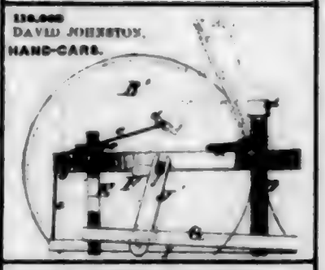
116,060 TRUMAN H. IDE. PRINTING-PRESSES.



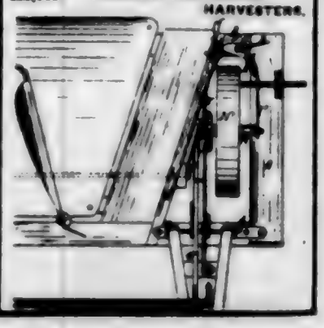
116,061 RICHARD A. JACKSON. ROCKERS FOR CRADLES.



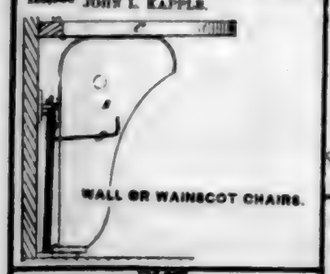
116,062 DAVID JOHNSTON. HAND-CARS.



116,063 JOHNSTON AND JENNER. HARVESTERS.



116,064 JOHN L. KAPPLE. WALL OR WAINSCOT CHAIRS.



116,065 WILLIAM H. KIMBALL. REFINING IRON AND STEEL.

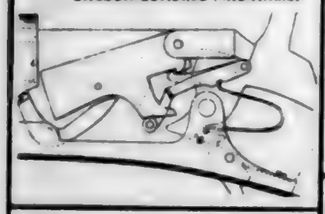
116,066 JOHN L. KIRK. MAGAZINE FIRE-ARMS.



116,067 KOOK AND SHRAWDER. TRACE-HOOK ATTACHMENTS.



116,068 JAMES LEE. BREECH-LOADING FIRE-ARMS.



116,069 JOHN R. LEEPER. CARS.



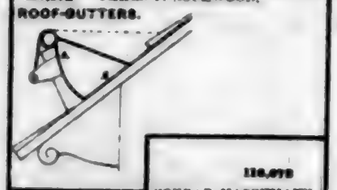
116,070 GEORGE W. LEONARD. SIDE-HILL PLOWS.



116,071 GEORGE W. LEONARD. WATER-WHEELS.



116,072 JAMES F. LOCKWOOD. ROOF-GUTTERS.



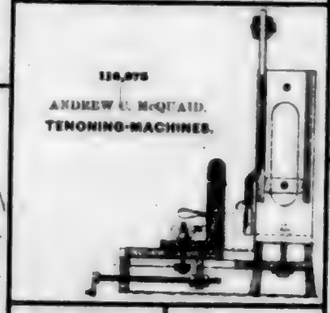
116,073 CONRAD MASCHMANN. BABY-WALKERS.



116,074 GEORGE W. MAY. SAW-SETS.



116,075 ANDREW C. McQUAID. TENONING-MACHINES.



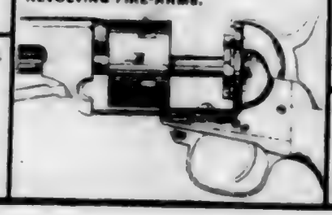
116,076 CHARLES MORRILL. MEETING-RAILS OF SASHES.



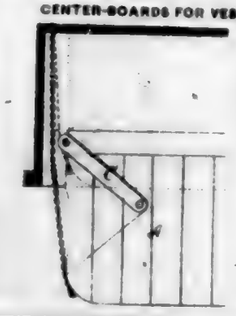
116,077 JAMES A. MORRISON. WRENCHES AND PIPE-TONGS.



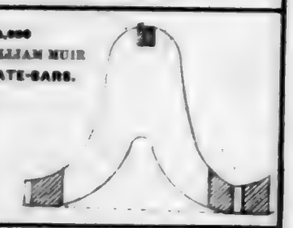
116,078 MOSS AND JOHNSON. REVOLVING FIRE-ARMS.



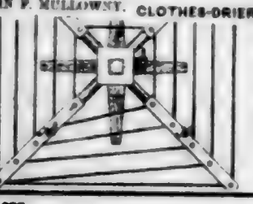
116,079 JOHN J. MOULE. CENTER-BOARDS FOR VESSELS.



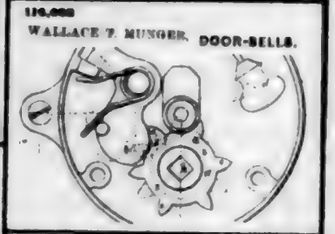
116,080 WILLIAM MUIR. GRATE-BARS.



116,081 JOHN F. MULLOWNY. CLOTHES-DRIERS.



116,082 WALLACE T. MUNGER. DOOR-BELLS.



116,083 JOHN MURDOCK. APPARATUS FOR STEAMING.



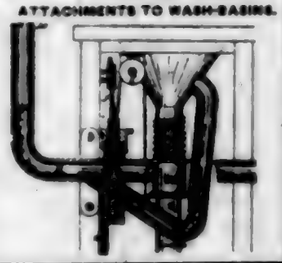
116,084 ADOLPHUS F. W. NETHABER. SAFETY-VALVES



116,085 WILLIAM H. NICHOLS. SLEIGH-BELLS.



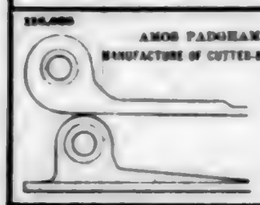
116,086 FREDERICK FORBOR, ATTACHMENTS TO WASH-BASINS.



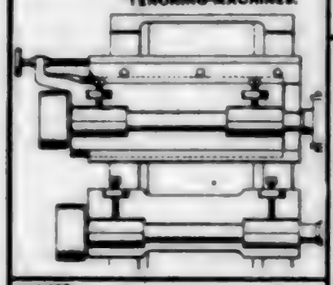
116,087 JOHN AUGUST OSTBURG, BUTTON-NEEDLES AND FASTENERS.



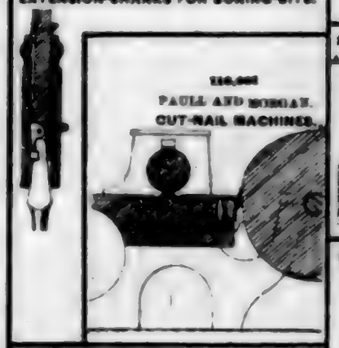
116,088 AMOS PADGHAM, MANUFACTURE OF CUTTER-BAR HEADS



116,089 GEORGE W. PASSEL, TENONING-MACHINES.

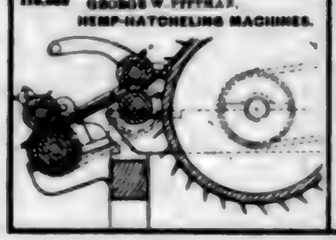


116,090 WILLIAM S. PATTIN, EXTENSION-SHANKS FOR BORING-BITS.

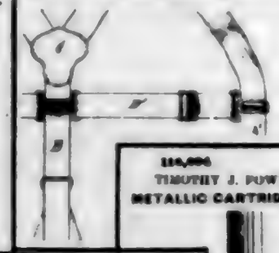


116,091 PAUL AND MORGAN, CUT-NAIL MACHINES.

116,092 GEORGE W. PITTMAN, HEMP-HATCHELING MACHINES.



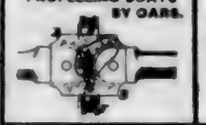
116,093 POTTER AND SMITH, SUSPENDER AND SHOULDER-BRACES.



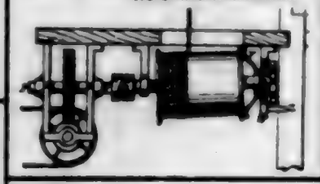
116,094 TIMOTHY J. POWERS, METALLIC CARTRIDGES.



116,095 THOMAS G. PRINGLE, PROPELLING BOATS BY OARS.



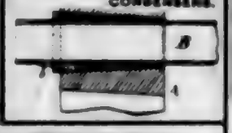
116,096 HENRY J. REEDY, HOISTING-MACHINES.



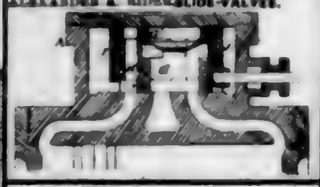
116,097 HENRY C. REICHARD, POLICE-BATONS.



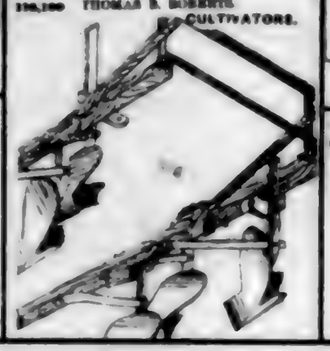
116,098 GEORGE H. REYFOLDS, TUBE-FASTENINGS OF CONDENSERS.



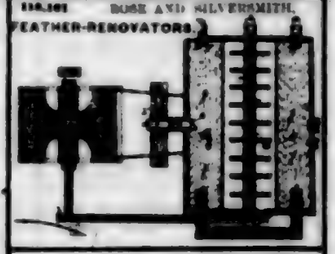
116,099 ALEXANDER K. RIDER, SLIDE-VALVES.



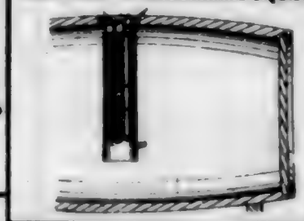
116,100 THOMAS B. ROBERTS, CULTIVATORS.



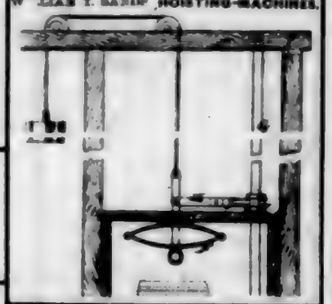
116,101 ROSE AND SILVERSMITH, FEATHER-RENOVATORS.



116,102 GEORGE L. RUNDLE, TREATMENT OF SACCHARINE LIQUIDS.



116,103 WILLIAM T. SAMP, HOISTING-MACHINES.



116,104 WILLIAM P. SKIPPLESTOT, BOILERS.

116,105 WILLIAM S. SMOOT, METALLIC CARTRIDGES.



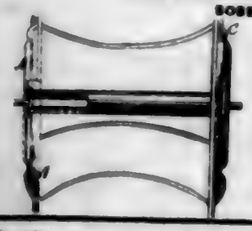
116,106 WILLIAM S. SMOOT, BREECH-LOADING FIRE-ARMS.



116,107 WILLIAM H. SPERLING, BOTTLE-CAPPING MACHINES.



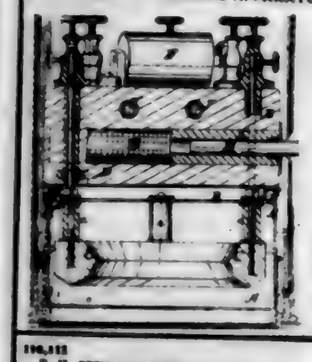
116,108 JOHN S. STEARNS, BOBBINS.



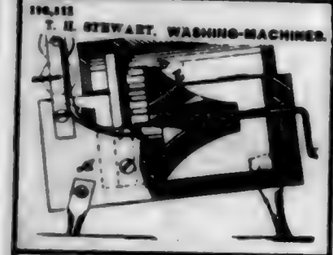
116,109 GEORGE STECK, GRAND PIANOS.



116,110 ALBERT J. STEELE, MEDICAL APPARATUS



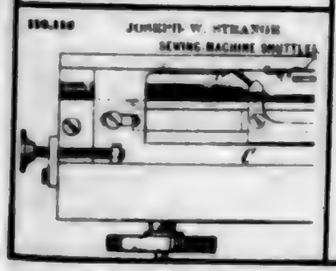
116,111 T. H. STEWART, WASHING-MACHINES.



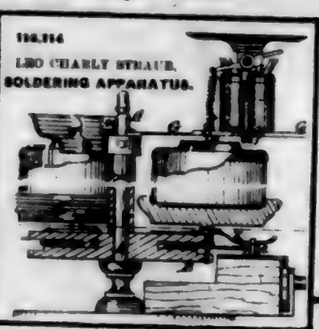
116,112 LIVINGSTON STONE, FISH-HATCHING APPARATUS.



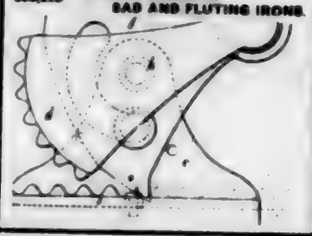
116,113 JOSEPH W. STRATTON, SEWING-MACHINE SHUTTLES.



116,114 LEO CHARLY STRAUB, SOLDERING APPARATUS.



116,115 JOSHUA B. SWIFT, SAD AND FLUTING IRONS.



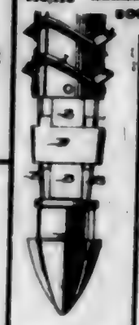
116,116 E. G. SWIFT, SOWING PULVERULENT MANURES.



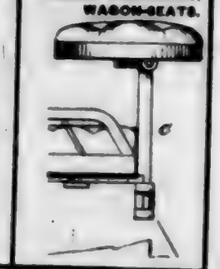
116,117 WILLIAM M. TILESTON, GAME-SIGNALS.



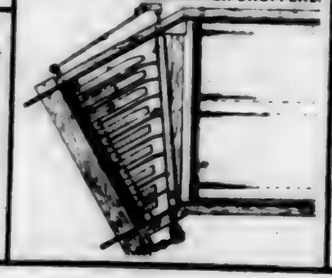
116,118 HERMANN VOELKER, BOILER-FLUE SCRAPERS.



116,119 HENRY WALLSTEDT, WAGON-SEATS.



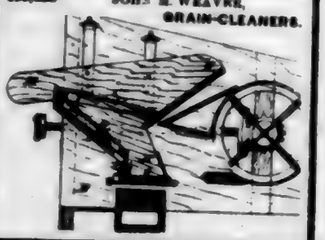
116,120 WALLIS AND WALLIS, HARVESTER-DROPPERS.



116,125 LEWIS WARD, LAMP-CHIMNEY CLEANERS.

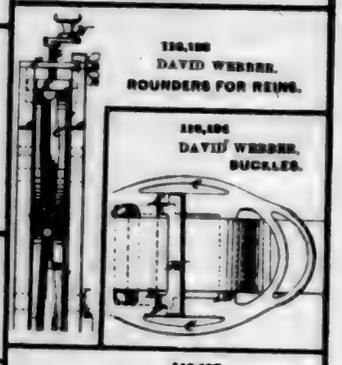


116,126 JOHN M. WEAVER, GRAIN-CLEANERS.

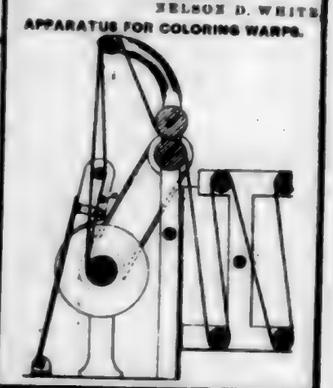


116,127 DAVID WEBBER, ROUNDERS FOR REINS.

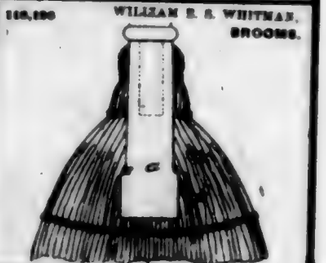
116,128 DAVID WEBBER, BUCKLES.



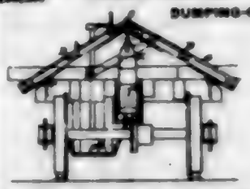
116,129 NELSON D. WHITE, APPARATUS FOR COLORING WARPS.



116,130 WILLIAM R. S. WHITMAN, BROOMS.

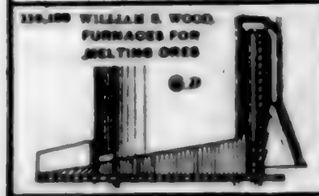


116,127 JACOB C. WISWELL. DUMPING-CARS.

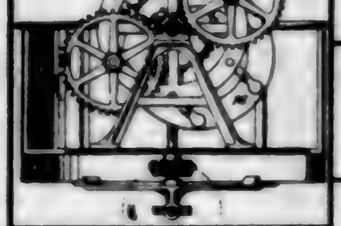


116,128 DAVID LUDWIG WOLFF. FLOOR-COVERINGS, ROOFS

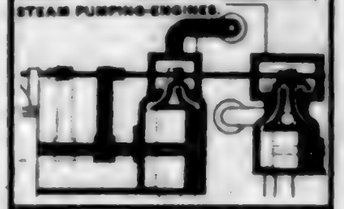
116,129 WILLIAM S. WOOD. FURNACES FOR MELTING ORES



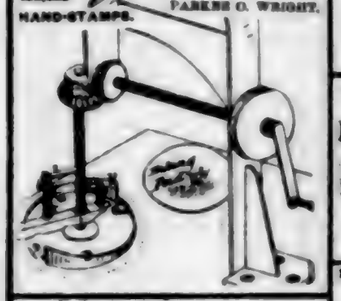
116,130 JACOB WOOLF. PROPELLING APPARATUS



116,131 HENRY R. WORTHINGTON. STEAM PUMPING-ENGINES.



116,132 HARRY G. WRIGHT. HAND-STAMPS.



116,133 RUFUS WRIGHT. FOLDING EASELS.



116,134 JAMES TOOMB, JR. SPLIT CASTINGS.



116,135 WILLIAM J. ANDREWS. CURE OF SCIATICA.

116,136 JOSE M. AGUATO. TOBACCO-CUTTERS.



116,137 WILLIAM G. BARKER. BUCKETS FOR CHAIN-PUMPS.



116,138 WILLIAM HENRY BALMAIN. MANUFACTURE OF GLASS.

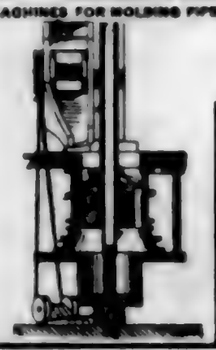
116,139 WILLIAM H. BARTHOLOMEW. SLATE-FRAMES.



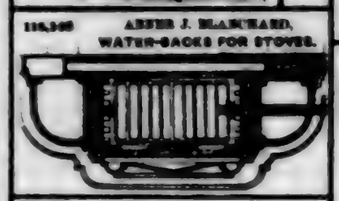
116,140 CHARLES T. BEARDSLEY. BROOM-HOLDERS.



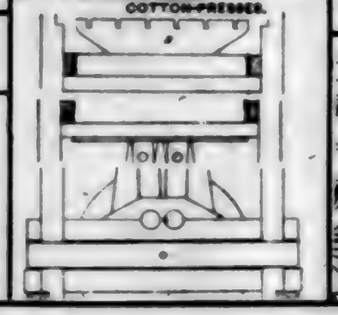
116,141 BENJAMIN S. BENSON. MACHINES FOR MOLDING PIPES.



116,142 ABNER J. BLANCHARD. WATER-BACKS FOR STOVES.



116,143 JAMES P. BOLIN. COTTON-PRESSES.



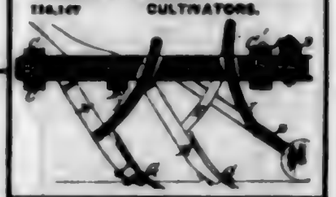
116,144 HENRY BRAUNHOLD. FUR-BOXES.



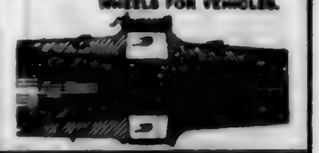
116,145 PHILIP BRECHER. FIRE-PLACES.



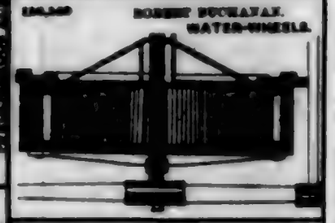
116,146 THOMAS R. C. BRIELY. CULTIVATORS.



116,147 MARSHALL B. BROWN. WHEELS FOR VEHICLES.



116,148 ROBERT BUCHANAN. WATER-WHEELS.



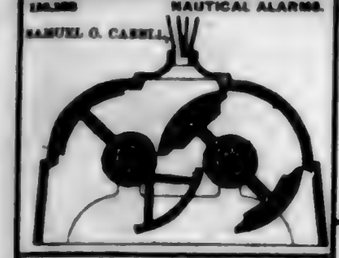
116,149 CHARLES M. BURR. BASH-HOLDERS.



116,150 BUTTON AND BUTTON. STEAM FIRE-ENGINES.



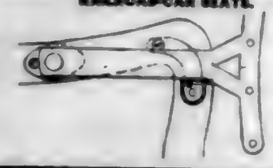
116,152 SAMUEL O. CASNER. NAUTICAL ALARMS.



116,153 MILO CARPENTER. HINGED HAY-RACKS.



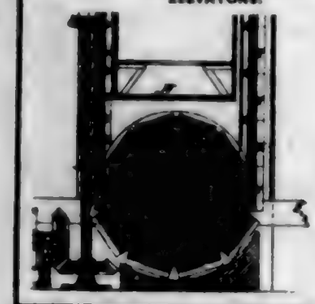
116,154 DEXTER H. CHAMBERLAIN. RAILROAD-CAR SEATS.



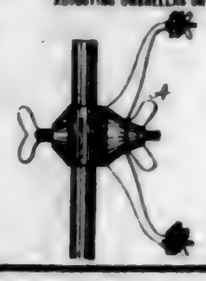
116,155 DEXTER H. CHAMBERLAIN. TAPS OR FAUCETS FOR BOTTLES.



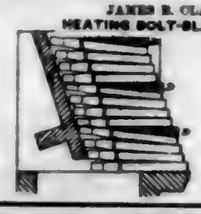
116,156 DEXTER H. CHAMBERLAIN. ELEVATORS.



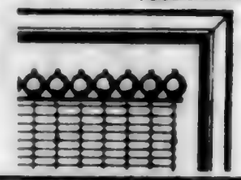
116,157 GEORGE F. CHILD. ADJUSTING UMBRELLAS ON VEHICLES.



116,158 JAMES B. CLARK. HEATING BOLT-BLANKS.



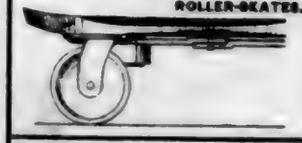
116,159 HUGH W. COLLENDER. POOL-BOARDS.



116,160 JAMES L. CORBIN. RUNNING-GEARS FOR VEHICLES.



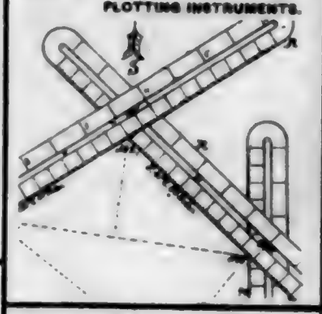
116,161 ALLEN THOMPSON COVELL. ROLLER-SKATES.



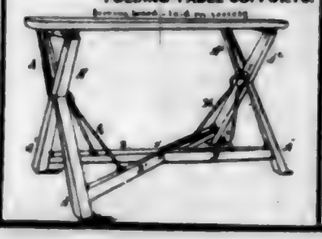
116,162 JAMES M. COWLES, IN SASH-HOLDERS.



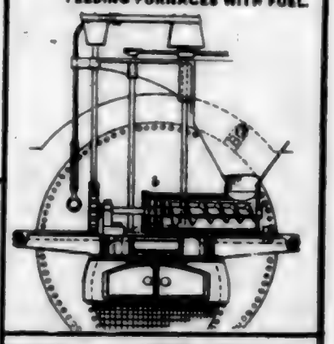
116,163 JAMES B. CRUPPER. PLOTTING INSTRUMENTS.



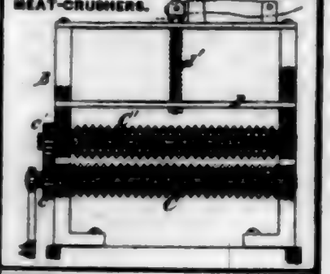
116,164 JOSEPH DALY. FOLDING-TABLE SUPPORTS.



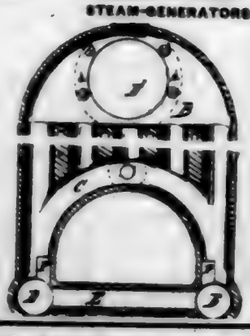
116,165 GEORGE FREDERICK DRACOK. FEEDING FURNACES WITH FUEL.



116,166 OLIVER P. DENNISON. MEAT-CRUSHERS.



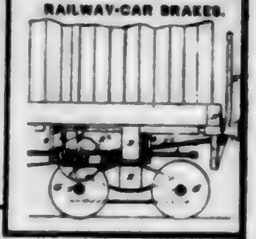
116,167 ERASMUS P. DOTEN. STEAM-GENERATORS.



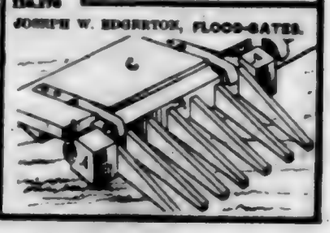
116,168 GEORGE DRAPER. HOLDING SPINNING-RODDING OR SPINDLES.



116,169 CHARLES B. EATON. RAILWAY-CAR BRAKES.



116,170 JOSEPH W. EDGERTON. FLOOD-GATES.



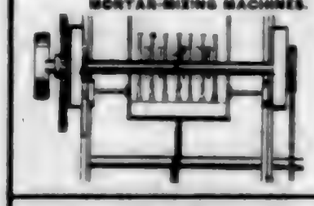
116,173 ALBERT G. ELLITHORPE. DREDGING-SCOOPS.



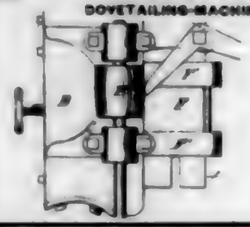
116,177 GRIDLEY AND ENGELKENSMEN. LANTERNS.



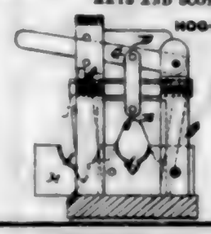
116,178 ALBERT G. ELLITHORPE. MORTAR-MIXING MACHINES.



116,179 GRIFFIN AND WILKINS. DOVETAILING-MACHINES.



116,180 MATS AND SCOTT. HOG-STOCKS.



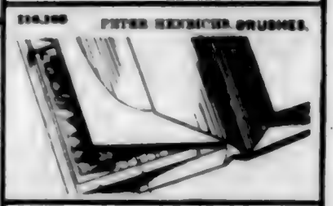
116,181 PETER HENRICHS. FOLDING BRUSHES.



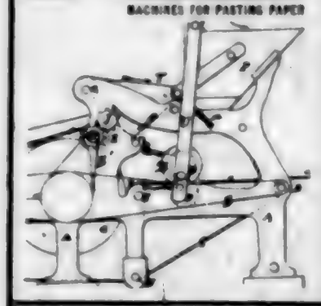
116,179 JAMES A. GRIFFITH. BLOW-OFF PIPES



116,182 PETER HENRICHS. BRUSHES.



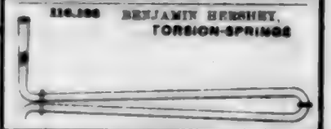
116,175 MAURICE FITZGERBONS. MACHINES FOR PASTING PAPER



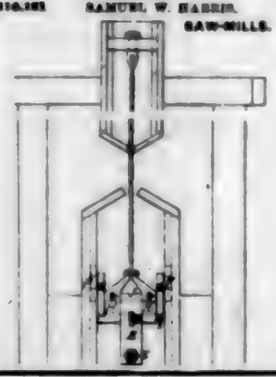
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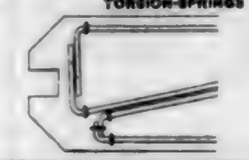
116,183 BENJAMIN HERSHEY. TORSION-SPRINGS



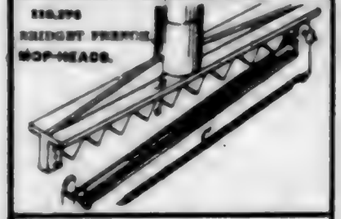
116,184 SAMUEL W. HARRIS. SAW-MILLS.



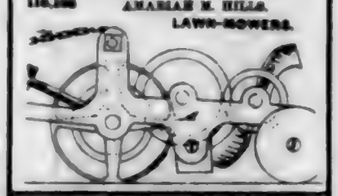
116,187 HERSHEY AND GAGGIN. TORSION-SPRINGS



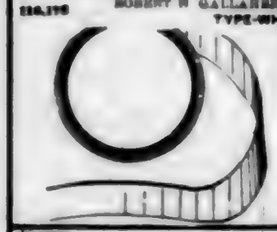
116,176 BRIDGET FRENCH. MOP-HEADS.



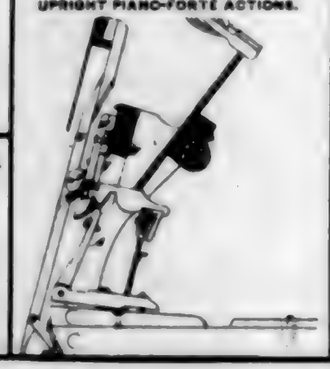
116,186 AMARIAH M. HILLS. LAWN-MOWERS.



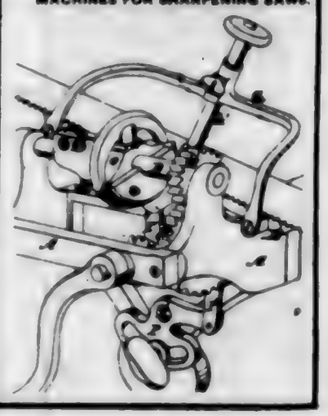
116,174 ROBERT N. GALLAHER. TYPE-WHEELS



116,188 A. HORACE HASTINGS. UPRIGHT PIANO-FORTE ACTIONS.



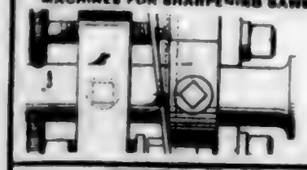
116,189 HIEBS AND BEYER. MACHINES FOR SHARPENING SAWS.



116,172 HENRY GERBER. GAS-REGULATORS.



116,190 HIEBS AND BEYER. MACHINES FOR SHARPENING SAWS.



116,191 CHARLES H. HUDSON. SELF-PROPELLING SLEIGHS.



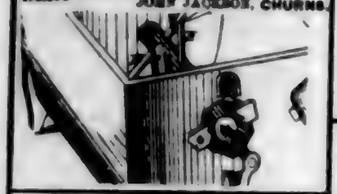
116,192 LESTER T. HULBERT. CORN-SHELLERS.



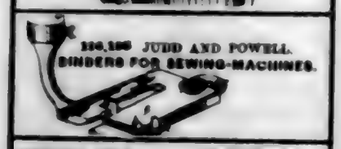
116,193 WILLIS M. HUFT. WHEELS FOR VEHICLES.



116,194 JOHN JACKSON. CHURNS.



116,195 JUDD AND POWELL. BINDERS FOR SEWING-MACHINES.

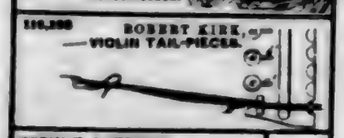


116,196 PHILIP KERR. GATE SPRINGS.

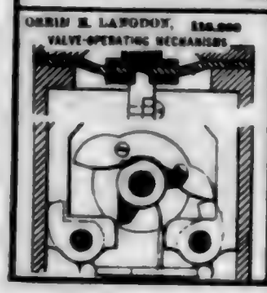


116,197 JEROME KIDDER. SPONGE-HOLDER.

116,198 ROBERT KIRK. VIOLIN TAIL-PIECES.



116,199 ORRIN H. LAWDON. VALVE-OPERATING MECHANISMS

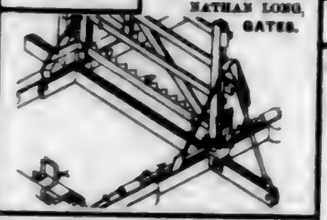


116,200 WILLIAM KLINGBEIL. MEDICAL COMPOUNDS OR EYE BALSAMS.

116,201 CARL G. LARSON. BESSEMER PROCESS OF TREATING IRON



116,202 NATHAN LONG. GATES.



116,203 JAMES MACFARLANE. SILK-WINDING APPARATUS.



116,204 SUGAR-COATING PILLS. FREDERICK MARRIOTT.



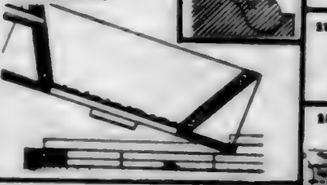
116,205 MICHAEL MARTIN. VELOCIPEDES.



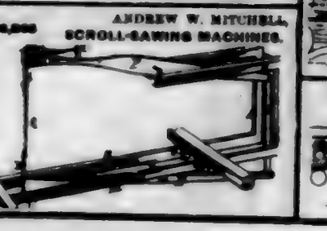
116,206 JOSEPH H. MASON. FORGING CARRIAGE-SPRING HEADS.



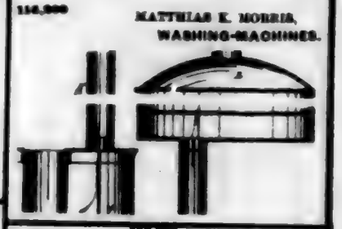
116,207 ALONZO D. McMASTER. COAL-SIFTERS.



116,208 ANDREW W. MITCHELL. SCROLL-SAWING MACHINES.

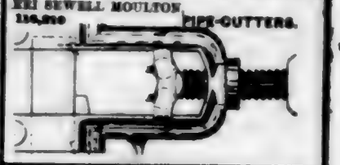


116,209 MATTHIAS E. MORRIS. WASHING-MACHINES.



116,210 ADOLPH MÜLLER. DYEING AND COLORING FURS.

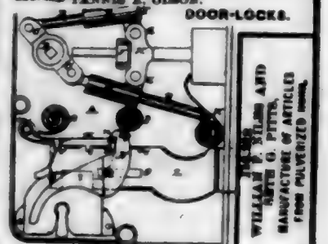
116,211 ERI SEWELL MOULTON. PIPE-CUTTERS.



116,212 WILSON NEWCOMB. TACKLE-HOOKS.



116,213 TANNIS A. OLSON. DOOR-LOCKS.



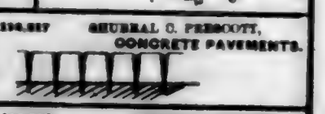
116,214 WILLIAM T. WILSON AND HIRAM G. PITTS. MANUFACTURE OF ARTICLES FROM PULVERIZED IRON.

116,215 ROGERS J. BROOKS. COMPOUNDS FOR CURLING HAIR.

116,216 GEORGE H. PRATT. CLIPPING-SHEARS.



116,217 SHUBRAL C. PRESCOTT. CONCRETE PAVEMENTS.



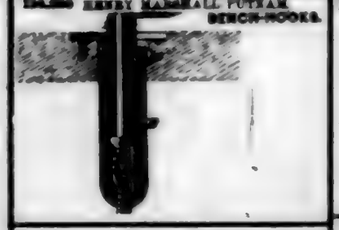
116,218 TREAT T. PROMMER. FORMING SPIRAL GROOVES ON METALLIC RODS.



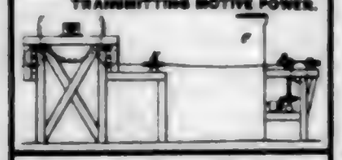
116,219 MAKING METALLIC SHOE-PEGS. TREAT T. PROMMER.



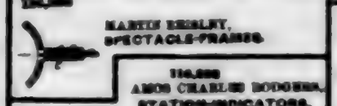
116,220 HENRY MARSHALL PUTNAM. BENCH-HOOKS.



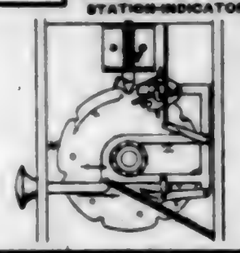
116,221 JAMES HOLMOUD. TRANSMITTING MOTIVE POWER.



116,222 MARTIN BEDLEY. SPECTACLE-FRAMES.



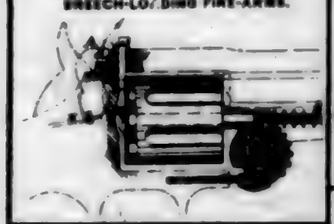
116,223 AMOS CHARLES HODGMAN. STATION-INDICATORS.



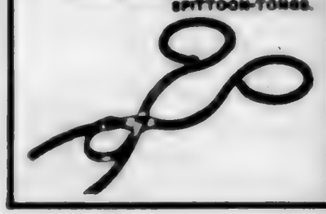
116,224 RUSSELL AND PLATT. LAMP-SUPPORTERS.



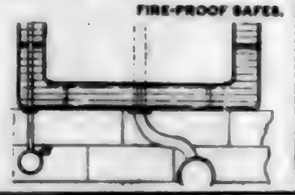
116,225 GEORGE W SCHOFIELD. BREECH-LOADING FIRE-ARMS.



116,226 ABRAHAM H. GRIPT. SPITTOON-TONGS.



116,227 WILLIAM HAMILTON SHORT. FIRE-PROOF SAFES.



116,228 MILO SMITH. STOVE-PIPE SHELVES.



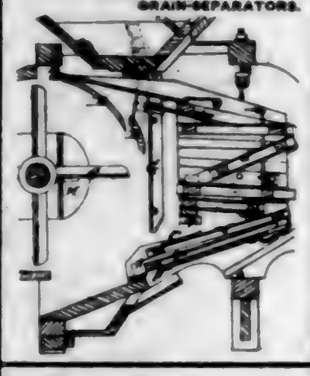
116,229 EDWARD G. SHORTT. FASTENING PULLEY AND WHEEL HUB



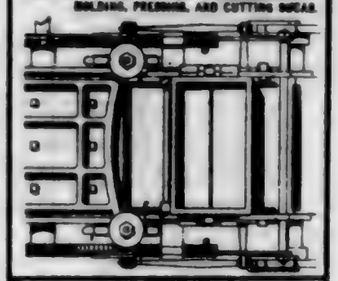
116,230 ROLAND H. SMITH. STREET-LAMPS.



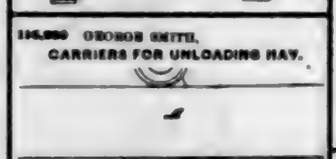
116,231 MARTIN SERRUYER. GRAIN-SEPARATORS.



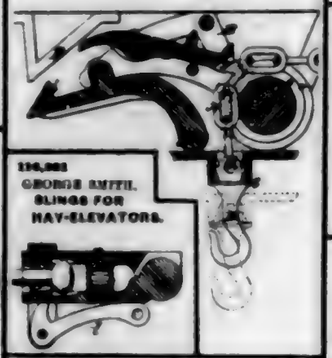
116,232 SPRECKELS AND PETERSON. BOLDING, PRESSING, AND CUTTING SUGAR.



116,233 GEORGE SMITH. CARRIERS FOR UNLOADING HAY.



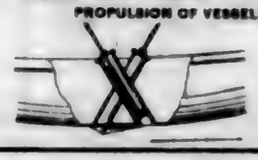
116,234 GEORGE SMITH. SLINGS FOR HAY-ELEVATORS.



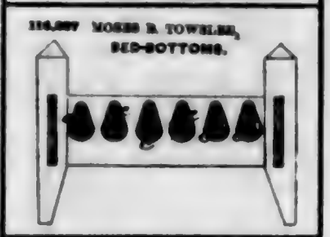
116,235 JAMES U. SMITH. LIFTING-JACKS.



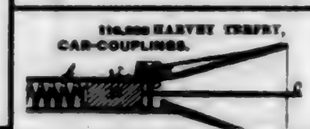
116,236 JOHN S. STITES. PROPULSION OF VESSELS.



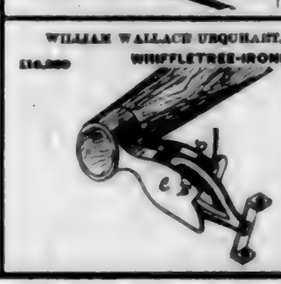
116,237 MOSES B. TOWLES. BED-BOTTOMS.



116,238 HARVEY TERPEY. CAR-COUPLINGS.



116,239 WILLIAM WALLACE URQUHART. WHIFFLETREE-IRONS.



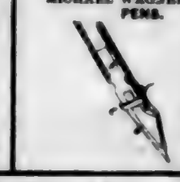
116,240 WILLIAM H. VAN CLEVE. STOVE-LEGS.



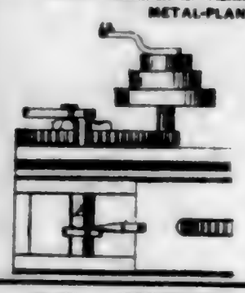
116,241 CHARLES VOLGER. CALL-BELLS.



116,242 MICHAEL WAGNER. PENS.



116,243 WILLIAM H. WARREN. METAL-PLANERS.



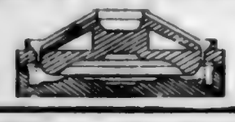
116,244 ALBIN WARTH. TAPS FOR LIQUID PACKAGES.



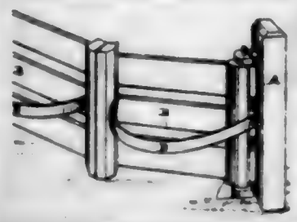
116,245 ALBIN WARTH. TAPS FOR LIQUID PACKAGES.



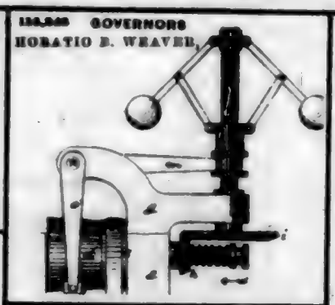
116,246 NATHAN WASHBURN. MOLDS FOR CASTING CAR-WHEELS.



116,247 HENRY G. WAY. FLOOD-GATES.



116,248 GOVERNORS HORATIO B. WEAVER.



116,249 JOSEPH WILES. STAIR-RODS.



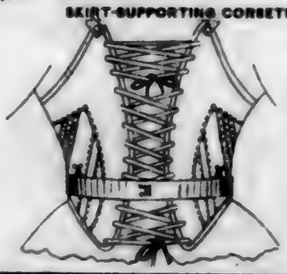
116,250 EDWIN L. WRIGHT. SPRING BED-BOTTOMS.



116,251 JOHN C. FISHER. LOOM PICKER-MOTIONS.



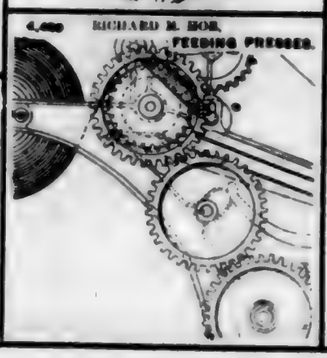
4,426 CATHERINE ALLSOP GRISWOLD. SKIRT-SUPPORTING CORSETS.



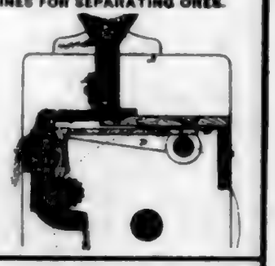
4,427 LEVI HERMANCE. COOKING-STOVES.



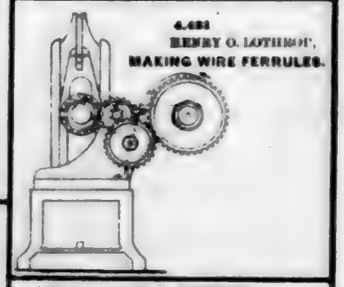
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4,429 STEPHEN R. KNOX. MACHINES FOR SEPARATING ORES.



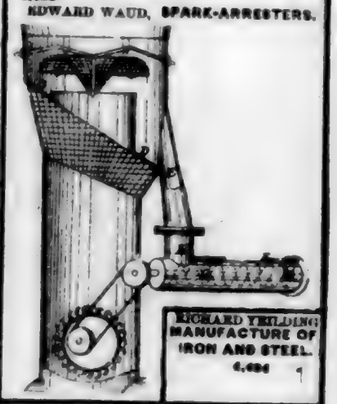
4,430 HENRY O. LOTHROP. MAKING WIRE FERRULES.



4,431 ANN M. BODEKER. BEDSTEAD-FASTENINGS.

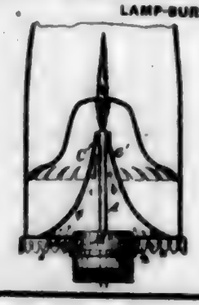


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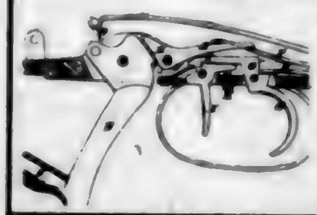
4,433 RICHARD YEILDING. MANUFACTURE OF IRON AND STEEL.

4,434 WILLIAM H. GRAY. LAMP-BURNERS.

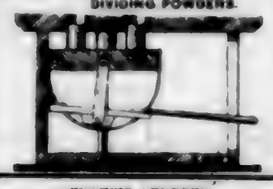


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THE UNITED STATES PATENT OFFICE
JUNE 27, 1871.

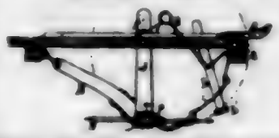
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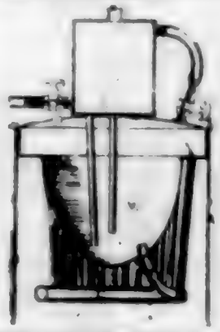
116,253 GEORGE P. ALLEN. DIVIDING POWDERS.



116,254 FRANCIS ANDREWS. HORSE HAY-RAKES.



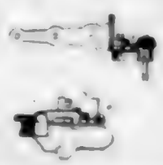
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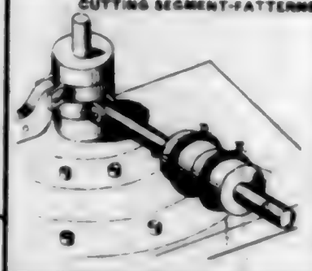
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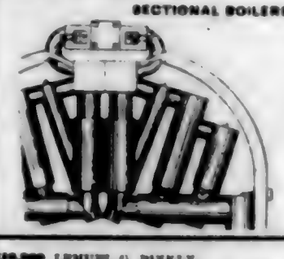
116,257 ARAHNA G. BATCHELDER. BLIND-FASTENERS.



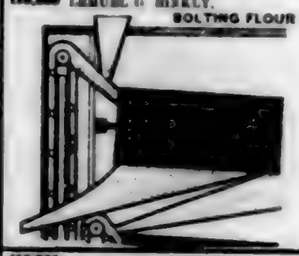
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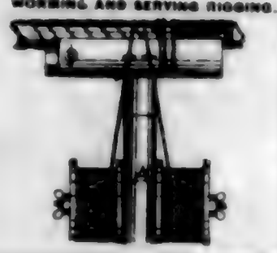
116,259 BENJAMIN F. BEE. SECTIONAL BOILERS.



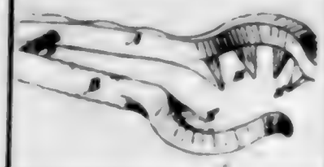
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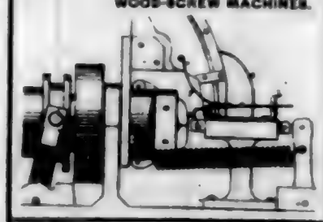
116,261 BOWDEN AND LEACH. WORMING AND SERVING RIGGING.



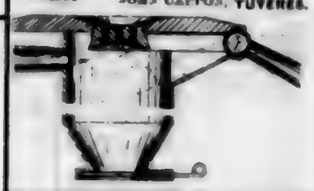
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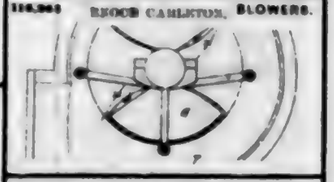
116,263 AXEL DICKEMINSTER. WOOD-SCREW MACHINES.



116,264 JOHN GAFFON. TUYERES.



116,265 REOCH CARLETON. BLOWERS.



116,266 ALANSON CARY. MODES OF TEMPERING SPRINGS.

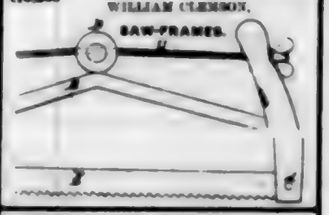
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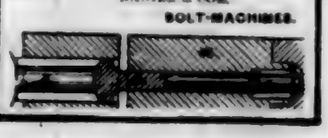
116,268 JULES CHAUMONT. CURRY-COMBS.



116,269 WILLIAM CLEMSON. SAW-FRAMES.



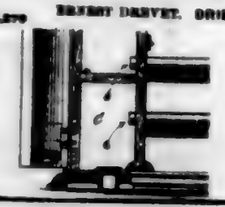
116,270 DANIEL S. COE. BOLT-MACHINES.



116,271 COLLIGNON, COLLIGNON, AND COLLIGNON. EXTENSION CHAIRS.



116,272 ELBERT DERVET. DRIERS.



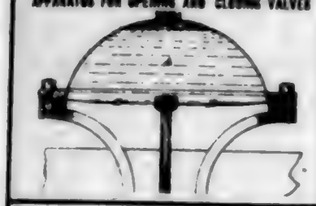
116,273 COLLIER AND HARDY. LOCOMOTIVE HEAD-LIGHTS.



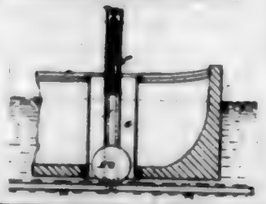
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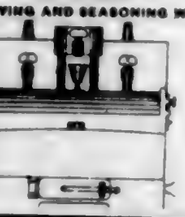
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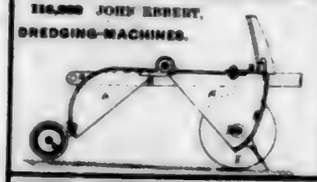
116,276 WILLIAM T. DUVALL. PROPULSION OF CANAL-BOATS.



116,277 MILAS CONSTANT. PRESERVING AND SEASONING WOOD.



116,278 JOHN EBBERT. DREDGING-MACHINES.



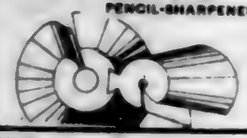
116,279 SAMUEL DANKS. MECHANICAL FIRING.



116,280 NATHANIEL T. EDSON. ROTARY STEAM-GENERATORS.



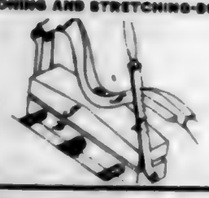
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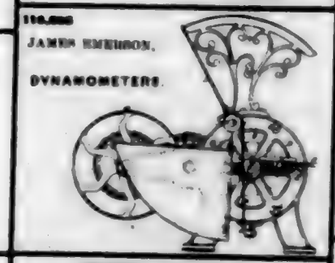
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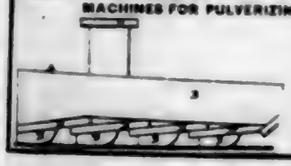
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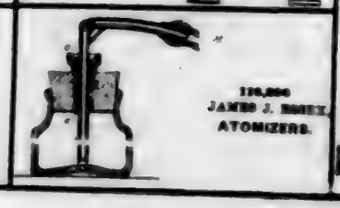
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116,285 GEORGE P. DE TO. MACHINES FOR PULVERIZING



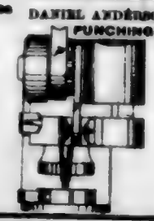
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116,287 JOHN FARREL. BURGLAR-PROOF SAFES.



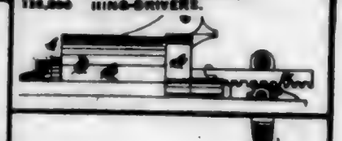
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116,289 WILLIAM D. FINK. STANDARDS IN WAGONS.



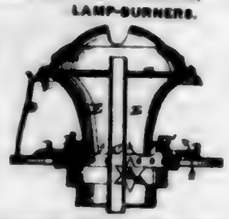
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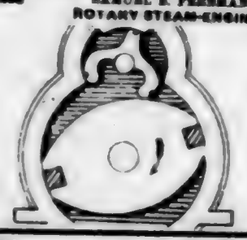
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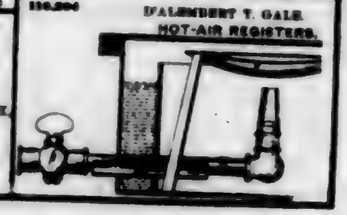
116,292 SAMUEL W. FOWLER. LAMP-BURNERS.



116,293 SAMUEL B. FREEMAN. ROTARY STEAM-ENGINES.



116,294 DALEMBERT T. GALE. HOT-AIR REGISTERS.

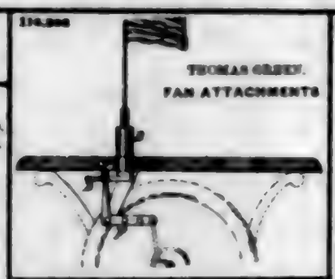


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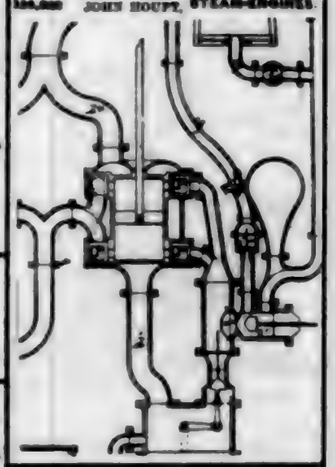
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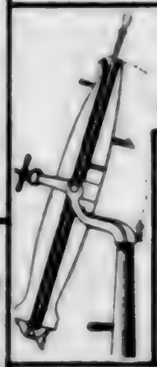
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116,000 JOHN HOUPT, STEAM-ENGINES.



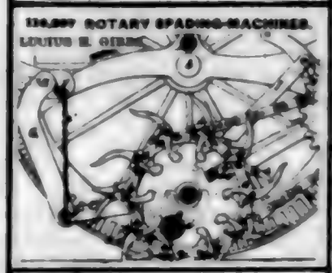
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116,000 CHARLES C. HALL, SHIELDS FOR SHAFT-COUPLINGS.



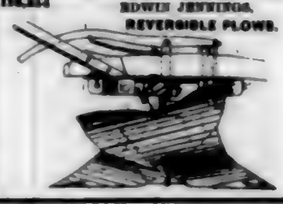
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116,000 CHARLES H. HUTSON, MODES OF PROPELLING SLEIGHS



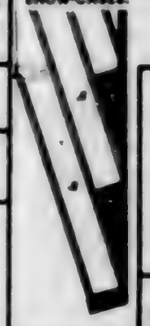
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116,000 JAMES W. GILLIES, PROCESSES OF ROASTING COFFEE.

116,000 JAMES W. GILLIES, IMPROVEMENT IN PROCESSES OF TREATING COFFEE.

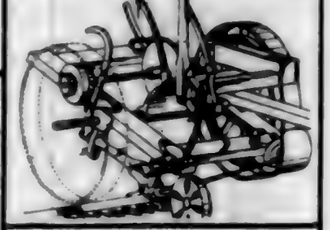
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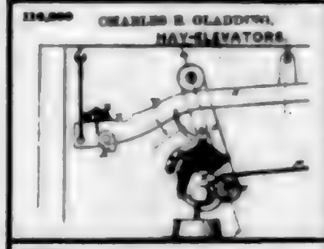
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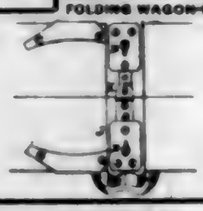
116,000 SAMUEL JOHNSTON, MOWING-MACHINES



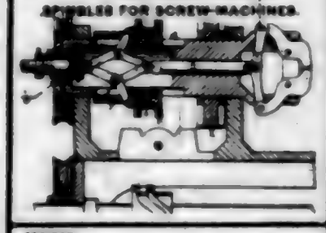
116,000 CHARLES B. GLADDING, HAY-ELEVATORS.



116,000 HEPPLEY AND PUTTI FOLDING WAGON-SEDS



116,000 DEARBORN P. OLIVER, SPINDLES FOR SCREW-MACHINES.



116,000 EDWARD R. HILL, BRACKETS FOR WATER-CONDUCTORS.

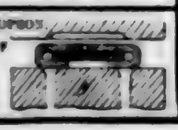


116,000 ALFRED COURVOISIER JONAIS, CALENDAR-WATCHES.

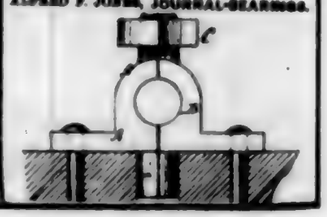


116,000 MORITZ MOLST, MEDICAL COMPOUNDS OR BITTERS.

116,000 GEORGE RUPERT, MANUFACTURE OF SPRING-HEADS.



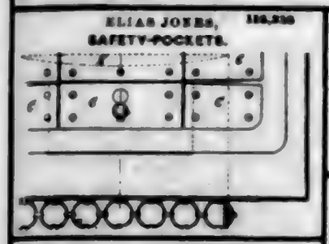
116,000 ALFRED P. JOHNS, JOURNAL-BEARINGS.



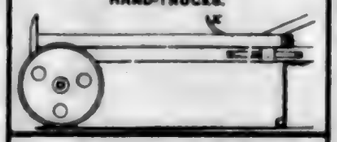
116,000 LEWIS GOODWIN, SASH-BALANCES.



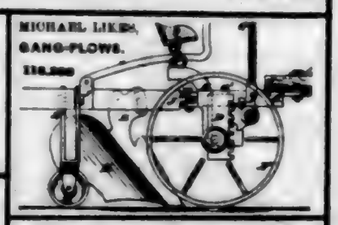
ELIAS JONES, 116,000 SAFETY-POCKETS.



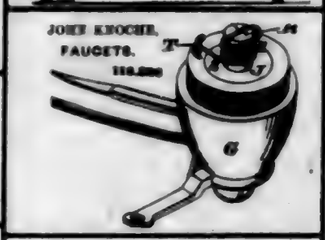
116,000 THOMAS F. KIPP, HAND-TRUCKS.



MICHAEL LIKES, GANG-PLOWS. 116,000



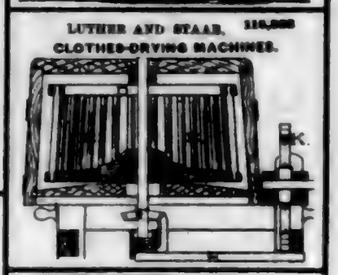
JOHN KNOCHE, FAUCETS. 116,000



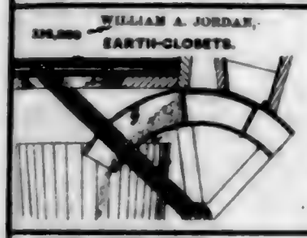
116,000 NATHANIEL JONES RAILROAD-CAR VENTILATORS.



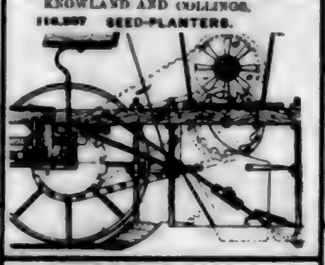
LUTHER AND STAAR, 116,000 CLOTHES-DRYING MACHINES.



116,000 WILLIAM A. JORDAN, EARTH-CLOSETS.



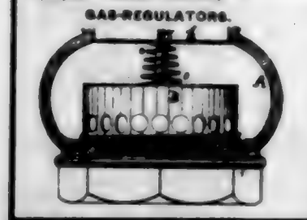
KNOWLAND AND COLLINGS, 116,000 SEED-PLANTERS.



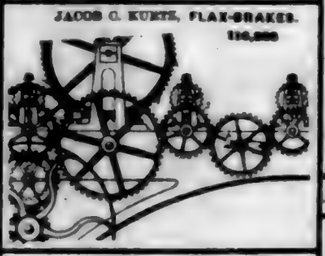
DAVID E. MARTIN, STOVE-DOORS



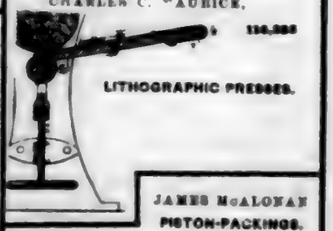
116,000 PETER KELLER, GAS-REGULATORS.



JACOB C. KURTZ, FLAX-BRAKES. 116,000

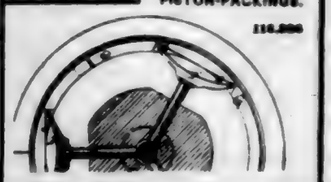


CHARLES C. MAURICE, 116,000 LITHOGRAPHIC PRESSES.

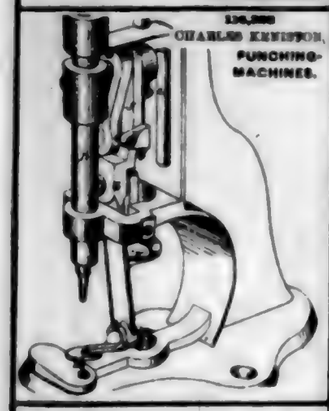


116,000 PETER J. KELLY, IMPROVEMENT IN RUBBER COMPOUNDS FOR BEARINGS,

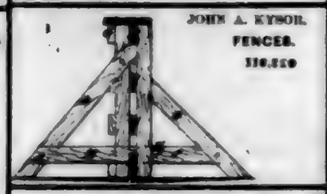
JAMES McALONAN PISTON-PACKINGS. 116,000



116,000 CHARLES KENNEDY, PUNCHING-MACHINES.



JOHN A. KYSOR, FENCES. 116,000



JOHN W. McCLANAHAN, 116,000 HOT-AIR REGISTERS.



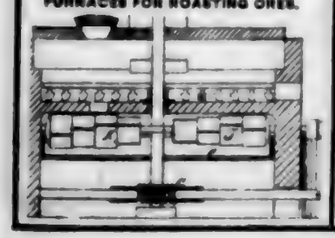
LAWRENCE AND COLLAMORE, 116,000 PAN-LIFTERS.



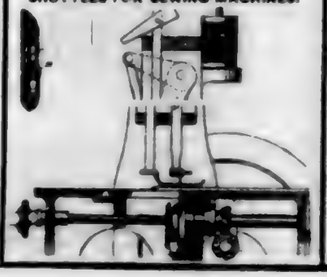
WASHING AND BLEACHING PAPER-STOCK. HENRY MORROW 116,000



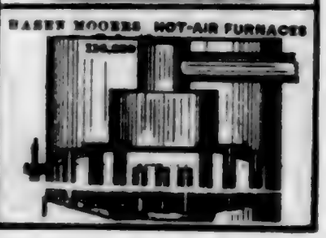
116,000 FRANK KESSELER, FURNACES FOR ROASTING ORES.



116,000 GEORGE H. LEHNER, SHUTTLES FOR SEWING-MACHINES.

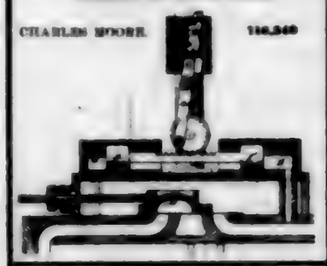


HASEN MOORES HOT-AIR FURNACES 116,000

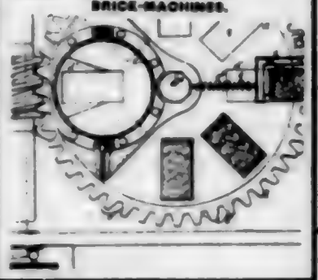


GOVERNORS AND CUT-OFF DEVICES

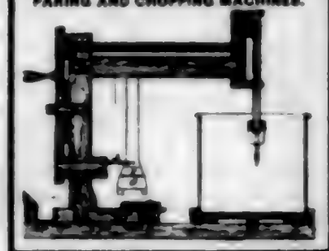
CHARLES MOORE. 116,340



116,341 AUGUSTUS MORAND.
BRICK-MACHINES.



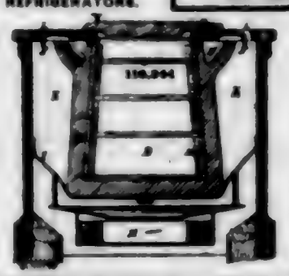
116,342 STEPHEN H. WOOD.
PARING AND CHOPPING MACHINES.



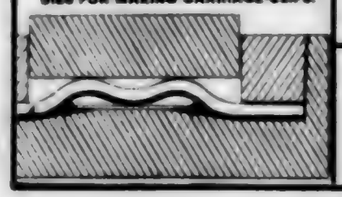
BENJAMIN MORSE.
CURTAIN-FIXTURES.
116,343



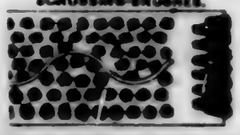
CHARLES H. HUNTOON.
REFRIGERATORS.



116,345 WILSON NOBLE.
DIES FOR MAKING CARRIAGE-CLIPS.



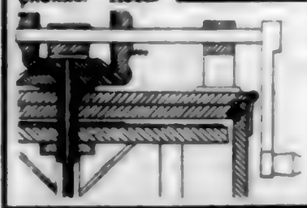
116,346 PATRICK O'BRIAN.
SCRUBBING-BRUSHES.



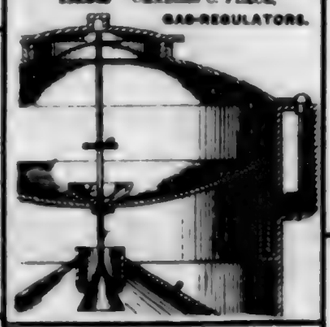
JOHN PARK. 116,347
BOTTLE-STOPPERS.



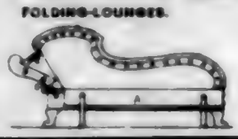
THOMAS BEE PARKE.
CHURNS. 116,348



116,349 CHARLES C. PLACE.
GAS-REGULATORS.



WILLIAM PRUFROCK 116,350
FOLDING-LOUNGES.



116,351 WILLIAM JAMES PURSELL.
COPYING APPARATUS.

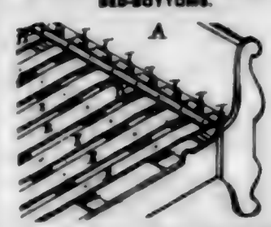


116,352 WASHINGTON RACE.
ROTARY STEAM-ENGINES.

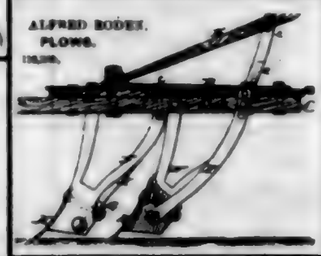


STEAM-ENGINE PISTON-HEADS.
116,353
JAMES REES.

116,354 GEORGE W. ROBINSON.
BED-BOTTOMS.



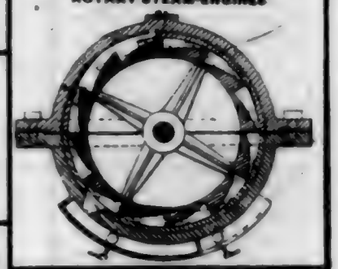
ALFRED RODEE.
PLOWS.
116,355



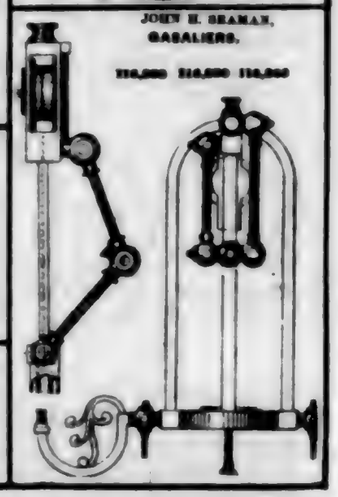
116,356 CHARLES E. ROPER.
THRASHING-MACHINES.



CHARLES F. ROTH. 116,357
ROTARY STEAM-ENGINES.



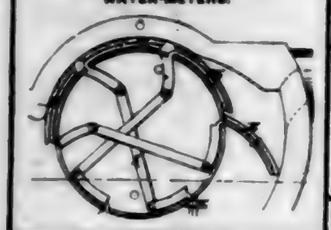
JOHN H. SEAMAN.
GASALIERS.
116,358 116,359 116,360



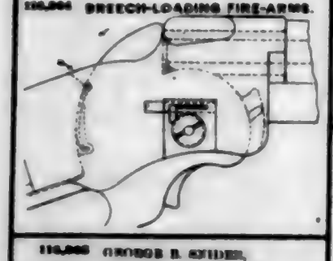
116,361 CHARLES H. SKIFF.
COOLING BONE-BLACK.



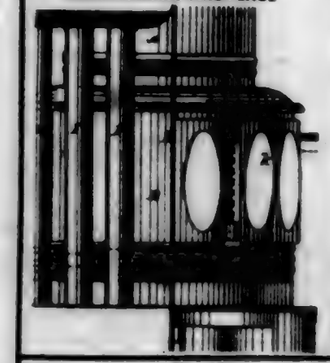
116,362 JOEL C. SLAUGHTER.
WATER-METERS.



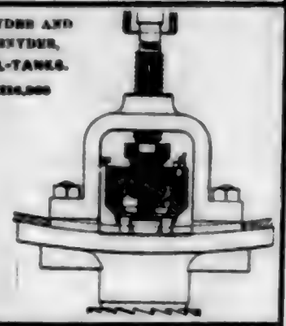
116,363 WILLIAM TAIT SNEDDEN.
116,364 BREECH-LOADING FIRE-ARMS.



116,365 GEORGE B. SNIDER.
BASE-BURNING FIRE-PLACE

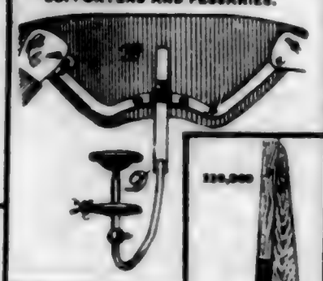


SNYDER AND SNYDER.
OIL-TANKS.
116,366



116,367 JOSEF SOWLS.
POINTED DOWEL-GRADS.

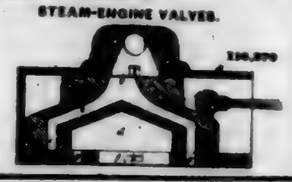
116,368 HENRY SPILLMANN
SUPPORTERS AND PESSARIES.



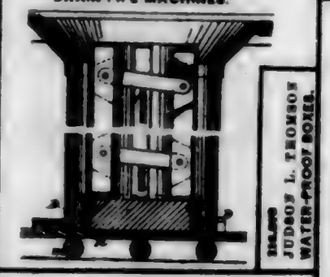
DAVID I. STAGG.
SCHOOL-SEATS.
116,369



NATHAN P. STEVENS.
STEAM-ENGINE VALVES.
116,370



JOHN W. STOCKWELL. 116,371
DRAIN-PIPE MACHINES.

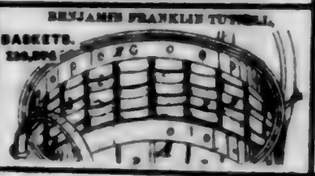


116,372 JUDSON L. THOMSON
WATER-PROOF BOXES.

HORACE THOMPSON.
BEEFSTEAK-CUTTERS.
116,373

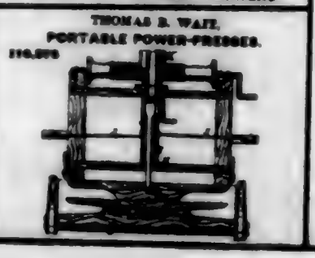


BENJAMIN FRANKLIN TOWNELL.
BASKETS.
116,374

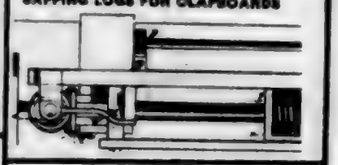


116,375 PHILONELA T. VINING.
IN PRESERVING NATURAL FLOWERS.

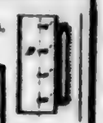
THOMAS B. WAIT.
PORTABLE POWER-PRESSES.
116,376



116,377 ELBRIDGE WEBBER.
SAPPING LOGS FOR CLAPBOARDS



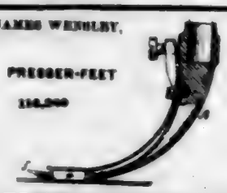
ALBERT W. WEBSTER.
BUTTON-HOLE GUIDE-PLATES.
116,378



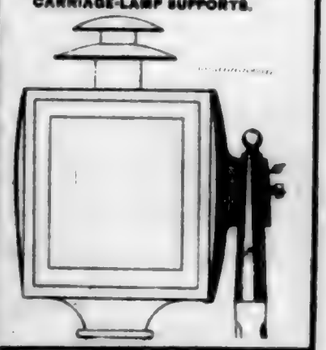
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BUFFERS FOR DOORS AND SHUTTERS.
116,379



JAMES WESSLEY.
PRESSER-FEET
116,380



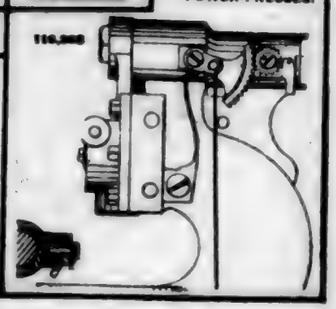
116,381 THOMAS P. WHITE.
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JOHN LAKE WHITING.
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116,394 GEORGE WILSON,
IRON FOLDING CHAIRS.



GEORGE H. WILSON,
VAPOR-BURNERS.
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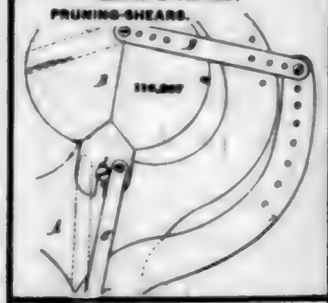


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NEEDLES FOR KNITTING-MACHINES.

EDWIN L. VARNEY,
PRUNING-SHEARS.



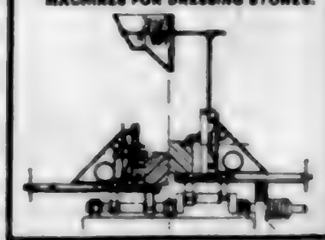
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JOHN H. HUNSTEIN,
MEAT AND VEGETABLE SAUSAGES.

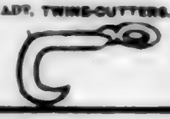
116,398 CHARLES M. YOUNG,
ROLLER ATTACHMENTS FOR PLOWS.



116,399 WILLIAM ADAMS,
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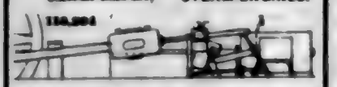
JOHN ADY, TWINE-CUTTERS. 116,401



JONAS PETTIBON AKERSTEIN,
FURNITURE-TIPS.
116,402

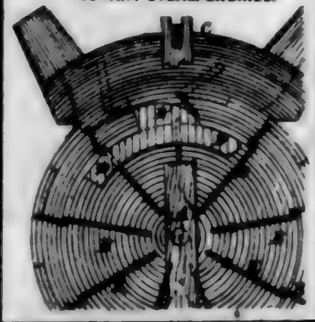


GEORGE W. BAKER,
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JAMES BAKER, STEAM-ENGINES.
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JOHN BARRETT,
ROTARY STEAM-ENGINES.



MATTHEW B. BARR,
STOVE-GRATES.
116,406

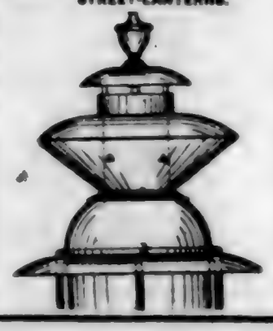


JOSEPH W. BARRETT,
CAR-COUPLINGS.
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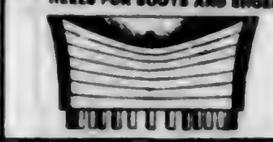


JOHN B. BARSALOUX,
BARREL-HEADS.
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JOSEPH W. BARTLETT,
STREET-LANTERNS.
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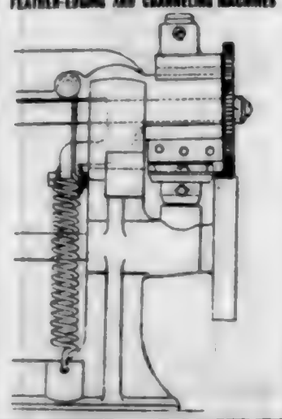
HORACE H. BIGELOW,
HEELS FOR BOOTS AND SHOES.
116,410



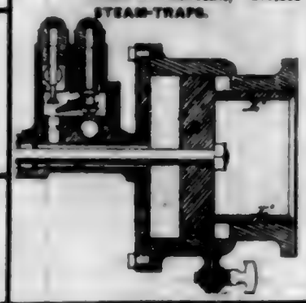
BINGHAM AND BEMIS,
SELF-WATERING VASES.
116,411



LYMAN B. BLAKE, 116,412
FEATHER-EDGING AND CHANNELING MACHINES



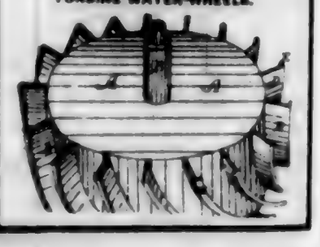
JAMES B. BLESSING, 116,413
STEAM-TRAPS.



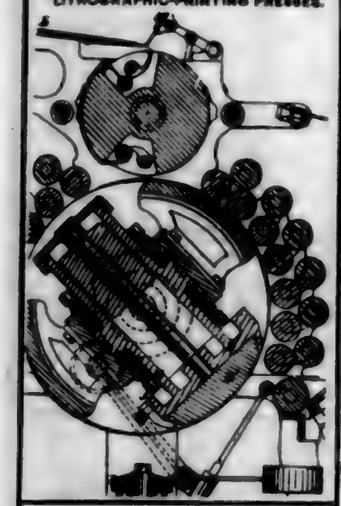
116,414 JOHN G. BOHN, SPURS.



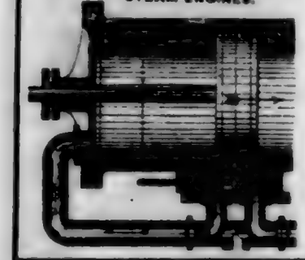
ROTLAND AND BROWAHAM. 116,415
TURBINE WATER-WHEELS.



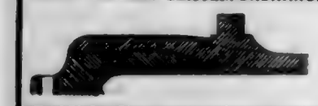
116,406 EDWARD B. BOYNTON,
LITHOGRAPHIC-PRINTING PRESSES.



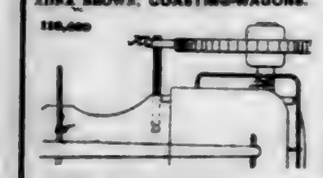
116,407 HENRY W. ADAMS,
STEAM-ENGINES.



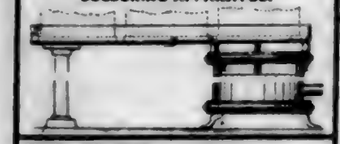
116,408 BASILEY BRITTEN, ORDNANCE.



ABNA BROWN, COASTING-WAGONS.
116,409



116,410 ANDREW J. BURKE,
SOLDERING APPARATUS.



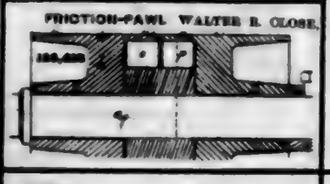
116,411 CHARLES C. CARPENTER,
HOOP-SKIRTS.



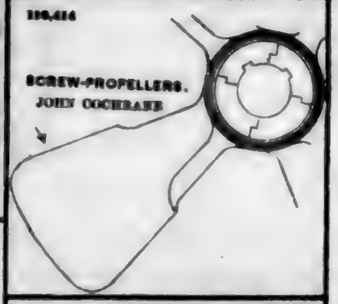
116,412 MATTHEW CHAPMAN,
TABLE-KNIVES AND FORKS.



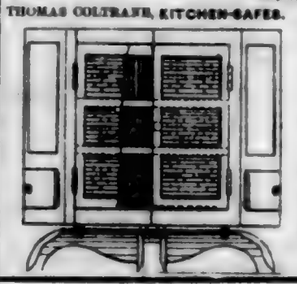
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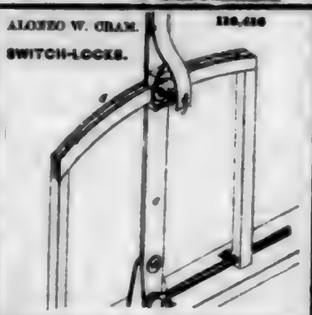
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SCREW-PROPELLERS.
JOHN COCHRANE



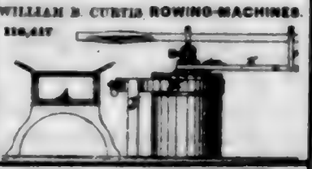
THOMAS COLTRANE, KITCHEN-SAFES.
116,415



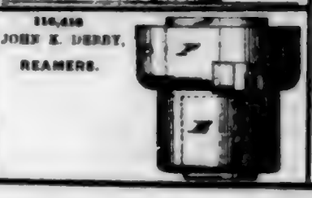
ALONZO W. CRAM.
116,416
SWITCH-LOCKS.



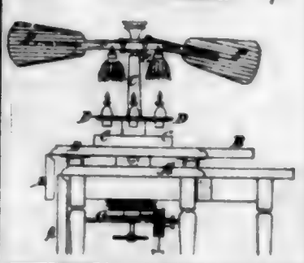
WILLIAM B. CURTIS ROWING-MACHINES.
116,417



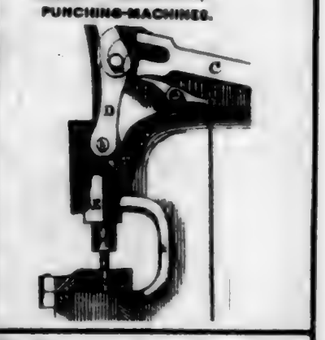
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JOHN K. DERBY,
REAMERS.



DRANE AND DRANE,
DINING-TABLES.
116,419



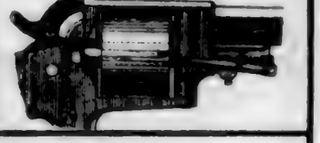
116,420 JAMES DUFF,
PUNCHING-MACHINES.



116,421 JAMES B. EMERSON, SAWS.



116,422 FOREHAND AND WADSWORTH,
REVOLVING FIRE-ARMS.



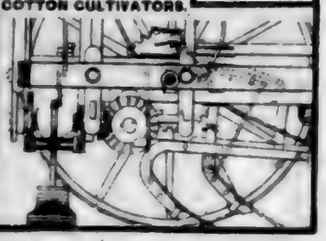
116,423 THEOBALD FORSTALL,
STORING AND DISCHARGING NAPHTHA, &C.



116,424 FRED. H. FURBISH,
THREAD-CUTTING DEVICES



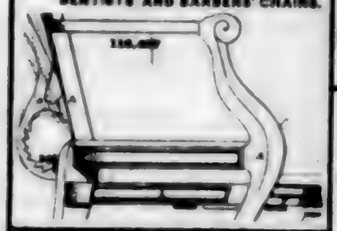
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COTTON CULTIVATORS.



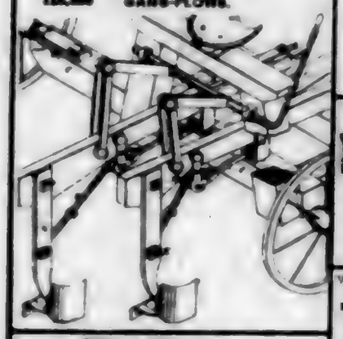
ROBERT GARR.
COOKING-STOVES.



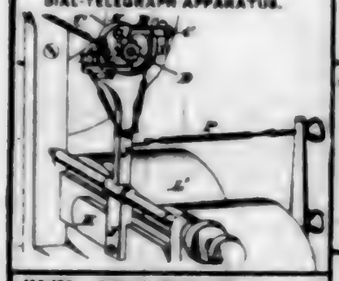
AUGUST GEBHARD AND JOHN BLODAU.
DENTISTS' AND BARBERS' CHAIRS.



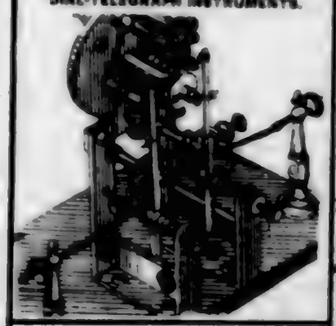
GILLHAM, TAYLOR, AND STULLE.
GANG-PLOWS.



EZRA T. GILLILAND.
DIAL-TELEGRAPH APPARATUS.



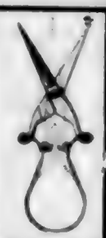
EZRA T. GILLILAND.
DIAL-TELEGRAPH INSTRUMENTS.



HENRY C. GILLILAND.
CAR-COUPLINGS.



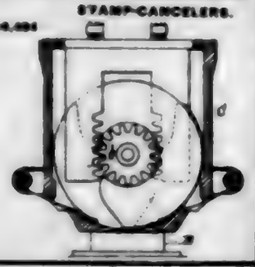
RUSSELL & GLADWIN.
SCISSORS.



CLAUDE GLOVER.
BOTTLE-STOPPERS.



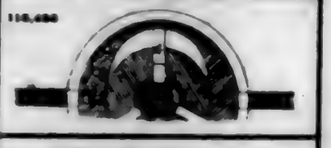
JOHN GOLDSBOROUGH.
STAMP-CANCELERS.



EDMUND H. GRAHAM.
LOOM-SHUTTLES.



WILLIAM A. GRAHAM.
ROTARY ENGINES.

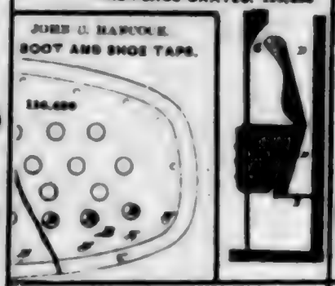


FREDERICK WILLIAM GRAECHEN.
LET-OFF MOTIONS OF LOOMS.



GREENAWAY AND HERRIMAN.
FIRE-PLACE GRATES.

JOHN C. HANCOCK.
BOOT AND SHOE TAPS.



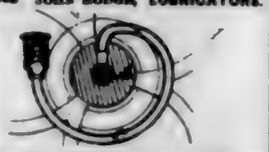
HERMEN, HERMEN AND HYLAND.
INSTRUMENTS FOR RINGING HOGS.



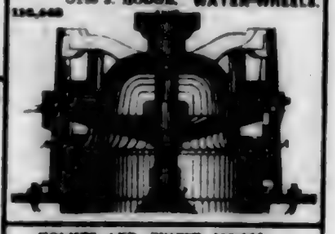
WILLIAM HEDLEY.
FIRE-ESCAPES.



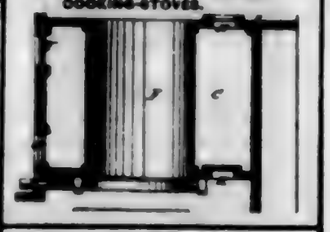
JOHN HODGE.
LUBRICATORS.



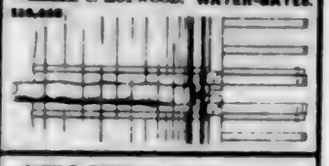
OTIS J. HODGE.
WATER-WHEELS.



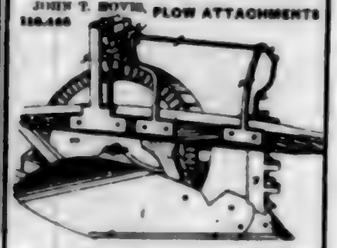
HOLMES AND PRINCE.
COOKING-STOVES.



WILLIAM G. HOPWOOD.
WATER-GATES.



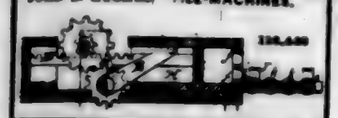
JOHN T. HOYT.
FLOW ATTACHMENTS



JOHN B. HUGHES.
TILE-MACHINES.



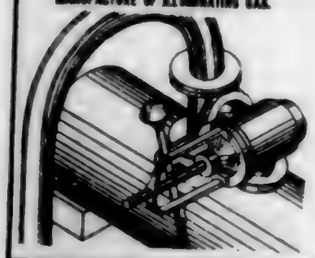
JOHN B. HUGHES.
TILE-MACHINES.



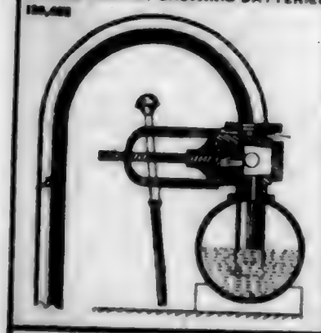
BENJAMIN HURLBUT.
BACKS FOR CARRIAGE-SEATS.



EDWARD JONES.
MANUFACTURE OF ILLUMINATING GAS.



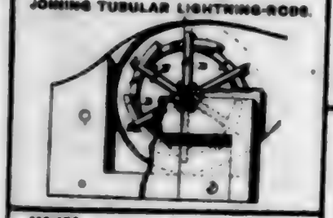
JEROME KIDDER.
GALVANIC BATTERIES.



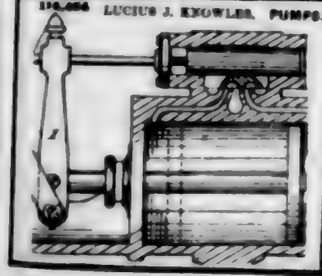
JOHN H. KINSMAN.
DOOR-LOCKS.



GEORGE S. KNAPP.
JOINING TUBULAR LIGHTNING-RODS.



LUCIUS J. KNOWLES.
PUMPS.



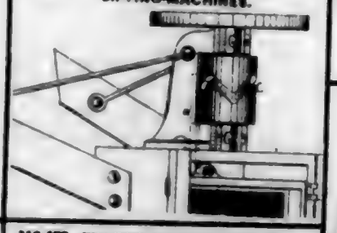
WILSON W. KNOWLES.
DIES FOR FORMING CARRIAGE-CLIPS.



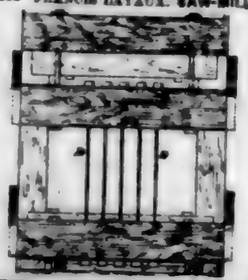
KNOWLES AND WHITE.
DIES FOR FORMING CARRIAGE-CLIPS.



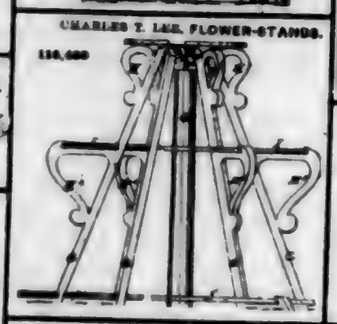
BENJAMIN M. LAMPMAN.
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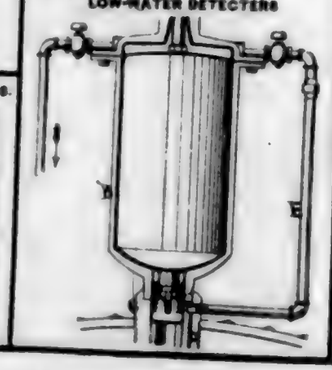
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CHARLES T. LEE.
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LEWIS L. LEE.
LOW-WATER DETECTERS

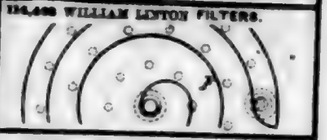


JOHN E. LEONARD.
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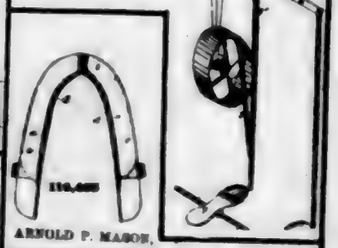


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WILLIAM LEYTON.
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AMOS D. LUPKIN.
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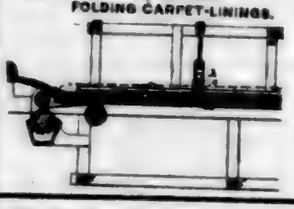


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WILLIAM L. MAY.
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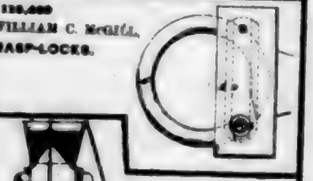


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116,513

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116,514 BED-LOUNGES.

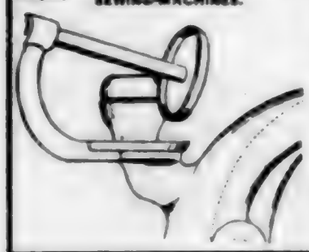
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116,516 THOMAS H. WEBB.
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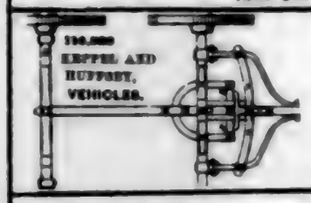
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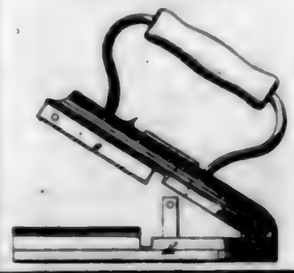


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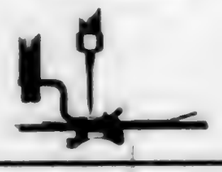


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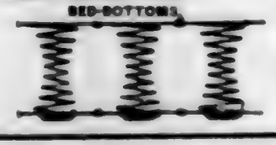
4,444 MYRON H. KNAPP, FLUTING AND SAD IRONS.



116,000 WILLCOX, AND CARLETON, 116,000
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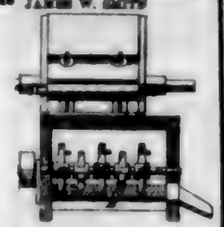
116,000 CHARLES RICH, BED-BOTTOMS.



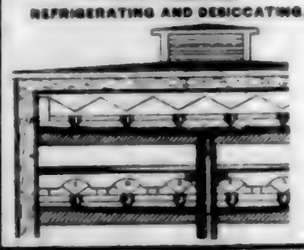
4,444 HENRY LOEWENBERG, IMITATION BRAIDS, TRIMMINGS, LEATHERS.

4,445 DANA READE, COMPOUNDS FOR TREATING CATARRH, &C., BY INHALATION.

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4,446 JAMES W. SMITH

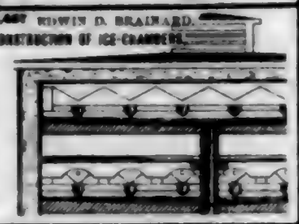


4,447 EDWIN D. BRAINARD, REFRIGERATING AND DESICCATING.

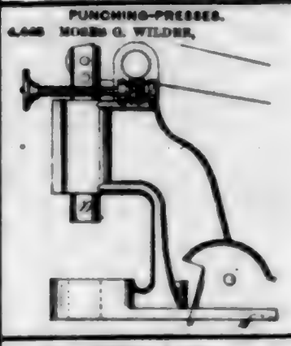


4,447 WM. SMITH, HIRAM D. ROGERS. PRODUCING PRICES CURRENT, BULLETINS.

4,448 EDWIN D. BRAINARD, CONSTRUCTION OF ICE-CHAMBERS.



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116,000 JAMES B. WILLIAMS, EVAPORATING-PANS.

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4,450



JAMES AGLY WOOD. GATES. 116,000





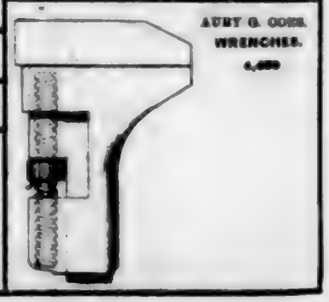
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4,451 ELIAS DURHAM, EMBELLISHMENT OF GLASS.

4,452 ROBERT KING, BOILER-FLUE BRUSHES.

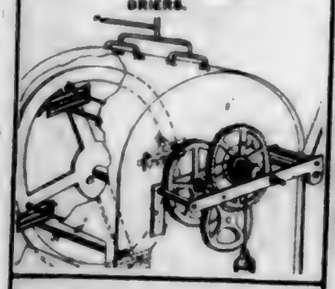


AURY G. GOSS. WRENCHES. 4,453

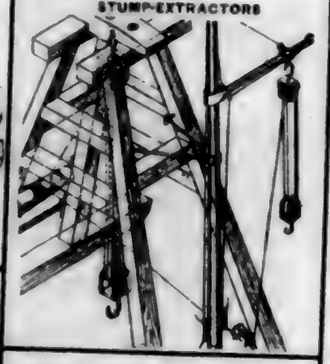


ILLUSTRATIONS OF PATENTS
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JULY 4, 1871.

116,531 ADAMS, AND BACON. DRIERS.



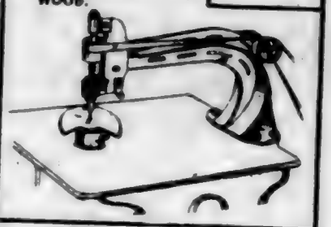
116,537 WILLIAM Q. BAXTER. STUMP-EXTRACTORS



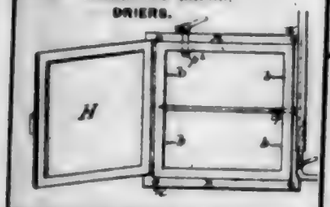
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116,543 MYRON T. BOULT, CARVING AND MOLDING WOOD.



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116,000 TINDMAN BEACH, GAUGES FOR MORTISING-MACHINES.



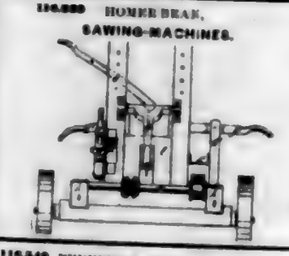
116,544 DANIEL T. BROWN, PADLOCKS.



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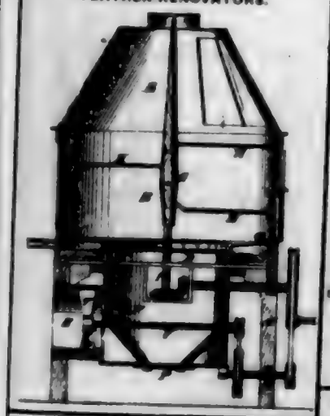
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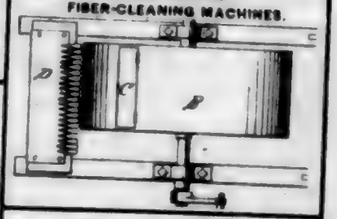
116,545 ISRAEL P. BROWN. LATHE-TOOL SUPPORTERS.



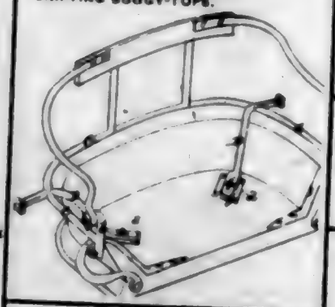
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116,546 JAMES BROWN. FIBER-CLEANING MACHINES.



116,540 BEVERLY L. BROOKS SHIFTING BUGGY-TOPS.



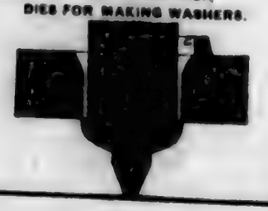
116,547 JAMES B. BROWN. BOLT-CUTTERS.



116,000 JOHN BAUER, HARNESS-TRIMMINGS.



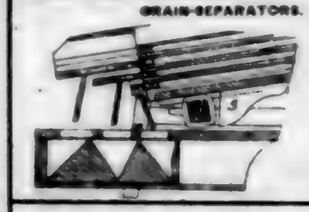
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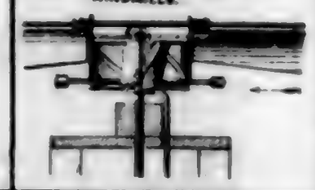
116,548 JOHN G. BROWN. CAPSTANS.



116549 JOHN D. BRUNNER.
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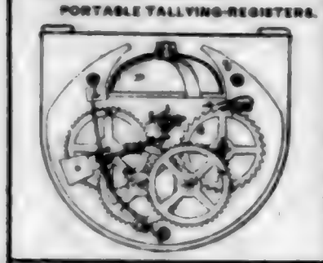
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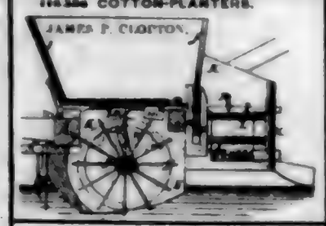
116551 HUGH W. COLLENDER,
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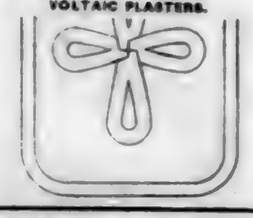
116552 HENRY C. BUHOUP.
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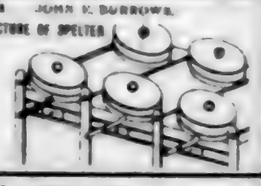
116553 JAMES P. CLOPTON.
COTTON-PLANTERS.



116554 WILLARD C. COLLINS,
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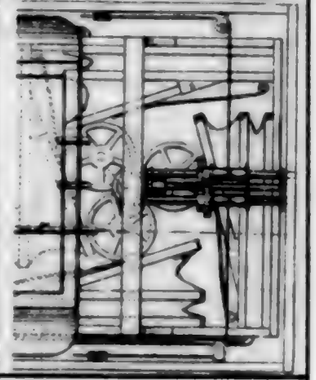
116555 JOHN K. DURROW.
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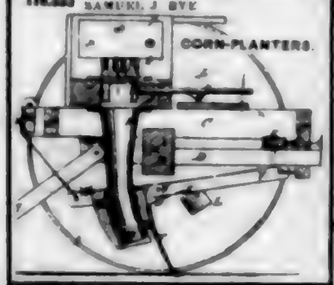
116556 HENAN COBB.
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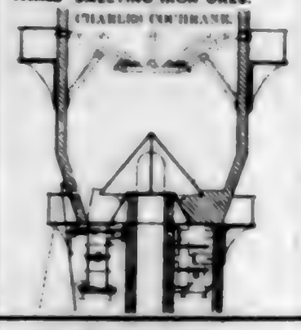
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116558 SAMUEL J. BYE.
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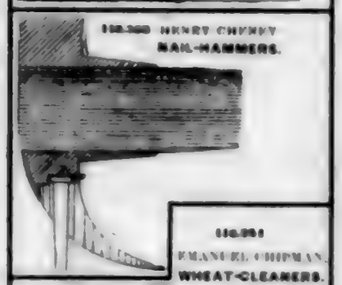
116559 CHARLES COCHRANE.
SMELTING IRON ORES.



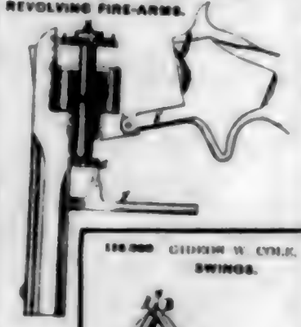
116560 WILLIAM STOPER.
SHOW-CASES AND COUNTERS.



116561 HENRY CHENEY
RAIL-HAMMERS.



116562 FREDERIC G. GUCHRAN.
REVOLVING FIRE-ARMS.



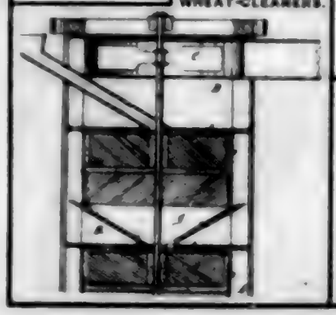
116563 DANIEL CORBIN,
TAMPING APPARATUS.



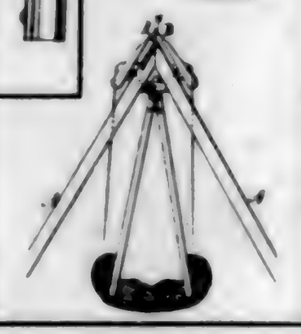
116564 GEORGE E. DARLEY AND MATTHEW HEIM
CAR-COUPLINGS.



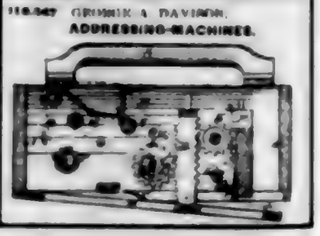
116565 EMANUEL CHIPMAN.
WHEAT-CLEANERS.



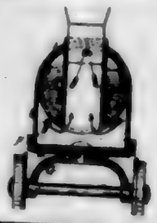
116566 GIDEON W. COLE.
SWINGS.



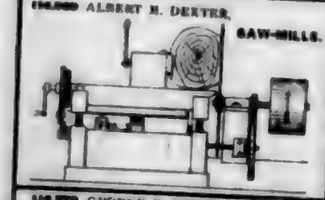
116567 GEORGE A. DAVISON.
ADDRESSING-MACHINES.



116568 ALBERT L. DEWEY.
TOY-LOCOMOTIVE STEAM-ENGINES.



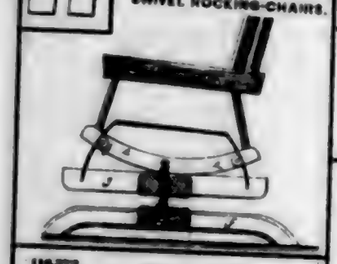
116569 ALBERT H. DEXTER.
SAW-MILLS.



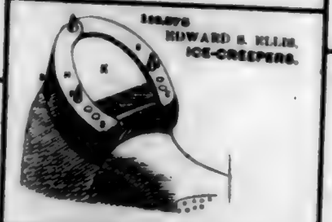
116570 GEORGE E. DOLTON,
BINDING ATTACHMENTS



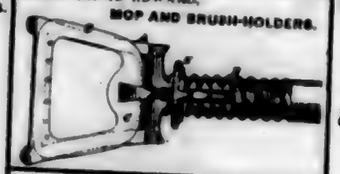
116571 JOHN W. H. DOUBLER.
SWIVEL ROCKING-CHAIRS.



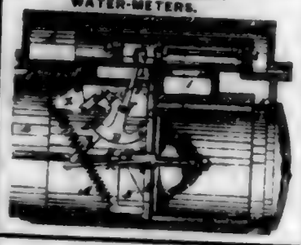
116572 EDWARD S. ELLIS.
ICE-CREEPERS.



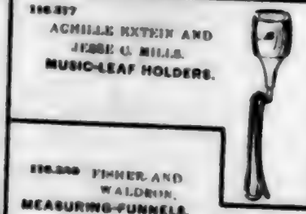
116573 DAVID EDWARD.
MOP AND BRUSH-HOLDERS.



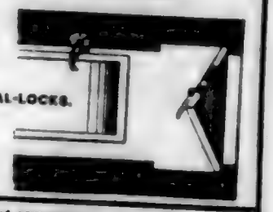
116574 GEORGE D. KNERNON.
WATER-METERS.



116575 ACHILLE RITEIN AND JESSE G. MILLS.
MUSIC-LEAF HOLDERS.



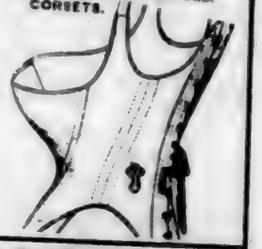
116576 GENTRY AND BARCUS.
CANAL-LOCKS.



116577 CHARLES GOOCH.
ICE-CREAM FREEZERS.



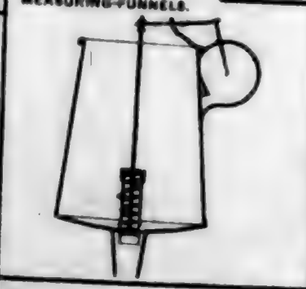
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CORSETS.



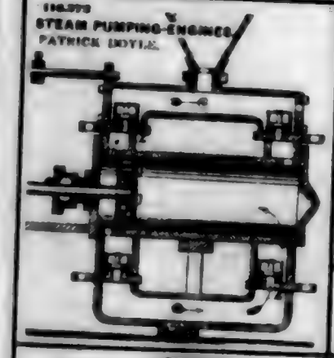
116579 GOUVION GHOLSON GRISWOLD.
UMBRELLAS.



116580 FINNER AND WALDRON.
MEASURING-FUNNELS.



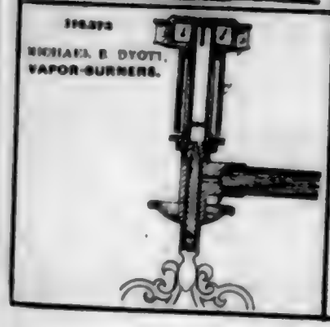
116581 STEAM PUMPING-ENGINES.
PATRICK DOYLE.



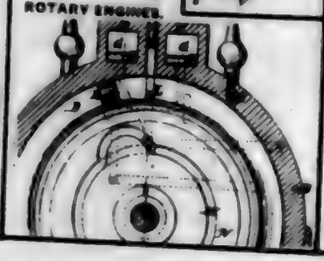
116582 HASP-LOCKS.
JAMES FISLER AND GEORGE CROPTON.



116583 RICHARD B. DYOTT.
VAPOR-BURNERS.

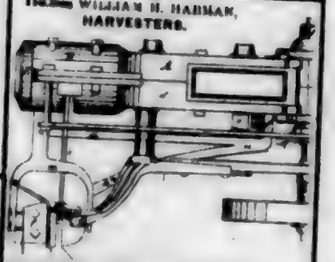


116584 FRANCIS AND FRANCIS.
ROTARY ENGINES.



116585 FRANCIS L. HALL.
BRICK-MACHINES.

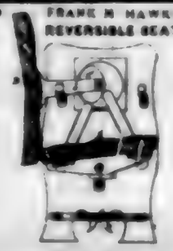
116586 WILLIAM H. HARMAN,
HARVESTERS.



116587 HENRIKUS HARTMANN.
SUPPORTS FOR MIRRORS



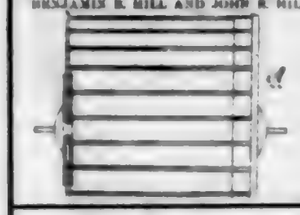
116.590 FRANK H. HAWKINS. REVERSIBLE SEATS.



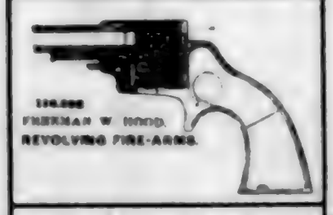
116.591 HARRISON E. EMMETT. WATCHMAKERS' CHUCKS.



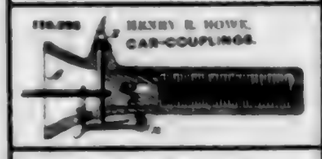
116.592 WHEELS FOR ANIMAL TRAPS. BENJAMIN B. HILL AND JOHN R. HILL



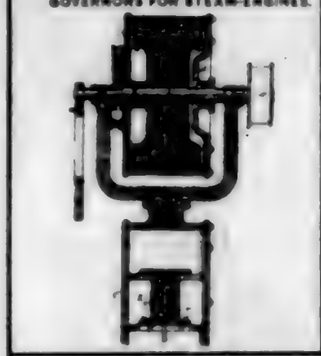
116.593 FREEMAN W. HOOD. REVOLVING FIRE-ARMS.



116.594 HENRY B. HOWE. CAR-COUPLINGS.



116.595 REUBEN K. HUNTOON. GOVERNORS FOR STEAM-ENGINES.



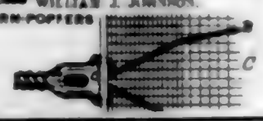
116.596 RICHARD JENKINS. FURNACES FOR PUDDLING IRON, &c.



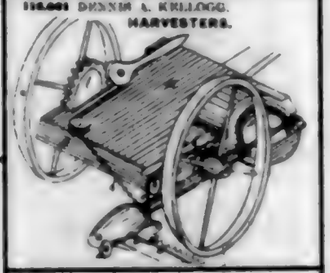
116.597 WILLIAM J. JOHNSON. GARDEN-SYRINGES.



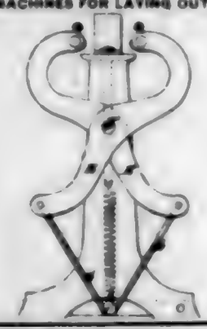
116.598 WILLIAM J. JOHNSON. CORN-POPPERS



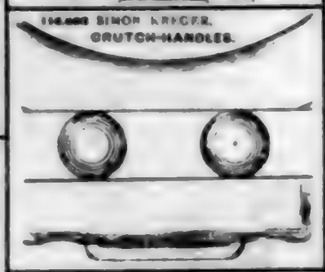
116.599 DENNIS A. KELLOGG. HARVESTERS.



116.600 JOHN H. KIKENDALL, JR. MACHINES FOR LAYING OUT SASH.



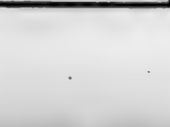
116.601 SIMON KROGER. CRUTCH-HANDLES.



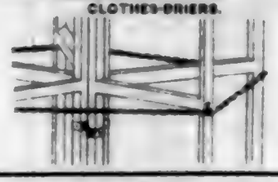
116.602 GHOLSON T. LEWIS. VOLATILIZING LEAD AND SILVER ORES.



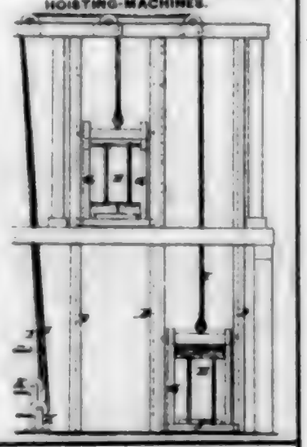
116.603 JAMES LEWIS. EXHAUST-NOZZLES.



116.604 CHARLES P. LINNOTT. CLOTHES-DRIERS.



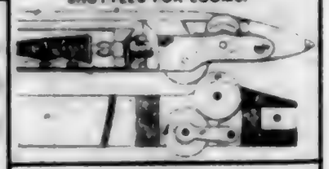
116.605 WILLIAM H. LLOYD. HOISTING-MACHINES.



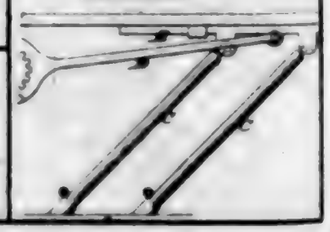
116.606 WILLIAM H. LUNGREN. HOT-WATER HEATERS.



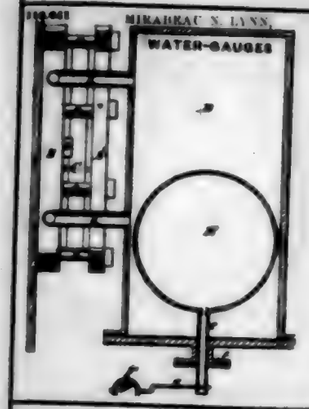
116.607 JAMES LYALL. SHUTTLES FOR LOOMS.



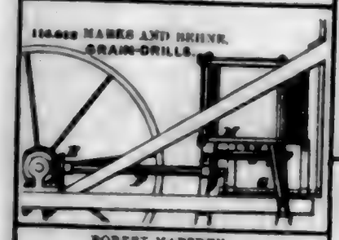
116.608 MIRABEAU N. LYNN. STEAM-PLOWS.



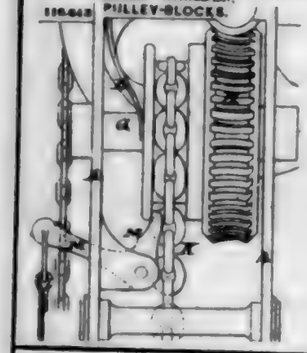
116.611 MIRABEAU N. LYNN. WATER-GAUGES



116.612 MARES AND BRINK. GRAIN-DRILLS.



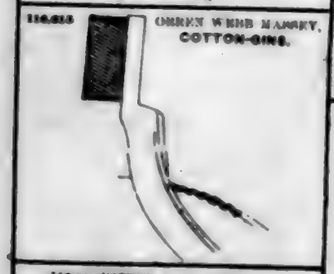
116.613 ROBERT MARSDEN. PULLEY-BLOCKS.



116.614 NORRIS S. MARSHALL. WASHING-MACHINES.



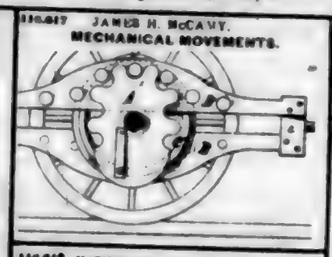
116.615 OBERN WEBB MARVEY. COTTON-GINS.



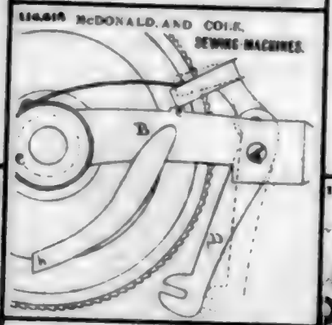
116.616 VICTOR K. MARNER. CYLINDER PRINTING-PRESSES.



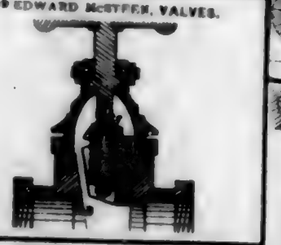
116.617 JAMES H. McCAVY. MECHANICAL MOVEMENTS.



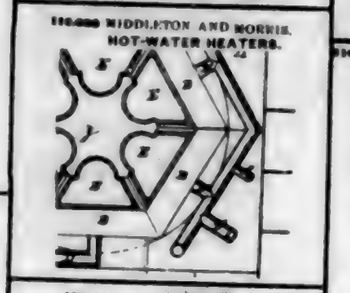
116.618 McDONALD AND COLE. SEWING-MACHINES.



116.619 EDWARD McSTEEN. VALVES.



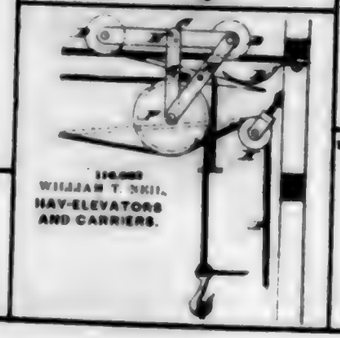
116.620 MIDDLETON AND MORRIS. HOT-WATER HEATERS.



116.621 JAMES A. MORRIS. DOOR-FASTENERS.



116.622 WILLIAM T. NEIL. HAY-ELEVATORS AND CARRIERS.



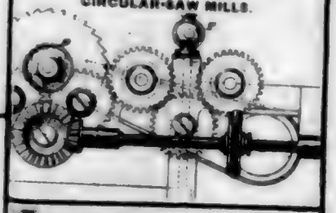
116.623 JONAH NEWTON. FRAMING-JOINTS.



116.624 JAMES NORMAN. CURTAIN-FIXTURES.



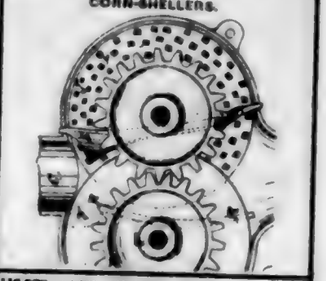
116.625 SAMUEL M. PALMER. CIRCULAR-SAW MILLS.



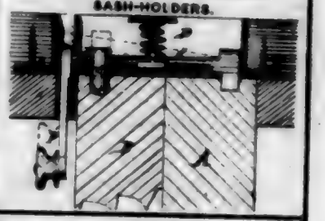
116.626 PARSONS, GETCHELL, AND FAIRFIELD. TANNERS' STEEPERS.



116.627 ABAHEL H. PATON. CORN-SHELLERS.



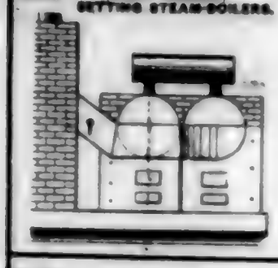
116.628 ALEXANDER W. PENNINGTON. SASH-HOLDERS.



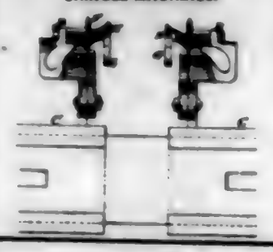
116.629 PETHER AND TAYLOR. TILTING CHAIRS.



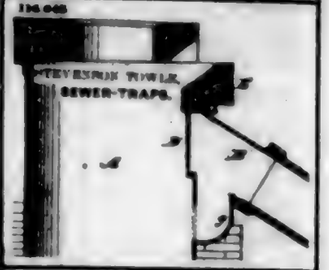
116.680 THOMAS ALVORD.
SETTING STEAM-BOILERS.



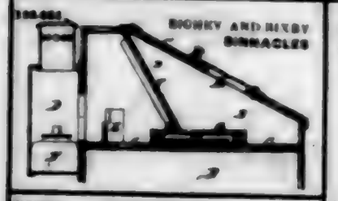
116.681 CHARLES KIRKHAM.
SHINGLE-MACHINES.



116.682 STEVENSON TOWLE.
SEWER-TRAPS.



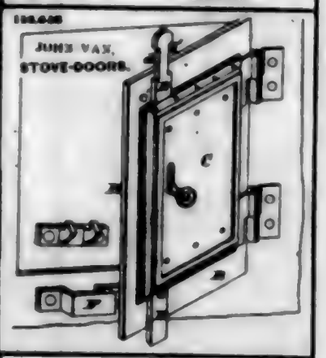
116.683 SIDNEY AND SILAS BINNACLES



116.684 JOHN CARLIN SMART.
CLOTHES-DRIERS.



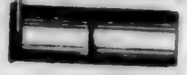
116.685 JOHN VAN.
STOVE-DOORS.



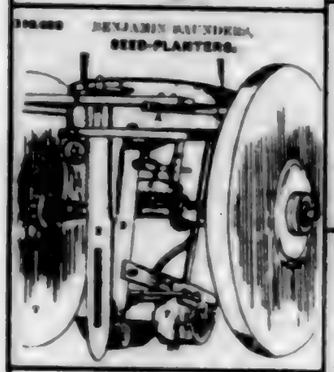
116.686 TIMMAS RILEY.
CLOTHES-LINE SUPPORTERS.



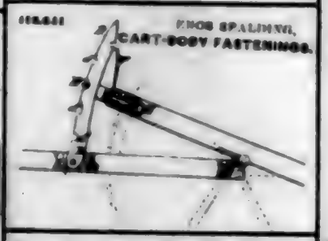
116.687 SHOT-CARTRIDGES
CHARLES EDWARD SNEIDER.



116.688 BENJAMIN SAUNDERS.
SEED-PLANTERS.



116.689 ENOS SPALDING.
CART-BODY FASTENINGS.



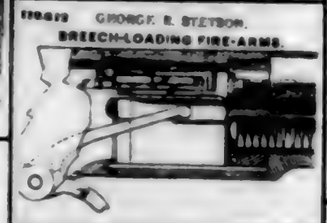
116.690 ORLANDO B. VANDERWERK.
METHODS OF DRAWING PATTERNS



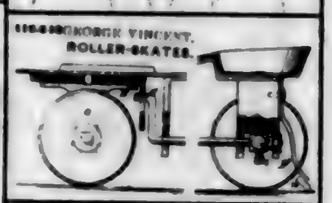
116.691 WILLIAM H. HOWARTH.
FASTENING HANDLES TO SATCHELS.



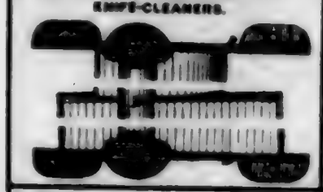
116.692 GEORGE F. STETSON.
BREECH-LOADING FIRE-ARMS.



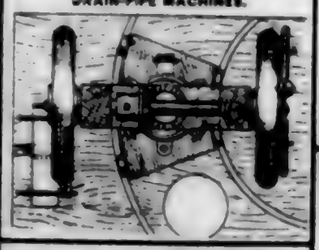
116.693 GEORGE VINCENT.
ROLLER-SKATES.



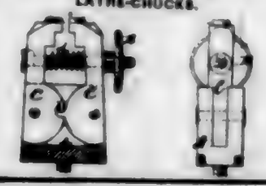
116.694 JOSEPH GILBERTER.
KNIFE-CLEANERS.



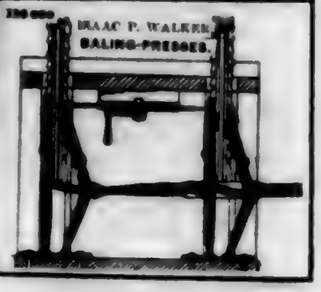
116.695 JOHN W. FOWKWELL.
DRAIN-PIPE MACHINES.



116.696 ALFRED H. WAGNER.
LATHE-CHUCKS.



116.697 ISAAC P. WALKER.
BALING-PRESSES.



116.698 GEORGE BELDEN.
FLANGES ON THE HEADS OF OIL-TANKS.



116.699 M. FRANK TABER.
DOOR AND GATE-SPRINGS.



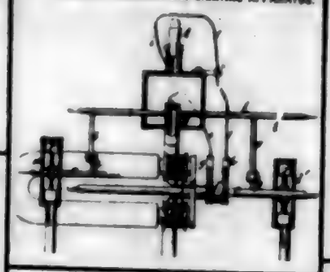
116.650 LYMAN I. WAY.
INSECT-TRAPS.



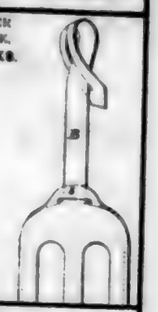
116.651 EDWARD WEBB.
SHOE-FASTENINGS.



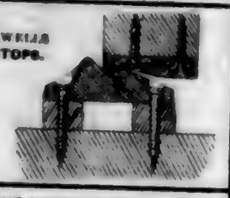
116.652 ALLEN AND DEWEY.
MAGNETO-ELECTRIC GAS-LIGHTING APPARATUS.



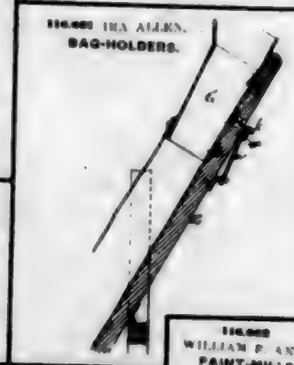
116.653 FRANCIS XAVIER BELLERIVE.
BAGGAGE-CHECKS.



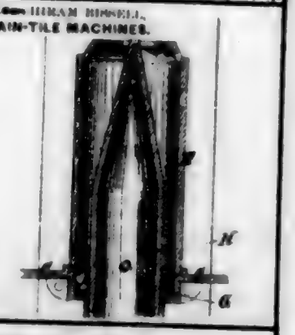
116.654 ISAAC J. WELLS
DOOR-STOPS.



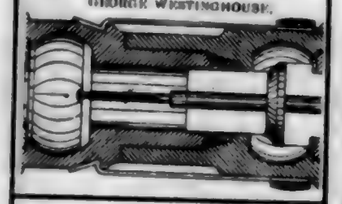
116.655 IRA ALLEN.
BAG-HOLDERS.



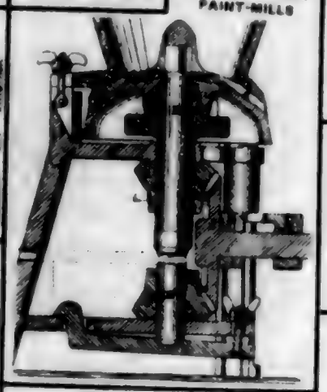
116.656 HIRAM RUSSELL.
DRAIN-TILE MACHINES.



116.657 VALVE DEVICES FOR STEAM-POWER
GEORGE WESTINGHOUSE.



116.658 WILLIAM P. ANY.
PAINT-MILLS



116.659 RICHARD C. BLAKE.
STEAM-GAUGES.



116.660 WILLIAM C. WILLIAMSON.
HOISTING-CAGES.



116.661 TIMOTHY C. WOOD.
FENCES.



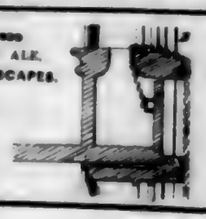
116.662 DAVID H. BALL.
CAR-COUPLINGS.



116.663 ELDRIDGE G. W. BARTLETT.
CLOTHES-WRINGERS.



116.664 KERA ALE.
FIRE-ESCAPES.



116.665 ALMA BEDFORD.
THILL-COUPLINGS.



116.670 SAMUEL C. BLINN.
STAVE-JOINTERS.



116.671 AUGUSTUS O. BOURN.
STEAM-PACKING.



116.672 DANIEL BOWKER.
JACK-POSTS FOR PEGGING SHOES.



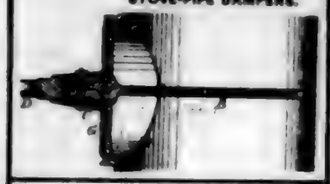
116.673 MICHAEL CROLL BOYER.
TRACK-CLEARERS



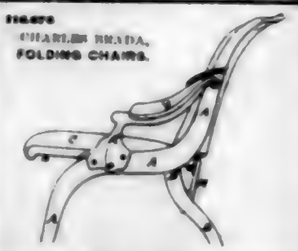
116.674 NATHANIEL A. BOYNTON.
HEATING-STOVES.



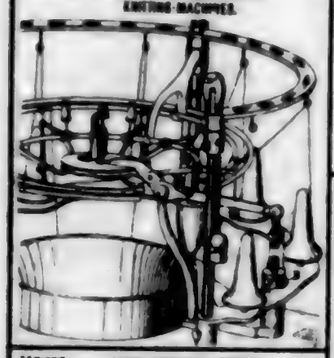
116.675 NATHANIEL A. BOYNTON. STOVE-PIPE DAMPERS.



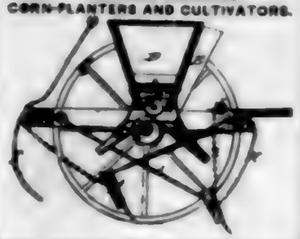
116.676 CHARLES BRADA. FOLDING CHAIRS.



116.677 HOMACK C. BRAINERD. KNITTING-MACHINES.



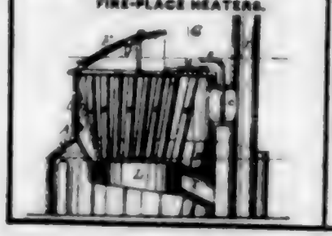
116.678 EDWARD BRAGGINS. CORN-PLANTERS AND CULTIVATORS.



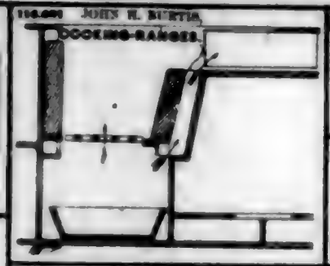
116.679 WILLIAM E. BROCK. WINDOW-BLINDS.



116.680 JOHN H. BURTIS. FIRE-PLACE HEATERS.



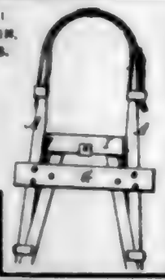
116.681 JOHN H. BURTIS. ROCKING-RANGES.



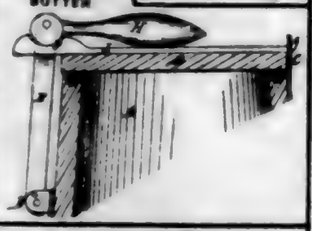
116.682 VOLNEY M. CHAPIN. SLIDERS FOR WAGONS.



116.683 HARLOW P. CHAPIN. ANIMAL-POKES.



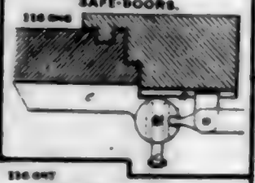
116.684 JOHN L. COVE. PACKAGES FOR BUTTER



116.685 CORBETT AND LOWE. BOLTING-REELS.



116.686 PHINEAS S. COVERT. SAFE-DOORS.



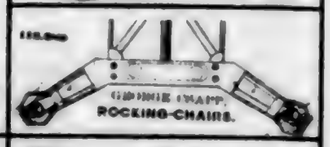
116.687 CALVIN CROWELL. SHIRT-BOSOM EXPANDERS.



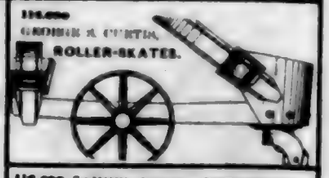
116.688 PHINEAS S. COVERT. SAFE-DOORS.



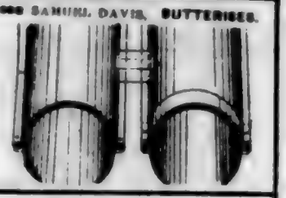
116.689 GEORGE CRAPP. ROCKING-CHAIRS.



116.690 GEORGE S. CURTIS. ROLLER-SKATES.



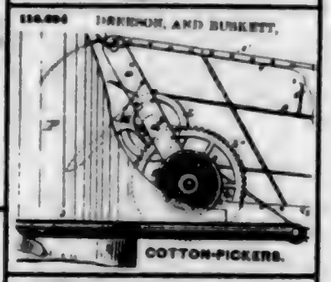
116.691 SAMUEL DAVIS. BUTTERIERS.



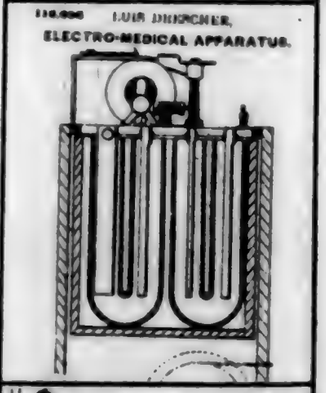
116.692 WILLIAM DILLON. BOILER-TILE SUPPORTS.



116.693 DRESSER, AND BUSKETT. COTTON-PICKERS.



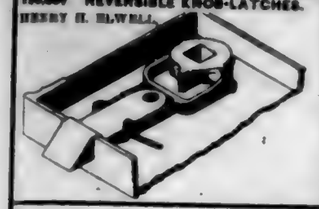
116.694 LUIS DREICHER. ELECTRO-MEDICAL APPARATUS.



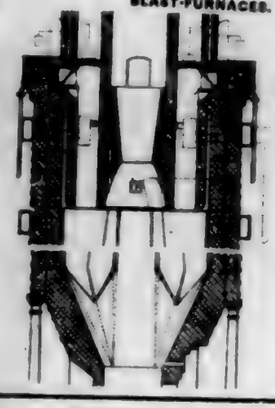
116.695 HENRY WILLIAM EARL. CAR-COUPLINGS.



116.697 REVERSIBLE KNOB-LATCHES. HENRY H. ELWELL.



116.698 WILLIAM FERRIE. BLAST-FURNACES.



116.699 BRIDGET FIELDING. COAL-SCUTTLES.



116.700 MANAGEMENT OF BEES. MARTIN A. GLASS.



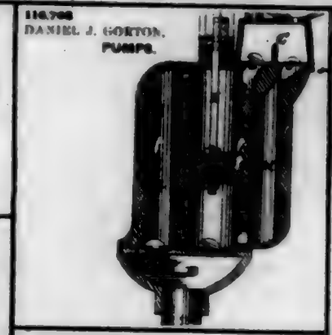
116.701 BARTHOLOMEW GOMMERINGER. HOT-AIR FURNACES.



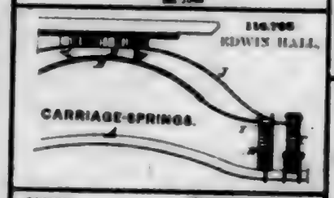
116.702 ALBERT GOODYEAR. AXLE-BOXES.



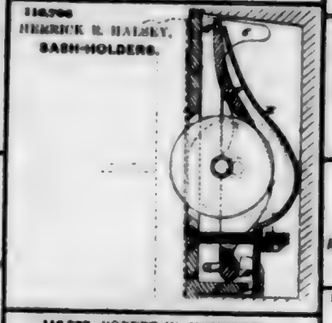
116.703 DANIEL J. GORTON. PUMPS.



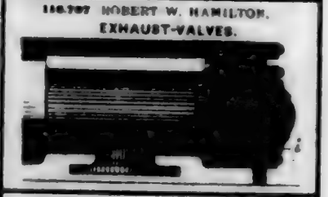
116.704 EDWIS HALL. CARRIAGE-SPRINGS.



116.705 HERRICK B. HALSEY. SASH-HOLDERS.



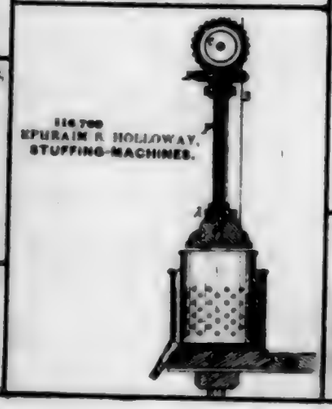
116.707 ROBERT W. HAMILTON. EXHAUST-VALVES.



116.708 WILLIAM HICHBORN. FLOWER-BRACKETS.



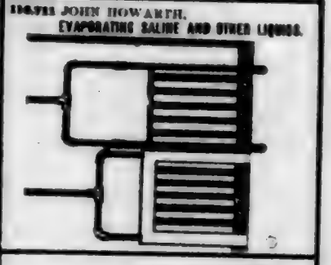
116.709 EPHRAIM R. HOLLOWAY. STUFFING-MACHINES.



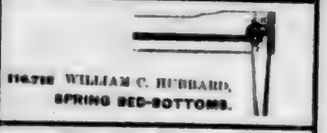
116.710 HOPKINS REID, RAYMOND, AND MEEKER. HAT.



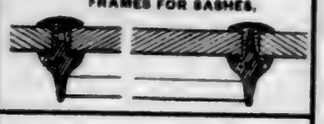
116.711 JOHN HOWARTH. EVAPORATING SALINE AND OTHER LIQUIDS.



116.712 WILLIAM C. HUBBARD. SPRING BED-BOTTOMS.



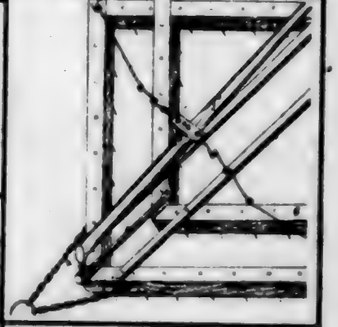
116.714 JAMES L. JACKSON. FRAMES FOR SASHES.



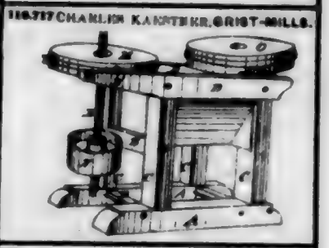
116.715 WILLIAM JOHNSON. ATTACHMENTS FOR SEWING-MACHINES.



116.716 BENJAMIN JOHNSTON. HARROWS.



116.717 CHARLES KAMTEKER. GRIST-MILLS.



116.718 JOHN C. KEARNS. FRUIT-GATHERERS.

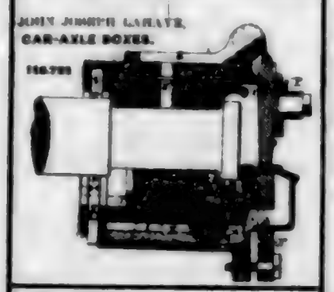


116719 BENJAMIN KUHNS, GRAIN-DRILLS.



JOHN JOSEPH LAHAYE, CAR-AXLE BOXES.

116721



CYRUS H. LATHAM AND JOHN S. LUDE, REVOLVING CASTERS.

116722



116723 JAMES A. LAWSON, HOT-AIR FURNACES.



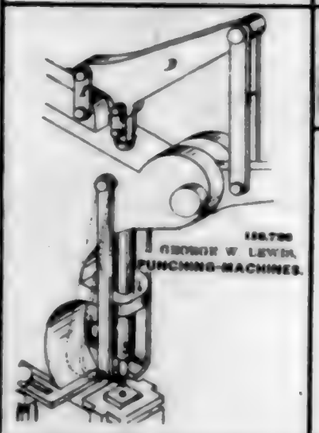
116724 GEORGE J. LEVINGSTON, NAILS.



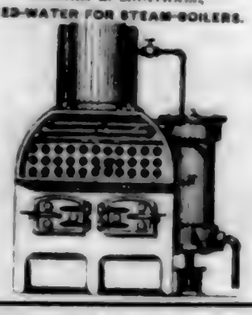
116725 JAMES A. LAWSON, HOT-AIR FURNACES.



116726 GEORGE W. LEWIS, PUNCHING-MACHINES.



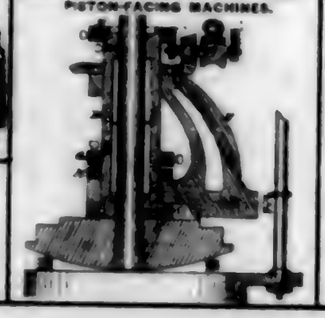
116727 WILLIAM A. LIGHTHALL, FEED-WATER FOR STEAM-BOILERS.



116728 WILLIAM A. LIGHTHALL, SURFACE-CONDENSERS.



116729 LOWERRE AND SANDERSON PISTON-FACING MACHINES.



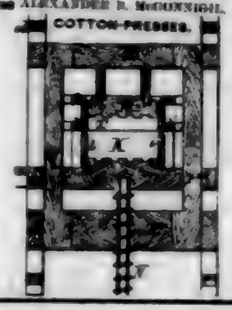
116730 JAMES I. METTLER, HAIR-CURLERS.



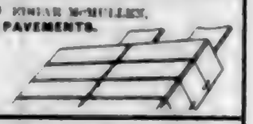
116731 JACOB McCLURE, KNIFE AND PENCIL-SHARPENERS.



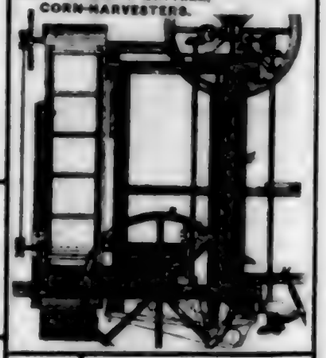
116732 ALEXANDER B. McDONNELL, COTTON-PRESSES.



116733 EDGAR McCULLEY, WOOD PAVEMENTS.



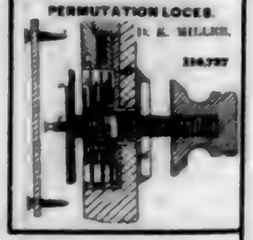
116734 JAMES I. METTLER, CORN-HARVESTERS.



PERMUTATION LOCKS.

D. E. MILLER,

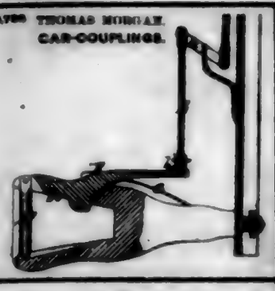
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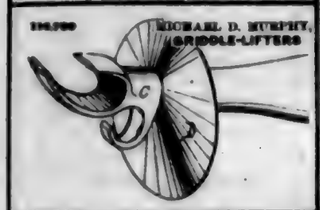
116738 PHILIP MINEAR, WEEDING-TOOLS.



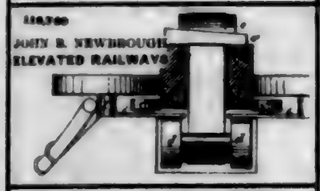
116739 THOMAS MORGAN, CAR-COUPLINGS.



116740 MICHAEL D. MURPHY, GRIDDLE-LIFTERS



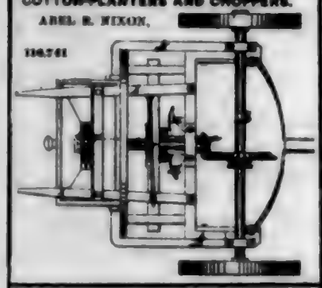
116741 JOHN B. NEWBROUGH, ELEVATED RAILWAYS.



COTTON-PLANTERS AND CHOPPERS.

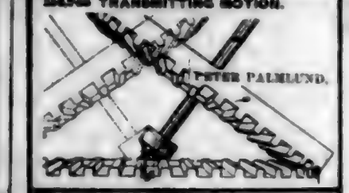
ABEL B. NIXON,

116742



116743 TRANSMITTING MOTION.

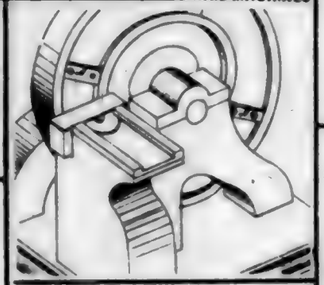
PETER PALMLUND.



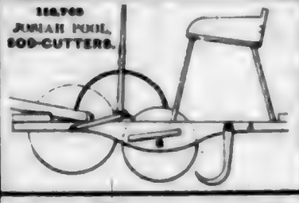
116744 FRANCIS W. PARSONS, SLEEPING-CARS.



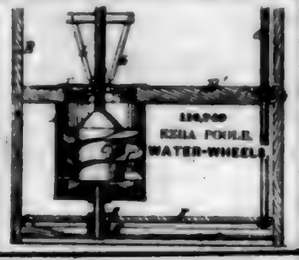
116745 PAULL AND MORGAN, NAIL-MACHINES



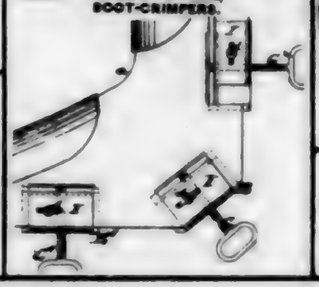
116746 JONAH POOL, SOD-CUTTERS.



116747 ELIJA POOLE, WATER-WHEELS.



116748 ELCANAH POWELL, BOOT-CRIMPERS.



116749 GEORGE OTTO AND GEORGE W. BAUER, BOTTLE-FASTENERS.



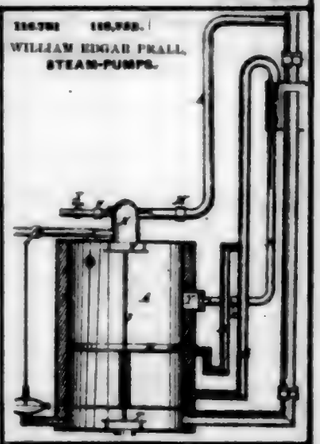
116750 AMOS OVATT, MOUSE-TRAPS.



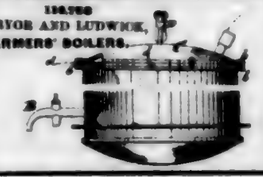
116751 HENRY F. PACKARD, HANDS FOR BOOTS AND SHOES.



116752 WILLIAM EDGAR PRALL, STEAM-PUMPS.



116753 PRYOR AND LUDWICK, FARMERS' BOILERS.



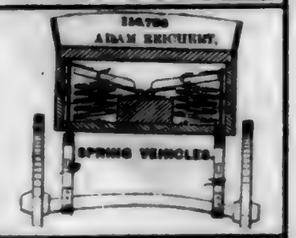
116754 ROBERT RAMSEY, RAILWAY GATES.



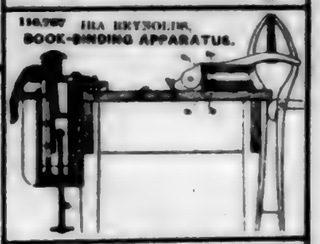
116755 JOSHUA W. RAPPLEYE, WIRE FENCES.



116756 ADAM RINCHART, SPRING VEHICLES.



116757 IRA REYNOLDS, BOOK-BINDING APPARATUS.



116758 RICHARDSON AND HACKER, REVERSIBLE BOOT-HEELS.



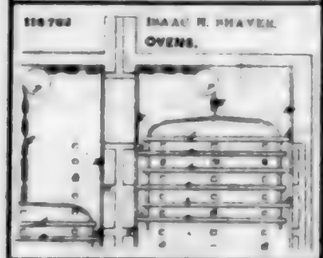
116,760 CHARLES M. WHITE. TRAVELING-BAGS, &c.



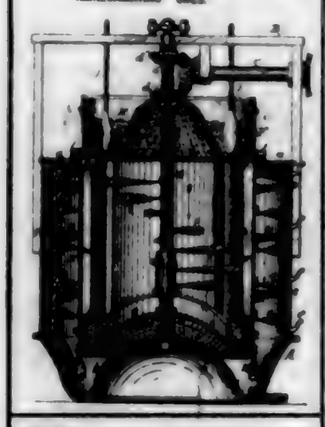
116,761 JEROME B. HEYER. BINDING-GUIDES



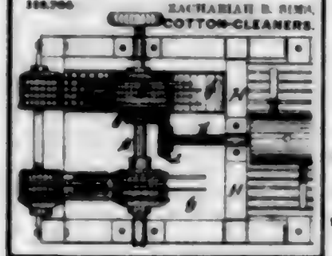
116,762 ISAAC H. HAVEN. OVENS.



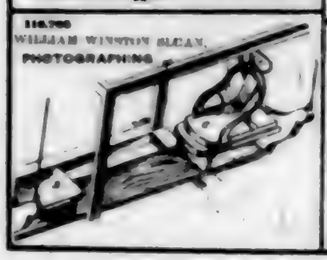
116,763 WILLIAM CROWTHER SHAW. ABALSAMATING ORES.



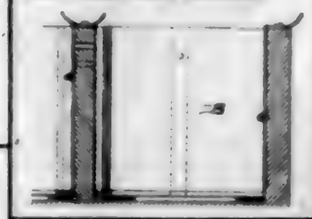
116,764 ZACHARIAH B. SIMS. COTTON-CLEANERS.



116,765 WILLIAM WINSTON SLOAN. PHOTOGRAPHING.



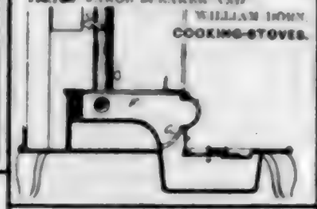
116,766 NOAH SMITH. TAN-VATS.



116,767 OSBEN MARK SMITH. UMBRELLA-RUNNERS



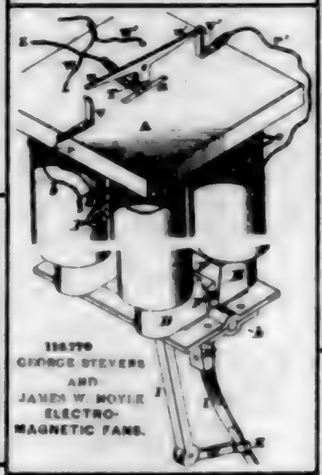
116,768 JACOB SPEAKER AND WILLIAM HORN. COOKING-STOVES.



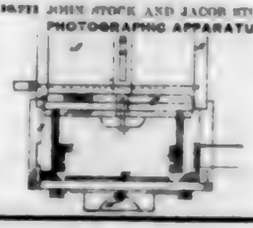
116,769 GEORGE STRAGUE. HOISTING APPARATUS.



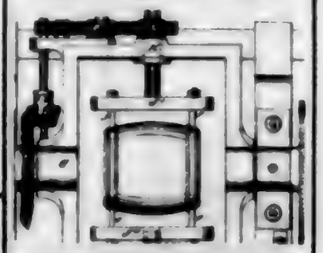
116,770 GEORGE STEVENS AND JAMES W. HOYLE. ELECTRO-MAGNETIC FANS.



116,771 JOHN STOCK AND JACOB STOCK. PHOTOGRAPHING APPARATUS.



116,772 BENJAMIN J. STUKENBORG. DISTRIBUTING PITCH IN BARRELS



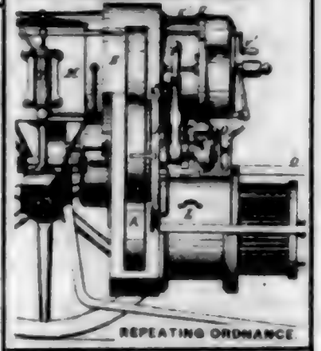
116,773 METCALF B. SUMNER. HUMMING TOYS.



116,774 ANTHONY B. SWEETLAND. RAILROAD-CAR VENTILATORS.



116,775 JAMES PATTON TAYLOR. REPEATING ORDNANCE



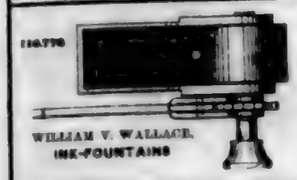
116,776 JAMES J. THOMPSON. CULTIVATORS.



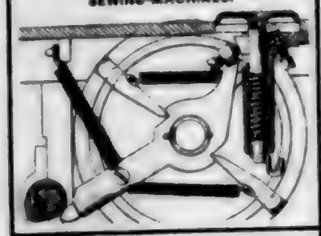
116,777 THOMAS JEFFERSON TRAPP. BAG-HOLDERS.



116,778 WILLIAM V. WALLACE. INK-FOUNTAINS



116,779 ELLIOTT P. WEST SEWING-MACHINES.



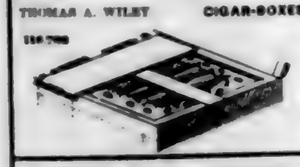
GEORGE WETZLER. DINNER-PAILS. 116,780



ALONZO WHITCOMB. COPYING-PRESSES. 116,781



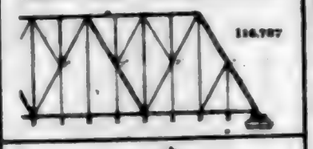
116,782 THOMAS A. WILEY CIGAR-BOXES.



116,783 WILLCOX, AND CARLETON. SEWING-MACHINES.



116,784 ALBERT FINK. BRIDGE-TRUSSES.



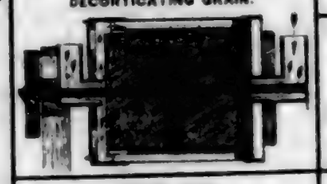
116,785 GEORGE WOODS. SADDLE-TREES.



116,786 WILLIAM M. BRUTON. OPERATING FANS.



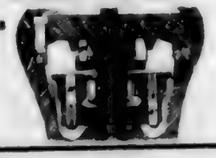
4,451 WILSON AGER. DECORTICATING GRAIN.



4,452 WILSON AGER. DECORTICATING GRAIN.



4,453 DAVID N. B. COFFIN, JR. CAPSTANS AND WINDLASSES.



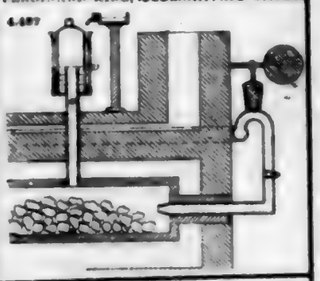
4,454 ISAAC A. DUNHAM. EDGE-PLANES



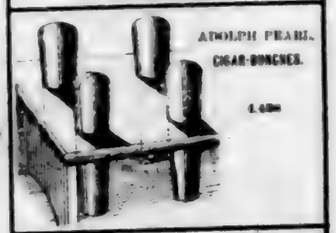
4,455 FINK, CLARK, AND FLAGG. DRAWERS.



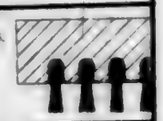
4,456 FERDINAND KING. ILLUMINATING-GASES.



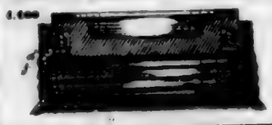
4,457 ADOLPH PEARL. CIGAR-BUNCHES.



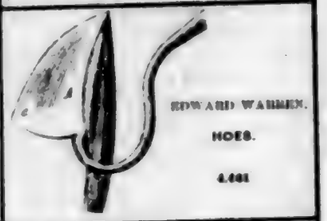
4,458 CHARLES D. HIGGINS. BRUSH-STOCKS.



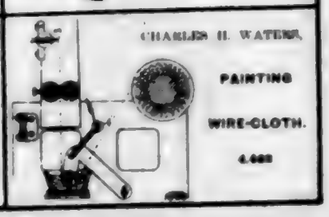
4,459 HENRY K. SHAFFER. FRUIT-JARS.



4,460 EDWARD WARREN. HOES.



4,461 CHARLES H. WATERS. PAINTING WIRE-CLOTH.



ILLUSTRATIONS OF PATENTS

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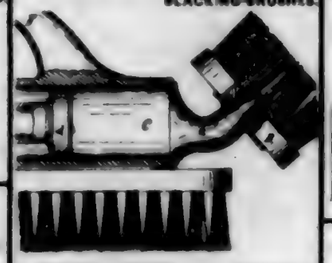
THE UNITED STATES PATENT OFFICE

JULY 11, 1871.

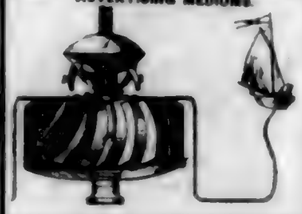
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116,792 BENJAMIN FRANKLIN AVERILL, BLACKING-BRUSHES.



116,793 JACKSON OGDEN BELKNAP, ADVERTISING MEDIUMS.



116,795 KING P. ALLEN, HUB-CENTERING MACHINES.



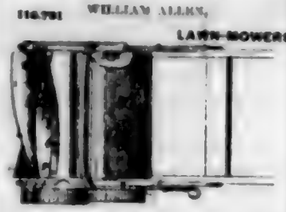
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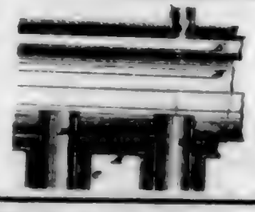
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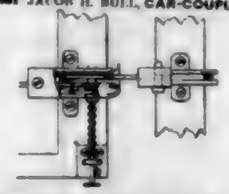
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116,798 GEORGE A. BARNARD, STEAM-GENERATORS.



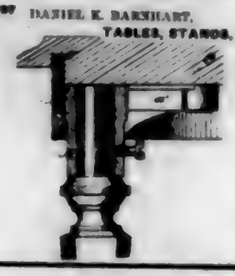
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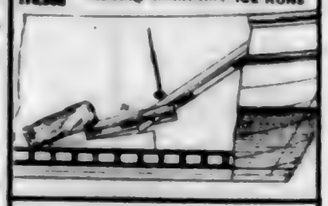
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116,797 DANIEL K. BARNHART, TABLES, STANDS, &c.



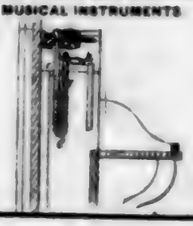
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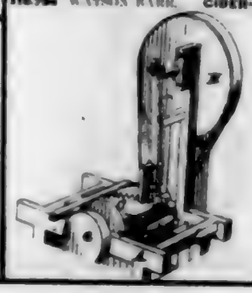
116,802 FRANCIS G. BUTLER, EVAPORATING APPARATUS.



116,803 THOMAS ATKINS AND HENRY DREWER, MUSICAL INSTRUMENTS.



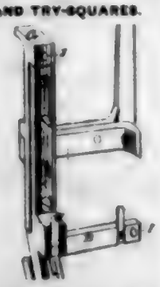
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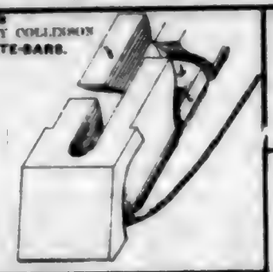
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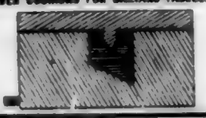
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116,806 HENRY COLLINSON, GRATE-BARS.



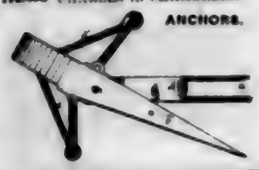
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116,808 THOMSON DRAPER, OIL-PUMP VALVES.



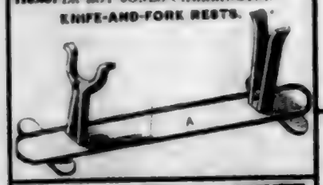
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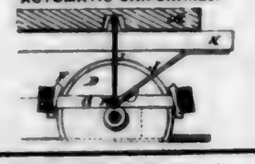
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116,811 LE LOY JONES CHERRINGTON, KNIFE-AND-FORK RESTS.



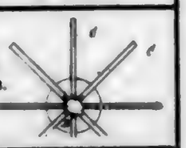
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116,813 HENRY W. ECKILDSON, CARPET-PROTECTORS.



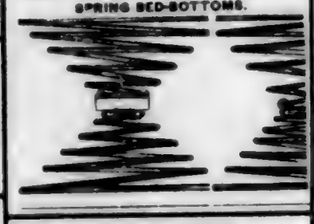
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116,815 PARIS CHILDS, OIL-CANS.



116,816 DRIAS V. CHANDALL, SPRING BED-BOTTOMS.



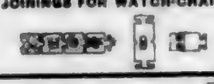
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116,818 JOHN C. COCHRAN, SEWING-MACHINE TABLES.



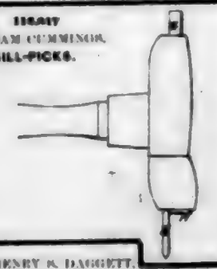
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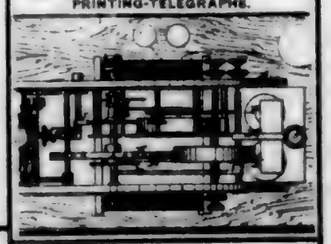
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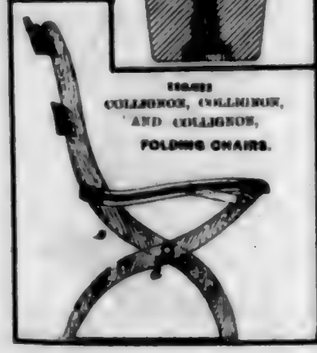
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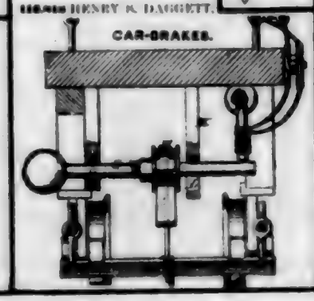
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116,823 COLLINSON, COLLINSON, AND COLLINSON, FOLDING CHAIRS.



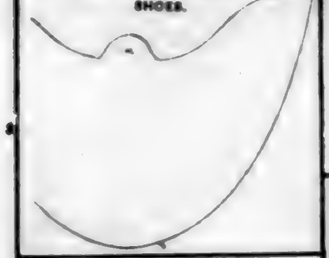
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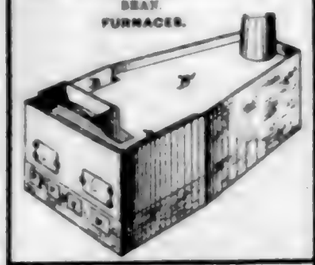
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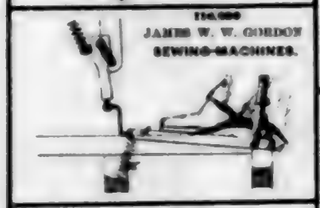
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116,829 GOODSELL, GOODSELL, AND BEAN. FURNACES.



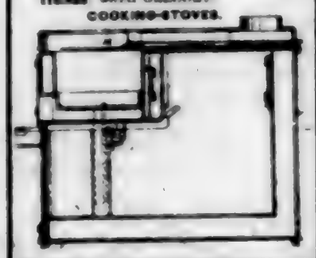
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116,831 WILLIAM GREEN, RAILWAY-SIGNAL APPARATUS.



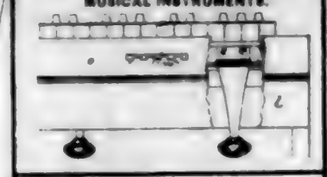
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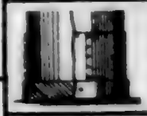
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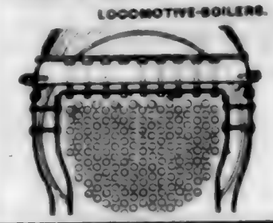
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116,835 EZRA HANKELL, CANS FOR ROVING.



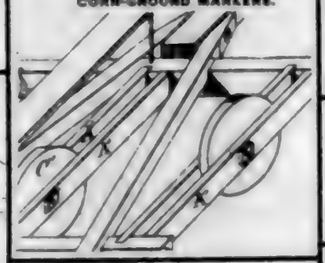
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116,837 DANIEL KELLY, BORING-BITS.



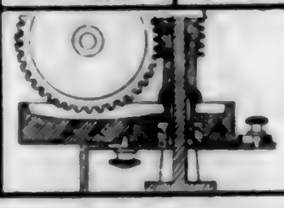
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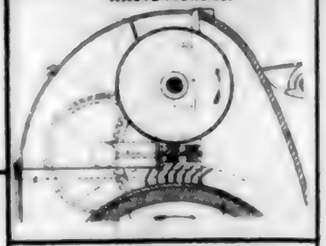
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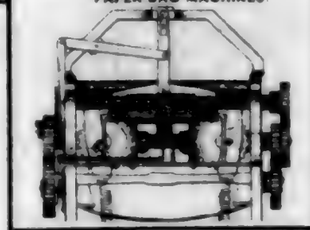
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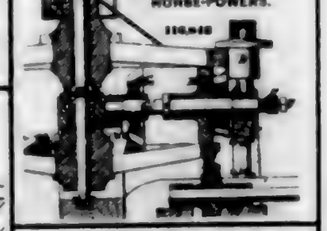
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116,842 MARGARETT E. KNIGHT, PAPER-BAG MACHINES.



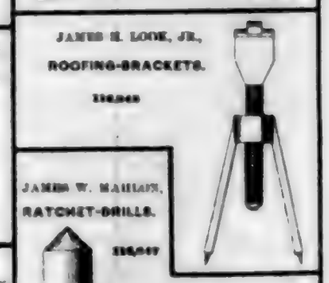
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116,844 JOHN LIMING, BUTTER-KETTLES.



116,845 JAMES H. LOOK, JR., ROOFING-BRACKETS.



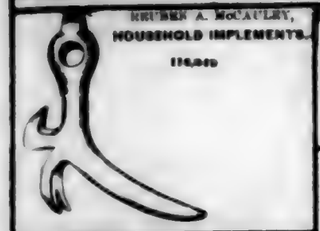
116,846 JAMES W. MAHLON, RATCHET-DRILLS.



116,847 JOSEPH P. MANTON, ATTACHMENTS FOR RATLINS.



116,849 REUBEN A. McCAULEY, HOUSEHOLD IMPLEMENTS.



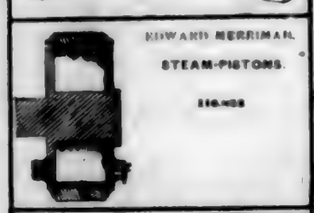
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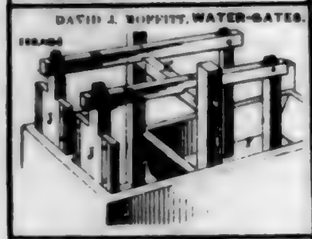
116,851 ALONZO D. McMASTER, HINGES FOR GATES, &c.



116,852 EDWARD MERRIMAN, STEAM-PISTONS.



116,853 DAVID J. MOFFITT, WATER-GATES.



116,854 OMAR F. MOSHIER CHURNS.



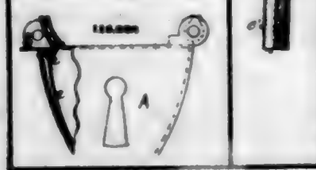
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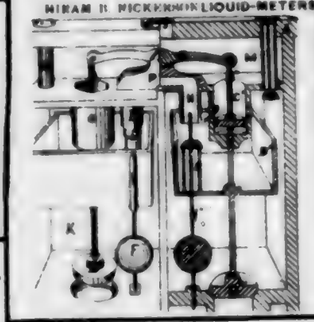
116,856 JOHN M. MURPHY, PRINTERS' GALLEY-RESTS.



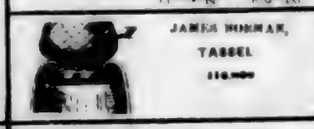
116,857 DANIEL P. MYERS, WATCH-CHAIN FASTENINGS.



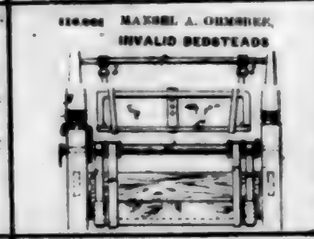
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116,859 JAMES NORMAN, TASSEL



116,860 SAMUEL A. OSMUN, INVALID BEDSTEADS



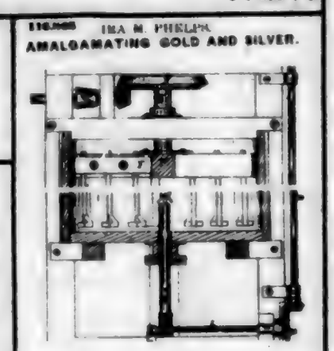
116,861 GEORGE W. PRICE, BRACKETS.



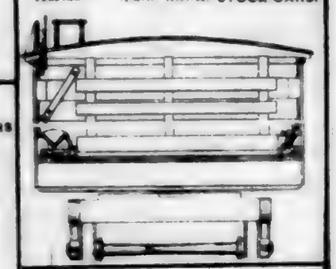
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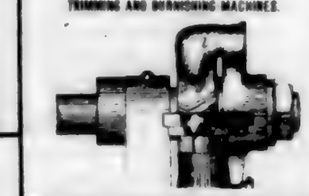
116,863 IRA M. PHELPS, AMALGAMATING GOLD AND SILVER.



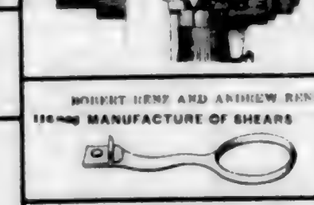
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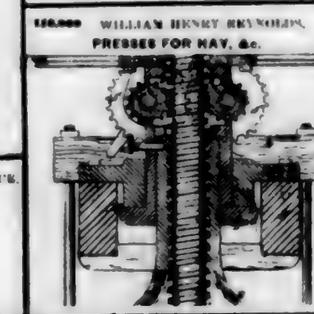
116,865 TIMOTHY K. REED, TRIMMING AND BURNISHING MACHINES.



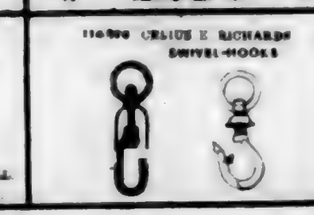
116,866 ROBERT RENZ AND ANDREW RENZ MANUFACTURE OF SHEARS



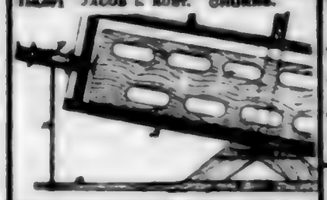
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116,868 CELIUS E. RICHARDS SWIVEL-HOOKS



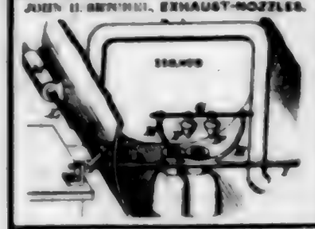
116871 JACOB L. BUSY. CHURNS.



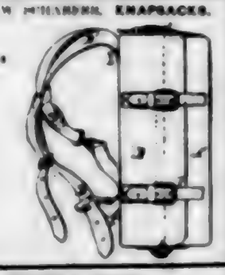
FRANÇOIS HEIN, BOOTS AND SHOES. 116,873



JOHN H. BRUNDI. EXHAUST-NOZZLES.



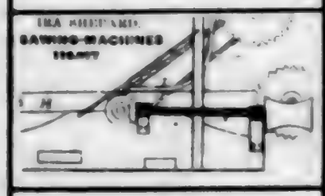
CHARLES W. [illegible]. KNAPSACKS. 116,874



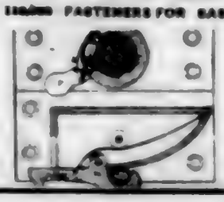
GEORGE V. SHEFFIELD. SUBMARINE EXCAVATORS. 116,876



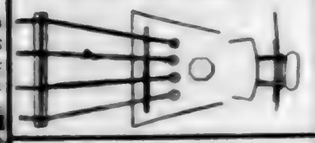
IRA SHEPARD. SAWING-MACHINES. 116,877



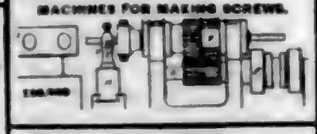
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THOMAS STEBBINS. FLIERS FOR SPINNING, &c. 116,882

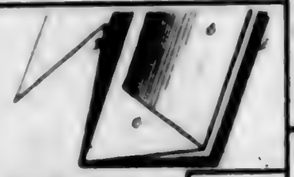


G. C. STILLSON. LADIES' ELASTIC SUPPORTERS. 116,883

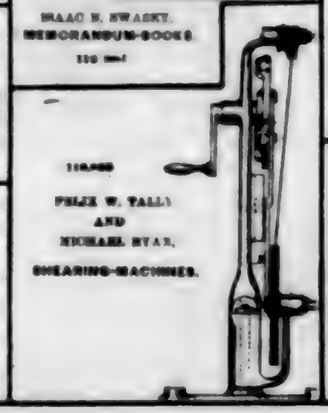
WILLIAM H. STOUT. WELL-AUGERS. 116,884



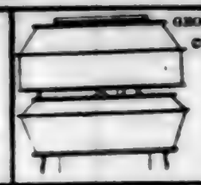
ISAAC H. SWAKEY. MEMORANDUM-BOOKS. 116,885



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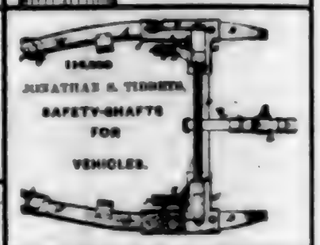
GEORGE G. THOMAS. CHIMNEY-COWLS. 116,887



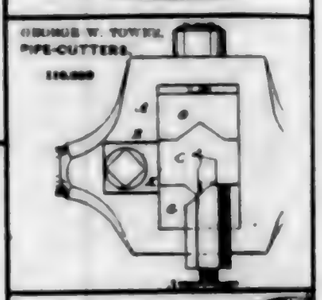
JOSEPH TRUMBULL. POST-HOLE DIGGERS. 116,888



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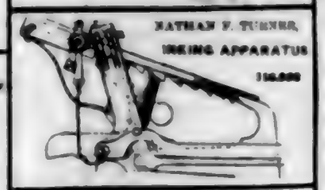
GEORGE W. TOWER. PIPE-CUTTERS. 116,890



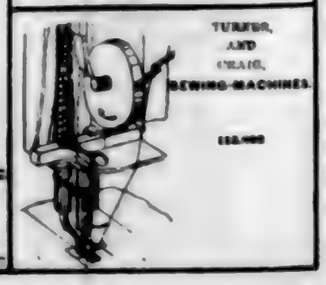
MORTON TOWER. CAR BASKET-RACKS. 116,891



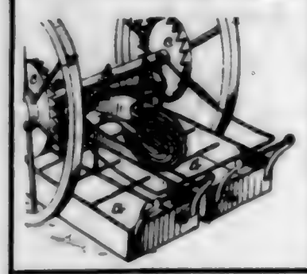
NATHAN F. TURNER. SEWING APPARATUS 116,892



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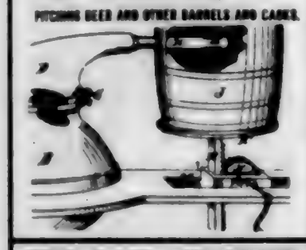
116894 JOHN B. TURNEY. POTATO-BUG DESTROYERS.



CORNELIOUS B. VERONEE. RECTUM-BATHING APPARATUS. 116,895



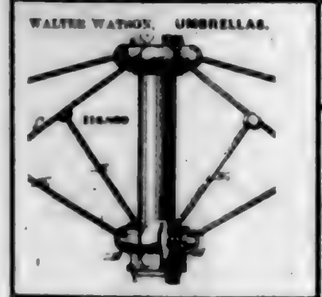
WILLIAM VOIT. PITCHING BEER AND OTHER BARRELS AND CASKS. 116,896



EDWARD WARREN. THILL-COUPLINGS. 116,897



WALTER WATSON. UMBRELLAS. 116,898



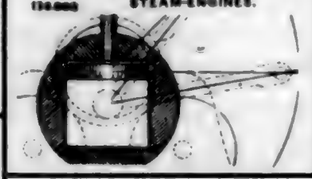
BENJAMIN WEBSTER. STOVE-PIPE DRUMS. 116,899



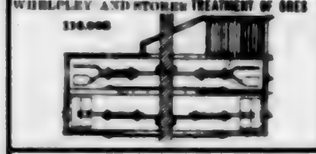
ARA WHEELER. GAUGES FOR COUNTERSINKS. 116,900



JAMES DAVENPORT WHEELEY. STEAM-ENGINES. 116,901



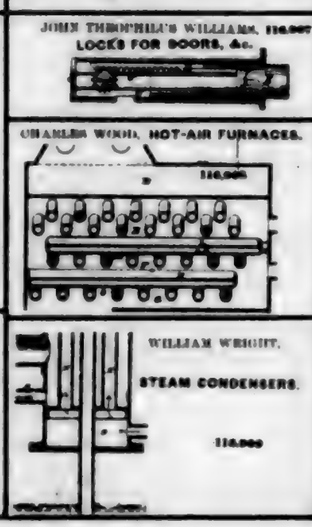
WHEELEY AND STORER. TREATMENT OF ORES 116,902



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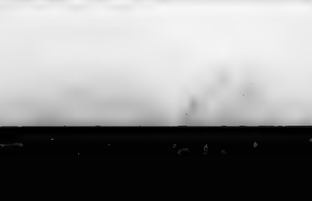
JOHN WILDER. COOKING-STOVES. 116,904



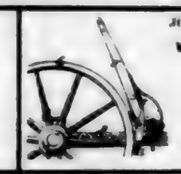
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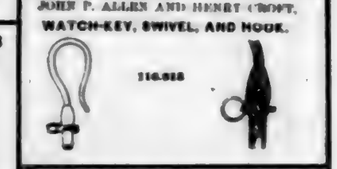
JOSEPH J. ALGATE. WAGON-BRAKES. 116,910



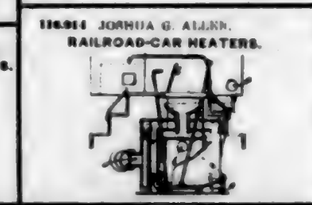
JOHN AIT. TWINE-HOLDERS. 116,911



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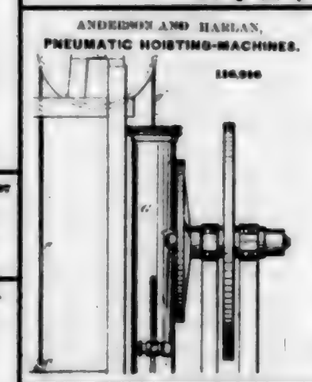
116,914 JOSHUA G. ALLEN. RAILROAD-CAR HEATERS.



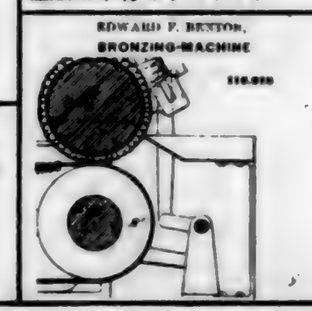
116,915 GEORGE F. ALMY. SPOKE-SAWING MACHINES.



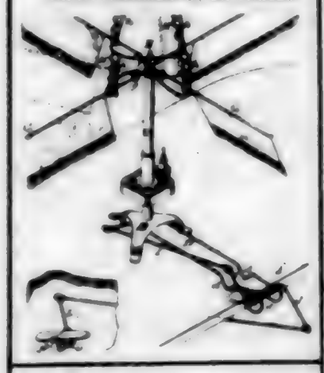
ANDERSON AND HARLAN. PNEUMATIC HOISTING-MACHINES. 116,916



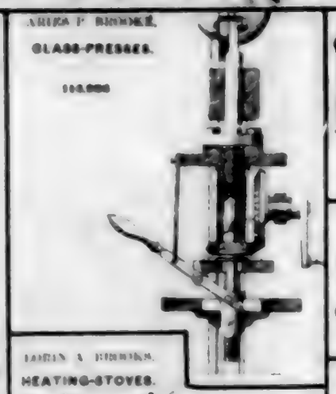
EDWARD F. BENTON. BRONZING-MACHINE 116,917



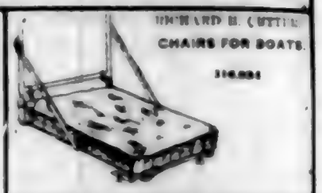
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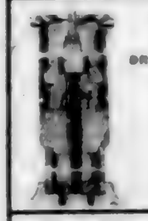
RICHARD H. CUTTER
CHAIRS FOR BOATS.
116.921



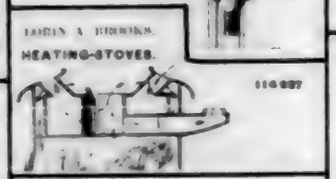
CHARLES T. DAY.
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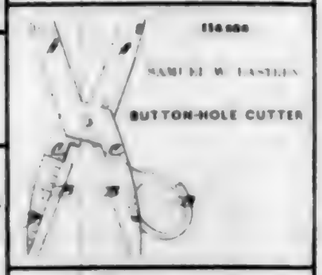
HIRAM DISKEY
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LORIN A. DIBBINS.
HEATING-STOVES.
116.927



SAMUEL W. EASTLEY
BUTTON-HOLE CUTTER
116.928



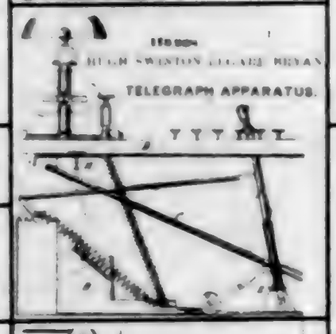
LYMAN R. BLAKE
CHANNELING SOLES
116.931
FOR BOOTS



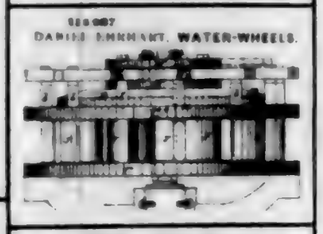
EDWARD C. BLAKESLEE.
THREADING SHEET-METAL SCREWS.
116.933



HUGH SWINTON LEGARE HEYAN
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116.934



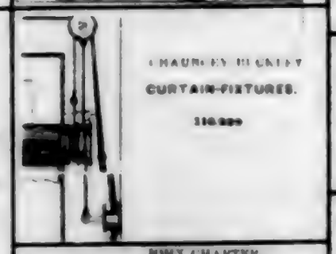
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R. A. HESTWICK
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CHAUNCEY HICKLEY
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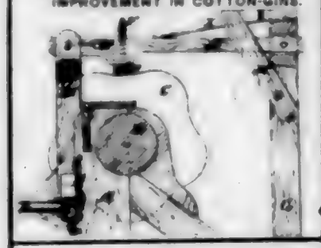
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INDIA-RUBBER SHOES.
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JOSEPH F. EMMERT. SHAFT-COUPLINGS
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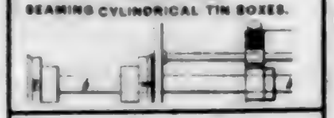
WILLIAM F. HOWEN
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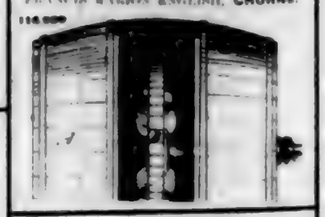
JOHN CHARTER.
MOLDING CIGARS.
116.930



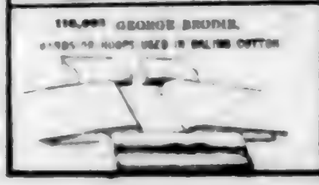
JONATHAN COOK.
SEAMING CYLINDRICAL TIN BOXES.
116.931



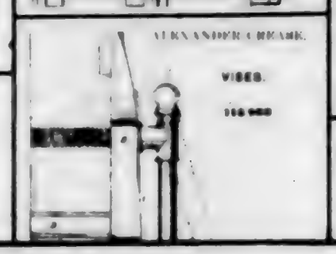
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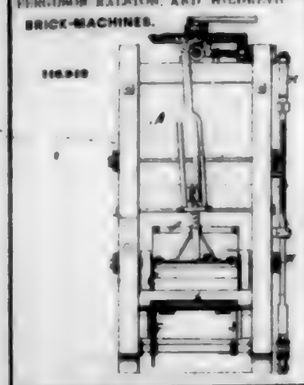
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VISES.
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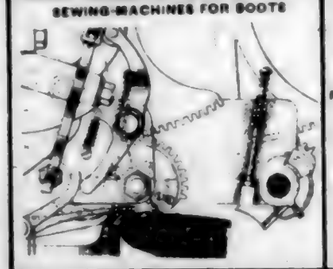
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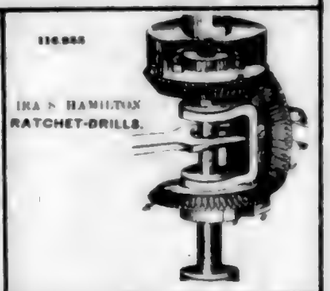
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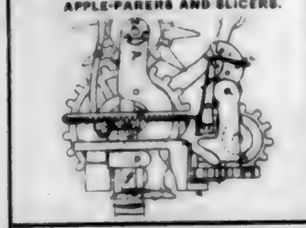
CHARLES GOODYEAR, JR
SEWING-MACHINES FOR BOOTS
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IRA S. HAMILTON
RATCHET-DRILLS.
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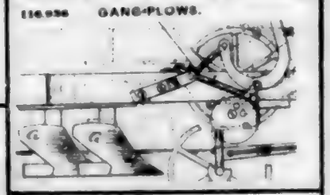
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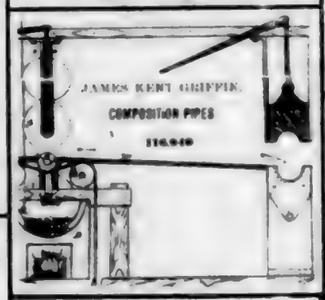
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PAPER COLLARS.
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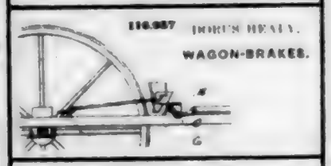
WILLIAM HAY AND THOMAS G. FREEMAN.
GANG-PLOWS.
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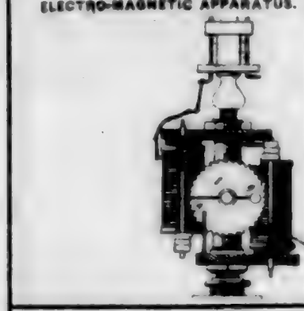
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COMPOSITION PIPES
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DORUS HEALY.
WAGON-BRAKES.
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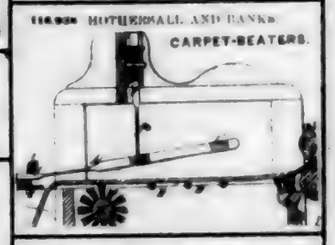
SAMUEL GARDINER.
ELECTRO-MAGNETIC APPARATUS.
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LOUIS A. GRILL.
BILLIARD-TABLES.
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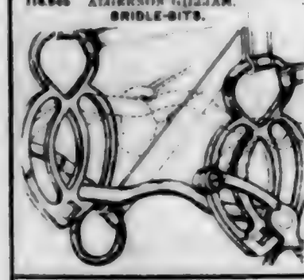
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CARPET-BEATERS.
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LOUIS A. GRILL.
BEDS OF BILLIARD AND OTHER TABLES
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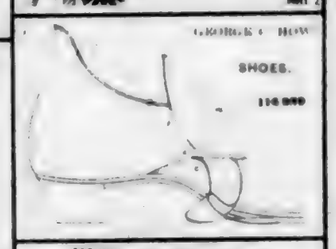
ALGERNON GILLIAM.
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HENRY GROGAN
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GEORGE C. HOW
SHOES.
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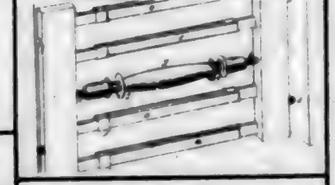
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HARNESS-SADDLES.
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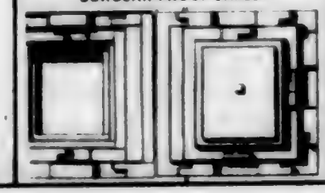
JOHN W. HAINES.
REFLECTORS FOR LAMPS.
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EUGENE HOWARD.
CHILDREN'S NURSERY-GATES.
116.960



EDWARD K. HALL.
BURGLAR-PROOF SAFES.
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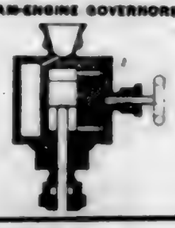
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116.968 ALBERT I. IDE,
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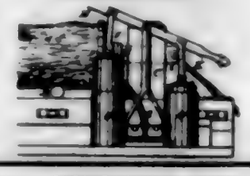
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116.970 JOHN HENRY JENNINGS,
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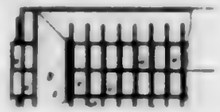
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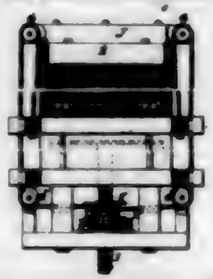
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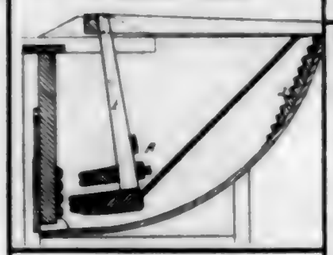
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116.974 DAVID KNOWLES,
HAY AND COTTON-PRESSES.



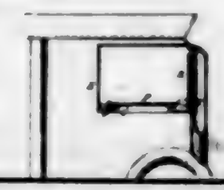
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116.976 JAMES M. LANE,
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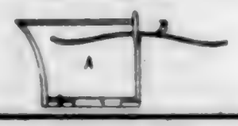
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116.978 OSCAR D. MAINE,
PADLOCKS.



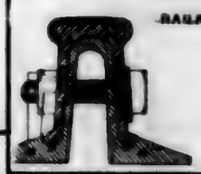
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116.980 ISAAC MAYFIELD,
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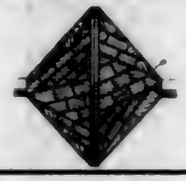
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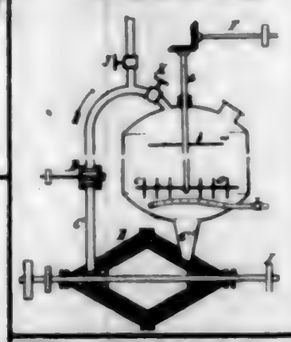
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PADLOCKS.



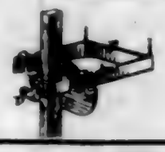
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PAPER-PULP ENGINES.



116.984 HARRISON D. MERCH,
MANUFACTURE OF PAPER-PULP.



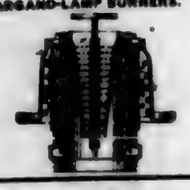
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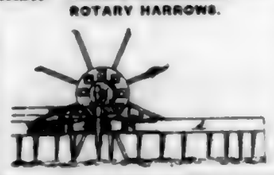
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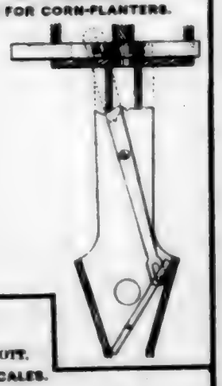
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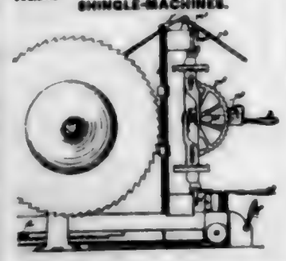
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ROTARY HARROWS.



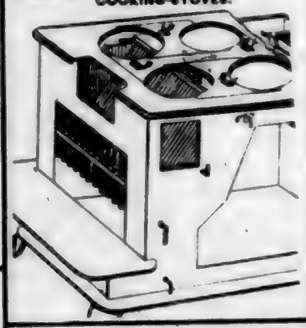
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SEED-TUBES FOR CORN-PLANTERS.



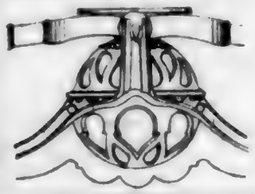
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116.991 ALBERT J. REDWAY,
COOKING-STOVES.



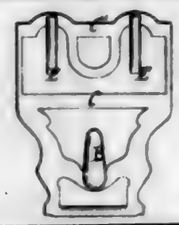
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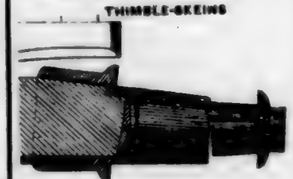
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116.994 SAMUEL REYNOLDS,
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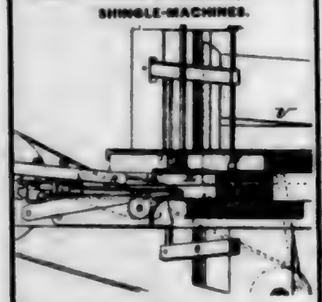
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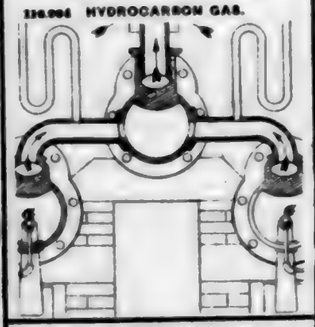
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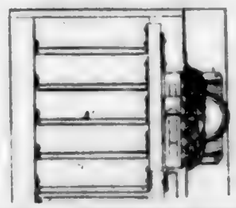
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SHINGLE-MACHINES.



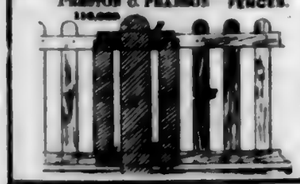
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117.001 SHELBY M. SHERMAN,
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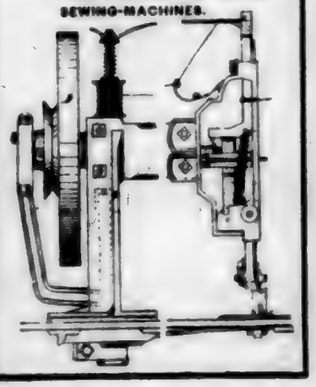
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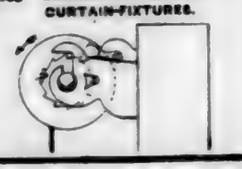
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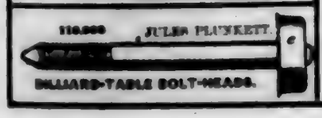
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SEWING-MACHINES.



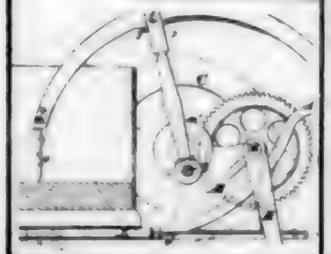
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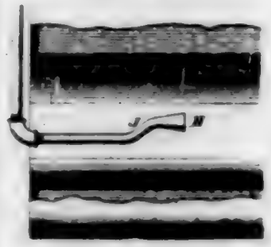
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BILLIARD-TABLE BOLT-HEADS.



117.000 ALBERT R. SILVER.
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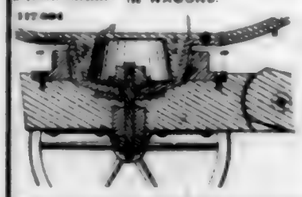
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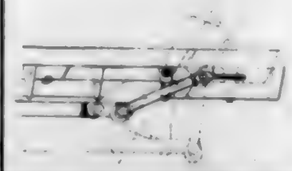
SAMUEL STRICK.
117.013 ICE-SAGS.



JACOB SKEEN. IN WAGONS.
117.004



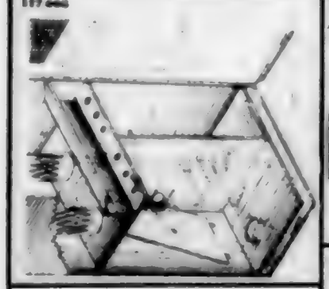
ELIJAH F. STEELE.
117.000 FURNACE-GRATES



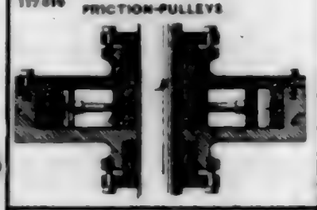
117.014 JEREMIAH L. STEPHENS.
END-GATES FOR WAGONS.



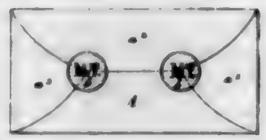
BARTON C. SMITH. ANIMAL-TRAPS.
117.005



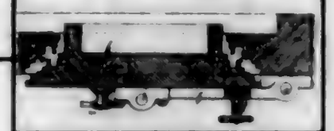
JOSEPH STEERE.
117.010 FRICTION-PULLEYS



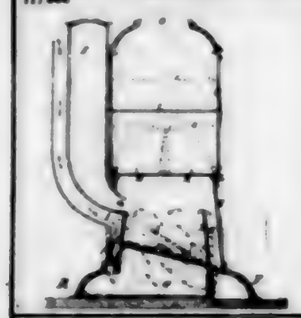
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117.015 ENVELOPES.



117.016 WILLIAM TERWILLIGER.
SAFE-DOORS.



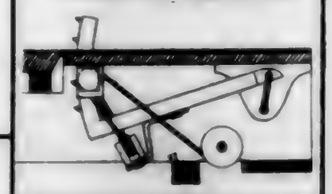
DAVID SMITH. BASE-BURNING STOVES.
117.006



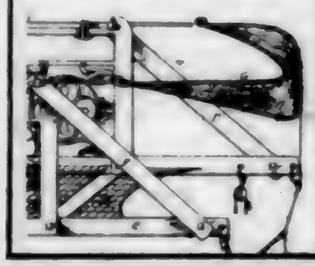
117.011 STENCIL, AND DAVEY.
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JOHN TORBERT.
117.017 MACHINES FOR ROLLING LOGS.



SMITH AND RIEDIGER. FIRE-ESCAPES.
117.007



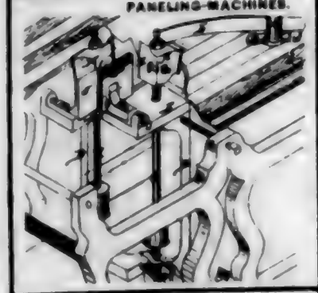
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117.012 KNOCK-DOWN CHAIRS.



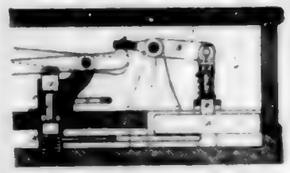
THOMAS JEFFERSON TRAPP.
117.019 DEEP-WELL PUMPS.



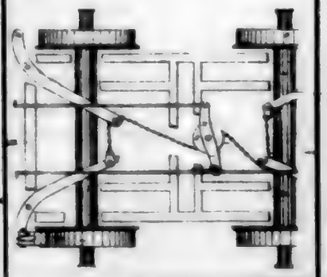
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117.000 PANELING-MACHINES.



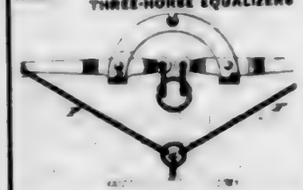
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PNEUMATIC TELEGRAPHS.



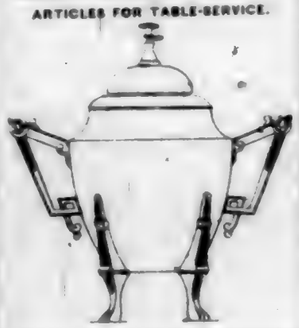
DUNHAM, AND WIDNEY.
4.000 CAR-BRAKES.



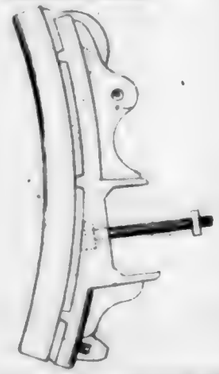
LUTHER WARNER.
117.001 THREE-HORSE EQUALIZERS



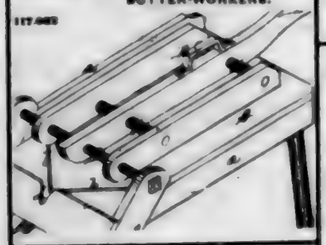
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ARTICLES FOR TABLE-SERVICE.



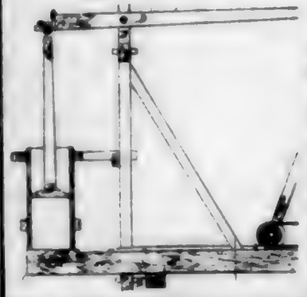
DUNHAM AND WIDNEY. 4.000
CAR-BRAKE SHOES.



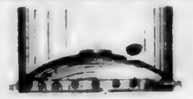
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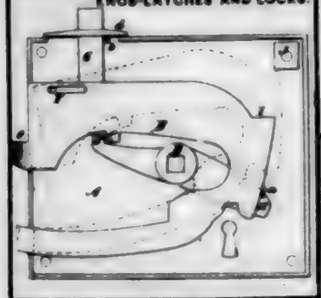
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COTTON-PRESSES.



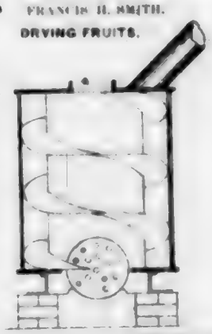
4.007 WILLIAM B. SCAIFE.
BOILERS FOR RANGES, STOVES, &c.



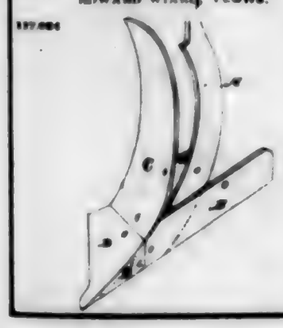
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117.000 KNOB-LATCHES AND LOCKS.



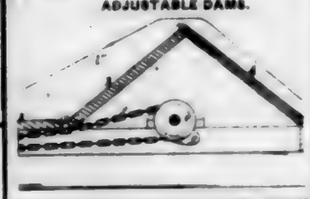
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DRYING FRUITS.



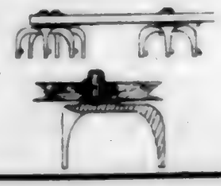
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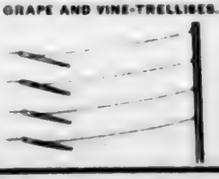
117.000 JOHN A. WOOD.
ADJUSTABLE DAMS.



4.000 JOHN F. CHASE.
HARROW-TEETH.



4.000 THERON G. YEOMANS.
GRAPE AND VINE-TRELLISES.



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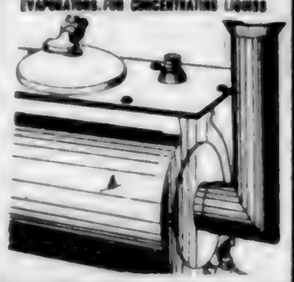
THE UNITED STATES PATENT OFFICE

JULY 18, 1871.

117,029 JUDSON ALLEN. FRUIT-DRIERS.



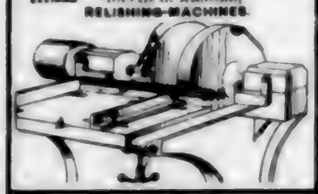
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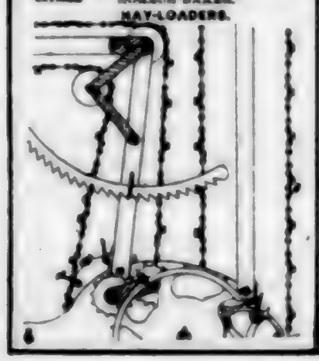
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117,032 DAVID G. ARNOLD. RELISHING-MACHINES.



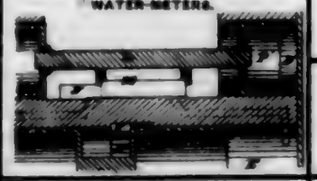
117,033 HORACE BAKER. HAY-LOADERS.



117,034 PHINEAS ORLANDO BALDWIN. CULTIVATORS.



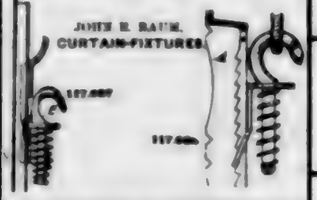
117,035 JOHN S. BARDEN. WATER-METERS.



117,036 BENJAMIN BARROW. SPRING-BEDS.



117,037 JOHN R. BAUM. CURTAIN-FIXTURES.



117,038 JAMES BOLES. STERN-BEARINGS FOR PROPELLERS.



117,039 WILLIAM H. AND PETER BOTT. GRAIN-AND-STRAW SHAKERS.



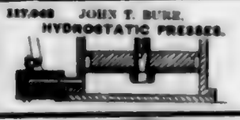
117,040 ORVILLE W. BROCK. CIDER-MILLS AND PRESSES.



117,041 JOSEPH BURKE. WOODEN TRUSS-BRIDGES.



117,042 JOHN T. BURR. HYDROSTATIC PRESSES.



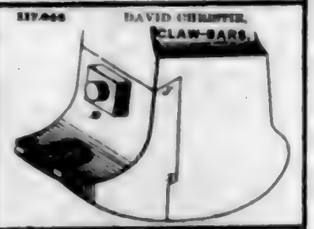
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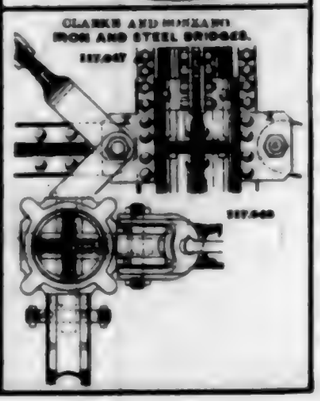
117,044 WILLIAM CHAPMAN. PORTABLE WATER-CLOSETS.



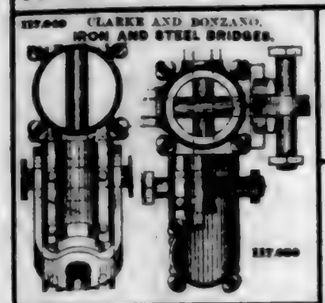
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117,046 CLARKE AND BONZANO. IRON AND STEEL BRIDGES.



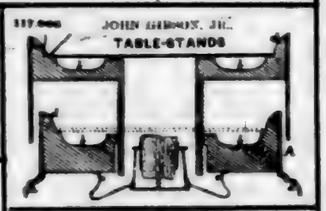
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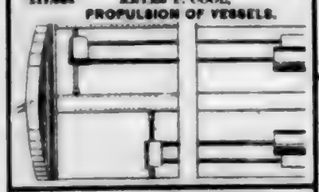
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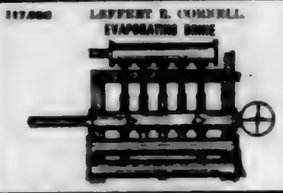
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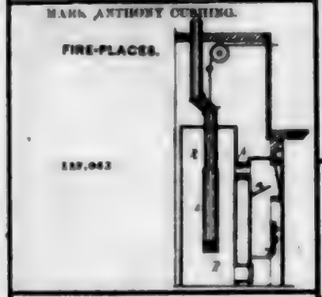
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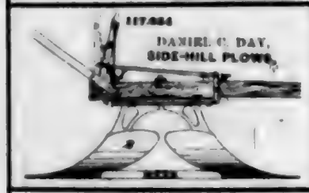
117,050 LEFFERT B. CORNELL. EVAPORATING PANS.



117,051 MARK ANTHONY CURRIER. FIRE-PLACES.



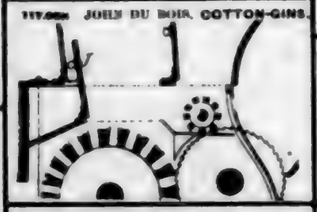
117,052 DANIEL C. DAY. SIDE-HILL PLOWS.



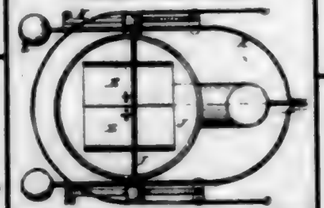
117,053 GEORGE R. DEARDORFF. HARVESTER-PLATFORMS.



117,054 JOHN DU BOIS. COTTON-GINS.



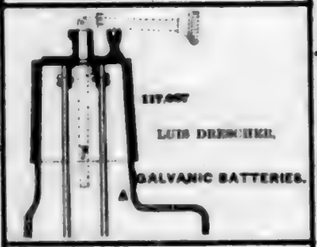
117,055 JULIEN T. EVENS. RAILROAD-CAR STOVES.



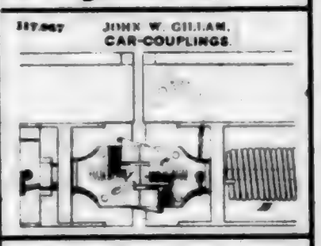
117,056 BENJAMIN F. FIELD. PASTING LINING TO PAPER.



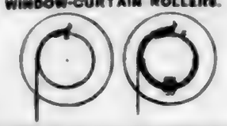
117,057 LUIS DRESCHER. GALVANIC BATTERIES.



117,058 JOHN W. GILLAM. CAR-COUPLINGS.



117,059 WILLIAM GORTON. WINDOW-CURTAIN ROLLERS.



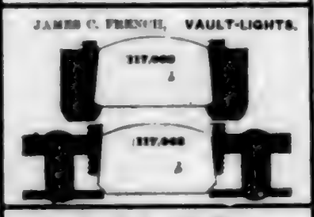
117,060 JOHNSON G. GRISWOLD. SHIRT-STUDS.



117,061 JOHN H. FOSTER. PACKING-BOXES.



117,062 JAMES C. FRENCH. VAULT-LIGHTS.



117,063 EDWARD L. GAYLORD. KEYS FOR PADLOCKS.



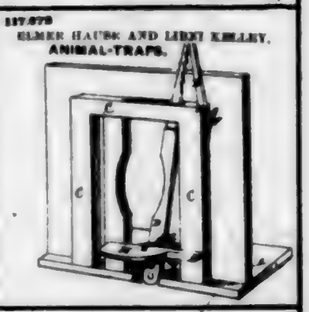
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117,071 THOMAS HANSON. PACKING STEAM-PISTONS.



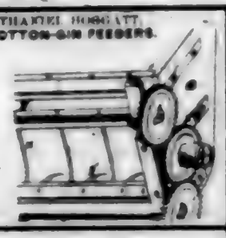
117,072 ELMER HAUSK AND LIBNY KELLEY. ANIMAL-TRAPS.



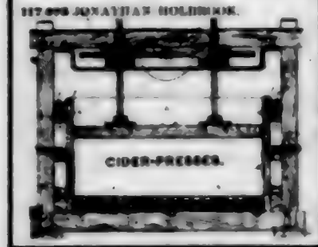
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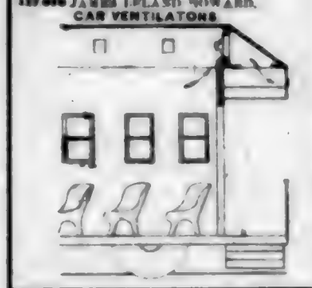
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117.075 JONATHAN HOLBROOK.
CIDER-PRESSES.



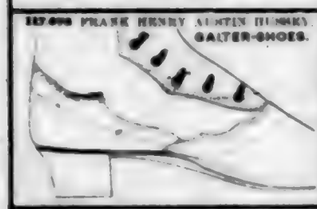
117.076 JAMES LELAND HOWARD.
CAR VENTILATORS.



117.077 LUCIUS HUBBARD.
IRON RIMS FOR WAGON-WHEELS.



117.078 FRANK HENRY AUSTIN HUSSEY.
GALTER-SHOES.



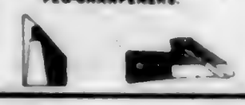
117.079 SAMUEL HUTCHINSON.
HARROWS AND MARKERS.



117.080 WILLARD C. JAMES.
CONSTRUCTION OF DOORS.



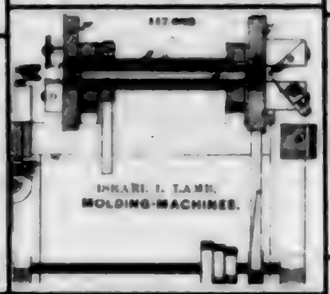
117.081 ANTHONY KEIL.
PEG-SHARPENERS.



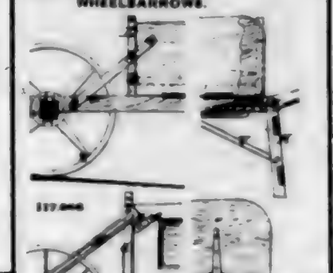
117.082 JOSEPH J. KRAUS.
WOOD-BORING TOOLS.



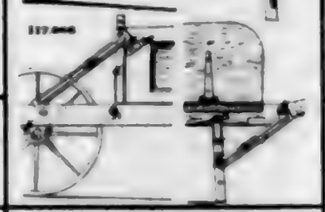
117.083 ISAAC I. LAMB.
MOLDING-MACHINES.



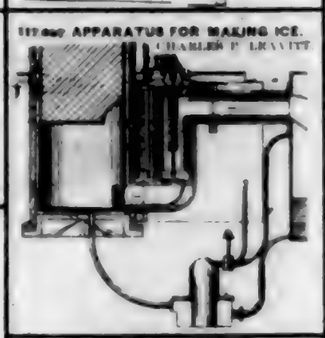
117.084 HARRY LAWRENCE.
WHEELBARROWS.



117.085



117.086 APPARATUS FOR MAKING ICE.
CHARLES P. LEAVITT.

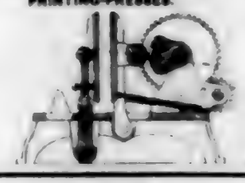


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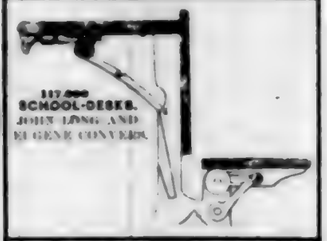


LEE AND BALDWIN.
LOCOMOTIVE HEAD-LIGHTS.

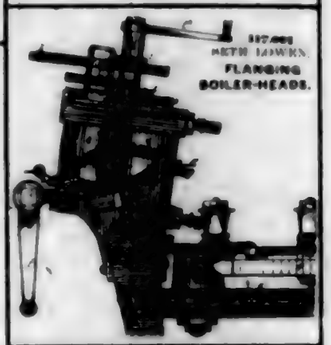
117.088 THOMAS LEAVITT.
PRINTING-PRESSES.



117.089
SCHOOL-DESKS.
JOHN LONG AND EUGENE CONVERS.



117.090 SETH LOWES.
FLANGING BOILER-HEADS.

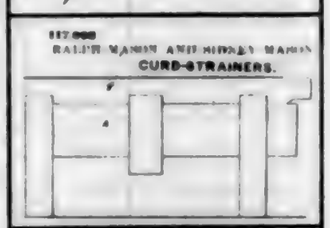


117.091

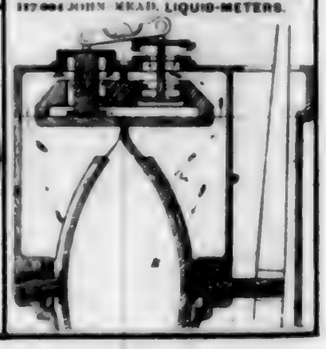


LOWTH AND PORTER.
ATTACHING CULTIVATOR-TEETH

117.092
RALPH MASON AND HIRAM MASON.
CURD-STRAINERS.



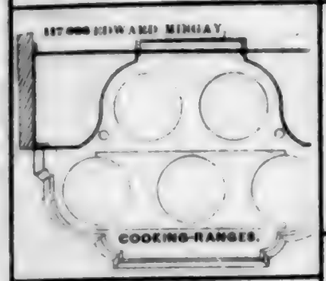
117.093 JOHN MEAD. LIQUID-METERS.



117.095 JAMES MINNIG.
CUTTING OVAL TIN BOTTOMS.

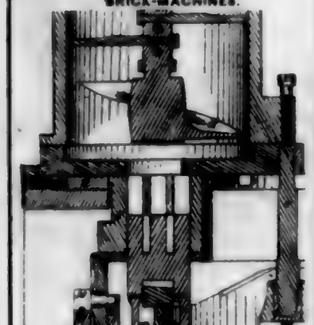


117.096 EDWARD MINGAY.

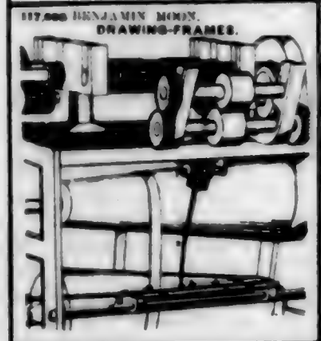


COOKING-RANGES.

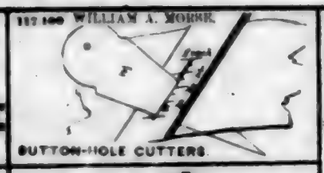
117.097 AUGUSTUS F. MITCHELL.
BRICK-MACHINES.



117.098 BENJAMIN MOON.
DRAWING-FRAMES.

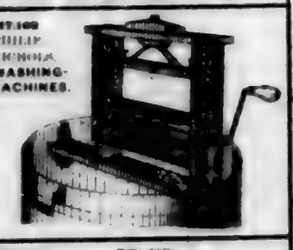


117.099 WILLIAM A. MORSE.

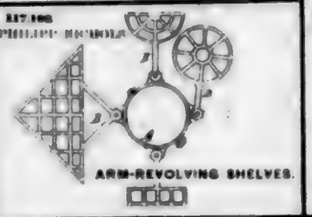


BUTTON-HOLE CUTTERS.

117.100
PHILIP NICHOLS.
WASHING-MACHINES.



117.101
PHILIP NICHOLS.



ARM-REVOLVING SHELVES.

117.102 NELSON G. NORTHUP. ROOFS.

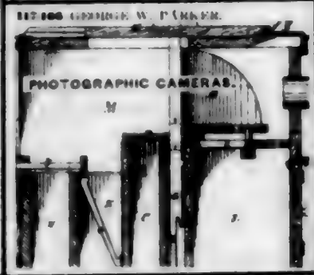


117.103 CHARLES MELSON OHARA.



CORN-SHELLERS.

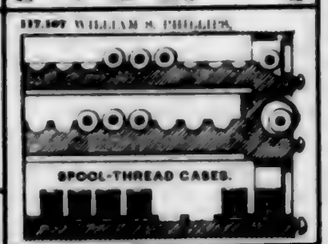
117.104 GEORGE W. PARKER.
PHOTOGRAPHIC CAMERAS.



117.105
GEORGE E. MOORE.
STEAM-TRAPS.

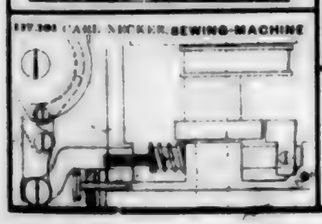


117.106 WILLIAM S. PHILLIPS.

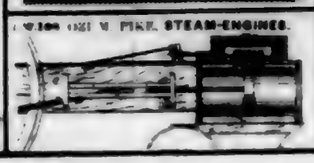


SPOOL-THREAD CASES.

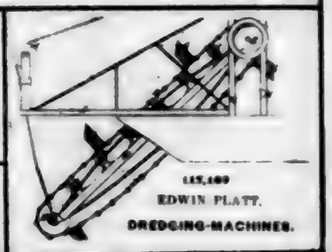
117.107 CARL NICKER. SEWING-MACHINE



117.108 OLIVER W. PIKE. STEAM-ENGINES.



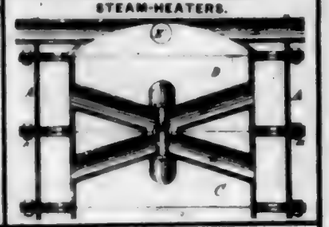
115,109
EDWIN PLATT.
DREDGING-MACHINES.



117.110 TITUS POWERS.
SHEET-METAL KEYS.



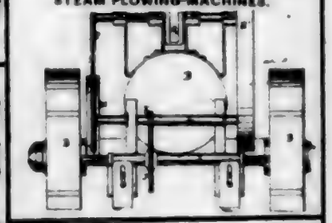
117.111 PUSHEE AND WHEELER.
STEAM-HEATERS.



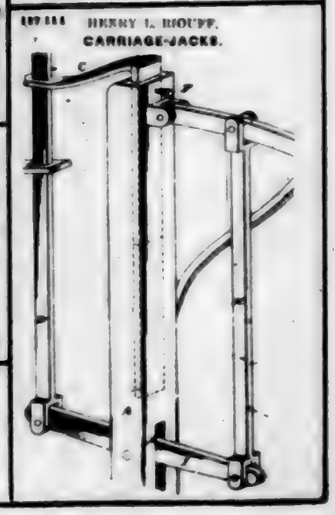
117.112 JOSHUA REDSTER.
COCKS.



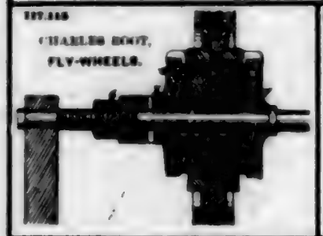
117.113 ZERAH RIDER.
STEAM PLOWING-MACHINES.



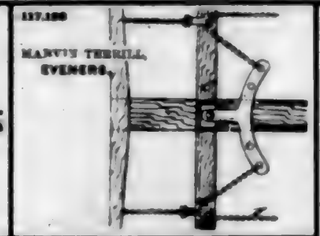
117.114 HENRY L. ROUPP.
CARRIAGE-JACKS.



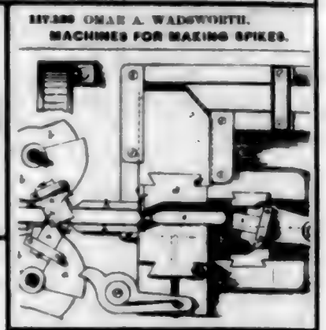
117,115 CHARLES BOUT, FLY-WHEELS.



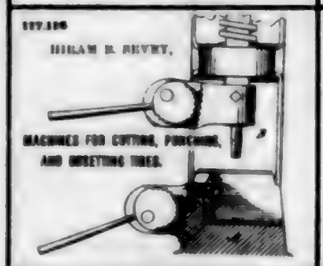
117,116 MARVIN TERRILL, EVENERS.



117,117 OMAR A. WADSWORTH, MACHINES FOR MAKING SPIKES.



117,118 HIRAM B. BEVET, MACHINES FOR CUTTING, PUNCHING, AND INSETTING RIBS.



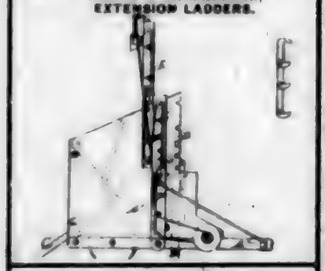
117,119 MARY A. THORNTON, PHOTOGRAPHERS' REFRIGERATORS.



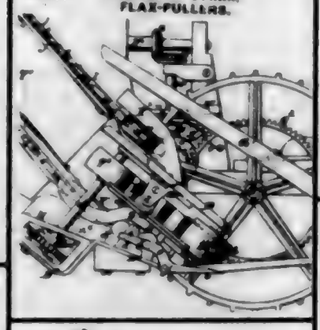
117,120 JOHN WALKER, CHIMNEY-COWLS.



117,121 ELIJAH O. SHEPARDSON, EXTENSION LADDERS.



117,122 SAMUEL W. TYLER, FLAX-PULLERS.



117,123 LEWIS WARD, GRIDDLE-GREASERS.

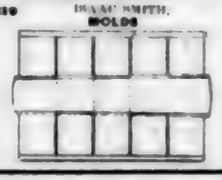


117,124 ROBERT F. WHITE, FIXTURES FOR CHANDELIERS.

117,125 STEPHEN SHELBY, HORSE-COVERS.



117,126 ISAAC SMITH, MOLDS



117,127 MINER VAN ACKER, WASHING-MACHINES.



117,128 GEORGE C. WINCHESTER, CHAIRS.



117,129 EDWARD STEWART, CARD-HOLDERS.

117,130 BUFUS WRIGHT, EASEL PICTURE-FRAMES.



117,131 LEO CHARLY STRAUB, FRUIT-JARS.



117,132 JAMES TAYLOR, WOOD-PULP MACHINES.



117,137 DANIEL VAUGHAN, STEAM-HEATERS.

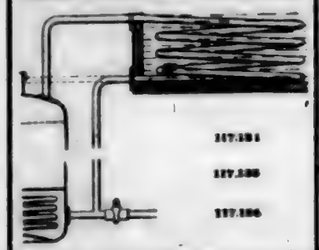


WILLIAM ADAMSON. PAPER-STOCK.

117,134

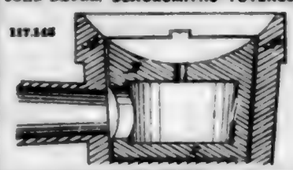
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117,136



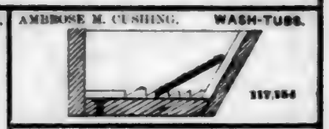
JOHN BAUER. BLACKSMITHS' TUYERES.

117,145



AMBROSE M. CUSHING. WASH-TUBS.

117,154



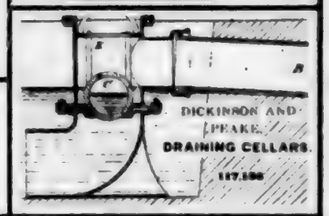
SHELDON S. BERMAN, STANDARDS FOR RAILWAY CARS.

117,146

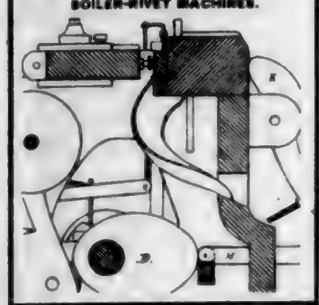


DICKINSON AND PEAKE, DRAINING CELLARS.

117,155

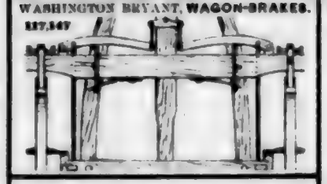


117,137 CHARLES B. ALLEN, BOILER-RIVET MACHINES.

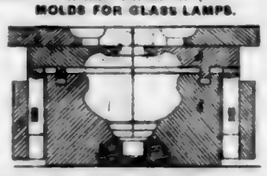


WASHINGTON BRYANT, WAGON-BRAKES.

117,147



117,157 HIRAM DILLAWAY, MOLDS FOR GLASS LAMPS.



ALEXANDER H. QUARYL, MANUFACTURE OF HORSESHOE NAILS

117,140



THOMAS DOLAN, NUBIAS.

117,158



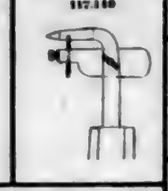
LEONARD ATWOOD, ELEVATORS FOR HODS.

117,133



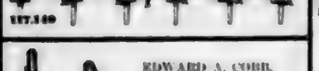
JOSEPH H. ALLEN, WELT-TRIMMERS

117,143



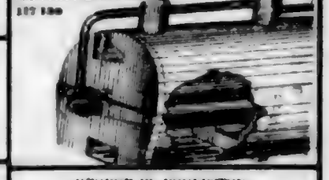
JOSEPH CHELLEW. HARROWS.

117,149



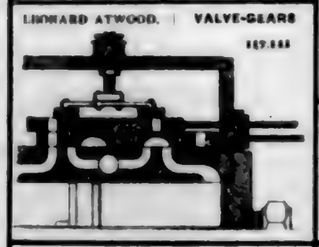
NATHANIEL T. EDSON, ROTARY BOILERS.

117,150



LEONARD ATWOOD. VALVE-GEARS

117,144



EDWARD A. COBB, BUTTONS.

117,156



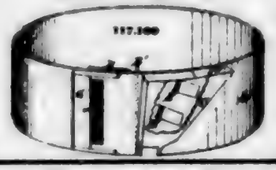
GEORGE P. COLE, COLLAR-PADS.

117,151



GEORGE W. BRIDGETON, MILLSTONE-CURBS.

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JAMES R. BAIRD, WHEELS FOR VEHICLES.

117,148

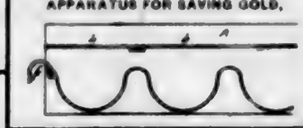


COLTON AND BABCOCK, ATTACHMENTS FOR SEWING-MACHINES.

117,152

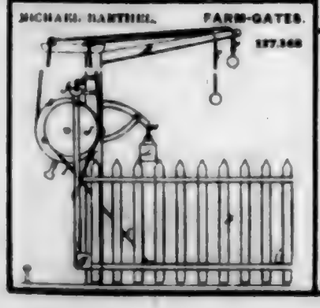


117,159 GEORGE E. EVANS, APPARATUS FOR SAVING GOLD.



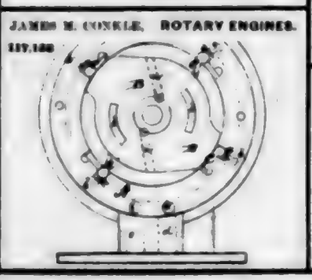
RICHARD BANTHEL. FARM-GATES.

117,142



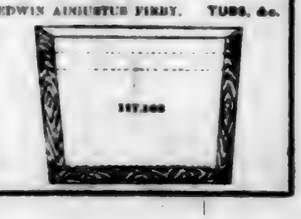
JAMES M. CONKLE. ROTARY ENGINES.

117,153

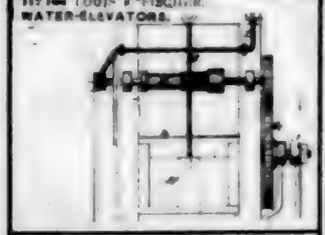


EDWIN AUGUSTUS FIRBY. TUBS, &c.

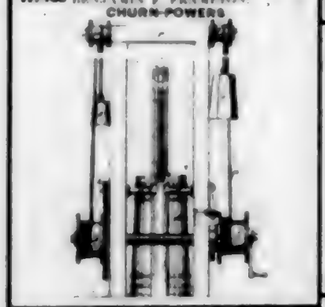
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117,164 LOUIS F. FISCHER.
WATER-ELEVATORS.



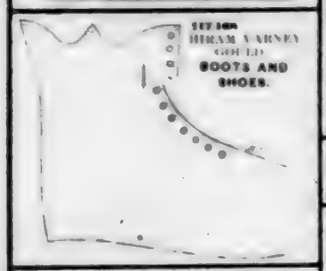
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CHURN-POWERS.



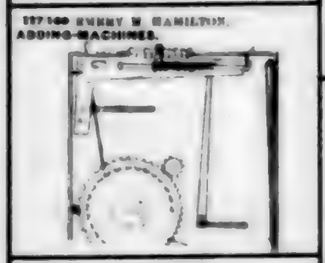
117,166 GIDEON ANDREWS.
SCRUBBING-BRUSHES.



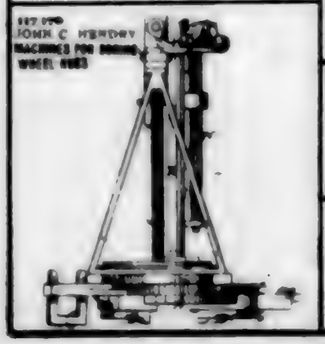
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BOOTS AND
SHOES.



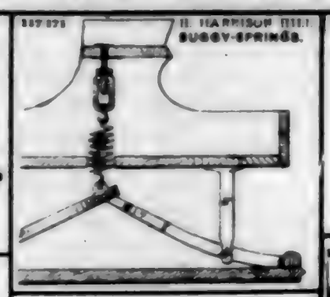
117,168 HENRY M. HAMILTON.
ADDING-MACHINES.



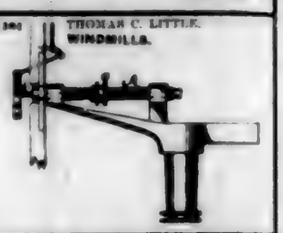
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MACHINES FOR BORING
WHEEL HUBS



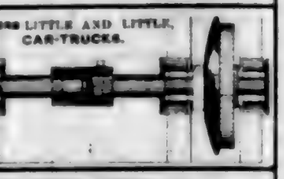
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BUGGY-SPRINGS.



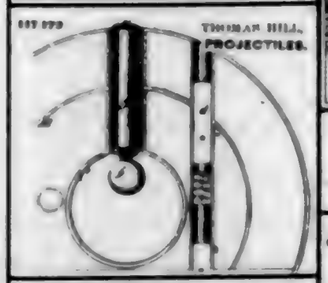
117,171 THOMAS C. LITTLE.
WINDMILLS.



117,172 LITTLE AND LITTLE.
CAR-TRUCKS.



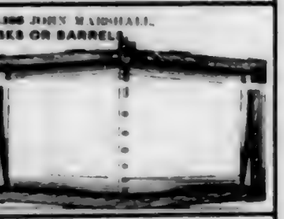
117,173 THOMAS HILL.
PROJECTILES.



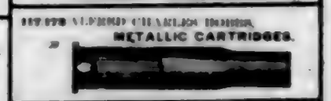
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LOOM-SHUTTLES.



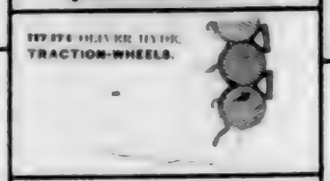
117,175 JOHN MARSHALL.
CASKS OR BARRELS.



117,176 ALFRED CHARLES HOBBS.
METALLIC CARTRIDGES.



117,177 OLIVER IVOR.
TRACTION-WHEELS.



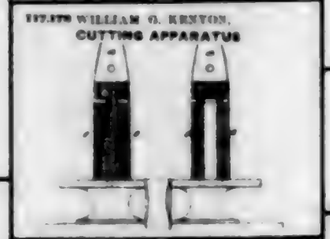
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117,179 JAMES JUDGE.
WOOD PAVEMENTS.



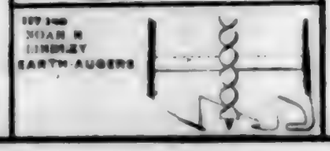
117,180 WILLIAM O. KENYON.
CUTTING APPARATUS



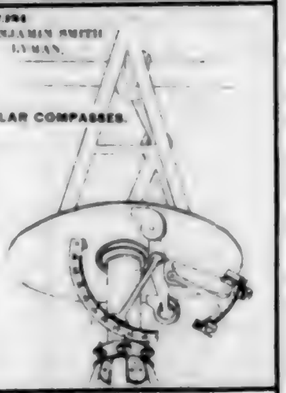
117,181 WILLIAM W. KNOWLES.
BODY-LOOPS FOR
CARRIAGES.



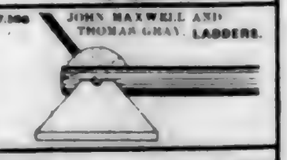
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LINDSLEY
EARTH-AUGERS



117,183 BENJAMIN SMITH
LYMAN.
SOLAR COMPASSES.



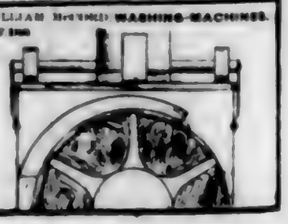
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THOMAS GRAY. LADDERS.



ANDREW McCULLAH. PLOW-CLEVISES.
117,185



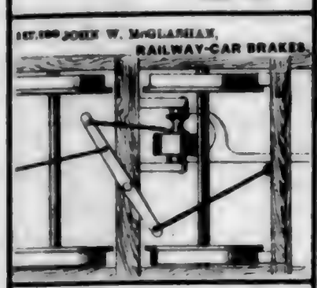
WILLIAM BEYNON. WASHING-MACHINES.
117,186



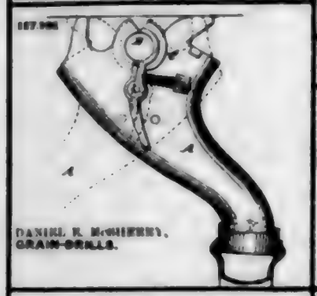
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JOSEPH McGEE,
NECK-TIE RETAINERS.



117,188 JOHN W. McGLASHAN,
RAILWAY-CAR BRAKES.



117,189

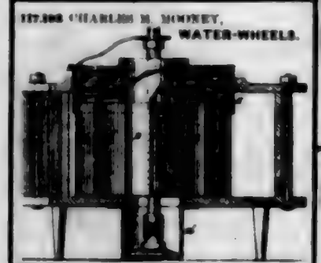


DANIEL R. McSHERRY,
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BROOMS.



117,191 CHARLES H. MOONEY,
WATER-WHEELS.



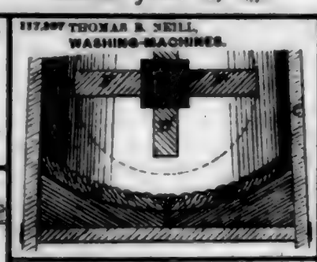
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STOVE-GRATES.



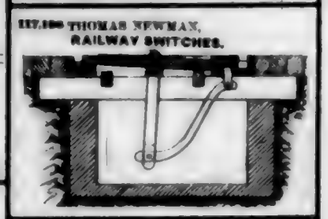
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SAFETY TRACE-FASTENERS.



117,194 THOMAS B. NEILL.
WASHING-MACHINES.



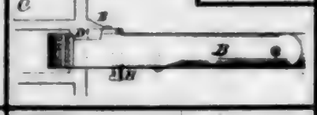
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RAILWAY SWITCHES.



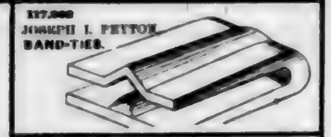
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SHAPING CIGAR-BUNCHES.



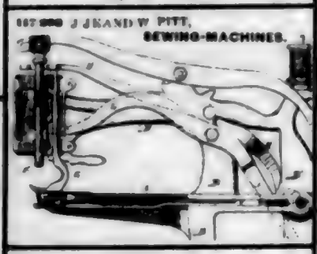
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THOMAS W. PRICE,
HAY-RAKES AND FORK



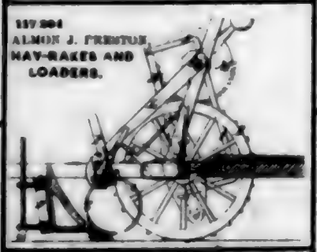
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BAND-TIES.



117,199 J. JEANDW. PITT.
SEWING-MACHINES.



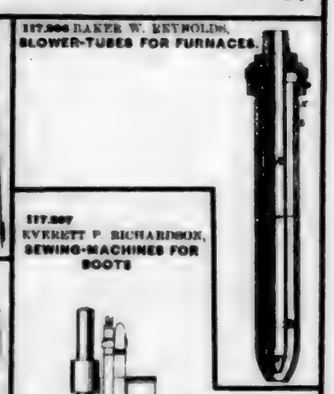
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ALMON J. PRESTON.
HAY-RAKES AND
LOADERS.



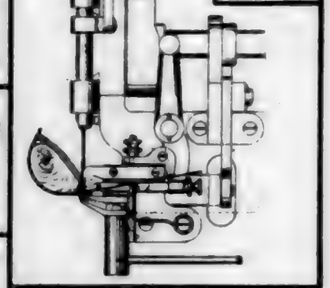
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CLAMPING DEVICES FOR SASH-CORDS.



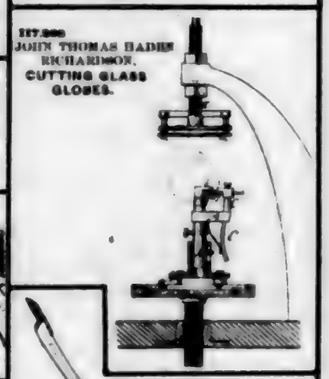
117,202 BAKER W. REYNOLDS.
BLOWER-TUBES FOR FURNACES.



117,203
EVERETT P. RICHARDSON,
SEWING-MACHINES FOR
BOOTS



117,204
JOHN THOMAS HADEN
RICHARDSON,
CUTTING GLASS
GLOBES.



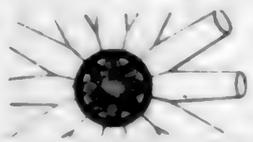
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J. MAX RUDINGER,
FOLDING CHAIRS



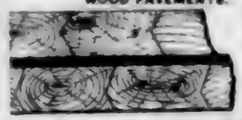
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COFFEE-POTS.



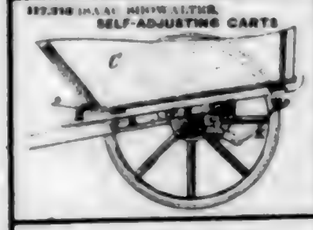
117,211 BRYL, FISCHER, AND BRENNER.
Anti-Friction Axle-Boxes.



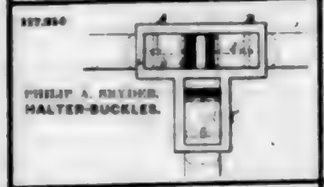
117,212 WILLIAM P. SHAW.
WOOD PAVEMENTS.



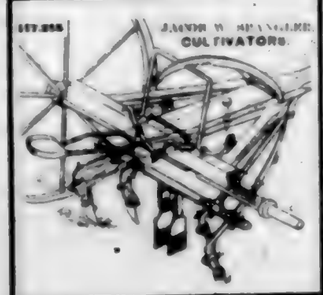
117,213 ISAAC NEWKIRK.
SELF-ADJUSTING CARTS.



117,214
PHILIP A. SNYDER.
HALTER-BUCKLES.



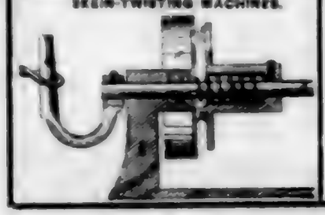
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CULTIVATORS.



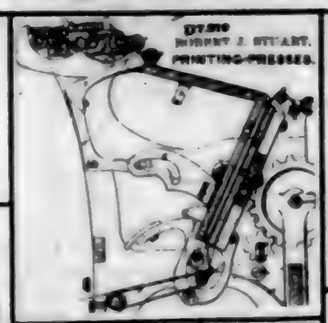
117,216 SYLVESTER T. F. STERNS.
JOURNAL-BOXES.



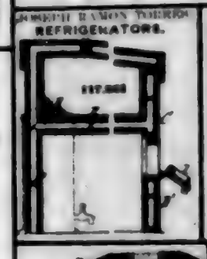
117,217 THOMAS STEERS.
SKEIN-TWISTING MACHINES.



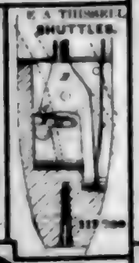
117,218 DURANT J. STUART.
PRINTING-PRESSES.



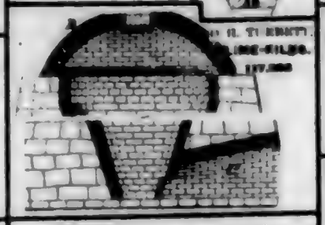
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REFRIGERATORS.



117,220 E. A. THISSELL
SHUTTLES.



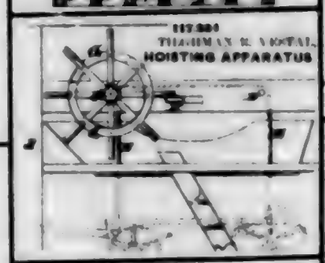
117,221 D. H. TURNEY.
LIME-KILNS.



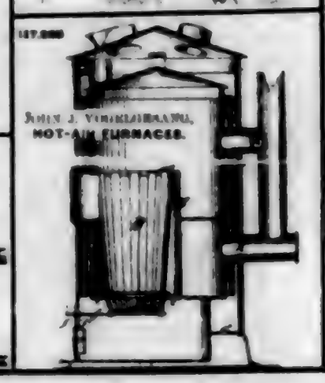
117,222 HENRY VAN KEPPEL
FLOATING-DOCKS.



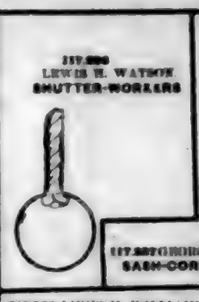
117,223 THOMAS H. VOSTAL.
HOISTING APPARATUS.



117,224
JOHN J. [illegible]
HOT-AIR FURNACES.



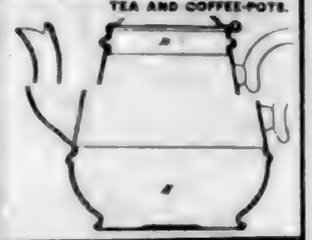
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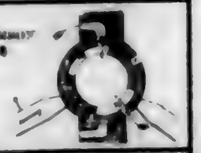
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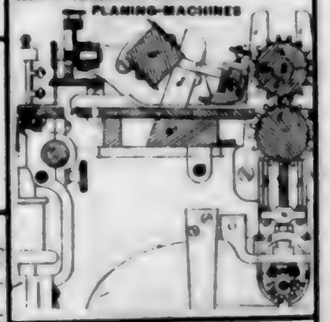
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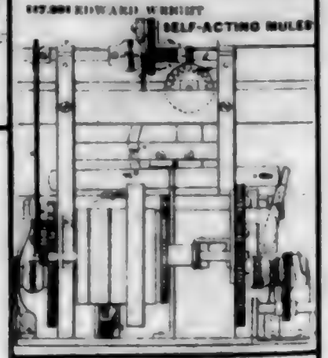
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117,229 WORCESTER WOODS.
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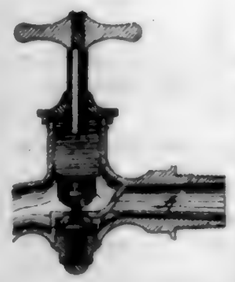
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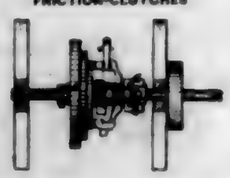
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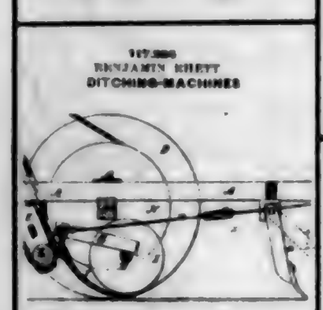
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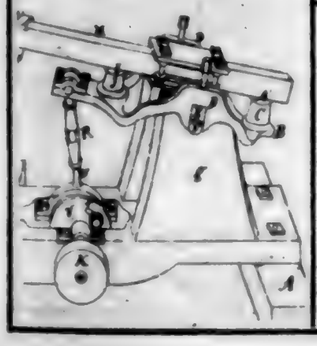
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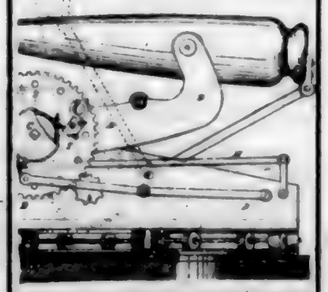
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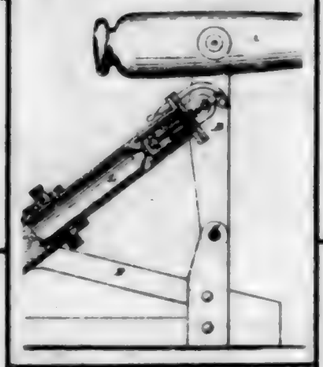
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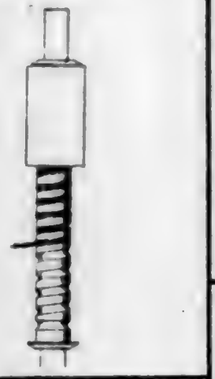
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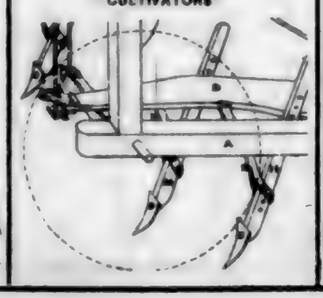
4,472 JAMES B. EADS, GUN-CARRIAGES.



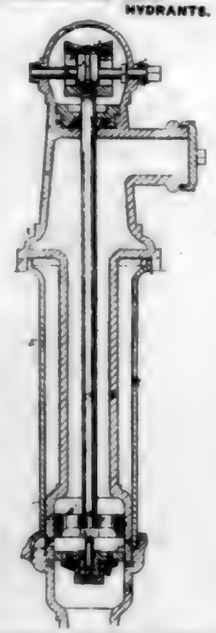
4,473 JOHN F. HUNT.
CLOTHES-WRINGERS, &c.



4,474
LEONARD PACKARD
CULTIVATORS.



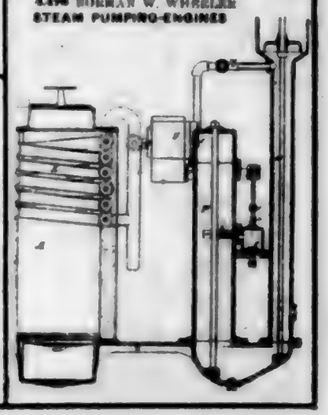
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4,476 BYRON HOPPER.
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4,477 HORMAN W. WHEELER.
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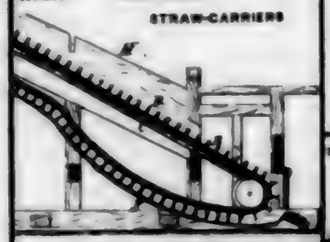
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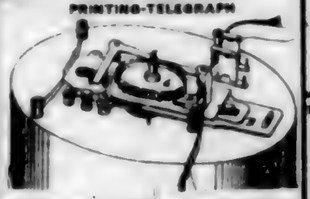
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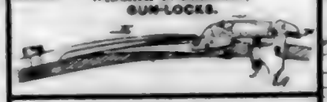
117,242 JONATHAN B. L. BARTLETT, HORSE-RAKE TEETH.



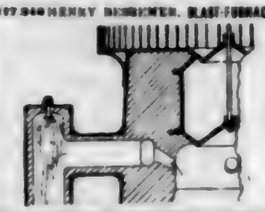
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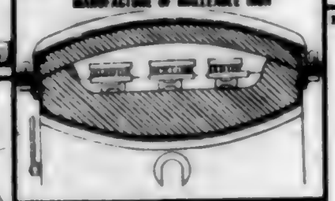
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117,245 HENRY BESSEMER, BLAST-FURNACES.



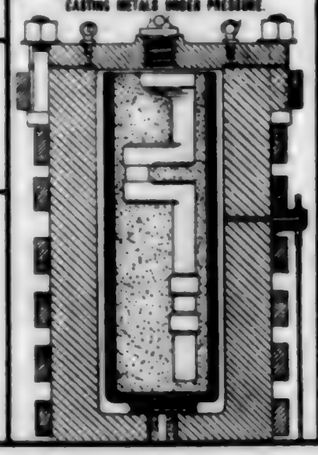
117,246 HENRY BESSEMER, MANUFACTURE OF MALLEABLE IRON



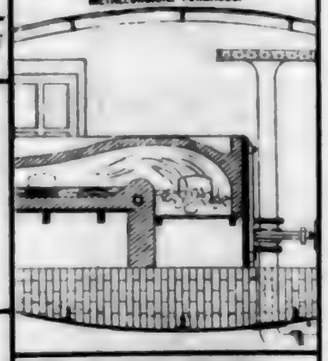
117,247 HENRY BESSEMER, BESSEMER CONVERTERS



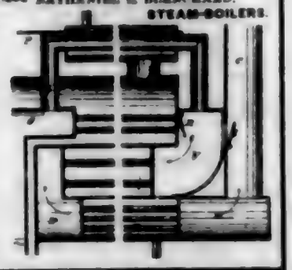
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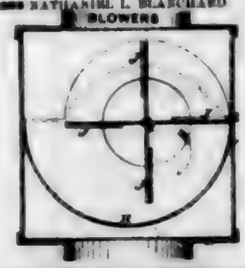
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117,250 NATHANIEL L. BLANCHARD, STEAM-BOILERS.



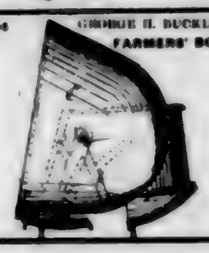
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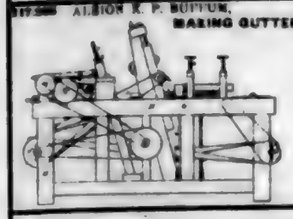
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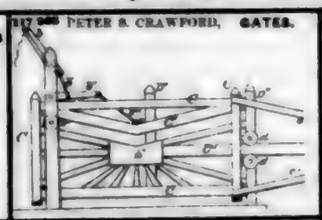
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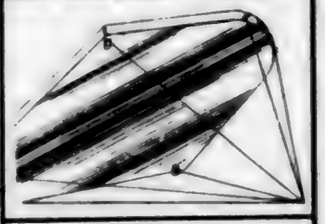
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117,255 PETER S. CRAWFORD, GATES.



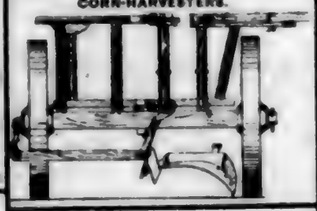
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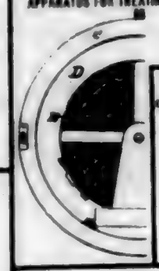
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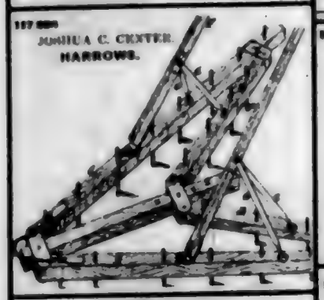
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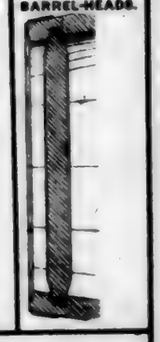
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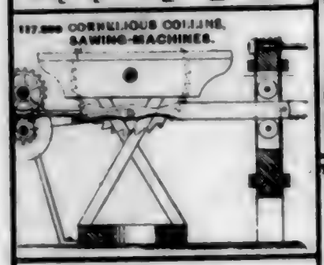
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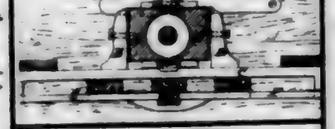
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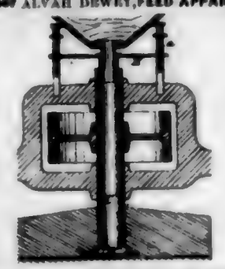
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117,266 JOHN DEMAREST, HOLDING-MACHINES.



117,267 ALVAH DEWEY, FEED APPARATUS



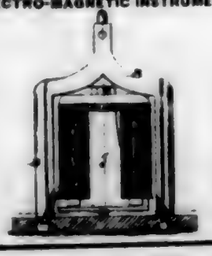
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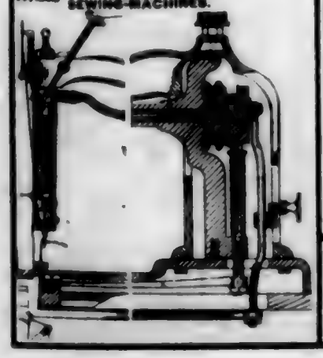
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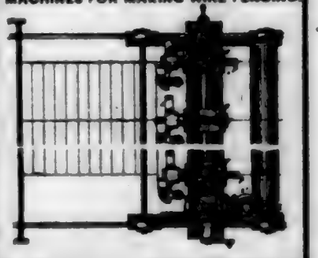
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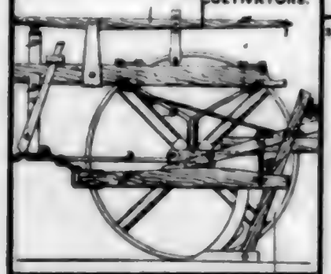
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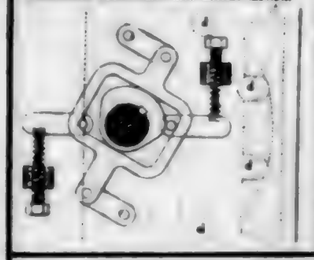
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117,280 JACOB G. HARSHAW, CONVERTING RECIPROCAL INTO ROTARY MOTION.



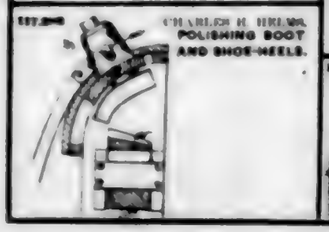
117,281 E. WARREN HASTINGS, INCENSE-BURNERS.



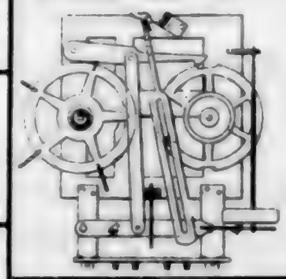
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117,283 CHARLES H. HELMS, POLISHING BOOT AND SHOE-HEELS.



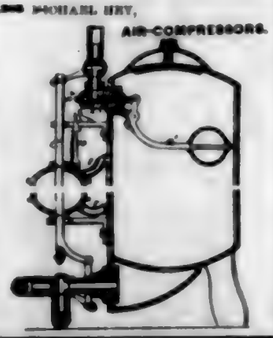
117,284 GEORGE HERRMANN, SWINGING CLOCKS.



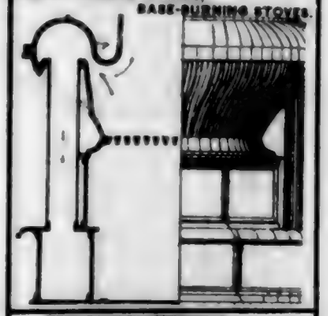
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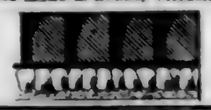
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117,288 ISAAC H. HOBBS, PAVEMENTS.



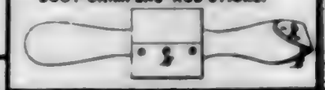
117,289 LEANDER B. HUNT, KNITTING-MACHINES.



117,290 SAMUEL H. HODGES, TRIMMING AND BURNISHING SOLES.



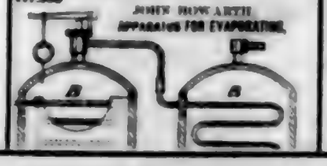
117,291 ALONZO J. P. HOWARD, BOOT-CRIMPERS' RUB-STICKS.



117,292 JAMES L. HOWARD, RAILROAD-CAR VENTILATORS.



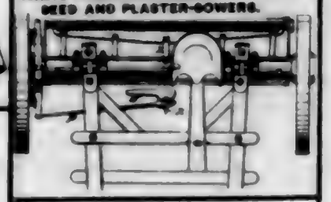
117,293 JOHN HOWARTH, APPARATUS FOR EVAPORATING.



117,294 JAMES AND MARIA, MANTELS



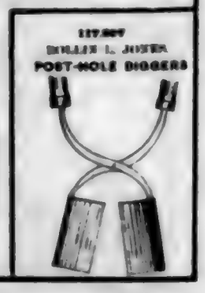
117,295 JESSUP AND SHARP, HOD AND PLASTER-SCOOPS.



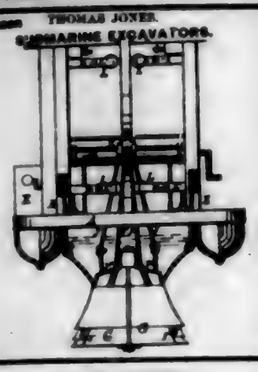
117,296 JAMES GUTHRIE JOHNSON, HAND CORN-HUSKERS.



117,297 MILLER L. JOSEY, POST-HOLE DIGGERS



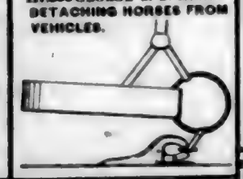
117,298 THOMAS JONES, SUBMARINE EXCAVATORS.



117,299 EDWARD LAWLER, REGULATORS FOR GAS-BURNERS.



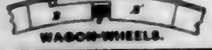
117,300 GEORGE B. LUMPKIN, DETACHING HORSES FROM VEHICLES.



117,301 LUKE KAVANAUGH, KNITTING-MACHINES.



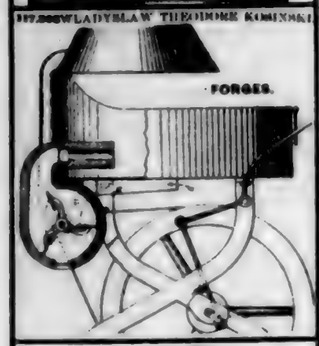
117,302 HENRY D. KEITH AND JOHN T. KEITH, WAGON-WHEELS.



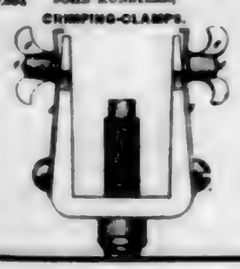
117,303 WILLIAM KOCK, TUMBLERS FOR PERMUTATION LOCKS.



117,304 WLADYSLAW THEODORE KOMINSKI FORGES.



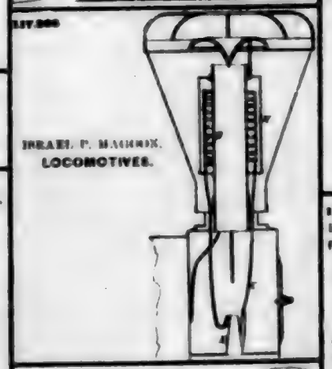
117,305 JOHN KUHTLER, CRIMPING-CLAMPS.



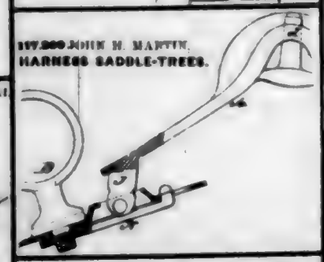
117,306 MIRABEAU B. LYNN, STEAM-CARRIAGES FOR PLOWS.



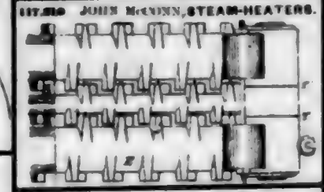
117,307 ISRAEL P. MADDOX, LOCOMOTIVES.



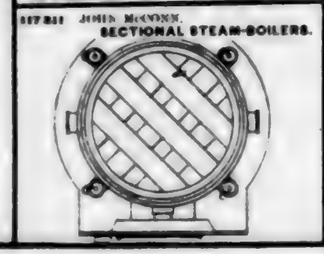
117,308 JOHN H. MARTIN, HARNESS SADDLE-TREES.



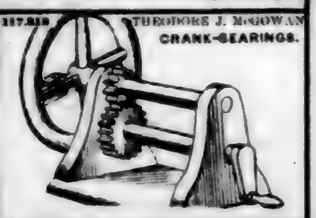
117,309 JOHN McCONN, STEAM-HEATERS.



117,310 JOHN McCONN, SECTIONAL STEAM-BOILERS.



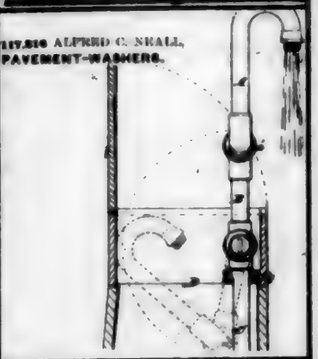
117,311 THEODORE J. McGOWAN, CRANK-GEARINGS.



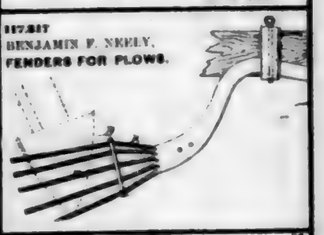
117,312 HENRY T. MORAN, FOLDING SETTEES.



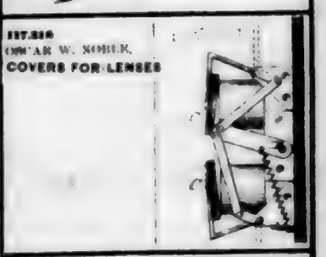
117,313 ALFRED C. NEALL, PAVEMENT-WASHERS.



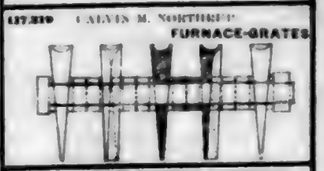
117,314 BENJAMIN F. NEELY, FENDERS FOR PLOWS.



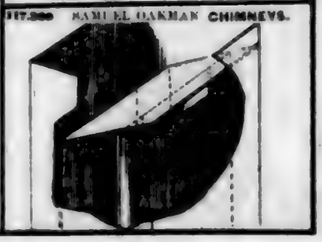
117,315 OSCAR W. NOBLE, COVERS FOR LENSES



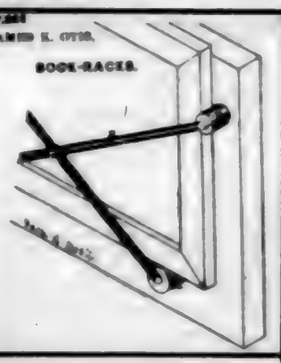
117,316 CALVIN M. NORTHROP, FURNACE-GRATES.



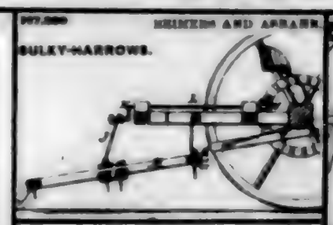
117,317 SAMUEL OAKMAN, CHIMNEYS.



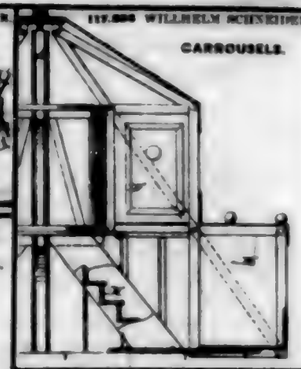
117,324 JAMES E. OTIS. BOOK-RACKS.



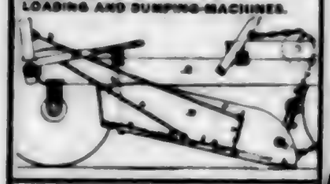
117,325 REIMERS AND ABRAHM. SULKY-HARROWS.



117,326 WILLHELM SCHNEIDER. CARROUSELS.



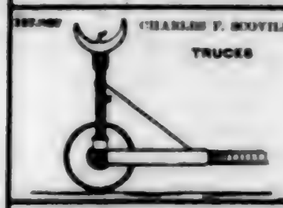
117,327 MOREAU PHILLIPS. LOADING AND DUMPING-MACHINES.



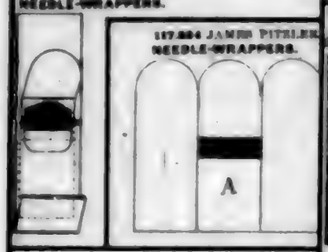
117,328 HENRY J. RIVE. GAS HAND-LAMPS.



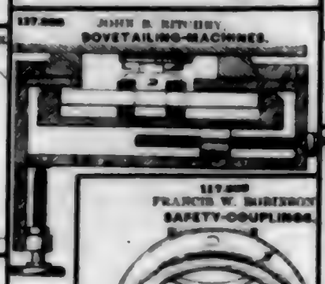
117,329 CHARLES F. HOOVILLE. TRUCKS



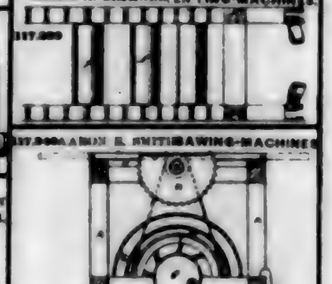
117,330 JAMES PITBLADO. NEEDLE-WRAPPERS.



117,331 JOHN B. RITCHEY. DOVETAILING-MACHINES.



117,332 CICERO A. SIMMONS. LIFTING-MACHINES.

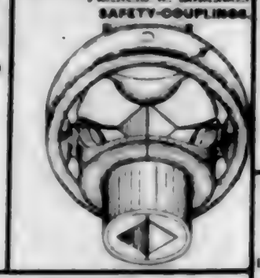


117,333 AARON E. SMITH. SEWING-MACHINES.

117,334 SAMUEL S. PORTER. FENCES.



117,335 FRANCIS W. HARRISON. SAFETY-COUPLINGS.



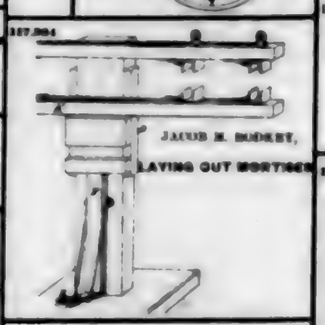
117,336 CHARLES C. PUTT. SAP-SPOUTS.



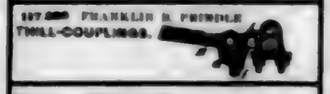
117,337 JAMES MARTIN. PRICK-ROOFS.



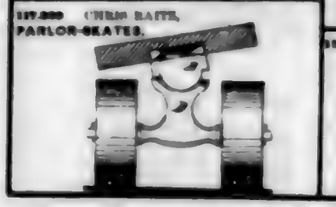
117,338 JACOB M. BUDKEY. LAYING OUT MORTISES.



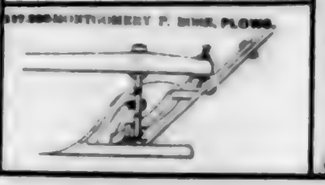
117,339 FRANKLIN B. PRINDLE. THILL-COUPLINGS.



117,340 CHRIS RAITH. PARLOR-SKATES.



117,341 MONTGOMERY P. HINE. PLOWS.



117,342 DANIEL B. SIMES. LAMP-CHIMNEYS.



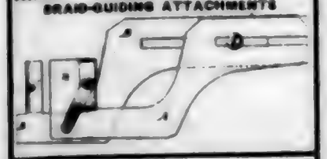
117,343 MARA BRANCH SMITHWICK. FLAX-BRAKES.



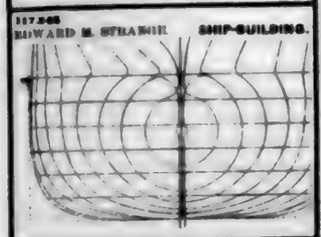
117,343 DANIEL M. SPROUL. MOLDS.



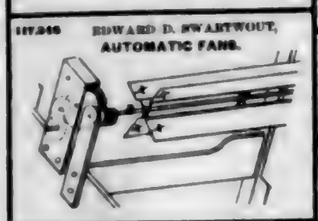
117,344 MARAFOR C. SPROUL. BRAID-GUIDING ATTACHMENTS



117,345 EDWARD M. STRAMER. SHIP-BUILDING.



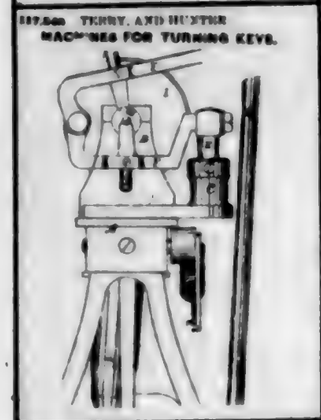
117,346 EDWARD D. SWARTWOUT. AUTOMATIC FANS.



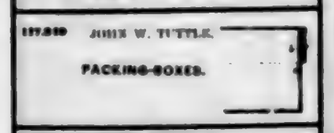
117,347 SAMUEL C. TALCOTT. BUCKLES AND LOOPS.



117,348 TERRY AND HUNTER. MACHINES FOR TURNING KEYS.



117,349 JOHN W. TUTTLE. PACKING-BOXES.



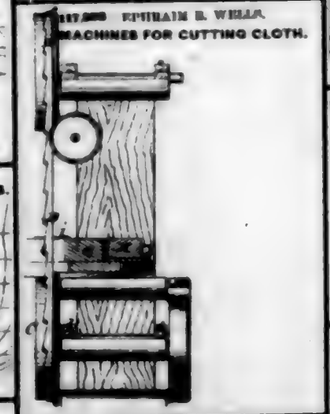
117,350 JOHN W. TUTTLE. PAPER PACKING-BOXES.



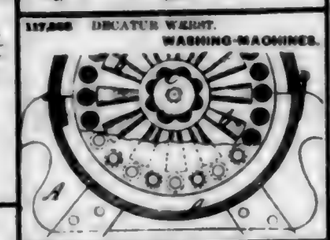
LUTHER VAN ORDEN. RECLINING-CHAIRS



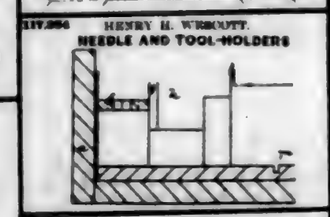
117,352 EPHRAIM B. WELLS. MACHINES FOR CUTTING CLOTH.



117,353 DECATUR WERT. WASHING-MACHINES.



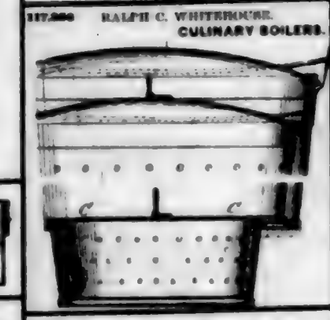
117,354 HENRY H. WESCOTT. NEEDLE AND TOOL-HOLDERS



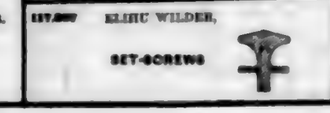
117,355 SETH WHEELER. WRAPPING-PAPERS.



117,356 RALPH C. WHITEHOUSE. CULINARY BOILERS.



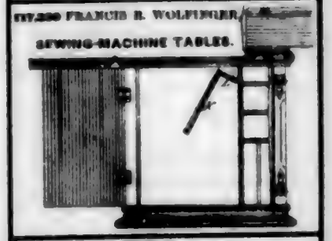
117,357 ELIHU WILDER. SET-SCREWS



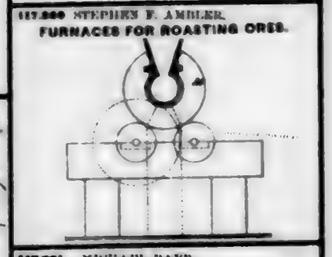
117,358 FRANCIS B. WOLFINGER. SEWING-MACHINE COVERS.



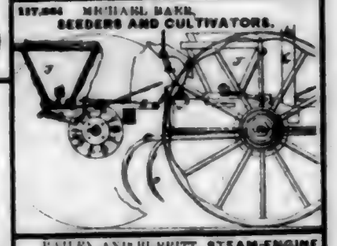
117,359 FRANCIS B. WOLFINGER. SEWING-MACHINE TABLES.



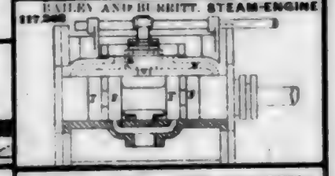
117,360 STEPHEN F. AMBLER. FURNACES FOR ROASTING ORES.



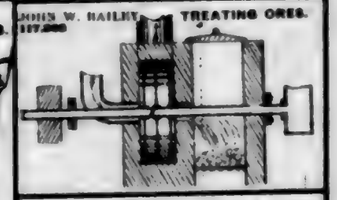
117,361 MICHAEL BAKE. SEEDERS AND CULTIVATORS.



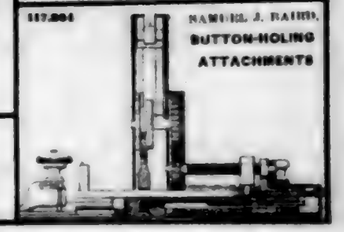
BAILEY AND BURRITT. STEAM-ENGINE



117,363 JOHN W. BAILEY. TREATING ORES.



117,364 SAMUEL J. BAIRD. BUTTON-HOLING ATTACHMENTS



JOHN G BAKER, MACHINES FOR CUTTING TOBACCO.

WILLIAM T. BLACK, BASE-BURNING STOVES.

WILLIAM H. BUKER, SEWING-MACHINES.

WILLIAM BALL, METER

FRANKLIN B. BOWEN, FANNING-MILLS.

WILLIAM D. CARLTON, FARM-GATES.

BANDLE AND CHRISTNER, CAP-GUN

EPHRAIM BRALEY, BOXES FOR CHALK-LINES.

HENRY CHUBB, FURNACES FOR HEATING METAL PLATES.

PELHAM C. BARROW, CAR-COUPLINGS

CHARLES W. BARRICK, CORN-PLANTER

JAMES CHURCH, CLAMPS FOR ENTERING BLIND-SLATS.

LYMAN M. BATES, MOSQUITO CANOPY-HOLDER

JAMES W. BROOK, TRANSPLANTING DEVICES.

JOHN B. CORNELL, FIRE-PROOF ROOFING.

JAMES H. BRATTY, SUCKER-ROD JOINT.

GEORGE H. CORLISS, STEAM-GENERATORS.

ROBERT BERRYMAN, STEAM-TRAPS.

JAMES WILLIAM BROOK, INSECT-GUARDS.

GEORGE H. CORLISS, JOURNAL-BOXES.

ISAAC QUIRWIN, RAST-CLIPS.

JULIAN W. ELLA, CASTING CAR-WHEELS.

ROBERT GIDLEY, GATES.

JOHN S. GRABY, METALLIC CARTRIDGES.

VALENTINE FOGERTY, BREECH-LOADING FIRE-ARMS.

JAMES H. GLASS, GANG-PLOWS.

JOHN H. CROWELL, LOOM-HARNESS.

FRANK M. FORD, LANTERNS.

JOHN GRACIE, STILLS FOR OIL.

DAVID DALRELL, AXLE-BOXES.

JOHN B. DAVIES, ROLLING MATCH-PLATES.

CHARLES FOSTER, WASHING-MACHINES.

ELIJAH P. DUNAWAY, SPRING-SEATS

HENRY FLAD, AND JAMES B. HAIN, PRESSURE-GAUGES.

CHARLES H. FREITAG, GATE-LATCHES.

JOHN GRAVENSTINE, CORPSE-PRESERVING CASES.

HERMINIE V. HAMLEY, FLOUR-BOLTS.

GIBSON AND POWELL, WASTE-WAY STOPPERS.

JOHN GRAVENSTINE, REFRIGERATING APPARATUS.

HENRY H. EDGERTON, NAPHTHA-GAS BURNERS.

117.409 SQUIRE J. GREAR. PITMEN-CONNECTIONS

117.410 CHARLES A. HALL. THRASHING-MACHINES.

117.411 SAMUEL P. HALLOCK. CHEESE-VAT FASTENERS.

117.412 HALLEY AND LIVERMORE. LAMP-BURNERS.

117.413 HANGER AND HANGER. CLIMBING TELEGRAPH-POLES, &c.

117.414 HARDING AND WILLIAMS. CLOTHES-DRIERS.

ROBERT A. HAW. POTATO-DIGGERS.

117.416 JOSEPH HEAD. WATER-HEATERS.

117.417 LEVI HEMMANCE. COOKING-STOVES.

117.418 EDMUND HIGGINS. GATES.

117.419 ROBERT HOOPER. CANAL-BOATS.

117.420 WILLIAM S. HOUGH. SPIKE-EXTRACTORS.

117.421 OLIVER B. HOWARD. RAZOR-STROPS.

117.422 OLIVER HYDE. TRACTION-ENGINES.

117.423 GUSTAV L. JAEGER. PAPER BOXES.

LAWRENCE J. JOHNSON. BEDSTEADS.

117.424 JAMES J. JOHNSTON. DISTILLING HYDROCARBONS.

117.425 JAMES J. JOHNSTON. TREATING HYDROCARBON OILS.

117.427 MORRIS L. KEEN. PREPARATION OF PAPER-STOCK.

117.428 LUKE L. KELLOGG. BUTTER-WORKERS.

117.429 EBENEZER D. KITCHEN. WASHING-MACHINES.

117.430 KNOX AND OSBORN. FURNACES FOR ROASTING ORES.

117.431 WILLIAM H. KNIGHT. GATES.

117.432 JOHN KREBBIEL. TRIP-HAMMERS.

117.433 JAMES B. LAKE. TABLET INDEX-BOOKS.

117.434 LEANDER LEACH. WINDMILLS.

S. MORRIS LILLIE. PROTECTING SAFES.

117.436 WILLIAM H. LINNELL. PEG-WOOD.

117.437 FRANK. M. MAHAN. PROPULSION OF CANAL-BOATS.

MALMSTROM AND DUMMER.

117.438 STOP-COCKS.

CHARLES MARKLEY. HAIR-CURLERS.

117.440 THOMAS A. McFARLAND. INVALID BEDSTEADS.

117.441 JAMES I. METTLER. DITCHERS AND PIPE-LAYERS.

ASTON MEYER.

117.442 WATCHMEN'S TIME-CHECKS.

117.443 ISAAC MILLS. CLOTH-MEASURING MACHINES.

117.444 JOHN MORGAN. BURGLAR-ALARMS.

JOHN E. MORRIS.

117.445 SPIRIT-STILLS.

117.446 HENRY MULHOLLAND. CHURN-DASHERS.

117.447 THOMAS J. MYERS. BOILERS.

117.448 WILLARD A. NICHOLS. RAILWAY TIES.

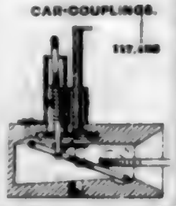
117.449 THOMAS O'BURKE. SIPHON STEAM-PUMPS.

117.450 CHARLES WATKINS PARKER. WATER-WHEELS.

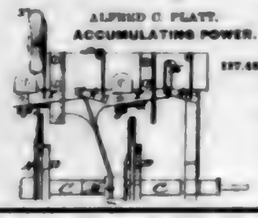
EDWARD PEARSON.
LAMP-CHIMNEY CLEANERS.
117,468



WILLIAM V. PERRY.
CAR-COUPLINGS.
117,470



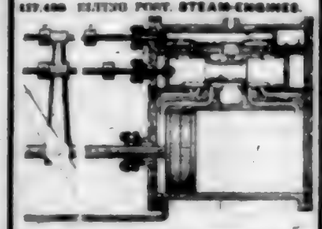
ALFRED C. PLATT.
ACCUMULATING POWER.
117,464



THOMAS G. PORTER.
DUSTING-BRUSHES.
117,[illegible]

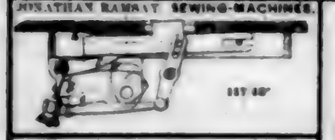


CHARLES C. POST. SAP-SPOUTS.
117,467



117,466 ELTEO POST. STEAM-ENGINES.

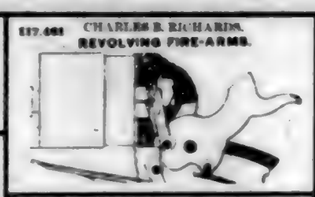
JONATHAN RAMSAY. SEWING-MACHINES.
117,[illegible]



RAWSON AND RAWSON.
HARVESTERS.
117,[illegible]

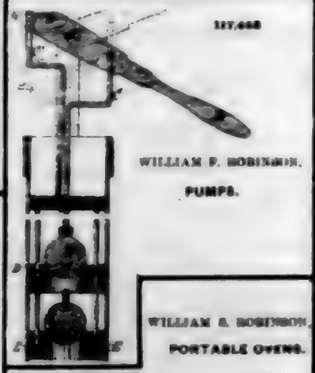


117,461 CHARLES B. RICHARDS.
REVOLVING FIRE-ARMS.

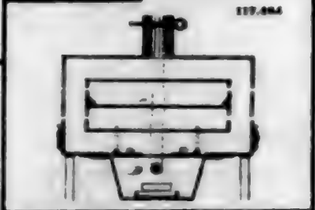


117,468

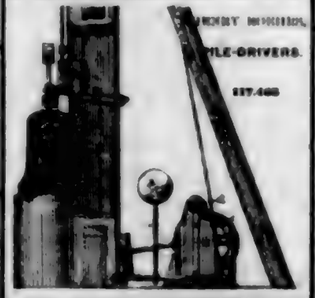
WILLIAM P. ROBINSON.
PUMPS.



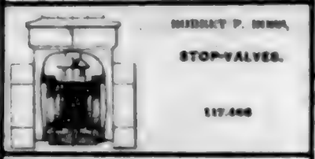
WILLIAM S. ROBINSON.
PORTABLE OVENS.
117,[illegible]



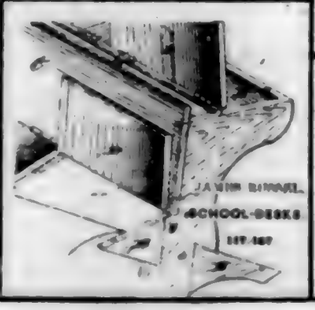
HENRY ROBBINS.
PILE-DRIVERS.
117,[illegible]



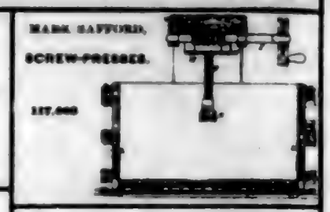
MORRIS P. ROSS.
STOP-VALVES.
117,[illegible]



JAMES RUSSELL.
SCHOOL-DESKS
117,[illegible]



MARK SAFFORD.
SCREW-PRESSES.
117,[illegible]



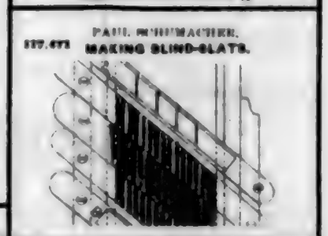
DANIEL SANDOE. WATER-WHEELS.
117,[illegible]



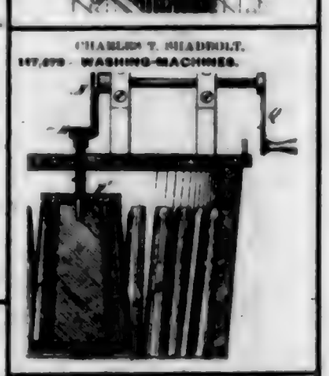
WHIPPLE AND DRISCOLL.
STREET LAMPS.
117,[illegible]



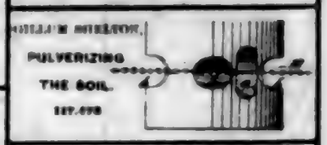
PAUL SCHUMACHER.
117,473 MAKING BLIND-SLATS.



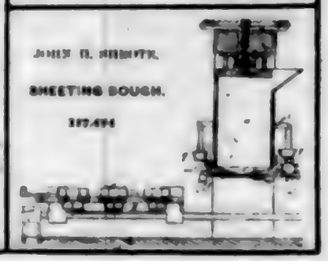
CHARLES T. SHADBOLT.
117,[illegible] WASHING-MACHINES.



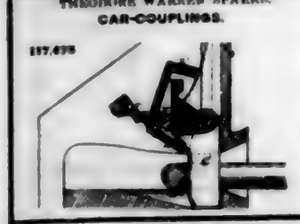
WILLIAM SHELTON.
PULVERIZING THE SOIL.
117,[illegible]



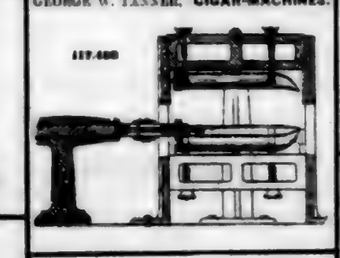
JOHN H. SHERTS.
SHEETING DOUGH.
117,[illegible]



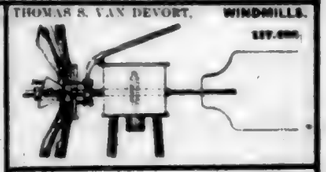
THEODORE WARREN SPARKS.
CAR-COUPLINGS.
117,[illegible]



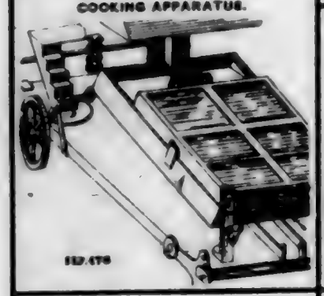
GEORGE W. TANNER. CIGAR-MACHINES.
117,[illegible]



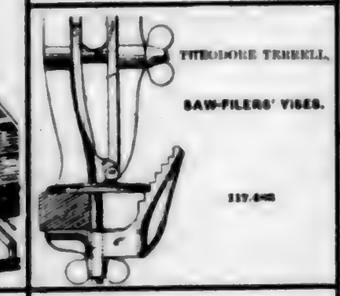
THOMAS S. VAN DEVORT. WINDMILLS.
117,[illegible]



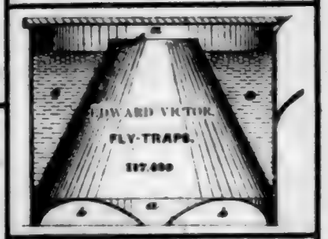
EBENEZER SPERRY.
COOKING APPARATUS.
117,[illegible]



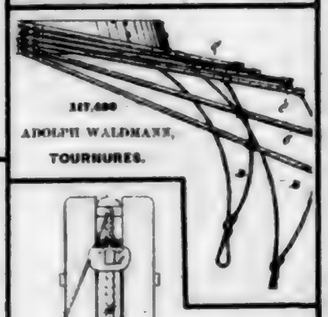
THEODORE TERRELL.
SAW-FILERS' VISES.
117,[illegible]



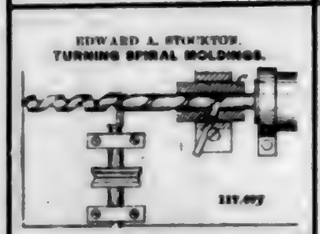
EDWARD VICTOR.
FLY-TRAPS.
117,[illegible]



117,[illegible]
ADOLPH WALDMANN.
TOURNURES.



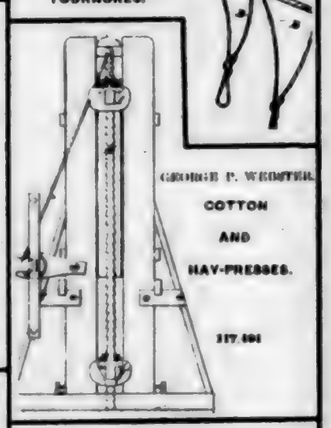
EDWARD A. STOCKTON.
TURNING SPIRAL MOLDINGS.
117,[illegible]



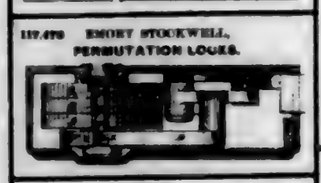
WILLIAM FITZ JAMES THIRDS.
VENTILATORS FOR SHIPS.



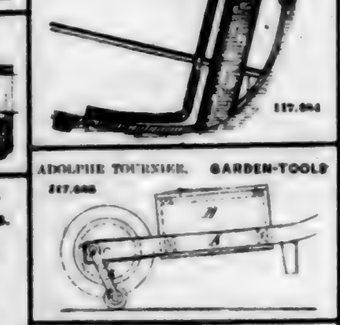
GEORGE P. WEBSTER.
COTTON AND HAY-PRESSES.
117,[illegible]



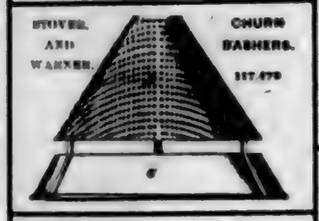
117,[illegible] SHORT STOCKWELL.
PERMUTATION LOCKS.



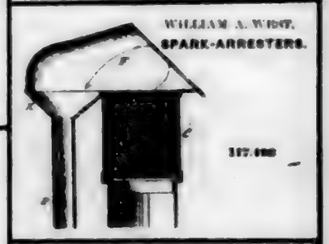
ADOLPHE TOURNIER. GARDEN-TOOLS
117,[illegible]



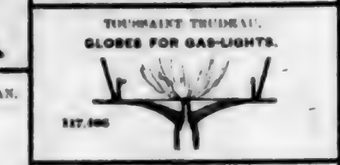
STOVER, AND WARNER. CHURN DASHERS.
117,[illegible]



WILLIAM A. WEST.
SPARK-ARRESTERS.
117,[illegible]



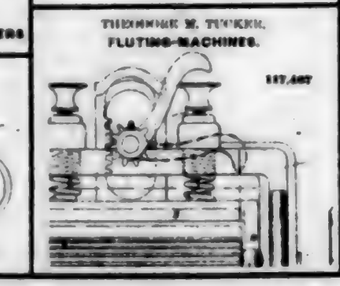
TOUSSAINT TRUDEAU.
GLOBES FOR GAS-LIGHTS.
117,[illegible]



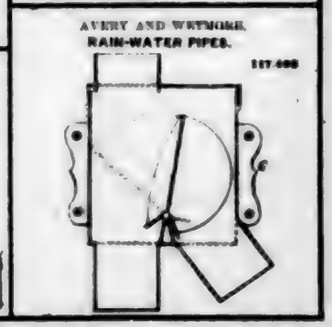
DANIEL SULLIVAN.
117,[illegible]
HAND-HOLE STOPPERS



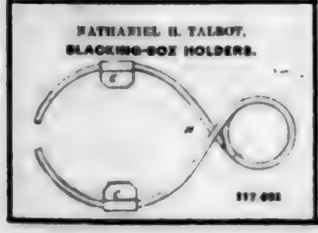
THEODORE M. TUCKER.
FLUTING-MACHINES.
117,[illegible]



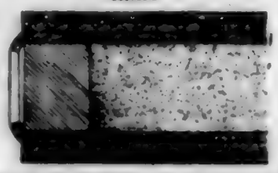
AVERY AND WETMORE.
RAIN-WATER PIPES.
117,[illegible]



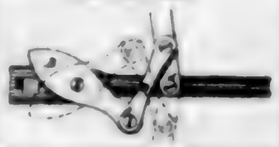
NATHANIEL H. TALBOT.
BLACKING-BOX HOLDERS.
117,[illegible]



ELBRIDGE WHEELER,
REDUCING DIAMETERS OF TUBINGS.
117,496



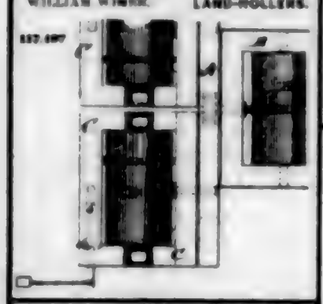
JOHN WHITTAKER,
BOLT-CUTTERS.



HENRY WILLARD,
TRANSPORTING EGGS.



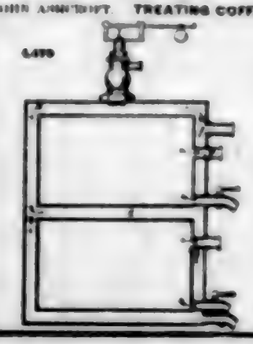
WILLIAM WINER. LAND-ROLLERS.



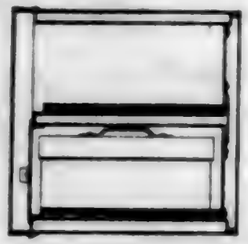
JAMES A. WENTWORTH,
ELASTIC CAR-WHEELS.



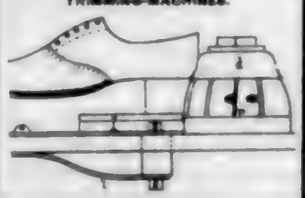
JOHN ARMITAGE. TREATING COFFEE.



JOHN ARMITAGE,
TREATING COFFEE.



EBEN J. BEANE,
TRIMMING-MACHINES.



TIMOTHY W. BEACHER,
HAT-LININGS AND TIPS.



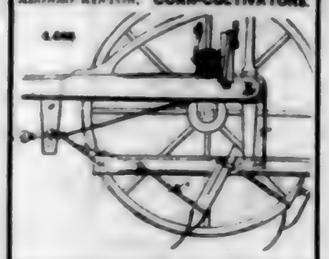


WILLIAM G. DODGE,
REVOLVING FIRE-ARMS.

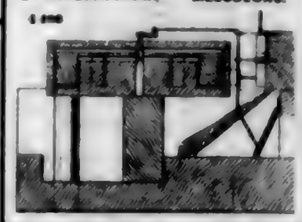
WILLIAM F. KETCHUM. HARVESTERS.



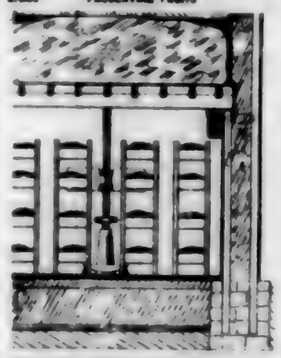
ALONZO KINYON. CORN-CULTIVATORS.



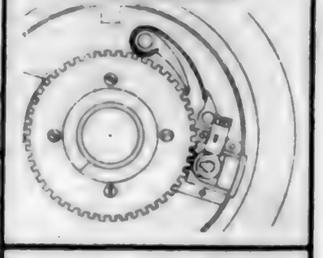
LA FAYETTE LEWIS, MELODEONS.



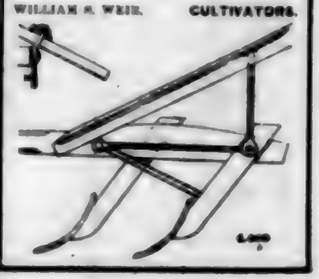
BENJAMIN MARKLEY MYER,
PRESERVING FOODS



ORRIN SMITH,
PERMUTATION LOCKS.

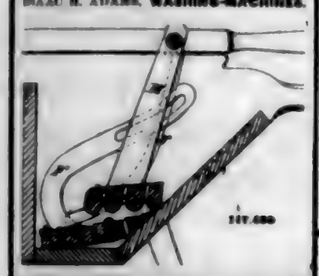


WILLIAM S. WEIR. CULTIVATORS.

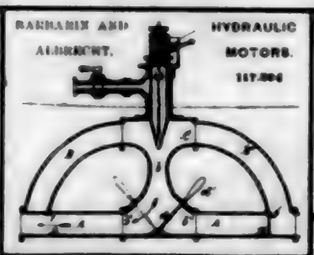


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
AUGUST 1, 1871

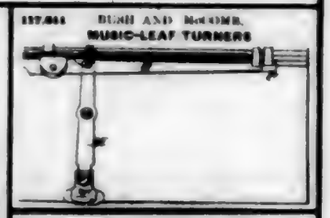
ISAAC H. ADAMS. WASHING-MACHINES.



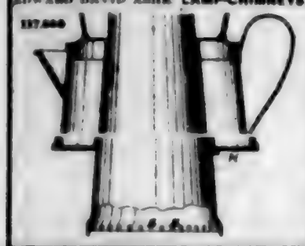
BARBARIN AND ALBRECHT. HYDRAULIC MOTORS. 117,504



BUSH AND MOORE.
MUSIC-LEAF TURNERS



EDWARD DAVID ASHE LAMP-CHIMNEYS.



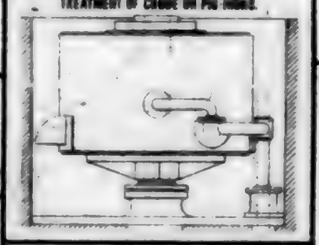
BARBARIN AND ALBRECHT,
HYDRAULIC MOTORS.



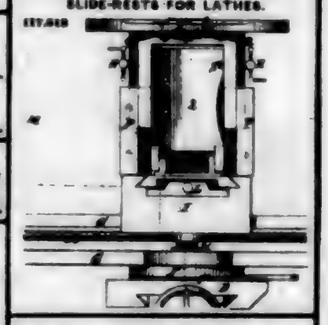
SAMUEL BEATTY HAT-VENTILATORS.



HENRY BESSEMER.
TREATMENT OF CRUDE OR PIG IRON.



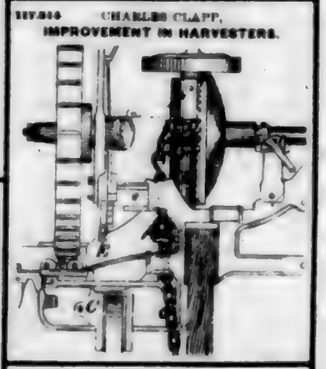
ERNEST GEORGE CHORMANN.
SLIDE-RESTS FOR LATHES.



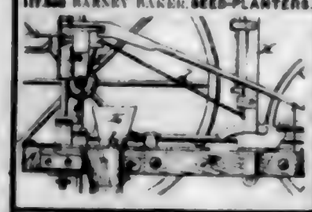
SAMUEL BARRITT. AWLS.



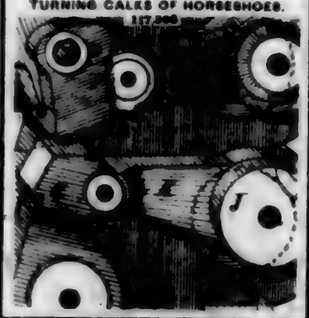
CHARLES CLAPP,
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BARNEY BAKER. SEED-PLANTERS.



HORN, CHAMBERS, AND CRAIG.
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WILLIAM HAILA CRATEN.
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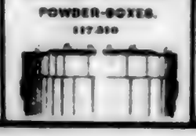
R. H. RAMSHOT.
TRANSMITTING MOTION.
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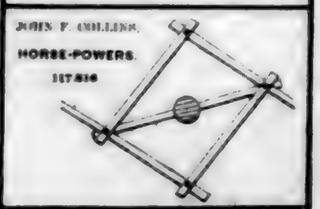
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ADOLPH FISCHER,
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CORNELIUS HAMLER,
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STEPHEN HOLMAN,
SECURING LIDS TO GAS-RETORTS.

WILLIAM HANCOCK,
ROOFING-BRACKETS.

FREDERICK HOFF,
DESKS AND BEDS COMBINED.

WILLIAM PINKER,
REAMERS FOR OIL-WELLS.

JACOB G. FRICK,
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THOMAS HARVEY,
TRUNKS.

J. P. HASKINS,
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A. OSCAR HUFFMAN,
SCHOOL-DESKS.

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PEAT-ELEVATORS.

JOHN GIBSON, JR.,
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IVES GLOVER,
OX-BOW PINS.

JAMES W. HAWK,
CRIMPING THE STIFFENINGS OF BOOTS AND SHOES.

JOHN G. ILS,
SLOP-HOPPERS.

HENRY I. GOODWIN,
DASH-BOARDS

W. M. GREEN,
RAZOR-STROPS.

HENRY B. HERBERT, FLUID-METERS.

EDMUND JENNINGS,
WASHING-MACHINES.

JESSE JENSEN,
STANDARDS FOR WAGONS.

HENRY HESSEL,
CHURNS.

SIDNEY JOHNSON,
VELOCIPEDES.

WILLIAM KEVINS JOHNSON,
HARVESTERS.

FERDINAND KING,
MANUFACTURE OF ILLUMINATING-GASES.

ANDREW McFALL,
BOOK-HOLDERS AND LEAF-TURNERS.

JOHN McGOWAN,
ROTARY ENGINES.

JOHN T. JONES,
SEWING-MACHINES.

JAMES A. KNETZER,
CORN-PLANTERS.

AGUR JUDSON,
OIL-PRESSES.

GUSTAV LIEBERKNECHT,
APPARATUS FOR ARRANGING HAIRS.

ALMERON McKENNEY
DEVICES FOR LOCKING-BOLTS.

ALMERON McKENNEY,
RAILWAY RAILS.

AUGUSTUS S. LINCOLN,
BLIND-FASTENINGS.

JOHN J. McKNIGHT
EXTENSION TABLES.

JAMES F. KELLOGG,
STOVE-PIPE CLEANERS.

JOHN LEVERING,
PAPER-CUTTING MACHINES.

DAVID METZ,
PUMP-VALVES.

DAVID KERR AND ASA E. HOVEY,
PARLOR-SKATES.

HAMILTON D. LOCKWOOD,
ATOMIZERS.

JAMES G. MINER,
PLOWS.

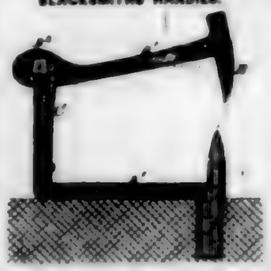
JOHN KIMBALL,
TENONING APPARATUS.

JAMES McCANDLESS,
MARKET-STALLS, &c.

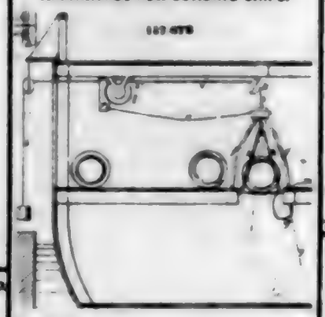
LEVI B. MIXOTT,
WOOD-BENDING MACHINES.

LEVI B. MIXOTT,
RETAINING-STRAPS

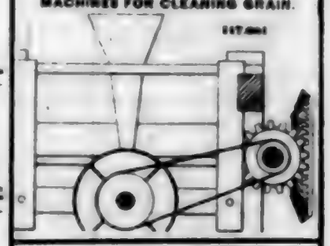
CHARLES F. MONK. 117.685
BLACKSMITHS' HARDIES.



FRANCIS PATMORE,
APPARATUS FOR LOADING SHIPS.



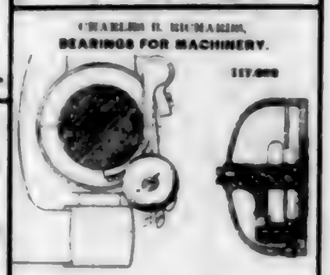
BENJAMIN REECE,
MACHINES FOR CLEANING GRAIN.



117.686 ELIAS P. NEEDHAM. TREMOLO.



CHARLES H. HUMARAN,
BEARINGS FOR MACHINERY.



BORDVAR AND HARMON.
GRINDING-MILLS.



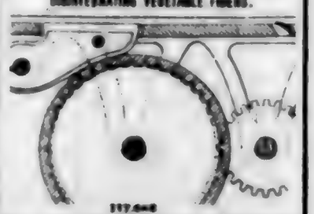
CHARLES E. PAYNE.
UPHOLSTERY SPRINGS.



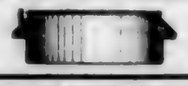
JOHN L. PEAKE,
STEAM-HEATERS.



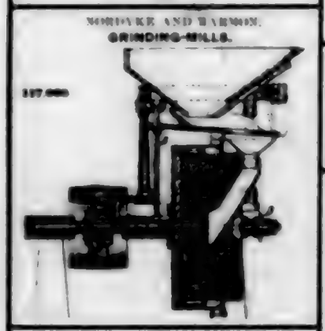
WILLIAM RIDDELL,
DISINTEGRATING VEGETABLE FIBRES.



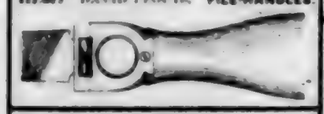
HORATIO L. PEIRCE. SPINNING-RINGS.



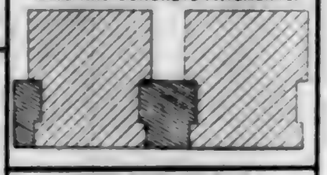
MORDYKE AND HARMON.
GRINDING-MILLS.



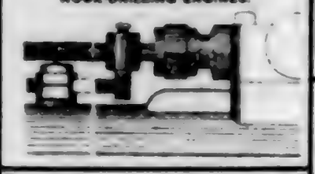
117.687 DAVID PORTER. FILE-HANDLES.



EDWARD A. L. ROBERTS.
WOOD AND CONCRETE PAVEMENTS.



117.688 GEORGE PHILLIPS.
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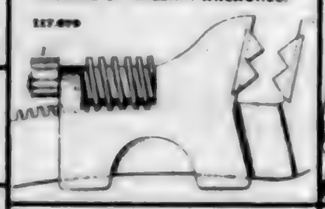
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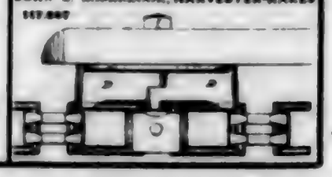
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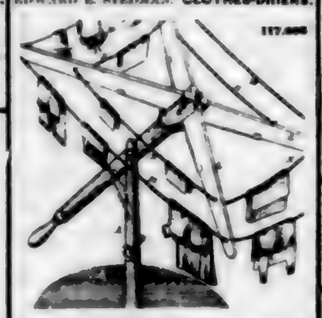
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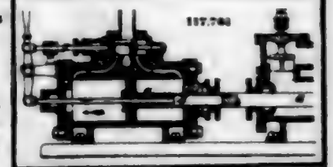
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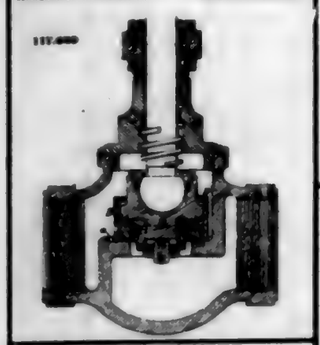
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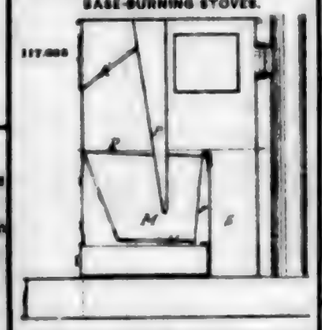
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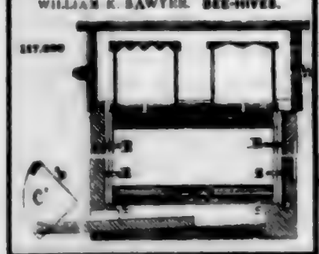
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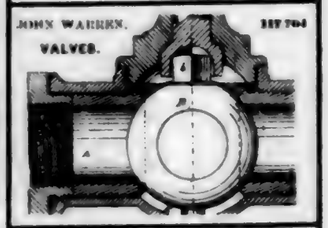
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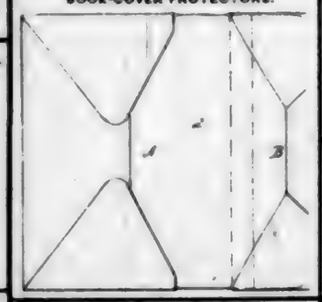
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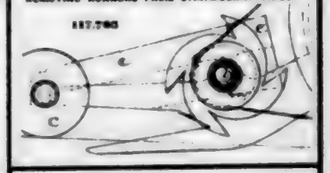
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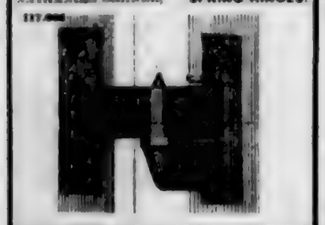
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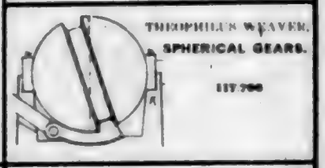
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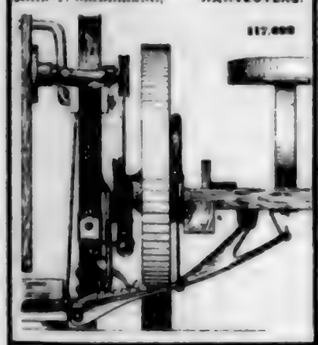
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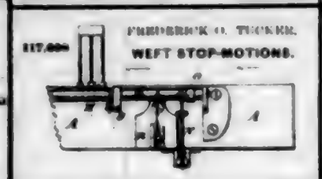
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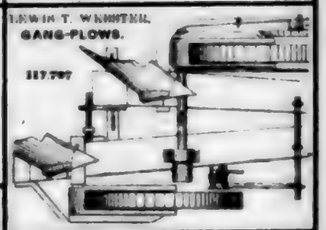
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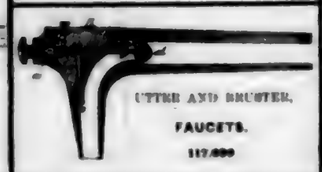
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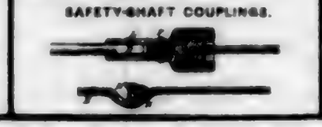
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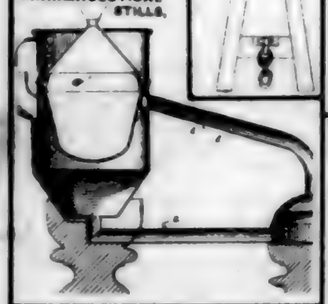
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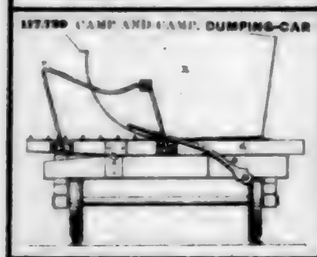
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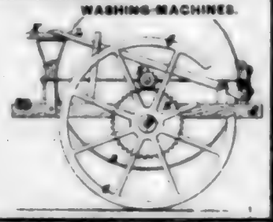
117,788 BUCKLAND AND GESSNER. PHARMACEUTICAL STILLS.



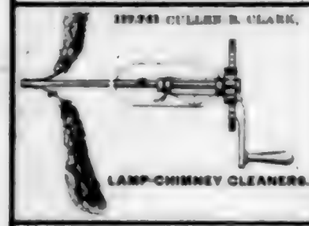
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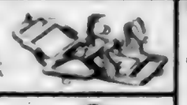
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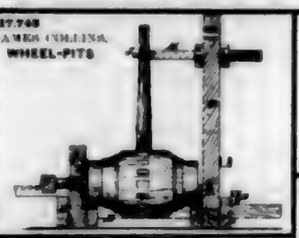
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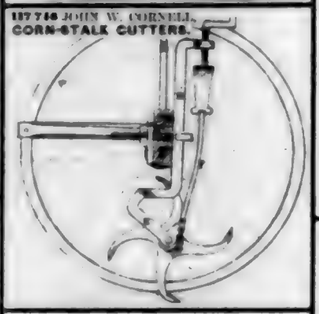
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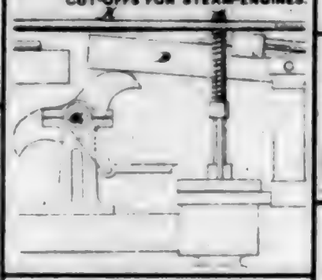
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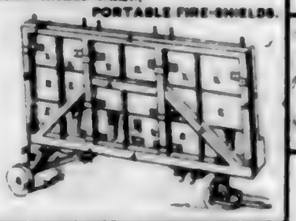
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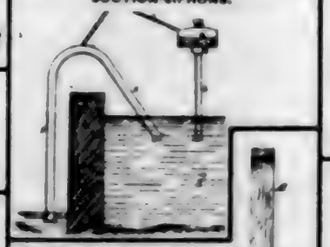
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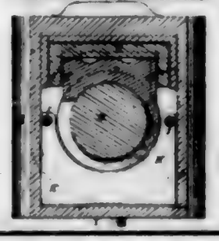
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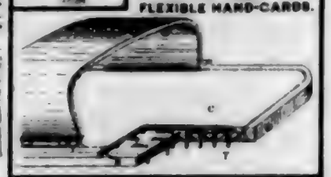
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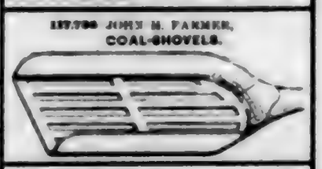
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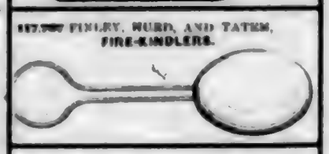
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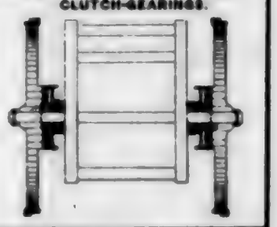
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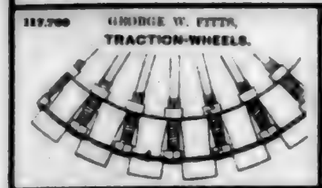
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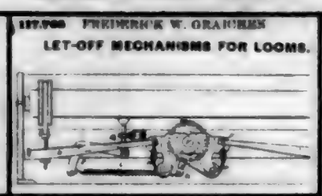
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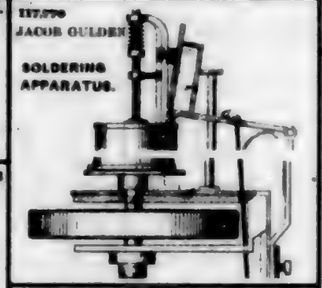
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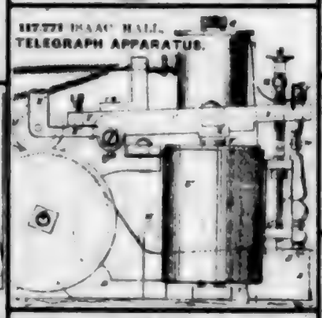
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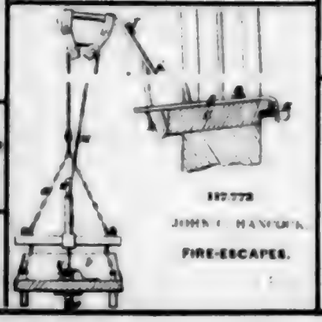
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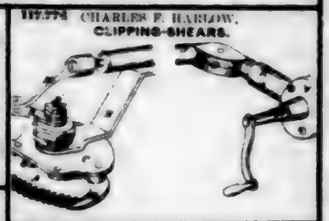
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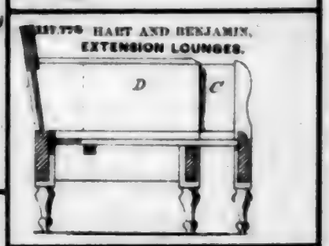
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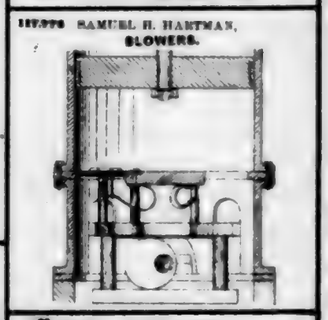
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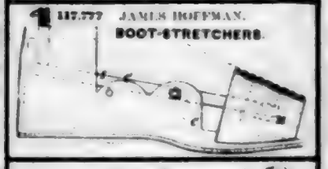
117,775 HART AND BENJAMIN. EXTENSION LOUNGES.



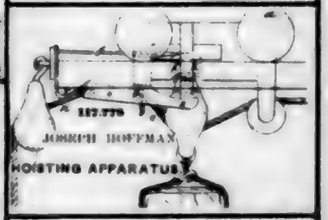
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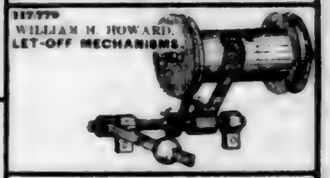
117,777 JAMES HOFFMAN. BOOT-STRETCHERS.



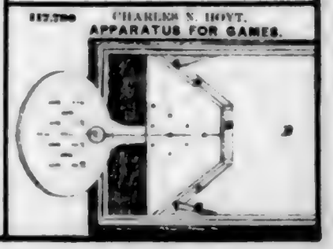
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117,779 WILLIAM H. HOWARD. LET-OFF MECHANISMS.



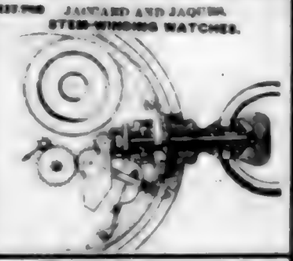
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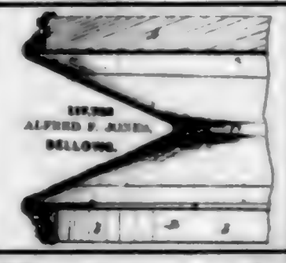
117,794 WILLIAM PENN HUBBARD. WATER-GATES.



117,795 JAQUARD AND JAQUIER. STEM-WINDING WATCHES.



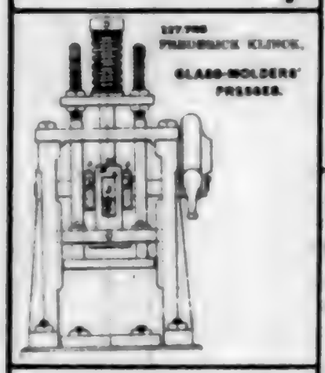
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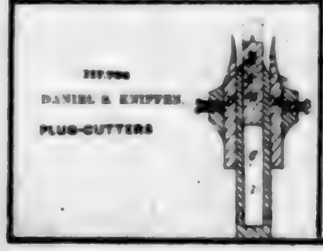
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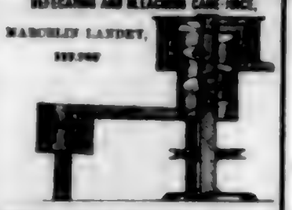
117,798 FREDERICK KLINCK. GLASS-HOLDERS' PRESSES.



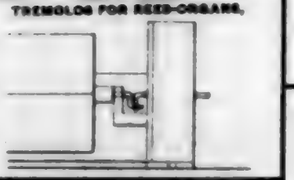
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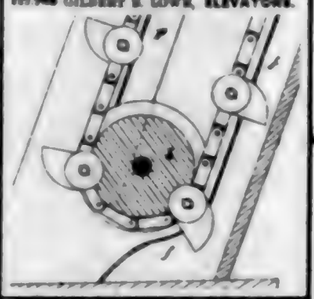
BLEACHING AND BLEACHING CANE JUICE. MARCELIN LANDET, 117,800



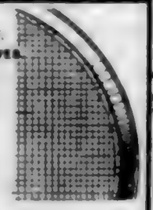
117,793 JOHN R. LOMAS TREMOLOS FOR REED-ORGANS.



117,792 GILBERT B. LOWE, ELEVATORS.



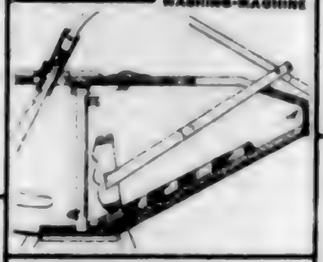
117,801 ROBERT J. MANN. CONSTRUCTING SIEVES.



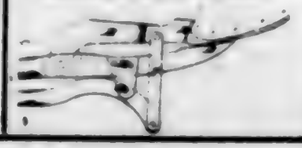
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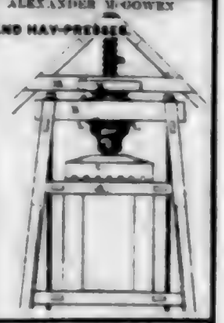
117,790 THOMAS A. MARSH. WASHING-MACHINE



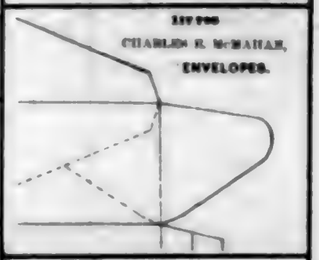
117,789 DANIEL MATER. HORSESHOE-NAIL CLINCHERS.



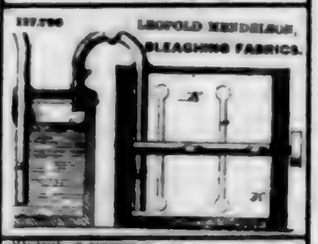
117,788 ALEXANDER M'COWEN COTTON AND HAY-PRESSES.



117,787 CHARLES R. M'MAHAN, ENVELOPES.

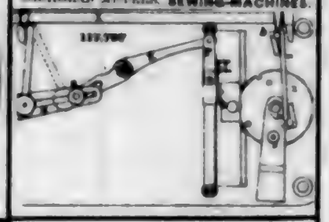


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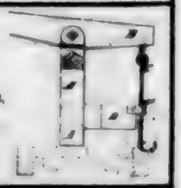


VICTOR A. MEYERS, SEWING-MACHINES.

117,785



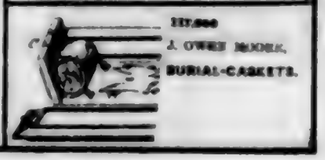
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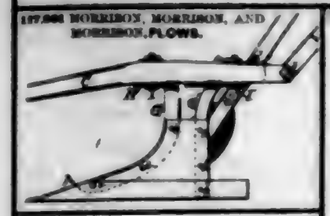
117,783 SAMUEL MITCHELL, SOCKETS



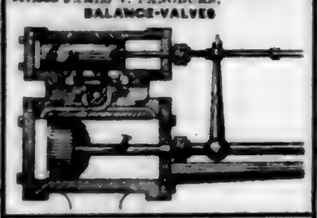
117,782 J. OWEN MOORE, BURIAL-CASKETS.



117,806 MORRISON, MORRISON, AND MORRISON, PLOWS.



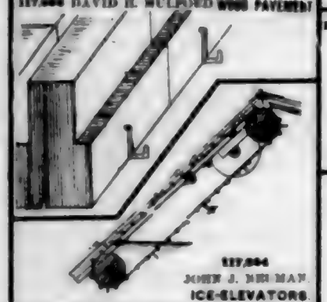
117,805 JAMES V. PASGUERE, BALANCE-VALVES



117,813 ROBERT M. PRIMMER. DITCHING-PLOWS.



117,803 DAVID H. MULFORD WOOD PAVEMENT

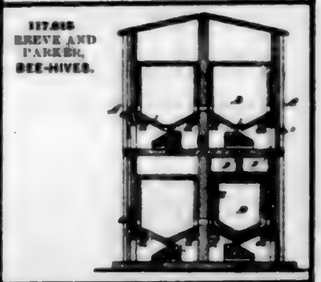


117,804 JOHN J. NEIMAN. ICE-ELEVATORS.

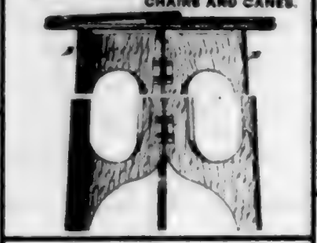
117,802 DAVID OTHO PARKER. CRADLES.



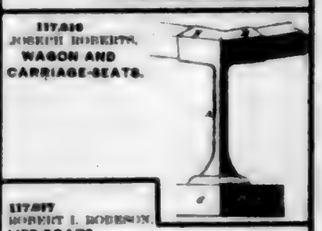
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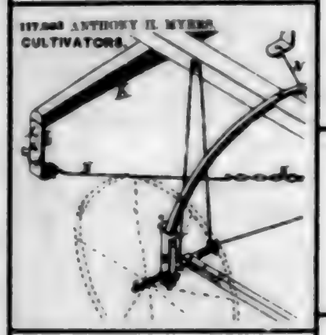
117,810 DAVID OTHO PARKER, CHAIRS AND CANES.



117,816 JOSEPH ROBERTS. WAGON AND CARRIAGE-SEATS.



117,807 ANTHONY H. MYERS. CULTIVATORS.



117,811 JOHNSON AND FEELER. SEAMLESS SHOES.



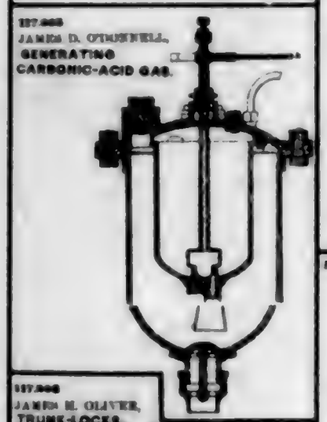
117,817 ROBERT L. ROBESON. LIFE-BOATS.



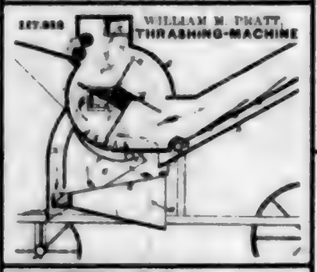
117,814 CHARLES ROWLAND. CARD-ENVELOPES.



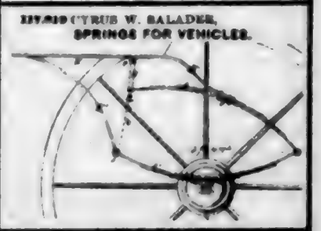
117,808 JAMES D. OTHUSELL, GENERATING CARBONIC-ACID GAS.



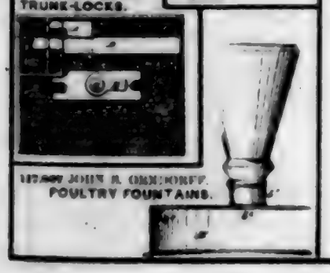
117,812 WILLIAM M. PRATT. THRASHING-MACHINE



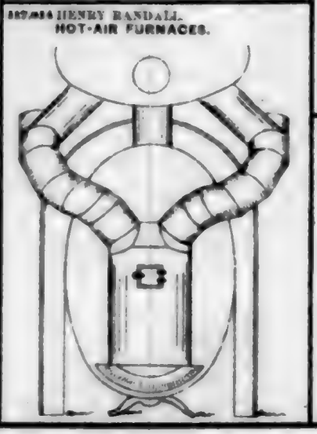
117,819 CYRUS W. BALADER. SPRINGS FOR VEHICLES.



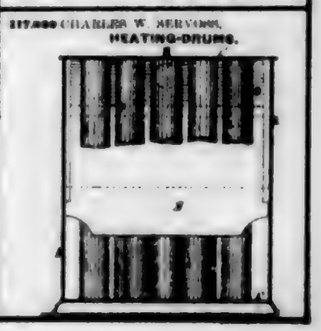
117,809 JAMES H. OLIVER. TRUNK-LOCKS.



117,818 HENRY RANDALL. HOT-AIR FURNACES.

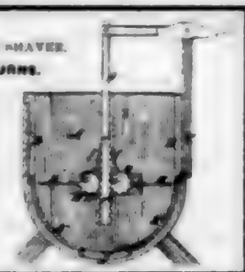


117,820 CHARLES W. SERVOSS. HEATING-DRUMS.

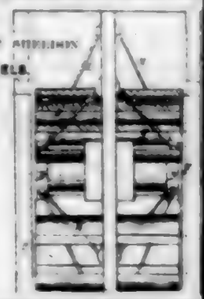


117,797 JOHN R. GREGORY. POULTRY FOUNTAINS.

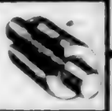
117,821 JACOB SHAVER. CHURNS.



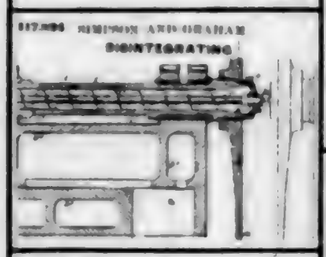
117,822 NATHANIEL P. SHELDON. PADDLE-WHEELS.



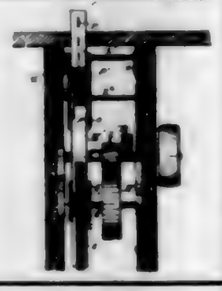
117,823 EDWARD C. SIBLEY. SHAFT-COUPLINGS.



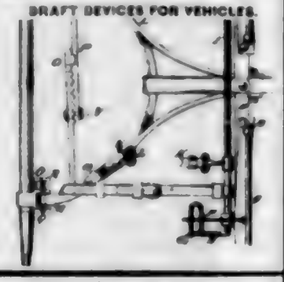
117,824 SIMPSON AND GRAHAM. DISINTEGRATING



117,825 EDWARD H. STEARNS. MACHINES FOR TURNING LOGS.

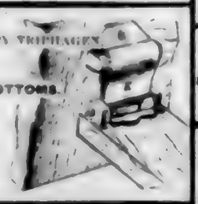


117,826 JONATHAN A. TIBBETS. DRAFT DEVICES FOR VEHICLES.

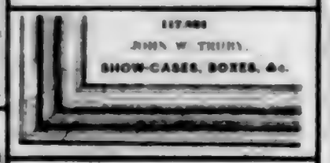


CHARLES HENRY TRIPHAGEN. SPRING BED-BOTTOMS.

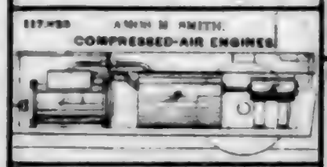
117,828



117,829 JOHN W. TRUBY. SHOW-CASES, BOXES, &c.



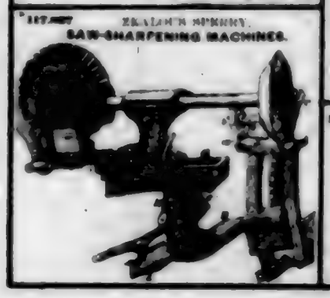
117,830 JOHN M. SMITH. COMPRESSED-AIR ENGINES.



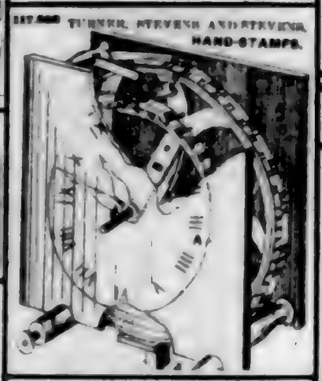
117,831 ISAAC SMITH. DIE-MOLDS.



117,832 ZEALOUS SPERRY. SAW-SHARPENING MACHINES.



117,833 TURNER, STEVENS AND STEVENS. HAND-STAMPS.



117,834 HENRY B. VAN HUNTHUYSEN. BASE-BURNING STOVES.



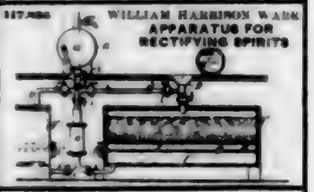
117,835 HUMMER VAN HORN. POT AND KETTLE-COVERS.



117,836 THOMAS C. SMITH ET AL. SEED-PLANTERS.



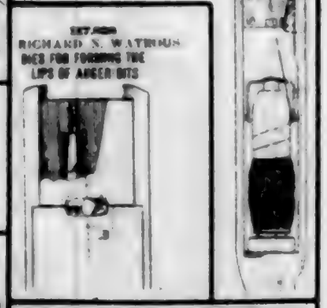
117,837 WILLIAM HARRISON WARE. APPARATUS FOR RECTIFYING SPIRITS.



117,838 WATERS AND OHL. SHUTTLES FOR WEAVING WIRE CLOTH



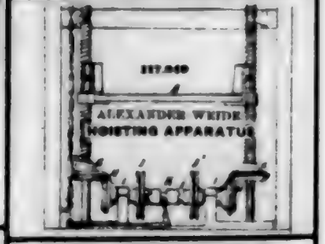
117,839 RICHARD S. WATKINS. DIES FOR FORMING THE LIPS OF AUGER-BITS



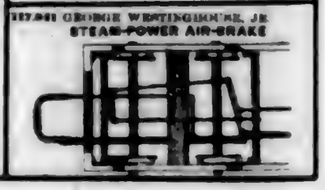
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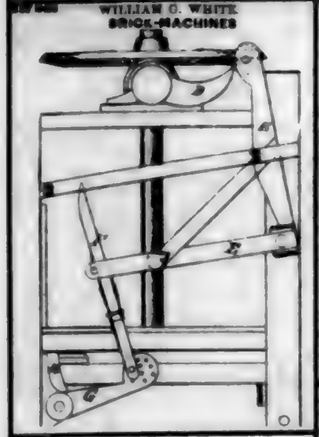
117,841 ALEXANDER WEIDE. HOISTING APPARATUS.



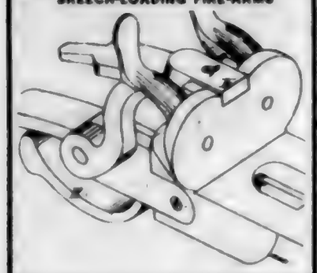
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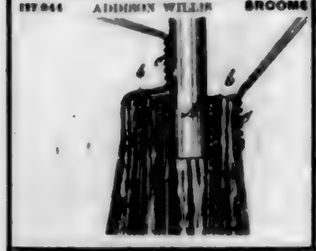
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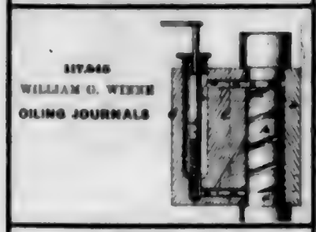
117,843 ANDREW K. WHITMORE. BREECH-LOADING FIRE-ARMS.



117,844 ADDISON WILLIS. BROOMS.



117,845 WILLIAM G. WIEHE. OILING JOURNALS.



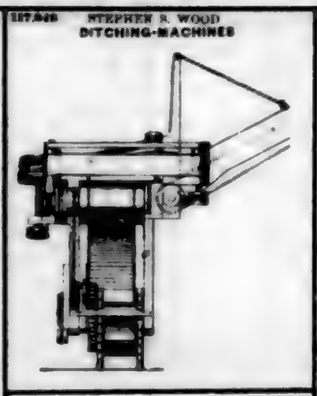
117,846 GEORGE L. WITSIL. WASHING-MACHINES.



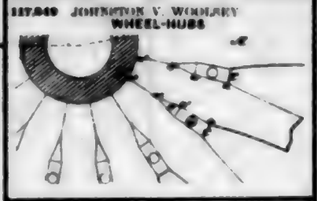
117,847 MALCOLM H. WOOD. CLOTHES-DRIERS.



117,848 STEPHEN S. WOOD. DITCHING-MACHINES.



117,849 JOHNSTON V. WOOLSEY. WHEEL-HUBS.



117,850 JOHNSTON V. WOOLSEY. CUTTER-HEADS.



117,851 ABBOTT AND MERRILL. PENCIL-SHEATHS.



117,852 ALBERT F. ALLEN. HOSE-PIPE VALVES.



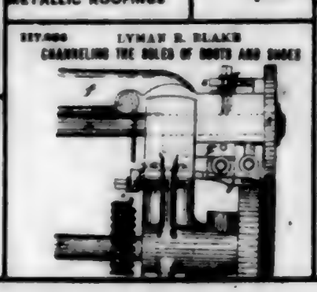
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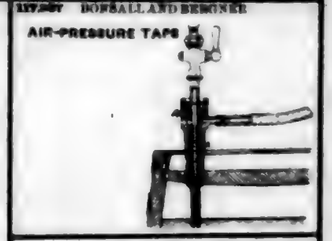
117,854 MATTHEW ANDREW. TAPS FOR OIL-CANS.



117,855 LYMAN R. BLAKE. CHANNELING THE SOLES OF BOOTS AND SHOES.



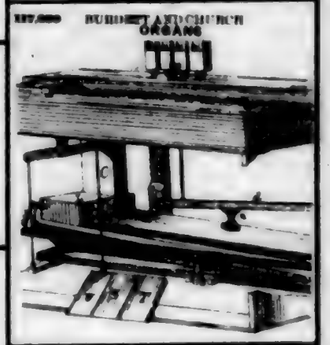
117,856 EDWIN BOSTALL AND BERGNER. AIR-PRESSURE TAPS.



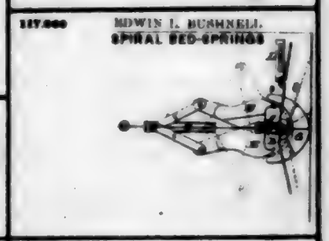
117,857 HENRY BRAUNHOLD. POCKETS TO TRAVELING-BAG PARTITIONS.



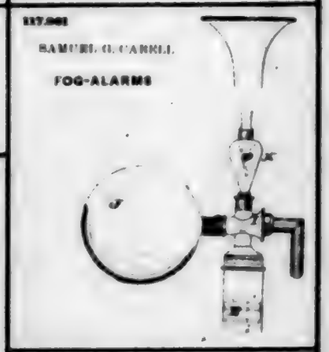
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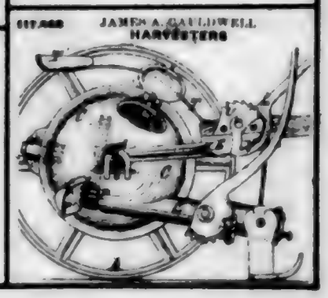
117,859 EDWIN I. BUSHNELL. SPIRAL BED-SPRINGS.



117,861 SAMUEL G. CARELL. FOG-ALARMS.



117,862 JAMES A. GAULDWELL. HARVESTERS.



117,863 AUGUSTUS CHESTNUTWOOD
FIRE-SCREENS

117,864 LEVI A. CLARK
MOWING-MACHINES

117,865 FREDERICK M. CLARKE
CROQUET-ARCHES

117,866 WILLIAM CLEVELAND
FAUCETS

117,867 JACOB L. COLES
SEWING HAT-TIPS TO LININGS

117,868 OTHO ARMSTRONG
JOURNAL-BEARINGS

MICHAEL S. CUMMINSKEY
PROPULSION OF CANAL-BOATS
117,869

117,871 HENRY A. DIEKES
CALL-BELLS

117,872 JARVIS B. EDSON SAFETY-VALVES

117,873 FAUCETT AND MCGOWAN
CONDENSERS FOR OIL-STILLS

JAMES H. FELLOWS
WAGON-SEAT FASTENINGS
117,874

117,875 LEVI W. FIFIELD
SLATING BRACKETS

117,876 FORD AND MCINTOSH
SHOE-FASTENINGS

117,877 JOHN P. FRIEND
MACHINES FOR FINISHING LEATHER

117,878 JOHN HENRY GAINES
WAGON-HUBS

117,879 JOEL GARFIELD
MILLS FOR GRINDING COFFEE

117,880 WILLIAM EARL GRENELLE
DIP-PIPES IN HYDRAULIC MAINS

117,881 ROBERT W. HAMILTON LOCK-NUTS

GEORGE HAVELL
BUCKLES
117,882

117,883 DANIEL C. HEFLEBOWER
DEVICES TO PREVENT ROOTING

117,885 IRVING A. HOWE DRAWERS

117,886 JOHN M. HOWE,
KNITTING-MACHINES.

117,887 HOWELL AND MURPHEY.
STAVE-JOINTERS.

117,888 PERCOTT, AND DUALDE,

117,889 JARVIS AND GOFF,
STILLS FOR BEER.

117,890 SAMUEL B. JOHNSON,
FIRE-EXTINGUISHERS.

117,891 THOMAS S. JOHNSON,
PEACH-STONE EXTRACTORS.

117,892 PATRICK KEANE,
SELF-ACTING JACKS

117,894 KENT AND BARKER
DOOR-HANGERS.

117,895 WILLIAM H. LAUDACH,
ROTARY MEASURING-FAUCETS.

117,896 JOHN LENMAN, DRILLING-MACHINE

JOHNSON LETSON,
RUBBER SHOES.
117,897

117,898 HENRY LOWTHER.
CIDER-MILLS.

117,899 LEWIS LILLIE.
BURGLAR-PROOF SAFES.

117,900 SAMUEL MORRIS LILLIE.
FIRE-EXTINGUISHERS.

117,901 MATTHEW B. LIVINGSTON, GATE

117,902 JAMES H. LOUGHRIDGE.
CARRIAGE-WHEELS.

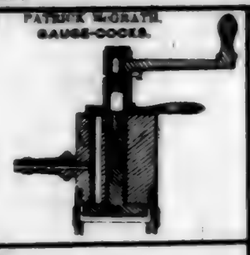
117,903 JOHN D. LYNDE.
GOVERNORS FOR STEAM-ENGINES.

117,904 CHARLES H. MACK.
DENTAL INSTRUMENTS.

117,905 JOHN J. MANNING.
DRYING GLUE.

117,906 JAMES H. MASON,
BREECH-LOADING FIRE-ARMS.

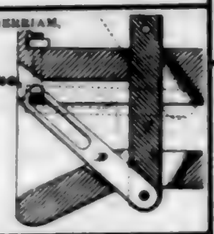
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GAUGE-COCKS.



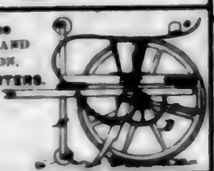


117.908
JAMES MEYER MEHARG.
SELF-CLOSING COCKS.

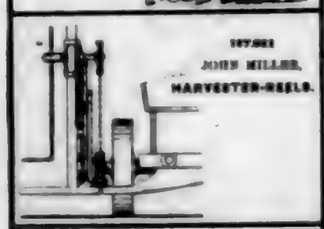
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CAR COUPLING.
117.909



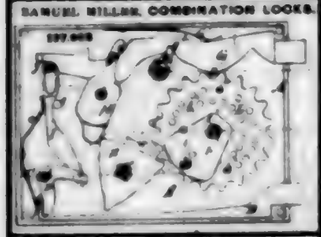
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MERRY AND DUNTON.
CORN-PLANTERS.



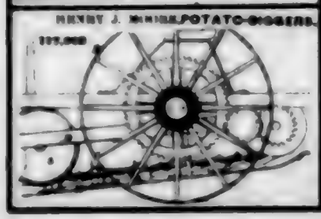
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JOHN MILLER.
HARVESTER-REELS.



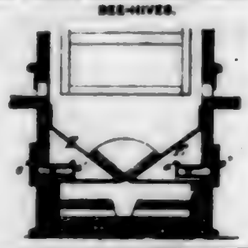
SAMUEL MILLER, COMBINATION LOCKS.
117.912



HENRY J. [illegible] POTATO-DIGGERS.
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117.914 SAMUEL CHRISTOPHER MOORE.
BEE-HIVES.



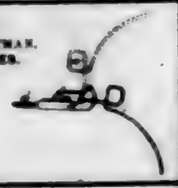
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JACOB MORRISON.
CHAIRS.



117.916
CHARLES A. NEWTON.
BUTTONS OR STUDS



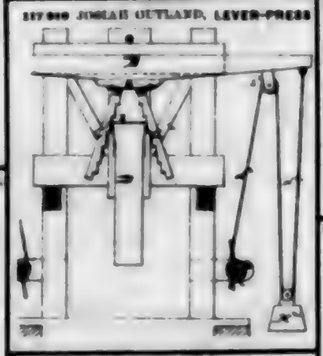
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GEORGE NOYMAN.
HAY-RAKES.



117.918 FRANCIS A. OSTRANDER.
STOPPERS FOR LADLES.



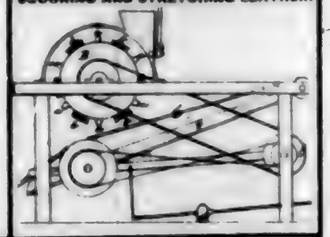
117.919 JUDAH OUTLAND. LEVER-PRESS



LEWIS S. PALMER. STAVE-JOINTERS.
117.920



117.921 JAMES C. PARKERLEE.
SCOURING AND STRETCHING LEATHER.



WILLIAM PATTERSON.
ANIMAL POWERS.
117.922



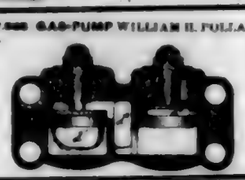
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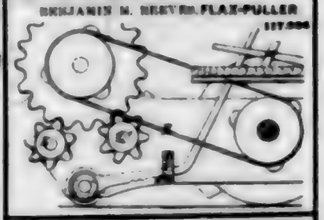
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CHARLES B. PRINCE
VEGETABLE GRATERS.



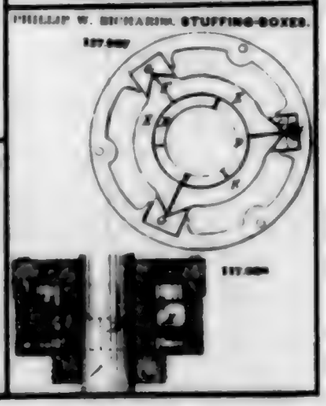
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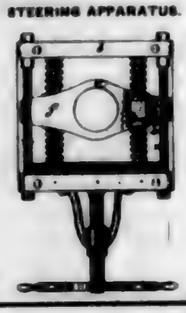
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117.926



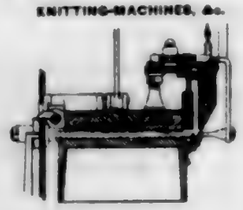
PHILIP W. RICHARDS. STUFFING-BOXES.
117.927



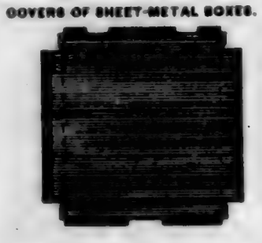
117.928 NATHAN RICHARDSON.
STEERING APPARATUS.



117.929 SYLVESTER H. ROPER.
KNITTING-MACHINES, &c.



117.930 CHARLES E. RUSS.
COVERS OF SHEET-METAL BOXES.



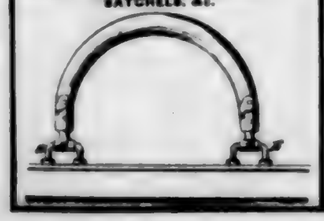
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RUFUS S. SANBORN.
RAILWAY RAILS.



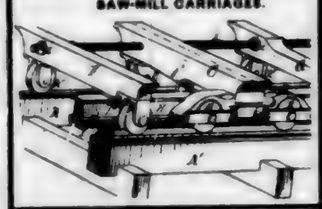
117.932 JACOB H. SAWYER.
FASTENINGS FOR SPINNING-RINGS.



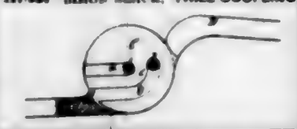
117.933 FERDINAND C. SCHMIDT.
SATCHELS, &c.



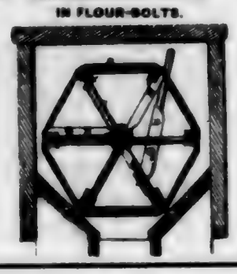
117.934 GEORGE SELDEN.
SAW-MILL CARRIAGES.



117.935 SIMON SLACK. THILL-COUPLING



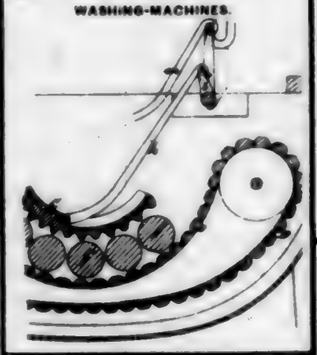
117.936 JOHN CRAWFORD SMITH.
IN FLOUR-BOLTS.



117.937 SAMUEL STRONG.
PACKINGS FOR DOORS AND WINDOWS.



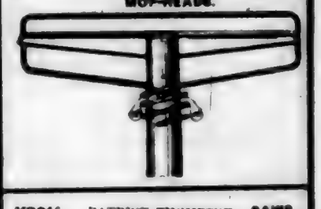
117.938 ALFRED T. SULLIVAN.
WASHING-MACHINES.



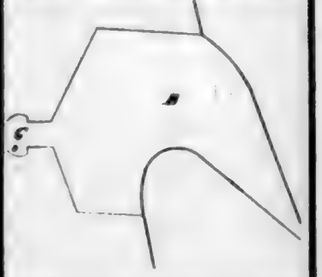
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ORRIN W. SWIFT.
CAR VENTILATORS.



LUKE W. TAYLOR.
MOP-HEADS.
117.943



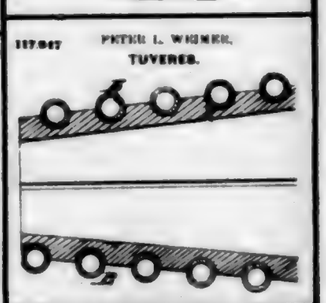
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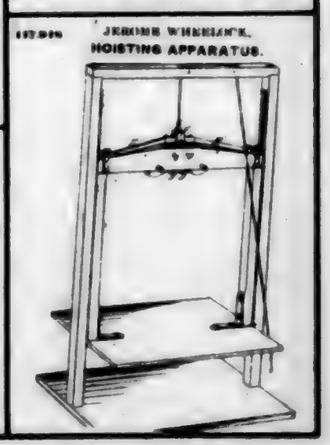
117.945 EDMUND MALCOLM TURNER.
ICE-CREEPERS.



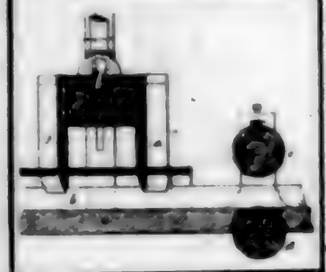
117.947 PETER L. WEIMER.
TUYERES.



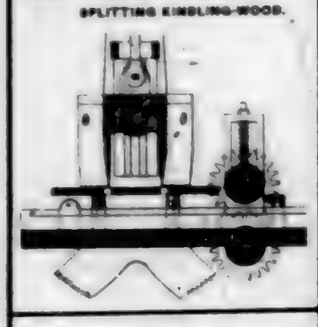
117.948 JEROME WHEELOCK.
HOISTING APPARATUS.



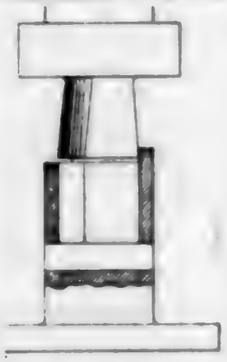
117,954 WILLIAM L. WILLIAMS,
WOOD-SPLITTING MACHINES.



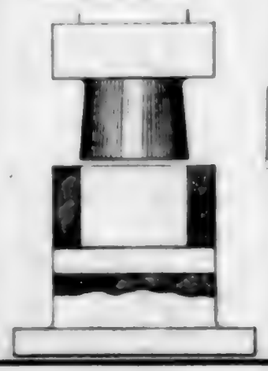
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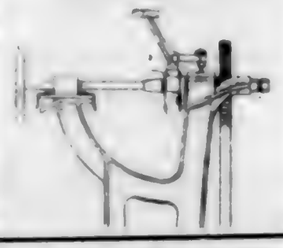
117,956 JOHN T. WILSON,
DRAW-BARS OF RAILROAD COUPLINGS.



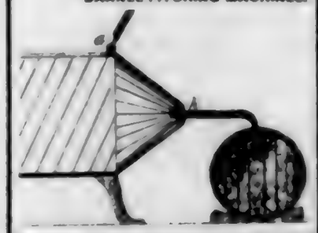
117,957 JOHN T. WILSON,
DRAW-HEAD FACE-PLATES.



117,958 RICHARD C. LAMBERT,
HEEL-BURNISHING MACHINES.



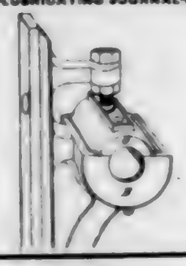
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BARREL-PITCHING MACHINES.



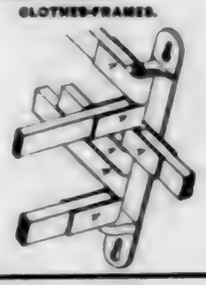
4,960 ETIENNE DOLEAC.
FIRE-PLATES FOR STOVES.



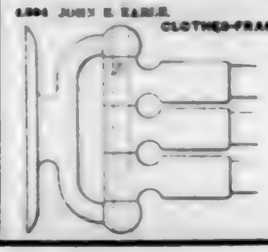
4,961 JAMES DUFF,
SELF-LUBRICATING JOURNAL-BOXES.



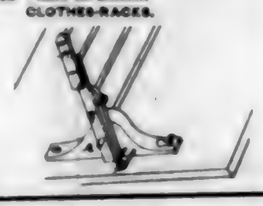
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CLOTHES-FRAMES.



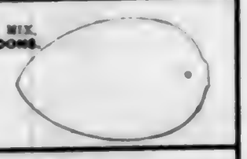
4,964 JOHN B. EARLE,
CLOTHES-FRAMES.



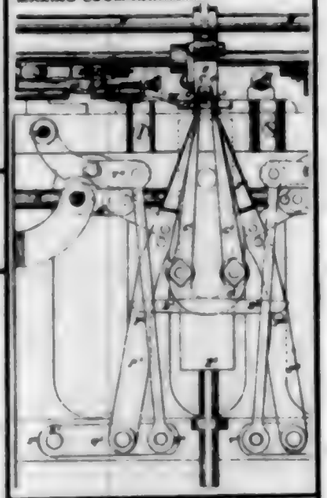
4,963 VILAS M. HEATH,
CLOTHES-RACKS.



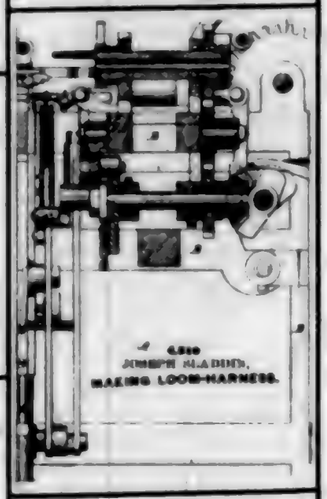
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GAREY I. MIX,
IRON SPOONS.



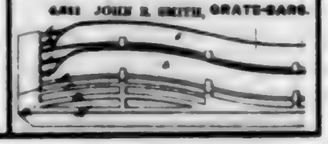
4,966 JOSEPH BLAINEY,
MAKING LOOM-HARNESS.



4,510
JOSEPH BLAINEY,
MAKING LOOM-HARNESS.

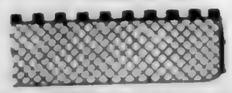


4,511 JOHN B. SMITH, GRATE-BARS.

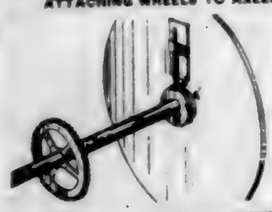


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
AUGUST 15, 1871.

117,957 LEVI B. ALEXANDER,
FISHING-NETS.



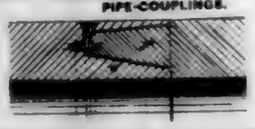
117,958 FRANCIS ALGER,
ATTACHING WHEELS TO AXLES.



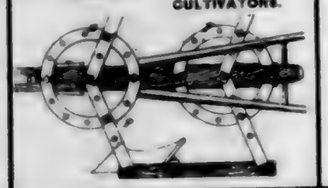
117,959 EDWARD AMBROSE ANDERSON,
BROOMS.



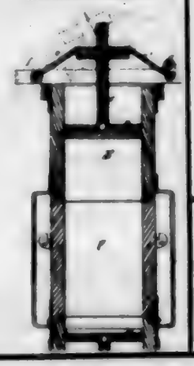
117,960 JOSEPH F. ANDREWS,
PIPE-COUPLINGS.



117,961 WILLIAM J. ARRINGTON,
CULTIVATORS.



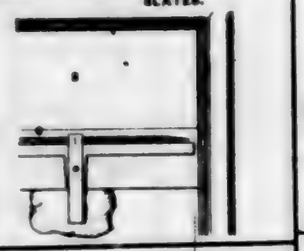
117,962 WILLIAM J. ARRINGTON,
BALING-PRESSES.



117,963 CHARLES AYRES,
FENCE-POSTS.



117,964 WILLIAM F. BAADE,
SLATES.



117,965 SAMUEL S. BARRIS,
EPERGNES FOR FRUITS AND FLOWERS.



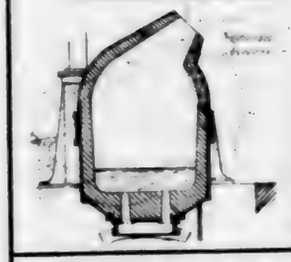
117,966 BARRY AND BARRY,
FRUIT-GATHERERS.



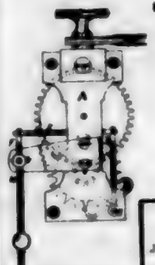
117,967 MARY EMMA BAYLIS,
PAPER WRAPPERS FOR NEEDLES.



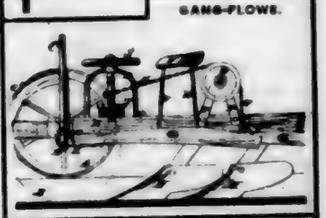
117,968 HENRY BESSEMER,
MANUFACTURE OF IRON AND STEEL.



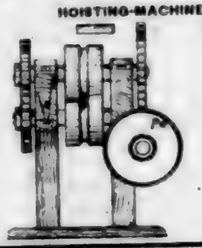
117,969 JOHN M. BEVERLEY
MOSQUITO-FANS.



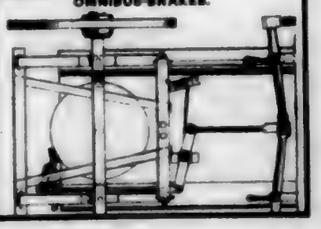
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JOHN BLACKWOOD,
SAND-FLOWS.



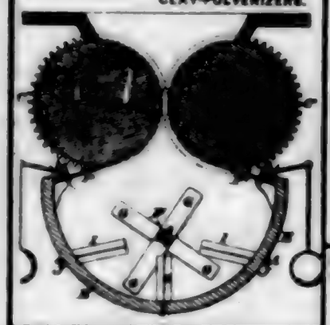
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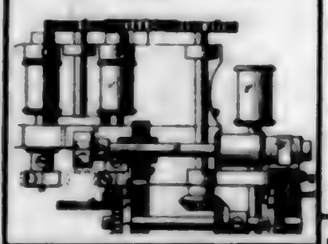
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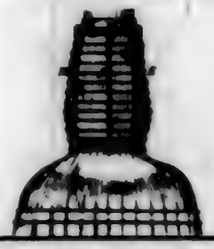
117,979 GEORGE C. BOVEY, CLAY-PULVERIZERS.



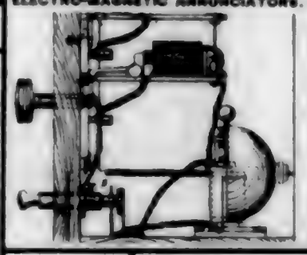
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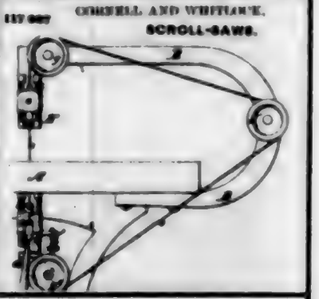
117,981 ROBERT E. COPSON, BROOMS.



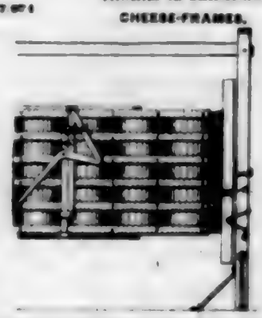
117,982 JACOB CAPRON, ELECTRO-MAGNETIC ANNUNCIATORS.



117,983 CORNELL AND WHITLOCK, SCROLL-SAWS.



117,984 THOMAS M. BRINTNALL, CHEESE-FRAMES.



117,985 WILLIAM B. CHAMBERS, CORN-PLANTERS.



117,986 HENRY S. CATE, PACKINGS FOR OIL-WELLS.



117,987 DANIEL B. CLAYTON, EGG-BEATERS.



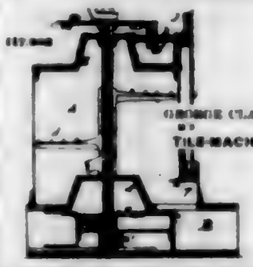
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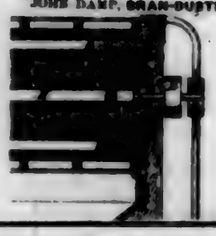
117,989 HUGH J. COYLE, MARKERS, AND COVERERS



117,990 GEORGE CLAYTON, TILE-MACHINES.



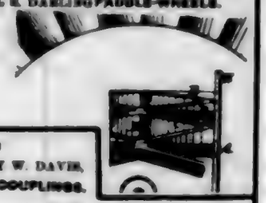
117,991 JOHN DAMP, GRAIN-DUSTERS.



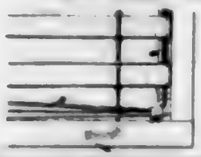
117,992 WILLIAM CLEVELAND, DECANTING APPARATUS FOR OIL-CANS.



117,993 DAVID S. DARLING PADDLE-WHEELS.



117,994 GEORGE BROWNLEE, SPRING SEED-BOTTOMS.



117,995 PERRY W. DAVIS, CAR-COUPLINGS.



117,996 RALPH COLLIER, COMPOSITION ROLLS



117,997 CHARLES BÜTHENBACH, LIFE-BOATS AND SEED-BOTTOMS.



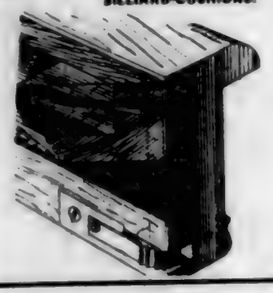
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117,999 PAUL R. DAWSON, HAME-TUGS FOR HARNESS.



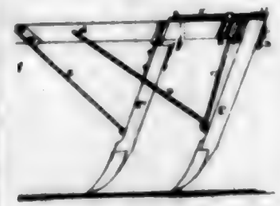
118,000 MATHEW DELANEY, BILLIARD-CUSHIONS.



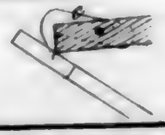
118,001 WILLIAM DOYLE, BASE-BURNING STOVES.



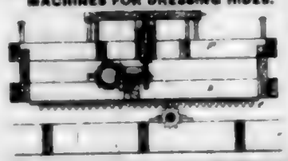
118,002 THOMAS J. ELLIS, CULTIVATORS.



118,003 DAVID FISHER, IMPROVEMENT IN ROOF-BRACKETS.



118,004 EDWARD FITZHENRY, MACHINES FOR DRESSING HIDES.



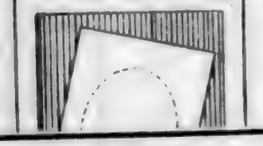
118,005 EDWARD FITZHENRY, MACHINES FOR DRESSING LEATHER.



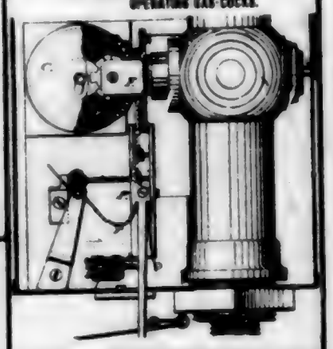
118,006 RICHARD B. FOOTE RAISING LETTERS ON METAL PLATES.



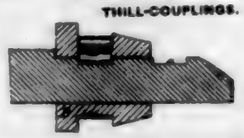
118,007 ELIPHALET J. FOSS, PHOTOGRAPHY.



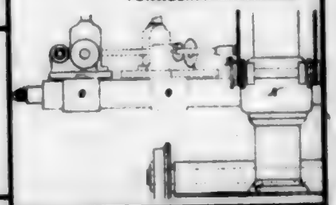
118,008 SAMUEL GARDINER, JR. OPERATING GAS-COCKS.



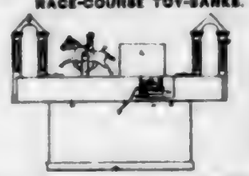
118,009 MARCELLUS C. GRAVES, THILL-COUPLINGS.



118,010 GRIDLEY, GRIDLEY AND GRIDLEY TUNNELING-MACHINES.



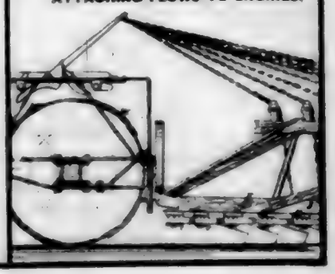
118,011 JOHN HALL, RACE-COURSE TOY-BANKS.



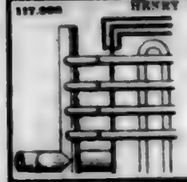
118,012 JOEL HAYDEN, JR., SELF-CLOSING FAUCETS.



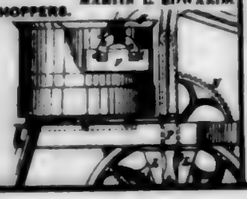
118,013 WILLIAM H. H. HEYDRICK, ATTACHING PLOWS TO ENGINES.



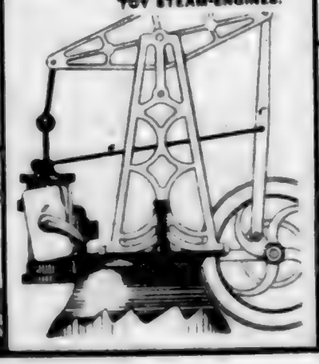
118,014 HENRY H. KINGERTON, ILLUMINATING GASES.



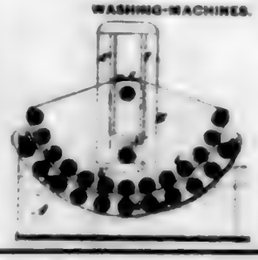
118,015 MARTIN L. EDWARDS, MEAT-CHOPPERS.



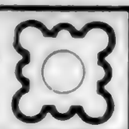
118,016 RUSSEL FRISBIE, TOY STEAM-ENGINES.



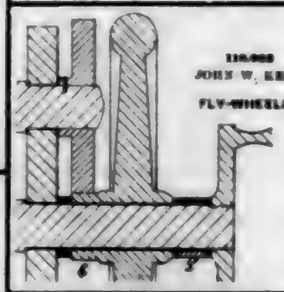
118,034 HARVEY C. BOBSEY, WASHING-MACHINES.



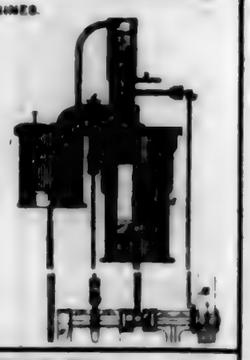
118,035 JOHN A. KAY. METALLIC COLUMNS.



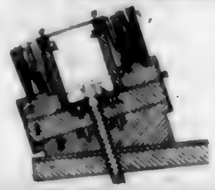
118,036 JOHN W. KELLY, FLY-WHEELS.



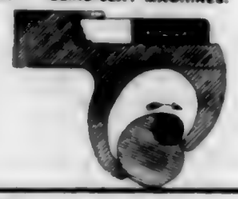
118,037 CHARLES P. LEAVITT, GAS-ENGINES.



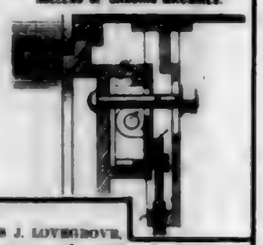
118,038 JOHN B. HOWARD, BLACKING-BRUSHES.



KENDAL AND STARK, 118,039 BLIND-SLAT MACHINES.



118,040 EDWARD LORD, ROLLERS OF CARDING-MACHINES.



118,041 CHARLES W. BUSH, MECHANICAL MOVEMENTS.



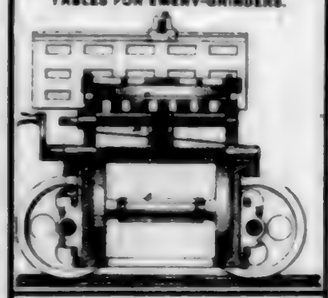
118,042 WILLIAM R. KINSHAW, WASH-BOILERS.



118,043 THOMAS J. LOVEGROVE, STEAM-BOILERS.



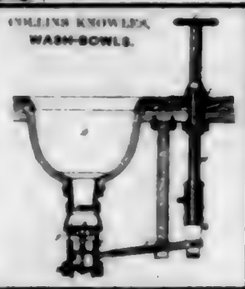
118,044 JAMES L. JACKSON, TABLES FOR EMERY-GRINDERS.



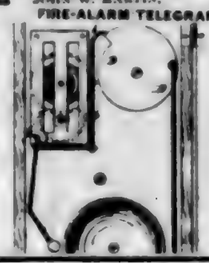
118,045 ALBERT LUNIER, HYDRAULIC HOISTING APPARATUS.



118,046 COLLINS KNOWLES, WASH-BOWLS.



118,047 JOHN W. MARTIN, FIRE-ALARM TELEGRAPHS.



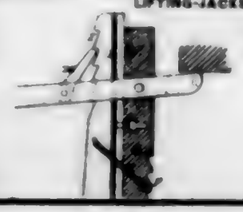
118,048 JOHN JOHNSON, SPRING-BEDS.



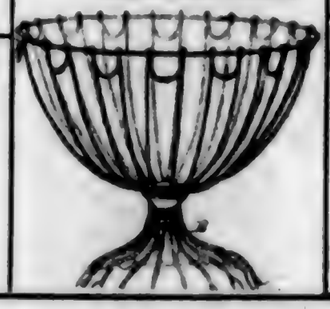
118,049 REUEL P. JOHNSTON, METAL CARPET-BINDINGS.



118,050 STEPHEN D. JONES, LIFTING-JACKS.



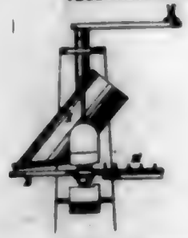
118,051 CYRUS H. LATHAM. CAKE AND FRUIT-BASKETS.



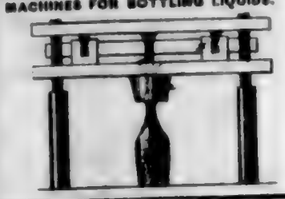
118,052 WENZEL MASEK, TANNING IN VACUO.



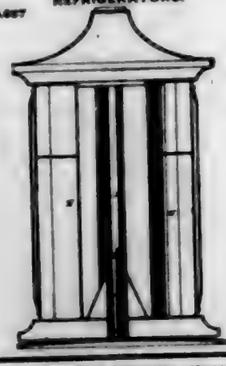
118,035 GIDEON B. MARSEY, VEGETABLE CUTTERS.



118,036 JEAN VICTOR MATHIVET, MACHINES FOR BOTTLING LIQUIDS.



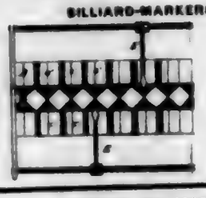
JOHN MATTHEWS, JR. 118,037 REFRIGERATORS.



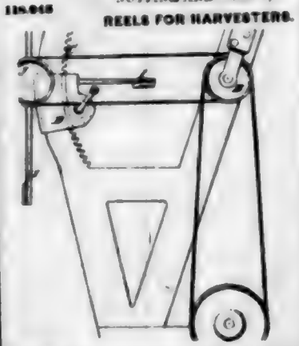
118,038 THOMAS MORTON, SUSPENDING WINDOW-SASHES.



118,039 WILLIAM HENRY NEWELL, BILLIARD-MARKERS.



118,040 NUTTING AND ALLEN, REELS FOR HARVESTERS.



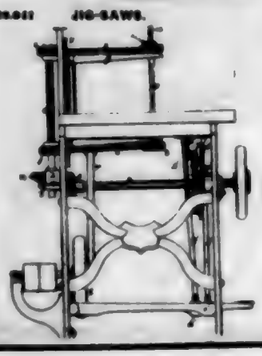
118,041 THOMAS JENNINGS MCCARVER, SASH-HOLDERS



118,042 WILLIAM H. MCCOY, BIT-STOCKS.



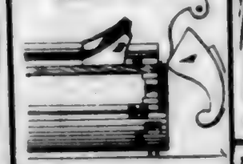
CHARLES D. MOORE, 118,043 JIG-SAWS.



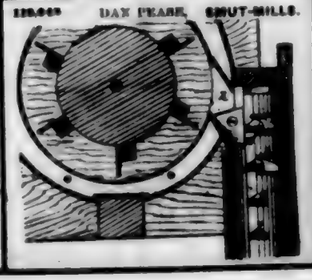
118,044 ADDISON H. OSBORN, LOOPS FOR HARNESS.



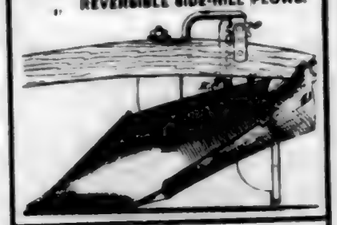
118,045 FREDERICK C. PAYNE, LOUNGE-BEDSTEADS.



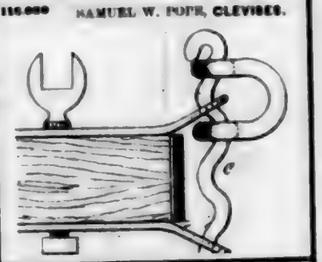
118,046 DAN PEASE, SHUT-MILLS.



118,047 CHARLES B. PETTENGILL, REVERSIBLE SIDE-HILL PLOWS.



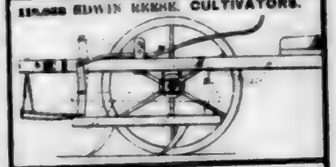
118,048 SAMUEL W. POPE, CLEVISES.



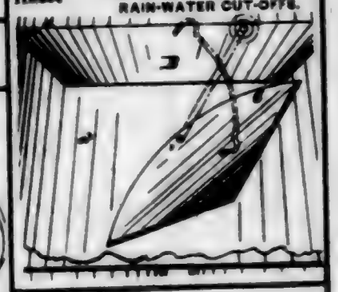
118,049 NORMAN L. PRICE, FUNNELS.



118,050 EDWIN REESE, CULTIVATORS.



118,051 BERNARD REIN, RAIN-WATER CUT-OFFS.



118,052 THOMAS RICH, SUSPENDERS.



118,053 TITUS H. RUSSELL, HORSE-POWERS.



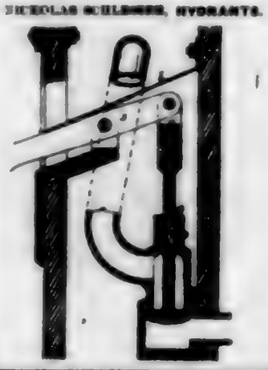
118,057 JOHN A. STAN, LETTER-BOXES.



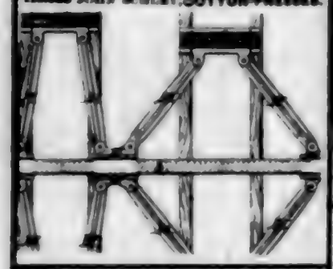
118,058 SAMUEL SAWYER, BIT-STOCKS.



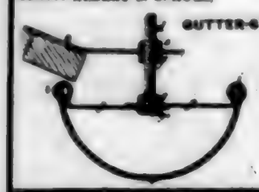
118,059 NICHOLAS SCHLEMMER, HYDRANTS.



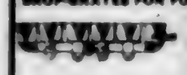
118,060 JOHN MOSELEY, COTTON-PRESSES.



118,061 ALBERT D. SCHULZ, GUTTER-STRAPS.



118,062 WILLIAM SHEPHERD, DROP-GRATES FOR FURNACES.



118,063 JOHN CARLOS HEART, DOOR-CHECKS.



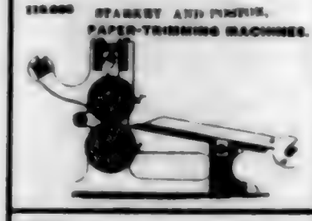
118,064 WILLIAM B. SNOW, VALVES



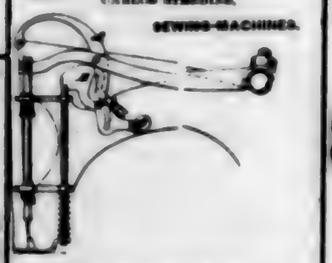
118,065 WILLIAM B. SNOW, ADJUSTABLE-GAUGE CAR-WHEELS.



118,066 STARKEY AND PORTER, PAPER-TRIMMING MACHINES.



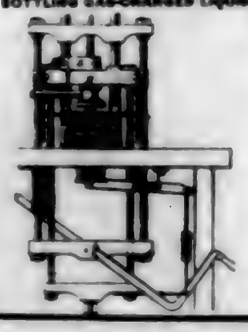
118,067 CARLOS STEBBINS, SEWING-MACHINES.



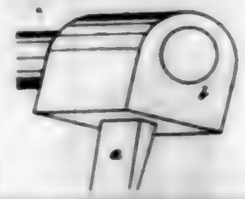
118,068 GEORGE STEVENSON, FARMERS' BOILERS.



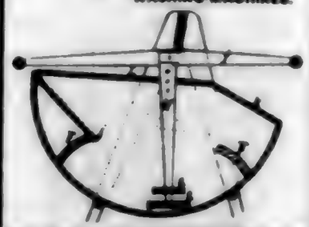
118,069 ISAAC D. TAYLOR, SETTLING GAS-CHARGED LIQUIDS.



118,070 THOMAS A. TAYLOR, ICE-PICKS.



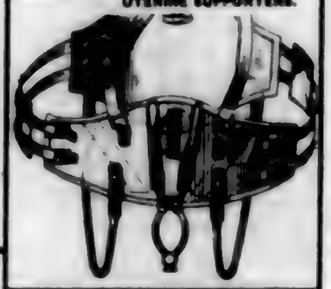
118,071 JAMES M. THOMPSON, WASHING-MACHINES.



118,072 JEREMIAH B. TRUE, DUMPING-CARRIAGES.



118,073 WILLIAM S. VAN CLEVE, UTERINE SUPPORTERS.



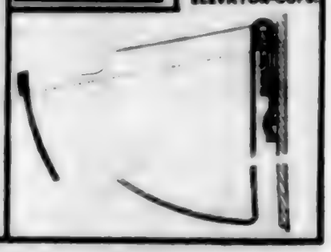
118,074 VAN VANDERBURGH, WASHING-MACHINES.



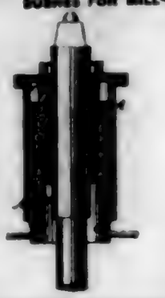
118,075 SAMUEL VANSTONE, DEVICES FOR LOCKING BOLTS.



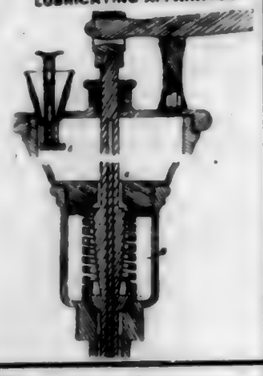
118,076 ALFRED A. VITT, ELEVATOR-CUPS.



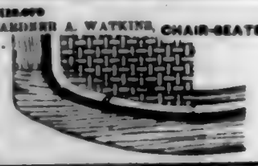
118,077 HERMAN W. VITT, BUSHES FOR MILL-SPINDLES.



118,078 SIMON N. WARD, LUBRICATING APPARATUS

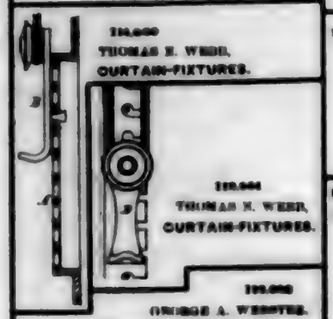


118,079 GARDNER A. WATKINS, CHAIR-SEATS.

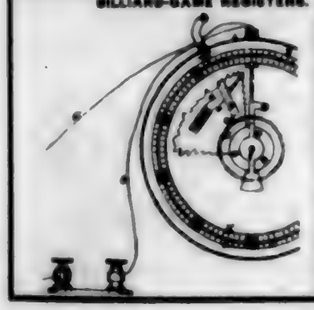


118,080 THOMAS E. WEBB, CURTAIN-FIXTURES.

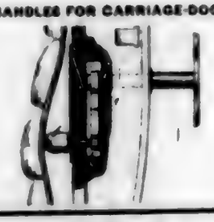
118,081 THOMAS E. WEBB, CURTAIN-FIXTURES.



118,082 GEORGE A. WEBSTER, BILLIARD-GAME REGISTERS.



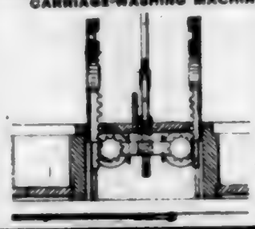
118,083 EDWARD WELLS, HANDLES FOR CARRIAGE-DOORS.



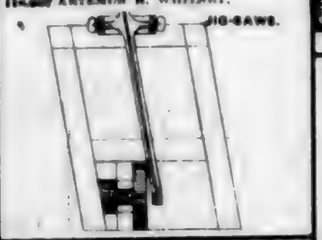
118,084 WILLIAM WESTLAKE, DUST-PANS.



118,085 OLIVER P. WESTON, CARRIAGE-WASHING MACHINES.



118,086 ARTEMUS H. WHITNEY, [illegible]-SAWS.



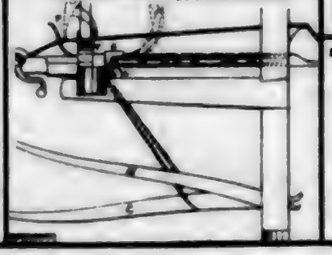
118,087 DAVID S. WILHOIT, GARDEN IMPLEMENTS.



118,088 FREDERICK YARSCHE, BRAKES FOR BENDING SHEET METAL.



118,089 JAMES YOUEL, GRAIN-BINDERS.



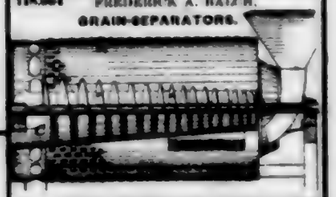
118,090 GUSTAVUS AMES, BEATING-ENGINES



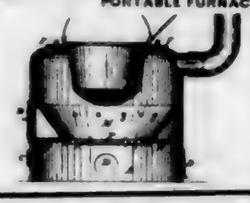
118,091 ANDERSON AND BERSON, RUNNING-GEARS FOR CARRIAGES.



118,092 FREDERICK A. BAUM, GRAIN-SEPARATORS.



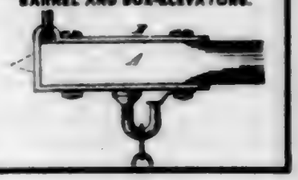
118,093 HENRY BEATTY, PORTABLE FURNACES.



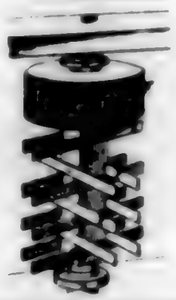
118,094 BLAKE AND BLAKE CHAIRS AND LADDERS.



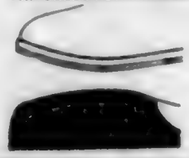
118,095 WILLIAM BERGMANN, BARREL AND BOX-ELEVATORS.



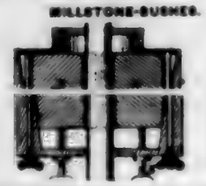
118,098 WILLIAM BOSWELL, MILL-RACES.



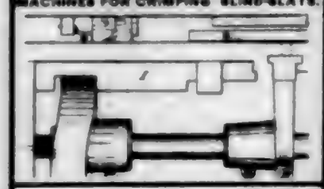
118,099 WILLIAMS AND BOURN, TAP-SOLES FOR RUBBER BOOTS



118,100 JAMES BROWN, MILLSTONE-BUSHES.



118,101 MARTIN BOUK, MACHINES FOR CRIMPING BLIND-SLATS.



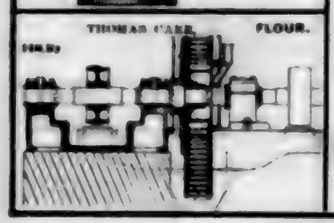
118,102 BYRD AND BYRD, SAFETY-WHIFFLETREES.



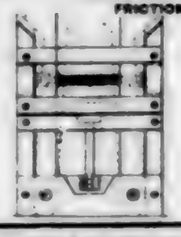
118,103 JAPEWELL, JAPEWELL, AND JAPEWELL, CHARGERS FOR POWDER-FLASKS.



118,104 THOMAS CAKE, FLOUR.



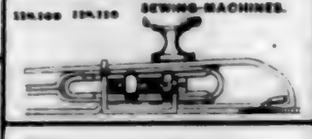
118,107 JOHN C. CLAPP, FRICTION-BRAKES



118,108 JOHN B. CLEAVELAND, ARROW-SPRINGS.



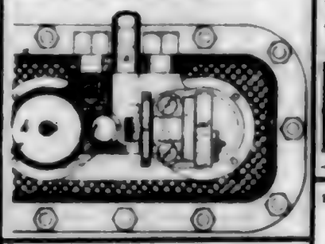
118,109 118,110 COLTON AND RADDUK, SEWING-MACHINES.



118,111 COLTON AND RADDUK, BINDERS FOR SEWING-MACHINES.



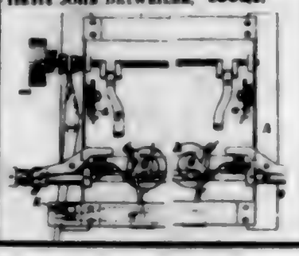
118,112 DAVID P. DAVIS, METERS.



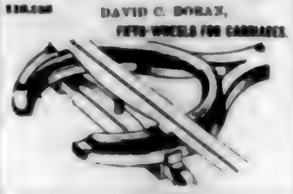
118,113 EZEKIAH DAWSON, MILLSTONE-BALANCES



118,114 JOHN DETWEILER, LOOMS.



118,115 DAVID C. DORAN, FEED-WHEELS FOR CARRIAGES.



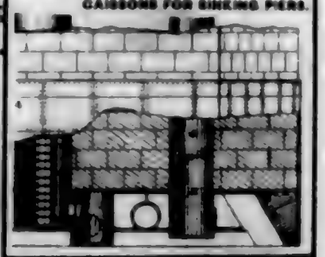
118,116 WILLIAM H. DUFFETT, HYDRANTS.



118,117 FRANK HARPER DUNCAN, CASTERS FOR SEWING-MACHINES.



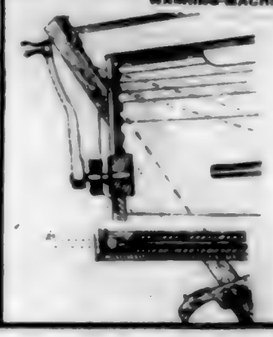
118,118 JAMES B. HAIN, CAISSONS FOR SINKING PIERS.



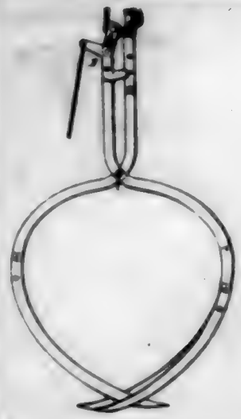
118,119 THOMAS EDMUNDS, PLOWS.



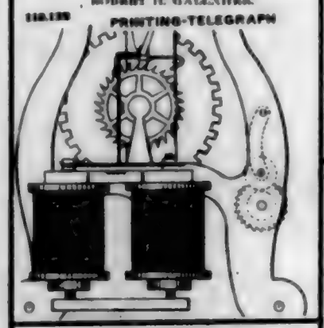
118,120 HENRY E. FERRIDAY, WASHING-MACHINES.



118,121 BENJAMIN G. FOX, FORKS FOR HAY-ELEVATORS.



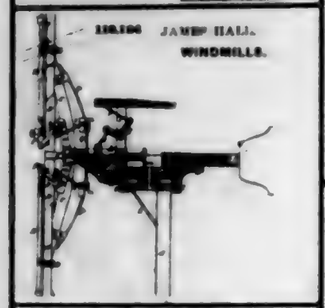
118,122 ROBERT H. GALLAHER, PRINTING-TELEGRAPH



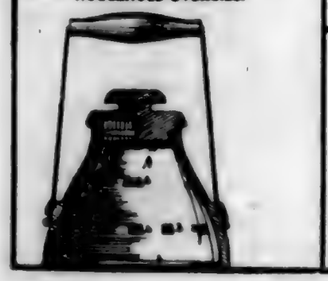
118,123 HORTENSE GRIFFIN, TABLE-GLIDES.



118,124 JAMES HALL, WINDMILLS.



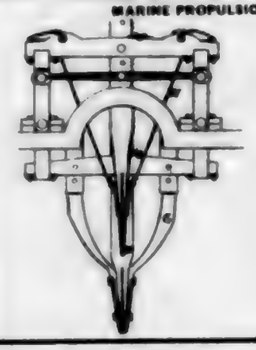
118,125 HENRICK S. HALMY, HOUSEHOLD UTENSILS.



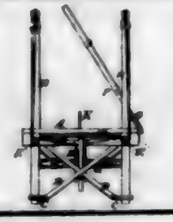
118,126 E. WARREN HASTINGS, ILLUMINATING INCENSE-BURNERS.



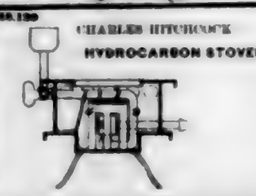
118,127 BENJAMIN S. HEATH, MARINE PROPULSION.



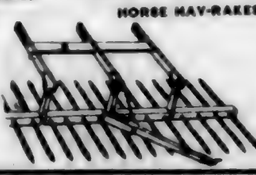
118,128 ANDREW J. HEAVNER, ADJUSTABLE SCAFFOLDINGS.



118,129 CHARLES HITCHCOCK HYDROCARBON STOVES.



118,130 HOLMAN AND FARRAR, HORSE HAY-RAKES.



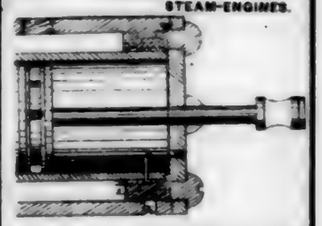
118,131 JAMES EDWIN HOOPER, TOOLS FOR PACKING VALVES.



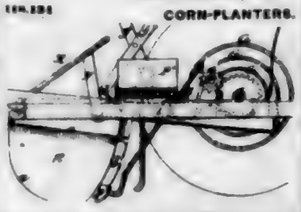
118,132 WILLIAM K. HORNER, HYDROCARBON TORCHES.



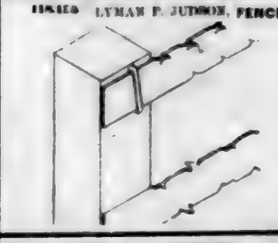
118,133 AMARIAH W. JACKSON, STEAM-ENGINES.



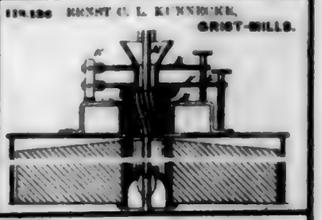
118,134 JOHN JACKSON, JR. CORN-PLANTERS.



118,135 LYMAN P. JUDSON, FENCES.



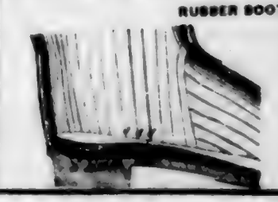
118,136 ERNST C. L. KUNNECKE, GRIST-MILLS.



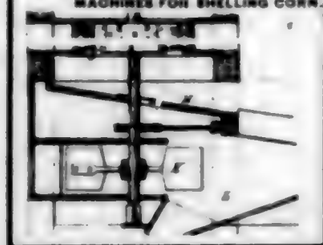
118,137 LEONARD ARMSTRONG, HARNESS-SADDLES.



118,138 CHARLES H. LINS, RUBBER BOOTS.

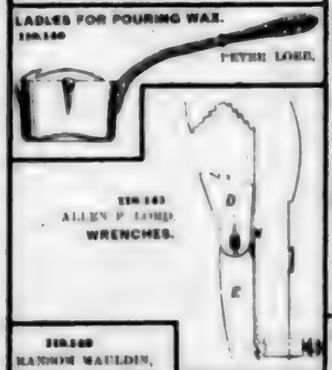


118,130 HENRY LIPPOLD. MACHINES FOR SHELLING CORN.



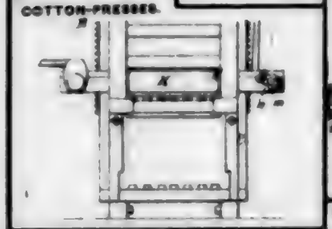
LADLES FOR POURING WAX.

118,140 PETER LORD.

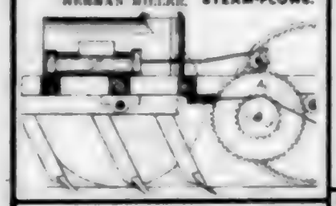


118,141 ALLEN P. LORD. WRENCHES.

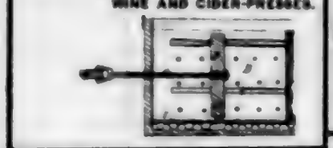
118,142 RANSOM WAULDIN. COTTON-PRESSES.



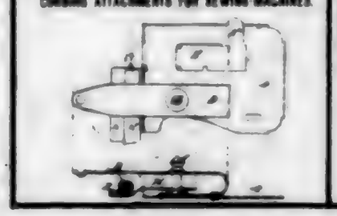
118,143 HERMAN MILLER. STEAM-PLOWS.



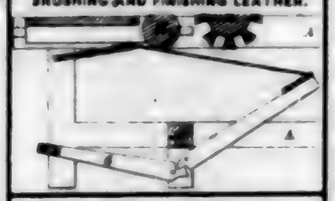
118,144 THOMAS M. MILLETT. WINE AND CIDER-PRESSES.



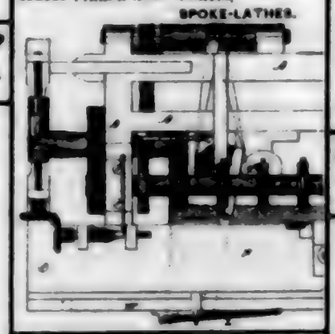
118,145 MILTON J. PALMER. COMBINE ATTACHMENTS FOR SEWING-MACHINES.



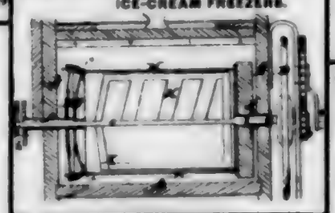
118,146 GEORGE H. PARKER. BRUSHING AND FINISHING LEATHER.



118,147 PIERCE AND CURTIS. SPOKE-LATHES.



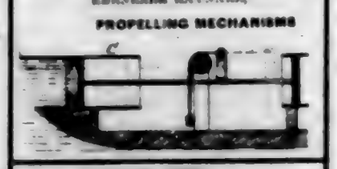
118,148 PLATT AND WILMETH. ICE-CREAM FREEZERS.



118,149 FREDERICK W. PORTER. SLATE-WASHERS.



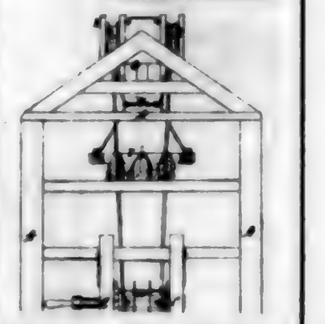
118,150 EDOUARD RAYNAL. PROPELLING MECHANISMS



118,151 JOSEPH RIDER. MAGAZINE FIRE-ARMS.



118,152 REUBEN O. ROBERTSON. TOBACCO-ELEVATORS.



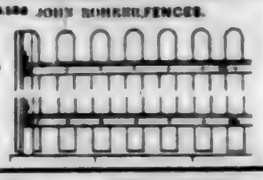
118,153 HENRY H. ROGERS. NOZZLES FOR LIQUID-PACKAGES.



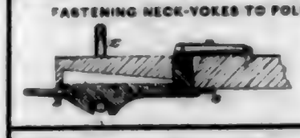
118,154 ROGERS AND WALTER. SCREW-NOZZLES



118,155 JOHN ROHRER. FENCES.



118,157 TITUS M. RUSSELL. FASTENING NECK-YOKES TO POLES.



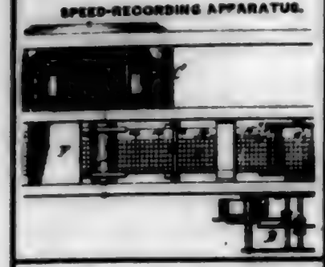
118,158 CHARLES G. SARGENT. BURRING AND CLEANING WOOL



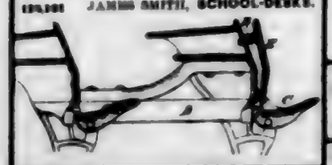
118,159 SAMUEL B. SHANK. CULTIVATORS.



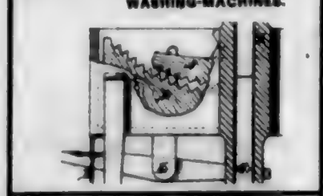
118,160 EDWARD P. SHELTMAN. SPEED-RECORDING APPARATUS.



118,161 JAMES SMITH. SCHOOL-DESKS.



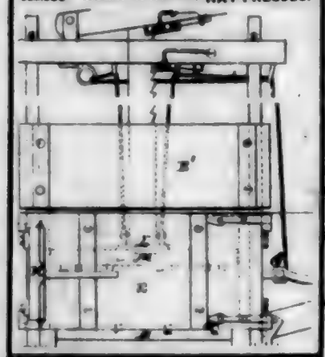
118,162 SAMUEL SMITH. WASHING-MACHINES.



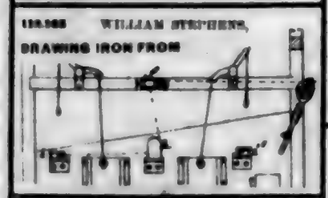
118,163 WARREN A. SPALDING. TOILET-BOTTLES



118,164 ADAM SPANIER. HAY-PRESSES.



118,165 WILLIAM STEPHENS. DRAWING IRON FROM



118,166 STEPHENSON AND SUTLIFF. LIGHTNING-RODS.



118,167 ELI STURGEON. SAFETY-BRIDGES



118,168 THOMSON AND CLARK. LIFE-PRESERVERS.



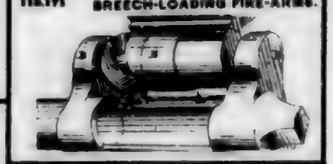
118,169 TINSLEY AND STORER. MOLDS FOR FINGER-RINGS.



118,170 CHARLES D. TISDALE. CHANGEABLE-GAUGE CAR-WHEELS

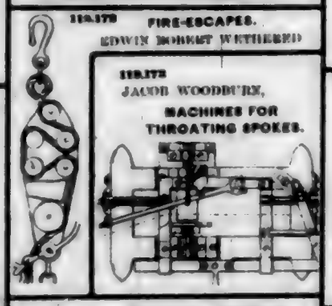


JOSEPH R. WAYER, 118,171 BREECH-LOADING FIRE-ARMS.



118,172 FIRE-ESCAPES. EDWIN BORST WETHERED

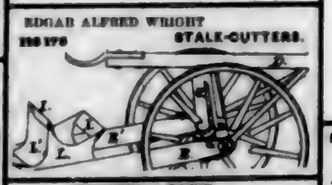
118,173 JACOB WOODBURY. MACHINES FOR THROATING SPOKES.



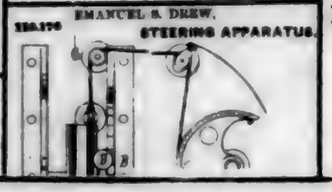
118,174 LEMOME T. WOOSTER. CASTING BRASS INGOTS.



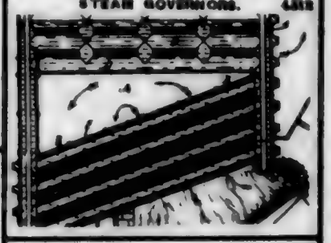
RIMAH ALFRED WRIGHT 118,175 STALK-CUTTERS.



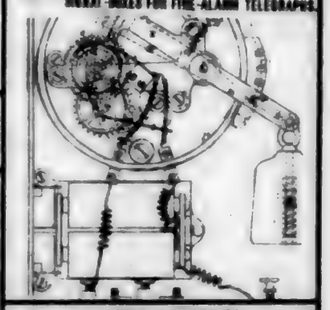
EMANUEL S. DREW. 118,176 STEERING APPARATUS.



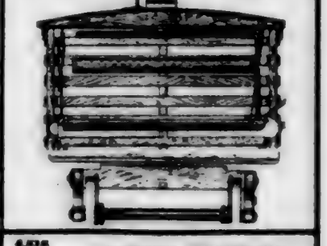
RANCOCK AND WILCOX. 4,513 STEAM GOVERNORS.



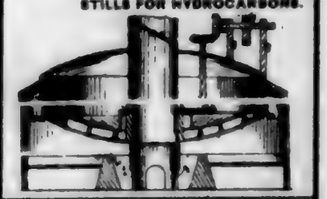
CRANE AND ROGERS. 4,515 BOXES FOR FIRE-ALARM TELEGRAPHS.



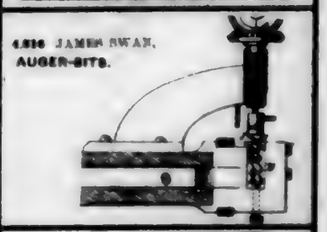
JOHN S. KENDALL. 4,514 RAILWAY STOCK-CARS.



LOCKHART AND GRACIE. 4,516 STILLS FOR HYDROCARBONS.

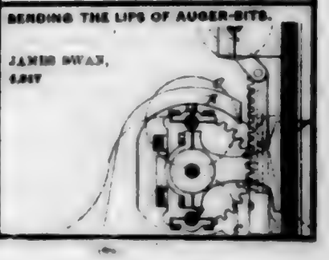


4,516 JAMES SWAN. AUGER-BITS.



BENDING THE LIPS OF AUGER-BITS.

JAMES SWAN, 4,517



ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
AUGUST 22, 1871.

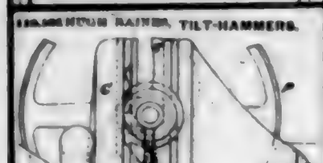
118,178 BENJAMIN ARNOLD TWIST-DRILL



118,179 BENJAMIN ARNOLD, SLOTTING THE SHANKS OF TWIST-DRILLS.



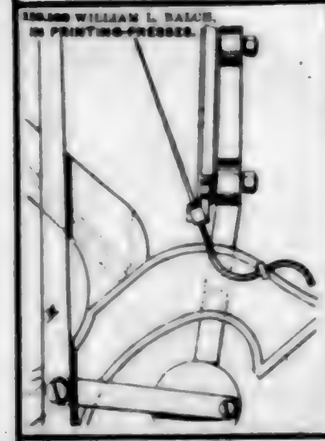
118,180 WILLIAM P. BAADE, READING AND DRAWING-CASE



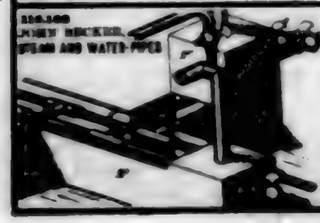
118,181 HUGH BAINES, TILT-HAMMERS.



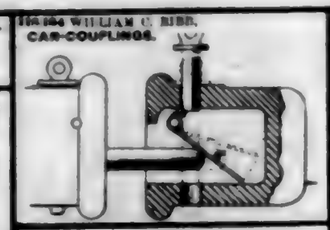
118,182 WILLIAM L. BALCH, IN PRINTING-PRESSES.



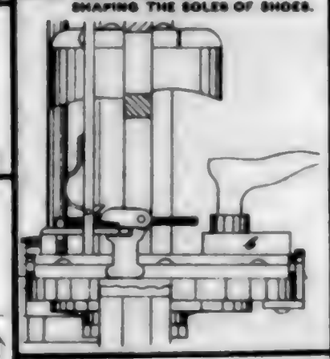
118,183 JOHN BECKER, STEAM AND WATER-PIPES



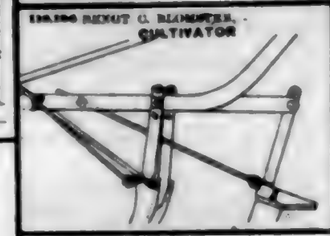
118,184 WILLIAM C. BIBB, CAR-COUPLINGS.



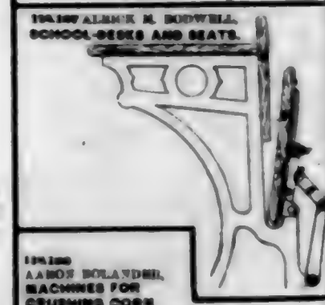
118,185 ELIAS BLANEY, SHAPING THE SOLES OF SHOES.



118,186 BENOIT C. BLANCHER, CULTIVATOR



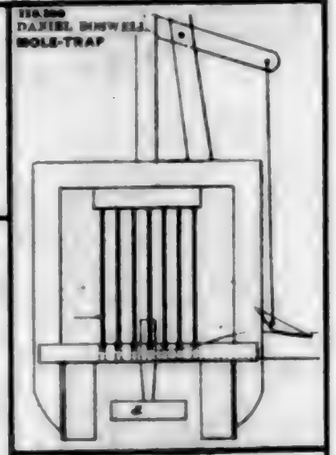
118,187 ALDRICH M. BODWELL, SCHOOL-DESKS AND SEATS.



118,188 AARON BOLANDER, MACHINES FOR CRUSHING CORN



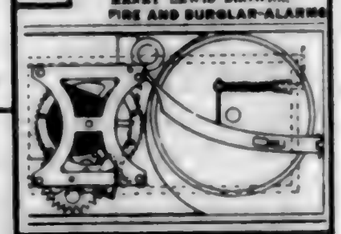
118,189 DANIEL BOSWELL, MOLE-TRAP



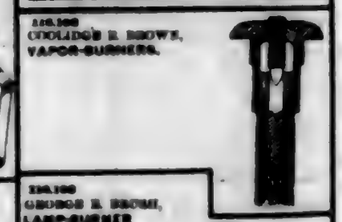
118,190 CHARLES M. BROWN, SHUTTER-WORKER



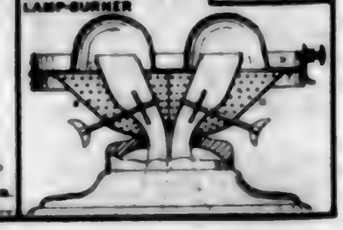
118,191 HENRY LEWIS BROWNE, FIRE AND BURGLAR-ALARMS



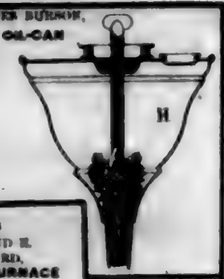
118,192 COOLIDGE B. BROWN, VAPOR-BURNERS.



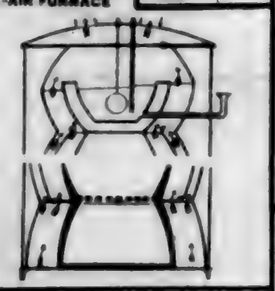
118,193 GEORGE B. BROWN, LAMP-BURNER



118,194 JAMES BURNOR, OIL-CAN



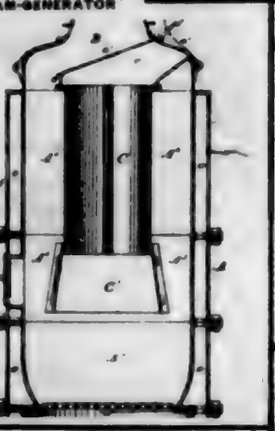
118,195 FERDINAND E. CHATARD, HOT-AIR FURNACE



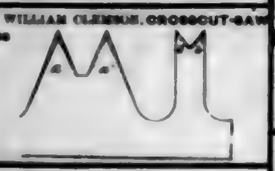
118,196 ALFRED E. CLARK, POST-HOLE AUGER



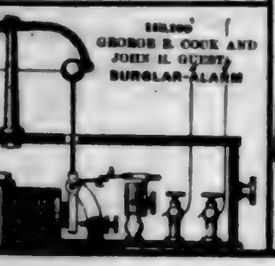
118,197 ORLANDO CLARK, STEAM-GENERATOR



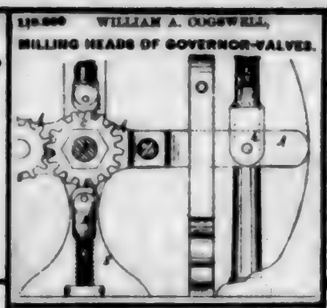
118,198 WILLIAM CLEMONS, CROSSCUT-SAW



118,199 GEORGE B. COCK AND JOHN H. GUEST, BURGLAR-ALARM



118,200 WILLIAM A. COGSWELL, MILLING HEADS OF GOVERNOR-VALVES.



118,201 ORRIN COLLIER, SHIELDS FOR BOOTS AND SHOES.



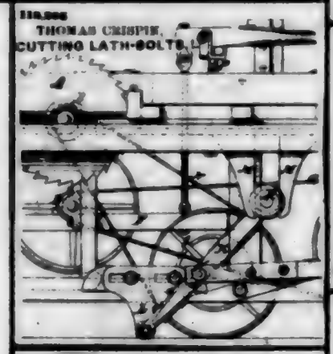
118,202 JOHN E. COUTANT, SLED-BRAKE



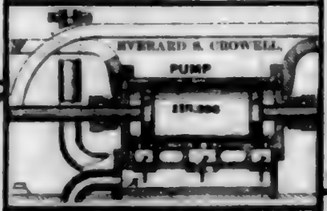
118,203 ALBERT O. CRANE, HEELS FOR BOOTS AND SHOES.



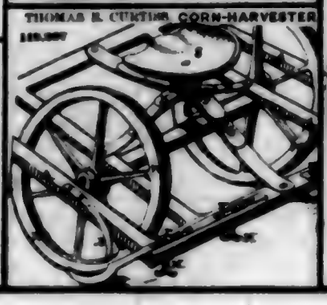
118,204 THOMAS CRISPIN, CUTTING LATH-BOLTS.



118,205 EVERARD S. CROWELL, PUMP



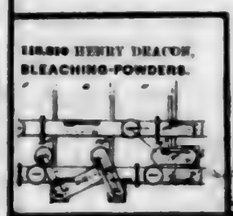
118,206 THOMAS E. CURTIS, CORN-HARVESTER



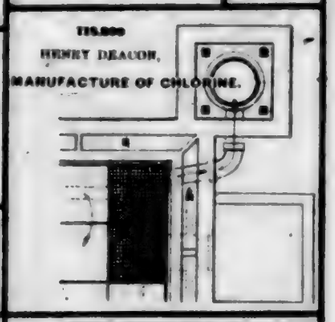
118,207 LEWIS DALEY, CULTIVATOR-TEETH.



118,208 HENRY DEACON, BLEACHING-POWDERS.



118,209 HENRY DEACON, MANUFACTURE OF CHLORINE.



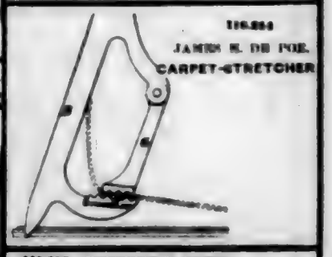
118,210 HENRY DEACON, PRODUCING CHLORINE.



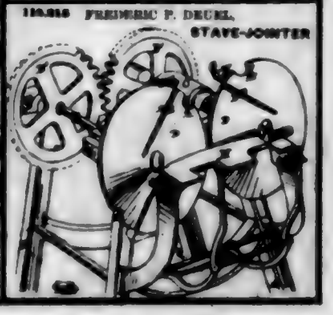
118,211 FRANCIS GREGORY AND EDWIN R. PARRIL, GUNNELS OF HAT-BODY FORMERS.



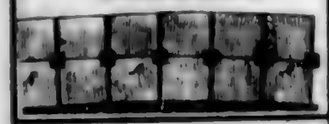
118,212 JAMES H. DE FOE, CARPET-STRETCHER



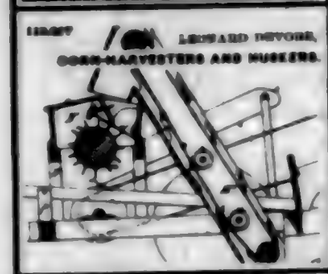
118,213 FREDERIC P. DEUEL, STAVE-JOINTER



118,216 CHARLES K. DEUTSCH. WOODEN PAVEMENTS.



118,217 LEONARD DEVORE. CORN-HARVESTERS AND HUSKERS.



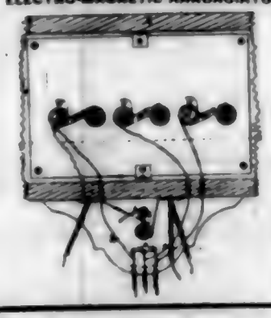
118,218 HENRY M. EDGERTON. REGISTERS FOR GAS-METERS.



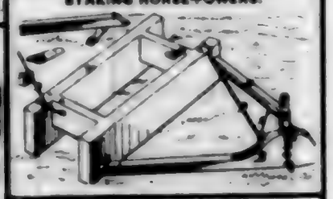
118,219 HENRY S. EVANS. AUTOMATIC RAILWAY SIGNALS.



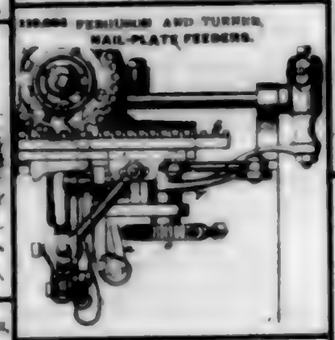
118,220 ELISHA GRAY. ELECTRO-MAGNETIC ANNUNCIATOR



118,221 WILLIAM GRIGG. STAKING HORSE-POWERS.



118,222 PERKINS AND TURNER. NAIL-PLATE FEEDERS.



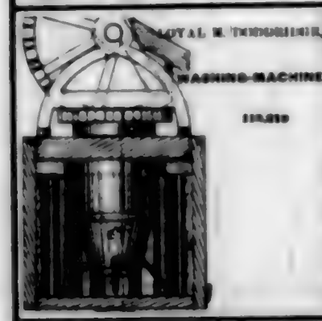
118,223 WILLIAM HAWKIN. BUCK-SAW FRAME



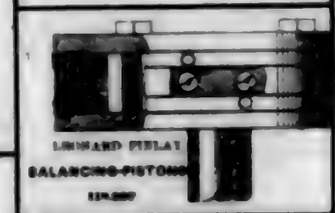
118,224 LOUIS FROMER. RULERS.



118,225 ROYAL M. THOMPSON. WASHING-MACHINE



118,226 LEONARD PERLEY. BALANCING-PISTONS.



118,227 JAMES DUNBARTH. FIRE-PROOF FLOORS.



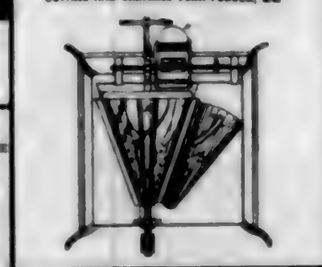
118,228 J. J. M. FREY. SIDE-ARM SHEATH



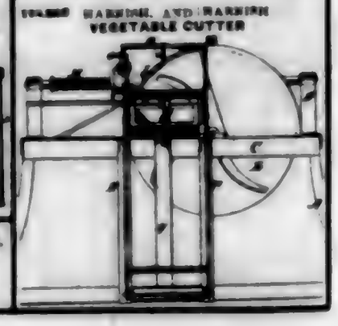
118,229 ALBERT G. FRISBIE. SOLDERING-LAMPS AND BLOW-PIPES.



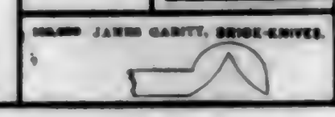
118,230 HARKINS AND HARKINS. CUTTING AND GRINDING CORN-FODDER, &c.



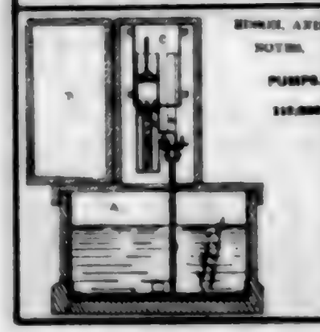
118,231 HARKINS AND HARKINS. VEGETABLE CUTTER



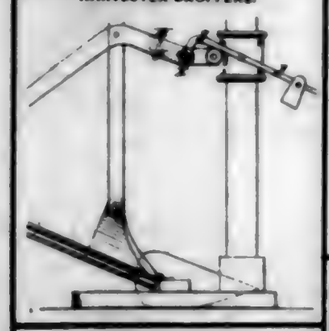
118,232 JAMES GARITY. BRICK-KNIVES.



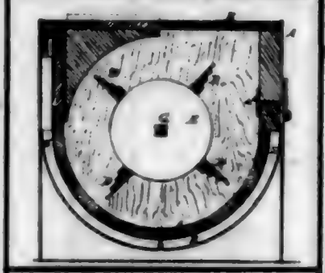
118,233 [illegible] AND SOTER. PUMPS.



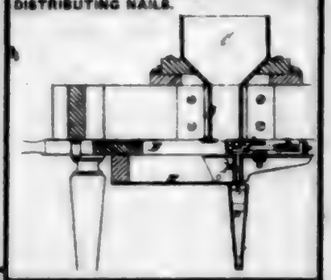
118,236 ORREL H. HARRISON. HARVESTER-DROPPERS.



118,237 THOMAS HOLMES, CAKE-MIXERS.



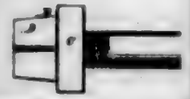
118,238 ALBION KNOWLTON. DISTRIBUTING NAILS.



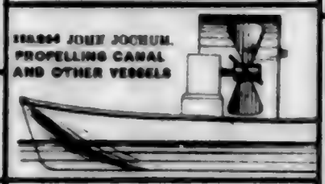
118,239 ALEXANDER HARTMAN. DENTAL DRILLS.



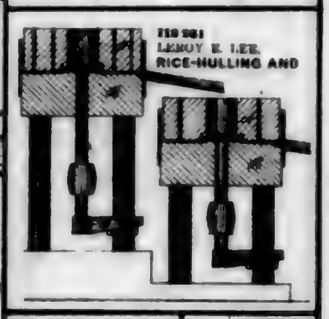
118,240 JOSEPH HARVEY. LOCK-NUT



118,241 JOHN JOCHUM. PROPELLING CANAL AND OTHER VESSELS



118,242 LEROY E. LEE. RICE-HULLING AND



118,243 GEORGE KEEN. STEAM-BOILER



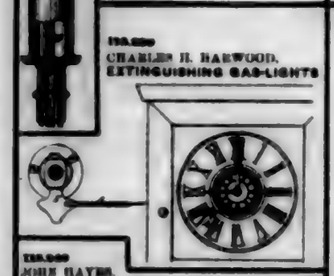
118,244 SYLVESTER LEWIS. METAL HOOPS



118,245 HARVEY LULL. SHADE-RACK



118,246 CHARLES H. HARWOOD. EXTINGUISHING GAS-LIGHTS



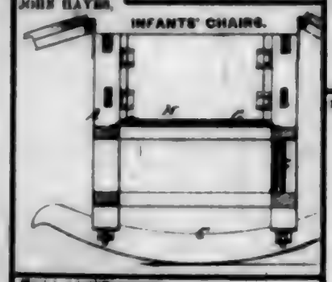
118,247 HAMLIN P. KEENEY. WASHING-MACHINE



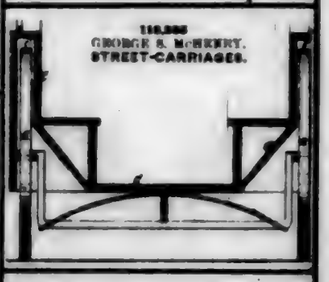
118,248 SAMUEL MATHER. COTTON-TIE STRETCHER



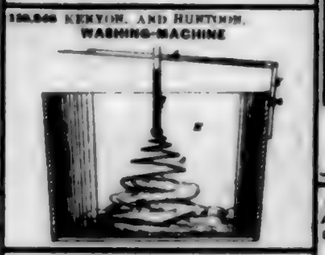
118,249 JOHN HAYES. INFANTS' CHAIRS.



118,250 GEORGE S. McHENRY. STREET-CARRIAGES.



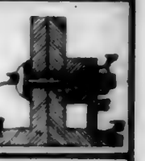
118,251 KENYON, AND HUNTOON. WASHING-MACHINE



118,252 CASSIUS M. HERRENAN. STOVE-PIPE CLOTHES-DRIER



118,253 ALMERON McKENNEY. LOCKING NUTS.



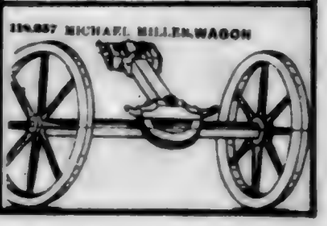
118,254 LOUIS ROTTSTADT. DENTISTS' ARTICULATORS



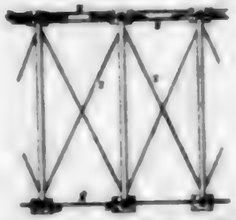
118,255 GEORGE W. KINTZ. GAME-BOARD



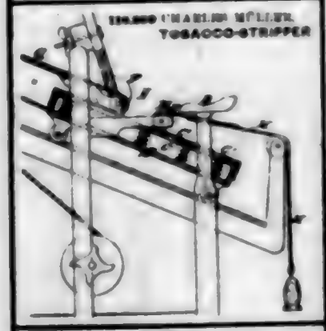
118,257 MICHAEL MILLER. WAGON



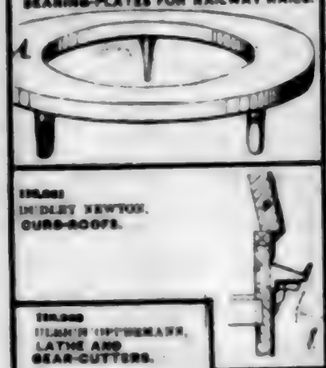
GEORGE C. BONHAM, BRIDGES.



CHARLES MÜLLER, TOBACCO-STRIPPER

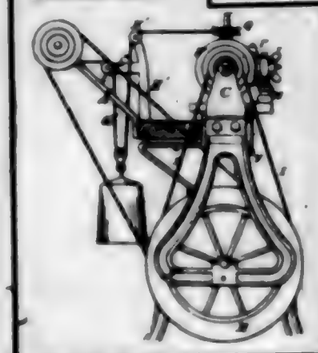


ELIJAH MYRICK, BEARING-PLATES FOR RAILWAY RAILS.

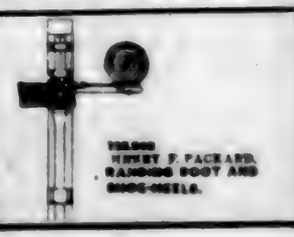


DUDLEY NEWTON, CURB-ROOFS.

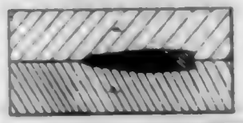
HERMAN OPPERMANN, LATHE AND GEAR-CUTTERS.



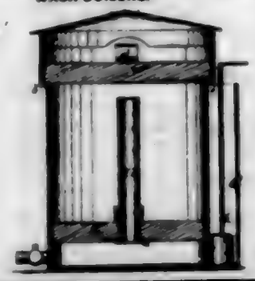
HENRY F. PACKARD, RAISING BOOT AND SHOE-HEELS.



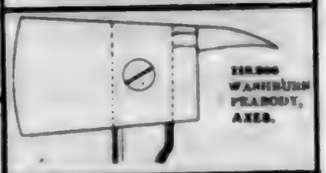
PALMER AND HUBBARD, MANUFACTURING AXES



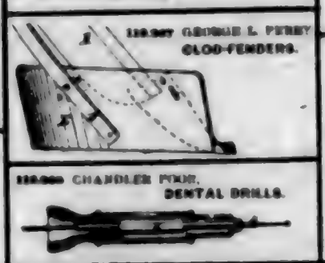
PARKS AND GEORGE A. HYNDS, WASH-BOILERS.



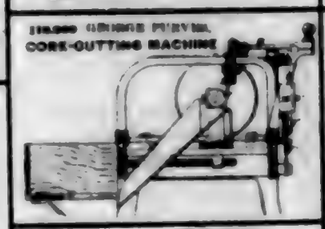
WARREN PEABODY, AXES.



GEORGE L. PERRY, CLOD-FENDERS.



CHANDLER FISH, DENTAL DRILLS.



GEORGE PURVIS, CORE-CUTTING MACHINE



HENRY H. QUINT, HAY-ELEVATORS.

EMIL RATH, STAIR-RODS.



REED AND JONES, CLOTHES-DRIERS.



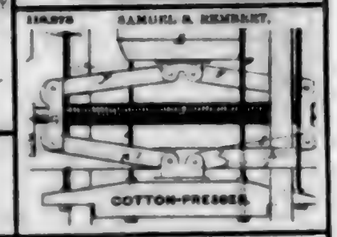
WILLIAM REED, TREADLE-POWER



WILLIAM REED, SAW-GUMMER



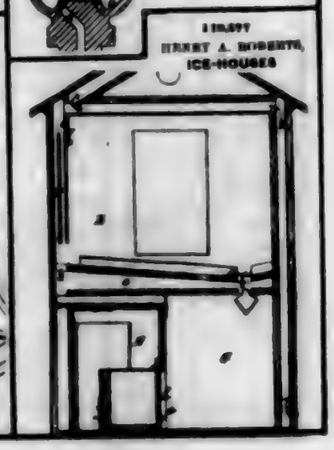
SAMUEL S. REMBERT, COTTON-PRESSES.



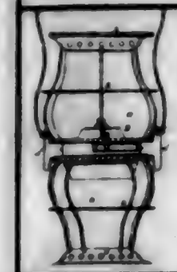
WILLIAM RIDER, OIL-CUP



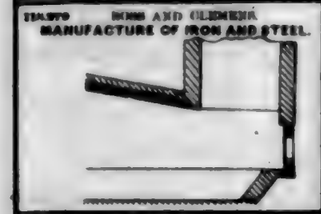
HENRY A. ROBERTS, ICE-HOUSES



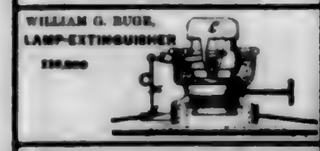
ROBERTS AND FISKE, SIGNAL-LANTERN



BOSS AND CLEMENS, MANUFACTURE OF IRON AND STEEL.



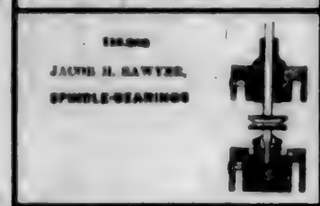
WILLIAM G. BUCK, LAMP-EXTINGUISHER



ELMINA C. BYDING, TRUSS-HOOP



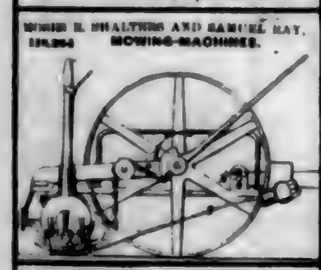
JACOB H. SAWYER, SPINDLE-BEARINGS



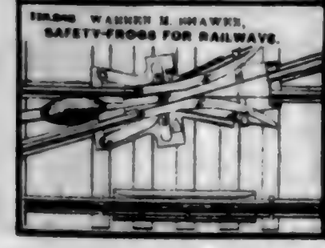
CHARLES P. BRITTINGER, APPARATUS FOR CRIMPING WIRES.



ELIHU H. SHALTERS AND SAMUEL RAY, MOWING-MACHINES.



WARREN H. SHAWKE, SAFETY-FROGS FOR RAILWAYS.



JOHN L. SHEPPARD, BALE-TIES.

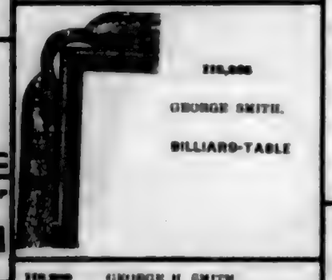


GEORGE W. SMITH, GLOBE AND CHECK-VALVES.

118,287



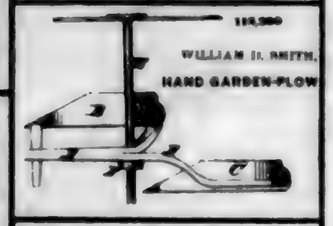
GEORGE SMITH, BILLIARD-TABLE



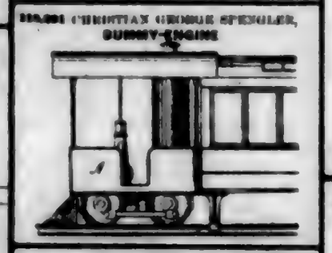
GEORGE H. SMITH, MACHINES FOR MAKING "EXCELSIOR."



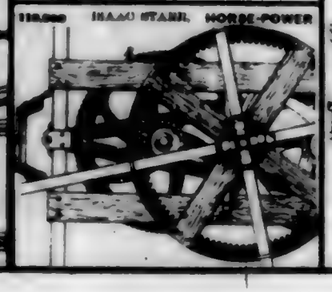
WILLIAM H. SMITH, HAND GARDEN-PLOW



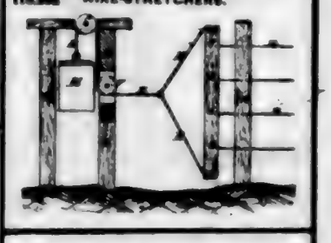
CHRISTIAN GEORGE SPENGLER, SUNNY-ENGINE



ISAAC STARR, HORSE-POWER



EBENEZER BURNET STEPHENS, WIRE-STRETCHERS.

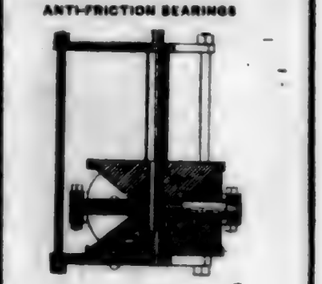


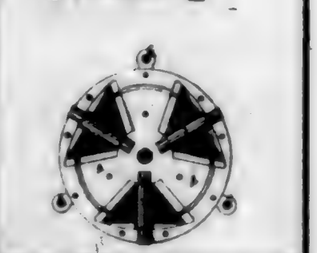
GEORGE D. STEVENS, NECK-CHAINS.

118,304

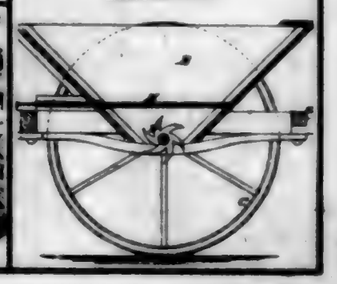


JOHN SWITZER, ANTI-FRICTION BEARINGS





BENJAMIN TRAGUE, MANURE-CART



118,290
GEORGE C. THOMAS.
HOT-AIR FURNACES.

118,294 JOHN B. ULRICH, SOAP-CUTTING

118,311
PETER W. WEIDA,
SAD-IRONS.

118,312 GALVIN J. WELD
WASHING-MACHINES.

118,313 JOSEPH WHITENEAD,
WRINGER-ROLLERS.

118,314
ISAAC WHITEHOUSE,
VAPOR-BURNERS.

118,315 ADRIAN H. VAN BOKKELEN,
DISTILLING TURPENTINE.

118,316 FILTERS.
JOHANN P. A. VOLLMAR.

118,317 GUSTAVUS C. TIMPE, ELEVATORS

118,318 GUSTAVUS C. TIMPE, ELEVATOR

118,319
PHILIP H. WAIT,
WATER-WHEELS
AND GATES.

118,320
WHITELEY AND
LANE,
HARVESTERS.

118,321
GEORGE A. WALKER.
PAPER-CUTTING MACHINES.

118,322 OAKES TIRRILL,
CARBURETING AIR AND GAS.

118,323
GEORGE S. WALKER,
ANIMAL-TRAPS.

118,324 LEWIS L. WHITLOCK,
LIFTING DROP-
WEIGHTS.

118,325
LEWIS L. WHITLOCK,
DROP-PRESSES

118,326 CHARLES TREWETHEN.
LAP-BOARDS.

118,327
PETER S. WATSON,
HAMES FOR HARNESS.

118,318 WILLIAM WICKERSHAM,
WIRE FOR BOOT-AND-SHOE PEGS.

118,319 WILLIAM WICKERSHAM.
LASTING BOOTS AND SHOES.

118,320 ELI WILLCOX, CHURN

118,321 SAMUEL WILLIAMSON, WATER-TUYERE

118,322 JOHN T. WILSON,
MAKING DRAW-BARS OR BUFFERS.

118,323 THOMAS WOODS,
MACHINES FOR DRESSING STONE.

118,324
WOODSUM AND
WOODSUM,
WATER-WHEEL

HENRY BANE,
SCREW-PROPELLER
118,325

118,326
CHARLES S. ABEEL,
HARNESS-TUG BUCKLE

118,327 JAMES ABELL,
PAPER-CUTTING MACHINE

118,328 JAMES BERRY,
RIVETING APPARATUS.

118,329 WILLIAM C. BIBB,
PROPULSION OF CANAL-BOATS.

118,330 WILLIAM C. BIBB, RAILWAY

118,331 BICKEL AND LEIBOLD,
HARVESTER-DROPPER

118,332 HUGO BILGRAM,
SPEED-INDICATORS.

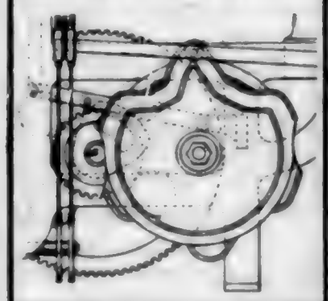
118,333
FRANK BRAMER.
CLUTCHES FOR HARVESTERS.

118,334
BRADY AND
WALL,
ASH-SIFTER

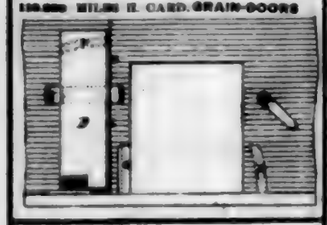
118,335
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118,336
BUNG-FUNNEL
JAMES BUCK.

118,338 JOHN P. BUZZELL, PILE CARPETS



118,339 MILES H. CARD, GRAIN-DOORS



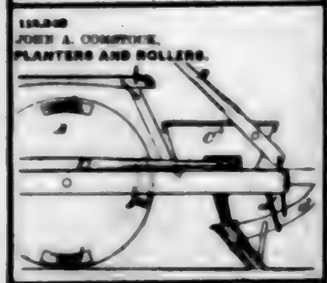
118,340 SAMUEL McCARTER, CUT-OFF VALVES



118,341 ALBERT CARY, WASH-STAND BRACKETS.



118,342 JOHN A. COMSTOCK, PLANTERS AND ROLLERS.



118,343 WALTER H. COUGER, DUST-PANS



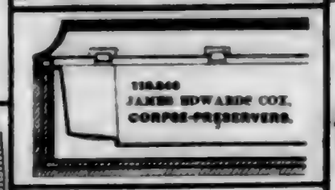
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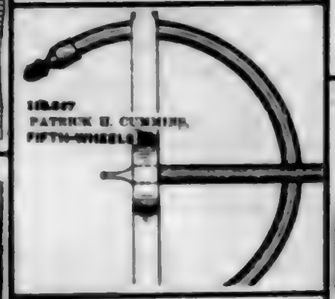
118,345 THOMAS P. COULSTON, BURGLAR-ALARMS.



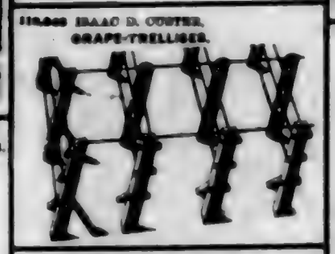
118,346 JAMES EDWARDS COX, CORPSE-PRESERVERS.



118,347 PATRICK H. CUMMINS, FIFTH-WHEELS.



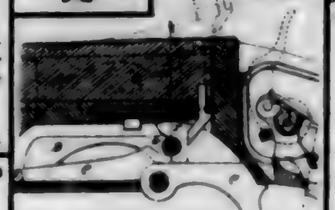
118,348 ISAAC D. COUTER, GRAPE-TRELLISES.



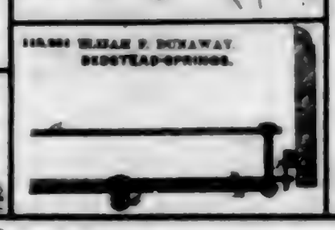
118,349 CHARLES DEAVS, CENTER-DRAFT LIGHTS OF LAMPLIGHTS.



118,350 DODGE AND DODGE, BREECH-LOADING FIRE-ARMS.



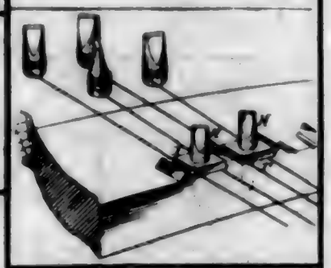
118,351 ELIJAH P. DUNAWAY, BEDSTEAD-SPRINGS.



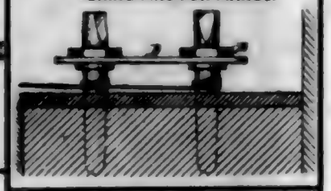
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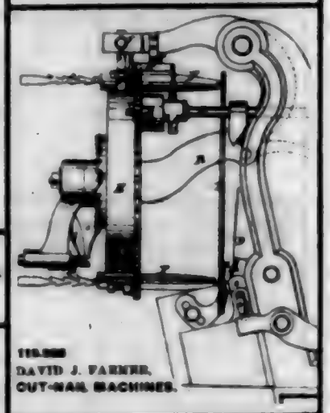
118,353 ANTHONY FAAS, PIANOS.



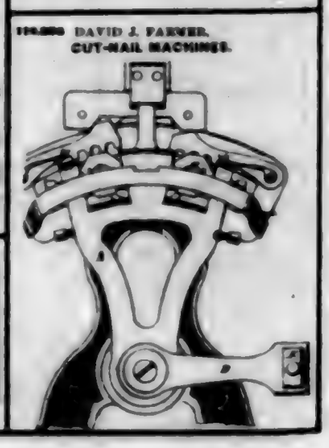
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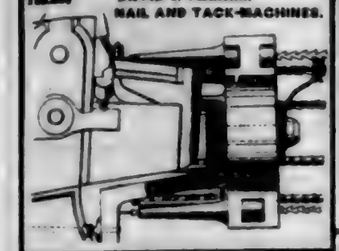
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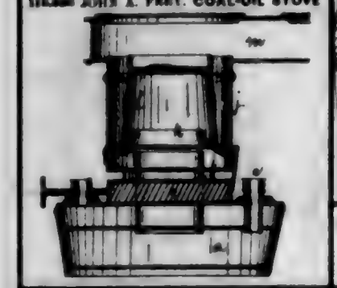
118,356 DAVID J. FARMER, CUT-NAIL MACHINES.



118,357 DAVID J. FARMER, NAIL AND TACK-MACHINES.



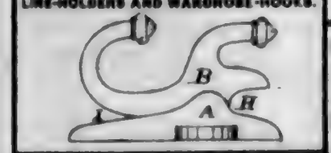
118,358 JOHN A. FREY, COAL-OIL STOVE



118,359 CHARLES S. GILBERT, GARDEN-HOES.



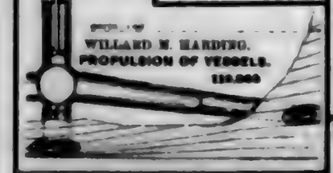
118,360 CURTIS GODDARD, LINE-HOLDERS AND WARDROBE-HOOKS.



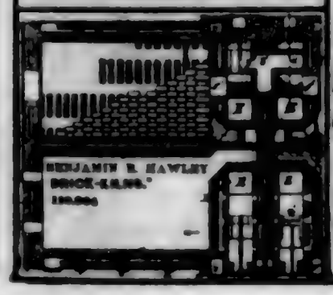
118,361 THOMAS F. HAMILTON, CULTIVATORS AND SHOVEL-PLOWS.



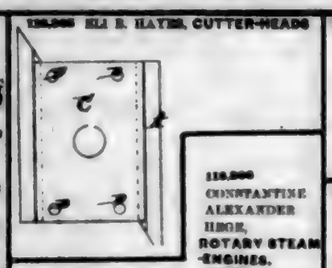
WILLARD M. HARDING, PROPULSION OF VESSELS. 118,362



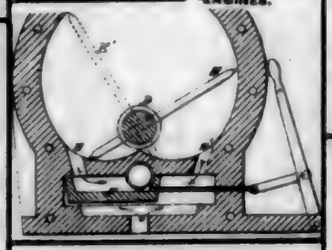
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118,364 ELI B. HAYES, CUTTER-HEADS



118,365 CONSTANTINE ALEXANDER HIGH, ROTARY STEAM-ENGINES.



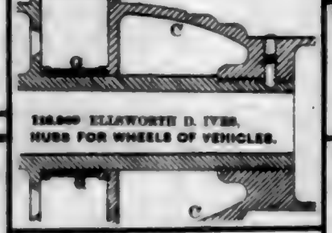
118,366 JOHN HOLLAND, PEN-HOLDERS.



118,367 DAVID B. HUBBARD, SOFA-BEDSTEADS.



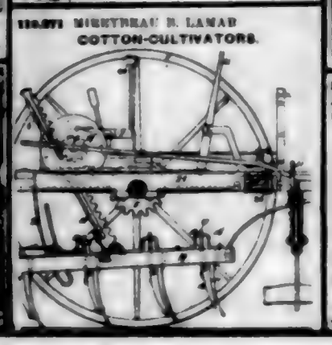
118,368 ELLSWORTH D. IVES, HUBS FOR WHEELS OF VEHICLES.



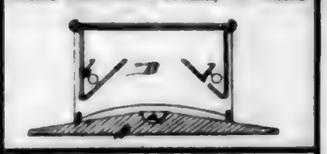
118,369 MORTIMER W. JEFFORDS, SAWS.



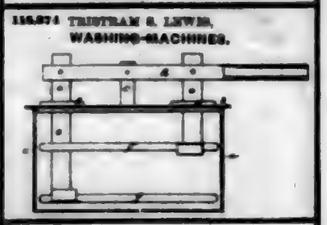
118,370 MIGHTREAU B. LAMAR, COTTON-CULTIVATORS.



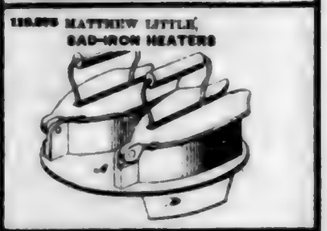
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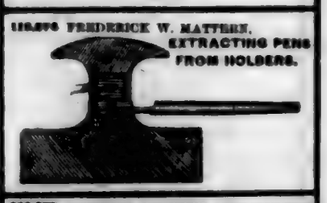
118,372 TRISTRAM S. LEWIS, WASHING-MACHINES.



118,373 MATTHEW LITTLE, SAD-IRON HEATERS



118,374 FREDERICK W. MATTERN, EXTRACTING PENS FROM HOLDERS.



118,375 LORENZO MATHEW, AXLE-SKEINS



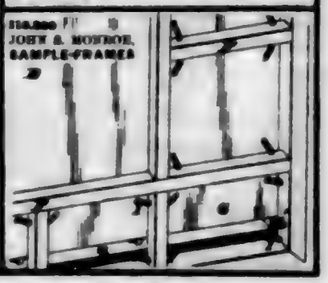
118,376 LYMAN D. McINTOSH, UTERINE SUPPORTERS.



118,377 HELEM MERRILL, SEPARATORS FOR GOLD ORES.



118,378 JOHN S. MONROE, SAMPLE-FRAMES



118,381 JESSE C. MOORE. THILL-COUPLINGS.

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118,391 ALEXANDER K. RIDER. FLUID-METERS AND MOTORS.

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118,395 FRANCIS M. CROUSE. DENTAL TONGUE-HOLDERS.

118,396 HEZEKIAH ROOT. GATES.

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118,399 JEROME B. SWETLAND. SWAGING AND SHARPENING SAWS.

118,400 WILLIAM JOHN TATE. QUILTING-MACHINES.

118,405 FREDERICK G. TOUSEY. LOOM-SHUTTLES.

118,406 HANNAH TURLY. SECURING THE BOXINGS IN HUBS.

118,407 WILLIAM F. ULMAN. PIANO-FORTES.

118,408 UNSWORTH AND WHALLEY. MAKING CORDS OR BANDS.

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4,824 CHARLES PLAGGE. ICE-MACHINES.

4,825 JOHN J. WHEAT. SEWING-MACHINE TABLES

4,826 WATROUS SANFORD. COOKING-RANGE

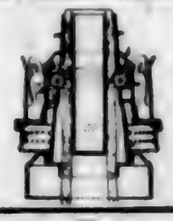
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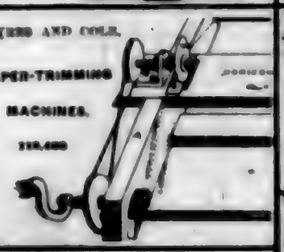
120,421 LEWIS J. ATWOOD. LAMPS.



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AYERS AND COLE. PAPER-TRIMMING MACHINES. 120,400



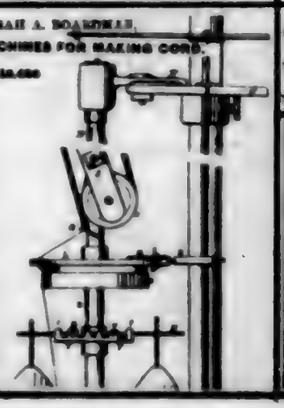
120,404 ELISHA T. BARLOW. BEDSTEAD-FASTENINGS.



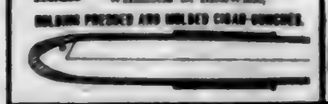
120,405 BENJAMIN B. BLACKWELL. PRINTERS' FURNITURE.



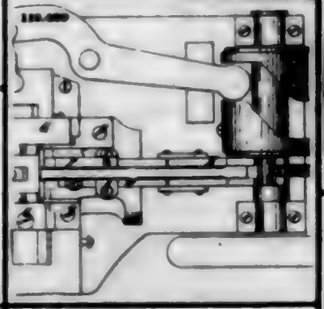
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120,399 WILLIAM D. BREWER. MAKING PRESSED AND MOLDED CHAIR-SEARCHES.



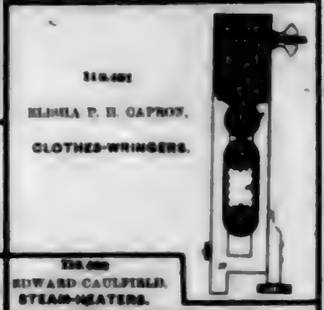
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120,439 JAMES V. BRYSON. CLEANER-RAKES



120,401 ELISHA P. H. CAPRON. CLOTHES-WRINGERS.



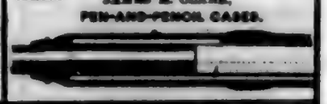
120,403 EDWARD CAULFIELD. STEAM-HEATERS.



120,427 JAMES E. CHESLEY. BRACKETS.



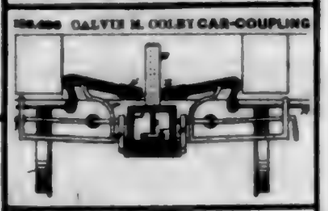
120,404 JAMES M. CLARK. PEN-AND-PENCIL CASES.



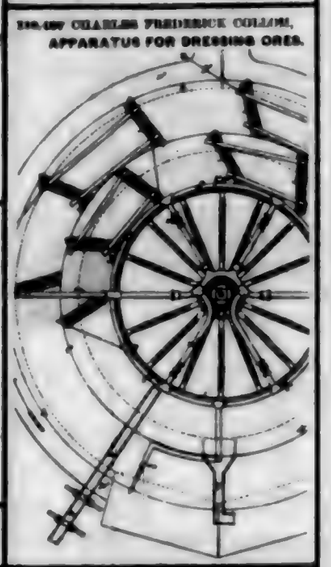
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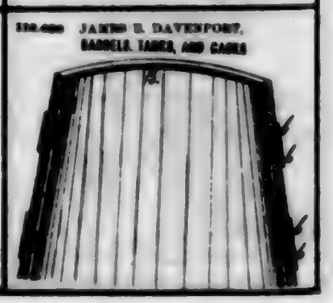
120,428 CALVIN M. COLEY. CAR-COUPLING



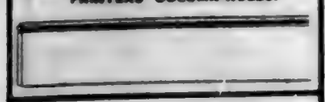
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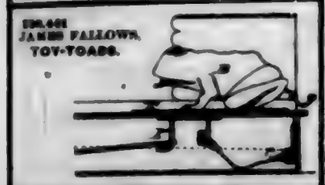
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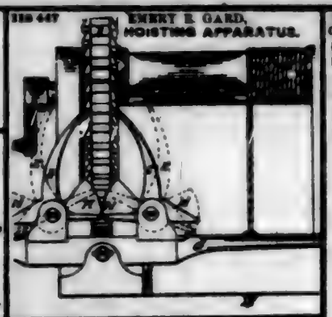
120,400 AUGUSTINE J. H. DUGANNE. PRINTERS' COLUMN-RULES.



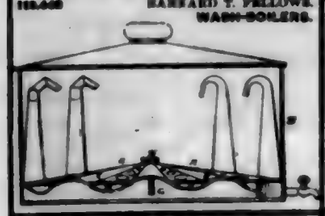
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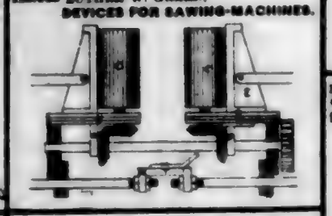
120,447 EMERY E. GARD. HOISTING APPARATUS.



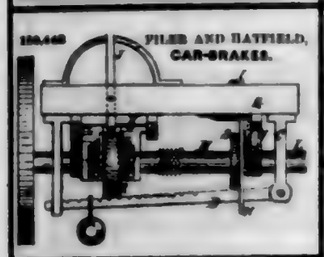
120,448 BARNARD T. FELLOWS. WASH-BOILERS.



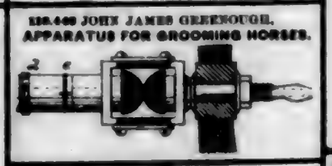
120,449 LUTHER W. GREEN. DEVICES FOR SAWING-MACHINES.



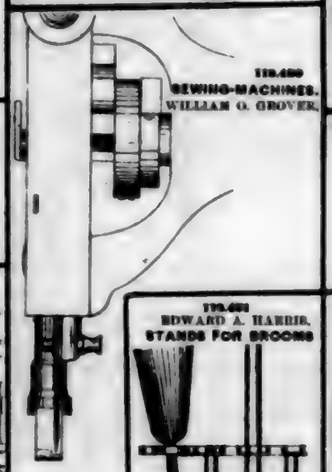
120,440 FILER AND HATFIELD. CAR-BRAKES.



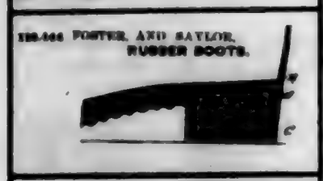
120,440 JOHN JAMES GREENOUGH. APPARATUS FOR GROOMING HORSES.



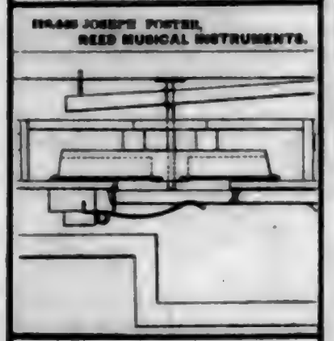
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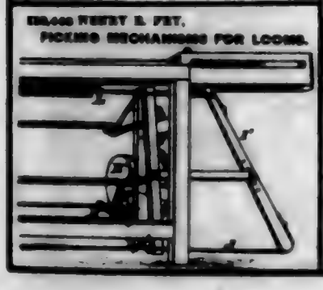
120,444 FOSTER, AND SAYLOR. RUBBER BOOTS.



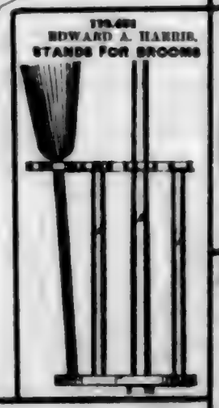
120,445 JOSEPH FOSTER. REED MUSICAL INSTRUMENTS.



120,433 WESLEY E. FRY. PICKING MECHANISMS FOR LOOMS.



120,451 EDWARD A. HARRIS. STANDS FOR BROOMS



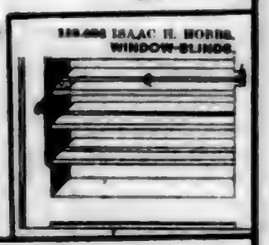
120,452 BENJAMIN HERSHEY. SEAT-SPRINGS FOR VEHICLES.



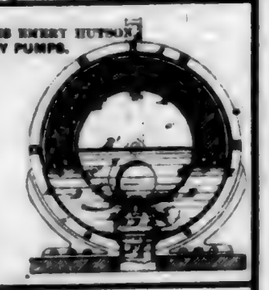
120,453 GEORGE JAY HILL. BOTTLE AND BOX-OPENERS.



120,454 ISAAC H. HORNE. WINDOW-BLINDS.



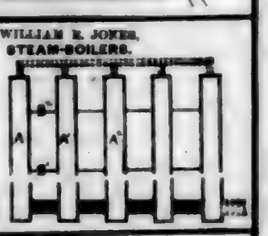
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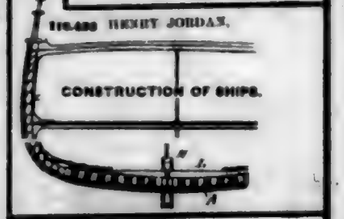
120,456 LOUIS J. JENNER. WATCH-KEYS AND CORK-SCREWS.



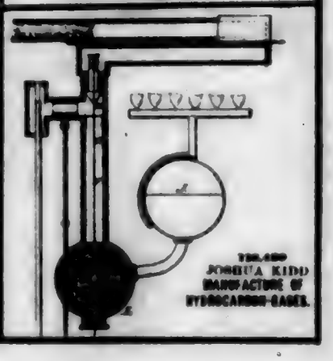
120,457 WILLIAM R. JONES. STEAM-BOILERS.



120,458 HENRY JORDAN. CONSTRUCTION OF SHIPS.



120,459 JOSHUA KIDD. MANUFACTURE OF HYDROCARBON-GASES.



118,480 ALEXANDER KIRKWOOD, LOG-CARTS.

118,481 HENRY H. LANDIS, FENCES.

118,482 SAMUEL LEE, CULINARY VESSELS.

118,483 CHARLES LEVET, STEAM-ENGINE

118,484 GEORGE W. LOOMIS, BRAKES FOR VEHICLES.

118,485 JOHN S. LOOMIS, SMOOTHING HOLDERS

118,486 JOSEPH A. LORD, THREAD-CUTTERS

118,487 JOHN MADDEN, ELEVATORS.

118,488 ROBERT H. McCANN, DRIVING-WHEELS FOR SEWING-MACHINES.

118,489 JOHN J. MERVEDE, HORSESHOE-CALKS.

118,490 DAVID H. MULFORD, WOODEN PAVEMENTS.

118,491 PETER MUSSINGER, EXHAUSTING AND PURIFYING GASES.

118,492 PERRIN NELMS, PADLOCKS.

118,493 ANTHONY V. OJEDA, AEROSTATIC JACKS.

118,494 JAMES W. OLIVER, CAR-COUPLINGS.

118,495 DAVID OTHO PARKER, FOLDING WASH-STANDS.

118,496 DAVID OTHO PARKER, BOOT-CLOSE AND WORK-STANDS COMBINED.

118,497 DAVID OTHO PARKER, EXCURSION-CHAIRS.

118,498 EDWARD G. PARKHURST, FEEDING WIRE TO MACHINES.

118,499 JOSEPH OSBORN, SHAFT-COUPLING

118,500 WILLIAM PINEBOY, HERNIAL PADS.

118,501 PURVIS AND SMITH, DENTAL PLATES.

118,485 RAWSON, COVERDALE, WYLDE, M'CREE, AND HILL, PURIFYING SEWAGE, &c.

118,486 JAMES G. READ, BOUQUET-HOLDERS.

118,487 JOHN G. ROBIN, STAMP-HOLDERS.

118,488 DEVICES FOR CUTTING CONCAVE HENRY C. ROBIN.

118,489 JAMES BILLINGS SAFFORD, STOPS FOR SEWING-MACHINES.

118,490 C. LATHAM SHOLES, MECHANICAL TYPOGRAPHERS.

118,491 FRAZE SMILEY, PRUNING-SHEARS.

118,492 GAD SMITH, BROOM-HEADS.

118,493 J. BOARDMAN SMITH, COOPS FOR FOWLS.

118,494 JOHN W. SOCKER, WASHING-MACHINE.

118,495 JOHN SPARKS, PETROLEUM-PUMPS.

118,496 NELSON S. THOMPSON, COFFEE-ROASTERS.

118,497 BENJAMIN D. WALLACE, SCROLL-SAWS.

118,498 SYLVANUS WARD, HEEL GAUGES.

118,499 WATKINS AND McCONNELL, FOLDING CHAIRS.

118,500 GEORGE D. WHITCOMB, MACHINES FOR UNDERMINING COAL.

118,501 McCLINTOCK YOUNG, MACHINES FOR MAKING MATCHES.

118,502 ALLIDAS AND BAUMAN, REVOLVING-CYLINDER ENGINES.

118,503 FRANK ALSIP, BRICK-MACHINES.

118,504 OAKLEY S. AMES, COMPRESSION COCKS.

118,505 JAMES ANDERSON, PRESSURE-GAUGES

118,507 AUGUSTUS E. ARMSTRONG. CHEESE-VATS.

118,508 WILLIAM HASKINS. FLOUR-BOLT

118,509 HAMMOND BEERS. PRINTING-MACHINES.

118,510 HAMPTON P. BOWIE. COMMODES AND WASH-STANDS

CANCELING AND REVERSING REVENUE STAMPS, &c.

118,512 EDMUND G. CADY COAL AND ASH-SIFTERS.

HORACE L. CLARK. DOORS FOR RAILWAY FREIGHT-CARS. 118,514

118,515 NOAH CLARK. RAILWAY-CAR TRUCKS.

118,516 DAVID CRAIK. WATER-WHEELS.

118,517 SAMUEL CROMPTON. INSECT-DESTROYERS.

DILLINGER AND HUNT. CAR-TRUCKS.

118,519 WHITLEY DEXTER. WRINGING-MACHINES.

118,520 EUGENE W. DIEFENDORF. BEE-HIVE

CHARLES H. EARLE. CHIMNEY-STOP

118,522 JACOB S. FLEMING. CULTIVATOR

118,523 JEREMIAH C. GASTON. ENVELOPE-MACHINES.

118,524 WILLIAM P. GOODWIN. HARVESTER

118,525 CHARLES LEONARD GRAVES. SHANK AND TOE-LASTERS

118,526 JAMES F. GYLES. WOOD PAVEMENT

118,529 LEVI A. HAIGHT. CHURN-POWERS.

118,530 WILLIAM T. HAMILTON. WAGON-BRAKES.

118,531 EDMUND HARRIMAN. APPARATUS FOR UNLOADING HAY.

118,532 JOSEPH C. HITE. PADDLE-WHEELS.

118,533 WILLIAM H. HOCKENSMITH. DIAPER-PINS.

118,534 GEORGE E. HOPKIN. COOKING-STOVES

118,535 PENOSO. PATRICK J. HYNES

118,536 JACKSON AND LEAK. MACHINES FOR TWISTING YARN.

118,537 SOLOMON JONES. ELECTRO-MOTORS

118,538 SOLOMON JONES. ARMATURES FOR ELECTRO-MOTORS.

118,539 FREDERICK J. KIMBALL. MACHINES FOR MAKING SPIKES.

118,540 THOMAS LAUX. WAGON-REACHE

118,541 JOSEPH LEVY. EXAMINING AND REPLACING CIGARS.

118,542 JOHN LOCKE. BEEFSTEAK-MANGLES.

118,543 MARK, MAUGHLIN, AND DAVIS. WASHING-MACHINE

118,544 THOMAS MARSH. HOLDERS FOR SPINNING-RINGS

118,545 MARVIN AND HULSE. BUNG-SPOUTS.

118,546 CHARLES H. MILES. WATER-WHEELS

118,547 THOMAS GEORGE MOORE. HARNESS SADDLE-TREES.

JAMES L. OLIVER. WASTE-PIPES FOR SINKS. 118,548

118,549 GEORGE W. OWENS. CULTIVATORS

118,550 REUBEN PAINTER, PROPELLER FOR SHIPS.

118,551 WILLIAM L. ROGERS, GUTTER-FASTENINGS.

118,552 ARNOLD TOMPKINS, CULTIVATORS.

118,553 SOLOMON BURKHALP, DUMPING-CARS.

118,554 JAMES L. VAN GORDER SULEY-PLOW

118,555 GEORGE PEACOCK, MOLD-BOARDS FOR PLOWS.

118,556 JOHN M'CUTCHENEON, WASHING-MACHINES.

118,557 HIRAM PITCHER, AUGERS.

118,558 CORN-SHAVING MACHINES ELIAS WATTS.

118,559 JOHN REDICK, SCAFFOLDS.

118,560 JOHN P. WAGNER, HEAD-RESTS FOR CONVEYANCES.

118,561 HIRAM H. SHADE, SPRINGNOSES.

118,562 PETER L. WEIMER, ARCHED TRUSSES FOR BRIDGES.

118,563 SAMUEL S. REMBERT, TRANSMITTING MOTION.

118,564 EDWARD E. SUMNER, POST-HOLE DIGGERS.

118,565 NICHOLAS WHITEHALL, SULEY-CULTIVATOR

118,566 JACOB P. TIBBEL, ELECTRO-MAGNETIC ENGINE

118,567 EDGAR C. HIGGINS, WOODEN HORSE-COLLARS.

118,568 PETER S. WHITMAN, OVERSHOES.

118,569 JOHN D. WILKINSON, BREECH-LOADING FIRE-ARMS.

118,570 AUGUSTUS L. AMBLER, GENERATING GASES FROM PETROLEUM.

118,571 PETER R. BEAUPRE, LIFE-BOAT

118,572 JOHN L. WILLOUGHBY, HARROWS.

118,573 JAMES H. WOLFE, HAY-KNIVES.

118,574 FREDERIC A. RAUH, LANTERNS.

118,575 JOSEPH RIDDLE, ANIMAL-TRAPS.

118,576 OSCAR BOSSE, HAY-PRESSES.

118,577 SAMUEL W. BARBER, HINGES.

118,578 EDWARD E. YOUNG, MECHANICAL MOVEMENTS.

118,579 GUSTAV BANTEL, HAT-PRESSES.

118,580 JOHN BOYER, BRAKES FOR VEHICLES.

118,581 AUSTIN G. BRADSFIELD CORN-MARKERS.

118,582 QUINTUS H. YOUNG, BLIND-SLAT OPERATORS.

118,583 JOHN A. BASSETT, MANUFACTURE OF COAL-GASES.

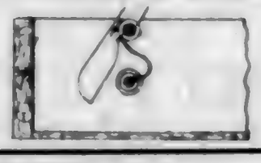
118,584 THOMAS E. C. BRIDLY, CUTTING POTATO VINES

118,585 JAMES HAZEL ADAMSON, HARVESTERS.

118,586 HENRY CALLAWAY, FRUIT-CANS.

118,587 MELVIN C. CHAMBERLIN, TIRE-TIGHTENERS.

118,588 DAVIS AND THEODORE PARSONS, HOLDING UP THE LIDS OF BOXES.



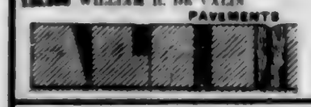
118,589 118,590 DANIEL DAVIS, WHEEL-HUBS



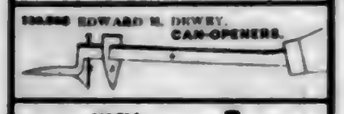
118,591 CHARLES A. DEAN, FIBER-CLEANING MACHINES.



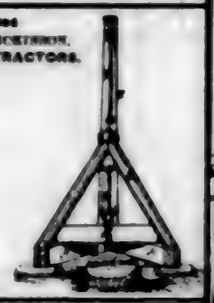
118,592 WILLIAM H. DE VALIN PAVEMENTS



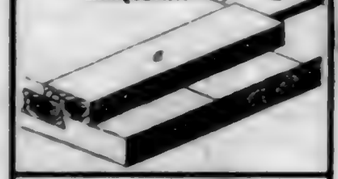
118,593 EDWARD H. DEWEY, CAN-OPENERS.



118,594 ALFRED DICKINSON, STUMP-EXTRACTORS.



118,595 JOSEPH DILL, MARQUETRY.



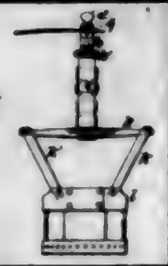
118,596 WILLIAM DOTY, STEAM FLUE-CLEANERS.



118,597 FRANKLIN FAIRBANKS, BRAKES FOR VEHICLES.



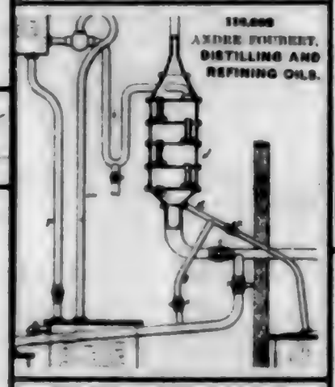
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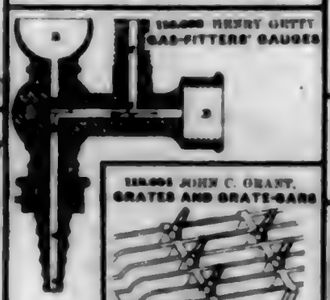
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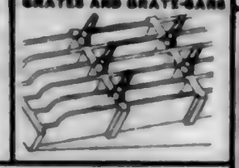
118,600 ANDRE FOURET, DISTILLING AND REFINING OILS.



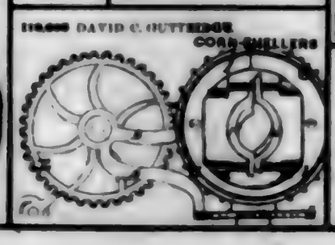
118,601 HENRY GETTY, GAS-FITTERS' GAUGES



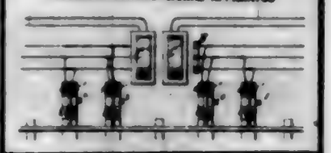
118,602 JOHN C. GRANT, GRATES AND GRATE-BARS



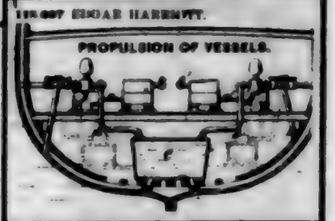
118,603 DAVID C. GUTTERIDGE, CORN-SHELLERS



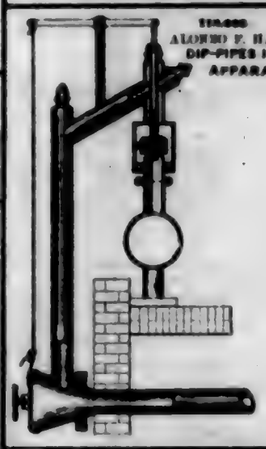
118,604 THOMAS S. HALL, ELECTRO-MAGNETIC SIGNAL APPARATUS



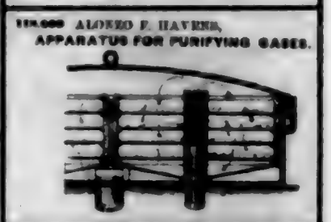
118,605 EDGAR HARRATT, PROPULSION OF VESSELS.



118,606 ALONZO F. HAVENS, DIP-PIPES IN GAS APPARATUS.



118,607 ALONZO F. HAVENS, APPARATUS FOR PURIFYING GASES.



118,608 HERRELING AND FICHTER, SNAP-HOOKS.



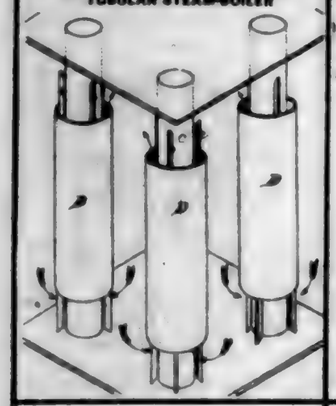
118,609 HAYS AND PANCAKE, GIRTS.



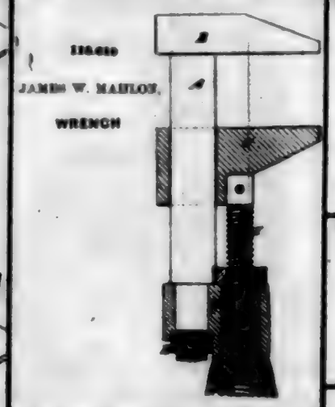
118,610 A. HARLENIE HILL, CLOTHES-DRIERS.



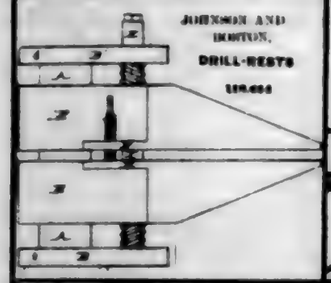
118,613 OLIVER HYDE, TUBULAR STEAM-BOILER



118,614 JAMES W. MAHLON, WRENCH

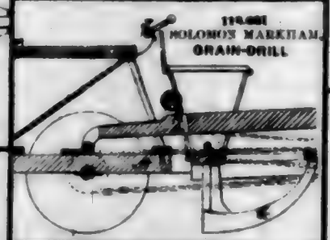


118,615 JOHNSON AND BOSTON, DRILL-RESTS

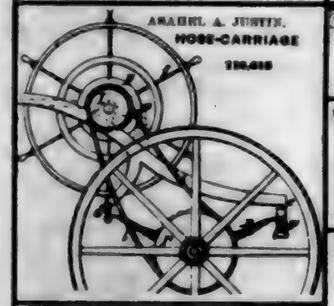


118,616 CHARLES MALMONT, SHOULDER-TOOLS FOR SHOEMAKERS.

118,617 SOLOMON MARKHAM, GRAIN-DRILL



118,618 ARARIEL A. JUDITH, HOSE-CARRIAGE



118,619 THOMAS MARSH, SUPPORTERS FOR SPINNING-RINGS.



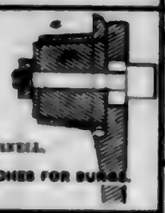
118,620 NAGOT AND LEWIS, SAD-IRON



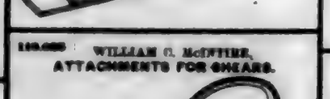
118,621 JAMES H. KELLY, FIELD-ROLLER



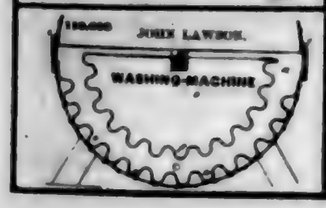
118,622 118,623 LACEY AND CORNELL, BURNERS AND WRENCHES FOR BURNERS.



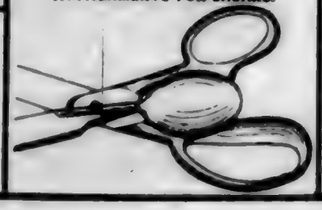
118,624 McBURNEY AND HOLLINGSWORTH, PAPER-MACHINE DECKELS.



118,625 JOHN LAWSON, WASHING-MACHINE



118,626 WILLIAM C. McINTIRE, ATTACHMENTS FOR GHEARS.



118,627 EDWARD ANNIS MERRILL, PACKING-SAGE.



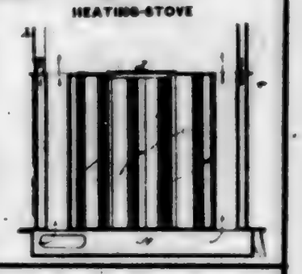
118,628 L. OTTO P. MEYER, MATCH-BOX



118,629 L. OTTO P. MEYER, MATCH-HOLDER



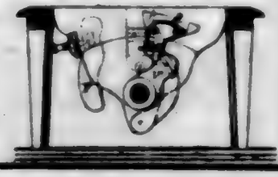
118,630 HIRAM C. MILES, HEATING-STOVE



118,631 FRIEND MILLER, ICE-PITCHER



118,632 ADAM MOLTE, SEWING-MACHINE



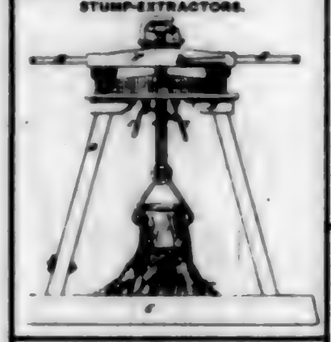
118,632 FRANCIS B. MOSHER, CARRIAGE-STEPS.



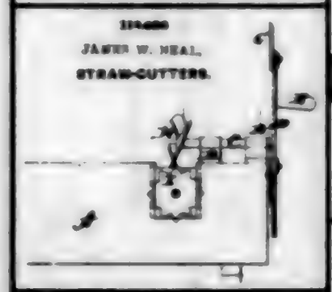
118,633 SAMUEL C. MYERS AND JAMES MCAULEY, BAND-CUTTERS.



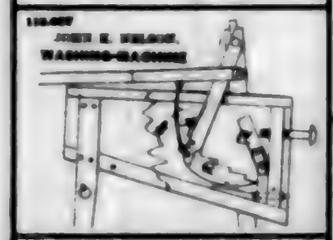
118,634 FRANCIS M. WARE, STUMP-EXTRACTORS.



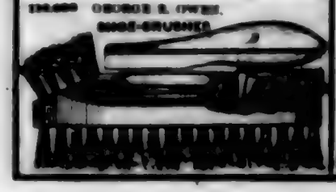
118,635 JAMES W. NEAL, STRAW-CUTTERS.



118,636 JOHN E. WILSON, WASHING-MACHINE.



118,637 GEORGE S. OWEN, HOOP-CRUSHER.

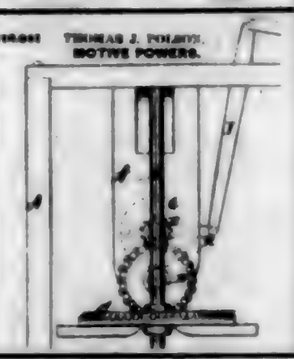


118,638 WILLIAM PHIPPS, WATER CUT-OFFS.

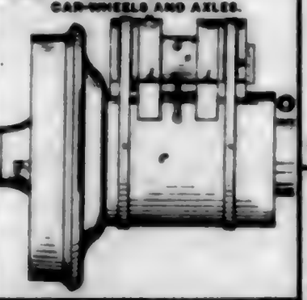


118,639 CLARK M. PLATT, EYELETS

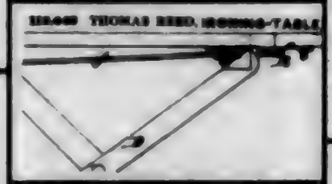
118,640 THOMAS J. POLSON, MOTIVE POWERS.



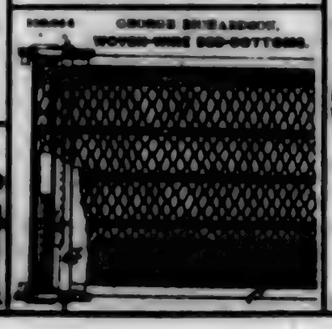
118,641 PERLEY PUTNAM, CAR-WHEELS AND AXLES.



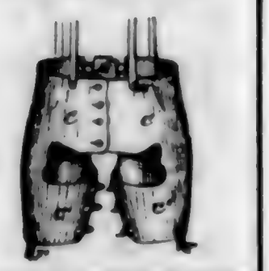
118,642 THOMAS REED, IRONING-TABLE.



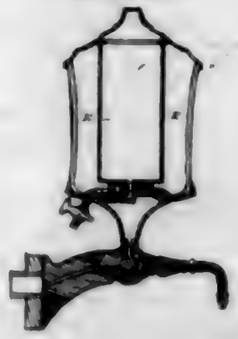
118,643 GEORGE RICHARDSON, WOVEN-WIRE BED-BOTTOMS.



118,644 JEANNIE V. RICHARDSON, ABDOMINAL SUPPORTERS.



118,645 CHARLES L. RIDGWAY, BEER-COOLERS.



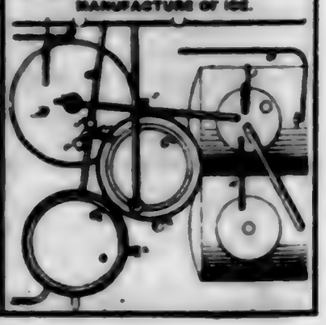
118,646 JOSEPH B. SARGENT, JOURNAL-BOXES.



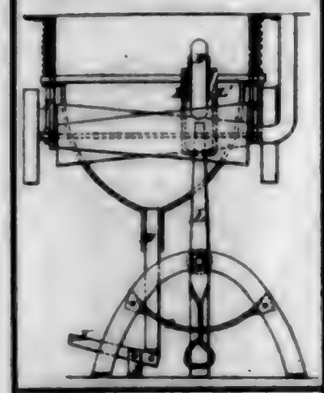
118,647 CHRISTIAN SCHERICH, CHECK-SPRINGS.



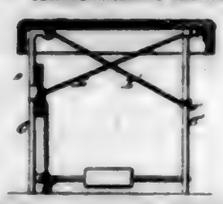
118,648 JAMES R. SEARS, MANUFACTURE OF ICE.



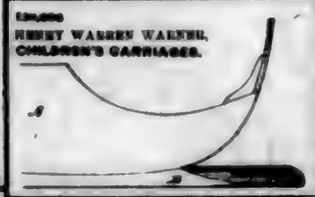
118,650 DAVID H. SHERMAN, MOTORS FOR SEWING-MACHINES.



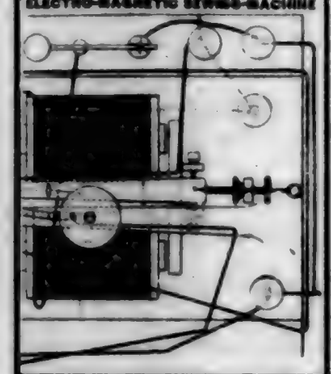
118,651 AUBERT H. WAGNER, SEWING-MACHINE TABLES.



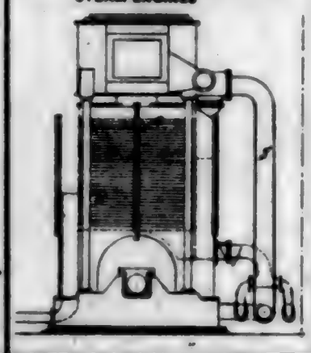
118,652 HENRY WARREN WARNER, CHILDREN'S CARRIAGES.



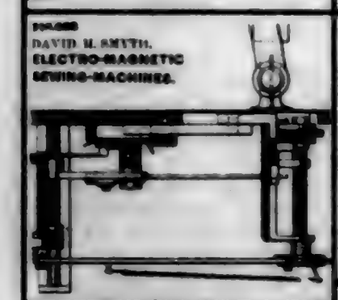
118,653 DAVID H. SMYTH, ELECTRO-MAGNETIC SEWING-MACHINE



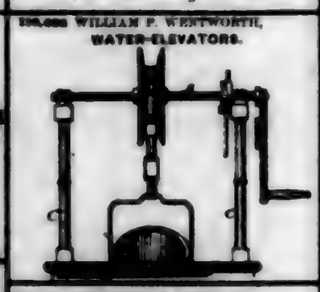
118,654 WEBSKEIDER AND BOSETTI, STEAM-ENGINES



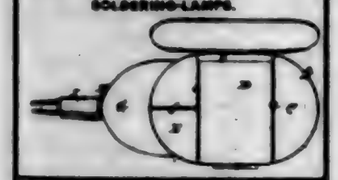
118,655 DAVID H. SMYTH, ELECTRO-MAGNETIC SEWING-MACHINES.



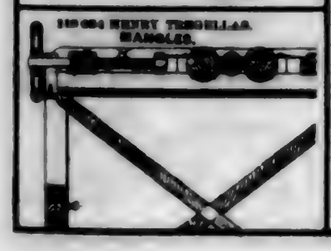
118,656 WILLIAM P. WENTWORTH, WATER-ELEVATORS.



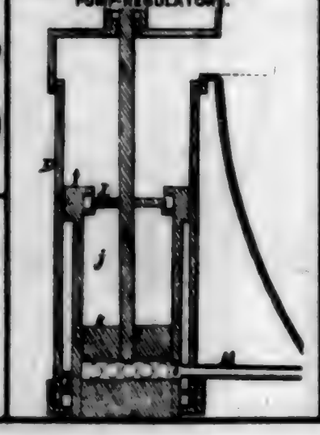
118,657 WILLIAM H. TALLMAN, SOLDERING-LAMPS.



118,658 HENRY THORELLO, HANGERS.



118,659 SHEPHERD H. WHEELER, PUMP-REGULATORS.



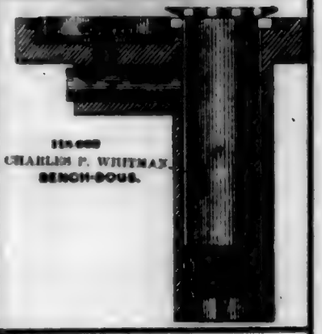
118,660 HORRA F. WHIDDEN, METALLIC SHANKS FOR BOOTS AND SHOES.



118,661 JOHN LAKE WHITING, BRUSHES.



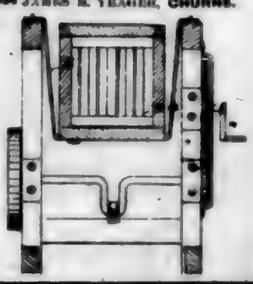
118,662 CHARLES P. WHITMAN, BENCH-DOGS.



118,663 HENRY WIGHT, LASTS.



118,664 JAMES M. YEAGER, Cchurns.



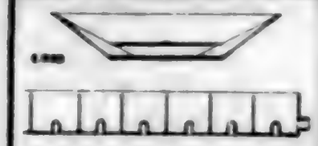
118,665 JOHN ZIMMERMAN, CARRIAGE-CURTAIN FASTENINGS.



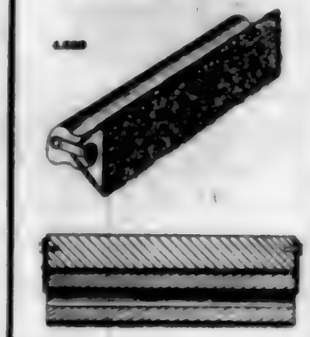
118,667 HUGH BAXTER, CONSTRUCTION-TRAINS



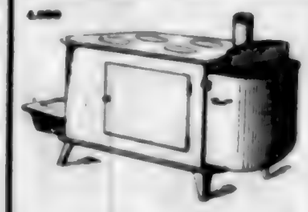
FRANCIS G. BUTLER, EVAPORATING-PANS.



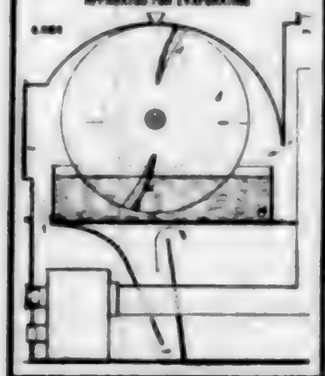
AUGUSTUS CHANDLER, RUBBERS AND BRUSHES.



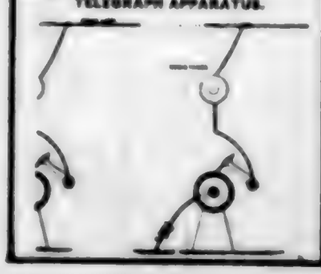
JAMES H. HYDE. COOKING-STOVES.



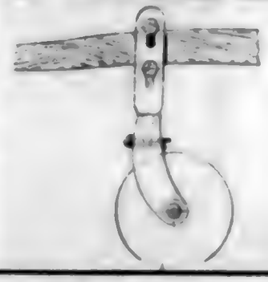
THOMAS W. JOHNSON, APPARATUS FOR EVAPORATING



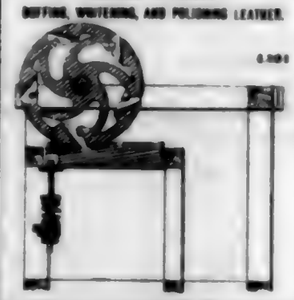
OBADIAH LITTLE, TELEGRAPH APPARATUS.



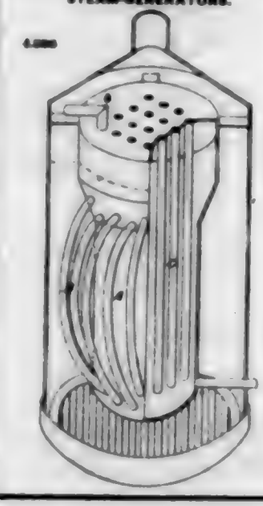
JAMES CARVER PEBLE. PLOWS.



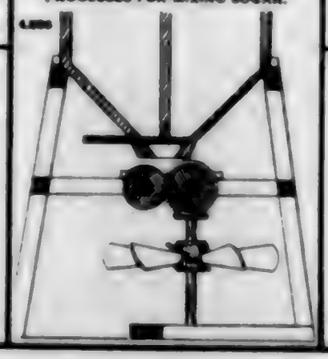
ALBERT W. PRATT, BUFFING, WHITENING, AND POLISHING LEATHER.



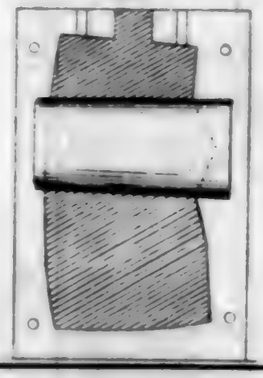
ROGERS AND BLACK, STEAM-GENERATORS.



MARTIN L. HENDRICKS, PROCESSES FOR MIXING SUGAR.



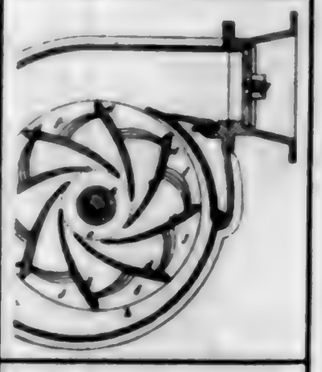
SAMUEL W. COLLINS, CASTING EDGE AND OTHER TOOLS.



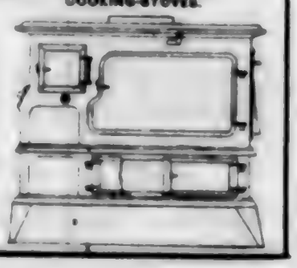
SAMUEL W. COLLINS, CASTING EDGE AND OTHER TOOLS.



JOHN TYLER. WATER-WHEELS.

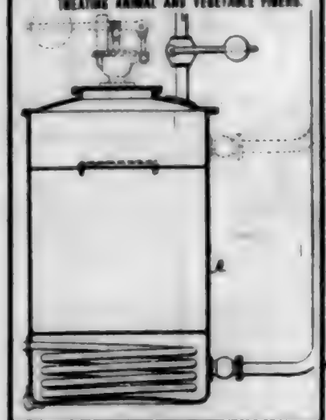


GEORGE W. WALKER, COOKING-STOVES.

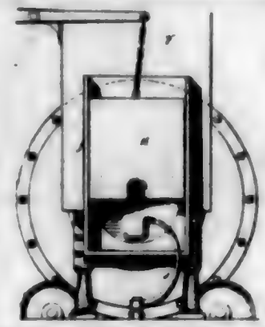


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
SEPTEMBER 5, 1871.

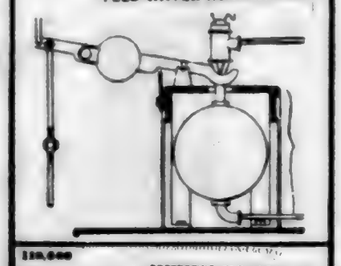
WILLIAM ADAMSON, TREATING ANIMAL AND VEGETABLE FIBERS.



WILLIAM BAYETON, ROTARY PUDDLING-FURNACES.



ROBERT BERRYMAN, FEED-WATER REGULATORS



HENRY BIBBINS, PROTECTING UNBLAZED LINE



MATTHEW ANDREW, GAS-ILLUMINATORS.



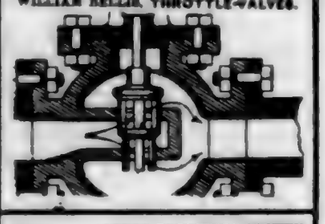
H. MARK ANTHONY, CANS FOR PRESERVING FRUITS.



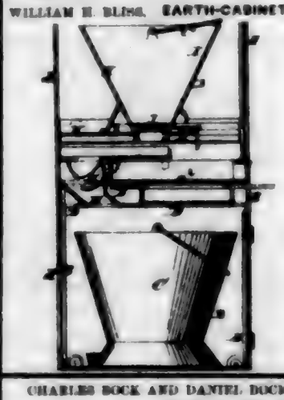
CICERO BECKHAM, HANDLES OF POCKET-KNIVES.



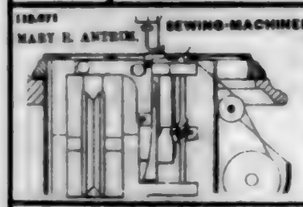
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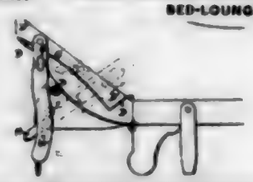
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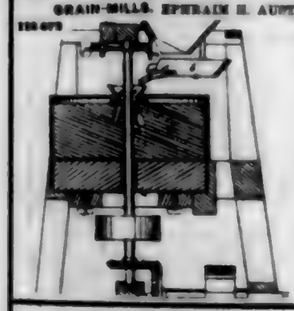
MARY E. ANTHIS, SEWING-MACHINES.



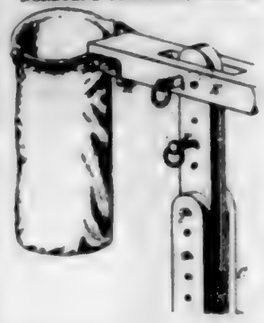
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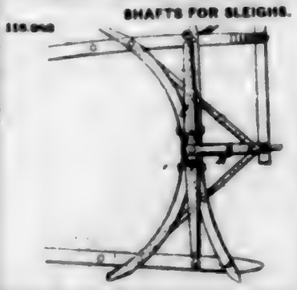
GRAIN-MILLS. EPHRAIM H. AUPTER,



NORBORNE BERKELEY, CARRIAGE-JACKS.



CHARLES BOCK AND DANIEL BOCK, SHAFTS FOR SLEIGHS.



JOHN C. BAKER, MOWING-MACHINES.



JEROME D. BRUCE, SPECULUM ATTACHMENTS.



AARON WHITED BURRELL.
LOCK-NUTS.

JAMES W. CHAPMAN. CHURNS.

PASCAL P. CHILD. JOURNAL-BOXES

CLEMENT C. CLAWSON. ROTARY ICE-SHAVERS.

CLEMENS AND CLEMENS. PRUNING-SHEARS.

EDWARD COLLINS. LUBRICATING CAR-AXLE JOURNALS.

JOHN M. COOPER. STEAM-ENGINES.

HARVEY W. CORNELL. CASTING TOOTHED CYLINDERS.

RUDOLPH CORSTIL. WHEEL-PLOWS.

JESSE A. CRANDALL. VELOCIPEDES.

HYDRAULIC AND PNEUMATIC ELEVATORS. HORACE H. DAY.

WALTER L. DRAH. LOG-BINDERS.

DENTON AND DENTON. EXTENSION CLOTHES-POLES.

WILLIAM H. DOANE. CANALS.

DAVID H. DOTTERER. CAR-AXLE BOXES.

RUS W. DUGAN. STEAM-GENERATORS.

EDWARD DUMMER. REDUCING FRICTION OF ROLLERS AND BEARINGS.

METALLIC HUBS FOR VEHICLES. JACOB DUMP.

LUBRICATORS FOR SHAFTINGS. LEWIS EAGIN.

JOSEPH W. FAWCETT. GRADING AND DITCHING-MACHINES.

WATER-WHEELS. DANIEL A. FLUEMMERFELT.

GAS-PUMPS. WILLIAM FOSTER.

RICHARD FRIARY. COFFEE AND GRAIN-CLEANERS.

MICHAEL A. GLYNN. SPARK-ARRESTERS.

ELIAS GROAT. CHURNS.

ELIAS GROAT. CHURNS.

WILLIAM HAAS. STOP-VALVES.

EDWARD P. HARPHAM. SEED AND FERTILIZER-DROPPERS.

HARWOOD AND AMES. HOLDERS FOR GRINDING SCISSORS.

MARTIN PETER HAYES. EVAPORATORS FOR BRINE.

WILLIAM HEATH. RECLINING-CHAIRS.

WILLIAM L. HERSHLIPP. VEGETABLE-CUTTERS.

CHARLES A. HOTCHKISS. MOUSE-TRAPS.

LIVERUS HULL. GAS-BRACKETS.

JOHN J. KINRALL. MECHANICAL MOVEMENTS.

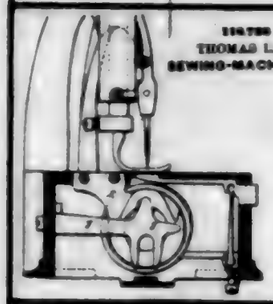
WILLIAM W. KITTLEMAN. TRACE-BUCKLES.

A. HAYDN KNAPP. CURTAIN-FIXTURES.

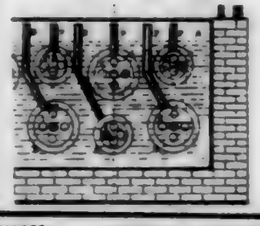
CHARLES KUGLER. HORSE HAY-RAKES.

ERASTUS B. KUHLE. EGG-BEATERS.

118,730 THOMAS LAMB, SEWING-MACHINES.



118,734 JOHN MANN, STEAM-GENERATORS.



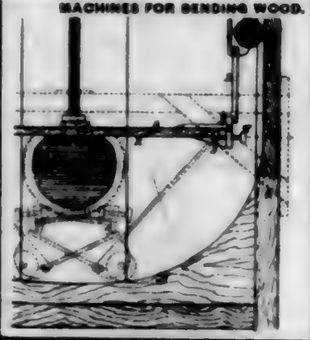
118,741 MILO OSBORN, RAISING SUNKEN VESSELS.



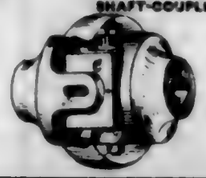
118,729 LEVI M. LAWLESS, CARRIAGE-SHACKLES.



118,736 AUGUSTUS F. MARSHALL, MACHINES FOR BENDING WOOD.



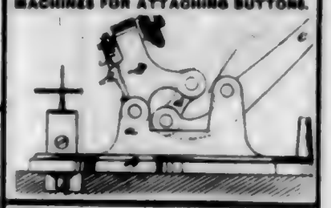
118,742 AURELIUS V. PITT, SHAFT-COUPLINGS.



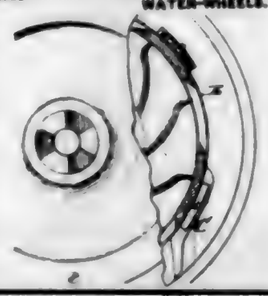
118,730 LEVI M. LAWLESS, WEATHER-STRIPS FOR DOORS.



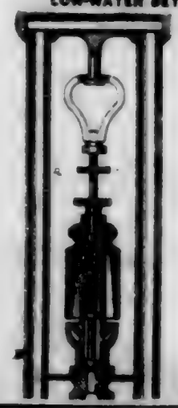
118,740 WILLIAM S. PLATT, MACHINES FOR ATTACHING BUTTONS.



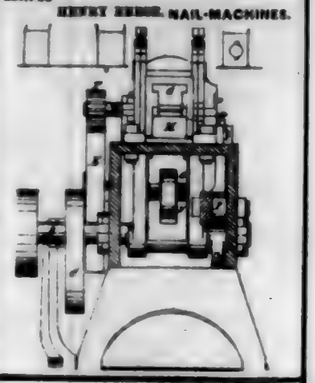
118,731 ALEXANDER C. LESNER, WATER-WHEELS.



118,737 GIDEON B. MASSEY, LOW-WATER DETECTERS.



118,744 HENRY REMIS, NAIL-MACHINES.



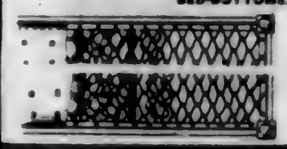
118,732 WILLIAM A. B. LONG, MILLING-MACHINES.



118,739 EDWARD A. METZ, APPARATUS FOR MAKING CIGARS.



118,745 GEORGE RICHARDSON, BED-BOTTOMS.



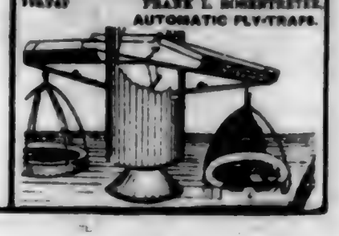
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118,738 FRANCIS B. GOODSON, LIFTING-MACHINES.

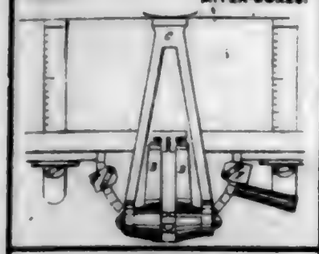


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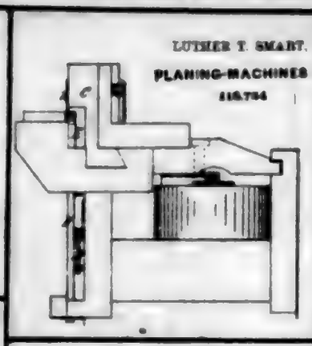


118,735 WILLIAM B. MACK, INJECTORS FOR STEAM-BOILERS.

118,749 MARVIN OVEN BOYCE, MITER-BOXES.



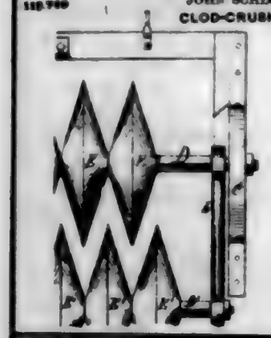
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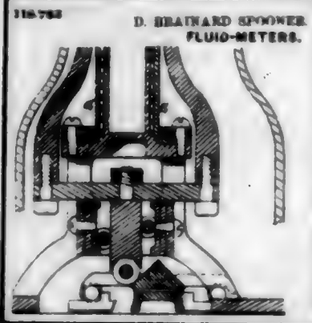
118,760 ARCHIBALD B. TRIPLER, PREVENTING RAILWAY AXLES FROM HEATING.



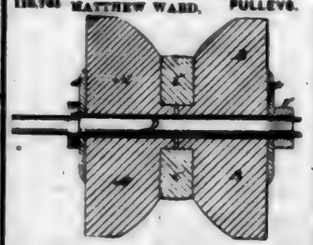
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118,753 D. BRAINARD SPOONER, FLUID-METERS.



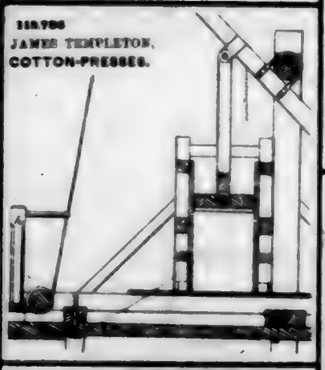
118,761 MATTHEW WARD, PULLEYS.



118,751 GEORGE SCHOLL, BATHING-APPARATUS.



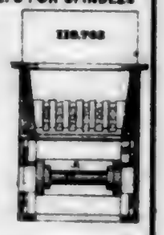
118,756 JAMES TEMPLETON, COTTON-PRESSES.



118,762 ROYAL P. WELLER, FIRE-GRATES.



118,763 ASA A. WESTCOTT, STEPS FOR SPINDLES



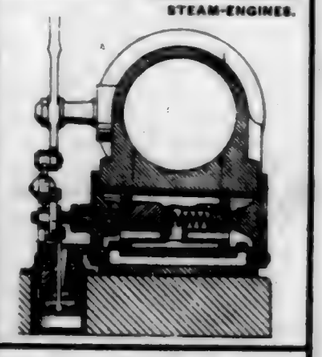
118,754 IRA W. SHALER, TORCHES.



118,757 EDWARD H. THOMPSON, PAPER-FILES.



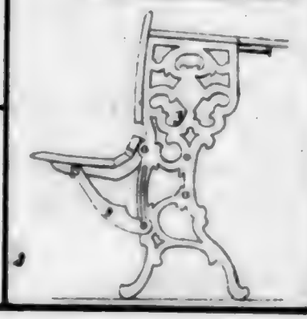
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118,755 CHRISTIAN SHARPS, REVOLVING FIRE-ARMS.



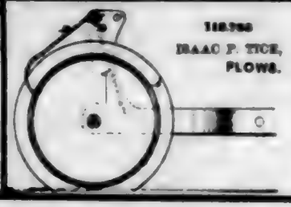
118,766 WRITING AND FISHER, SCHOOL-DESKS AND SEATS.



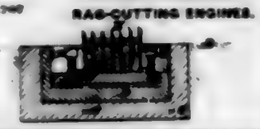
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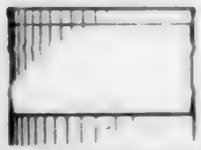
118,759 ISAAC P. TICE, PLOWS.



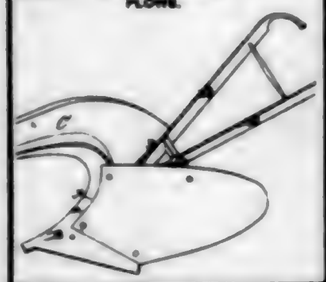
118,760 EDWARD WILKINSON. RAG-CUTTING ENGINES.



118,761 GEORGE F. WILSON, PUTTING UP BAKING-POWDERS.



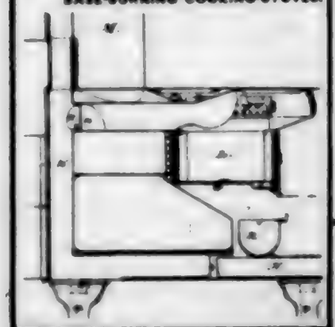
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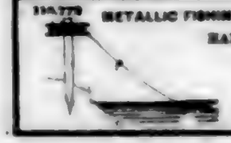
118,763 WING AND JOHNSON, AXLE-BOXES.



118,764 HENRY E. WOLCOTT. BASE-BURNING COOKING-STOVES.



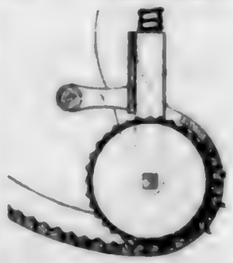
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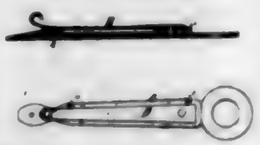
118,766 GALT AND TRACY. JOINTS FOR SCHOOL-DESKS.



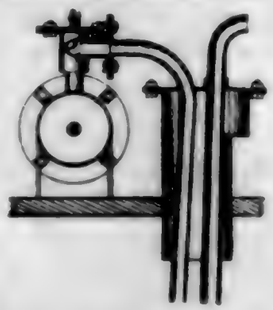
118,767 JAMES AND STREET. WASHING-MACHINES.



118,768 HENRY D. PAGE. REIN-HOLDERS.



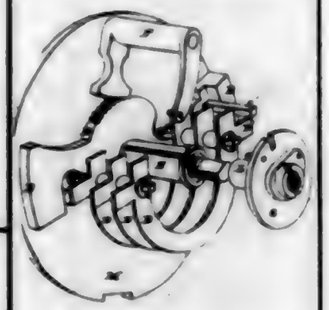
118,769 THOMAS W. MALONE. APPARATUS FOR FORCING FLUIDS.



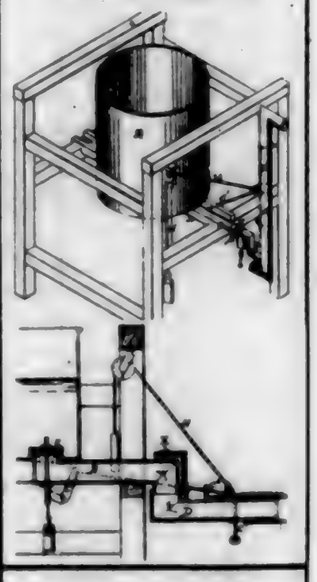
4,541 HIRAM W. HAYDEN. LAMP-BURNERS.



4,542 JULIUS C. BIETZ. PERMUTATION LOCKS.



4,543 JOHN MORTON. WATER-TANKS FOR RAILWAYS.

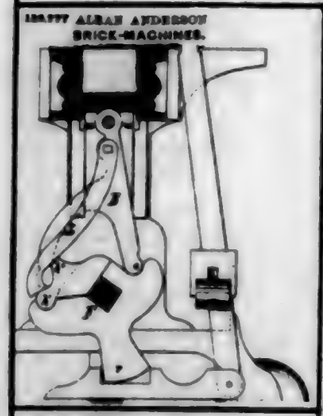


4,544 WASH-BOILERS. CHARLES N. TYLER.



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SEPTEMBER 12, 1871.

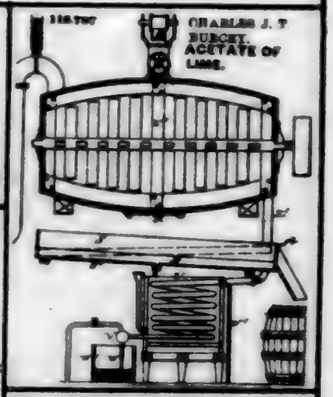
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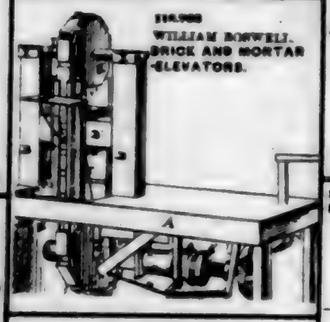
118,778 JOHN W. BLAKENEY. SPRING-SEATS.



118,779 CHARLES J. T. BUSCHY. ACETATE OF LIME.



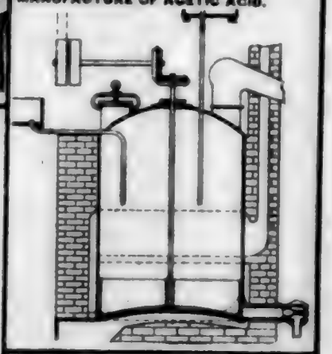
118,780 WILLIAM BOSWELL. BRICK AND MORTAR ELEVATORS.



118,781 BAYLEY AND CROWELL. WATER-WHEEL CASES.



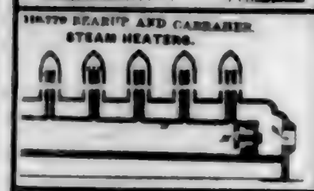
118,782 CHARLES J. T. BUSCHY. MANUFACTURE OF ACETIC ACID.



118,783 THOMAS SPENCE BROWN. SNOW-PLOWS.



118,784 BEARUP AND CARRAHER. STEAM HEATERS.



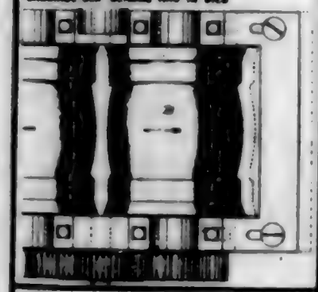
118,785 GEORGE A. BROWN. BELT-FASTENINGS.



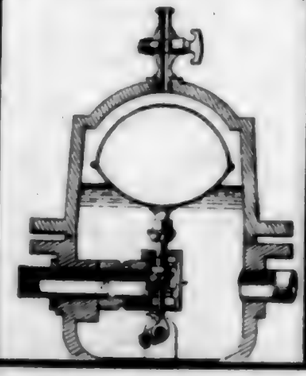
118,786 WILLIAM BUTTERFIELD. WATER-INDICATORS.



118,787 HENRY H. BEECHER. CARRIAGE-CLIP BLANKS AND IS DIES



118,788 NELSON H. BUNDY. STEAM-TRAPS.



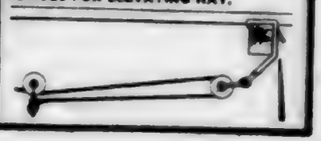
118,789 MARVIN CADWELL. ELASTIC WASHING-MITTS.



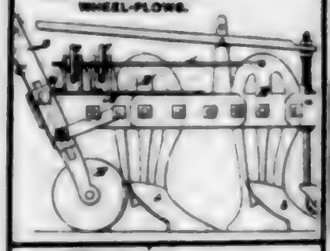
118,790 HENRY BINDER. REVERSIBLE CURTAIN FASTENERS.



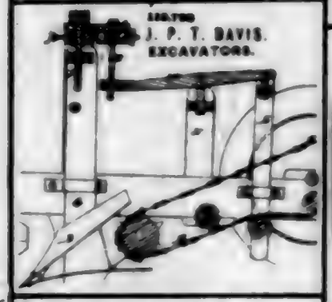
118,791 FRANK CALVERT. DEVICES FOR ELEVATING HAY.



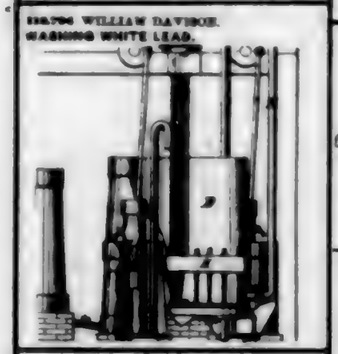
118,792 WILLIAM J. CUNNOR, WHEEL-PLOWS.



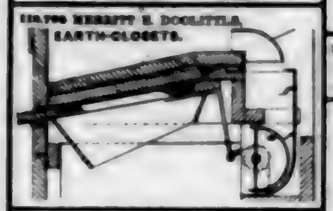
118,793 J. P. T. DAVIS, EXCAVATORS.



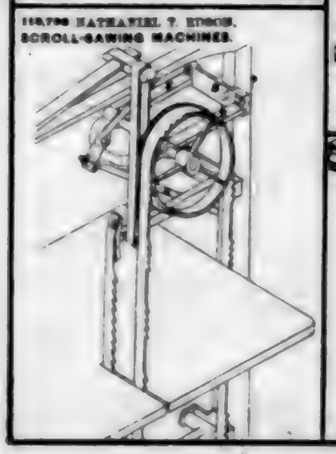
118,794 WILLIAM DAVISON, WASHING WHITE LEAD.



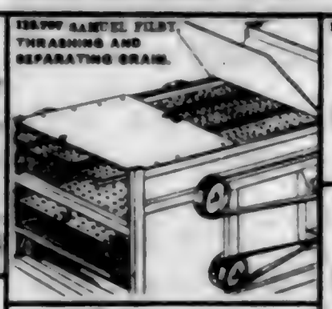
118,795 HERBERT H. DOOLITTLE, EARTH-CLOSETS.



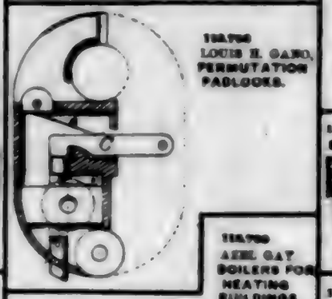
118,796 NATHANIEL T. ETHRIDGE, SCROLL-SAWING MACHINES.



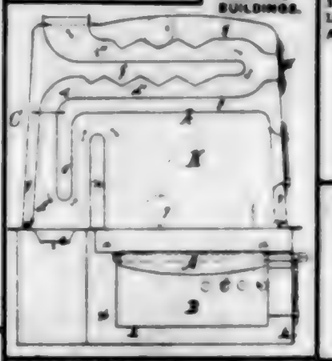
118,797 SAMUEL FILBY, THRASHING AND SEPARATING GRAIN.



118,798 LOUIS H. GARD, PERMUTATION PADLOCKS.



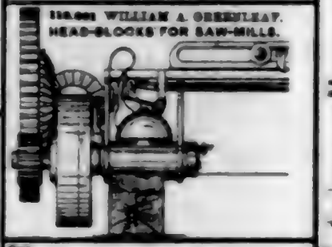
118,799 ABM. GAT, BOILERS FOR HEATING BUILDINGS.



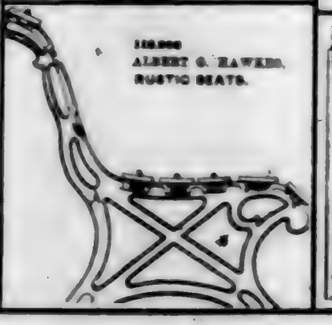
118,800 GEORGE R. GREEN, SAWS.



118,801 WILLIAM A. GREENLEAF, HEAD-BLOCKS FOR SAW-MILLS.



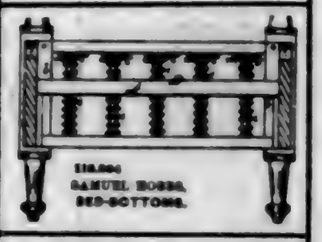
118,802 ALBERT G. HAWKES, RUSTIC SEATS.



118,803 SAMUEL P. HILTON, PAPER COLLARS.



118,804 SAMUEL HOBBS, SEE-SCUTTONS.



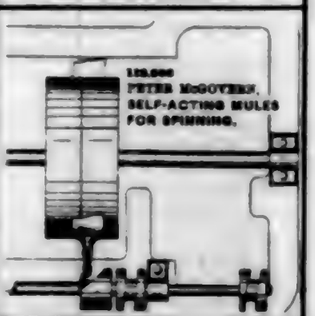
118,805 HUGH S. KERR, BLACKING-BRUSHES AND BOXES



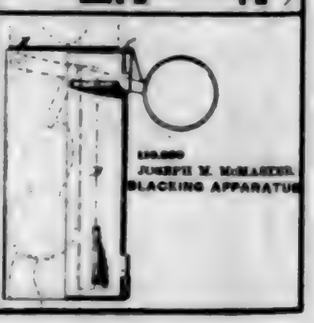
118,806 LAFFERTY AND SMITH, AUGERS.



118,807 EMMETT MATHER, COAL-SCUTTLES.



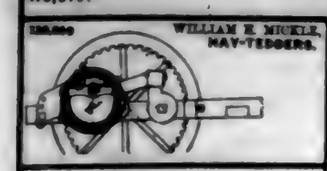
118,808 PETER McGOVERN, SELF-ACTING MULES FOR SPINNING.



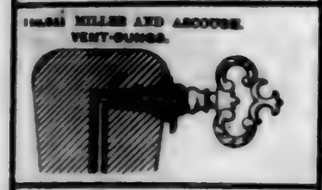
118,809 JOSEPH M. McMAHEN, BLACKING APPARATUS



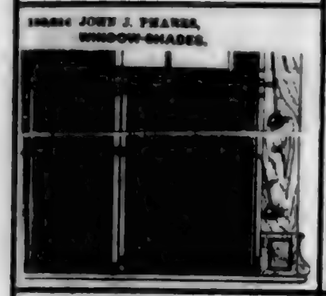
118,810 WILLIAM H. NICKLE, HAY-TEDDERS.



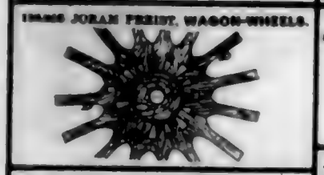
118,811 MILLER AND ARCOUSE, VENT-GUNGS.



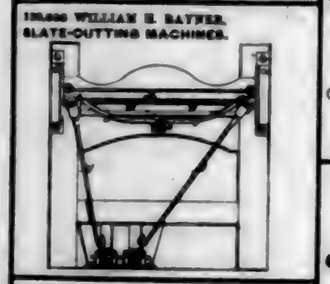
118,812 JOHN J. PEARCE, WINDOW-SHADES.



118,813 JORAM PERIST, WAGON-WHEELS.



118,814 WILLIAM H. RAYNER, SLATE-CUTTING MACHINES.



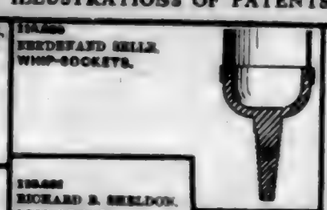
118,815 HENRY G. RENDELL, STEAM-VALVES.



118,816 JAMES RITCHIE, PLUGGING LEAKY BOILER-TUBES.



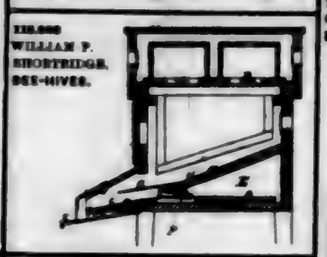
118,817 EDWARD SELLE, WHIP-SOCKETS.



118,818 RICHARD S. SHELDON, SEED-DRILLS.



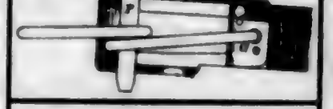
118,819 WILLIAM P. SHORTRIDGE, BEE-HIVES.



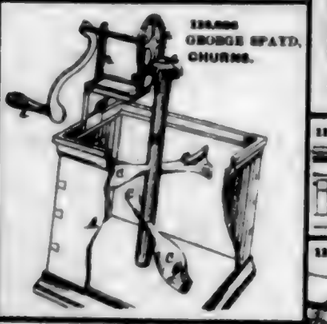
118,820 HIRAM H. SHADE, EXTRACTING PACKINGS FROM STUFFING-BOXES.



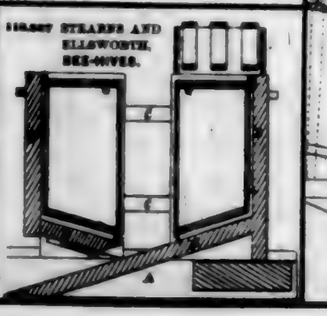
118,821 SMITH AND UTTON, CAR-COUPLINGS.



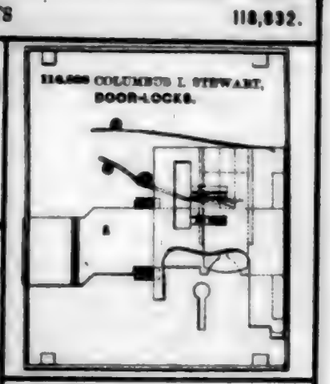
118,822 GEORGE SPAID, CHURNS.



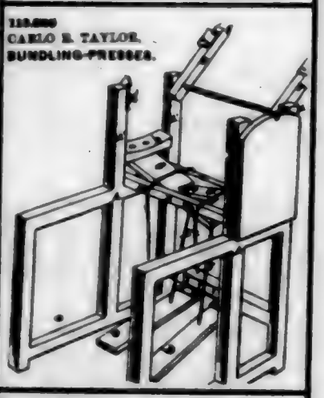
118,823 STEARNS AND ELLSWORTH, BEE-HIVES.



118,824 COLUMBUS L. STEWART, DOOR-LOCKS.



118,825 CARLO B. TAYLOR, BUNDLING-PRESSES.



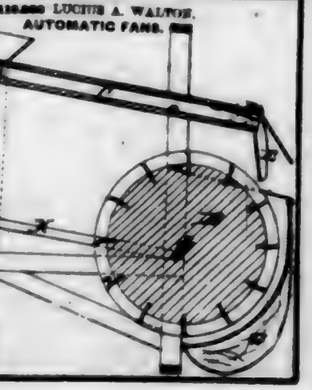
118,826 MILTON G. TOUBLEY, SPINDLES FOR SAFE-LOCKS.



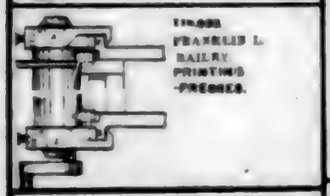
118,827 AARON H. WALRATH, SOB-SLEDS.



118,828 LUCIUS A. WALTON, AUTOMATIC FANS.

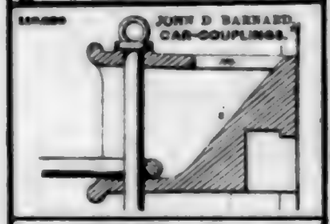


118,834 PETER ANGER. BED-BOTTOMS.

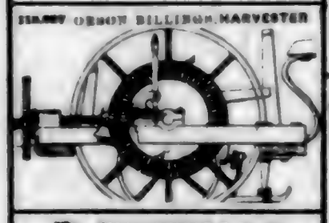


118,835 FRANKLIN L. BAILEY. PRINTING-PRESSES.

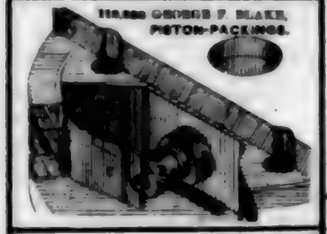
118,836 JOHN D BARNARD. CAR-COUPLINGS.



118,837 ORSON BILLINGS. HARVESTER



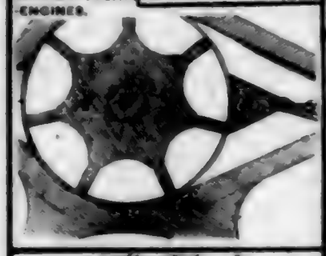
118,838 GEORGE F. BLAKE. PISTON-PACKINGS.



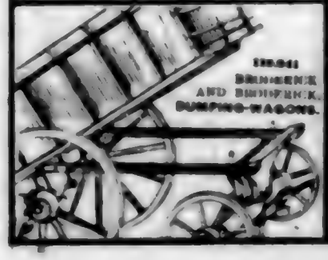
118,839 WILLIAM BRAY. BOOT AND SHOE-HEELS.



118,840 BRIGGS AND H. DEBNDER. ROTARY STEAM-ENGINES.



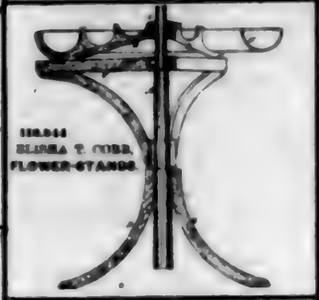
118,841 BRINKERH AND BRINKERH. DUMPING-WAGONS.



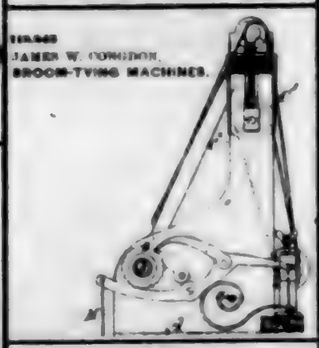
118,842 JOHN CLARK. PISTON-PACKINGS.



118,843 ELISHA P. COBB. FLOWER-STANDS.



118,844 JAMES W. CONDON. BROOM-TYING MACHINES.



118,845 WILLIAM H. DAVIS. TIRES FOR WHEELS OF VEHICLES.

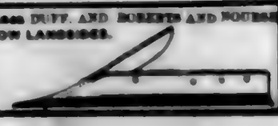


118,846 HORATIO W. INE. BENDING TUBES OF SHEET METAL.



118,847 ELBRIDGE H. FERRIS. CARTRIDGE-LOADERS.

118,848 DUFF AND ROBERTS AND SOUTHER. PLOW LANDSIDES.



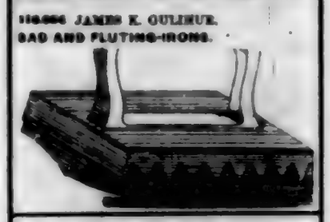
118,849 GEORGE GOODYEAR. SHANKS FOR BOOTS AND SHOES.



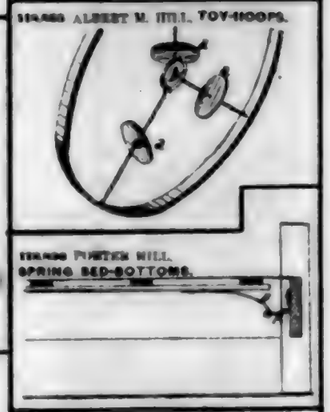
118,850 LEWIS GREE. FLY-TRAPS.



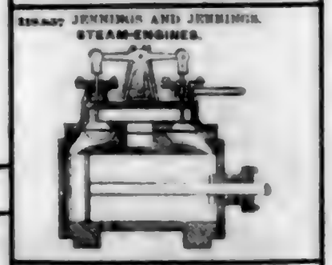
118,851 JAMES K. GULIEUE. BAD AND FLUTING-IRONS.



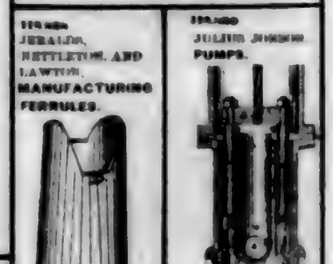
118,852 ALBERT M. HILL. TOY-HOOPS.



118,853 PORTER HILL. SPRING BED-BOTTOMS.



118,854 JENNINGS AND JENNINGS. STEAM-ENGINES.



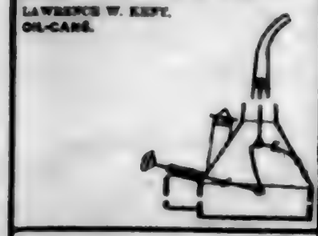
118,855 JERALDS, NETTLETON, AND LAWTON. MANUFACTURING FERRULES.



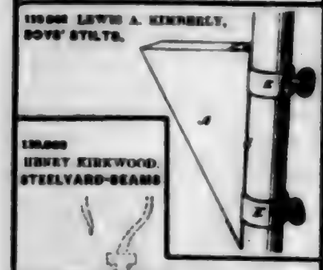
118,856 JULIUS JOHNSON. PUMPS.



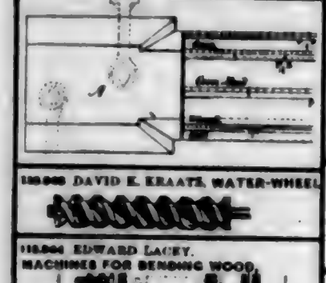
118,860 LAWRENCE W. KEPT. OIL-CANS.



118,861 LEWIS A. KIMBELL. BOYS' STILTS.



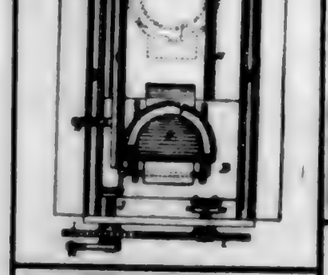
118,862 HENRY KIRKWOOD. STEELYARD-BEAMS



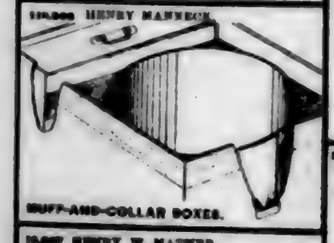
118,863 DAVID K. KRAATS. WATER-WHEEL



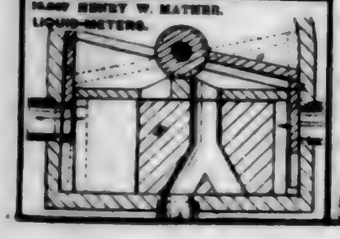
118,864 EDWARD LACEY. MACHINES FOR BENDING WOOD.



118,865 HENRY MANNECK. RUFF-AND-COLLAR BOXES.



118,866 HENRY W. MATHER. LIQUID-METERS.



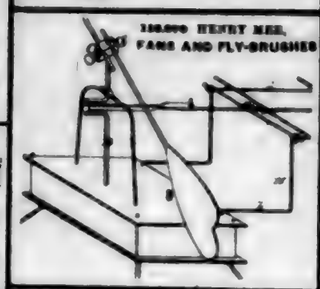
118,867 JAMES McCLELLAND. HUB-CLAMPS.



118,868 NATHANIEL MEAD. WAGON-AXLES.



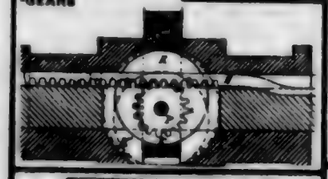
118,869 HENRY MEE. FANS AND FLY-BRUSHES



118,870 JAMES MOFFITT. BRUSHES.



118,871 JAMES MORTFORT. CUT-OFF VALVE-GEARS



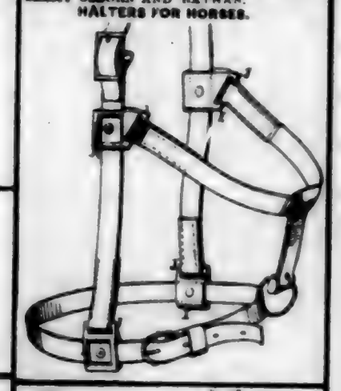
118,872 GEORGE E. MOORE. STOVE-GRATES.



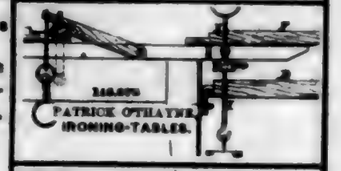
118,873 ELISHA E. MYERS. SODA-FOUNTAINS.



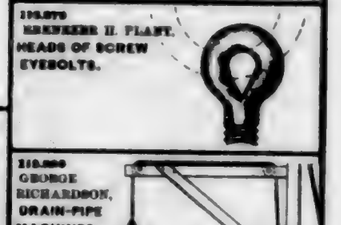
118,874 OSBORN AND RAYHAN. HALTERS FOR HORSES.



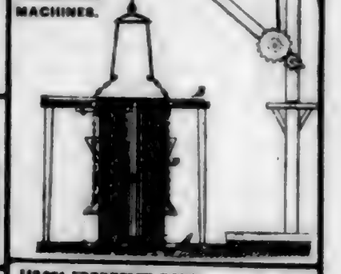
118,875 PATRICK O'HAYNE. IRONING-TABLES.



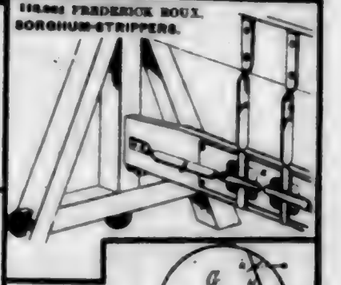
118,876 EBENEZER H. PLANT. HEADS OF SCREW EYEBOLTS.



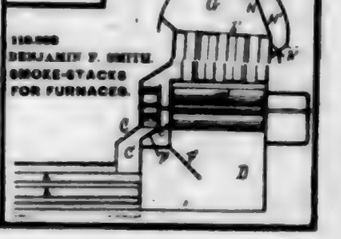
118,877 GEORGE RICHARDSON. DRAIN-PIPE MACHINES.



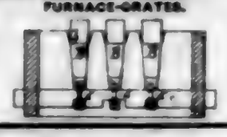
118,878 FREDERICK ROUX. SORGHUM-STRIPPERS.



118,879 BENJAMIN F. SMITH. SMOKE-STACKS FOR FURNACES.



118,884 BENJAMIN F. SMITH. FURNACE-GRATES.



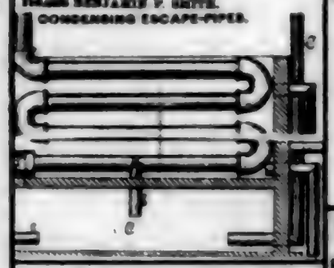
118,885 WILCOX AND WILCOX. WRENCHES.



118,886 JESSE S. BATCHELDER. CONFECTIONERY-JARS.



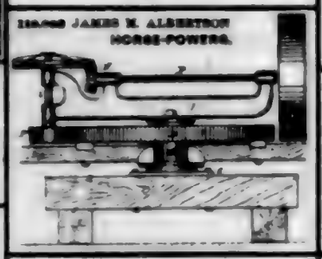
118,887 BENJAMIN F. SMITH. CONDENSING ESCAPE-PIPES.



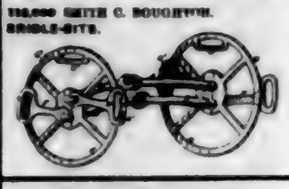
118,888 EDWIN L. WAGNER. STUFFING MATTRESSES.



118,889 JAMES M. ALBERTSON HORSE-POWERS.



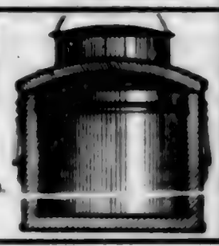
118,890 SMITH C. BOUGHTON. BRIDLE-BITS.



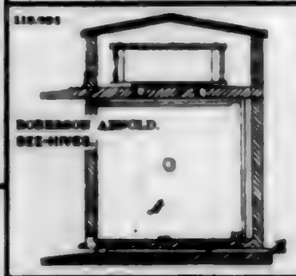
118,891 CHESTER H. KELLEY. AIR-PISTOLS.



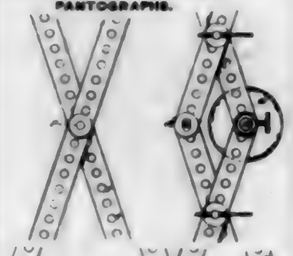
118,892 SAMUEL STROUCE. MILK-CANS.



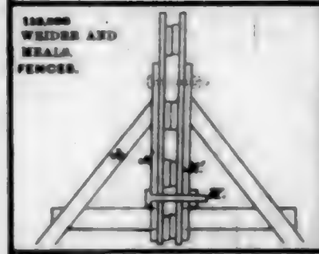
118,893 ROSEBROOK ARNOLD. BEE-HIVES.



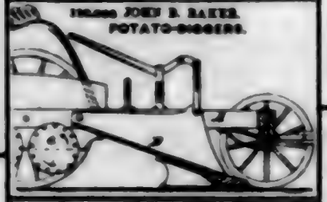
118,894 BROCK AND WOLCOTT. PANTOGRAPHS.



118,895 WEIDER AND MEALA. FENCES.



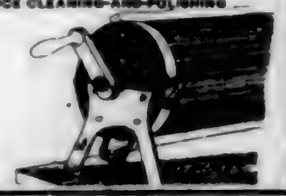
118,896 JOHN B. BAKER. POTATO-DIGGERS.



118,897 WILLIAM HENRY BARNES. POT-COVERS.



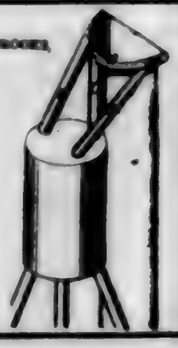
118,898 JOHN F. WHITE. RICE CLEANING-AND-POLISHING MACHINES.



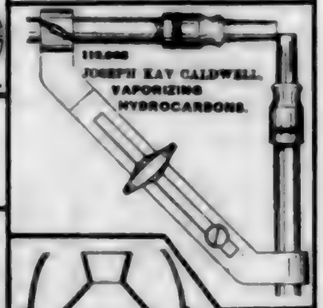
118,899 ALEXANDER H. WHITTICK. PLOWS.



118,900 HARRETT AND BROOKS. BAG-HOLDERS.



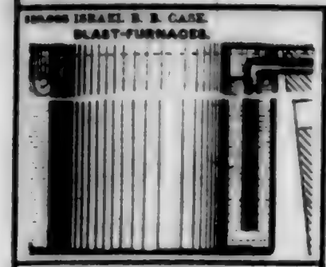
118,901 JOSEPH KAY CALDWELL. VAPORIZING HYDROCARBONS.



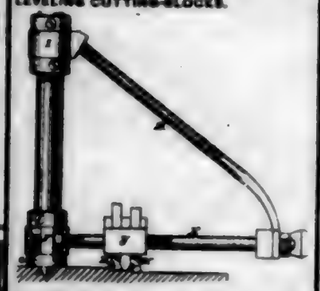
118,902 ORSIN S. CAMP. WOOD-INCASED CANS.



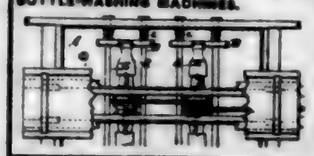
118,905 ISRAEL B. B. CASE. BLAST-FURNACES.



118,906 ANDREW DAVIS. LEVELING CUTTING-BLOCKS.



118,907 CONRAD EULER. BOTTLE-WASHING MACHINES.



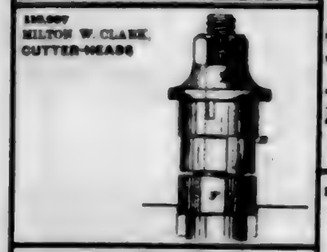
118,908 HULL CHANDLER. BED-SPRINGS.



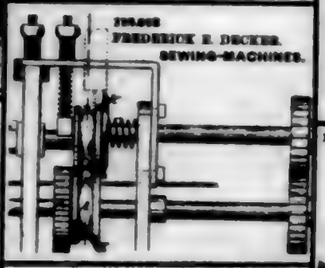
118,909 WILLIAM B. EVANS. PORTABLE CRADLES.



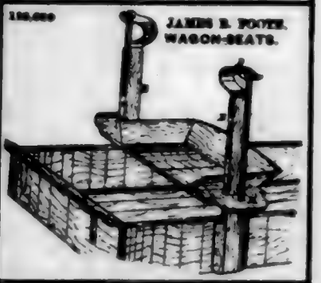
118,910 MILTON W. CLARK. CUTTER-HEADS.



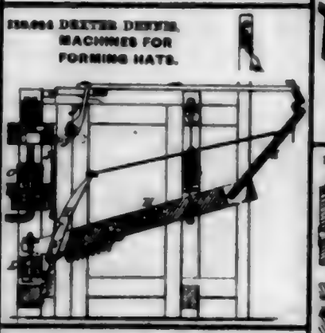
118,911 FREDERICK E. DECKER. SEWING-MACHINES.



118,912 JAMES B. FOOTE. WAGON-SEATS.



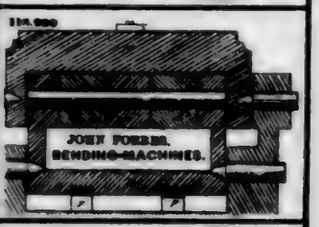
118,913 DEXTER DENYS. MACHINES FOR FORMING HATS.



118,914 WILLIAM F. CLARK. BED AND SEAT-BOTTOMS.

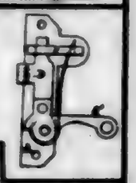


118,915 JOHN FORBS. BENDING-MACHINES.

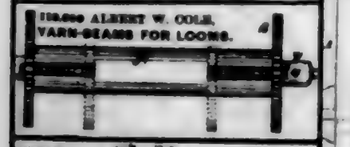


118,916 MAX. CLAVER. SPRING-LOCKS.

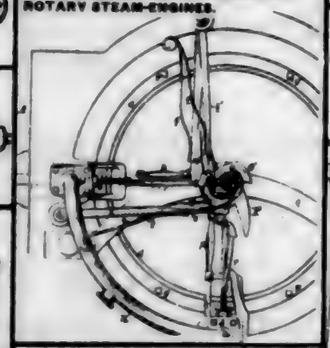
118,917 AUGUST FESUTAL. SPRING-LOCKS FOR SASHES.



118,918 ALBERT W. COLE. YARN-BEAMS FOR LOOMS.



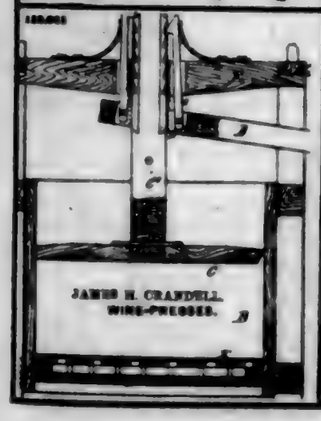
118,919 FRANCIS OLIVER DESCHAMPS. ROTARY STEAM-ENGINES.



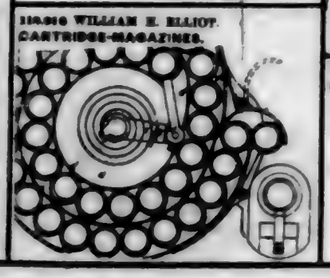
118,920 OSCAR F. FROST. WINDOW-SCREENS.



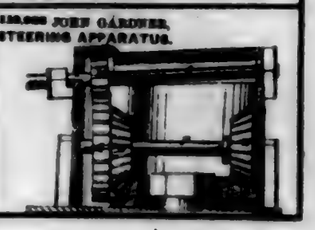
118,921 JAMES H. CRANDELL. WIRE-PRESSES.



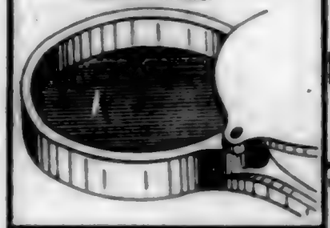
118,922 WILLIAM H. ELLIOT. CARTRIDGE-MAGAZINES.



118,923 JOHN GARDNER. STEERING APPARATUS.



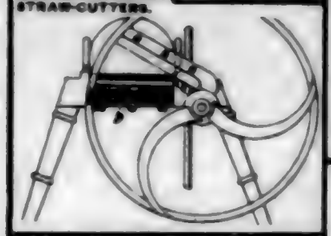
118,924. EDWARD H. GATES. BLACKING-BOXES.



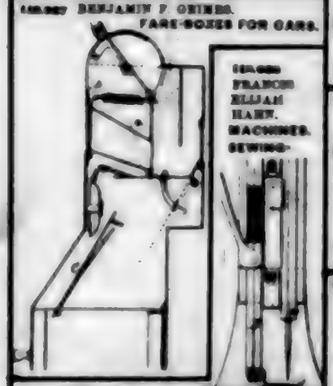
118,925. JOHN GIBBS, JR. TREE-BOXES.



118,926. BENJAMIN F. GRIMES. STRAW-CUTTERS.



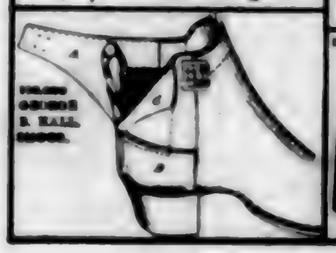
118,927. BENJAMIN F. GRIMES. FARE-BOXES FOR CARS.



118,928. FRANCIS ELIJAH HART. MACHINES. SEWING-



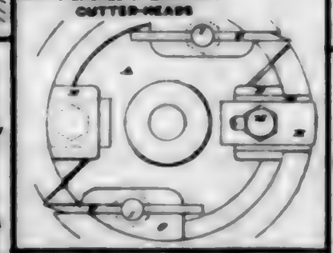
118,929. GEORGE H. HALL. COAL-RETORTS.



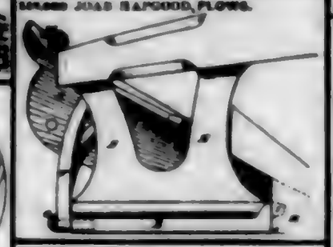
118,930. WILLIAM H. HALL. COMBINATION-LOCKS.



118,931. EMMEL P. HALSTED. CUTTER-HEADS.



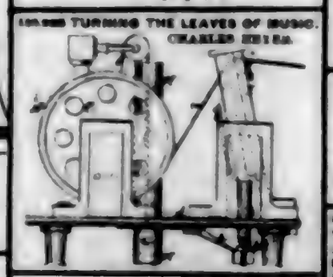
118,932. JOAB HAYGOOD, PLOWS.



118,933. SAMUEL P. HAWLEY. RECOIL-OBVIATORS FOR ORDNANCE.



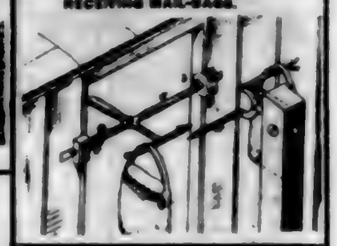
118,934. CHARLES W. HEDGES. WHEELS FOR TRACTION-ENGINES.



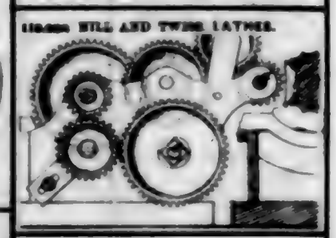
118,935. TURNING THE LEAVES OF MUSIC. CHARLES HEISS.



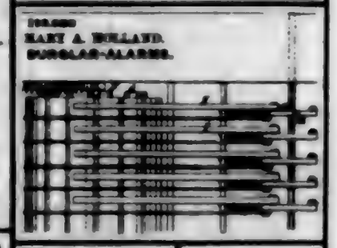
118,936. JOHN D. HIGGINS. GAS-RETORTS.



118,937. GEORGE W. HILDRETH. RECEIVING MAIL-BAGS.



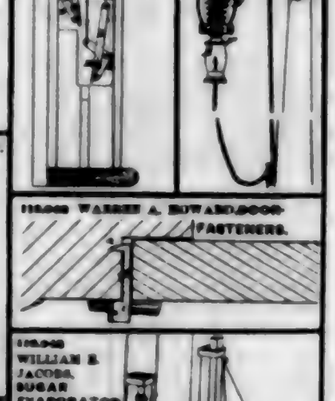
118,938. WILL AND TWINE LATHES.



118,939. MARY A. HOLLAND. BURGLAR-ALARMS.

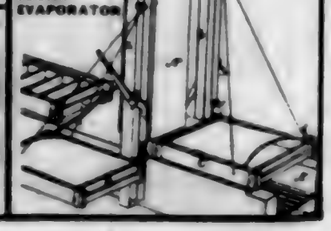


118,940. MARY A. HOLLAND. BURGLAR-ALARMS.

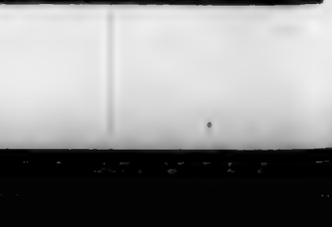


118,941. ALEXANDER M. HOLMES. SIGNAL-LIGHTS.

118,942. WARREN A. HUYARD. DOOR-FASTENERS.



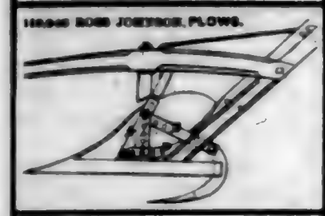
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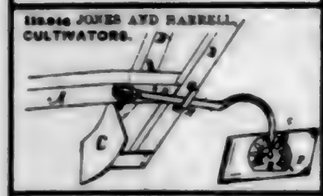
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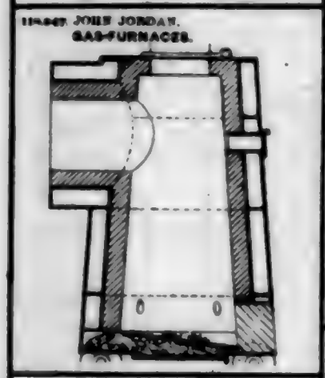
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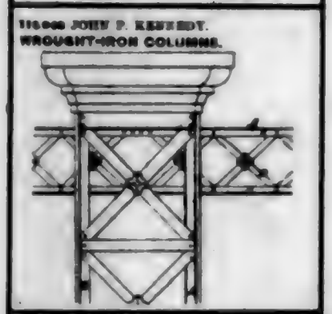
118,946. JONES AND HARRELL. CULTIVATORS.



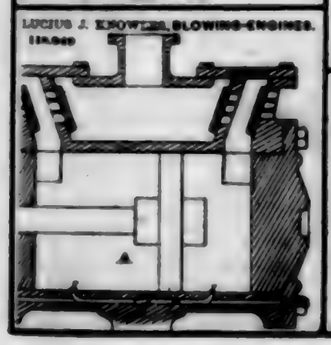
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118,948. JOHN P. KENNEDY. WROUGHT-IRON COLUMNS.



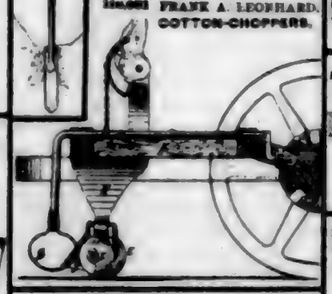
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118,950. GEORGE KOCH. DRILLING-MACHINES.



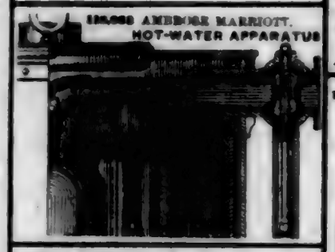
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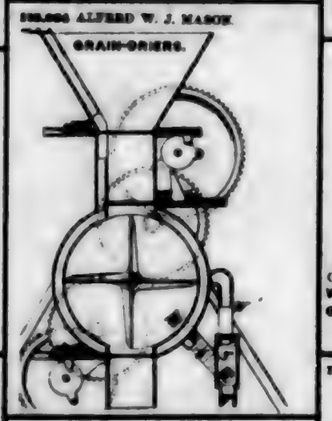
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118,953. AMBROSE MARRIOTT. HOT-WATER APPARATUS.



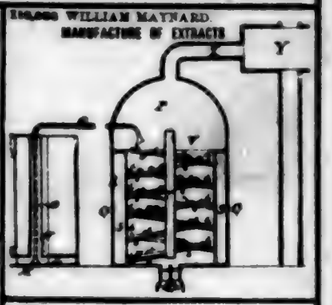
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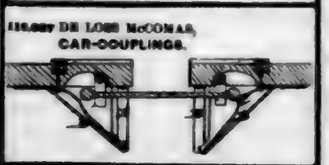
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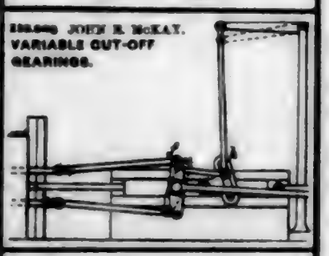
118,956. WILLIAM MAYNARD. MANUFACTURE OF EXTRACTS



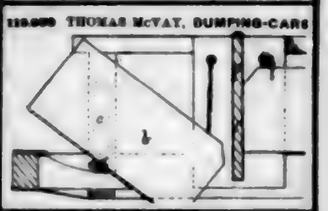
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118,958. JOHN R. McKAY. VARIABLE CUT-OFF GEARINGS.



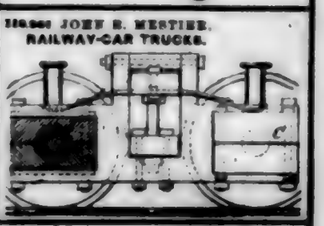
118,959. THOMAS McVAY. DUMPING-CARS



118,960. CHARLES W. MERRER. WATCH-CHAINS OR GUARDS.



118,961. JOHN B. MERTIES. RAILWAY-CAR TRUCKS.



118,962. JOSEPH A. MILLER. GRATE-BARS.



118,963 DAVID MILLIKEN. MACHINES FOR SPLITTING WOOD.

118,964 JOHN W. KEMP. PICKET-POINTERS.

118,965 DAVID MORITZ. JACKS FOR REPLACING CARS.

118,966 ABRAHAM MORRIS. SOFA-BEDS.

118,967 ROBERT MORTON. GAS APPARATUS.

118,968 ROBERT L. NEWTON. RIBBON-AND-VELVET CASES.

118,969 OSGOOD PLUMMER. HARNESS-OPERATING MECHANISM

118,970 OSGOOD PLUMMER. TOWEL-RACKS.

118,971 GEORGE E. PROCTOR. TREADLES.

118,972 EDWARD D. PUGH. BEE-HIVES

118,973 WILLIAM REYNTROM. HARROWS.

118,974 SILAS F. ROGERS. DEVICES FOR OPERATING SASHES.

118,975 OLIVER B. ROSS. GRAIN-BINDERS

118,976 PHINEAS ALLEN SOYCE. GENERATING OZONE.

118,977 WILLIAM SELLERS. TOY-PROPELLERS.

118,978 C. LATHAM SHOLES. NUMBERING-MACHINES

118,979 SILBER AND WHITE. LIGHTING AND HEATING

118,980 FRIEDRICH STARKE. CARPENTERS' BENCHES.

118,981 JOHN S. SWANN. STUMP-EXTRACTORS.

118,982 JOHN S. SWANN. MOTIVE-POWERS

118,983 HANNAH C. TERRY. GENERATING AND CARBURETING HYDROGEN-GAS

118,984 MADISON THORP. CORN-HARVESTERS.

118,985 HERBERT L. TODD. PAPER-TRIMMING MACHINES.

118,986 HENRY R. TOWNE. LOCKS.

118,987 WILLIAM H. TURNER. HOT-AIR FURNACES.

118,988 CHARLES O. TWISSING. OIL-CANS

118,989 JOHN H. VALLEY. IRONING AND KITCHEN-TABLES

118,990 WELCH AND WHEELER. TABLES AND STANDS.

118,991 WILLIAM P. WENTWORTH. ROTARY ENGINES

118,992 JULIUS WERNER. SOFA-BEDS.

118,993 GILBERT H. WETJEN. BOXES FOR SHOE BLACKING.

118,994 WILLIAM F. WHITELEY. HARVESTERS.

118,995 HENRY WILSON. PIPE-WRENCHES.

118,996 JOSEPH C. WISMER. WASHING-MACHINES

118,997 YOUNCE AND SMITH. VISES.

4,546 GEORGE W. EMERSON. TEMPORARY BINDERS

4,547 MOSES A. JOHNSON. INSOLES FOR BOOTS AND SHOES.

4,548 HIRAM McDONALD. WOOD-BENDING MACHINES.

4,549 EDWARD H. STEARNS. HEAD-BLOCKS FOR SAW-MILLS.

4,550 JOHN DEMING. HUB-BORING MACHINES.

4,551 SAMUEL KINGSLAND. WOOD-BENDING MACHINES.

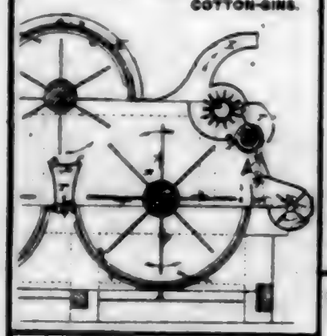
4,552 JONATHAN O. POWLER, JR. FIRE-ALARMS.

4,553 BABCOCK, HOWES, AND EWELL. GRAIN-SEPARATORS.

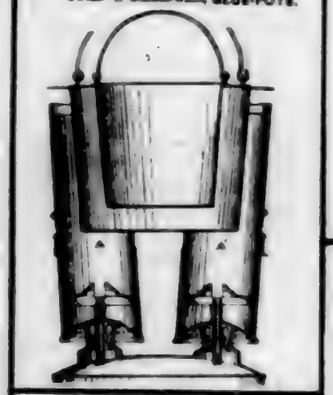
4,554 MINER VAN AUKEN. BURS FOR KNITTING-MACHINES.

ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
SEPTEMBER 19, 1871.

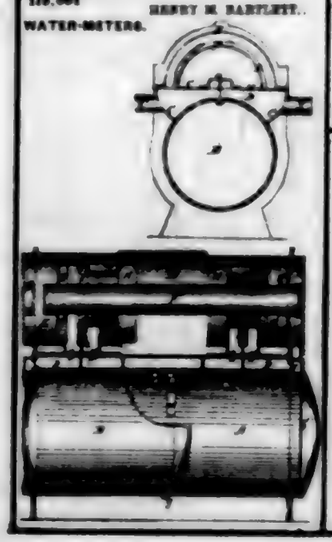
119,001 CHARLES N. ANDREWS. COTTON-GINS.



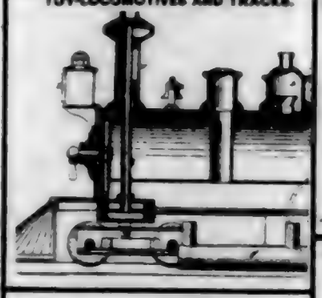
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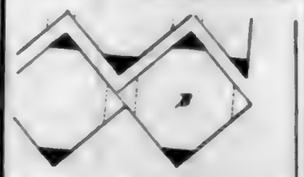
119,003 119,004 HENRY M. BARTLETT. WATER-METERS.



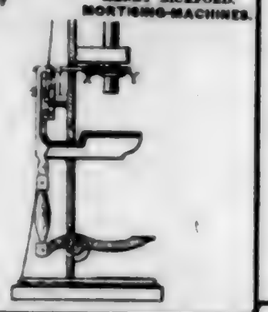
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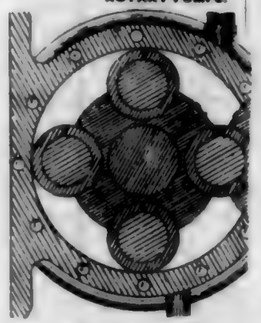
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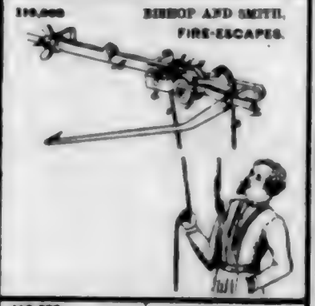
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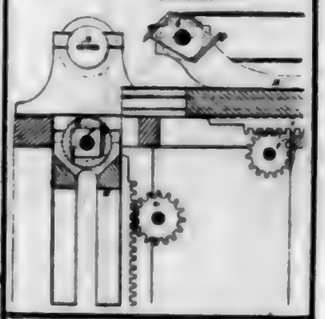
119,008 LUKE CHAPMAN. ROTARY PUMPS.



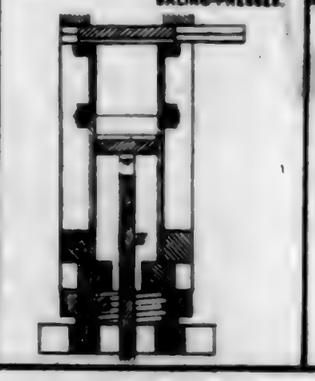
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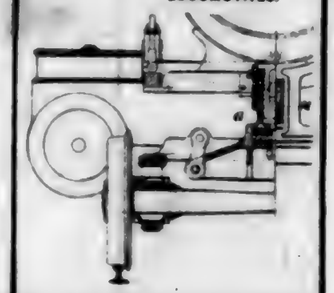
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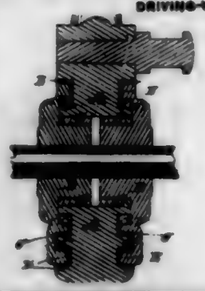
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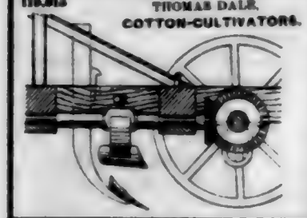
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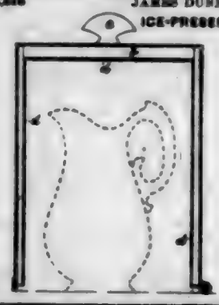
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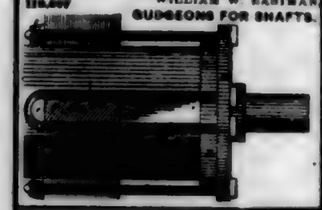
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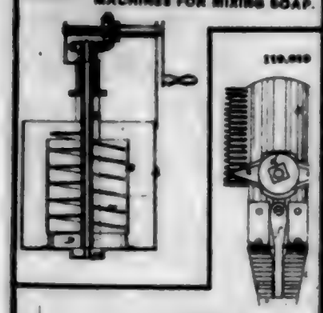
119,016 JAMES DUNNING. ICE-PRESERVERS.



119,017 WILLIAM W. EASTMAN. GUDGEONS FOR SHAFTS.

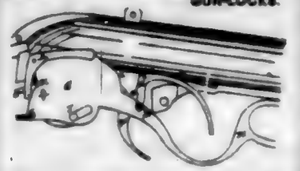


119,018 CHARLES ELLING. MACHINES FOR MIXING SOAP.



GEORGE F. EVANS. CLIPPING-SHEARS.

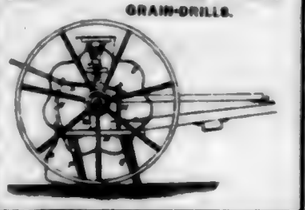
119,019 WARREN R. EVANS. GUN-LOCKS.



119,020 GEORGE F. FLING. BOOT AND SHOE-HEELS.



119,021 JOHN P. FLOOD. GRAIN-DRILLS.



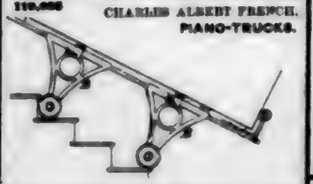
119,022 JOHN P. FLOOD. GRAIN-DRILLS.



119,023 ALVIN FRANKLIN. SAP-BUCKET HOLDERS.



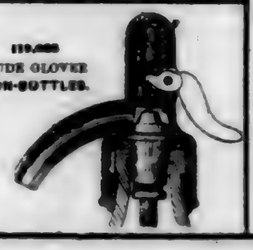
119,024 CHARLES ALBERT FRENCH. PIANO-TRUCKS.



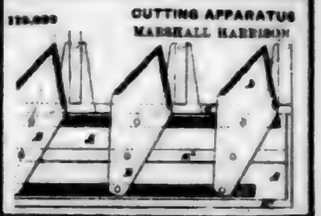
119,025 JOHN G. GARRETSON. WATER-WHEELS.



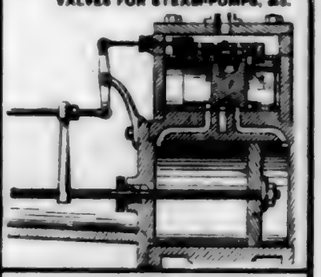
119,026 CLAUDE GLOVER. SIPHON-BOTTLES.



119,027 CUTTING APPARATUS. MARSHALL HARRISON.



119,028 JOSEPH W. HOPKINS. VALVES FOR STEAM-PUMPS, &c.



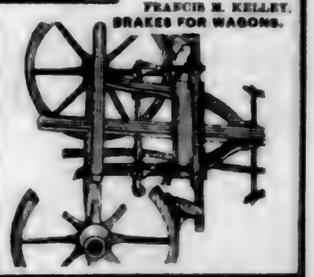
119,029 JAMES L. HUMPHREY. EVAPORATING SALT WATER.



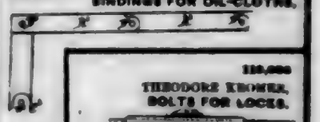
119,030 DANIEL HUSSEY. SPINDLES FOR SPINNING-MACHINES.



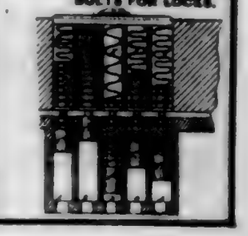
119,031 FRANCIS M. KELLEY. BRAKES FOR WAGONS.



119,032 DANIEL M. KNOWLES. BINDINGS FOR OIL-CLOTHS.



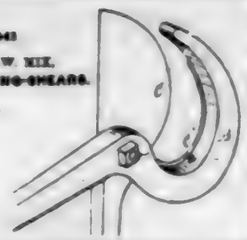
119,033 THEODORE KROMER. BOLTS FOR LOCKS.



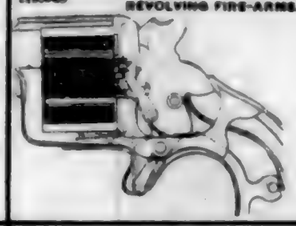
119,037 LEISTNER KAYSER. LOW-WATER ALARMS.



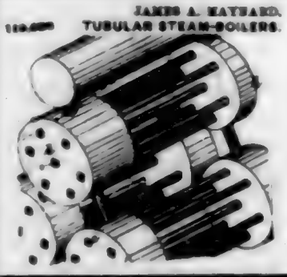
119,038 JOHN W. NIX. PRUNING-SHEARS.



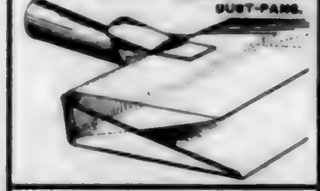
119,039 CHARLES B. RICHARDS. REVOLVING FIRE-ARMS.



119,040 JAMES A. HAYWARD. TUBULAR STEAM-BOILERS.



119,041 JAMES B. MORGAN. DUST-PANS.



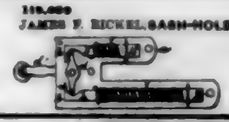
119,042 RICHARDSON, RICHARDSON, AND SPENCER. PILES FOR RAILWAY RAILS.



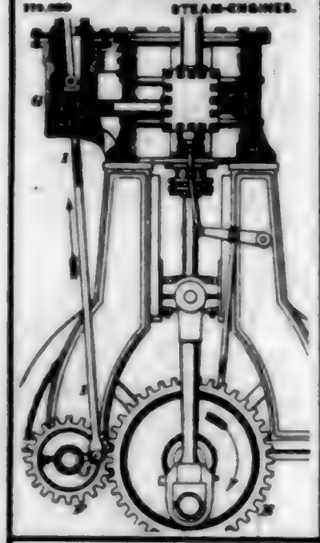
119,043 LIGHTNING-RODS. DAVID MORSON.



119,044 JAMES F. RICKEL. SASH-HOLDERS.



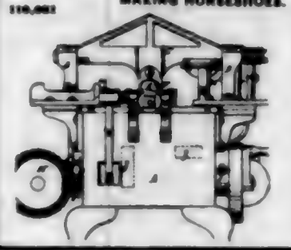
119,045 McGOWAN AND CALDWELL. STEAM-ENGINES.



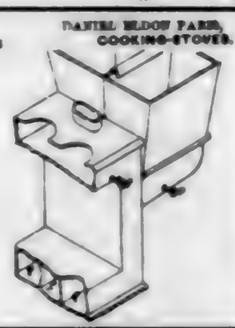
119,046 ORWELL H. NEEDHAM. BREAST-PUMPS.



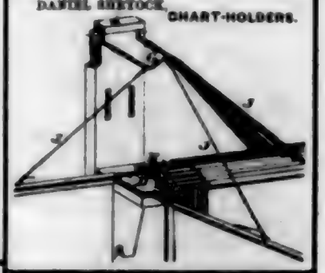
119,047 WEBSTER ROBERTS. MAKING HORSESHOES.



119,048 DANIEL MEDOW PARR. COOKING-STOVES.



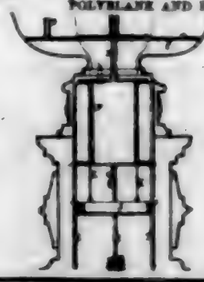
119,049 DANIEL SHETUCK. CHART-HOLDERS.



119,050 MARTIN V. McKINNEY. MACHINES FOR MAKING CIGARS.



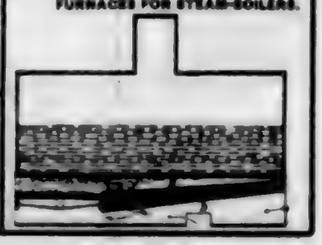
119,051 FOUNTAINS. POLYBLANK AND PARKIN.



119,052 GEORGE SHEATON. WINDOW-CLEANERS.



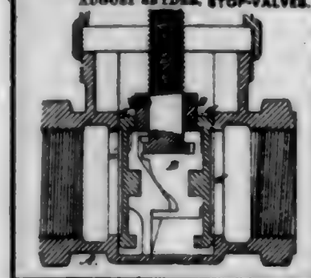
119,053 CHARLES D. SMITH. FURNACES FOR STEAM-BOILERS.



119,054 DAVID MORRIS. FENCES.



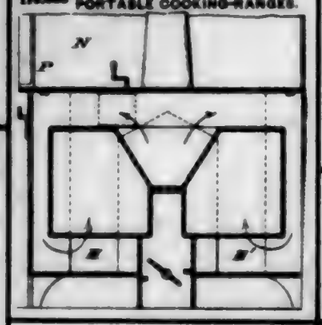
119,057 AUGUST SNYDER. STOP-VALVES.



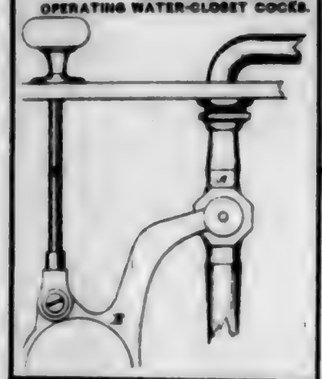
119,058 STEPHEN USTICK. LUBRICATING LOOSE PULLEYS



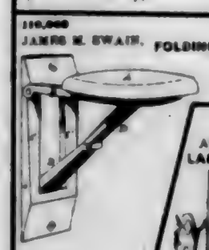
119,059 JOHN VAN. PORTABLE COOKING-RANGES.



119,060 BENNETT P. SPEAR. OPERATING WATER-CLOSET COCKS.



119,061 JAMES M. SWAIN. FOLDING-SEATS.



119,062 ALVIN TAPLIN. LAMP-BURNERS.



119,063 WILLIAM THOMAS. ROLLING-PINS.



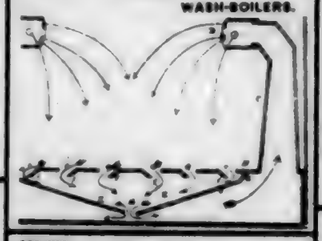
119,064 JOSEPH C. TILTON. WASH-BOILERS.



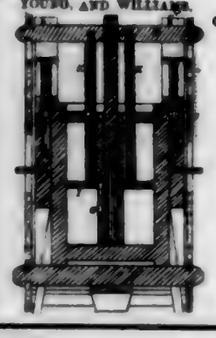
119,065 MACHINES FOR GRADING GEORGE TRUMP.



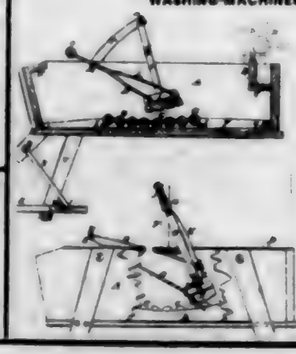
119,066 WEEDLEY AND WEEDLEY. WASH-BOILERS.



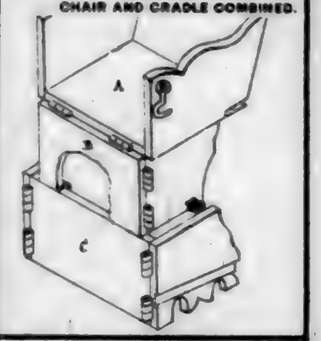
119,067 YOUNG, AND WILLIAMS. CHURNS.



119,068 119,070 YOUNG AND DOLL. WASHING-MACHINES.



119,071 ABRAHAM ABRAHAMS. CHAIR AND CRADLE COMBINED.



119,072 JOHN CHARLES BISKET. WASHING-TUBS.



119,073 ABRAM BOGARDUS. HATS.



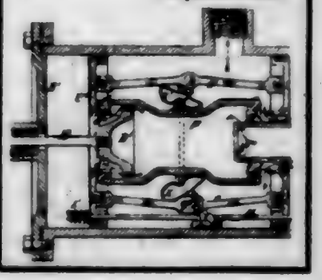
119,074 JOSEPH P. BUCKINGHAM. PORTABLE WARDROBES.



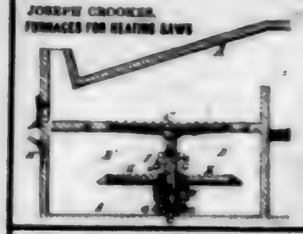
119,075 THEODORE BURNHAM. TOBACCO-PIPES.



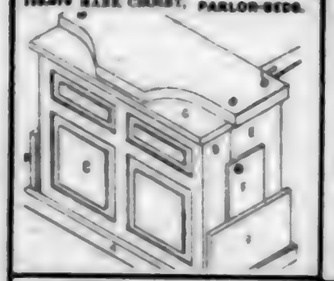
119,076 HENRY CHANDLER. LIQUID-METERS.



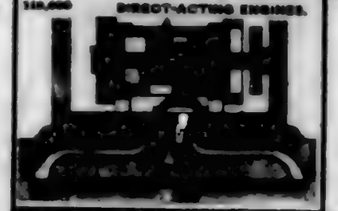
110,078
JOSEPH CROOKER.
FURNACES FOR HEATING LEWS



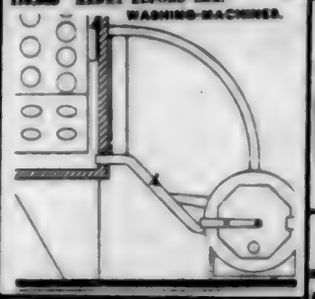
110,079 MARK CROSBY. PARLOR-BEDS.



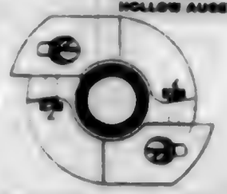
110,080
BRADBURY M. JOHNSON.
DIRECT-ACTING ENGINES.



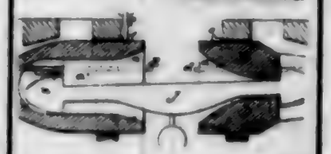
110,081 HENRY ELFORD [illegible]
WASHING-MACHINES.



110,082
JAMES SWAN.
HOLLOW AUGERS.



110,083 TIMMS AND BROWN.
CAR-COUPLINGS.



110,084 HORACE UPDEGRAFF.
BREECH-LOADING FIRE-ARMS.



110,085
SHARON P. DOAFE.
NOZZLES FOR OIL-CANS.



110,086
DRAPER AND DAMON.
CARRIAGE-WHEELS.



110,087
WILLIAM H. EMERY.
DISH-WASHERS.



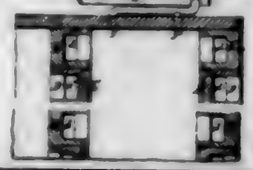
110,088
JOHN GIBSON, JR.
TABLE-BASKETS



110,089
WILLIAM H. LEWIS.
PHOTOGRAPHIC POSING-CHAIRS.

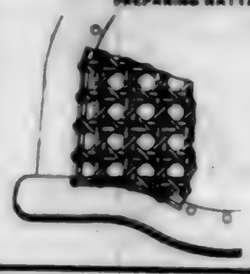


110,090 THEODORE G. MEIER.
COKE-OVENS.

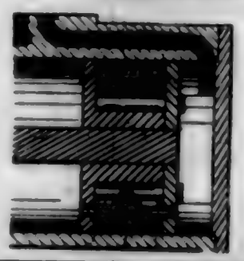


110,091 EDWIN W. NEWTON.
SUBMARINE TELEGRAPH-CABLES.

110,092
GARDNER A. WATKINS.
PREPARING RATTAN



110,093 S. LLOYD WEIGAND.
PISTON-PACKINGS.



110,094
DANIEL BOONE RICKEY.
BUNGS AND BUNG-INSERTERS.



110,095 CHARLES W. HARVEY.
LUBRICATING RAILWAY JOURNALS.



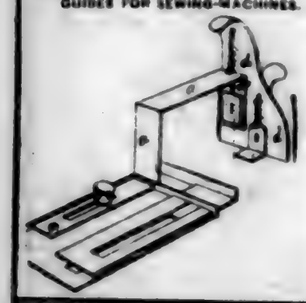
110,096
EARLE H. SMITH.
FUR-SET BOXES.



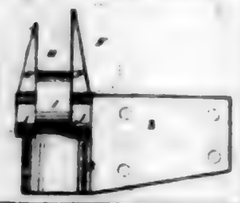
110,097
GATES. SEYMOUR G. WOOD.



110,102
CHARLES ARMSTRONG.
GUIDES FOR SEWING-MACHINES.



110,103
GATES.
JULIUS S. BENEDICT.



110,104
ARNOT AND WASHINGTON.
RAILWAY-CAR BRAKES.



110,105
VALENTINE BORST.
HARNESS-SADDLES.

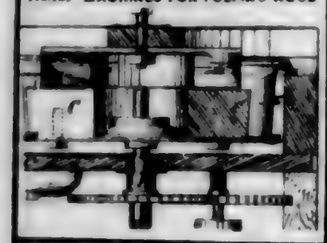


110,106
EDWARD H. BAILEY.
STAIR-PADS.

110,107
JOHN BALL, SR.
IRON RUNNING-GEAR FOR WAGONS.



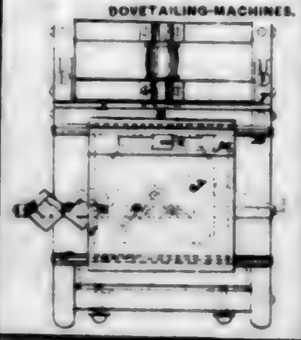
110,108
BENJAMIN F. BARKER.
MACHINES FOR PULPING WOOD



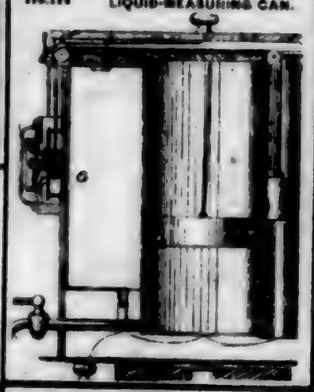
110,109
JOSEPH P. BARKER.
HARVESTER-CUTTER GRINDERS.



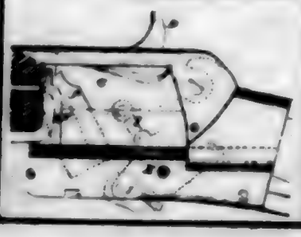
110,110
BRANCH, MARGETSON, AND BRANCH
DOVETAILING-MACHINES.



110,111
CHRISTOPHER MARTIN BRIDGES.
LIQUID-MEASURING CAN.



110,112
ANDREW BURGESS.
MAGAZINE FIRE-ARMS.



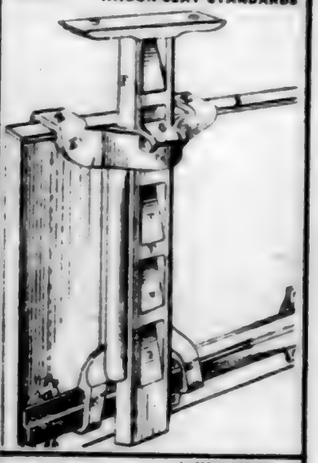
110,113
NABOY G. BURLEIGH.
BRACKETS, SHELVES, &c.



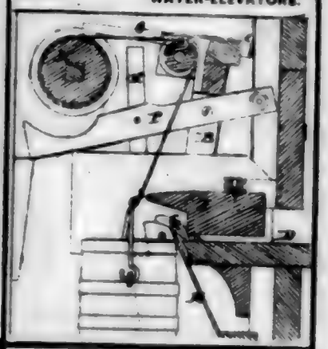
110,114
FRANK BUSH.
COUPLING-HOOKS FOR COAL-CARS.



110,115
WILLIAM CAMPBELL.
WAGON-SEAT STANDARDS



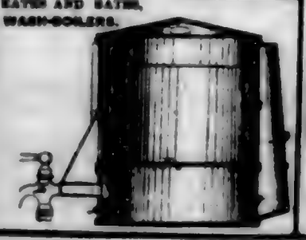
110,116
JAMES CURTIS.
WATER-ELEVATORS.



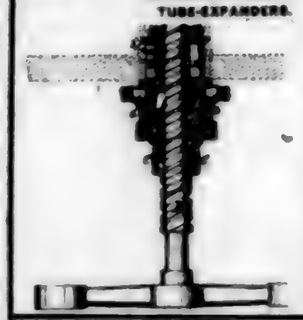
110,117
JACOB H. CAROTHERS.
HORSE HAY-FORKS.



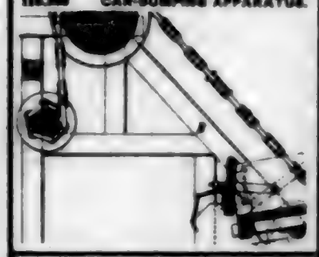
110,100
BATHS AND BATHS.
WASH-BOILERS.



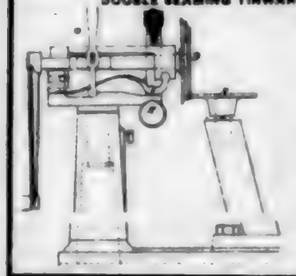
110,121 CHARLES H. CLARK. TUBE-EXPANDERS.



110,122 EZRA COCKILL. CAR-DUMPING APPARATUS.



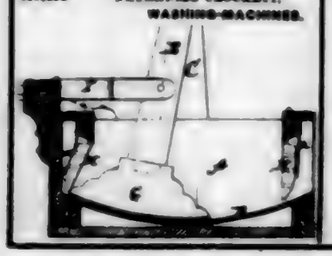
110,123 COHEE AND EDMUNDS. DOUBLE SEAMING TINWARE.



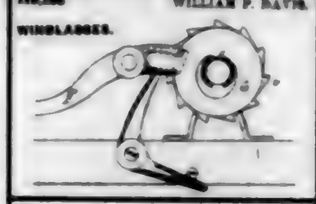
110,124 ALONZO W. CRAM. RAILWAY-SWITCH STANDS.



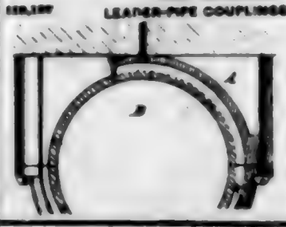
110,125 NATHANIEL CROCKETT. WASHING-MACHINES.



110,126 WILLIAM P. DAVIS. WINDLASSES.



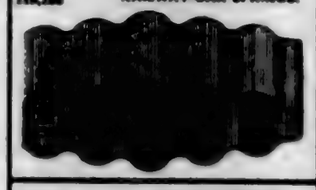
110,127 JOHN DEMAREST. LEADER-PIPE COUPLINGS.



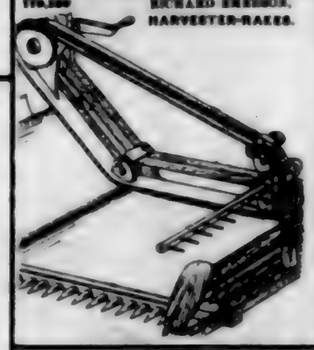
110,128 WILLIAM H. DOWNS. BED AND TABLE-PANS.



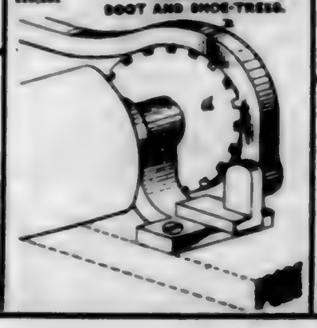
110,129 GEORGE ELLIOT. RAILWAY-CAR SPRINGS.



110,130 RICHARD EMERSON. HARVESTER-RAKES.



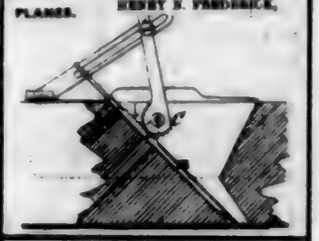
110,131 THOMAS B. EVANS. BOOT AND SHOE-TREES.



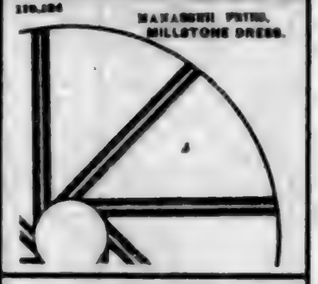
110,132 ALEXANDER C. FAIVRE. SASH-HOLDERS.



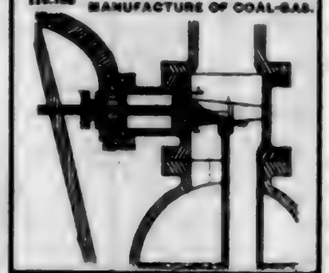
110,133 HENRY N. FREDERICK. PLANES.



110,134 MANASSEH FRYE. MILLSTONE DRESS.



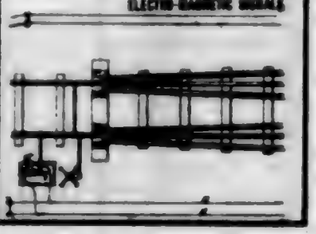
110,135 WILLIAM GIBSON. MANUFACTURE OF COAL-GAS.



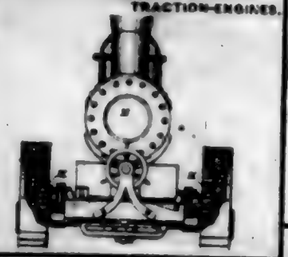
110,136 SAMUEL D. GILSON. EVAPORATING SHINL.



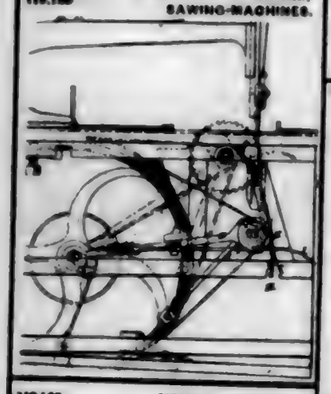
110,137 THOMAS S. HALL. ELECTRO-MAGNETIC SIGNALS.



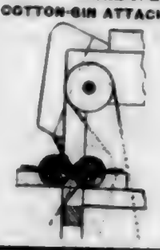
110,138 MELVIN A. HALSTED. TRACTION-ENGINES.



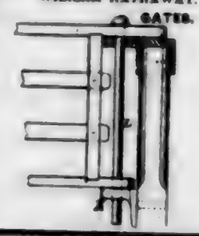
110,139 CHRISTIAN O. HANSEN. SAWING-MACHINES.



110,140 HIRAM P. HARRELL. COTTON-GIN ATTACHMENTS.



110,141 WILLIAM HATHAWAY. GATES.



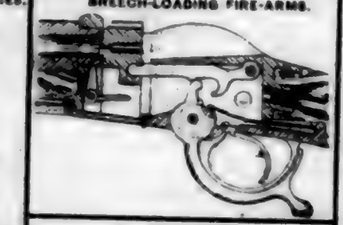
110,142 LYSANDER I. HAWORTH. CORN-PLANTERS.



110,143 TILTING-CHAIRS. SAMUEL S. HAYWARD.



110,144 ALEXANDER HENRY. BREECH-LOADING FIRE-ARMS.



110,145 CHARLES HODGETTS. MELON-SHAPED MOLDS.



110,147 JAMES L. HOWARD. URINALS FOR RAILROAD CARS.



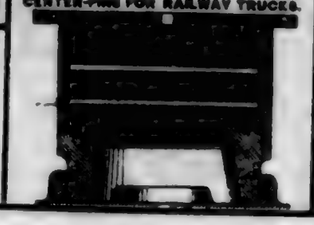
110,148 GEORGE WHITNEY HUNGERFORD. POLISHING COFFEE.



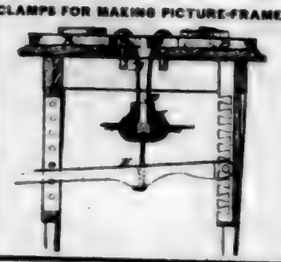
110,149 GEORGE WHITNEY HUNGERFORD. MACHINES FOR CLEANING COFFEE.



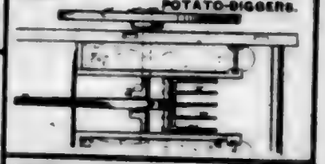
110,150 ROBERT B. JEWELL. CENTER-PINS FOR RAILWAY TRUCKS.



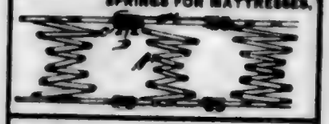
110,155 LEONARD A. JOHNSON. CLAMPS FOR MAKING PICTURE-FRAMES.



110,156 FRANKLIN JONES. POTATO-DIGGERS.



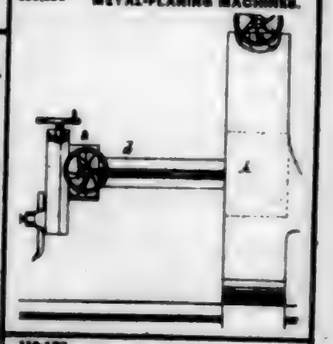
110,157 WILLIAM B. JUDSON. SPRINGS FOR MATTRESSES.



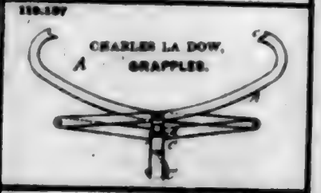
110,158 MATHIAS KOLB. SCREW-PROPELLERS.



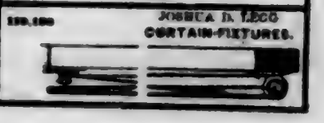
110,159 MARTIN KRIEGER. METAL-PLANING MACHINES.



110,160 CHARLES LA DOW. GRAPPLES.



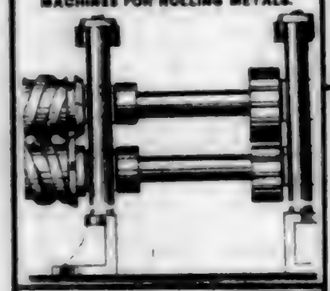
110,161 JOSHUA D. LEGG. CURTAIN-FIXTURES.



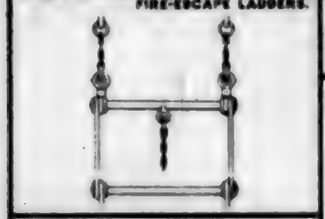
119,159 WINDMILLS. ISAAC LEMMON.



119,160 ABRAHAM LIBMANN. MACHINES FOR ROLLING METALS.



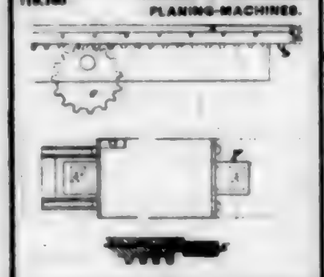
119,161 LUCKENBACH AND LUCKENBACH. FIRE-ESCAPE LADDERS.



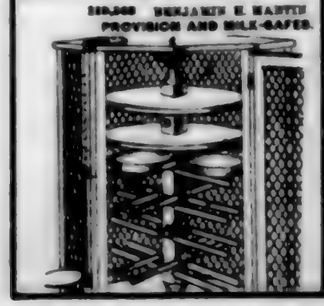
119,162 HERMAN LITTE. CHILDRENS' CARRIAGES.



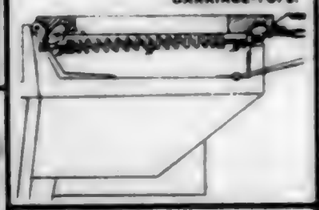
119,163 GEORGE H. MANSFIELD. PLANING-MACHINES.



119,164 BENJAMIN H. MARTIN. PROVISION AND MILK-SAFES.



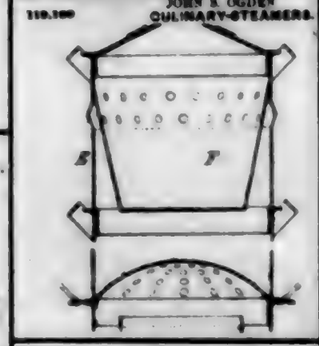
119,165 ALEXANDER McKENZIE. CARRIAGE-TOPS.



119,166 SILAS C. NICHOLS. FUR-BOXES.



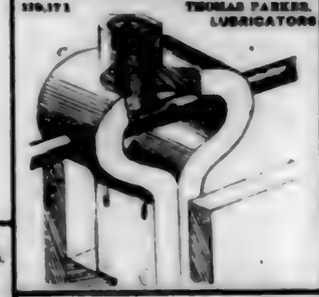
119,167 JOHN S. OGDEN. CULINARY-STEAMERS.



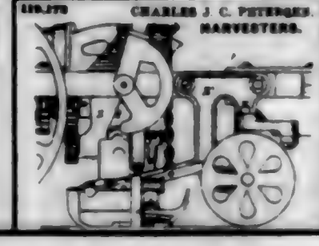
119,170 WILLIAM JAMES OXER. HARVESTER-CUTTERS.



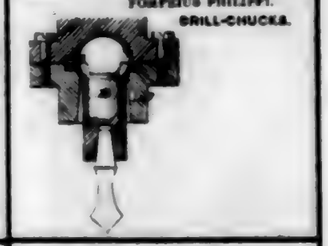
119,171 THOMAS PARKER. LUBRICATORS.



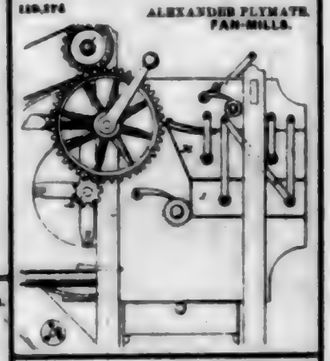
119,172 CHARLES J. C. PETERSEN. HARVESTERS.



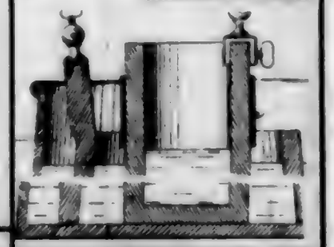
119,173 POMPEIUS PHILIPPI. DRILL-CHUCKS.



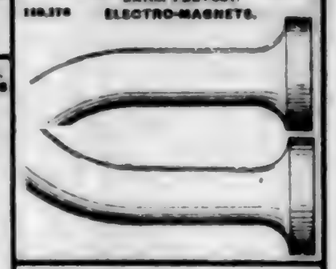
119,174 ALEXANDER PLYMATE. FAN-MILLS.



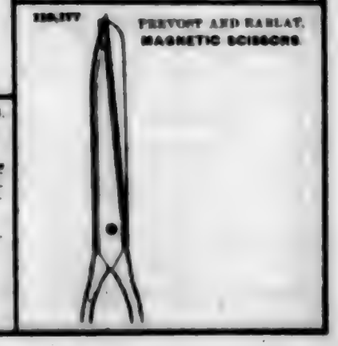
119,175 EMILE PREVOST. GALVANIC BATTERIES.



119,176 EMILE PREVOST. ELECTRO-MAGNETS.



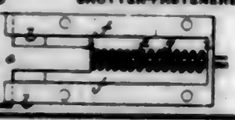
119,177 PREVOST AND RABLAT. MAGNETIC SCISSORS.



119,178 PUGH AND BIGGS. RAILWAY CATTLE-GATES.



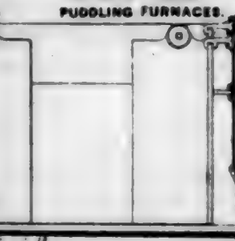
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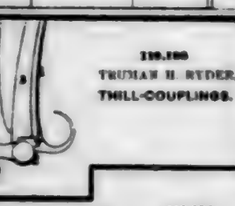
119,180 ALBERT F. ROBERTS. CORN-HARVESTERS.



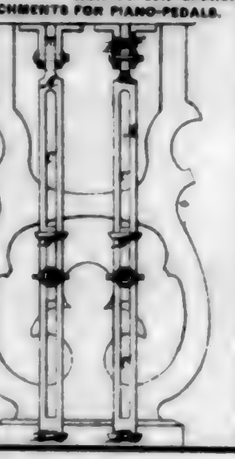
119,181 ANTHONY POLLOK. PUDDLING FURNACES.



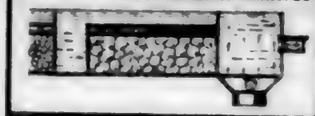
119,182 TRUMAN H. RYDER. THILL-COUPLINGS.



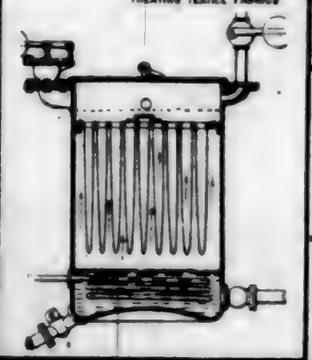
119,183 SIGMUND SCHOENBRUN. ATTACHMENTS FOR PIANO-PEDALS.



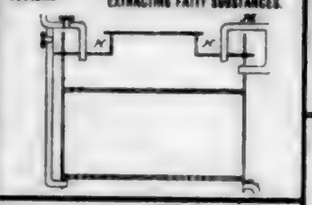
119,196 WILLIAM C. SELDEN. FEED-WATER APPARATUS.



119,197 CHARLES F. A. SIMONIN. TREATING TEXTILE FABRICS.



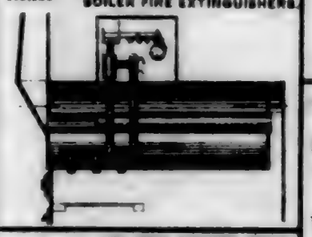
119,198 CHARLES F. A. SIMONIN. EXTRACTING FATTY SUBSTANCES.



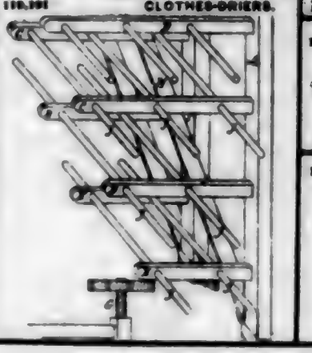
119,199 JOHN G. SIMONSON. FILTERING-CISTERNS.



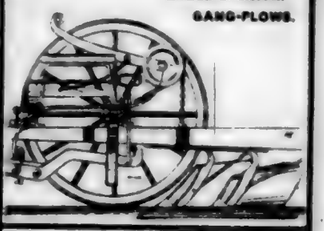
119,200 THOMAS R. SINCLAIRE. BOILER FIRE EXTINGUISHERS.



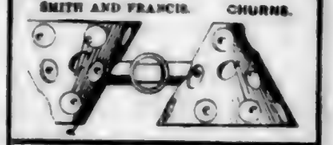
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119,203 SMITH AND FRANCIS. CHURNS.

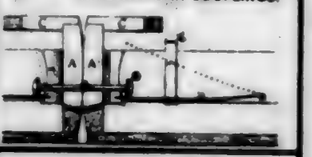


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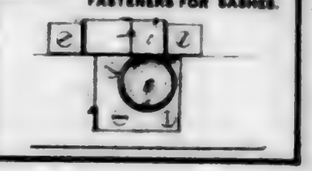
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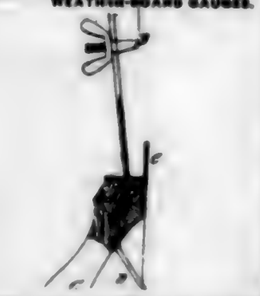
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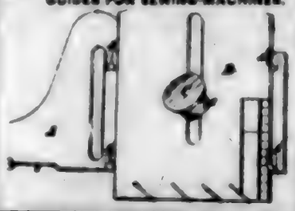
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110,203 EDWARD WALCOTT. SHOES.



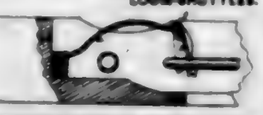
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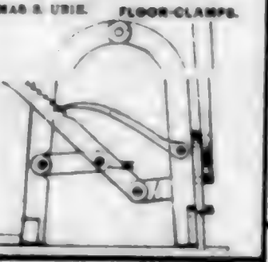
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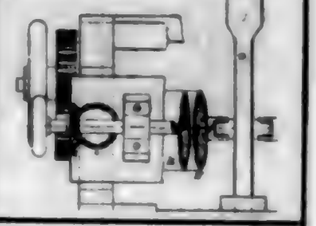
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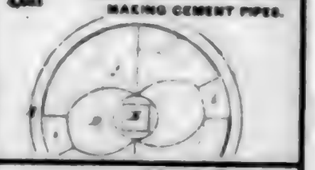
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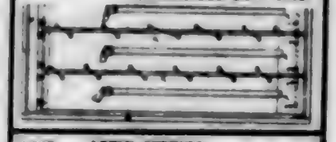
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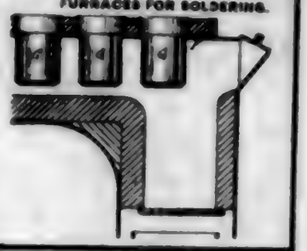
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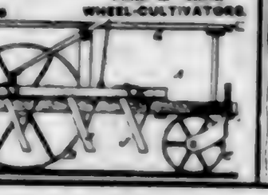
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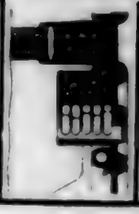
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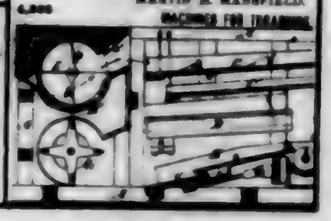
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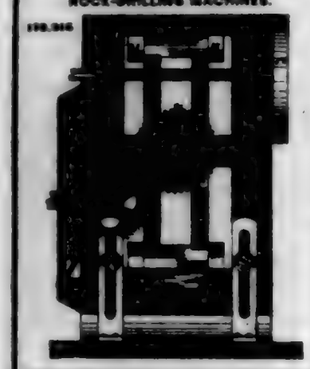


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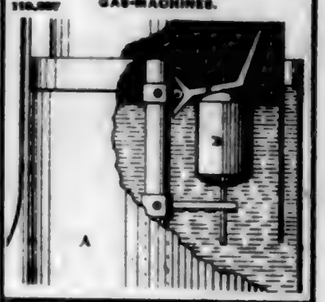
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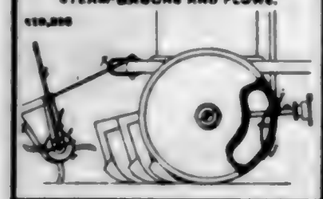
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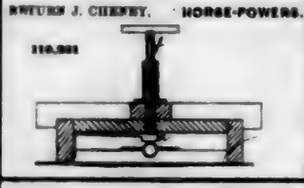
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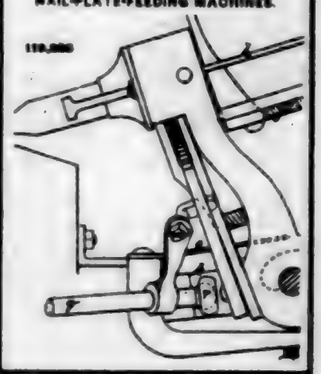
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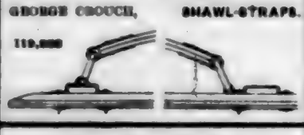
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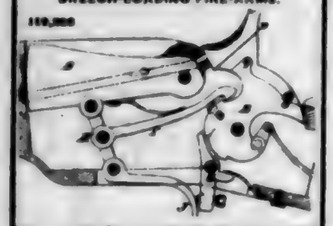
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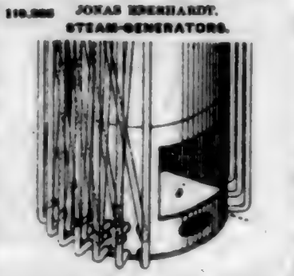
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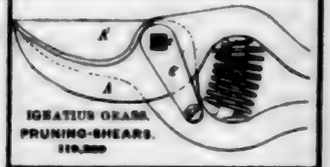
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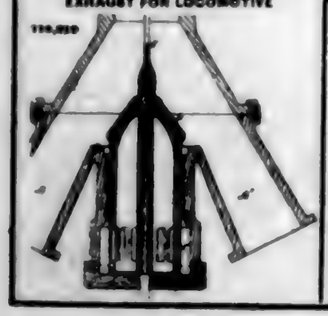
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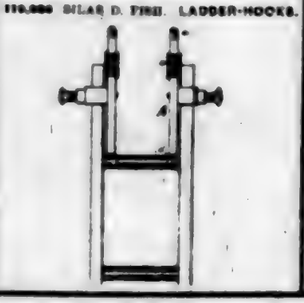
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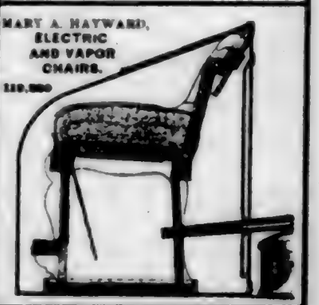
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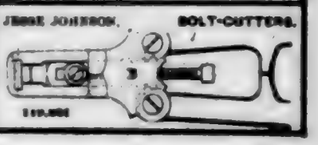
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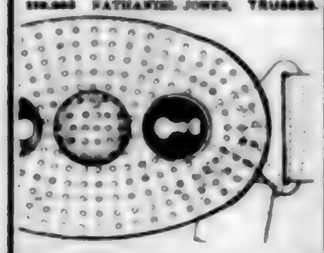
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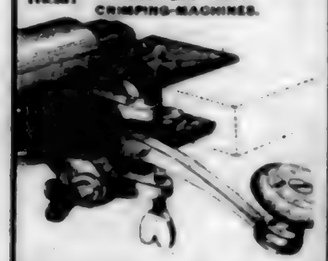
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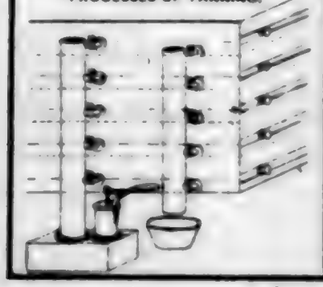
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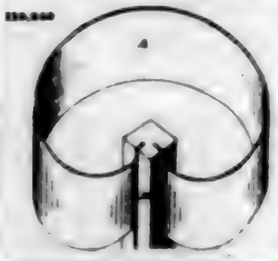
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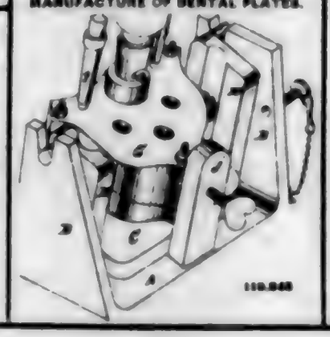
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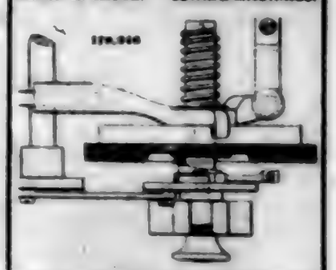
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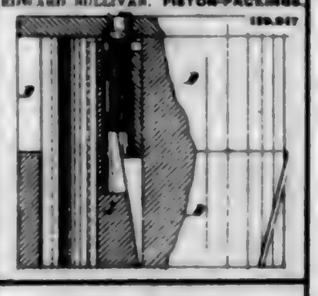
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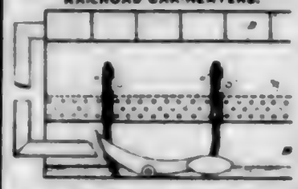
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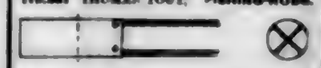
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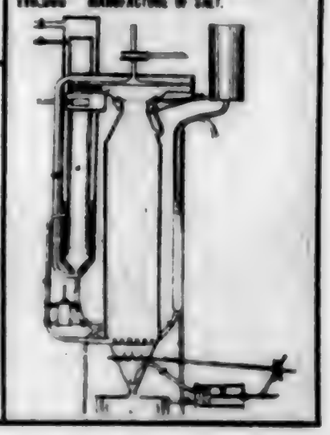
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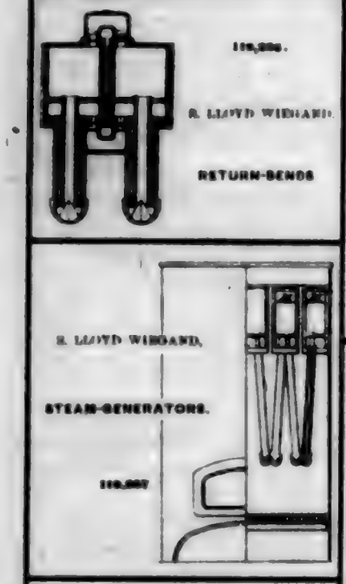
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HENRY WATERMAN.
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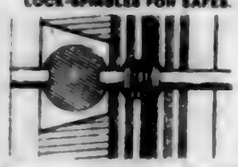


R. LLOYD WIBAND.
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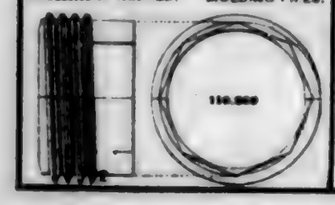


R. LLOYD WIBAND.
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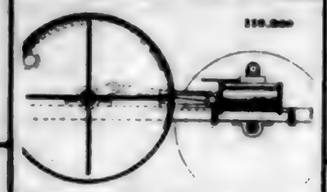
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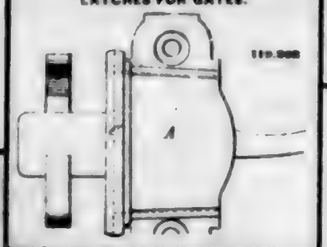
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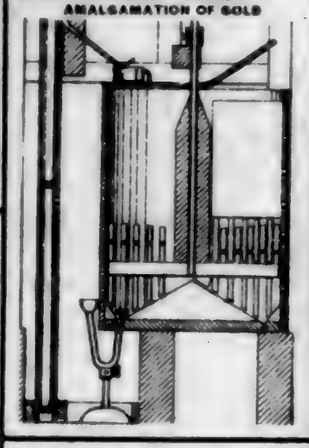
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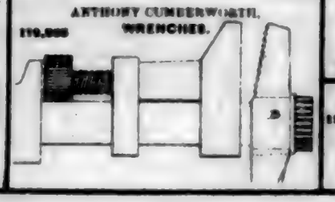
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GILBERT K. DEARBORN.
BLIND-FASTENERS.



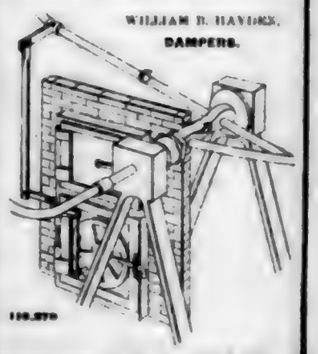
GARDNER AND GARDNER.
WARDROBES AND BEDSTEADS.



JAMES HARPER.
LUBRICATORS



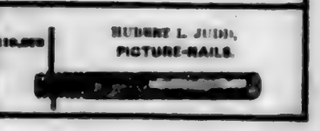
WILLIAM B. HAVENS.
DAMPERS.



AUGUSTUS HAVE.
FASTENERS FOR SASHES AND BLINDS.

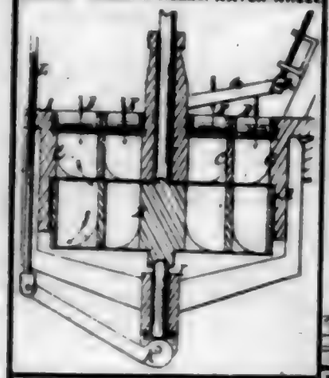


ALBERT D. JUDD.
FLOWER-POTS.



HUBERT L. JUDD.
PICTURE-RAILS.

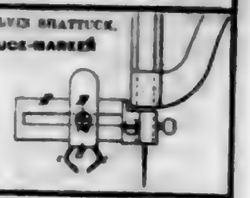
119,274 JAMES C. KELLY. WATER-WHEEL



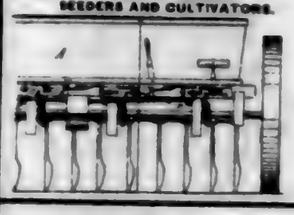
ISAAC LINDSLEY. LOOMS FOR WEAVING HAIR-CLOTH. 119,275



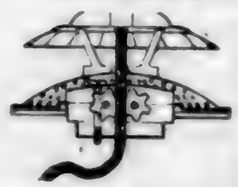
119,284 ALVIS SHATTUCK. TUCE-MARKER



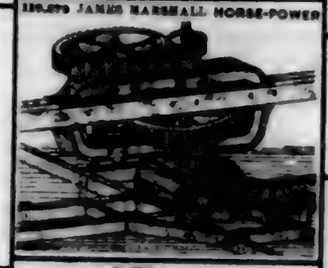
119,285 WILLIAM D. STROUD. SEEDERS AND CULTIVATORS.



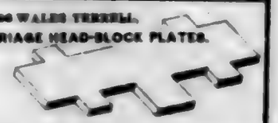
119,276 LEVI BENNETT LATHROP. LAMP-WICK ADJUSTER



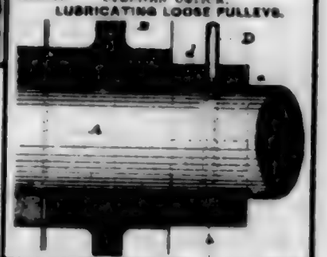
119,278 JAMES MARSHALL HORSE-POWER



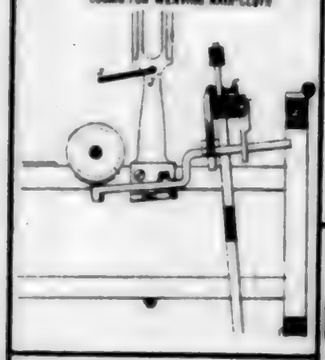
119,286 WALES TERRELL. CARRIAGE HEAD-BLOCK PLATES.



119,287 STEPHEN UNTICK. LUBRICATING LOOSE PULLEYS.



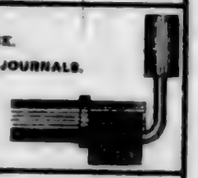
119,276 ISAAC LINDSLEY. LOOMS FOR WEAVING HAIR-CLOTH.



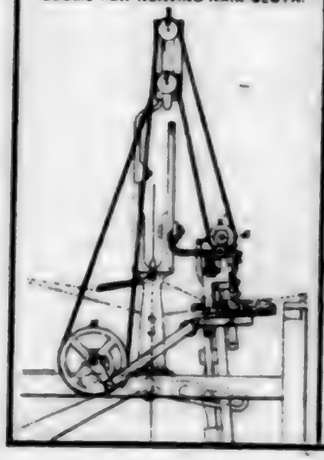
119,280 RUSSELL PHILLIPS. VISES.



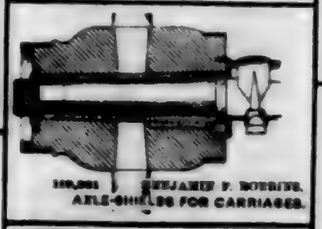
STEPHEN UNTICK. LUBRICATING JOURNALS. 119,288



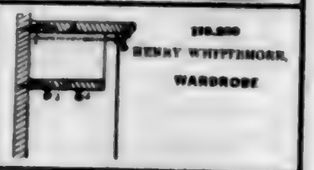
119,277 ISAAC LINDSLEY. LOOMS FOR WEAVING HAIR-CLOTH.



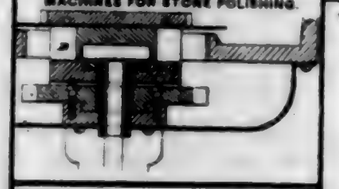
119,281 BENJAMIN F. ROBBINS. AXLE-SHIELDS FOR CARRIAGES.



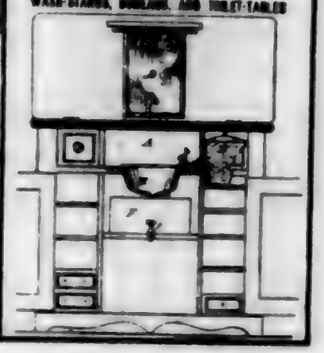
119,289 HENRY WHITTEMORE. WARDROBE



119,282 ANTON SAFFER. MACHINES FOR STONE POLISHING.



119,290 HENRY WHITTEMORE. WASH-STANDS, BUREAUS, AND TOILET-TABLES

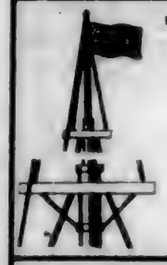


119,283 JACOB H. SAWYER. SPINDLE-BEARINGS



LOUIS WOLFSON. [illegible] ORNAMENTING LEATHER.

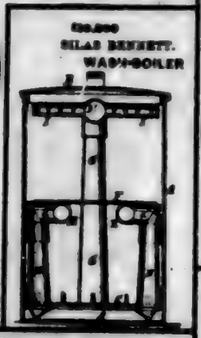
119,292 WILLIAM ALBERT. FLAG-HALYARDS.



119,293 JOHN E. BAUM. CURTAIN-FIXTURES.



119,294 SILAS BENNETT. WASH-BOILER



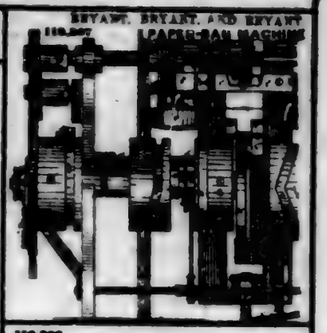
ARTHUR ALEXANDRE. HANDLE-STRAPS 119,295



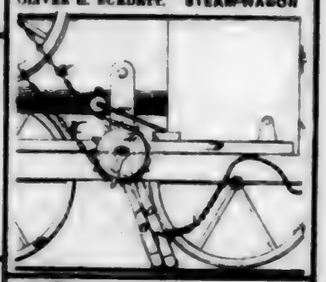
119,296 COLEMAN BRIDGMAN. THILL-COUPLINGS.



BRYANT, BRYANT, AND BRYANT. PAPER-BAG MACHINE 119,297



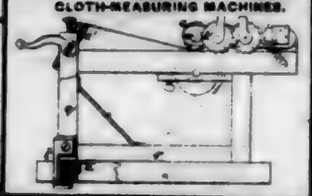
119,298 OLIVER H. BURDETT. STEAM-WAGON



WILLIAM W. ANDREW. LAND-ROLLER 119,294



119,299 THOMAS M. BRINTHALL. CLOTH-MEASURING MACHINES.



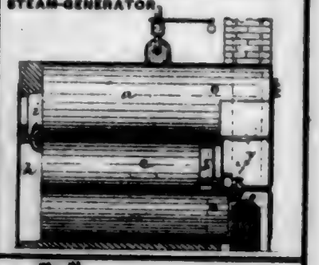
119,300 ORRIN C. BURDICT. CARRIAGE-BOLTS.



SIMEON ATHA. HUBS FOR WAGON-WHEELS. 119,301



119,302 GOTTLIEB F. BURKHARDT. STEAM-GENERATOR

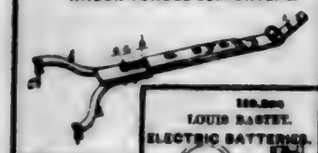


ALFRED BROWN. SHUTTER-WORKER 119,304

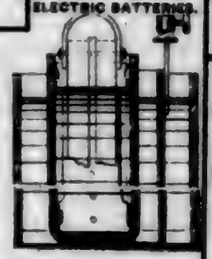


HORACE W. AVERY. WHIP-STOCKS. 119,305

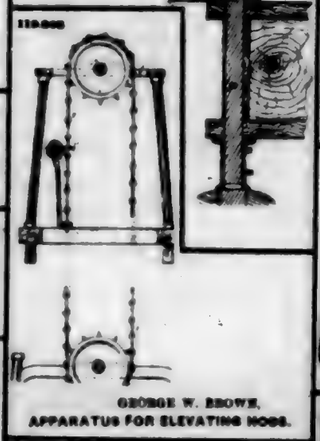
119,306 CHARLES J. BABCOCK. WAGON-TONGUE SUPPORTERS.



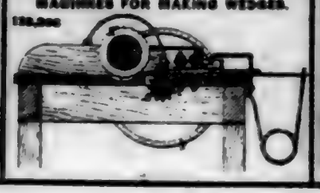
119,307 LOUIS BASTET. ELECTRIC BATTERIES.



GEORGE W. BROWN. APPARATUS FOR ELEVATING HODS.



BROWN AND DENMORE. MACHINES FOR MAKING WEDGES. 119,308



119,311 BENJAMIN BURLING. CLOTHES-PINS.



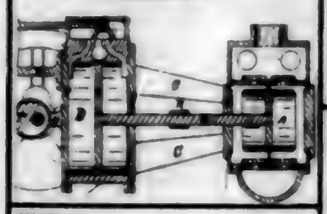
119,310 CABINET-BEDSTEADS. SANFORD S. HOBB.



119,312 JOHN C. BUTLER. PROJECTILES.



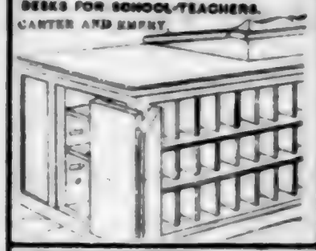
119,314 SUTTON AND SUTTON. STEAM-PUMP



119,315 CAMP AND McINTOSH. GOVERNORS



119,316 DESKS FOR SCHOOL-TEACHERS. CARTER AND EMERY.

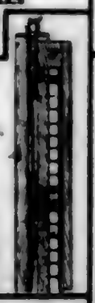


THOMAS A. CHANDLER. 119,317

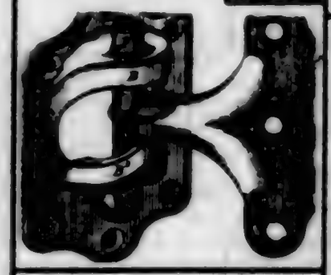


DRILL AND NUT-WRENCHES.

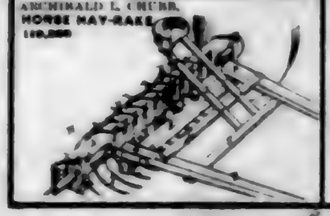
119,318 HENRY CHATAIN. FRAMES FOR DRYING LACES.



119,319 PASCAL P. CHILD. REVERSIBLE HINGES.



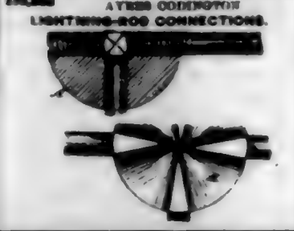
ARCHIBALD L. CHUBB. HORSE HAY-RAKE. 119,320



119,321 CURTAIN-FIXTURES. HERBERT CLAYTON.



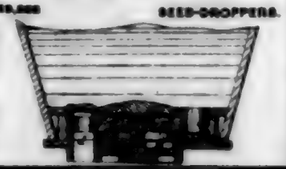
119,322 AYERS CODDINGTON LIGHTNING-ROD CONNECTIONS.



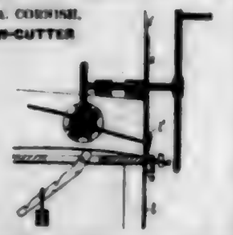
119,323 WILLIAM H. COLLINS. MACHINES FOR SHAVING ICE.



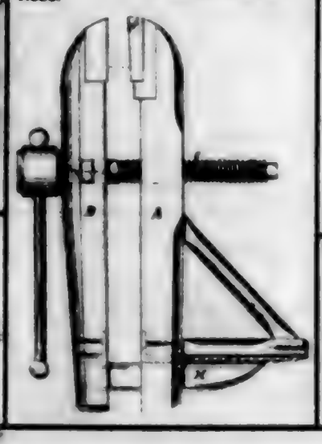
CONVERSE AND WELTER. 119,324 SEED-DROPPERS.



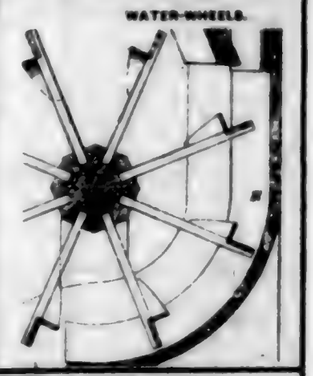
119,325 JOHN A. COSTILL. STRAW-CUTTER



119,326 JOHN W. CUYER. VISES.



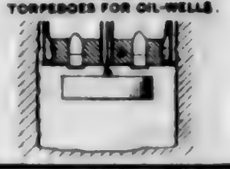
119,327 CREBS AND CREBS. WATER-WHEELS.



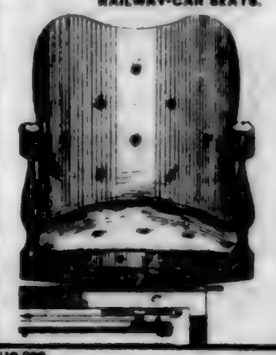
119,328 DARIUS DAVISON. ILLUMINATING-GAS.



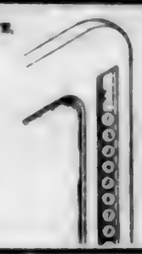
119,329 JULIUS G. DICKEY. TORPEDOES FOR OIL-WELLS.



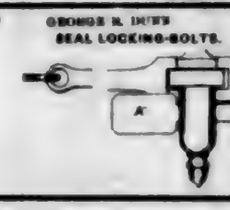
119,330 ALPHEUS B. DINSMORE. RAILWAY-CAR SEATS.



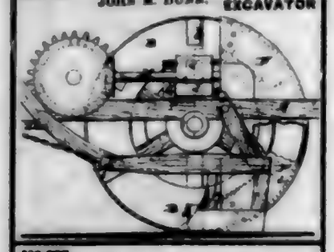
119,331 FREEMAN DORSHOW. SLATES.



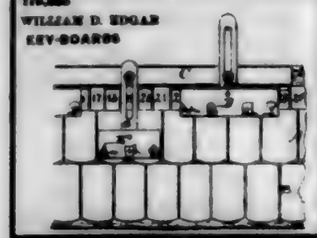
119,332 GEORGE H. DUTY. SEAL LOCKING-BOLTS.



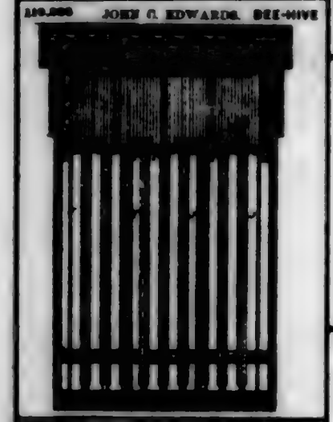
119,334 JOHN M. DUNN. EXCAVATOR



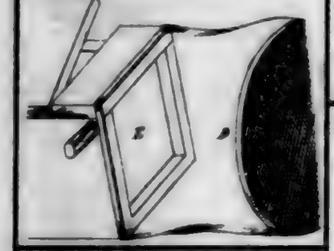
119,335 WILLIAM D. EDGAR KEY-BOARDS



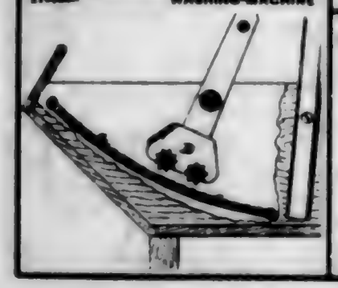
119,336 JOHN G. EDWARDS. BEE-HIVE



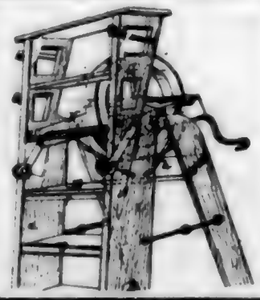
119,337 SAMUEL ENDELOW. INSECT-TRAP



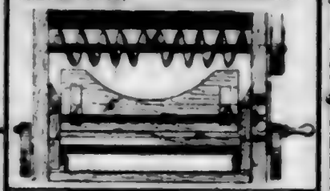
JOHN P. ERLEMAN, 119,338 WASHING-MACHINE



119,339 HENRY JAMES EVANS. WHEELBARROWS AND STEP-LADDERS.



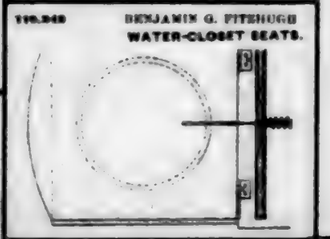
119,340 FRANCIS EVES. FANNING-MILLS.



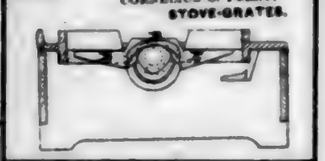
119,341 HENRY SALOM FARLEY. TRUNK



119,342 BENJAMIN G. FITCHUGH. WATER-CLOSET SEATS.



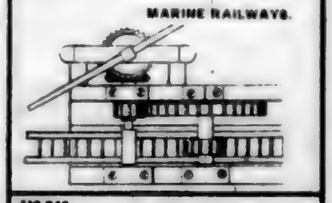
119,343 CORNELIUS O. FOLEY. STOVE-GRATES.



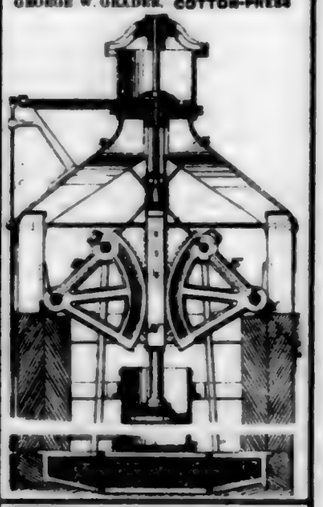
119,344 GLYNN AND GOODMAN. SEATS FOR HORSE-CARS.



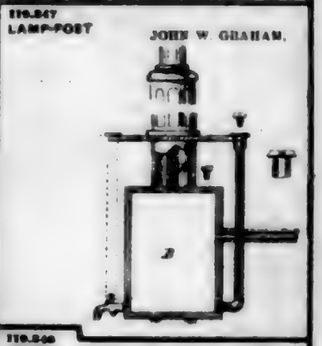
119,345 JOHN H. GOSLINE. MARINE RAILWAYS.



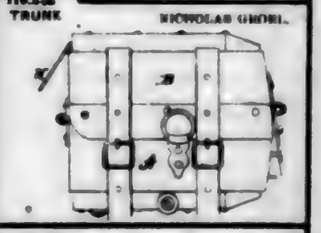
119,346 GEORGE W. GRADER. COTTON-PRESS



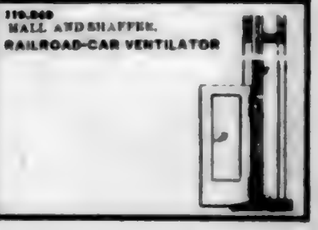
119,347 LAMP-POST JOHN W. GRAHAM.



119,348 TRUNK NICHOLAS GHOBI.



119,349 HALL AND SHAFFER. RAILROAD-CAR VENTILATOR



110,350 HENRY H. HALL. DEVICES FOR REGULATING BLOWING.



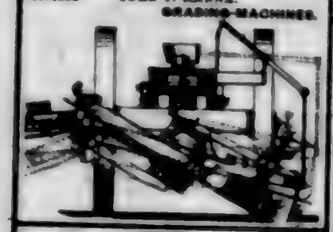
110,351 WILLIS McLARCEY HALL. AUTOMATIC FANS.



110,352 HORACE J. HAMMOND. TEA-AND-COFFEE POTS.



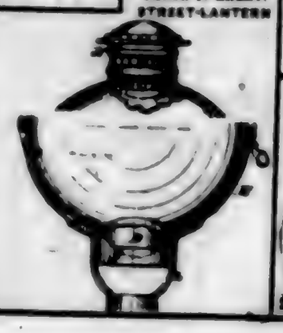
110,353 JOHN P. HANNA. GRADING-MACHINES.



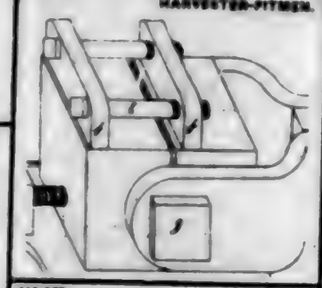
110,354 GEORGE W. HARDWICK. MOLE-TRAP



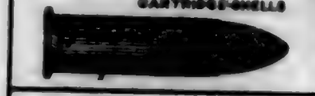
110,355 JACOB F. HARLY. STREET-LANTERN



110,356 GEORGE W. HARRISON. HARVESTER-FITMEN.



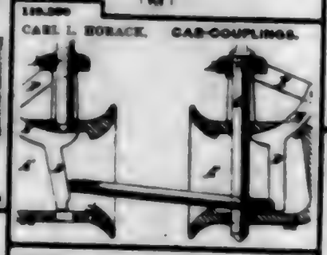
110,357 ALFRED CHARLES HIGGS. CARTRIDGE-SHELLS



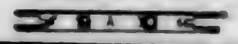
110,358 EDWARD V. B. HOBB. TOY-PROJECTORS.



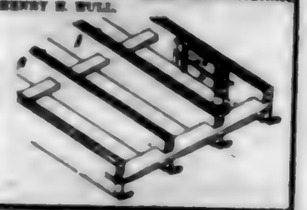
110,359 CARL L. HORACK. CAR-COUPLINGS.



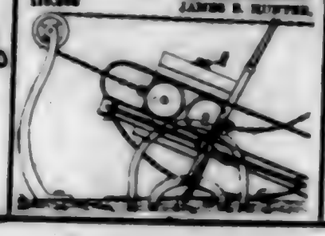
110,360 JOHN H. HORTON. DEVICES FOR LOCKING NUTS.



110,361 CLOD-BREAKING-MACHINE HENRY H. HULL.



110,362 MOTIVE POWERS. JAMES B. HUTTER.



110,363 HENRY JACKSON. PROPULSION OF VESSELS.



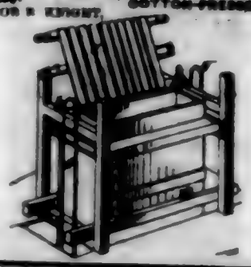
110,364 JULIUS JOSEPH [illegible] LIQUID-METERS.



110,365 ALFRED R. KLEPPER. BEE-HIVES.



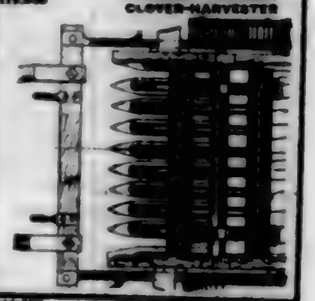
110,366 JACOB F. KNIGHT. COTTON-PRESSES.



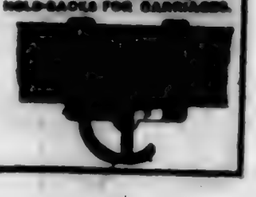
110,367 WILLIAM KNIGHT. SLATE-FRAMES.



110,368 JONATHAN LANDURE. CLOVER-HARVESTER



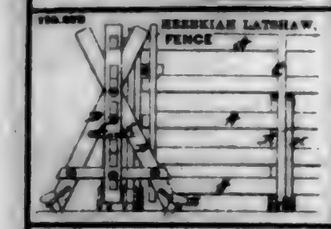
110,369 JOHN A. LAFFERT. SHOULDER-BRACE FOR CARRIAGES.



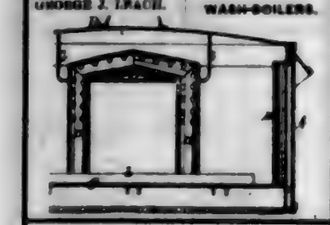
110,370 JOHN A. LAFFERT. WHIPPLETREES.



110,371 HEZEKIAH LATSHAW. FENCE



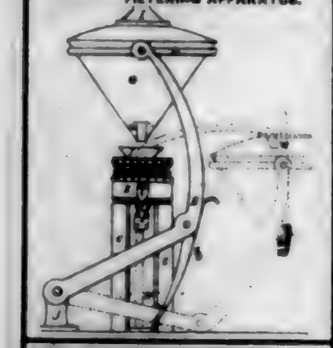
110,372 GEORGE J. LEACH. WASH-BOILERS.



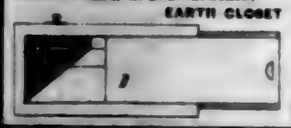
110,373 JOHN H. LEE. GATE-LATCHES.



110,374 ROBERT M. LIDE. FILTERING APPARATUS.



110,375 JOSEPH H. LOEWENSTEIN. EARTH CLOSET



110,376 HENRY G. LUDLOW. SLIDING STOP-VALVES.



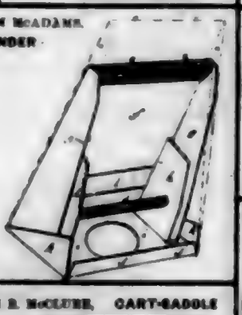
110,377 JOSEPH B. MARSH. TRUSS-PADS.



110,378 ISAAC MAYFIELD. WATER-ELEVATORS.



110,379 WILLIAM McADAMS. CALENDER.



110,380 WILLIAM B. McCLURE. CART-SADDLE



110,381 JAMES JOSEPH McLOUGHLIN. THREAD-CUTTER



110,382 CHARLES V. MEAD. CLOTHES-WRINGERS.



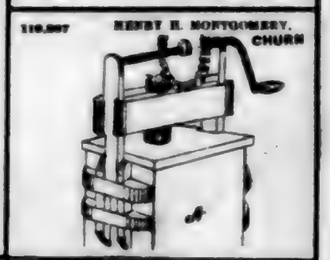
110,383 PETER P. MEREDITH. BUTTER-WORKER



110,384 AMBALON MILLER. GUN-LOCK



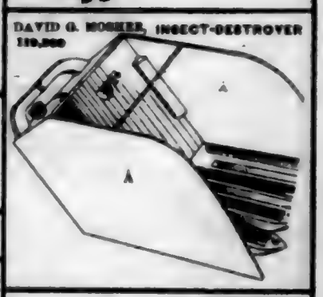
110,385 HENRY H. MONTGOMERY. CHURN



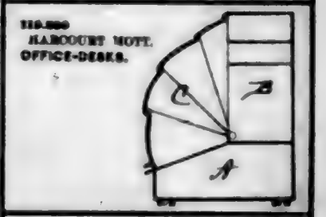
110,386 GEORGE C. MORGAN. ROTATING DROP-PIPES.



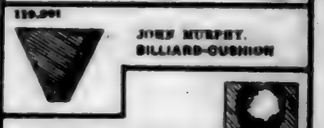
110,387 DAVID G. MOSHER. INSECT-DESTROYER



110,388 HARCOURT MOTT. OFFICE-DESKS.



110,389 JOHN MURPHY. BILLIARD-CUSHION



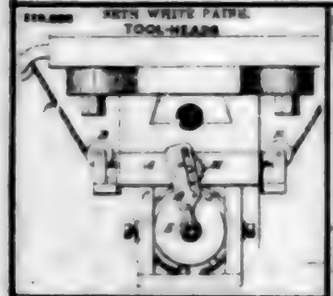
110,390 ADOLPH NEUHAUSER. CANDY WHISTLES.



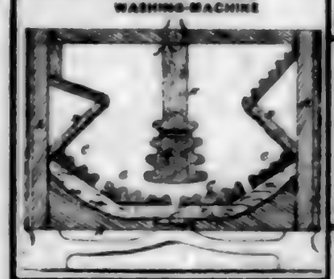
110,391 MACHINES FOR BENDING WOOD HENRY OGDEN.



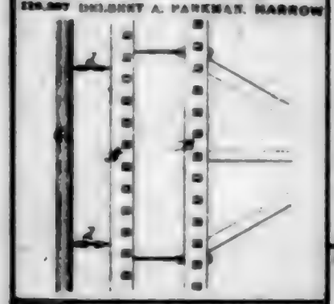
119,395 SETH WHITE PAINE. TOOL-HEADS



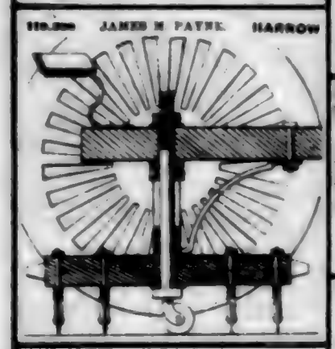
119,396 JOSEPH H. PALMER. WASHING-MACHINE



119,397 DELBERT A. PANKEAN. HARROW



119,398 JAMES M. PAYNE. HARROW



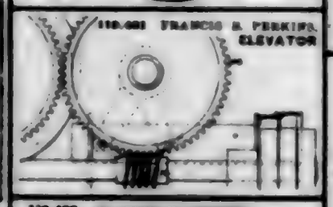
119,399 HENRY W. PELL. CLOTHES-WASHER



119,400 WILLIAM H. PERRINE. MILITARY EQUIPMENTS.



119,401 FRANCIS S. PERKINS. ELEVATOR



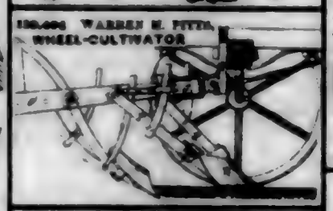
119,402 CHARLES H. PERKINS. POINTING HORSESHOE-RAILS.



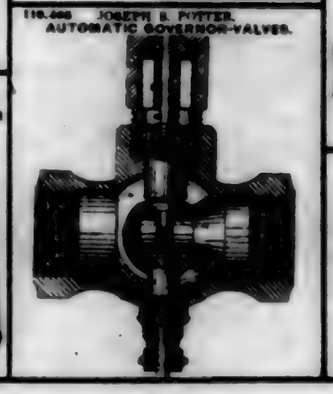
119,403 CHARLES E. PIERCE, ALARM-LOCK



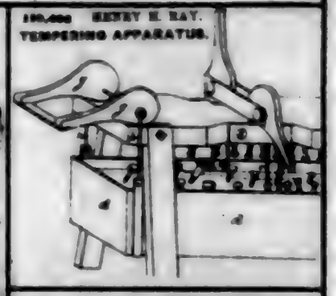
119,404 WARREN H. PITTS. WHEEL-CULTIVATOR



119,405 JOSEPH B. POTTER. AUTOMATIC GOVERNOR-VALVES.



119,406 HENRY H. RAY. TEMPERING APPARATUS.

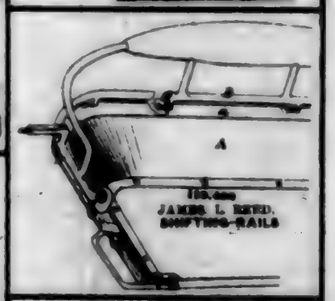


CHARLES A. READ. HEELS FOR BOOTS AND SHOES.

119,407

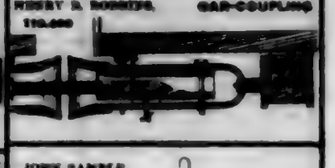


119,408 JAMES L. REED. SHIFTING-RAILS



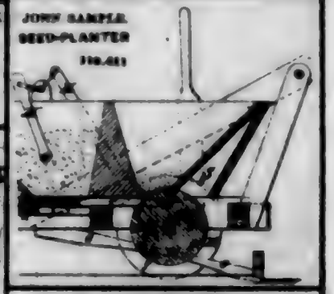
HENRY B. ROBBINS. CAR-COUPLING

119,409

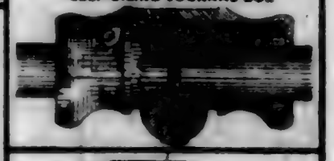


JOHN SAMPLE. SEED-PLANTER

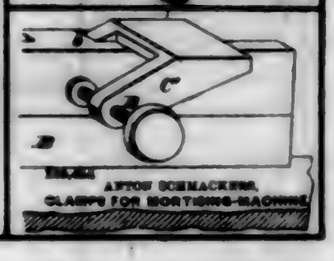
119,411



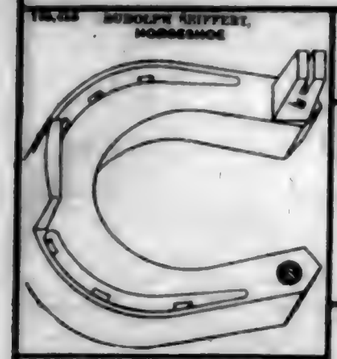
119,412 JOHN SAULT. SELF-OILING JOURNAL-BOX



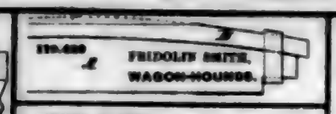
119,413 AFTON SCHNACKENBERG. CLAMPS FOR SORTING-MACHINE



119,415 RUDOLPH SHIFFERT. HORSESHOE

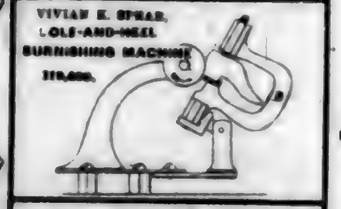


119,416 FRIDOLIN SMITH. WAGON-HOUNDS.



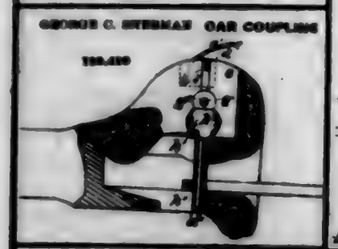
VIVIAN E. SPEAR. HOLE-AND-HEEL BURNISHING MACHINE

119,417

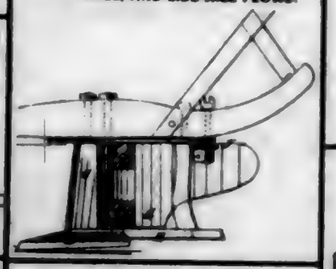


GEORGE C. STERMAN. CAR COUPLING

119,418



119,419 WILLIAM W. SPEER. DRILL, AND SIDE-HILL PLOWS.



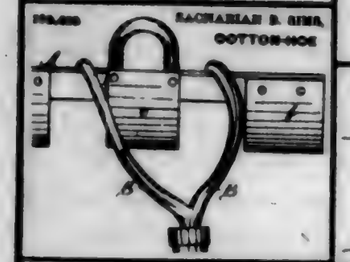
119,420 EUGENE W. SILENT. FIFTH-WHEEL



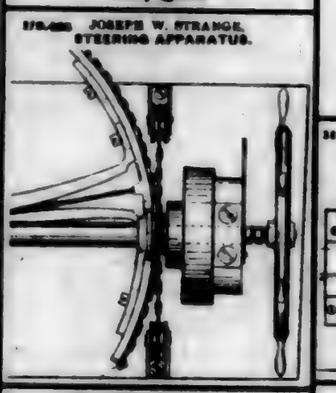
119,421 BRADFORD STETSON. ANTI-FRICTION BEARINGS



119,422 ZACHARIAH B. SIMS. COTTON-HOE



119,423 JOSEPH W. STRANGE. STEERING APPARATUS.

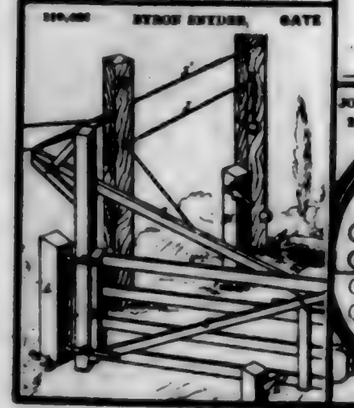


SNEDEKER AND SKINNER. ROLLED STEEL-PLATES

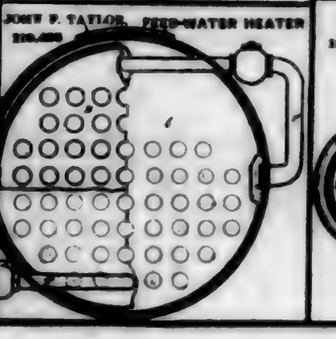
119,424



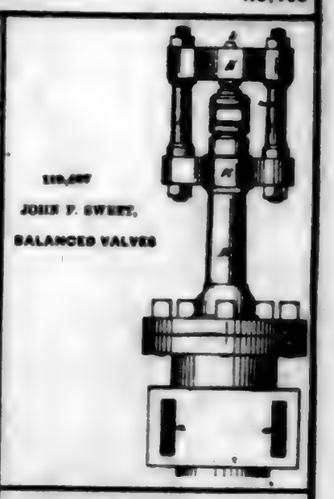
119,425 BYRON SNYDER. GATE



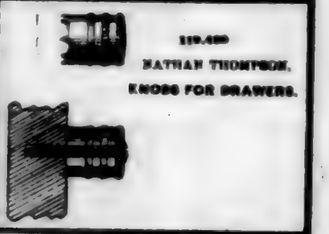
119,426 JOHN P. TAYLOR. FEED-WATER HEATER



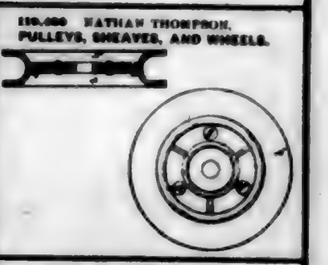
119,427 JOHN P. SWEET. BALANCED VALVES



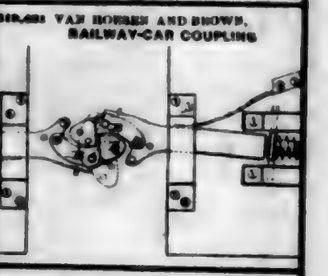
119,428 NATHAN THOMPSON. KNOBS FOR DRAWERS.



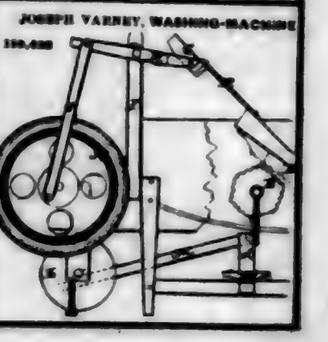
119,429 NATHAN THOMPSON. PULLEYS, SHEAVES, AND WHEELS.



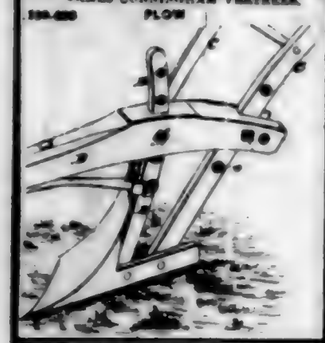
119,430 VAN HORSEN AND BROWN. RAILWAY-CAR COUPLING



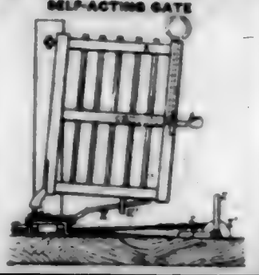
119,431 JOSEPH VARNEY. WASHING-MACHINE



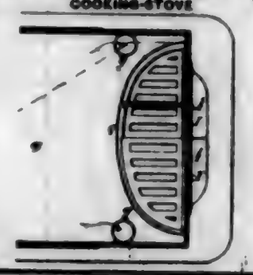
JAMES CUNNINGHAM VEITCH.
PLOW



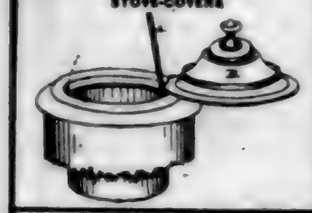
FRANKLIN WHITAKER.
SELF-ACTING GATE



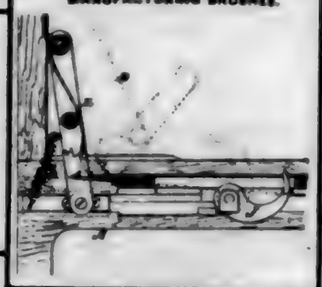
MARY ANN BOUGHTON.
COOKING-STOVE



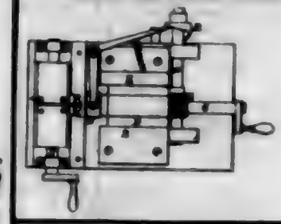
JACOB V. VROOMAN.
STOVE-COVERS



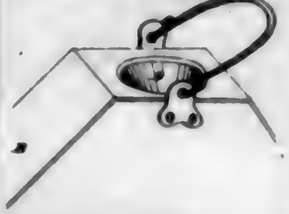
GEORGE WILLETT.
MANUFACTURING BRUSHES.



JAMES SWAN.
FORMING THE LIPS OF AUGERS.



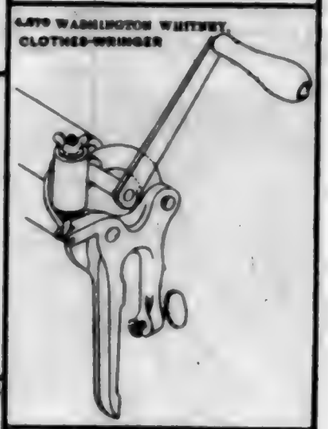
WILLIAM J. WEBB.
ROACH-AND-MOUSE TRAP



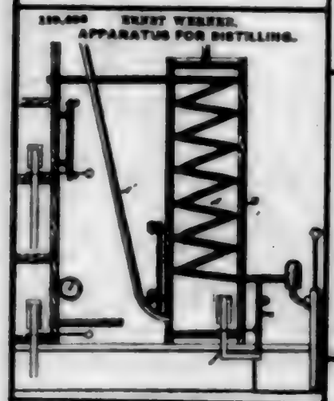
GEORGE WILLETT.
MANUFACTURING BRUSHES.



WASHINGTON WHITNEY.
CLOTHES-WRINGER



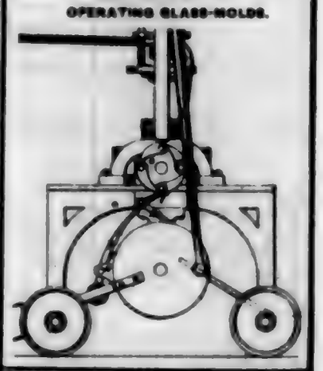
ERNST WERNER.
APPARATUS FOR DISTILLING.



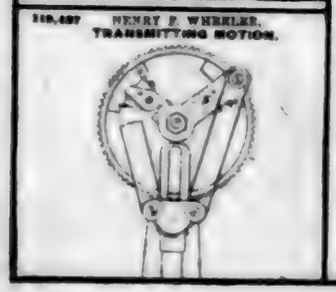
GEORGE D. WITCHELL, OIL-CAN



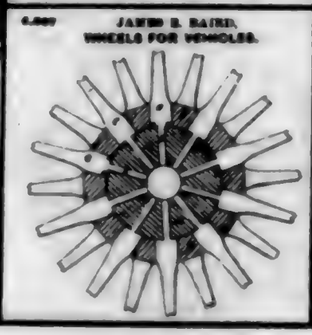
WILLIAM C. KING.
OPERATING GLASS-MOLDS.



HENRY F. WHEELER.
TRANSMITTING MOTION.



JAMES B. BAIRD.
WHEELS FOR VEHICLES.

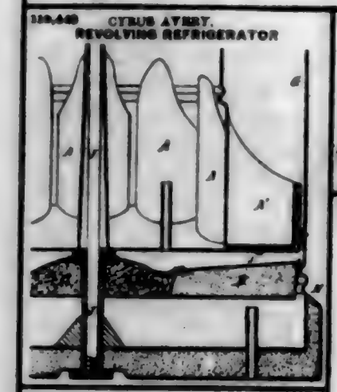


MANN AND MANN
LAMP



ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
OCTOBER 3, 1871.

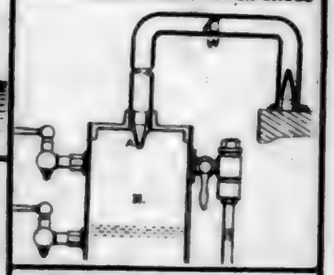
CYRUS AVERY.
REVOLVING REFRIGERATOR



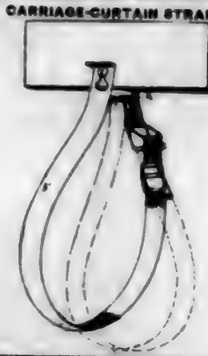
COOK AND HANFORD.
CAP-SHEARING BLOCK



MORRIS DOYLE, WATER-GAUGE



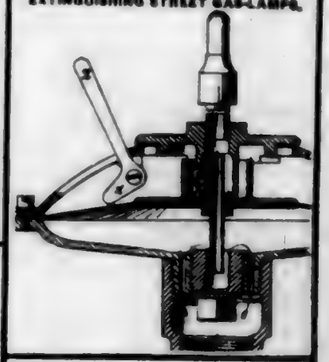
CORNELL AND MARSHALL.
CARRIAGE-CURTAIN STRAP



BENSON AND FALK.
DUMPING-CART



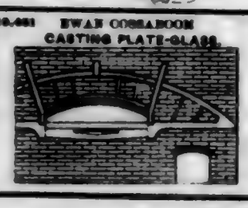
GEORGE S. DUNBAR.
EXTINGUISHING STREET GAS-LAMPS.



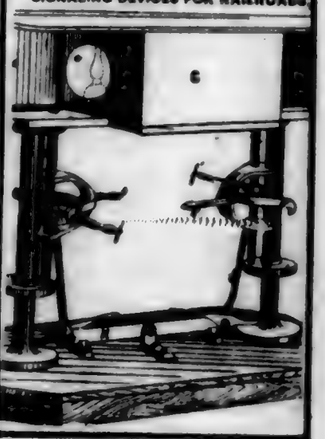
JOHN CARROLL.
DIES FOR CUTTING SCREWS.



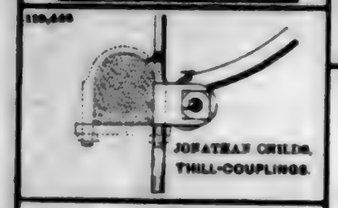
EWAN COSSABOOM
CASTING PLATE-GLASS



GEORGE F. FOLSOM,
SIGNALING DEVICES FOR RAILROADS.



JONATHAN CHILDS.
THILL-COUPLINGS.



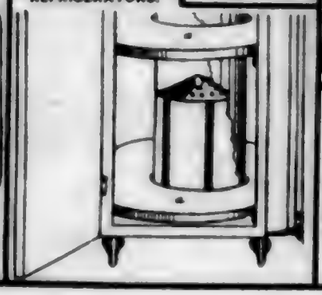
JOHN F. CRIGHTON,
PRUNING-SHEARS.



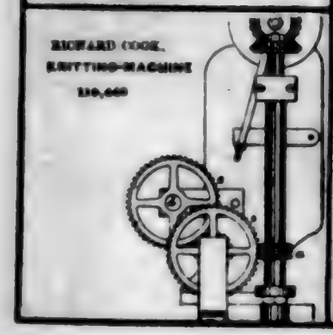
ARTHUR CLARKE.
SHOEMAKERS' PINCERS.



HENRY DAVIS AND
RINALDO ALDEN,
REFRIGERATORS.



RICHARD COOK.
KNITTING-MACHINE
119,449



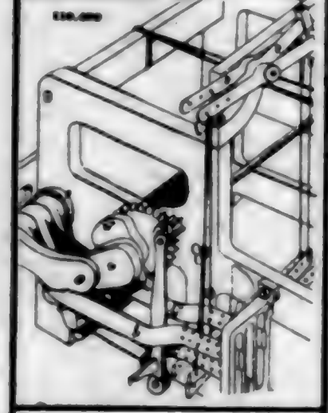
LOUIS GATHMANN.
SASH-HOLDERS AND BLIND-OPENERS.



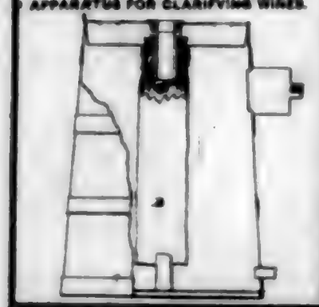
119,458 CHAS D. GOODMAN. CLOTHES DRIER AND HELDING-VALVE.



ROBERT BURNS GOODYEAR. LOOM-HARNESS-OPERATING 119,459



119,460 AUGUST GOTTSCHALK. APPARATUS FOR CLARIFYING WINES.



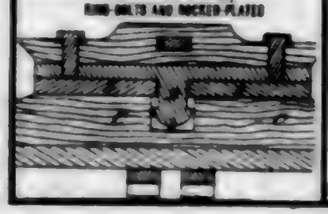
119,461 ISAAC HICKS. POTATO-DIGGER



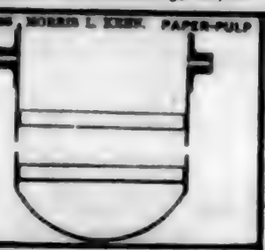
119,462 DAVID JOHNS. SAW-SET



119,463 JAMES A. JUDD. BAND-BELTS AND ROCKER-PLATES



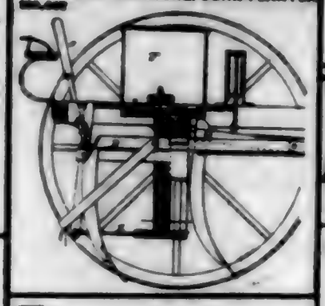
119,464 MORRIS L. KERR. PAPER-PULP



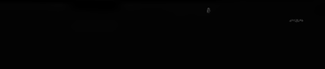
119,465 LEVI KITTREDGE. IRON-ARCH BRIDGES.



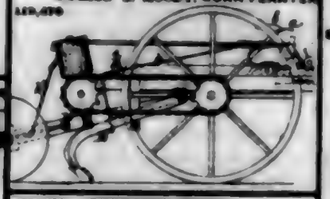
KNULL AND PEIRCE. CORN-PLANTER 119,466



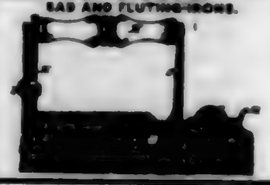
119,467 WILLIAM J. MENZIES. APPARATUS FOR GRINDING ROCK.



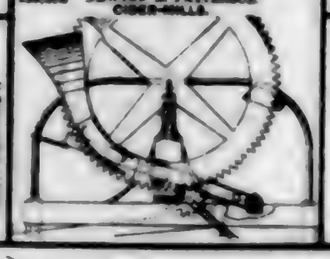
NELSON B. MOODY. CORN-PLANTER 119,470



119,471 FREDERICK MYERS. SAD AND FLUTING-IRONS.



119,472 NEWTON A. PATTERSON. CIDER-MILLS.



119,473 ALFRED T. PERRINE. HEELS FOR BOOTS AND SHOES.



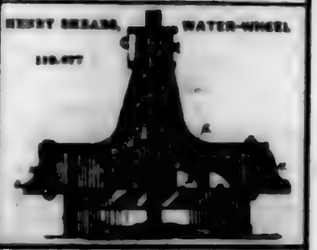


GEORGE B. PIERCE. BREECH-LOADING FIRE-ARMS. 119,474

119,475 SEARED DODGE PRATT. RAILWAY-CAR COUPLING



HENRY SHEARS. WATER-WHEEL 119,477



119,478 GEORGE E. SMITH. SELF-CLOSING GAS-BURNER



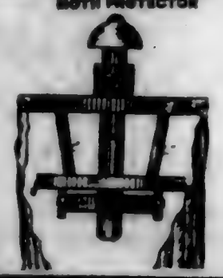
JOHN F. SMITH. SHUTTER-FASTENER 119,479



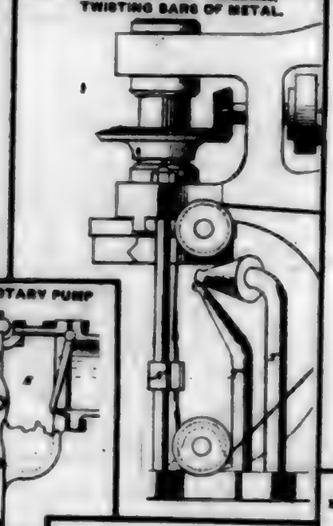
119,480 WILLIAM B. STOPER. GAS-BURNERS.



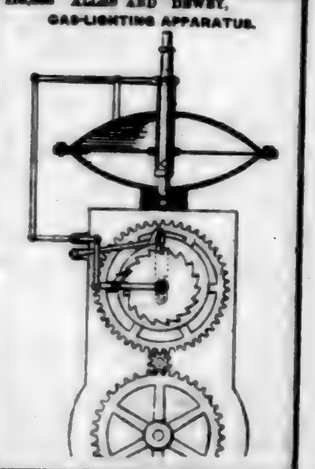
119,481 FERDINAND V. VOPEL. MOTH PROTECTOR



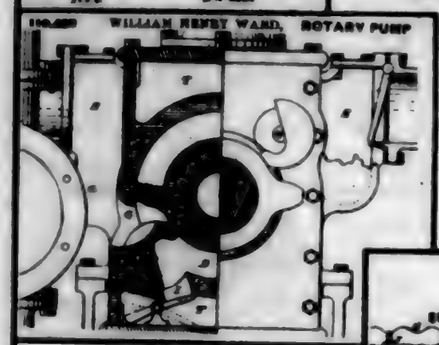
119,482 ARTHUR DAVID WILLIAMS. TWISTING BARS OF METAL.



119,483 ALLEN AND DEWEY. GAS-LIGHTING APPARATUS.



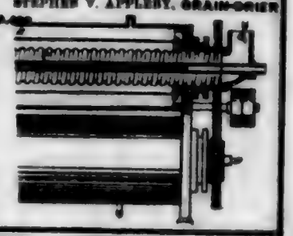
119,484 WILLIAM HENRY WARD. ROTARY PUMP



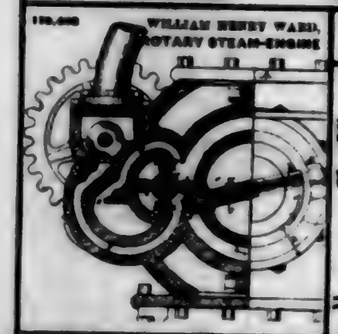
119,485 GEORGE WILSON. SPRING SEED-SOWER



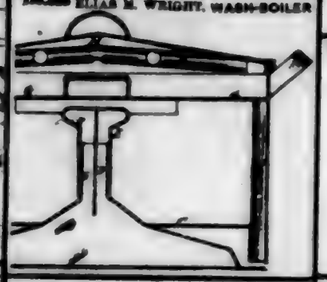
STEPHEN V. APPLEBY. GRAIN-DRIER 119,486



119,487 WILLIAM HENRY WARD. ROTARY STEAM-ENGINE



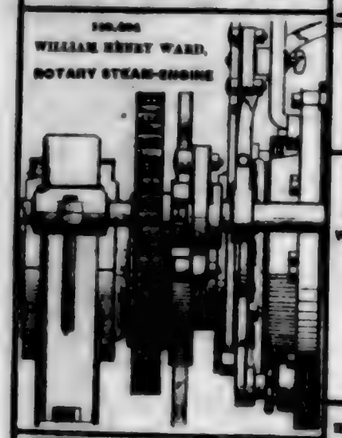
119,488 ELIAS M. WRIGHT. WASH-BOILER



SETH RANSOM. WAGON-SHAFT COUPLING 119,489

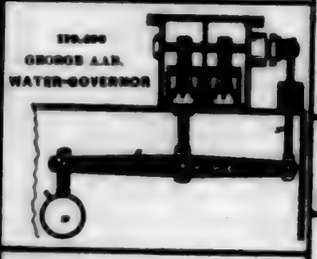


119,490 WILLIAM HENRY WARD. ROTARY STEAM-ENGINE

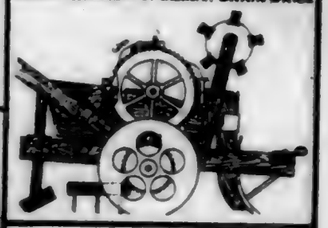


119,491 ADAM WINGARD. CONSTRUCTION OF VESSELS.

119,492 GEORGE AAR. WATER-GOVERNOR



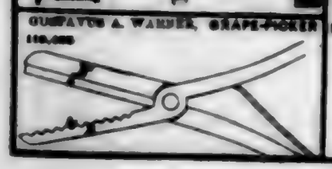
119,493 ANDREW P. BARRY. GRAIN-DRILL



119,494 ABEL H. BARTLETT. SEWING-MACHINE



119,495 GUSTAVUS A. WARNER. GRAPE-PICKER



119,496 HENRY D. ALDERFER. LATCHES FOR GATES.



119,497 WILLIAM W. BATCHELDER. SELF-LIGHTING-LAMP



EDWARD F. BENTON
BRONZING-MACHINE

BENJAMIN C. BROOKS.
ATTACHING DRUMS TO SHAFTS.

SAMUEL A. BARRACH. GATE

PUSHORT BRADFORD.
TURN-BUTTONS FOR DOORS.

ADAM S. CAMERON.
EXHAUSTERS IN GAS-WORKS.

PUSHORT BRADFORD. BLOWER-STAND

HARRY E. DOLSON.
CARRIAGE-WHEEL

FRANCOIS M. BEIGNAC.
EVAPORATING CANE-JUICE.

WILLIAM CLEWS.
EXTRACTING CAPS FROM CARTRIDGES.

FRANKLIN J. ELDRED.
SHAVING-HORSES.

CROCKER AND BRAID.
STRETCHERS FOR PICTURES.

EDWARD FITZHENRY.
SCOURING GEMS AND BEADS.

JERRY BRIGGS. PLOW-CLEVIS

DAVID CROMWELL.
REFRIGERATOR

JOHN H. GOODFELLOW.
COOKING-STOVE

BENJAMIN C. BROOKS.
INCREASING ILLUMINATING QUALITY.

WILLIAM JAMES DODGE
WASH-BOILER

THOMAS GREGG.
JOINTS FOR SCHOOL-DESKS, &c.

JOSEPH L. HAINES.
HOLDING VALVE-COCKS

HENRY KELLOGG.
ROLLING TAPERING FORMS.

ROBERT McHARDY.
HARDENING METAL TO SHAFTS OF VEHICLES.

ISAAC KING. SCROLL-SAW

THOMAS MOORE.
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JOSEPH KIRK.
ALARM FOR STEAM-BOILERS.

CHILDREN'S CARRIAGES.
JOHN G. KELSEY.

HULL AND KAUFMAN.
LANTERN

PETER L. KEGLEY.
HAY-AND-COTTON PRESS

CHARLES H. LUPKIN.
WAGON-BRAKE

STEPHEN H. DORRELL.
WOOD PAVEMENTS

FRANCIS W. MALLETT.
POLISHING NEEDLES.

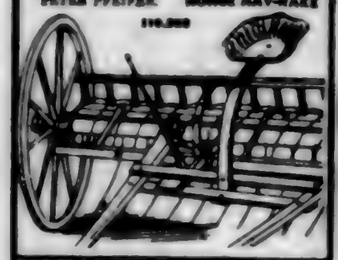
GRANVILLE B. JARVIS.
RAILWAY-CAR CHAIRS.

ROLKER AND MORGAN.
MACHINES FOR MAKING STAPLES.

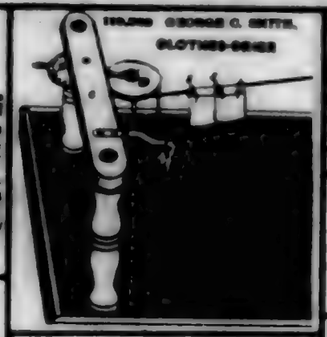
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JAMES A. PETTET.
THIMBLES AND THREAD-CUTTERS.

PETER PFEIFER. HORSE HAY-RAKE 110,[illegible]



110,[illegible] GEORGE C. SMITH. CLOTHES-DRIER



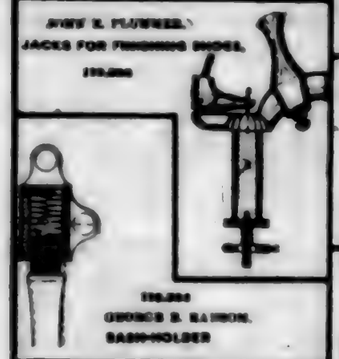
110,[illegible] WILLIAM H. K. THORNTON. DUST-SHIELDS



110,[illegible] JAMES TOWLERSON. BARREL

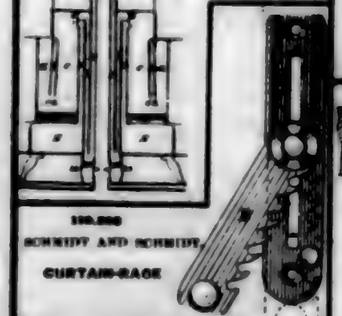


AVERY K. FLOWERS. JACKS FOR FINISHING SHOES. 110,[illegible]



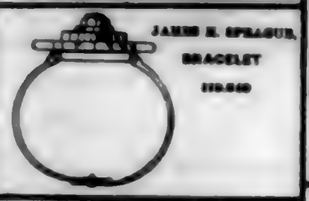
110,[illegible] GEORGE B. BARRON. BASE-HOLDER

110,[illegible] WILLIAM FRASER BOSS. HEATING-STOVE

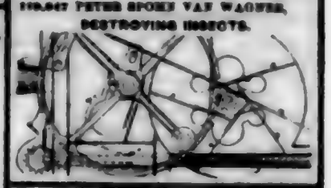


110,[illegible] SCHMIDT AND SCHMIDT. CURTAIN-RACE

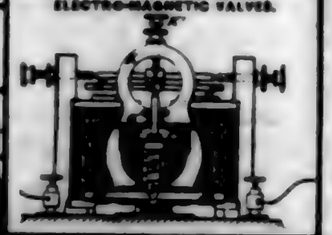
JAMES H. SPRAGUE. BRACELET 110,[illegible]



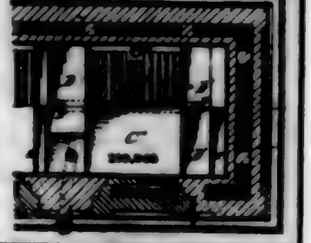
110,[illegible] PETER SPONE VAN WAGNER. DESTROYING INSECTS.



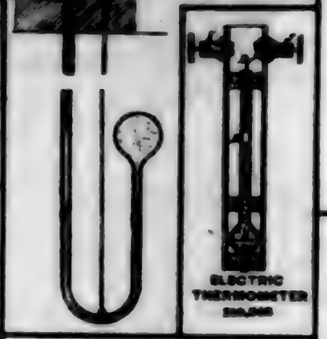
110,[illegible] GEORGE H. STERNBERG. ELECTRO-MAGNETIC VALVES.



JOHN B. WEBSTER. REFRIGERATOR 110,[illegible]

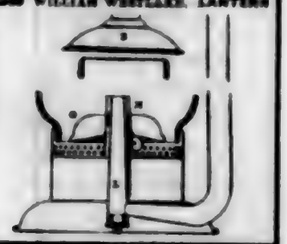


110,[illegible] GEORGE H. STERNBERG. THERMOMETER



ELECTRIC THERMOMETER 110,[illegible]

110,[illegible] WILLIAM WESTLAKE. LANTERN



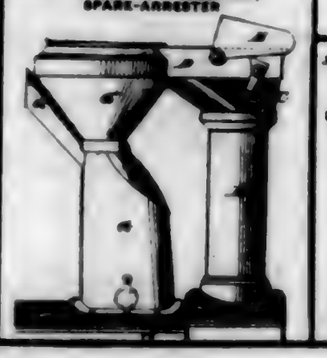
110,[illegible] ALEXANDER SHILAND. PRODUCING STEREOTYPE MATRICES.



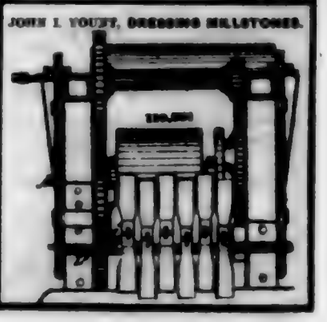
WILLIAM WESTLAKE. SPRINKLING ROSE-HEADS. 110,[illegible]



110,[illegible] WILLIAM H. K. THORNTON. SPARE-ARRESTER



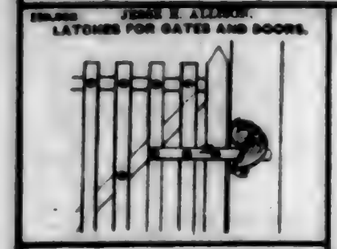
JOHN I. YOUST. DRESSING MILLSTONES. 110,[illegible]



ELIAS SHURTLEFF. BOOT-PATTERN 110,[illegible]



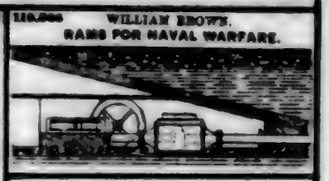
110,[illegible] JESSE E. ALLISON. LATCHES FOR GATES AND DOORS.



110,[illegible] THOMAS M. BELL. MILK-CAN



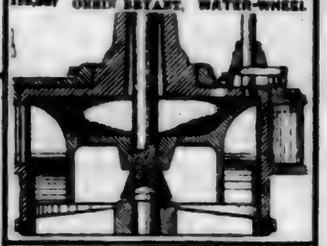
110,[illegible] WILLIAM BROWN. RAMS FOR NAVAL WARFARE.



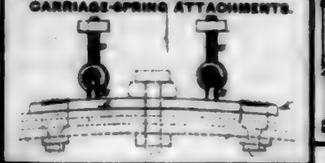
MIRAM BALDWIN. VEGETABLE-CUTTER 110,[illegible]



110,[illegible] OBERN BRYANT. WATER-WHEEL



110,[illegible] OBERN E. HEWETT. CARRIAGE-SPRING ATTACHMENTS.



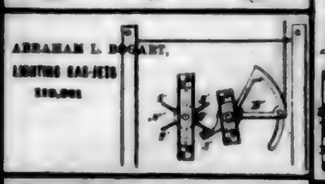
JOSEPH C. BARNES. HOT-AIR FURNACE



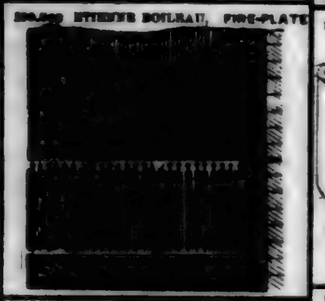
110,[illegible] WILLIAM E. BULKLEY. CURTAIN-FIXTURES.



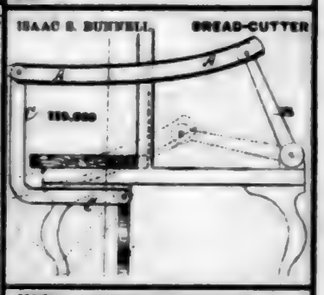
ABRAHAM L. BOGART. LIGHTING GAS-JETS 110,[illegible]



110,[illegible] ETIENNE BOILEAU. FIRE-PLATE



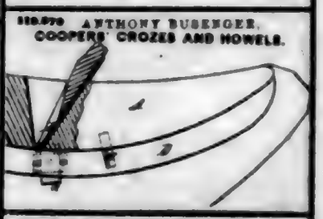
ISAAC S. BURRELL. BREAD-CUTTER



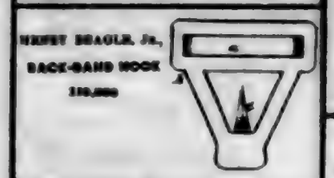
ABNER H. BARTLETT. SEWING-MACHINE 110,[illegible]



110,[illegible] ANTHONY BUSENGER. COOPERS' CROZES AND HOWELS.



HENRY BRAGG, Jr., BACK-BAND HOOK 110,[illegible]



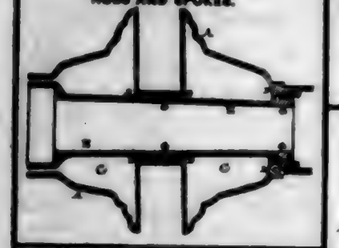
110,[illegible] THOMAS W. BRACHER. ORNAMENTING LABELS



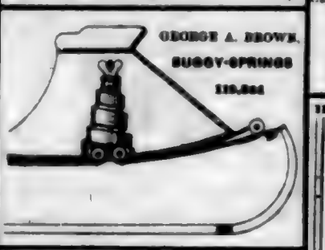
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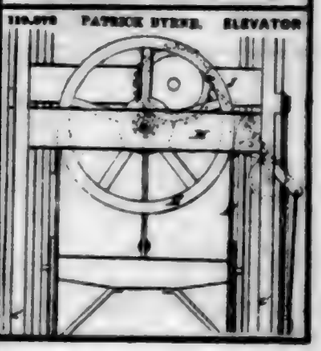
110,[illegible] WILLIAM WESTLAKE. NUBS AND SPOKES.



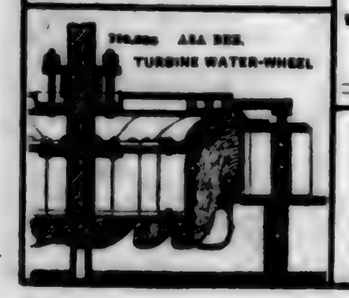
110,[illegible] GEORGE A. BROWN. BUGGY-SPRINGS 110,[illegible]



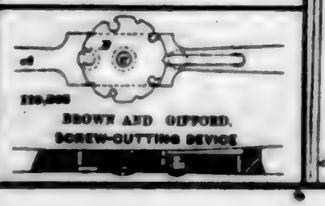
110,[illegible] PATRICK BYRNE. ELEVATOR



110,[illegible] ASA BEE. TURBINE WATER-WHEEL



110,[illegible] BROWN AND GIFFORD. SCREW-CUTTING DEVICE



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119,578 JOHN CURTIS, CARRIAGE

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119,575 GEORGE S. COLEMAN, BUTTER-WORKER

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119,597 JOHN GATES, SURFACE-BLOW

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119,599 CHARLES J. HARRIS, FURNACES FOR STEAM-BOILERS.

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JOHN S. ROLES. CULTIVATOR. 119,638

RICHARD H. PURNELLE. COTTON-CULTIVATOR. 119,644

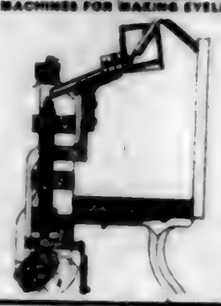
JOHN D. MILLER. HEATING-STOVE. 119,634

JAMES T. POLAND. CUTTING APPARATUS FOR HARVESTERS. 119,640

SIBLO RASSUSSEN. ANIMAL-TRAP. 119,639

119,646 THOMAS B. BENWICK. STOVE-PIPE DRUM

119,647 JOHN C. BRODIN. MACHINES FOR MAKING EYELETS.



119,648 HENRY B. BORDEN. TRAPS FOR WASH-BOILERS.

119,649 THOMAS C. BOSWARD. PICTURE-NAIL

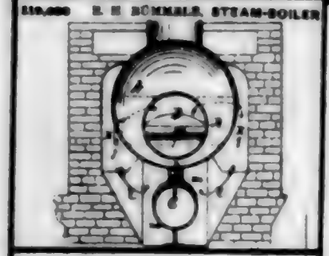


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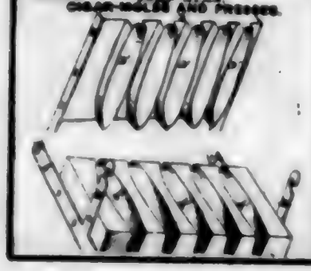


E. H. BOPER. KNITTING-MACHINE NEEDLES. 119,651

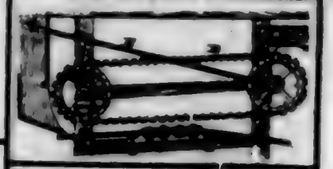
119,652 E. H. BÜNNALS. STEAM-BOILER



119,653 JOHN BYAR. CHAIR-ROLLS AND PRESSES.



119,654 DANIEL EAGER. CORN-HUSKER



119,655 HENRY EAGER. WAGON-BRAKE

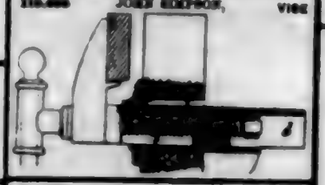


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119,657 IRA W. SHALER. CANS FOR HYDROCARBON LIQUIDS.



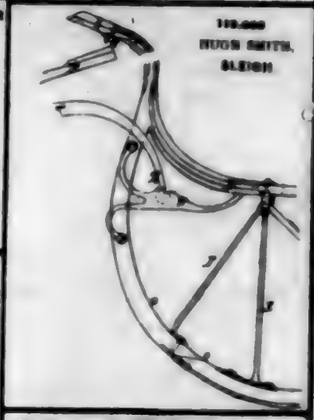
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119,659 EDWARD C. SMITH. CURRY-COMBS AND BRUSHES.



119,660 HUGH SMITH. SLEIGH



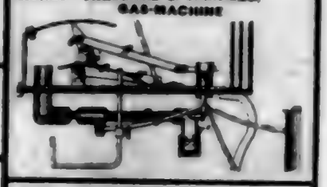
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119,662 HENRY A. SPRAGUE. HORSE-HOLDERS FOR SLEIGHS.



119,663 THEODORE G. SPRINGER. GAS-MACHINE



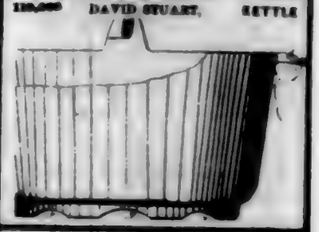
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119,665 ROSWELL H. ST. JOHN. HINGES FOR SEWING-MACHINES.

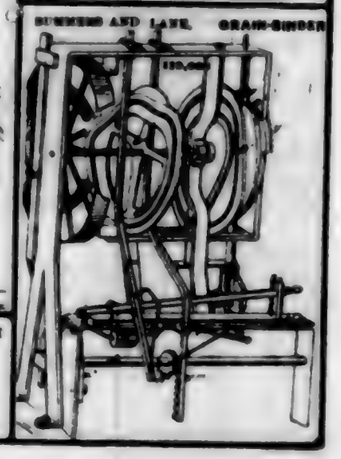


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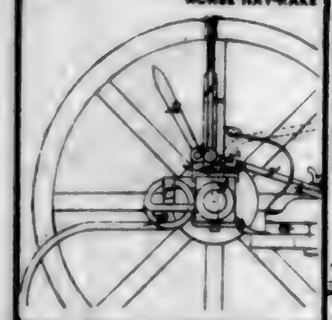


RUDOLPH STUCKWISCH. BRICK-MOLD 119,667

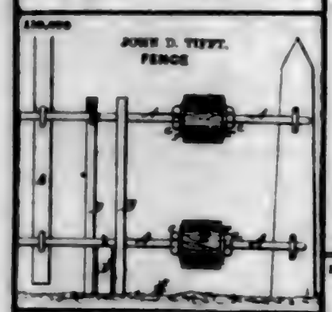
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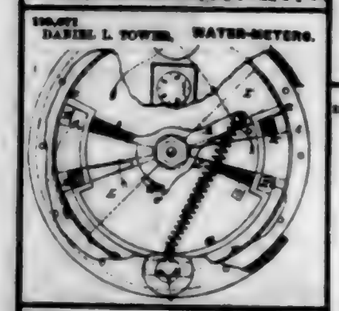
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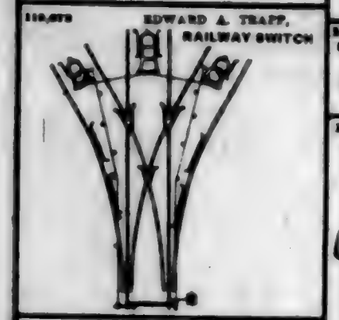
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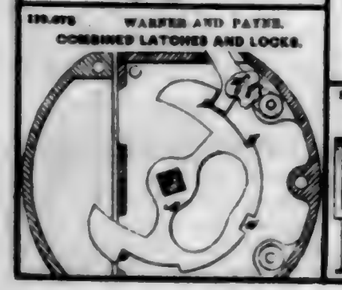
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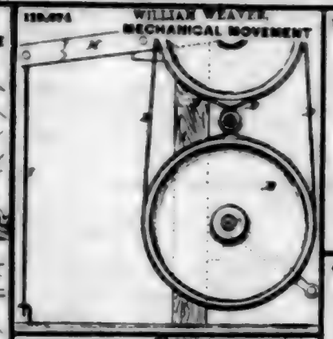
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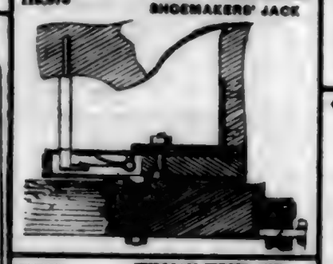
119,673 WARNER AND PAYNE. COMBINED LATCHES AND LOCKS.



119,674 WILLIAM WEAVER. MECHANICAL MOVEMENT



119,675 FRANZ WEISSENBORN. SHOEMAKERS' JACK



119,676 WILLIAM WHITLAKE. PLATFORMS FOR STOVES.



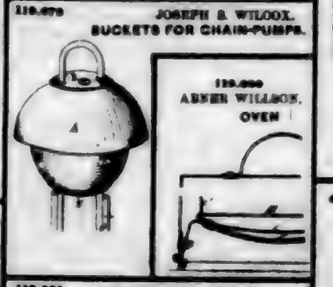
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119,678 JOSEPH W. WHITE. SAWING FRET-HOLES IN FAN-STICKS.

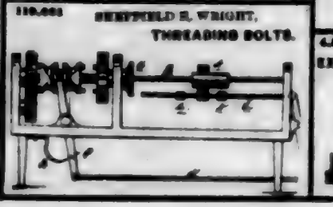


119,679 JOSEPH S. WILCOX. BUCKETS FOR CHAIN-PUMPS.

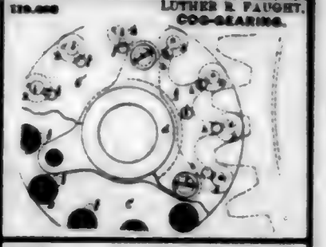


119,680 ABNER WILLSON. OVEN

119,681 HERTFIELD H. WRIGHT. THREADING BOLTS.



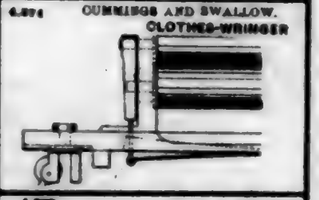
4,573 LUTHER B. FAUGHT. COG-GEARING.



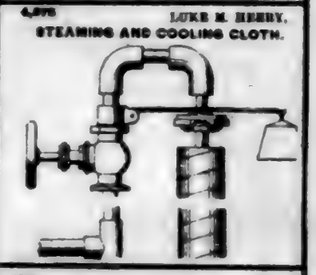
4,574 ANNA E. BALDWIN. MILK-COOLER



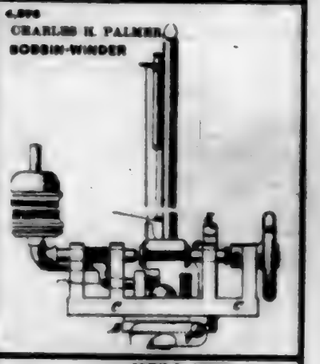
4,575 CUMMINGS AND SWALLOW. CLOTHES-WRINGER



4,576 LUKE M. HENRY. STEAMING AND COOLING CLOTH.



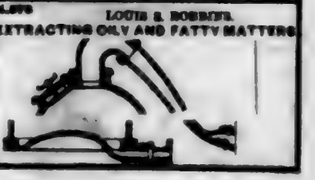
4,577 CHARLES H. PALMER. BOBBIN-WINDER



4,578 JOHN T. RILE. BINDING INVOICE-BOOKS.

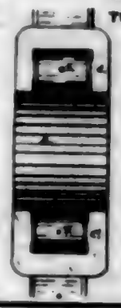


4,579 LOUIS S. ROBBINS. EXTRACTING OILY AND FATTY MATTERS

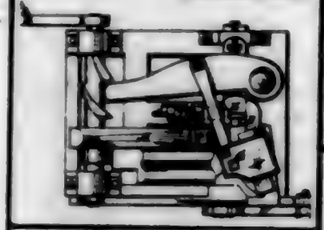


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
OCTOBER 10, 1871.

119,694 ISAAC H. ALEXANDER. TUGS FOR HARNESS.



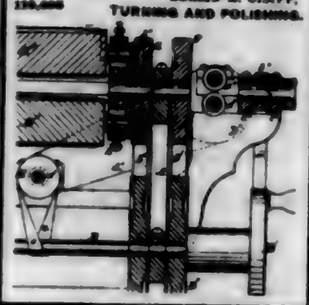
119,695 MOODY BELKNAP. SPIKE-MACHINES.



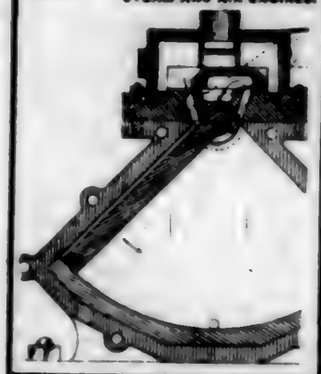
119,696 FRANCIS C. BUTLER. [EVAPORATING AND CLARIFYING



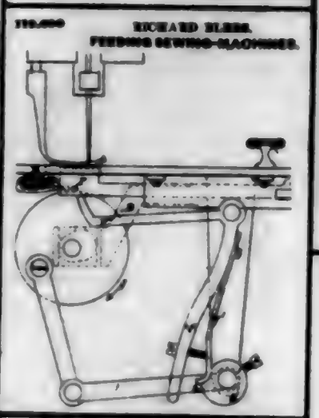
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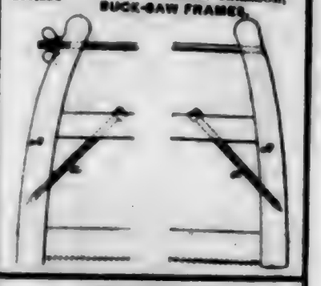
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119,699 RICHARD HUBBE. FEEDING SEWING-MACHINES.



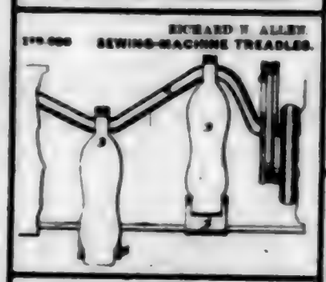
119,700 WILLIAM CLEMSON. BUCK-SAW FRAMES.



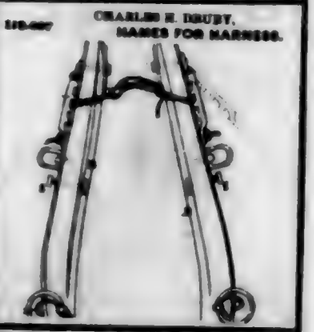
119,701 EDWARD [illegible] HEELS FOR BOOTS AND SHOES.



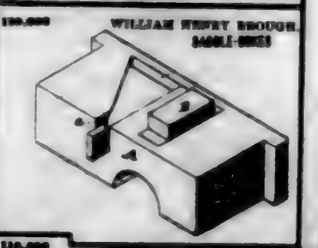
119,702 RICHARD H. ALLEN. SEWING-MACHINE TREADLES.



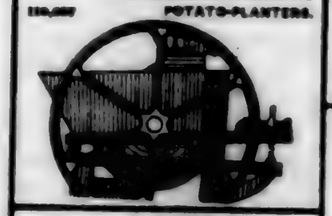
119,703 CHARLES H. DRURY. HAMES FOR HARNESS.



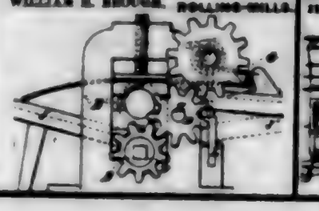
119,704 WILLIAM HENRY BROUGH. SADDLE-[illegible]



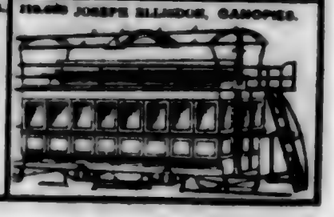
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119,706 WILLIAM H. BROUGH. ROLLING-MILLS.



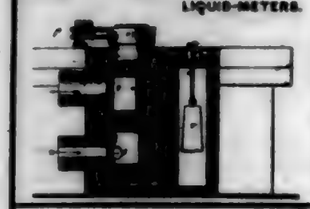
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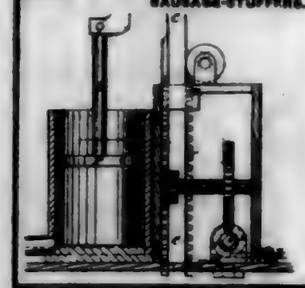
119,708 BALDWIN AND SHEAR. SPRING SEE-BOTTOMS.



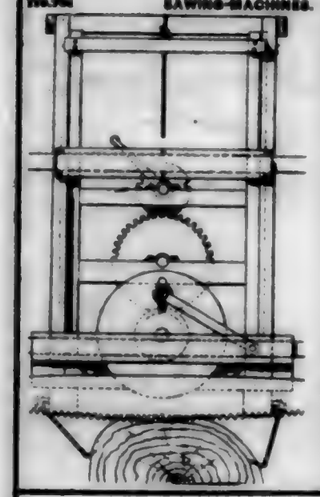
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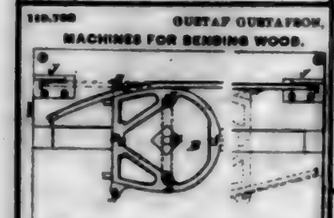
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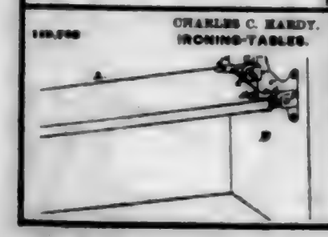
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119,702 GUSTAF GUSTAFSON. MACHINES FOR BENDING WOOD.



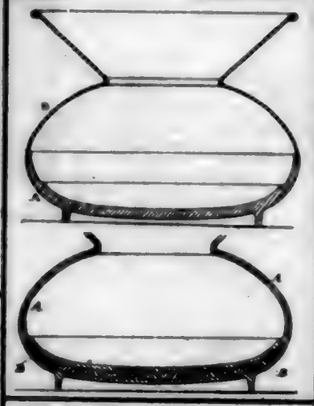
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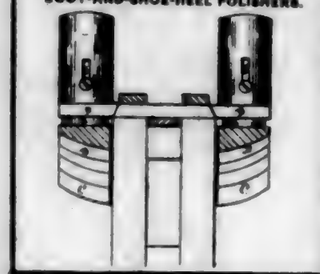
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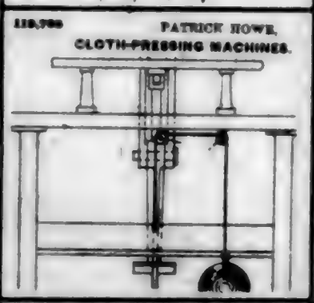
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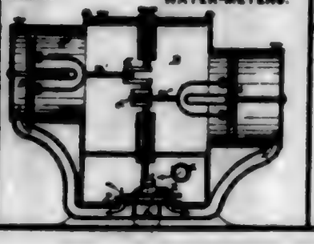
119,707 CHARLES N. HELMS. BOOT-AND-SHOE-HEEL POLISHERS.



119,709 PATRICK HOWE. CLOTH-PRESSING MACHINES.



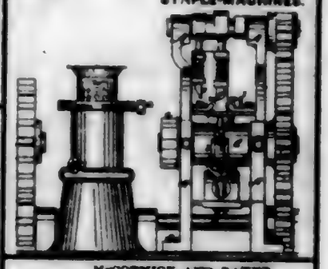
119,710 RYAN JACOB HYAMS. WATER-METERS.



119,710 JOHN W. HYATT. INLAYING.



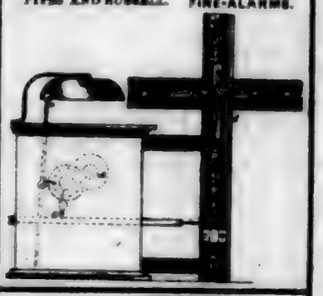
119,711 WESLEY MALICK. STAPLE-MACHINES.



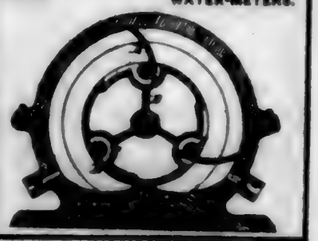
119,712 McCORMICK AND BAKER. HARVESTERS.



119,713 PITTS AND RUSSELL. FIRE-ALARMS.



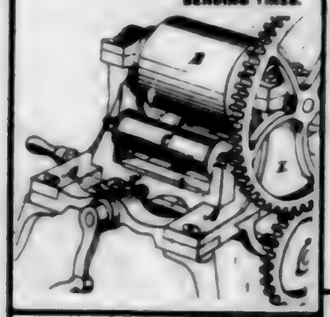
119,714 ARTHUR O'LEARY. WATER-METERS.



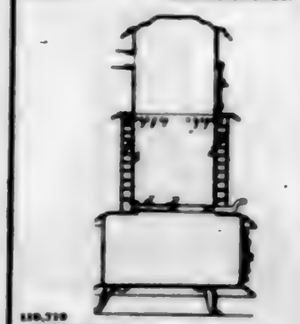
119,715 GEORGE PARDY IDENTIFYING-STAMPS.



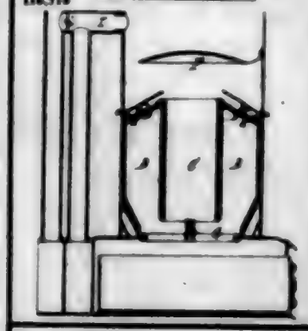
110,716 DOUGLAS F. POMEROY. SENDING TIRES.



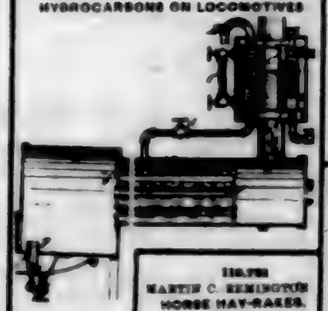
110,717 ALONZO C. RAND. HEATING-STOVES.



110,718



110,719 ALONZO C. RAND. HYDROCARBONS ON LOCOMOTIVES



110,720 MARTIN C. REMINGTON. HORSE HAY-RAKES.



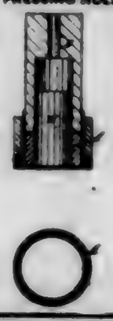
110,721 WASHINGTON H. BRODEN. GLASSES OF CARRIAGE-CURTAINS.



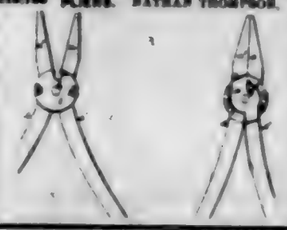
110,722 HENRY C. SMITH. SEWING-MACHINE TREADLES.



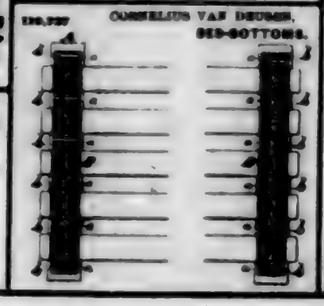
110,723 NATHAN THOMPSON. PRESSING HOLLOW-WARE.



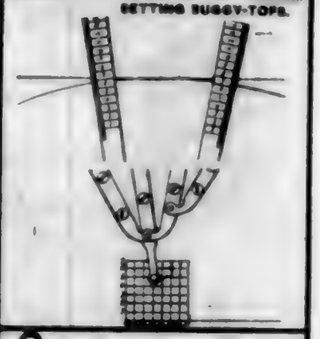
110,724 PLIERS. NATHAN THOMPSON.



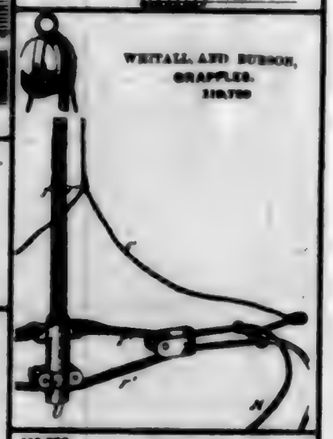
110,725 CORNELIUS VAN DEUSEN. BED-BOTTOMS.



110,726 JOHN BAITTEE WELLER. SETTING BUGGY-TOPS.



WHITALL AND BURSON. GRAPPLES. 110,729



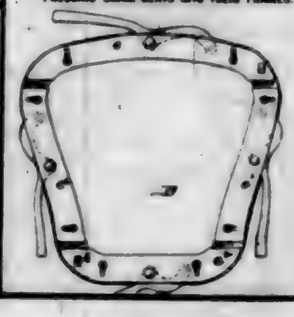
110,730 EDWIN S. WILLS. SASH-HOLDERS.



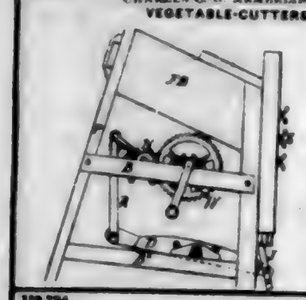
110,731 JAMES H. ALBERTSON. COTTON-PRESSES AND HORSE-POWERS



110,732 ALDRICH AND SPAULDING. PRESSING CRAIG-SEATS AND THEIR FRAMES.



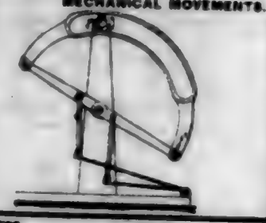
110,733 CHARLES C. C. ARMERDING. VEGETABLE-CUTTERS.



110,734 ISAAC BAKER. HOOF-PARERS.



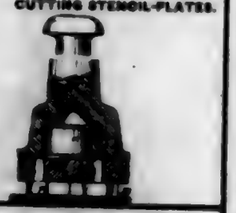
110,735 ALBERT BENNECKENDORF. MECHANICAL MOVEMENTS.



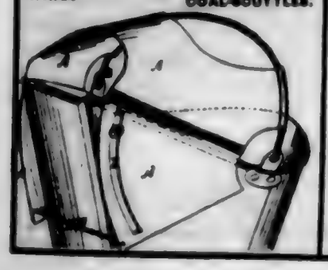
110,736 GEORGE H. BENNETT. WAGON-BRAKES.



110,737 HENRY BOLTHOFF. CUTTING STENCIL-PLATES.



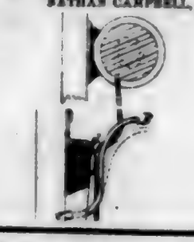
110,738 JOEL A. BRAGAW. COAL-SCUTTLES.



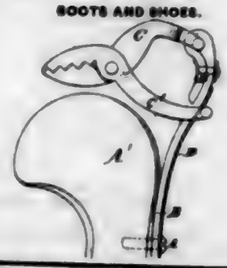
110,739 JAMES BRITTON. SHEET-METAL KNOBS FOR TEA-POTS.



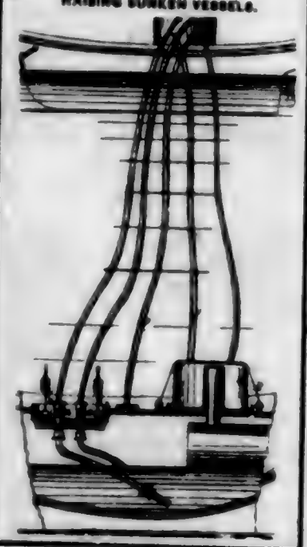
110,740 CURTAIN-FIXTURES. NATHAN CAMPBELL.



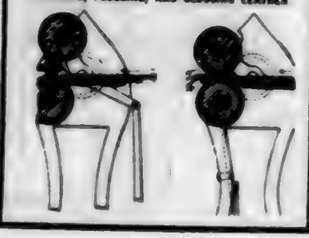
110,741 ORRIN B. CLARK. BOOTS AND SHOES.



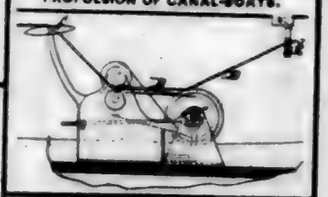
110,742 THOMAS COLLIER. RAISING SUNKEN VESSELS.



110,743 OWEN OGDAN. LOADING, PEENING, AND GLOSSING LEATHER



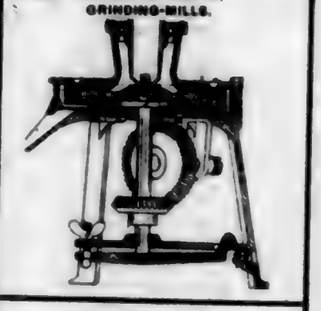
110,744 OWEN OGDAN. PROPULSION OF CANAL-BOATS.



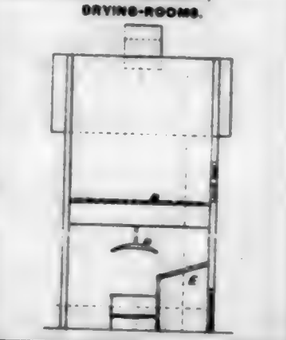
110,745 COLLIN M. COWARDIN. BROOM-NEEDLES.



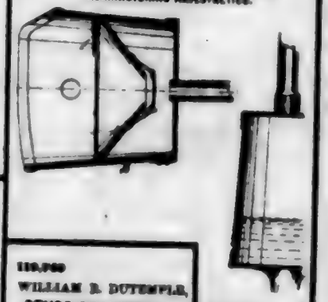
110,746 WILLIAM H. CULVER. GRINDING-MILLS.



110,747 ROBERT DALRYMPLE. DRYING-ROOMS.



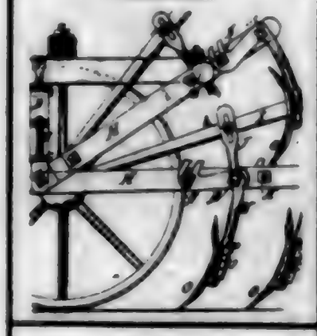
110,748 ETHELBERT B. DUNCANSON. ADMINISTERING ANÆSTHETICS.



110,749 WILLIAM B. DUTEMPLE. STUDS OR BUTTONS.



110,750 DAVID R. EBERLY,
CULTIVATORS.



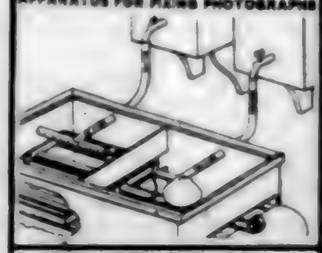
110,751 ERICK KELLY,
LUBRICATORS.



110,752 FRANCIS P. FIELD,
HELICAL WIRE-BRUSHES.



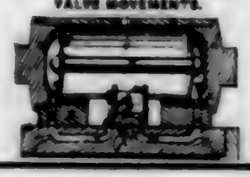
110,753 CHARLES A. GALE,
APPARATUS FOR FIXING PHOTOGRAPHS.



110,754 WILLIAM GARDNER,
FOLDING-CHAIRS.



110,755 FREDERICK GLASNER,
VALVE MOVEMENTS.



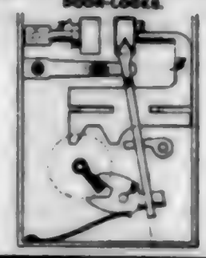
110,756 PIERRE NICOLAS GOUX,
DEODORIZING EXCREMENTS.



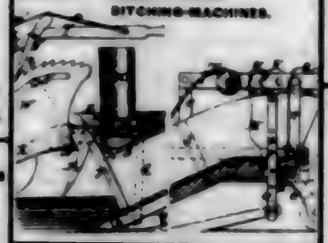
110,757 SAMUEL H. GRISCOM,
SEPARATING GLUE FROM SEAL.



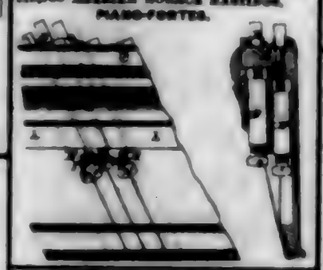
110,758 FLORENT GYSS,
DOOR-LOCKS.



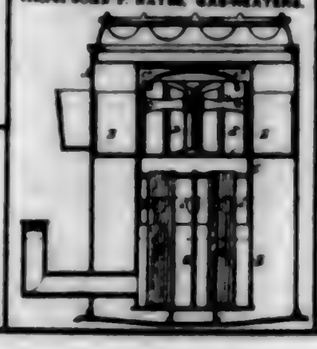
110,759 OSCAR F. HALE,
DITCHING-MACHINES.



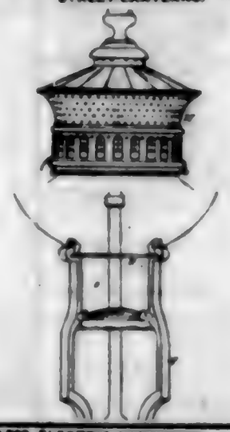
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PIANO-FORTES.



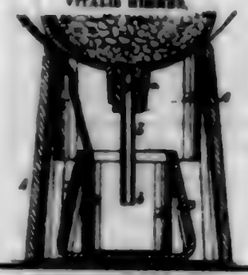
110,761 JOHN P. HATHI, GAS-HEATERS.



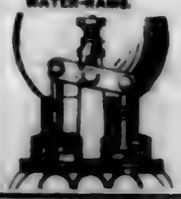
110,762 MARK ANTONY HEATH,
STREET-LANTERNS.



110,763 ELECTRIC BATTERIES.
VITALIS HIRNER.



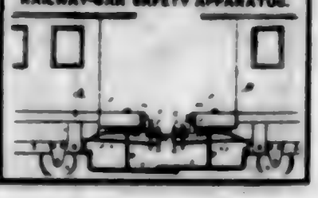
CHRISTOPHER HODGKINS,
110,764 WATER-GAGE.



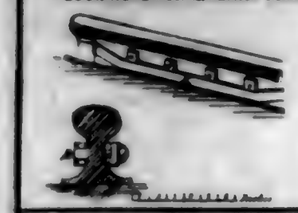
110,765 FREDERICK HOUGHT,
SLINGS FOR PACKAGES.



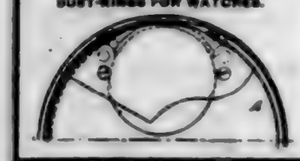
110,766 KATHARINE E. HOLMES,
RAILWAY-CAR SAFETY APPARATUS.



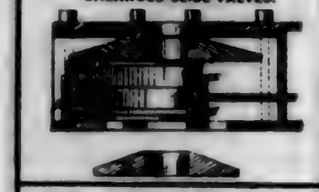
110,767 WILLIAM P. HORTON.
LOCK-NUTS FOR RAILWAY JOINTS.



110,768 GEORGE HUFF,
DUST-RINGS FOR WATCHES.



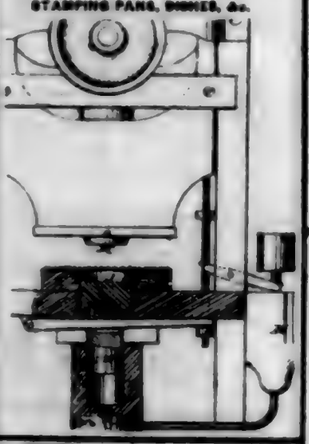
110,769 CHARLES H. HUTCHISSON,
BALANCED SLIDE-VALVES.



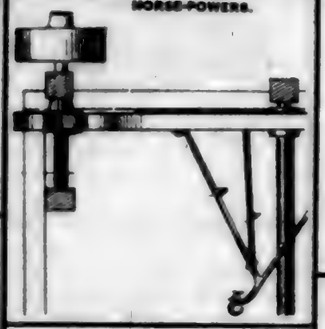
110,770 WILLIAM H. IVES,
SPIKE-EXTRACTORS.



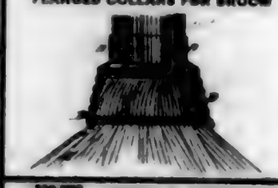
110,771 JOHN B. JONES,
STAMPING PANS, DISHES, &c.



110,772 JAMES W. KNOX,
HORSE-POWERS.



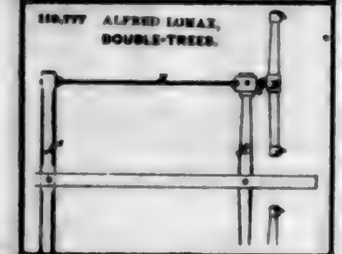
110,773 HENRY A. LEE,
FLANGED COLLARS FOR BROOM



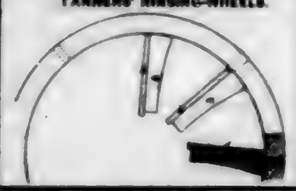
110,774 ELISHA D. LEWELLING,
FRUIT PACKING-BOXES.



110,775 ALFRED LUEAX,
DOUBLE-TREES.



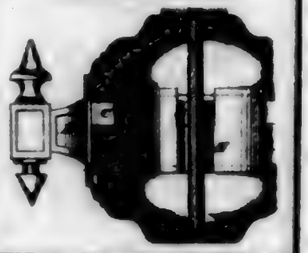
110,776 PHILO LULL,
TANNERS' RINGING-WHEELS.



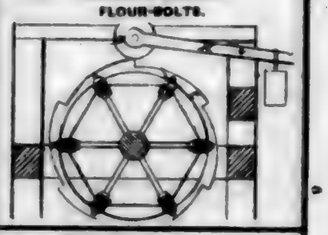
110,777 ROBERT MARSHALL,
SAP-BUCKET COVERS.



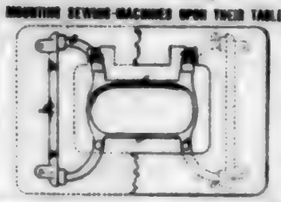
110,778 JOHN MEAH,
CHANDELIERS CENTERS.



110,779 THOMAS O. MORGAN,
FLOUR-BOLTS.



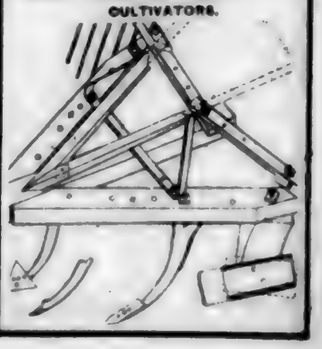
110,780 CHARLES PANHAM,
MOUNTING SEWING-MACHINES UPON THEIR TABLES.



110,781 JULIUS A. PEARL,
CANDLE-BURNERS.



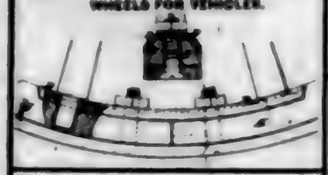
110,782 FRANCIS L. PERRY,
CULTIVATORS.



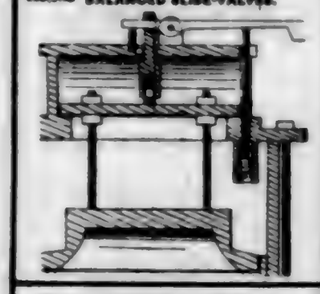
119,787 JOHN A. PRIOR, STOVE-GRATES.



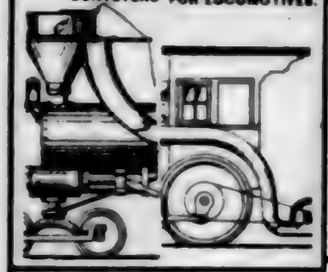
119,788 WILLIAM P. RAY, WHEELS FOR VEHICLES.



JOHN RIGBY AND JOSEPH HOLT, 119,789 BALANCED SLIDE-VALVES.



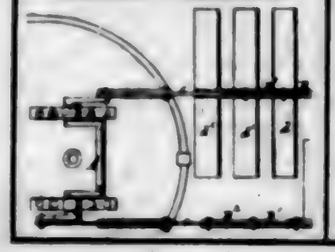
119,790 AUGUSTA H. ROBBINS, CONVEYERS FOR LOCOMOTIVES.



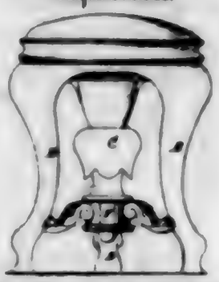
119,791 GOTTLIEB SCHERER, PAN-SCRAPERS.



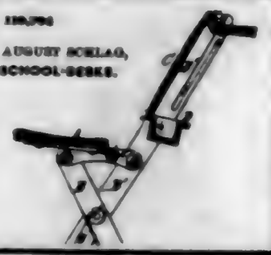
119,792 CORNELIUS SCHILLING, PROPULSION OF CANAL-BOATS.



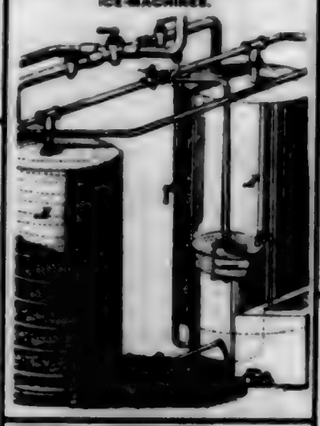
119,793 CHARLES A. SCHNEIDLER, PIANO-STOOLS.



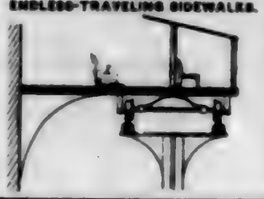
119,794 AUGUST SCHLAG, SCHOOL-DESKS.



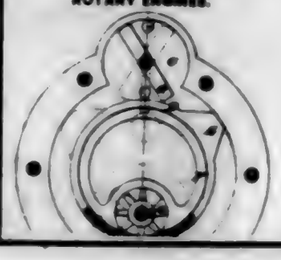
119,795 CHARLES A. SEELY, ICE-MACHINES.



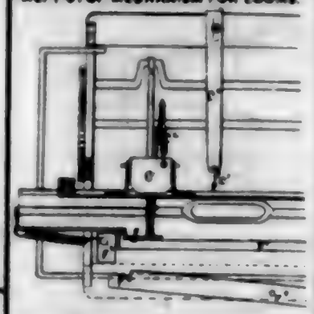
119,796 ALFRED SPEER, ENDLESS-TRAVELING SIDEWALKS.



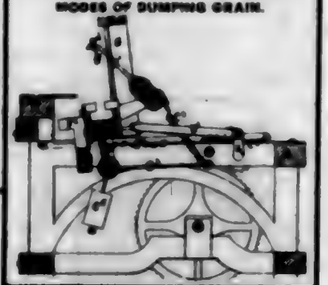
119,797 JOHN STOTT, ROTARY ENGINES.



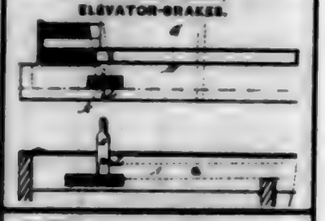
119,798 JOHN J. SWITZER, WEFT-STOP MECHANISM FOR LOOMS.



119,799 JOHN STYER, MODES OF DUMPING GRAIN.



119,800 THEODORE THORN, ELEVATOR-BRAKES.



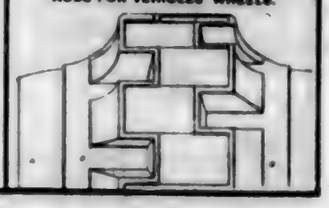
119,801 WILLIAM S. TISDALE, PEAT-MACHINES.



119,802 CHARLES B. TRIMBLE, BOTTLE-OPENERS.



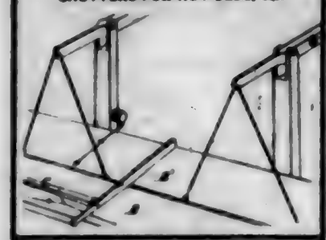
119,803 OLIVER VANORMAN, HUBS FOR VEHICLES' WHEELS.



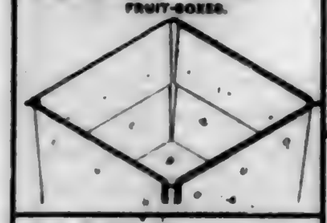
119,804 RICE WEBB, SLEIGHS.



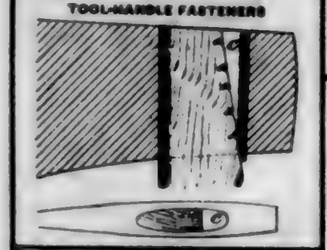
119,805 JAMES WEED, SHUTTERS FOR HOT-BEDS, &c.



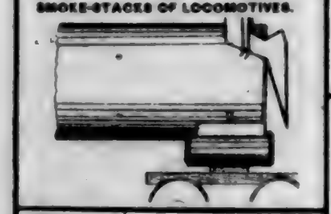
119,806 CHARLES W. WESTON, FRUIT-JOKERS.



119,807 WILBUR AND HURLBUT, TOOL-HANDLE FASTENERS



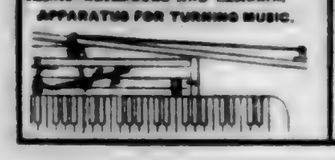
119,808 EDWIN H. WINCHELL, SMOKE-STACKS OF LOCOMOTIVES.



119,809 EDWIN H. WINCHELL, RAILROAD-CAR VENTILATORS.



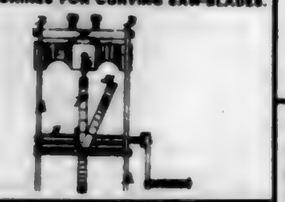
119,810 ALTENBURG AND LAMBRIX, APPARATUS FOR TURNING MUSIC.



119,811 EPHRAIM HALL, WHEELS FOR VEHICLES.



119,812 BELA S. BISHOP, MACHINES FOR CURVING SAW-BLADES.



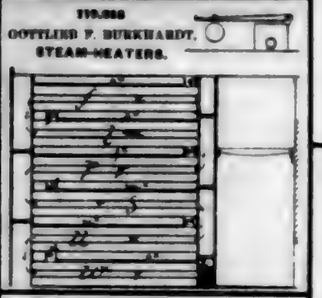
CHARLES C. BLAKEMORE, 119,813 FELLING ATTACHMENTS FOR SEWING-MACHINES.



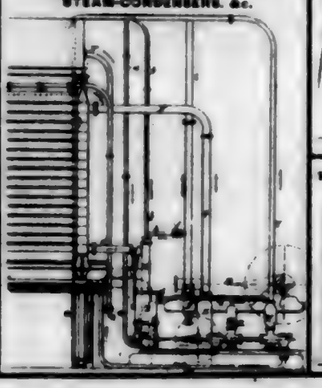
119,814 CHARLES BRETZINGHOFFER, BLACKING-BRUSHES.



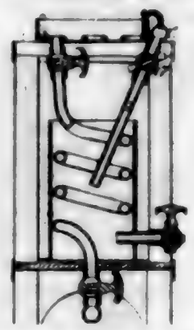
119,815 GOTTLIEB P. BURKHARDT, STEAM-HEATERS.



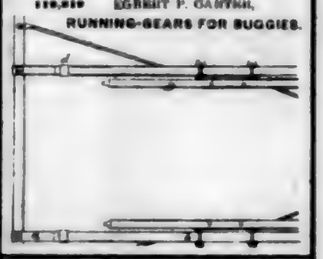
119,816 ALFRED CAIL, STEAM-CONDENSERS, &c.



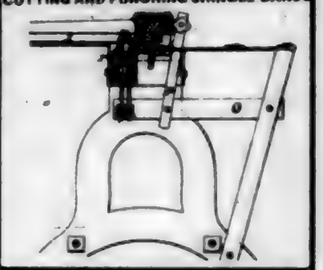
119,817 AMBROSE E. CAMP AND CHARLES L. REED, LARD-COOLERS.



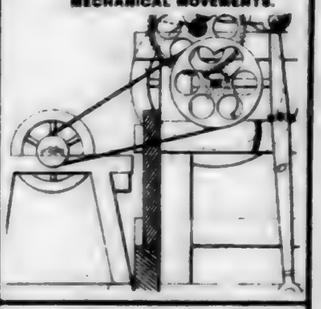
119,818 EGBERT P. GAUTIER, RUNNING-GEARS FOR BUGGIES.



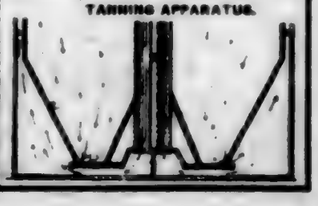
119,819 CHARLES E. CHOATE, CUTTING AND PUNCHING SHINGLE-BANDS.



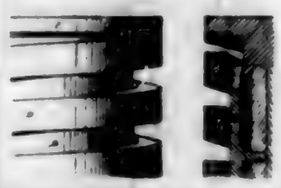
119,820 ALEXANDER CLARK, MECHANICAL MOVEMENTS.



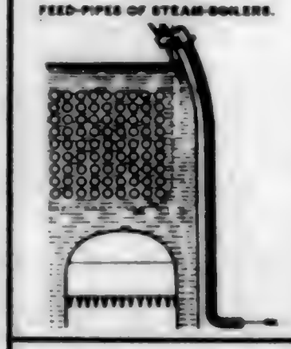
119,821 JOSEPH W. CONURO, TANNING APPARATUS.



119,823 JOHN W. COCHRAN,
RAILWAY-CAR SPRINGS.



119,824 JONATHAN COFE,
FEED-PIPES OF STEAM-BOILERS.



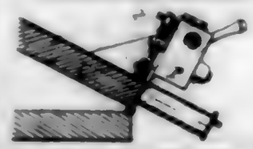
DANIEL McFARLAND COOK.
119,825 INDUCTION-COILS.



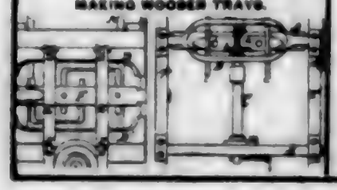
119,826 JOHN P. COFFOUR,
ANIMAL-TRAPS.



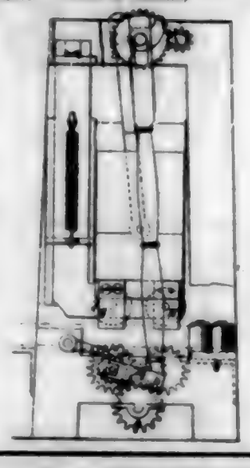
119,827 HOWIE COWLES,
PAPER-CUTTING MACHINES.



119,828 DANIEL M. CUMMINGS,
MAKING WOODEN TRAYS.



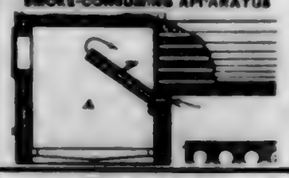
119,829 JOHN P. DIENER,



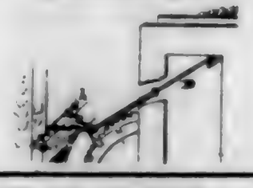
ELIAS DOTY AND GEORGE W. MILTIMORE.
119,831 RAILWAY-CAR AXLES.



119,832 JOHN DURAND,
SMOKE-CONSUMING APPARATUS



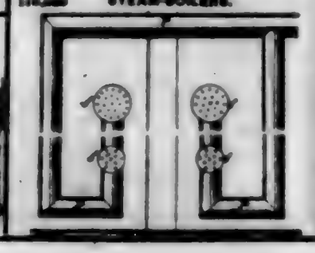
119,833 SAMUEL F. ESTILL,
PROGRAMME-CLOCKS.



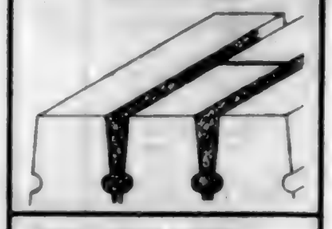
119,834 GEORGE H. FERRIS,
BREECH-LOADING FIRE-ARMS.



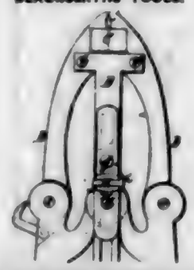
CHARLES G. FISHER,
119,835 STEAM-BOILERS.



119,836 MAURICE FITZGIBBONS,
WOOD PAVEMENTS.



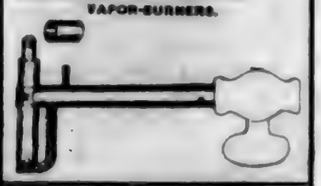
119,837 SAMUEL J. FORBES,
BLACKSMITHS' TOOLS.



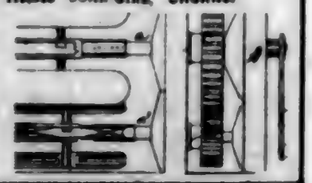
DAVID FRANK AND THEOPHILUS SNYDER.
119,838 PIPE-WRENCHES.



119,839 GATES AND FRITCHEY,
VAPOR-BURNERS.



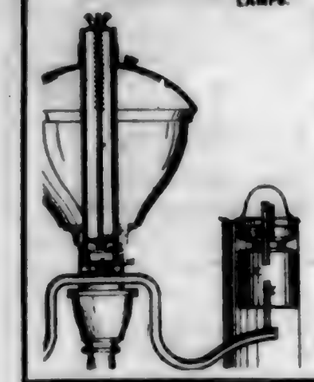
119,840 JOHN GIRE, CHURN.



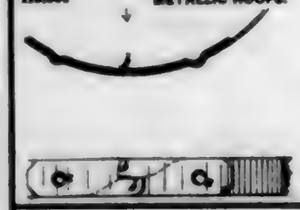
119,841 JOSEPH S. GRAVES,
CARRIAGE-WHEELS.



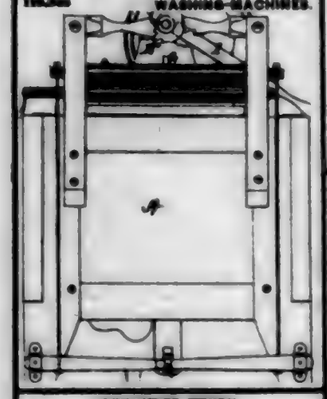
119,842 FRANKLIN T. GRIMES,
LAMPS.



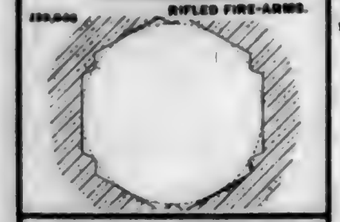
119,843 EDGAR C. HAMLIN,
METALLIC HOOPS.



119,844 JAMES W. HAMPTON,
WASHING-MACHINES.



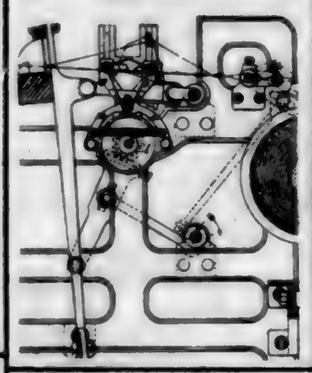
ALEXANDER HENRY.
119,845 RIFLED FIRE-ARMS.



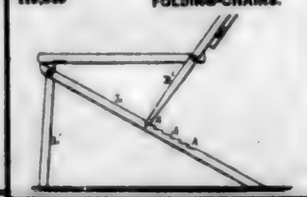
CLAUDIUS L. HOAG AND ELLSWORTH ELY
119,846 REFRIGERATING-CARS.



119,847 JOSEPH HOLDING AND JAMES HOLDEN.
MECHANISM FOR LOOM



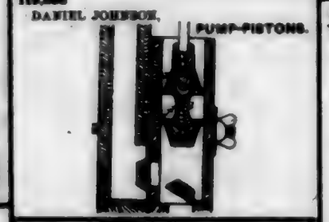
119,848 CHARLES A. JACKSON,
FOLDING-CHAIRS.



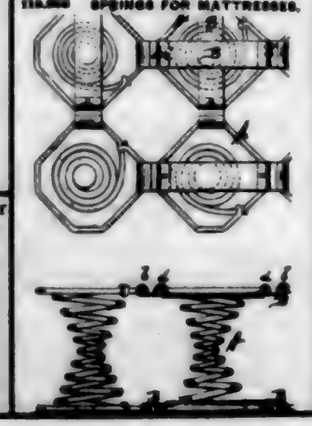
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FERDINAND JENNY.



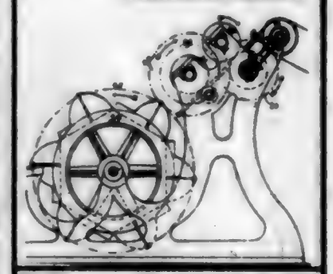
119,850 DANIEL JOHNSON,
PUMP-PISTONS.



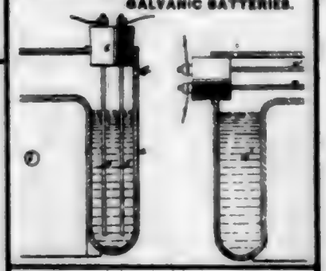
WILLIAM B. JUDSON.
119,851 SPRINGS FOR MATTRESSES.



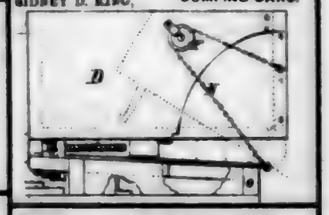
119,852 EDWARD WATSON KELLEY,
HORSE-HAIR MACHINES.



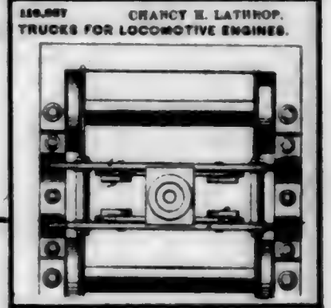
119,853 JEROME KIDDER.
GALVANIC BATTERIES.



119,854 SIDNEY D. KING, DUMPING-CARS.



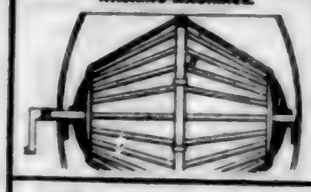
119,855 CHANCY H. LATHROP,
TRUCKS FOR LOCOMOTIVE ENGINES.



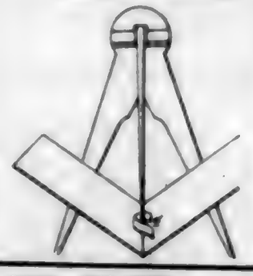
119,856 JACQUES LAURENT,
STEM-WINDING WATCHES.



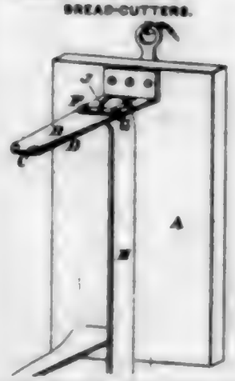
110,859 JOHN H. LEE, WASHING-MACHINES.



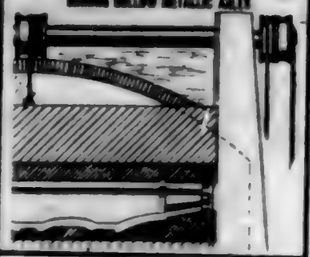
110,860 JOHN A. LEHMAN, BREAST-PIN FASTENERS.



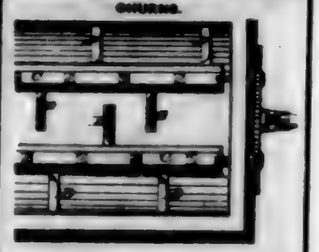
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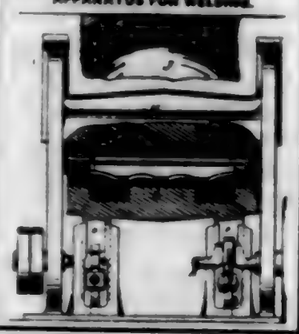
110,862 WILLIAM A. LEWIS, RADIAL ROLLER METALLIC AXLE.



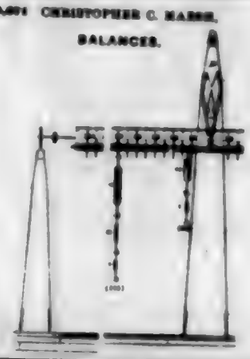
110,863 WILLIAM H. LEWIS, COUPLING.



110,864 WILLIAM ARNOLD LEWIS, APPARATUS FOR WELDING.



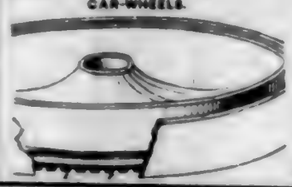
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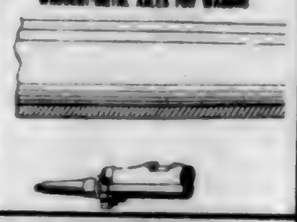
110,866 WILLIAM A. LEWIS, HOLLOW AXLES FOR RAILROAD CARS.



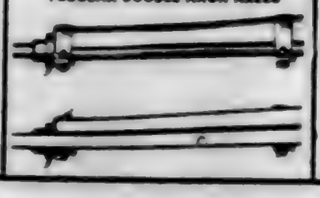
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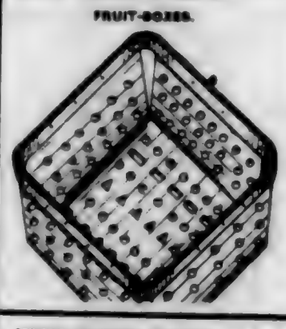
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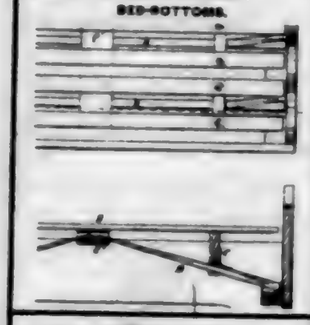
110,869 WILLIAM A. LEWIS, TUBULAR DOUBLE-ARCH AXLES.



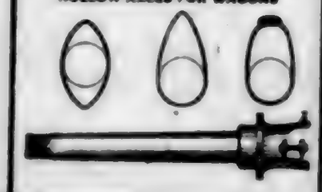
110,870 JOSHUA H. MARVIL, FRUIT-BOXES.



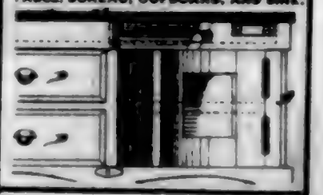
110,871 GEORGE D. LEONARD, BED-BOTTOMS.



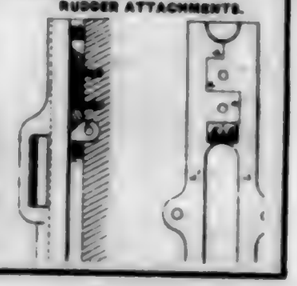
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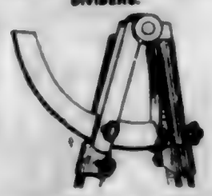
110,873 MARTHA J. MILLER, TABLE, BUREAU, CUPBOARD, AND SINK.



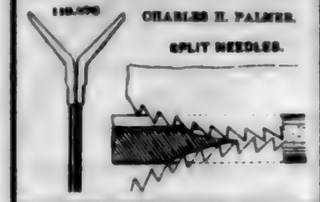
110,874 JOSHUA H. MOORE, RUDDER ATTACHMENTS.



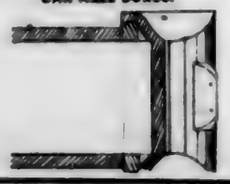
110,875 CHARLES M. NICHOLS, DIVIDERS.



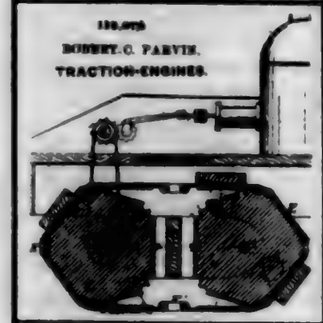
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110,877 WILLIAM G. PARR, CAR-AXLE BOXES.



110,878 ROBERT C. PARVIN, TRACTION-ENGINES.



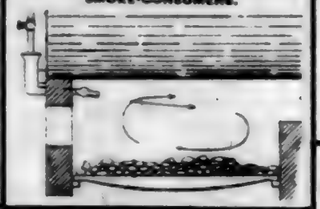
110,879 RICHARD PAULSON, PERCUSSION-CAP CARRIERS.



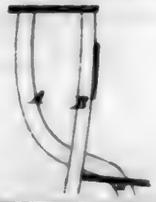
110,880 WILLIAM LAWRENCE PERRY, FITTING AND BORING FELLIES.



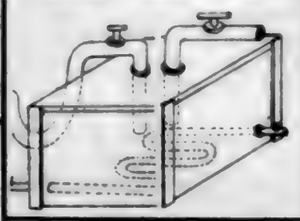
110,881 CHARLES PLUMB, SMOKE-CONSUMERS.



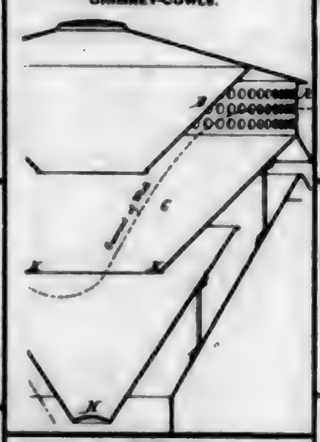
110,882 JOHN L. RITER, FRAME FOR SCHOOL-DESKS AND SEATS.



110,883 EDWARD A. L. ROBERTS, PREVENTING CLOGGING OF OIL-WELLS.



110,884 JOHN O. ROTH, CHIMNEY-COWLS.



110,885 IRA W. SHALER, LAMPS.



110,886 JOSIAH SHEPARD, UMBRELLAS.



110,887 HARRY E. SMITH AND RUFUS FOLSOM, STEM-WINDING WATCHES.



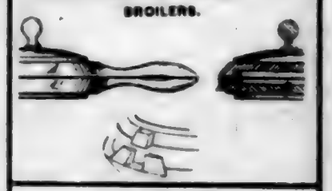
110,888 ISAAC SMITH, LAMP-CHIMNEY CLEANERS.



110,889 JAMES S. SMITH, OFFICE-TIME INDICATORS.



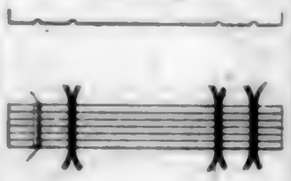
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110,891 RACHEL P. SMITH, FIRE-KINDLERS.



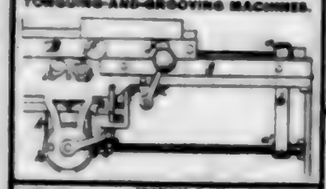
119,894 DAVID H. SMITH. BOOK-SINGING.



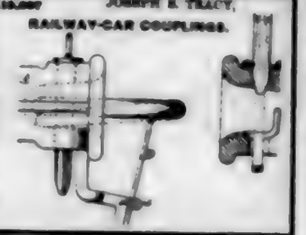
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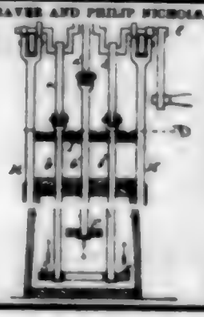
119,896 SUTTON AND MELLINE. TONGUING-AND-GROOVING MACHINES.



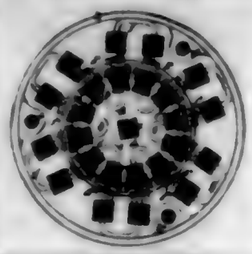
119,897 JOSEPH S. TRACY. RAILWAY-CAR COUPLINGS.



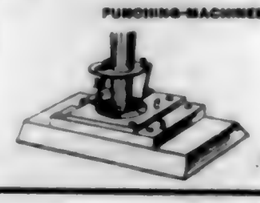
119,898 ALVAH TRAVER AND PHILIP NICHOLS. COUPLING.



119,899 UTLEY AND ROSS. ELECTRO-MAGNETIC MOTORS.



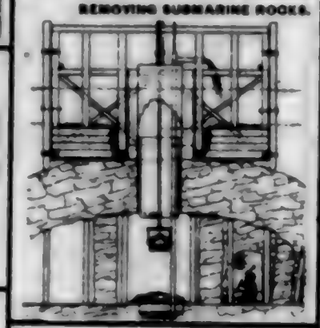
119,900 WILLIAM H. VAN CLEVE. PUNCHING-MACHINES.



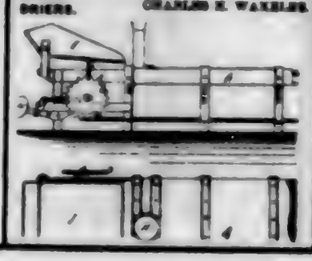
119,901 ISRAEL D. VANDUSAR. DREDGING-MACHINES.



119,902 ALEXEY W. VON SCHMIDT. REMOVING SUBMARINE ROCKS.



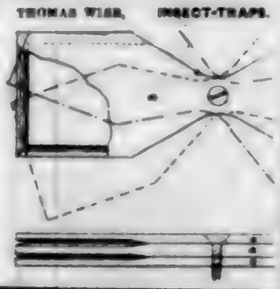
119,903 CHARLES E. WAKELEE. DRIERS.



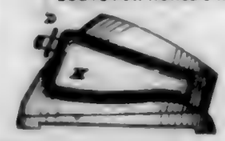
119,904 HENRY WEED. CULTIVATORS.



119,905 THOMAS WEBB. INSECT-TRAPS.



119,906 ROBERTS WILLIAMS. BOOTS FOR HORSE'S HOOFS.

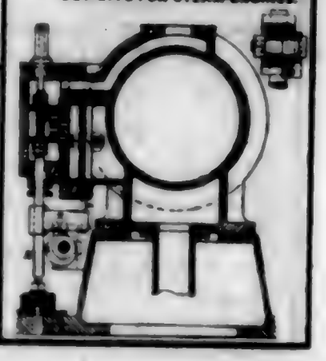


DAVID D. WHEEL. CARRIAGE-SPRINGS.

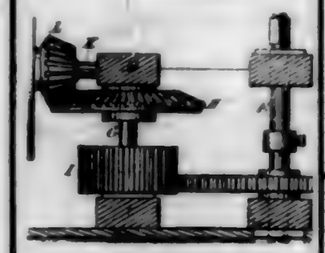
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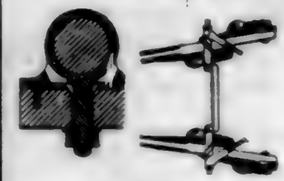
119,908 WILLIAM WRIGHT. CUT-OFFS FOR STEAM-ENGINES.



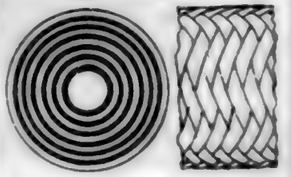
119,909 DAVID A. WARNOCK, WILLIAM B. WRIGHT, HORSE-POWERS.



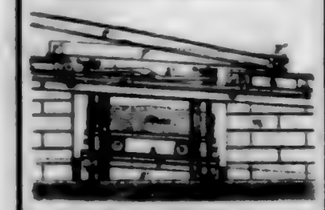
4,590 BUCKMAN AND SIMON. HARVESTERS.



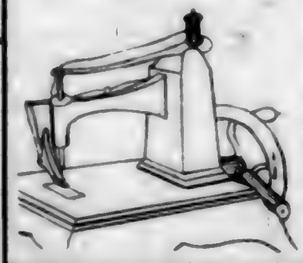
4,591 WILLIAM HARTLEY MILLER. PISTON-ROD PACKINGS.



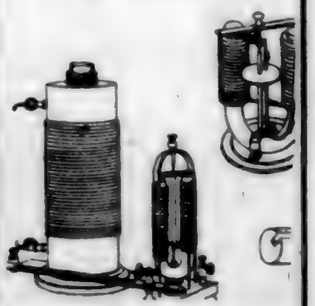
119,910 HUGH TOUPS. MACHINES FOR CUTTING STONE.



4,592 JAMES HANLEY. MECHANICAL MOVEMENTS



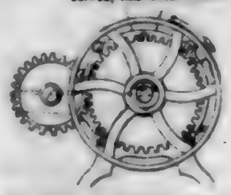
4,593 PRISCILLA WEBSTER PAGE. INDUCTION-COIL APPARATUS AND CIRCUIT-BREAKERS.



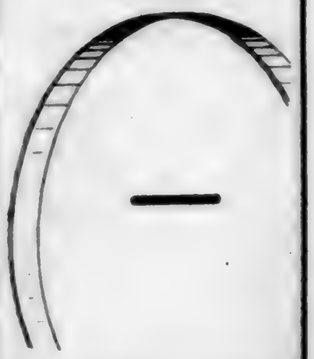
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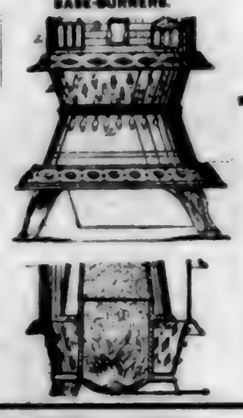
4,595 WILSON AGER. MACHINES FOR CLEANING AND SCOURING RICE, COFFEE, AND OTHER GRAIN



4,596 JOHN W. RIGGS. TRUSS-SPRINGS.



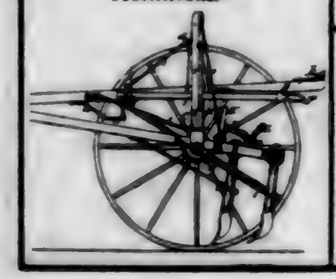
4,597 DENNIS G. LITTLEFIELD. BASE-BURNERS.



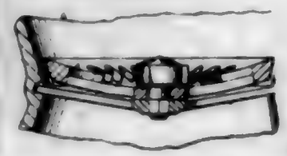
4,598 JOHN BAUER. HARNESS-TRIMMINGS.



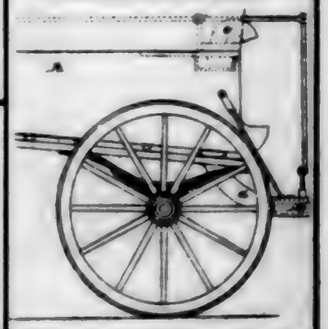
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4,600 DENNIS G. LITTLEFIELD. GRATES.

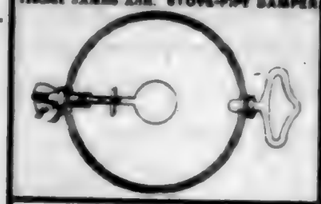


4,601 LEONHARD RODENHAUSEN. STREET-SPRINKLING CARTS.



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119,941 JAMES ASH. STOVE-PIPE DAMPER.



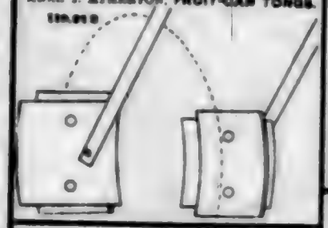
119,946 JAMES M. CARPENTER. MACHINES FOR CUTTING SCREWS.



119,951 HENRY ALLYN ELLIS. HEMMERS FOR SEWING-MACHINES.



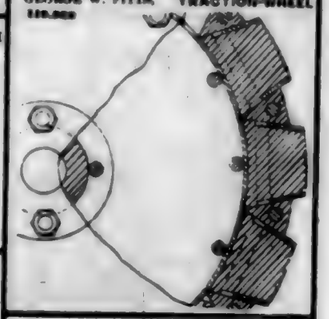
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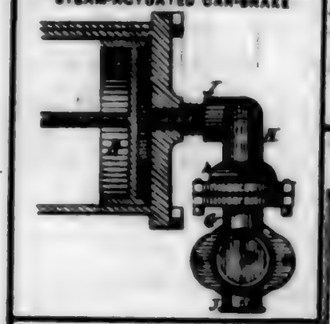
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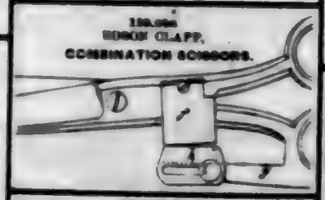
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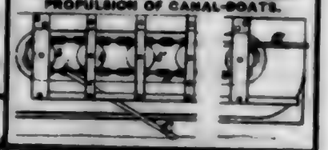
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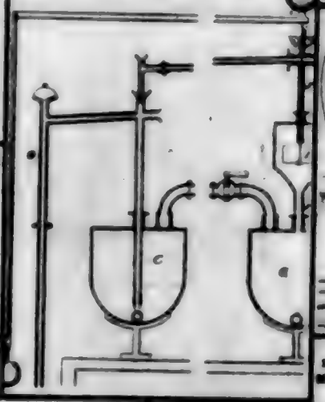
119,950 ROBIN CLAPP. COMBINATION SCISSORS.



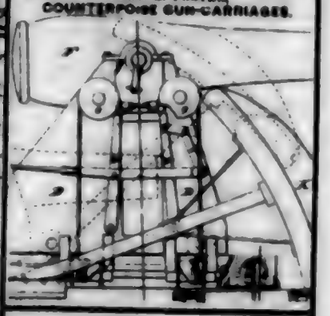
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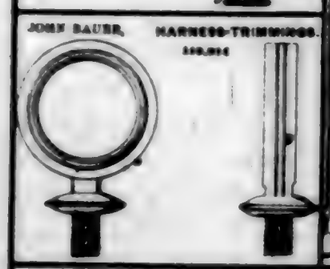
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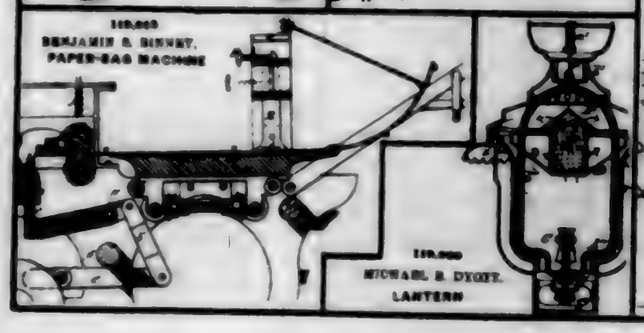
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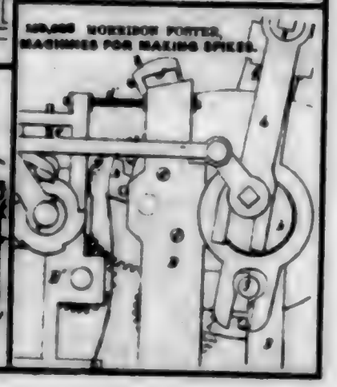
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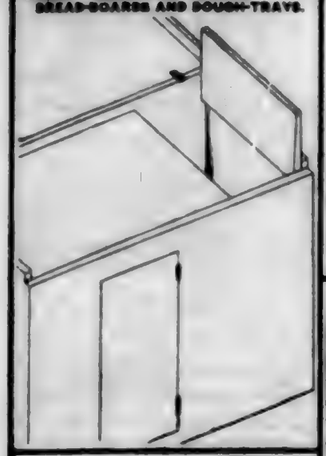


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119,956 EDWARD B. DYOTT. LANTERN

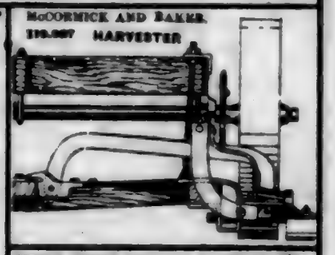
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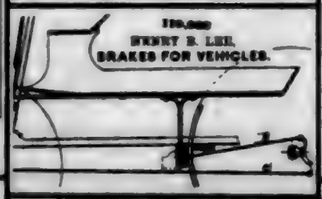
119,927 ELIAS JONES. FIRE-EXTINGUISHER



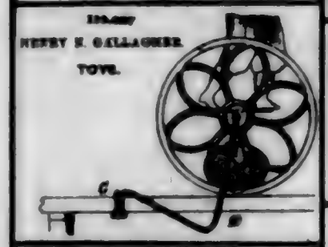
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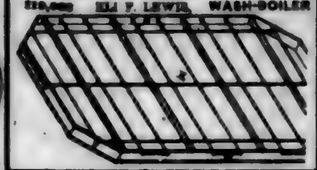
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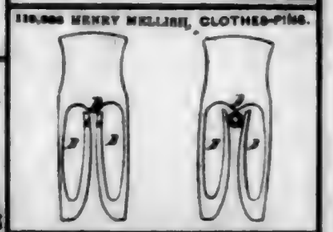
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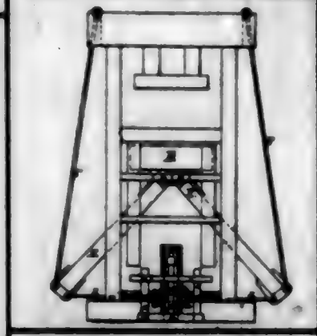
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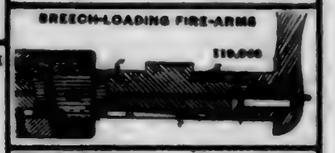
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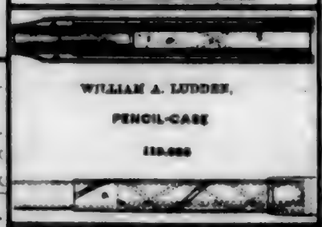
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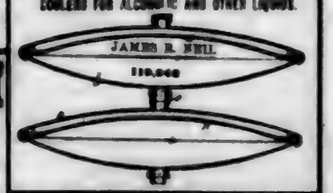
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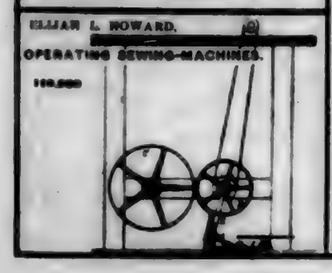
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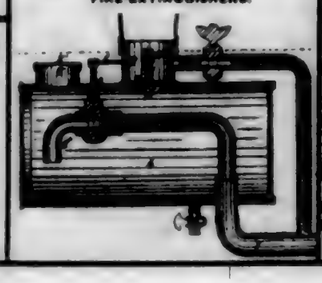
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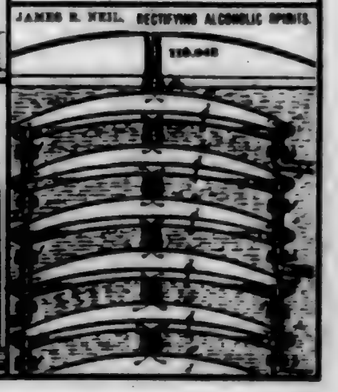
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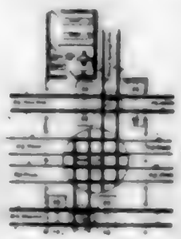
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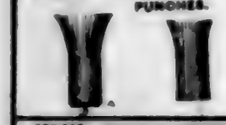
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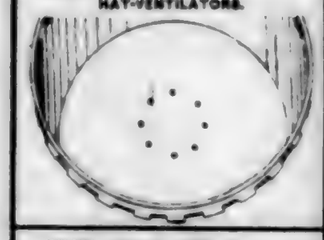
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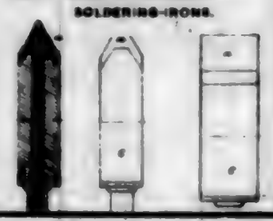
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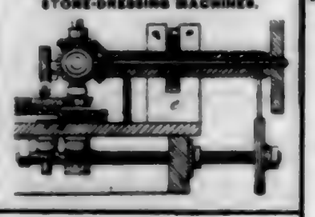
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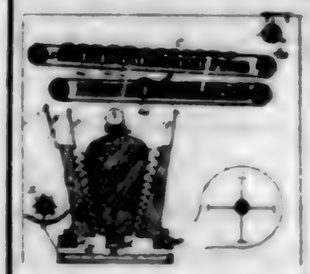
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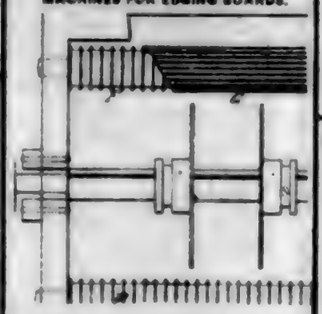
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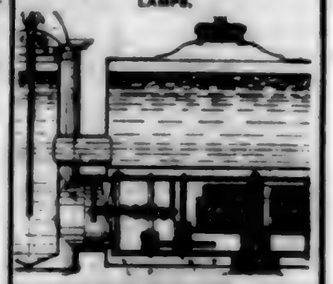
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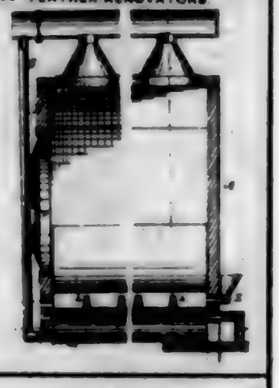
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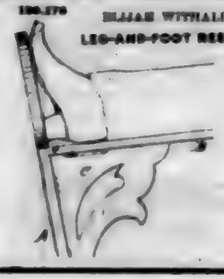
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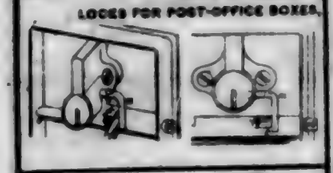
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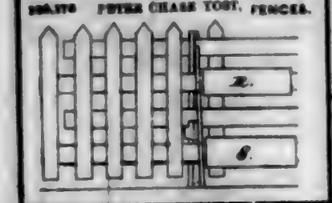
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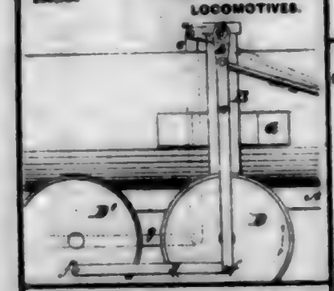
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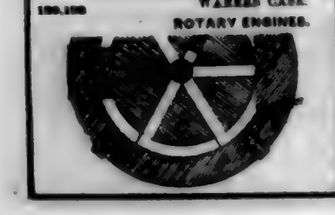
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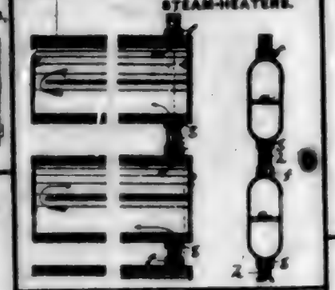
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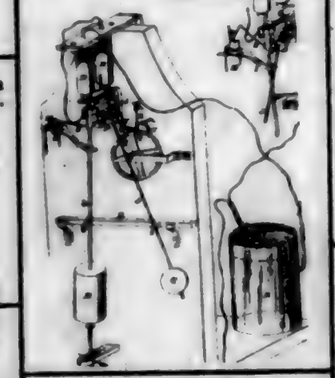
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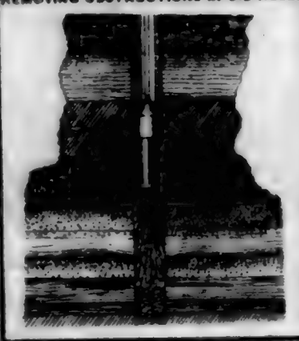
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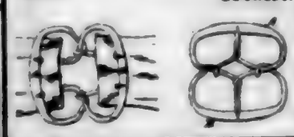
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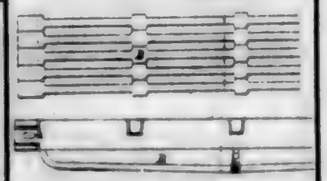
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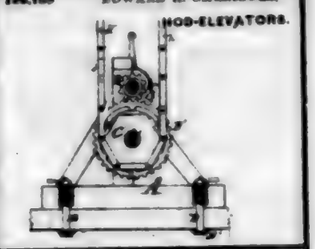
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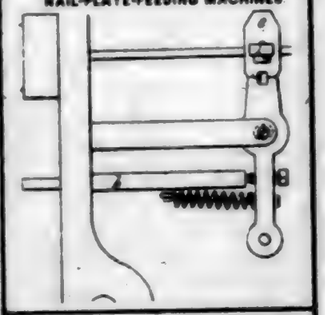
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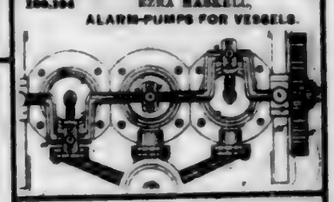
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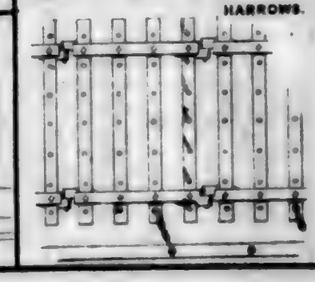
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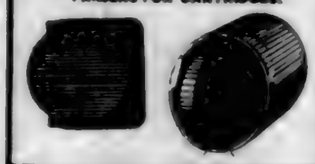
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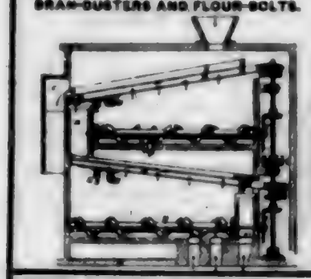
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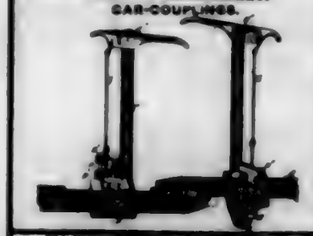
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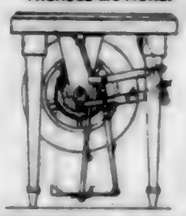
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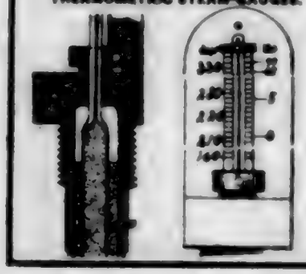
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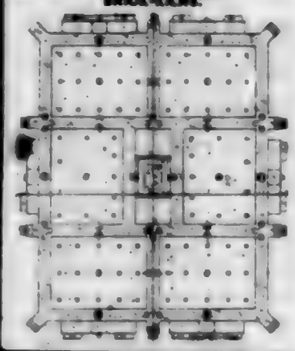
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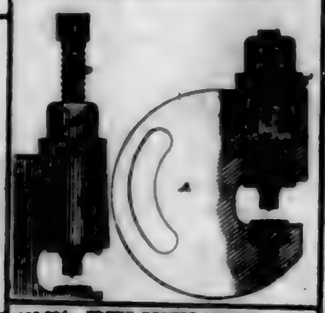
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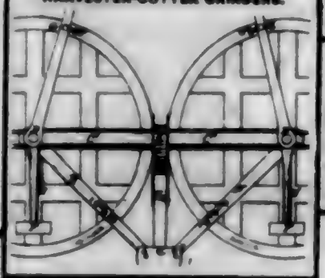
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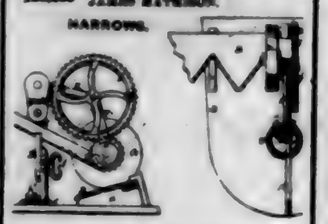
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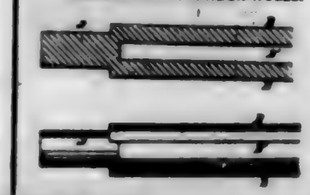
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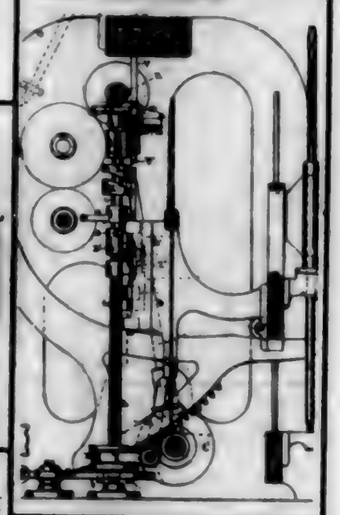
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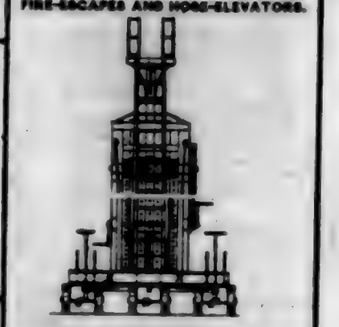
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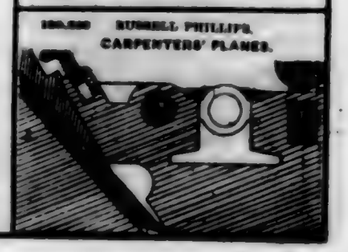
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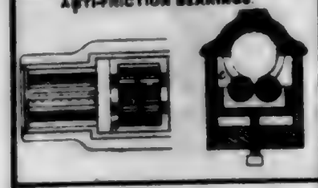
WILLIAM HENRY MORLEY, 120,211 FIRE-ESCAPES AND HOOK-ELEVATORS.



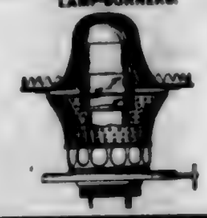
120,210 RUSSELL PHILLIPS, CARPENTERS' PLANES.



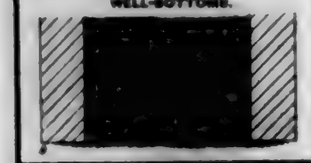
120,212 THOMAS BODDICK, ANTI-FRICTION BEARINGS.



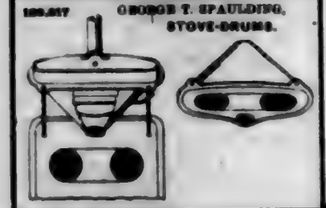
120,214 SAMUEL ROSS, LAMP-BURNERS.



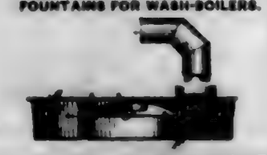
120,215 HENRY SMITH, WELL-BOTTOMS.



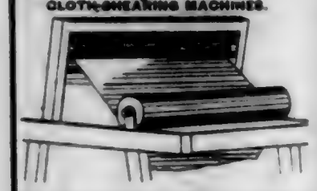
120,216 GEORGE T. SPAULDING, STOVE-DRUMS.



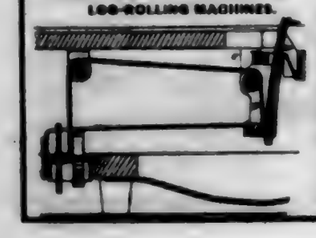
120,217 GEORGE F. STONE, FOUNTAINS FOR WASH-BOILERS.



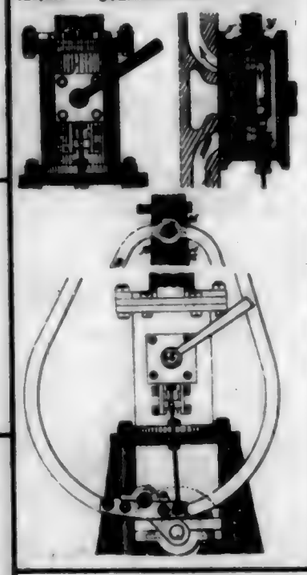
120,218 JOHN A. THURSTON, CLOTH-SHEARING MACHINES.



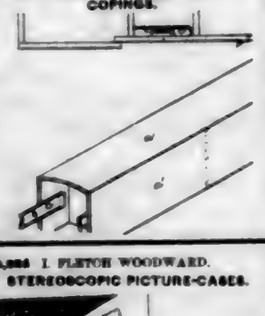
120,219 JOHN TORRENT, LOG-ROLLING MACHINES.



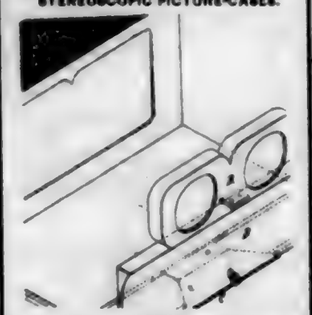
120,220 SAMUEL VAN ENOS, STEAM-ENGINES.



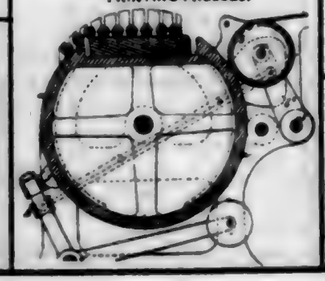
120,221 CYPRIAN WILCOX, COPINGS.



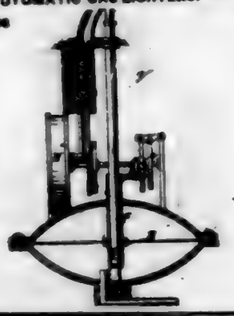
120,222 I. FLETCH WOODWARD, STEREOSCOPIC PICTURE-CASES.



120,223 JOHN B. ADT, PRINTING-PRESSES.



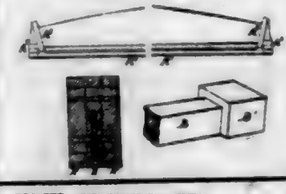
ALMON H. ALLEN AND RODNEY H. DEWEY, AUTOMATIC GAS-LIGHTERS.



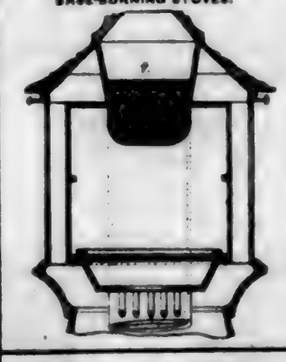
120,224 HENRY J. ASTHALTER, PAPER-FILES.



120,225 STEPHANIAH S. AYRES, GIRDERS.



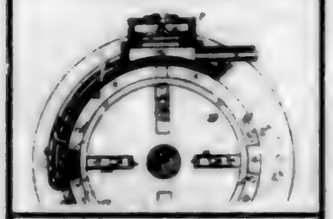
120,226 RODMAN BACKUS, BASE-BURNING STOVES.



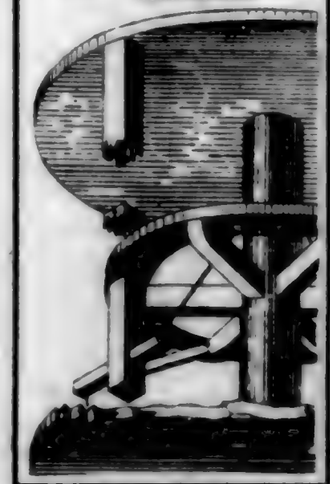
120,227 JOSEPH C. BARLOW, SEED-DROPPERS.



120,231 JOHN W. BARNIGER. ROTARY ENGINES.



120,232 SANFORD BARKER. HORSE-POWERS.



120,233 EMILIE A. BEARDSLEY. HEATER AND STAND FOR TABLE PURPOSES.



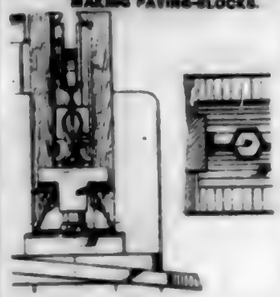
120,234 SAMUEL L. BLIGH. TABLE ATTACHMENTS FOR CHAIRS.



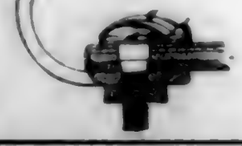
120,235 SAMUEL B. BRITTAN. CONCRETE AND STONE PAVEMENTS



120,236 SAMUEL WALLACE BROOKS. MAKING PAVING-BLOCKS.



120,237 HERE L. BUDD. CHECK-REIN FASTENERS.



120,238 HERE L. BUDD. CHECK-REIN FASTENERS.



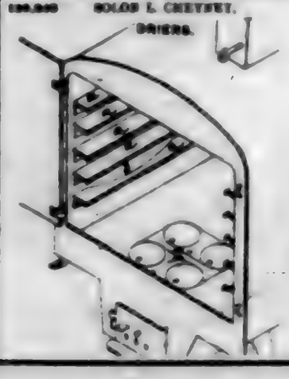
120,239 NICHOLAS A. BUHLE. CIGAR-CLAMPS.



120,240 REBA E. CHESNEY. SEED-PLANTERS.



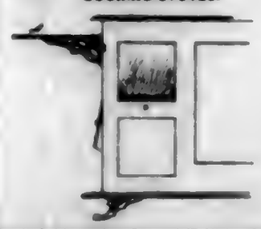
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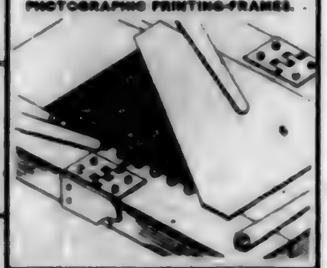
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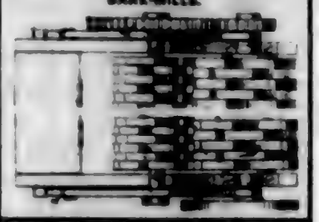
120,243 JAMES H. CODDING. COOKING-STOVES.



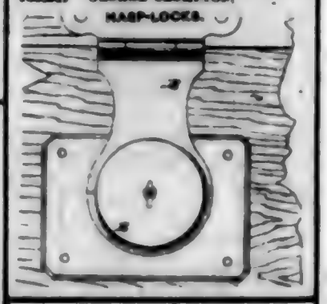
120,244 JOHN GEORGE COFFIN. PHOTOGRAPHIC PRINTING-FRAMES.



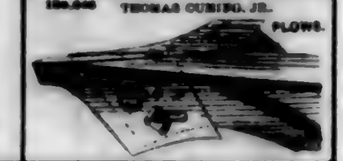
120,245 OWEN COOGAN. BARK-MILLS.



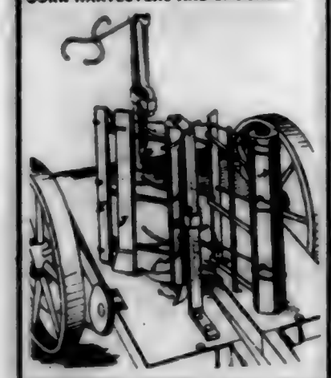
120,246 GEORGE CROMPTON. HASP-LOCKS.



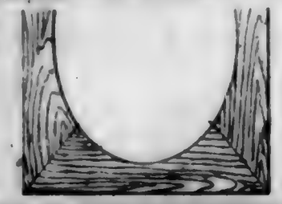
120,247 THOMAS CUNIFF, JR. PLOWS.



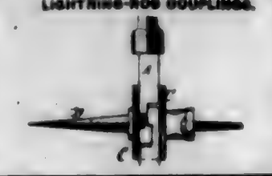
120,249 ELIJAH CULP. CORN-HARVESTERS AND SHOCKERS.



120,250 HARRISON W. CURTIS. WOODEN MATS FOR PICTURE-FRAMES.



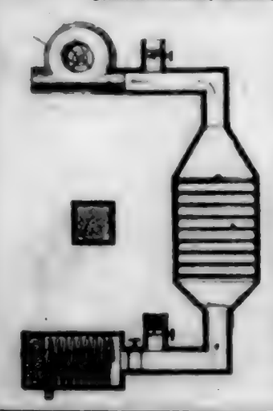
120,251 DAVID W. DEBOOBY. LIGHTNING-ROD COUPLINGS.



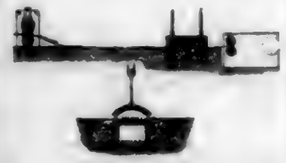
120,252 LEWIS ELLIOTT, JR. INDIA-RUBBER SHOES.



120,253 NEHEMIAH ENDEMANN. DRYING FRUITS, MEATS.



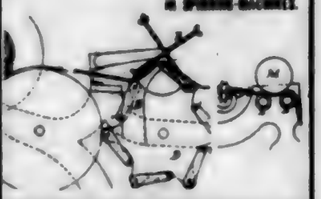
120,254 DAVID EYBON FURNACES FOR THE MANUFACTURE OF SPIKES.



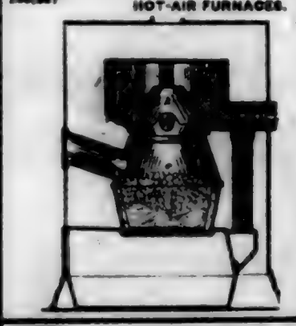
120,255 LUTHER W. FELT. MACHINES FOR SPINNING WOOL.



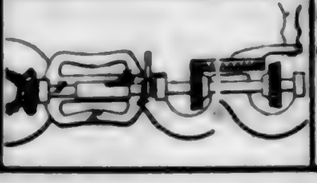
120,256 LUTHER W. FELT. MECHANISM FOR DELIVERING ROVING IN SPINNING-MACHINES.



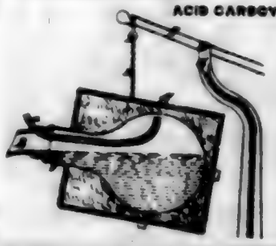
120,257 REUBEN R. FINCH. HOT-AIR FURNACES.



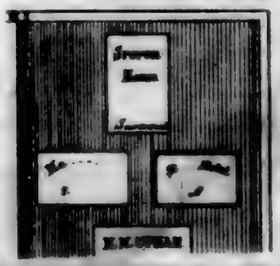
120,258 HENRY C. FISK. GRINDERS FOR HARVESTER-CUTTERS.



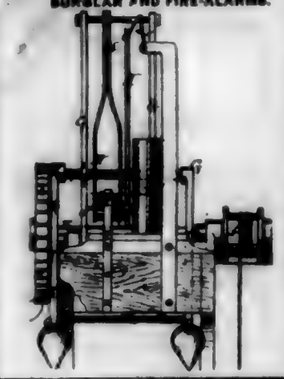
120,259 WILLIAM GEE. APPARATUS FOR DISCHARGING ACID CARBOYS.



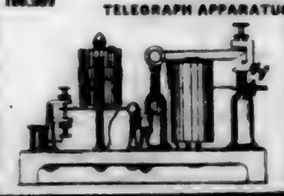
120,260 GEORGE W. HAWES. ADVERTISING-ALBUMS.



120,261 LOUIS GIEBRICH. BURGLAR AND FIRE-ALARMS.



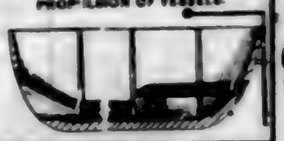
120,262 WEBSTER GILLETT. TELEGRAPH APPARATUS.



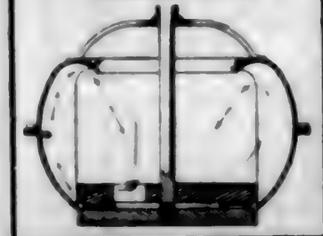
120,263 GEORGE W. GLASS. OIL-TANKS.



120,264 JOSEPH S. GODFREY.
PROPULSION OF VESSELS.



120,265 SIMEON L. GOULD.
PAPER-PULP ENGINES.



120,266 JOHN J. GRANT.
DIES FOR CUTTING SCREW-THREADS.



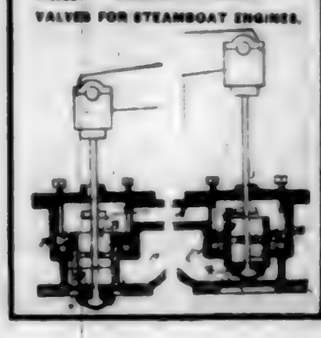
120,267 JOHN GROVES.
WINDOW-SASHES.



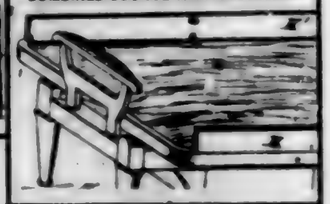
HERMANN A. GUNTHER.
120,268 PAVEMENTS.



120,269 ANDREW M. HALEY.
VALVES FOR STEAMBOAT ENGINES.



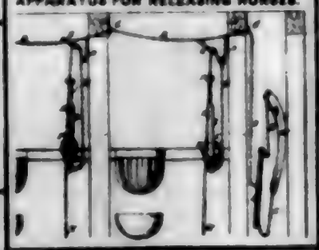
120,270 JOHN C. HALL.
COMBINED LOUNGE AND BEDSTEAD.



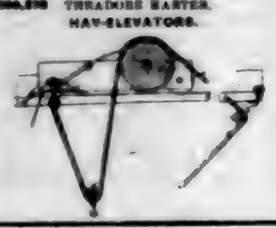
120,271 JAMES W. HAMPTON.
BED-BOTTOMS.



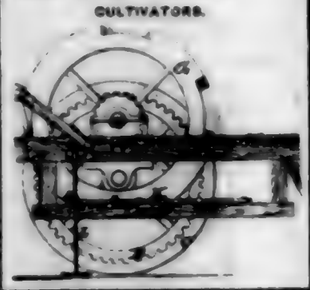
120,272 JAMES HARRISON.
APPARATUS FOR RELEASING HORSES.



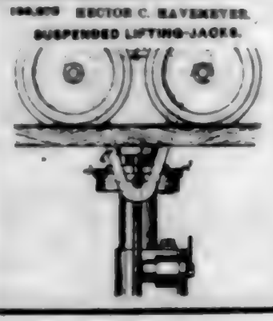
120,273 THEODORE HARTER.
HAY-ELEVATORS.



120,274 JULIUS W. HATCHER.
CULTIVATORS.



120,275 HECTOR C. HAVEMEYER.
SUSPENDED LIFTING-JACKS.



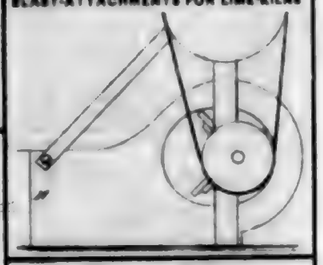
120,276 DAVID L. HAWKINS.
WATER-CLOSET SEATS.



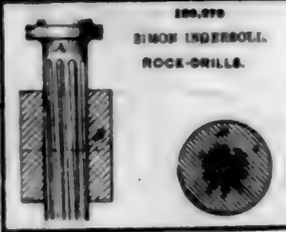
120,277 JAMES G. HENVEY.
SHUTTLES FOR SEWING-MACHINES.



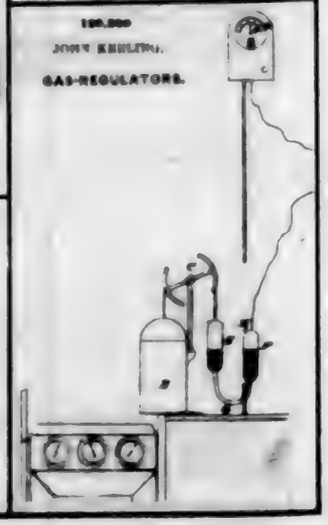
120,278 WILLIAM HOLLENBAUGH.
BLAST-ATTACHMENTS FOR LIME-KILNS



120,279
SIMON INGERSOLL.
ROCK-DRILLS.



120,280
JOHN KELLING.
GAS-REGULATORS.



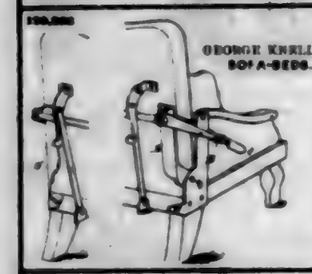
120,281 LESTER BRADNER KNIGHT.
SHUTTER-WORKERS.



LANCELOT KIRKUP.
120,282 BRIDGES.



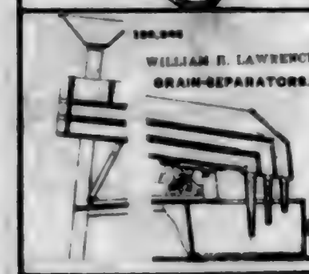
120,283 GEORGE KNELL.
SOFA-BEDS.



JACOB LAIB AND JACOB F. HAWKELL.
120,284 TOY-GUNS.



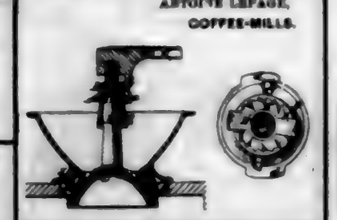
120,285 WILLIAM B. LAWRENCE.
GRAIN-SEPARATORS.



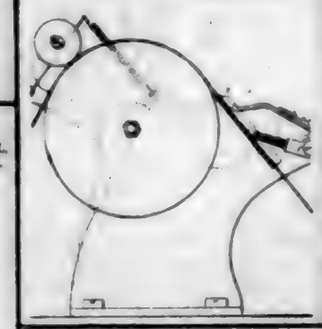
120,286 GEORGE LEACH.
WASHING-MACHINES.



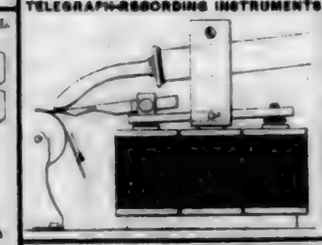
120,287 ANTOINE LEPAGE.
COFFEE-MILLS.



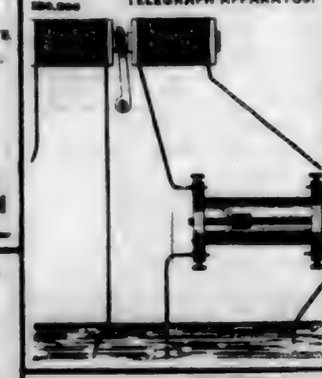
120,288 GEORGE LITTLE.
TELEGRAPHIC TRANSMITTERS.



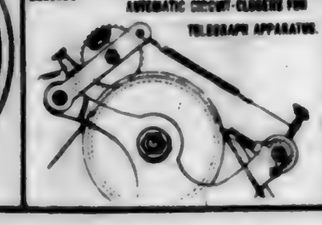
120,289 GEORGE LITTLE.
TELEGRAPH-RECORDING INSTRUMENTS



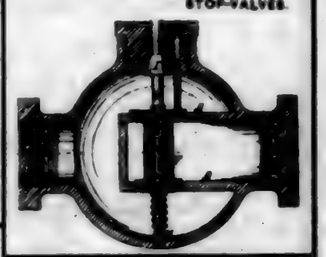
GEORGE LITTLE.
120,290 TELEGRAPH APPARATUS.



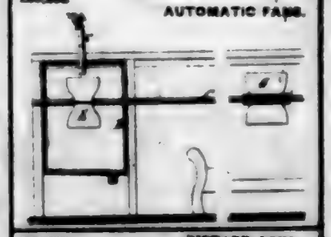
120,291 GEORGE LITTLE.
AUTOMATIC CIRCUIT-CLOSERS FOR TELEGRAPH APPARATUS.



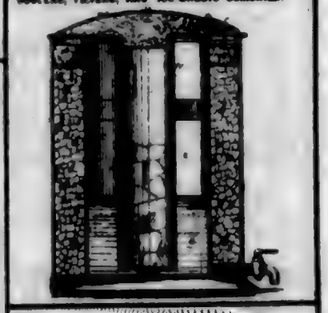
120,292 FRED. D. LIVINGSTON.
STOP-VALVES.



120,293 MARTIN LOCHNER.
AUTOMATIC FANS.



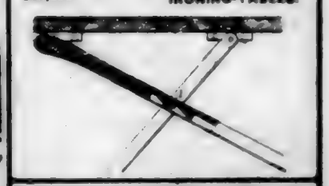
120,294 RICHARD LORD.
COOLERS, FILTERS, AND ICE-CHESTS COMBINED.



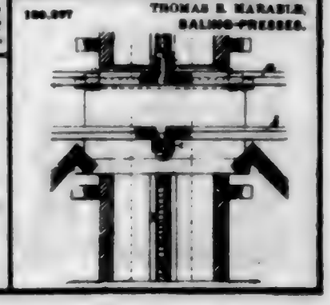
JOHN MAITLAND.
120,295 RAILWAY RAILS.



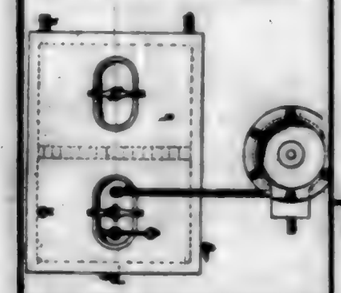
120,296 JAMES H. MALLORY.
IRONING-TABLES.



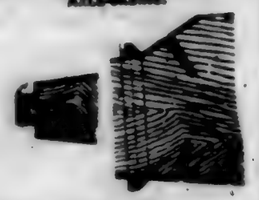
120,297 THOMAS B. MARABLE.
BALING-PRESSES.



120,298 ROBERT HUDDS MACKRAFT, STEAM AND OTHER ENGINES.



120,299 LORENZO MATHEW, AXLE-SKEINS.



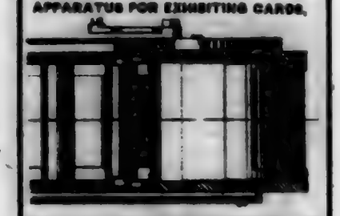
120,300 WILLIAM A. MIDDLETON, FENCE-POSTS.



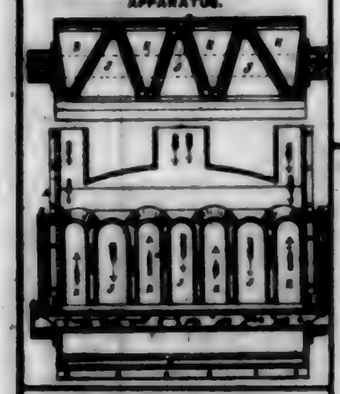
120,301 THOMAS D. McBRIDE, WRENCHES.



120,302 ISAAC H. MILLER, APPARATUS FOR EXHIBITING CARDS.



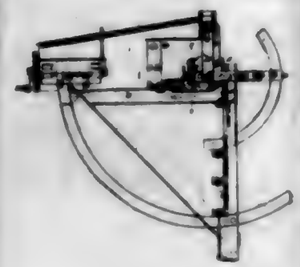
120,303 GEORGE MARLOW, GAS-AND-SMOKE-CONSUMING APPARATUS.



120,304 THOMAS W. MILLER, WASHING-MACHINES.



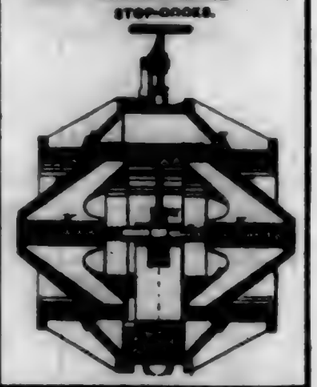
120,305 HIRAM McDONALD, WOOD-BENDING MACHINES.



120,306 CHRISTOPHER C. MARSH, WASH-BASINS.



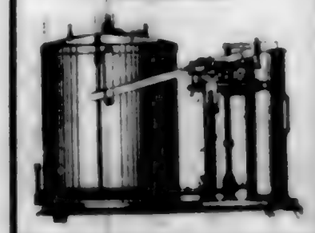
120,307 WERNARD MOLLER, STOP-COCKS.



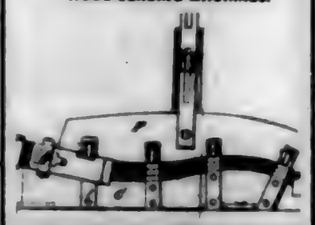
120,308 JOHN MASON, SIDING-GAUGES.



120,309 HIRAM S. MAXIM, GAS-MACHINES.



120,310 HIRAM McDONALD, WOOD-BENDING MACHINES.



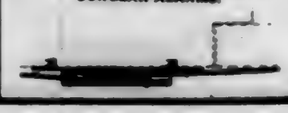
120,311 KEESY EAGLE, SHIFTING-SEATS FOR VEHICLES.



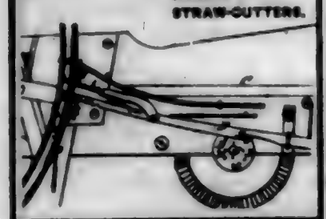
120,312 MERRIAM AND DISTRICE, LIME-KILNS.



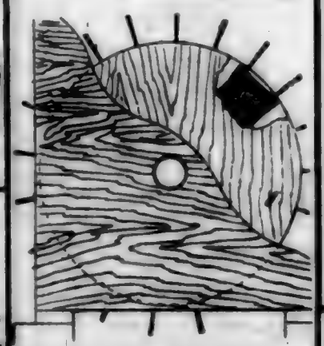
120,313 ROBERT WILLIAM NEWBERY, BURGLAR-ALARMS.



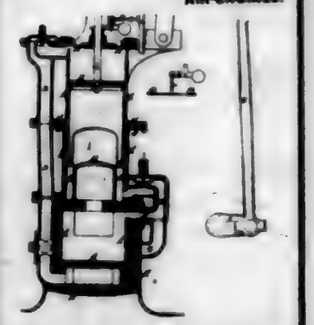
120,314 JOHN E. O'NEIL, STRAW-CUTTERS.



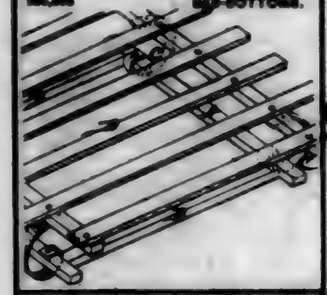
120,315 ARTHUR P. PETROUX, CLOTH-STRIP BRISTLES.



120,316 ALEXANDER E. MUDD, AIR-ENGINES.



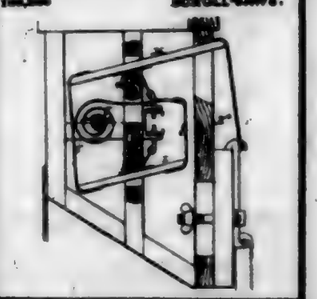
120,317 OTIS S. CROCKER, BED-BOTTOMS.



120,318 JOHN PHILLIPS, MACHINES FOR BENDING WOOD.



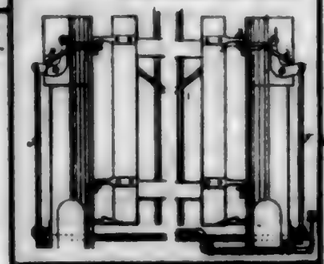
120,319 ISAAC B. RITTER, SCROLL-SAWS.



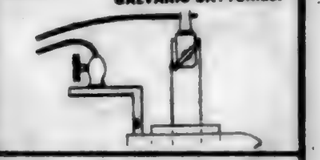
120,320 JOSEPH PARADIS, BRAKES FOR RAILWAY-CARS.



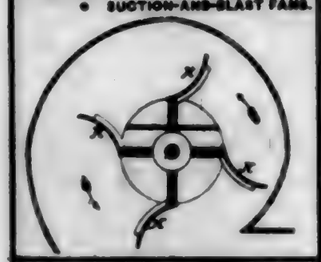
120,321 WILLIAM H. PHILLIPS, SELF-OPERATING GATES.



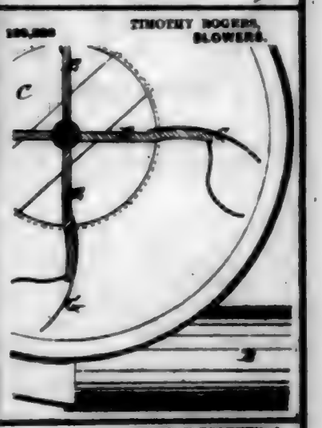
120,322 JOSEPH A. ROBBINS, GALVANIC BATTERIES.



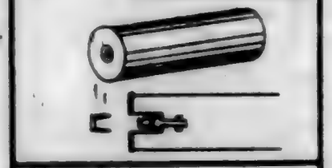
120,323 CHESTER B. PATTERSON, SUCTION-AND-BLAST FANS.



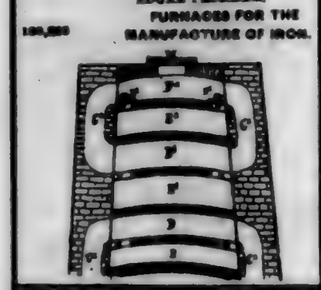
120,324 TIMOTHY ROGERS, BLOWERS.



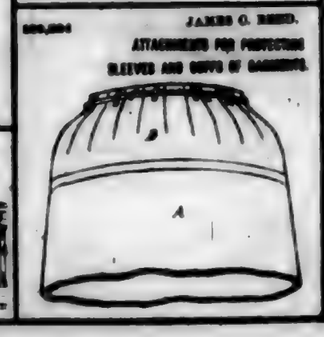
120,325 GEORGE R. PIERCE, METALLIC CARTRIDGES.



120,326 EDGAR PECKHAM, FURNACES FOR THE MANUFACTURE OF IRON.



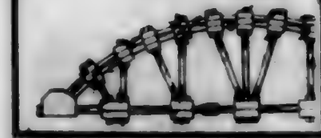
120,327 JAMES G. REED, ATTACHMENTS FOR PROTECTING SLEEVES AND CUFFS OF GARMENTS.



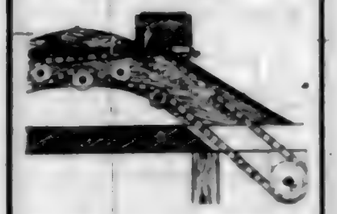
120,328 GUSTAV ROSENTHAL, GAS-FITTINGS.



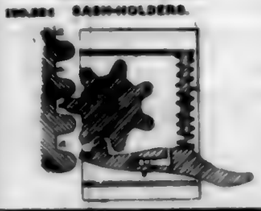
120,329 OLIVER H. PERRY AND WILLIAM H. ALLEN, BRIDGES.



120,332 JOHN SCHLEY. STREET CROSSINGS.



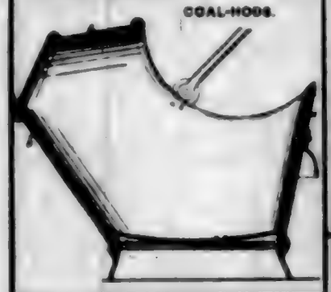
120,333 SYLVANUS H. SHAW. SASH-HOLDERS.



120,334 SIMON H. SIMON. REPLACEABLE PIVOTS FOR WATCHES.



120,335 CHARLES SMITH. COAL-HODS.



120,336 CYRUS SMITH. LUBRICATING CAR-WHEELS.



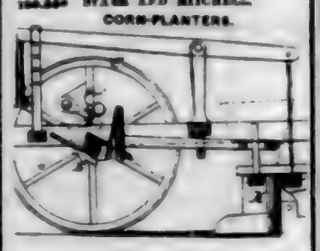
120,337 METALLIC CARTRIDGES. WILLIAM S. SMART.



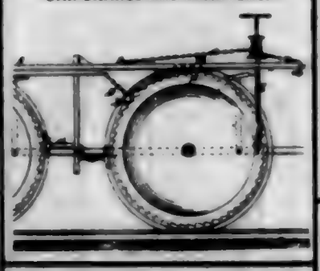
120,338 CHARLES F. SPENCER. DREDGE-BOXES.



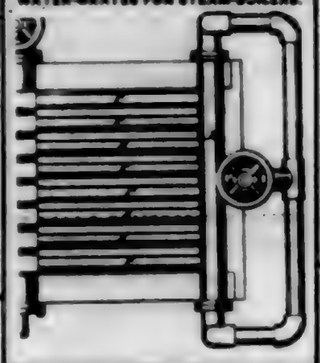
120,339 STARK AND MITCHELL. CORN-PLANTERS.



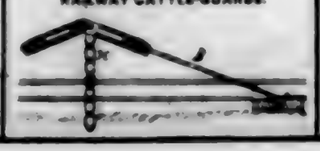
120,340 WILLIAM M. STARR. CAR-BRAKES AND STARTERS.



120,341 THOMAS STONE. WATER-GRATES FOR STEAM-BOILERS.



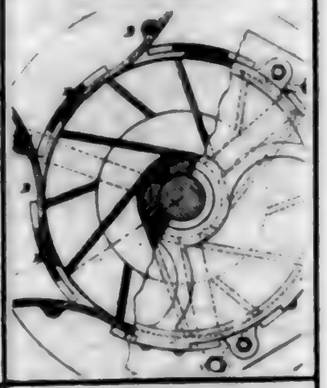
120,342 SAMUEL STRAUB. RAILWAY CATTLE-GUARDS.



120,343 CHARLES RICHARD STUART. SINGLE HARNESS.



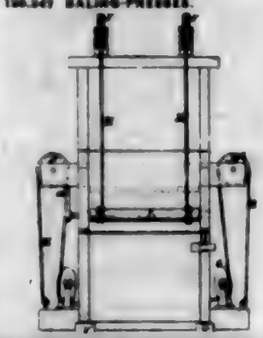
120,344 SAMUEL D. TAYLOR. WATER-WHEELS.



WILLIAM H. TOWERS. 120,345 WASH-BOARDS.



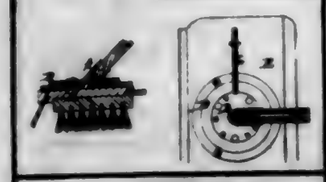
120,346 JUSTUS D. TOWNER AND J. HARRIS. BALING-PRESSES.



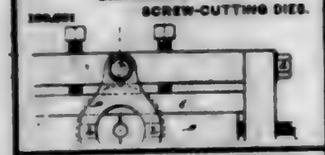
120,347 HERBERT W. C. TWEDDLE. REFINING HYDROCARBON OILS.



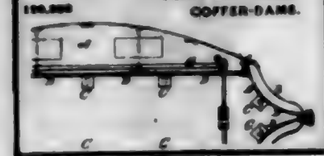
120,350 JOHN H. VALLEY AND JOHN A. STETSON. SCRUBBING-BRUSHES.



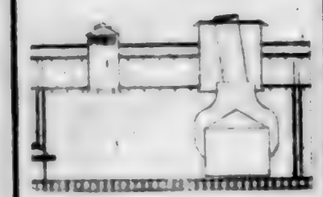
120,351 BENJAMIN L. WALKER. SCREW-CUTTING DIES.



120,352 JOHN E. WALSH. COFFER-DAMS.



120,353 WILLIAM GRAY WARDEN. VESSELS FOR CARRYING LIQUID CARGOES.



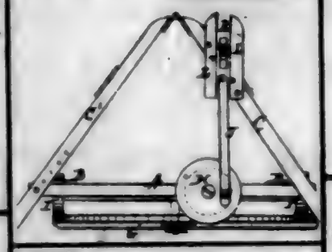
120,354 JACOB W. WEBB. COMBINED SEEDERS AND CULTIVATORS.



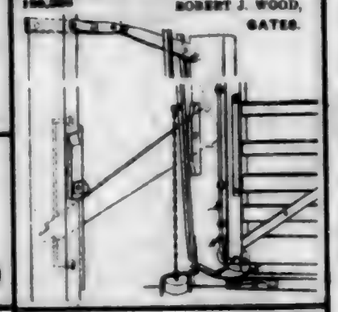
120,355 CALEB WHEELER. HORSE-COLLAR FASTENINGS.



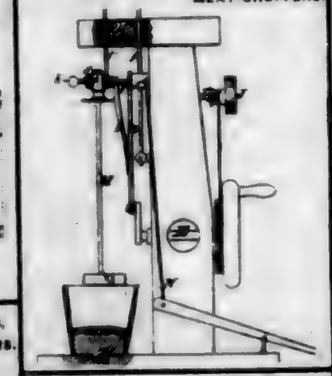
4,597 MYRON G. WOOD. ANIMAL-POWERS.



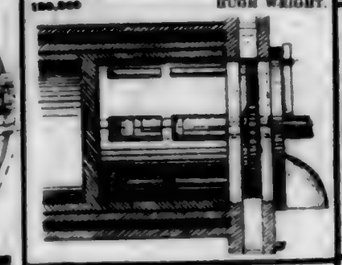
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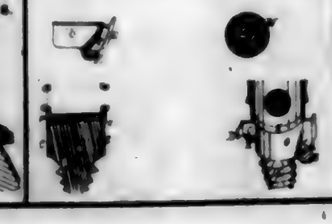
4,598 NATHANIEL TRUE WORTHLEY. MEAT-CHOPPERS.



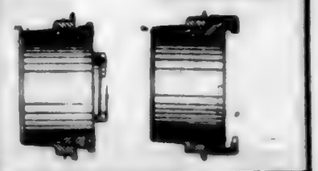
ROTARY STEAM-VALVES AND CUT-OFFS. 120,357 HUGH WRIGHT.



4,604 SOLOMON L. BIGNALL. TUBE-WELLS.



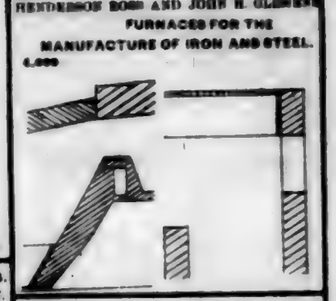
4,606 JAMES C. COOKE. HOSE-COUPLINGS.



4,607 THEODORE KRAUSCH. COOLING AND VENTILATING BUILDINGS.



HENDERSON BOBB AND JOHN H. GLENNEY. FURNACES FOR THE MANUFACTURE OF IRON AND STEEL. 4,609



4,610 WILLIAM S. WEIR, JR. CULTIVATORS.

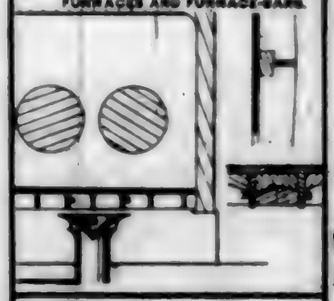


4,611 SAMUEL WHITAKER. CASES FOR RIBBONS, LACES, &c.

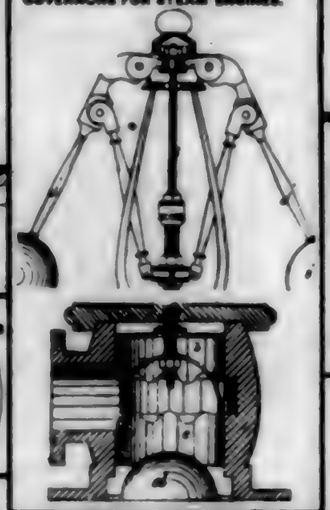


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
OCTOBER 31, 1871.

120,361 EMMET R. AUSTIN.
FURNACES AND FURNACE-GRATE.



120,366 CHARLES P. BOWEN.
GOVERNORS FOR STEAM ENGINES.



120,371 NATHANIEL T. EDSON.
PROPULSION OF CANAL-BOATS.



120,367 MILLS W. BABBS.
ATTACHING KNOBS TO THEIR SPINDLES



120,370 FREDERICK A. FARLEY.
WASHING-MACHINE



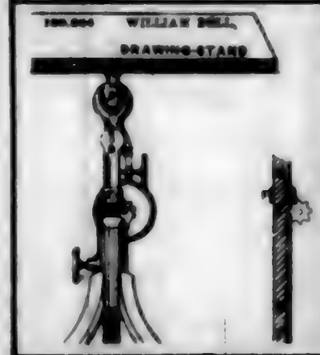
WILLIAM H. H. SEAL.
BOTTLE-FASTENING
120,372



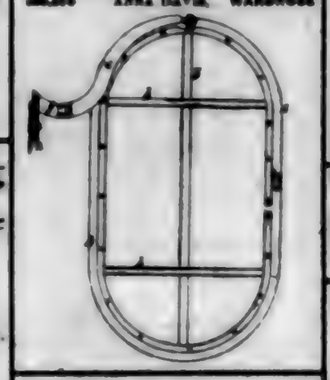
120,368 WILLIAM J. BRADSHAW.
EARTH-CLOSET



120,369 WILLIAM BELL.
DRAWING-STAND



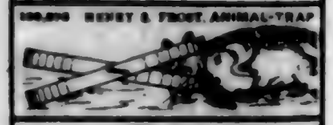
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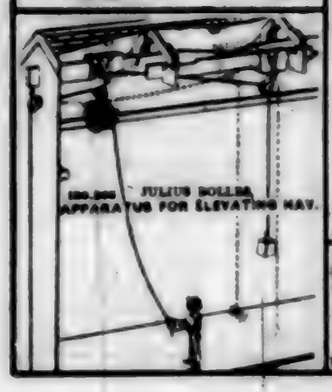
WILLIAM PARSON. 120,374 SOFA-BEDSTEAD



120,375 HENRY S. FROST. ANIMAL-TRAP



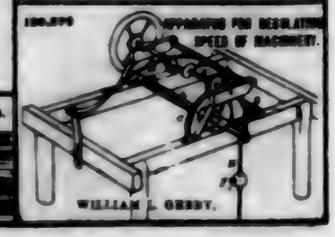
120,376 JULIUS ROLLER.
APPARATUS FOR ELEVATING HAY.



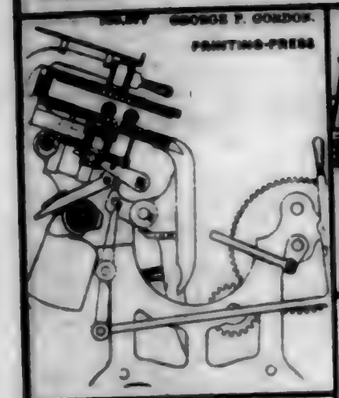
JOHN EMELL. SHAFT-COUPLINGS.
120,377



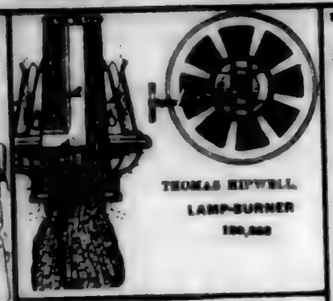
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WILLIAM L. GREBY.



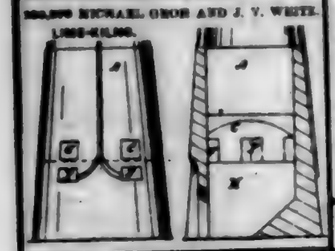
120,377 GEORGE P. GORDON.
PRINTING-PRESS



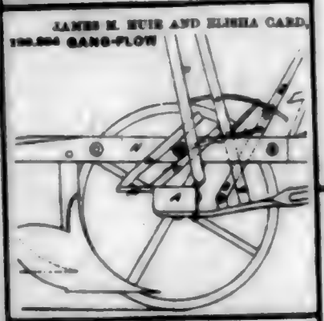
THOMAS HIPWELL.
LAMP-BURNER
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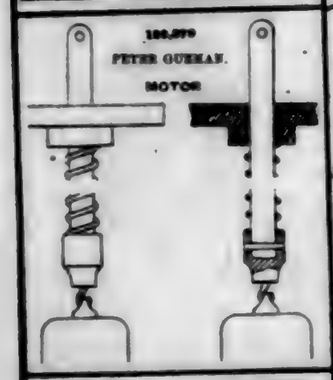
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LOOM-KILNS.



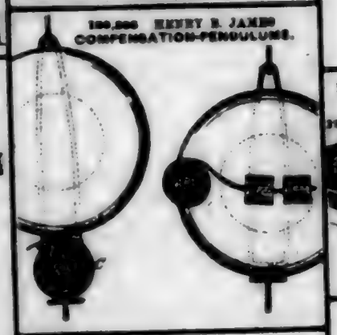
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120,384 GANG-PLOW



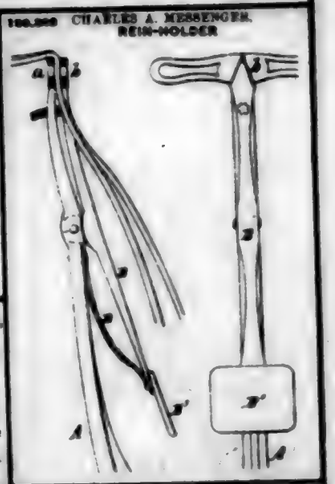
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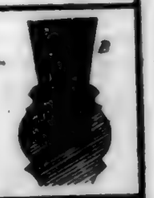
120,380 HENRY S. JAMES
COMPENSATION-PENDULUMS.



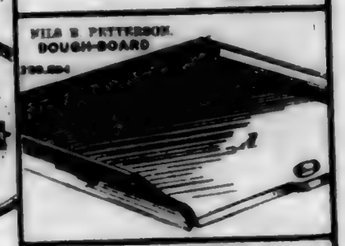
120,385 CHARLES A. MESSENGER.
REIN-HOLDER



120,386
WILLIAM H. MILES, JR.
LATHER-BRUSH



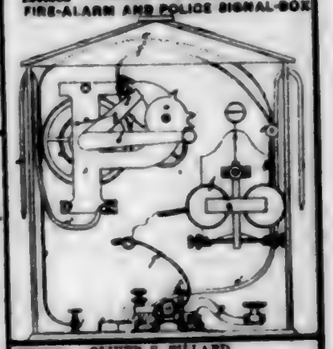
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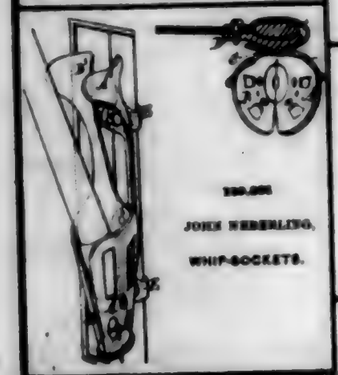
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SNAP-HOOK
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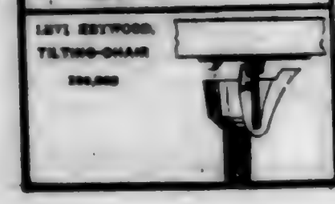
120,389 WILLIAM J. PHILAPS.
FIRE-ALARM AND POLICE SIGNAL-BOX



120,390 JOHN WEBERLING.
WHIP-SOCKETS.



120,391 LEVI KENYON.
TILTING-CHAIR



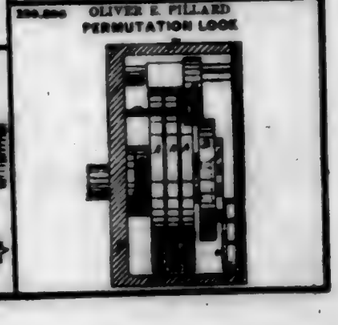
120,392 LAMB AND LAUSTER.
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120,394 OLIVER E. PILLARD
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120,368 D. BRAINERD RAY. TYPE SETTING-AND-DISTRIBUTING MACHINE

120,369 EDWIN P. SMITH. LIFTING-JACK

EBENEZER WILCOX. WELDING-HOOK

120,370 WILLIAM C. WREN AND GEORGE W. WREN. MANUFACTURE OF ILLUMINATING GAS FROM PETROLEUM

120,371 ARNOTT O. BUSH. BURGLAR-ALARM

120,372 JOHN ABBOTT. APPARATUS FOR MATURING RAW COFFEE

120,373 GEORGE V. ATWOOD. ROTARY STEAM-ENGINE

120,374 WILLIAM THOMSON. INSTRUMENTS FOR MEASURING POWDERS.

120,375 BLUMENSTEIN AND KLEIN. GRAPE-CRUSHER

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120,377 PATRICK BREEN. TILT-HAMMER

120,378 GEORGE W. WALKER. HOT-AIR FURNACE

120,379 OTHNIEL BROWN. HARNESS-BUCKLE

120,380 HENRY C. SMITH. TREADLES FOR SEWING-MACHINES.

120,381 JOHN D. WILDER. HARVESTER

120,382 JOHN P. BRUCE. PROPULSION OF VESSELS

120,383 GEORGE P. STETSON. METALLIC CARTRIDGES.

120,415 CARL GUSTAV BUTTKERIT. BELL-PIANO

120,416 THOMAS DONARY. RAILWAY RAIL-CHAIR

120,417 JOHN W. H. DOEBLER. ROCKING-CHAIR

120,418 JOHN G. COOLIDGE. GAS-REGULATOR

120,419 JOSEPH CRAGG. COFFEE-POT

120,420 NATHAN EARLYWINE. WALKING-PLANTER

120,421 THOMAS N. EDGAR. CORN-PLANTER

120,422 JOSEPH W. CRIMLIN. AXLES FOR VEHICLES.

120,423 JAMES M. CROSSMAN. FASTENERS FOR SASHES.

120,424 OLIVER FERRIS. COFFEE-POT STAND

120,425 JOHN W. DAVIS AND JAMES VERMILLION. FIRE-ESCAPE

120,426 NEWTON C. FRISCK AND SOLOMON STROCK. WOOD-PLANING MACHINE

120,427 MICHAEL GAFFNEY. STENCH-TRAP

120,428 JOHN OATES. SPARK-ARRESTERS FOR STEAM-BOILERS

120,429 SAMUEL N. GOODALE. OPERATING THE BRAKES OF RAILROAD CARS.

120,430 WILLIAM F. GRASSLER. RAILWAY CAR-COUPLING

120,431 GEORGE S. GRIER. HARVESTER

120,432 JAMES BAIRD HANDYSIDE. RAILWAY-CAR WHEEL

WILLIAM HAWKINS. MILLING-MACHINE

GARRETT Z. HOUSE. COOKING-STOVE

KRONINGER AND KRONINGER. ADJUSTABLE BUGGY-SEATS.

ARTHUR W. LAWTON. HARNESS.

GEORGE W. BEIMER, FRICTION-CLUTCH.

CHARLES A. HOWARD. HORSE HAY-FORK

JAMES LEFERRE AND GEORGE W. SHULTZ. EARTH-PULVERIZERS AND HARROWS.

PHILIP HEWITT. SULKY-CULTIVATOR

ALFRED W. J. MASON. DRIER

HENRY B. HEYL. PAPER-BOX MACHINE

GEORGE H. HUBBARD. SASH FASTENER

KETCHAM AND KETCHAM. DINNER-PAIL

McBETH, BENTEL, MARGEDANT, AND CLIMER. PLANING-MACHINE

ADOLPHUS HOFFSTADT. NECK-TIES.

HIRAM KNIGHT. CLOTHES-DRIER

SAMUEL P. McCOWN. FLY-TRAP

JULIUS HOPKINS NOLEY. BLASTING-PLUG

JOSEPH MELDER. SELF-HEATING SAD-IRONS.

OTHNIEL PRESTON. LIGHTNING-CONDUCTORS.

THOMAS P. SIKE. OYSTER-DREDGE

DANIEL MILLER. CLOTHES-DRIER

WILLIAM H. RODDEN. FORK-TINES.

JAMES HARVEY SMILEY. CHURN-THERMOMETER

JOEL B. MILLER. CIGAR-LIGHTER

EDWARD P. ROGERS. COOKING RANGE

EDWARD W. SMITH. BLIND-STILE BORING-MACHINE

JAMES A. ROSE AND GEORGE J. MASON. SHOES.

JAMES H. NELSON. MACHINES FOR WIRING BLINDS.

AI B. SHAW. TREADLE

LUKE ALBERT SMITH. SOLDERING APPARATUS.

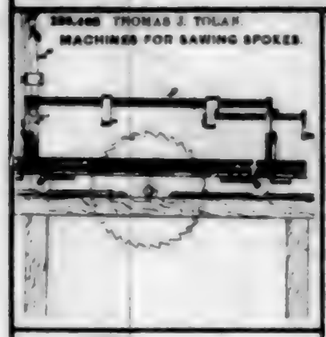
ARCHIBALD A. PORTER. DESKS AND CHAIRS COMBINED.

SOLOMON SIBLEY. SHIRT-BOSOMS.

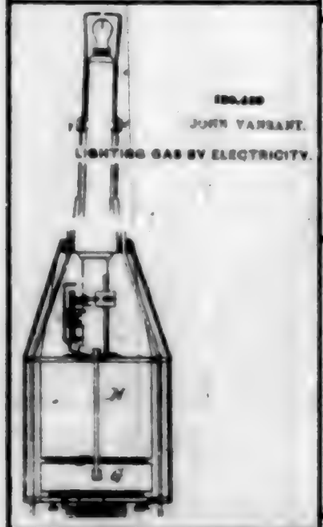
JOHN BLAKE TABB. PRESSING CAST-METALS.

THOMAS W. PORTER. THILL-COUPLINGS.

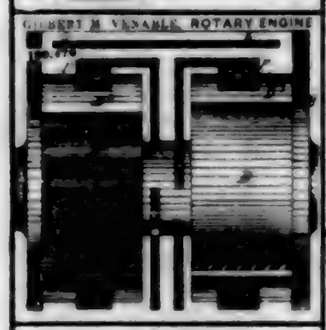
120,468 THOMAS J. TOLAN. MACHINES FOR SAWING SPOKES.



120,469 JOHN VARIANT. LIGHTING GAS BY ELECTRICITY.



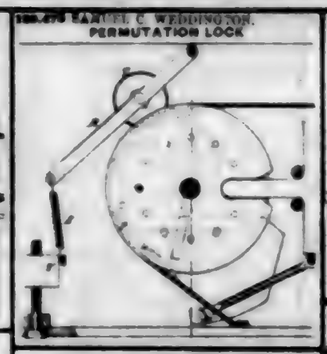
GILBERT M. VENABLE. ROTARY ENGINE



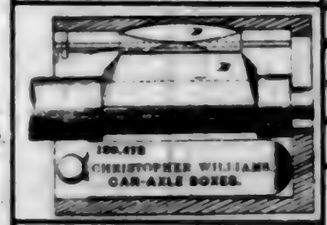
120,471 MARION WAPNE. ADVERTISING MEDIUMS FOR STREET-CARS



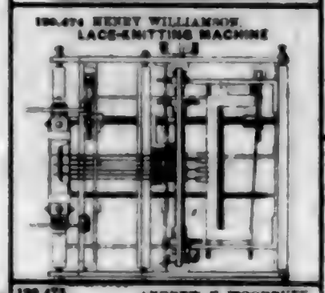
120,472 SAMUEL C. WEDDINGTON. PERMUTATION LOCK.



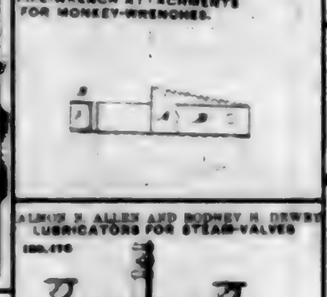
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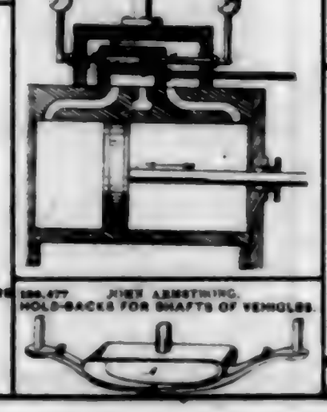
120,474 HENRY WILLIAMSON. LACE-KNITTING MACHINE



120,475 ANDREW E. WOODBURY. PIPE-WRENCH ATTACHMENTS FOR MONKEY-WRENCHES.



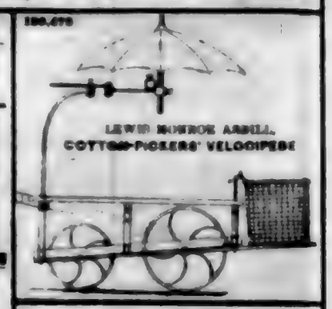
ALMON N. ALLEN AND RODNEY H. DEWEY. LUBRICATORS FOR STEAM-VALVES



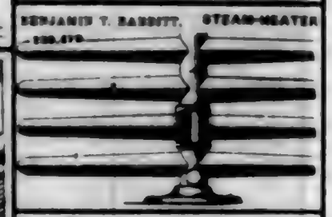
120,477 JOHN ARMSTRONG. HOLD-BACKS FOR SHAFTS OF VEHICLES.



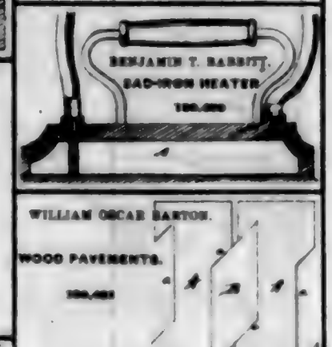
120,478 LEWIS MONROE ARBILL. COTTON-PICKERS' VELOCIPEDE



BENJAMIN T. BABBITT. STEAM-HEATER. 120,479.



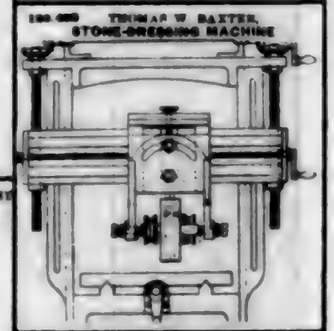
BENJAMIN T. BABBITT. SAD-IRON HEATER. 120,480.



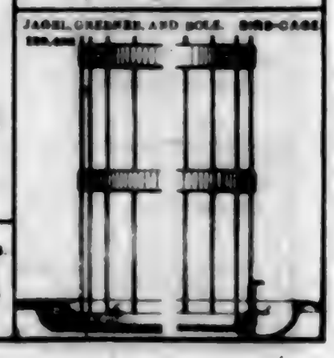
WILLIAM OSCAR BARTON. WOOD PAVEMENTS. 120,481.



THOMAS W. BAXTER. STONE-DRESSING MACHINE. 120,482.



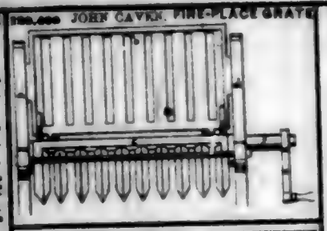
JAGEL, GREBNER, AND BOLZ. BIRD-CAGE. 120,483.



120,484 GEORGE C. BOVEY. GATE.



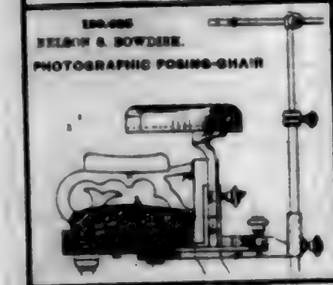
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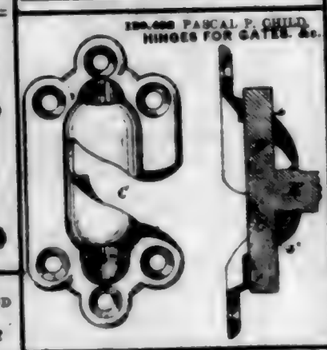
120,486 JOHN CHAPPEL. MILK-REFRIGERATOR.



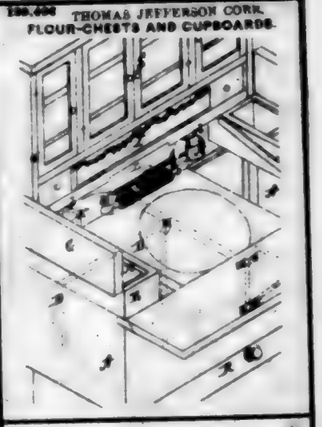
120,487 NELSON A. BOWDEN. PHOTOGRAPHIC POSING-CHAIR.



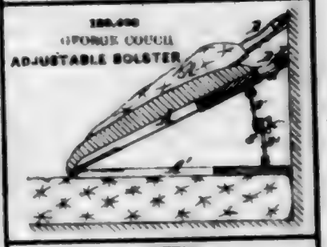
120,488 PASCAL P. CHILD. HINGES FOR GATES, &c.



120,489 THOMAS JEFFERSON CORK. FLOUR-CHESTS AND CUPBOARDS.

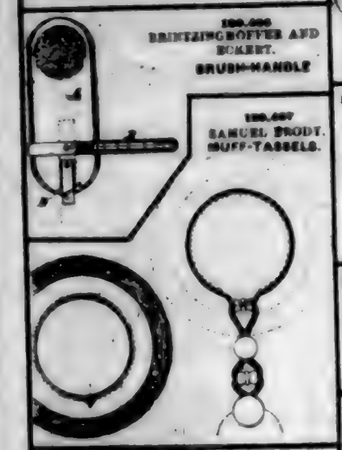


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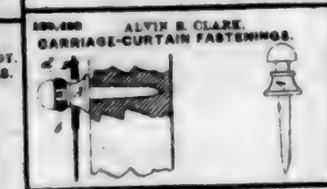


120,491 BRETZINGHOFFER AND ECKERT. BRUSH-HANDLE.

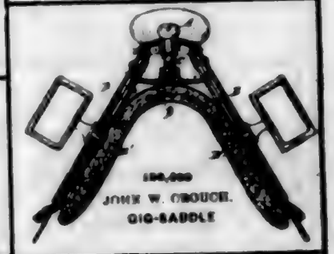
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120,493 ALVIN B. CLARK. CARRIAGE-CURTAIN FASTENINGS.



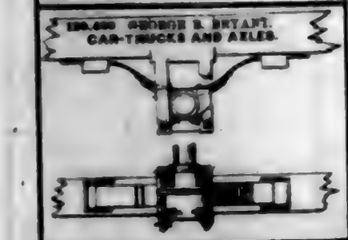
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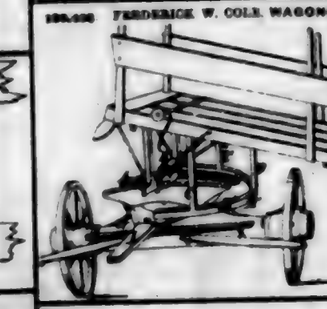
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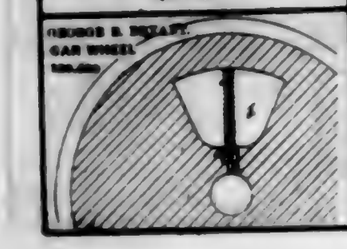
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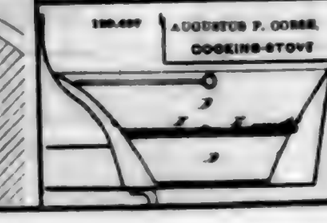
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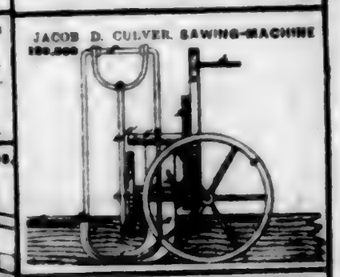
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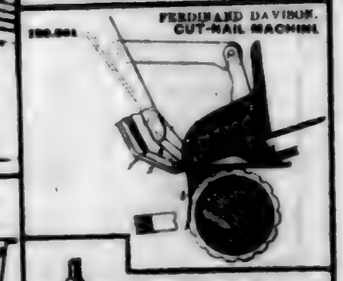
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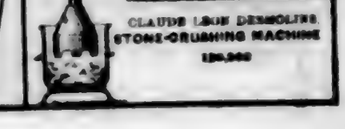
120,500 JACOB D. CULVER. SAWING-MACHINE.



120,501 FERDINAND DAVISON. CUT-NAIL MACHINE.



120,502 CLAUDE LEON DESBOLIES. STONE-CRUSHING MACHINE.



120,504 WILLIAM JAMES DODGE, WASHING-MACHINE

120,511 WILLIAM H. GREENWALT, LIFTING-JACK

120,516 JACOB F. WAYLE, STEAM-BOILERS.

120,506 HENRY DOLBEAR, MILL-STONE DRESSINGS.

120,517 WILLIAM HENRY FOLDING-STEPS FOR VEHICLES.

120,510 LUKE HALE, CLOTHES-WRINGER

120,518 GEORGE HIBBERD, WATER-HEATERS FOR STOVES.

120,504 THOMAS DOHERTY, A PORTABLE FENCE

120,519 HENRY M. HALL, BINDERS FOR SEWING-MACHINES.

120,507 ANDREW WILSON DUBLEY, WALKING-PLANTERS.

120,514 SAMUEL W. HARRIS, SAW-MILL HEAD-BLOCKS.

120,509 ADDISON C. FLETCHER, STEAM-BOILER FLUE-JOINTS.

120,520 WILLIAM H. HARVEY, LUBRICATORS FOR AXLES

120,515 GEORGE HIBBERD, SAFETY-AND-VACUUM VALVES.

120,508 WILLIAM V. GEE, LOOM

120,513 WILLIAM S. HICKS, PEN-AND-PENCIL CASES.

120,512 HITT AND LEWIS, MACHINES FOR UPSETTING TIRES.

120,522 HULBERT AND AUBLE, HOISTING-BUCKET

120,523 CHARLES NOBLE, GRIDIRON

120,524 JOHN A. PRICE, MILK-HOUSE

120,525 DANIEL W. LAPHAM, DRUMMER.

120,526 ALWIN PAYNE, METALLIC CARTRIDGES.

120,527 ALBERT BARNES, MILL-PICKS.

120,528 WILLIAM H. PENROSE, TENTS AND COTS.

120,529 WILLIAM H. LONG, MACHINE'S VISE

120,530 ANTOINE PICCALUGA, MEANS OF CREAMING AND SODA-WATER.

120,531 HORATIO H. MATTHEWS, SYRINGES.

120,532 SAMUEL C. RITTER, TRUSS

120,533 GEORGE PICKERING, TURNING WOOD.

120,534 ANTHONY ROBLOFS, CURTAIN-FIXTURES.

120,535 McBURY AND RYER, RAILWAY-CAR COUPLING

120,536 JOHN POOL, DOOR-CHECKS.

120,537 HENRY H. ROGERS, PURIFYING NAPHTHA AND OTHER HYDROCARBON LIQUIDS

120,538 ROBERT DAVID NAPIER, MACHINERY, BRAKE

120,539 SETHUEL RAPHEL, BRACELET-FASTENINGS.

120,540 ADDISON V. SANFORD, SASH-HOLDER

120,541 HENRY CHARLES F. WEPPF, ALARM-LOCK

120,542 WILLIAM J. YATE, HYDRAULIC ENGINE

120,543 THEODORE R. TIMBY, GUN-CARRIAGES.

120,544 DUNCAN SHAW, SAW-SETS.

120,545 AMBROSE S. THOMPSON, CORN-SHELLER

120,546 JOHN VAN SANTVOORD, BLACKING-BOXES.

120,547 GEORGE S. SMITH, SASH-GALANCES.

120,548 JAMES THOMPSON, TABLES OR STANDS

120,549 CHARLES TIBY, BATHING APPARATUS.

120,550 JAMES W. MINEY, COTTON-SEED PLANTER

120,551 CHARLES L. WHEELER, MAKING WHITE LEAD.

120,552 CHARLES L. STEVENS, HYDRO-PNEUMATIC MOTORS.

120,553 THORNTON AND LATTA, WHIP-HOLDER

120,554 I. FLETCH WOODWARD, PHOTOGRAPHIC BARE-CHAMBERS.

120,555 CHARLES E. STROWGER, FENCE

120,556 JOHN E. SULLIVAN, RAIL JOINTS.

THEODORE R. TIMBY, FREIGHT-CAR

120,557 WILLIAM WILCOX, PADLOCKS.

120,558 WILLIAM S. WORLEY, ROAD-SCRAPER

120,559 JOHN WORRELL AND JAMES H. EMERSON, SULEY ATTACHMENTS FOR PLOWS.

120,560 ALVAH WORSTER, TRACE-BUCKLES.

120,561 SADOK S. CRACRAFT, FEED-MILL

120,562 LOCKS FOR SPOOL-HOLDERS. NICHOLAS KENNY,

4,616 INNES AND MAGILL, MANTELS AND FRONTS FOR FIRE-PLACES

4,617 HIRAM McDONALD, WOOD-BENDING MACHINE

4,618 AUGUSTUS F. TRIPP, DREDGE-BOXES.

4,619 EDWIN L. BUSHNELL, SPRING-MATTRESSES.

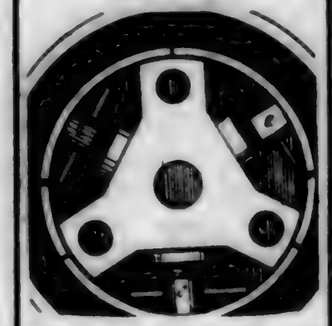
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4,621 JOHN H. LYON, LOCKS AND DETECTERS.

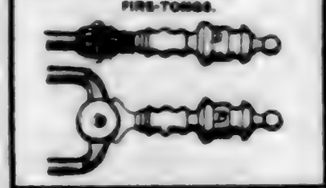
4,622 SAMUEL LEE, GRIDDLE, AND FRYING UTENSIL.

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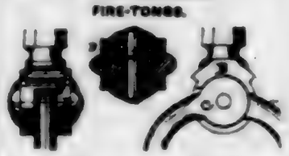
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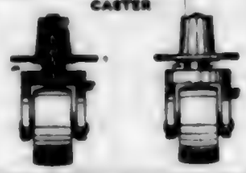
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120,567 JOHN BRADBURY, FIRE-TONGS.



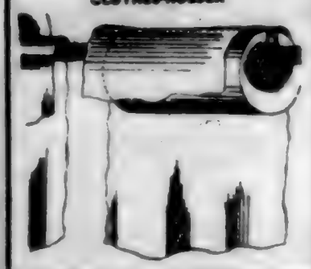
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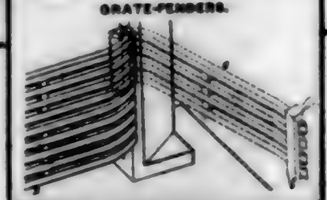
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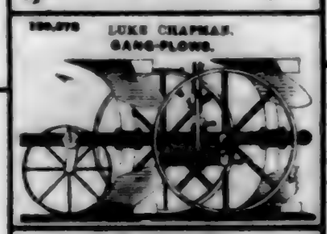
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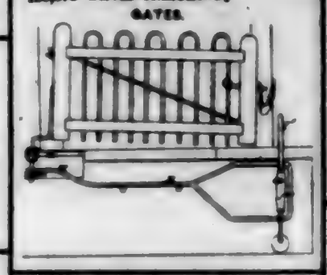
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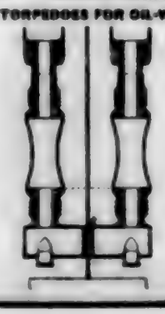
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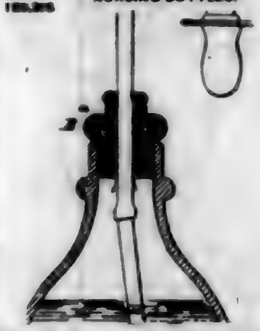
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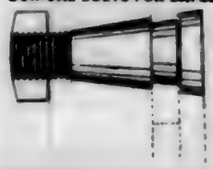
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120,575 LEMUEL FOWEROY NURSING-BOTTLES.



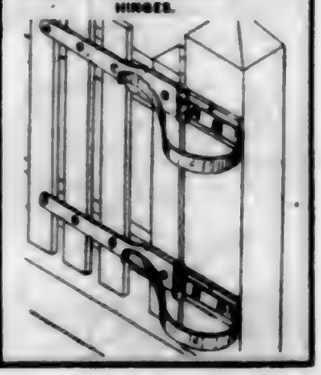
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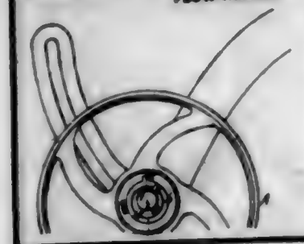
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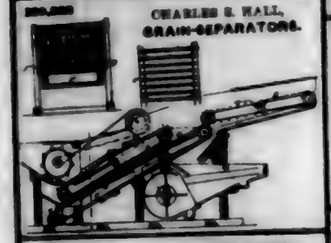
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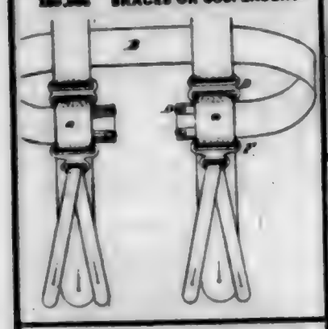
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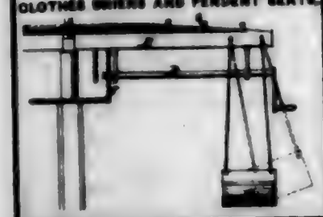
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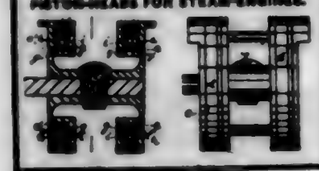
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120,584 JOHN HIBON, CLOTHES DRIERS AND PENDENT SEATS.



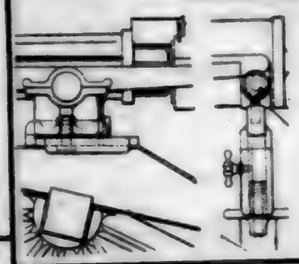
120,585 OSCAR S. HOWARD, PISTON-HEADS FOR STEAM-ENGINES.



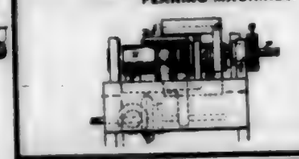
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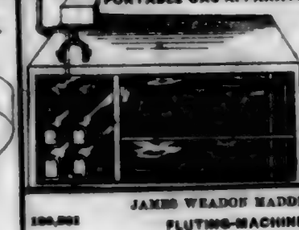
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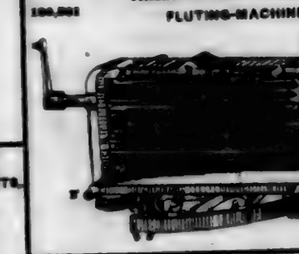
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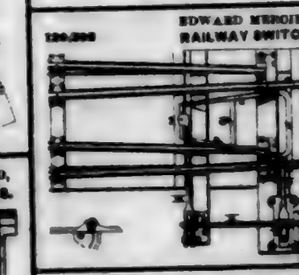
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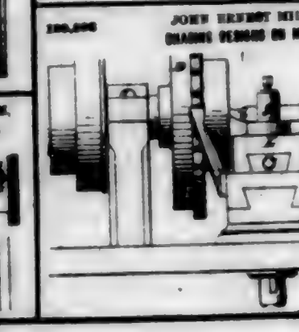
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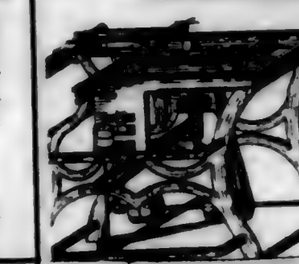
120,591 EDWARD MEREDIH, RAILWAY SWITCHES.



120,592 JOHN ERNST MILLER, CHARNEL SEWERS IN MILES.



120,593 PENFIELD AND EMMER, DOVETAILING-MACHINES.



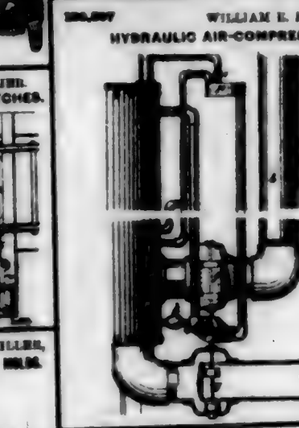
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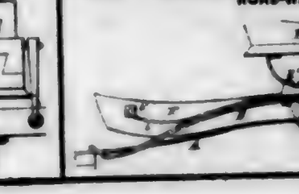
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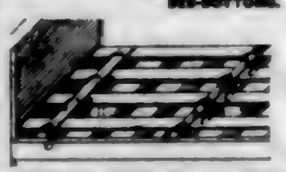
120,596 WILLIAM E. PRALL, HYDRAULIC AIR-COMPRESSERS.



120,597 THOMAS HENRY PRUSHAW, ROAD-WAGONS.



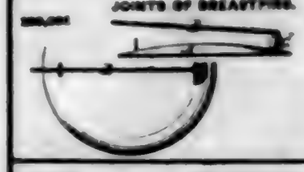
120,599 JASON B. SHERMAN. BED-BOTTOMS.



120,600 EDGAR SIDE. NECK-TIE FASTENERS.



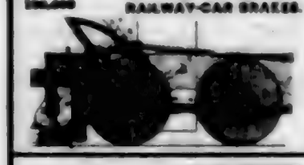
120,601 DANIEL O. STANLEY. JOINTS OF BREASTPINS.



120,602 ORA WEBSTER. GAVELING-FORKS FOR HARVESTERS.



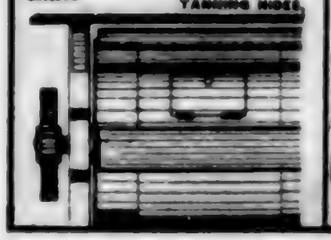
120,603 ADAM WELLSENTIFF. RAILWAY-CAR BRAKES.



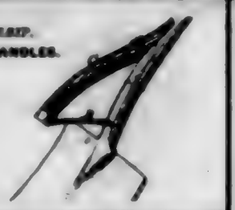
120,604 ADOLPH WIBBERT. DESKS AND TABLES.



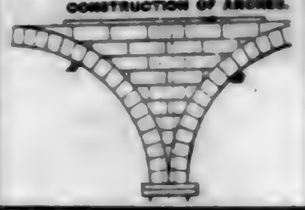
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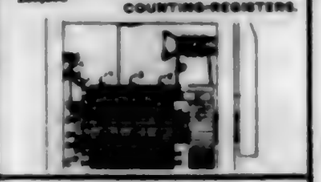
120,606 FRANK ALSP. SHOVEL-HANDLES.



120,607 FRANK ALSP. CONSTRUCTION OF ARCHES.



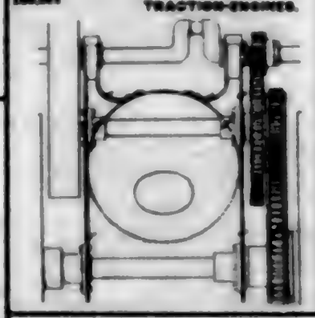
120,608 ALEXANDER P. ATKINSON. COUNTING-REGISTERS.



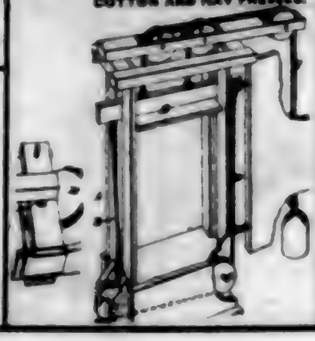
120,609 ASHBY A. ATWATER. RAILWAY-CAR COUPLINGS.



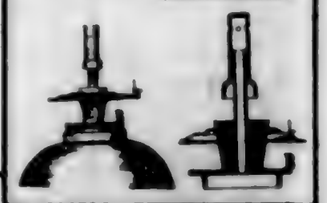
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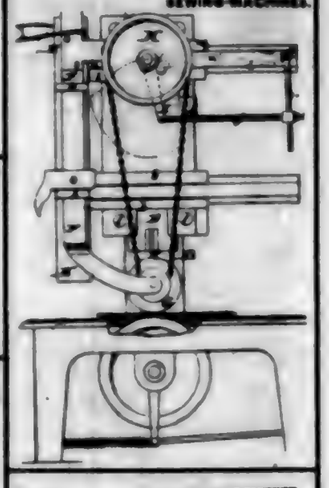
120,611 GEORGE E. AYLWORTH. COTTON AND HAY PRESSES.



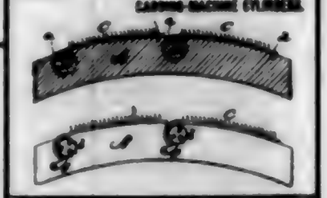
120,612 SILAS D. BALDWIN. VAPOR-BURNERS.



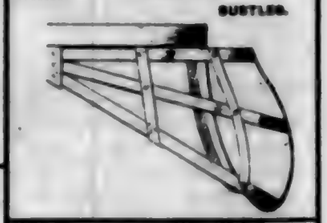
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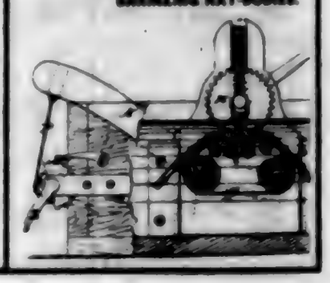
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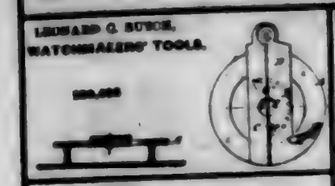
120,615 ISAAC W. BIDGOOD. BUSTLES.



120,616 PETER V. W. BISHOP. SHRINKING HAT-BODIES.



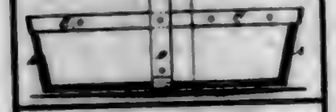
120,618 LEONARD G. BUSH. WATCHMAKERS' TOOLS.



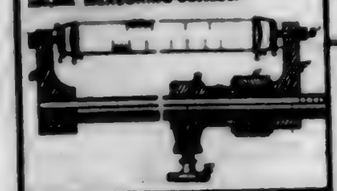
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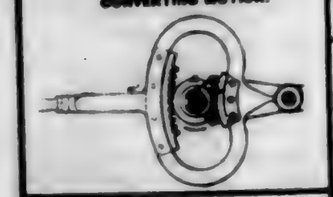
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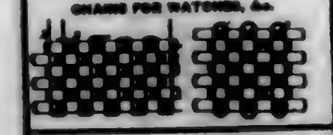
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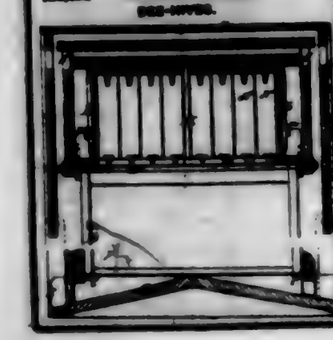
120,622 JOSEPH JULIEN CHESAL. CONVERTING MOTION.



120,623 GEORGE W. CLAFFEY. CHAINS FOR WATCHES, &c.



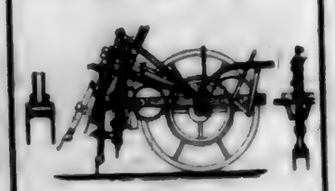
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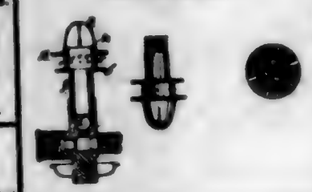
120,625 JOHN WEBSTER COCHRAN. METALLIC CARTRIDGES.



120,626 JOHN K. COLLINS. HAY-TEDDERS.



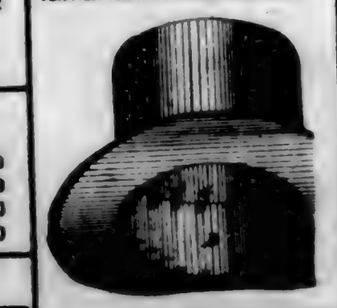
120,627 JOHN COOK. VAPOR-BURNERS.



120,628 LOUIS COTE. MAKING BOOT AND SHOE SOLES.



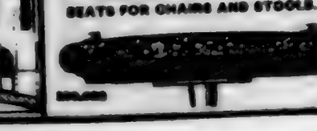
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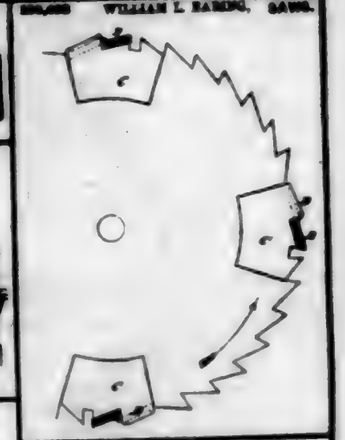
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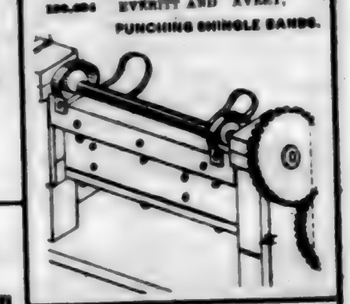
FLETCHER W. DICKERMAN. SEATS FOR CHAIRS AND STOOLS.



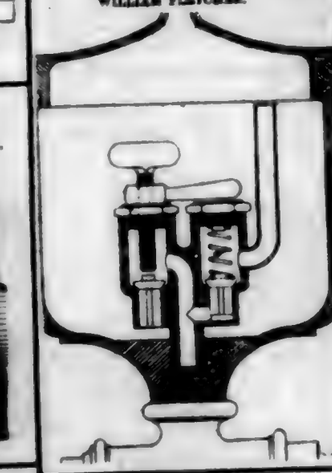
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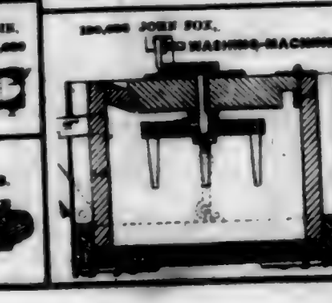
120,632 EVERITT AND AVERY. PUNCHING SHINGLE BANDS.



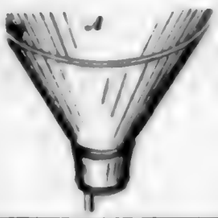
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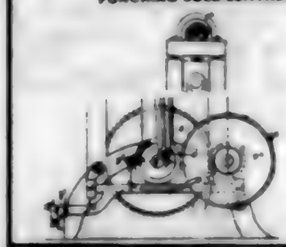
120,634 JOHN FOX. WASHING-MACHINES.



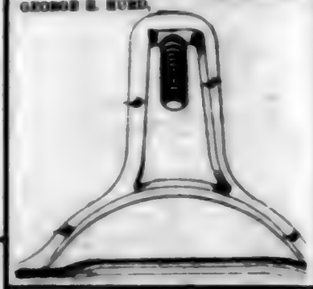
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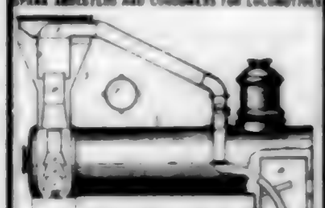
120,638 LORENZO D. HAWKINS. PUNCHING SOLE-LEATHER.



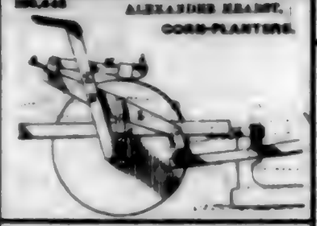
120,639 TREADLE-BRACES. GEORGE E. HURD.



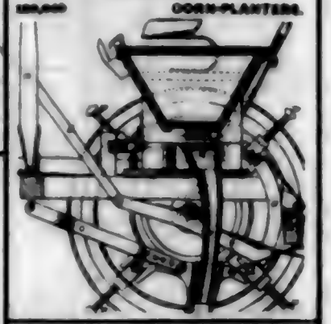
120,640 GEORGE H. GRIGGS. SPARK ARRESTERS AND CONSUMERS FOR LOCOMOTIVES



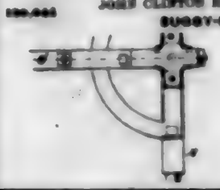
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120,642 BRIDGE IRGERINGTON. CORN-PLANTERS.



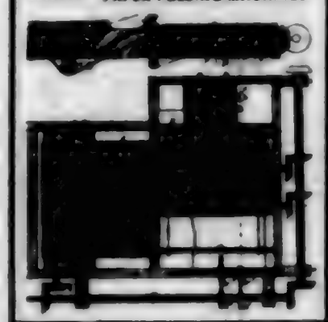
120,643 JOHN CLIFTON HEGARTOK. BUGGY-REACHES.



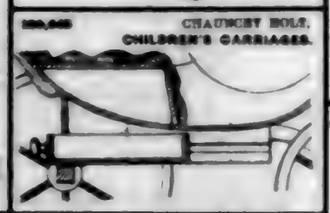
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120,645 RICHARD R. GUBBINS. PAPER-FOLDING MACHINES.



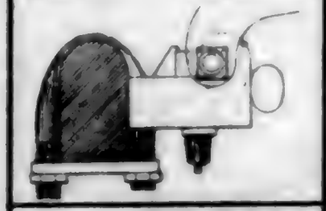
120,646 CHAUNCEY HOLT. CHILDREN'S CARRIAGES.



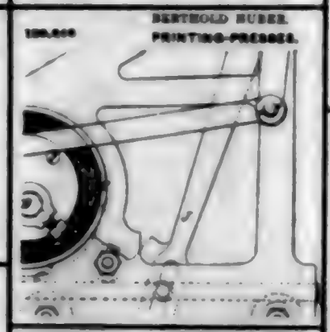
120,647 EDWIN J. LELAND. GALVANIC BATTERIES.



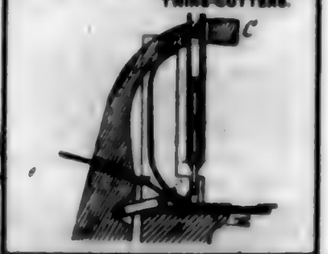
120,648 JOSEPH HALE. THILL-COUPLINGS.



120,649 BERTHOLD HUBER. PRINTING-PRESSES.



120,650 CHARLES GARRINGTON LEWIS. TWINE-CUTTERS.



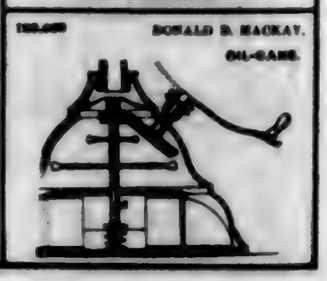
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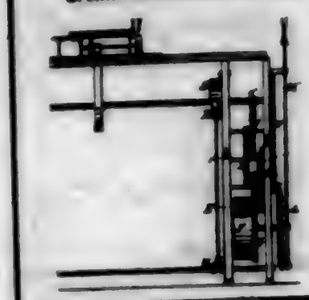
120,652 ARTEMAS B. HURD. DASH-BOARDS FOR CARRIAGES.



120,653 RONALD B. MACKAY. OIL-CANS.



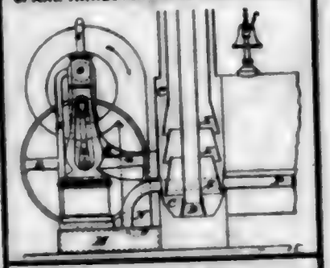
120,654 GEORGE W. MANSON. OPERATING SEWING-MACHINES.



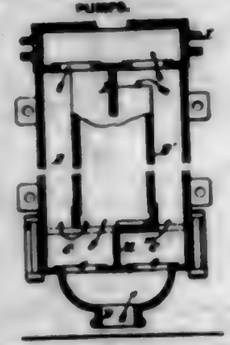
120,655 DANIEL P. NORMAN. LUBRICATORS.



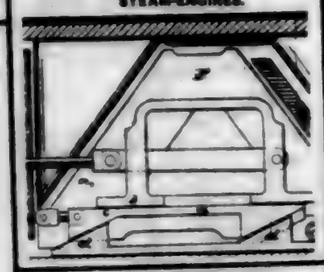
120,656 CHARLES F. PIKE. SPARK ARRESTERS AND CONSUMERS.



120,657 JOHN MARQUIS. PUMPS.



120,658 JACOB NEUBERT. STEAM-ENGINES.



120,659 CHARLES F. PIKE. APPARATUS FOR COOLING AND PRESERVING.



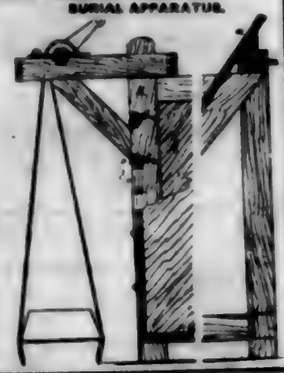
120,660 O'SULLIVAN AND O'SULLIVAN. TELEGRAPH-KEYS.



120,661 JACOB RADSTON. STOP-COCKS.



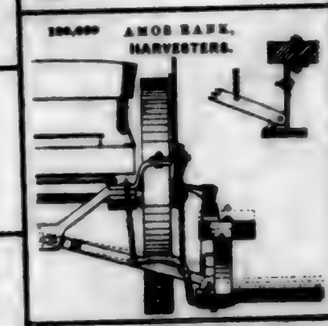
120,662 WILLIAM H. MCGAVRAN. BURIAL APPARATUS.



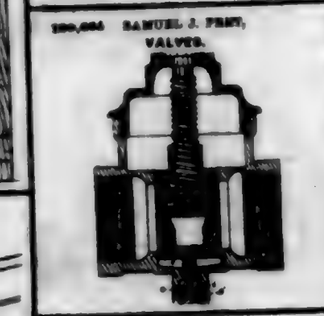
120,663 GEORGE B. OWEN. BLACKING-BRUSHES.



120,664 AMOS RANK. HARVESTERS.



120,665 SAMUEL J. PRAY. VALVES.



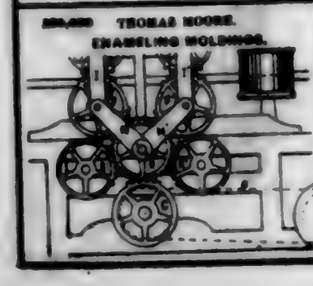
120,666 THOMAS L. RIVERS. CASTERS FOR TRUNKS.



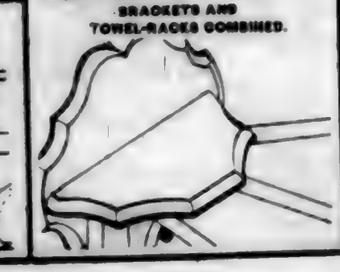
120,667 DANIEL McNALLY. PICKS AND RAMMERS.



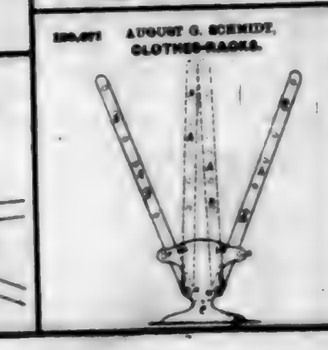
120,668 THOMAS MOORE. ENAMELING MOLDINGS.



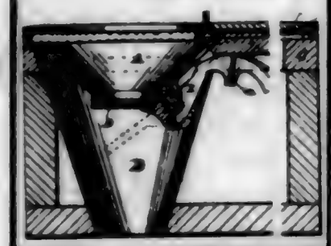
120,669 GEORGE W. PRINCE. BRACKETS AND TOWEL-RACKS COMBINED.



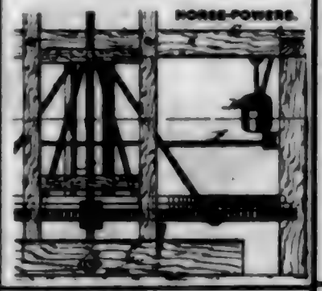
120,671 AUGUST G. SCHMIDT. CLOTHES-RACKS.



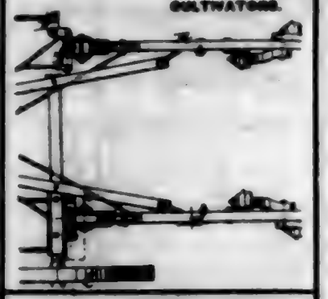
120,676 SPITTOONS. JONATHAN H. SEYMOUR.



120,677 HENRY H. SMITH. HORSE-POWERS.



120,678 JEROME B. TOMLINSON. CULTIVATORS.



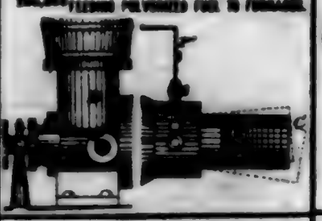
120,674 JAMES S. SEARSON. UTERINE-SUPPORTERS.



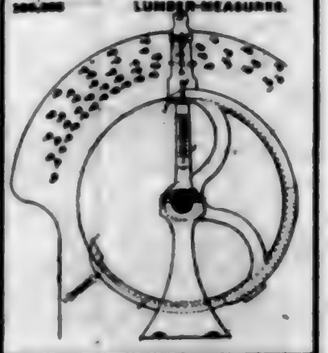
120,679 JOHN HARRY SMITH. SPOONS.



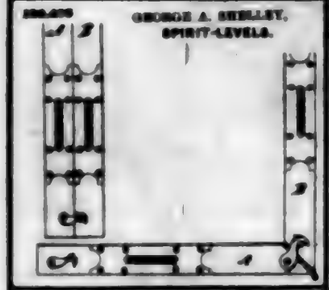
120,680 JOHN T. SMITH. FEEDING PULVERIZED FUEL IN FURNACES.



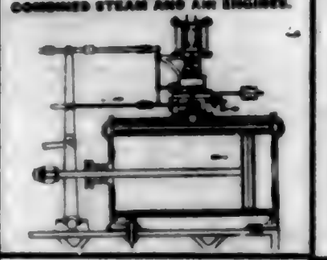
120,681 WILLIAM B. WALTON. LUMBER-MEASURES.



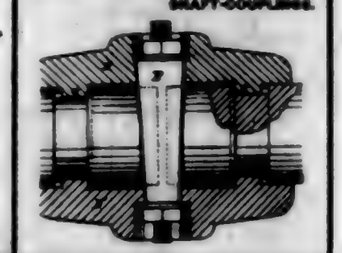
120,675 GEORGE A. SHELLEY. SPIRIT-LEVELS.



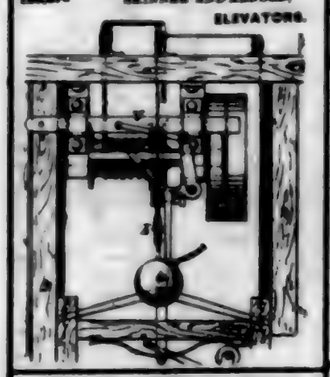
120,682 WILLIAM HOYT STONE. COMBINED STEAM AND AIR ENGINES.



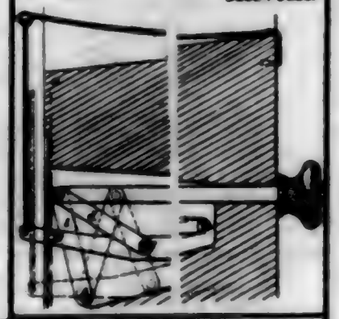
120,683 THOMAS ALDRIDGE WESTON. SHAFT-COUPLINGS.



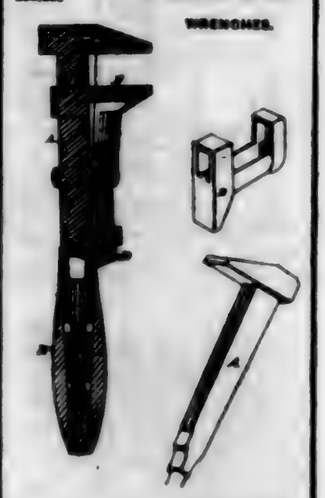
120,672 SKINNER AND ARNOLD. ELEVATORS.



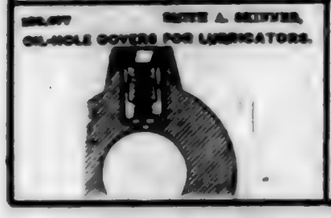
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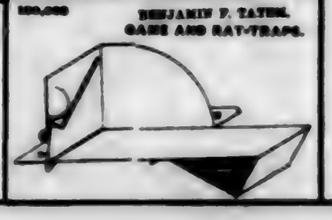
120,685 ALONZO WHITCOMB. BIRDCAGES.



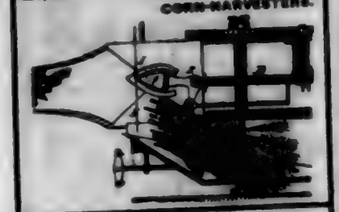
120,677 MOSES A. SKINNER. OIL-HOLE COVERS FOR LUBRICATORS.



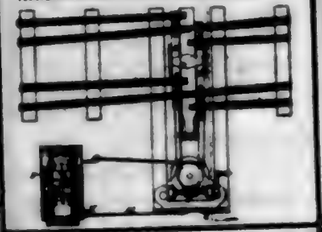
120,686 BENJAMIN F. TATEM. GAME AND RAT-TRAPS.



120,688 JOHN H. WHITNEY. CORN-HARVESTERS.



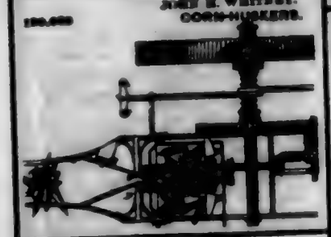
120,689 JOHN A. ANDERSON. RAILWAY SWITCHES AND SIGNALS.



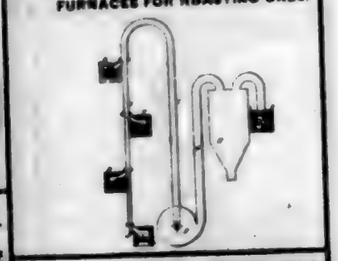
120,700 NEWTON H. BOLTON. MACHINES FOR SHARPENING SAWS.



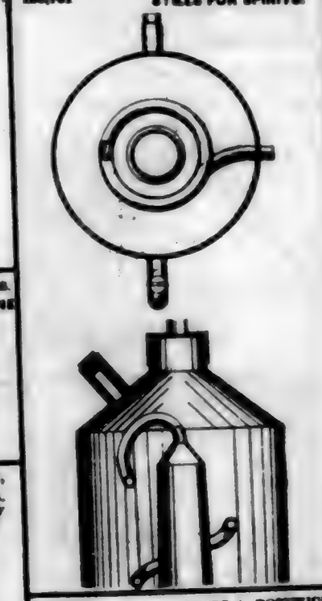
120,690 JOHN H. WHITNEY. CORN-HUSKERS.



120,691 JOHN W. BAILEY. FURNACES FOR ROASTING ORES.



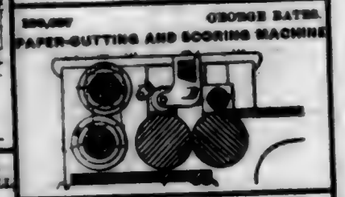
120,701 ANDERSON ROOSE. STILLS FOR SPIRITS.



120,692 HENRY D. WILLIAMS. DITCHING-PLOWS.



120,697 GEORGE BATES. PAPER-CUTTING AND SCORING MACHINE.



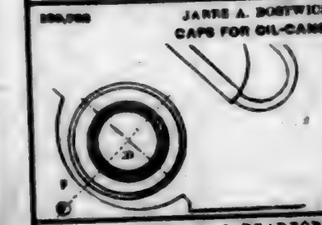
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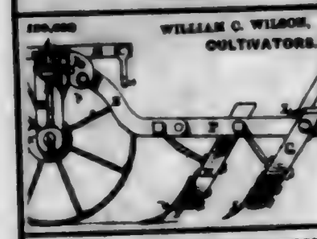
120,698 BURR BENTON. BEE-HIVES.



120,699 JAMES A. BOSTWICK. CAPS FOR OIL-CANS.



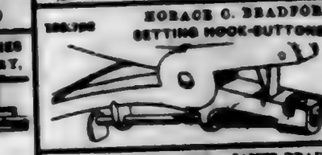
120,694 WILLIAM C. WILSON. CULTIVATORS.



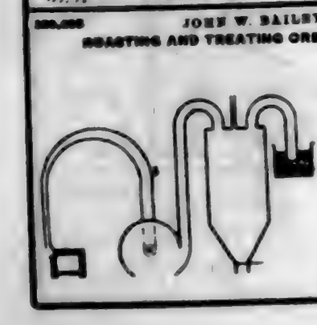
120,695 WALTER A. WOOD. OIL-HOLE COVERS FOR JOURNAL-BOXES.



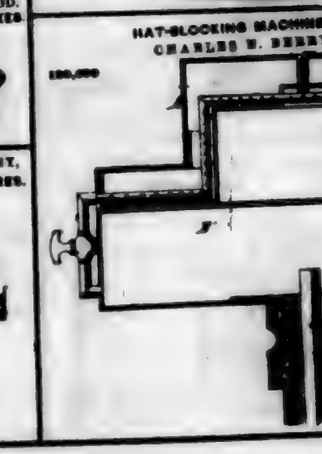
120,702 HORACE C. BRADFORD. SETTING HOOK-BUTTONS.



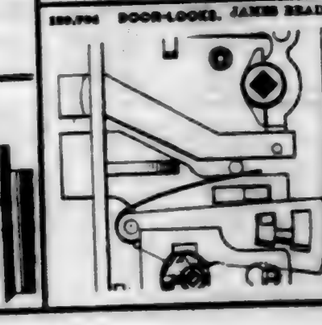
120,696 JOHN W. BAILEY. ROASTING AND TREATING ORES.



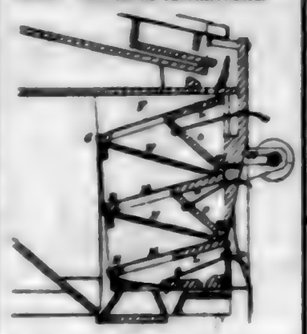
120,703 HAT-BLOCKING MACHINES CHARLES H. BERRY.



120,704 DOOR-LOCKS. JAMES BRADY.



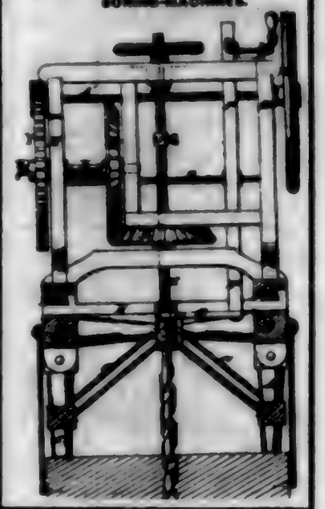
JOHN B. BRENNAN AND WILLIAM TUCKER, 120,706 MIDDLINGS SEPARATORS.



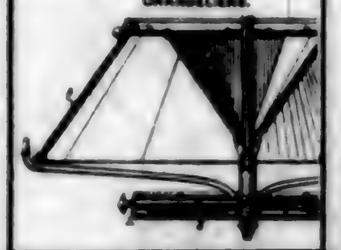
HENRY CARTER, 120,711 DITCHING-MACHINES.



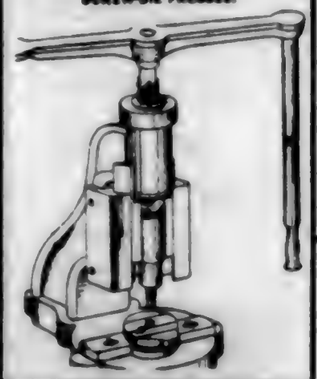
GEORGE F. CLUFF, 120,716 BORING-MACHINES.



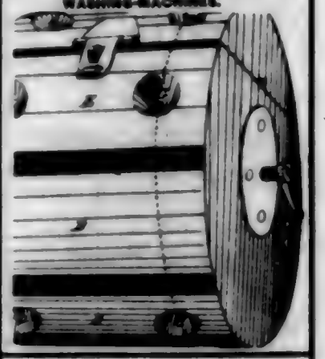
THOMAS BUCKLEY, 120,707 CHANDELIERS.



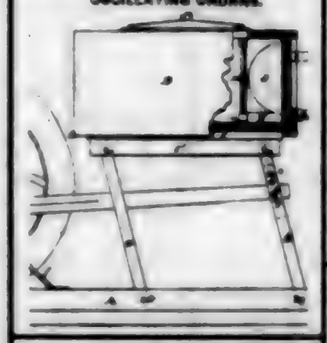
JAMES B. CLAPP, 120,712 SCREW-DIE PRESSES.



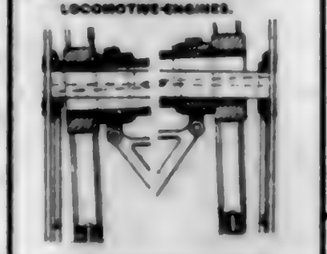
MARGARET P. COLVIN, 120,717 WASHING-MACHINES.



EZEKIEL W. BULLARD, 120,708 OSCILLATING CHURNS.



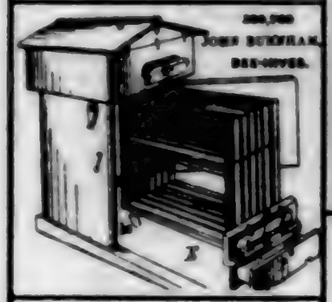
JOHN CLARK, 120,713 LOCOMOTIVE-ENGINES.



SOLON COOLEY, 120,718 PLOWS.



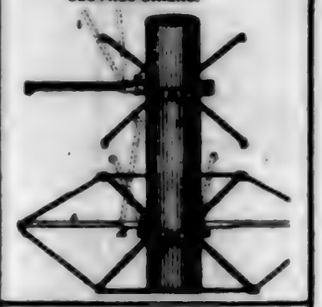
JOHN BUNNHAM, 120,709 BEE-HIVES.



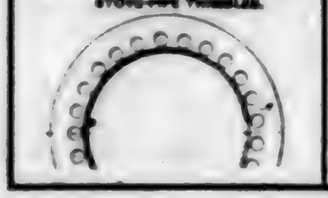
ALVEUS J. CLEMMONS, 120,714 WATER-ELEVATORS.



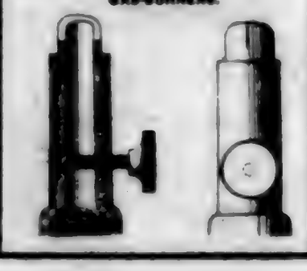
GABRIEL FELIX COUTY, 120,719 CLOTHES-DRIERS.



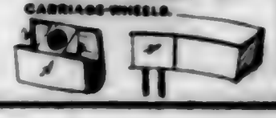
CHESEAD A. BUTTLER, 120,710 STOVE-PIPE THIMBLES.



THEODORE CLOUGH, 120,715 GAS-BURNERS.



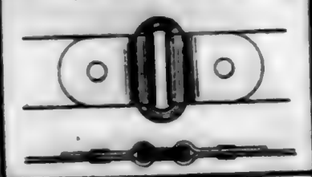
SAMUEL D. CRAFT, 120,720 CARRIAGE-WHEELS.



MATTIAS GEIER, 120,721 TREATING INDIAN CORN WITH MALT



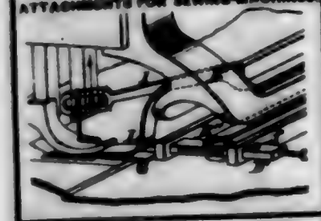
JOHN DOWNER, 120,727 BANDS FOR BALING COTTON.



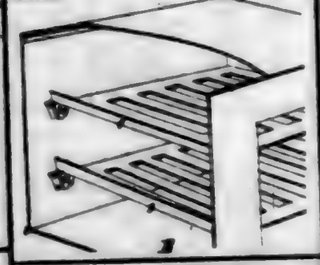
ADDISON C. FLETCHER, 120,732 GRATE-BARS.



GEORGE W. DARBY, 120,722 ATTACHMENTS FOR SEWING-MACHINES.



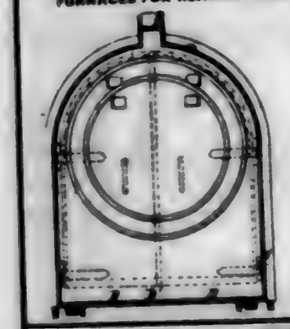
PASCHAL P. ELLIS, 120,728 COOKING-STOVES.



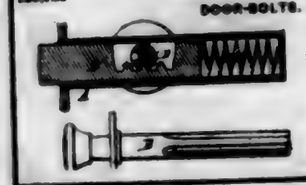
FREDERIC G. FORD, 120,733 SLAT-HOLDERS FOR BEDSTEADS.



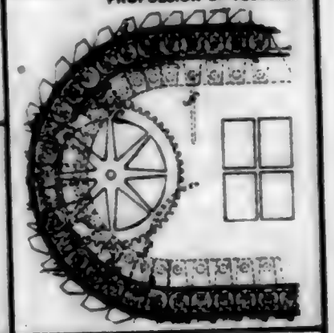
JAMES DEGREE, 120,723 FURNACES FOR HEATING TIRES.



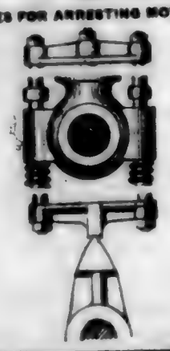
LEWIS J. EVANS, 120,729 DOOR-BOLTS.



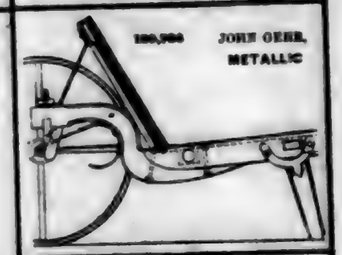
SAMUEL F. GARD, 120,734 PROPULSION OF VESSELS.



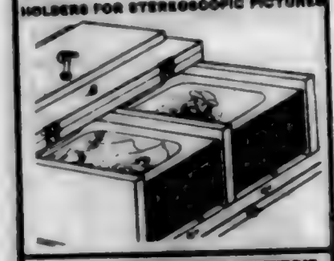
JOHN EVERDING, 120,730 DEVICES FOR ARRESTING MOTION.



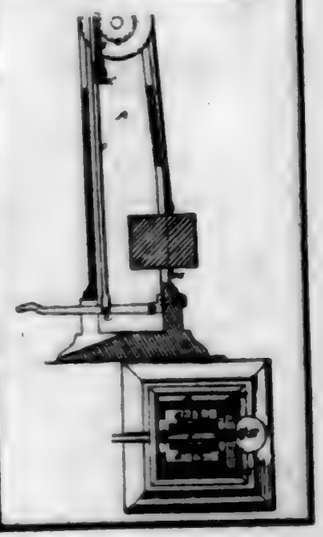
JOHN GEER, 120,736 METALLIC



JOHN I. DIBBLE, 120,724 HOLDERS FOR STEREOSCOPIC PICTURES



DALPHON L. GIBBS, 120,737 MORTISING-MACHINES.



ARCHIBALD P. DEWIDDIE, 120,725 WASHING-MACHINES.



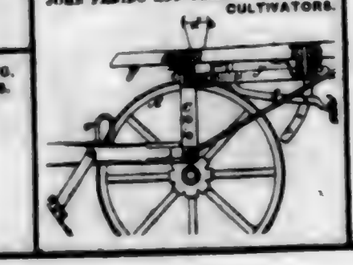
GEORGE A. FAIRFIELD, 120,731 SHUTTLES FOR SEWING-MACHINES.



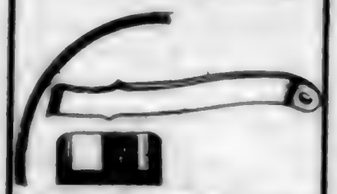
ROBERT H. DOWLING, 120,726 CAR-COUPLINGS.



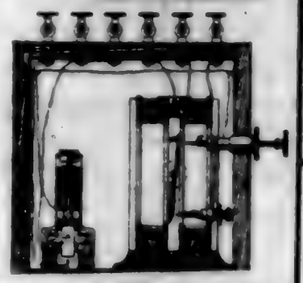
JOHN FABIAN AND FRIEDRICH LEGLER 120,735 CULTIVATORS.



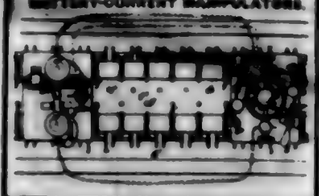
120,750. ROBERT C. GRAVES. STOVE-LIDS.



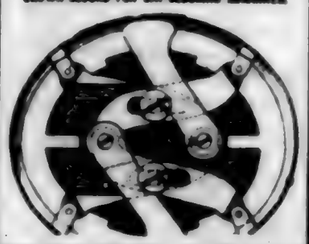
120,751. CIRCUIT-CLOSERS FOR ELECTRIC [illegible]



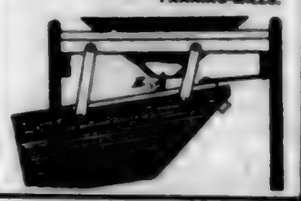
120,752. JEROME KIDDER. BATTERY-CURRENT MANIPULATORS.



120,753. WILLIAM C. GRISWOLD. CRIMPING-BLOCKS FOR HAT-BLOCKING MACHINES.



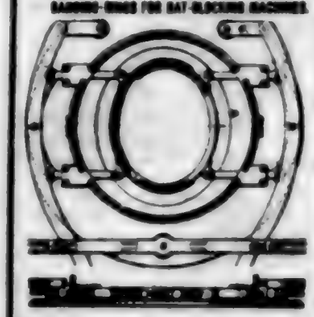
120,754. CHARLOTTE AYER HUTCHINS. FANNING-MILLS.



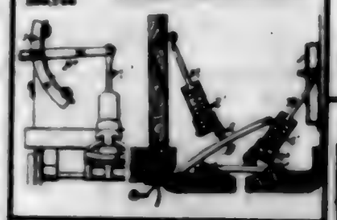
120,755. WILLIAM HENRY GROVE. SHOW-CASES.



120,756. GEORGE HAYDEN. BANDING-RINGS FOR HAT-BLOCKING MACHINES.



120,757. LAWRENCE IRISH. RAILWAY CAR-COUPLINGS.



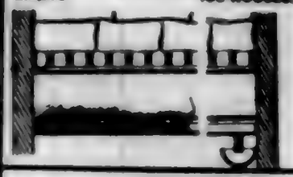
120,758. JUBE LEDDERD. RAILWAY CHAIRS.



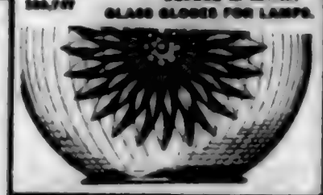
120,759. JOHN JEFFERS IRISH. CHEESE-HOOPS.



120,760. CHARLES LIEBMANN. ICE-HOUSES.



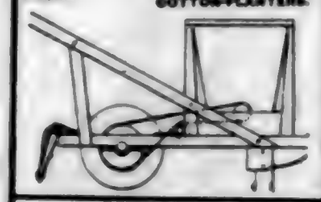
120,761. GEORGE H. IRWIN. GLASS GLOBES FOR LAMPS.



120,762. OTTO LIEBMANN. BOTTOMS OF SHIP-CAGES.



120,763. RICHARD G. HOBSON. COTTON-PLANTERS.



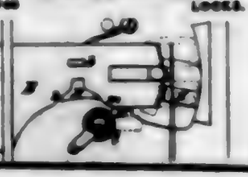
120,764. GEORGE H. IRWIN. TOPS FOR MOLASSES-PITCHERS.



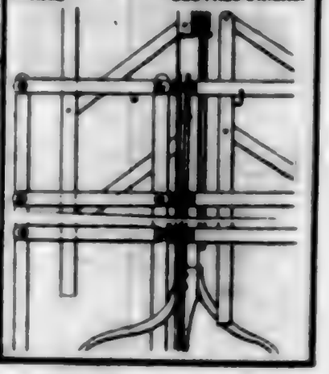
120,765. WILLIAM G. JENKS. HEAD-BLOCKS FOR SAW-MILLS.



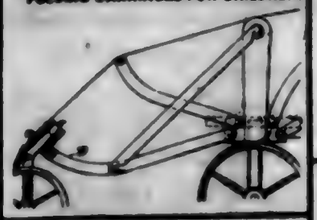
120,766. EDMUND BORMAN HUDSON. LOCKS.



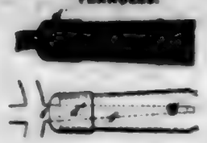
120,767. KATHRY J. LOCKWOOD. CLOTHES-DRIERS.



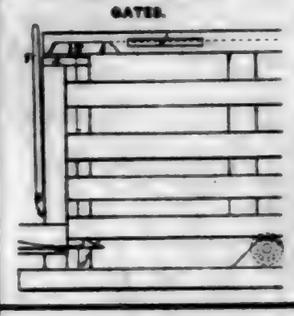
120,752. HERMAN LUTE. FOLDING CARRIAGES FOR CHILDREN.



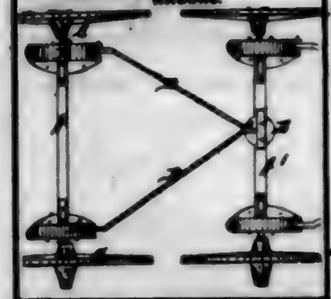
120,753. DANIEL MOORE. FERRULES.



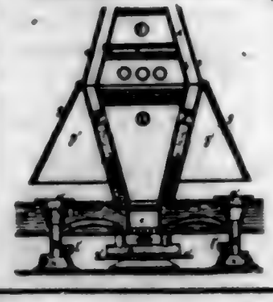
120,754. WILLIAM A. PENNEY. GATES.



120,755. DANIEL MATHS, JR. WAGONS.



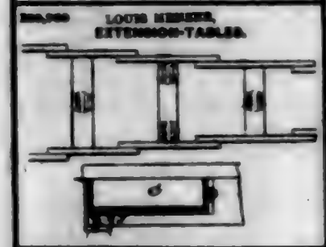
120,756. JOSEPH R. HOBBS. CAR-FURNACES AND FORGES.



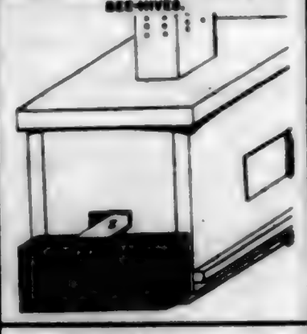
120,757. LOUIS MERKEL. TABLES.



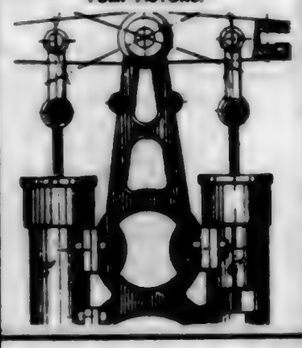
120,758. LOUIS MERKEL. EXTENSION-TABLES.



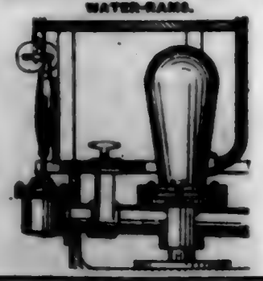
120,759. ABRAHAM HUTTENBAUGH. BEE-HIVES.



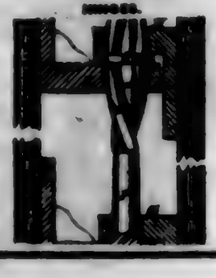
120,760. WILSON NEWCOMB. PUMP-PISTONS.



120,761. FRANKLIN MILLER. WATER-RAMS.



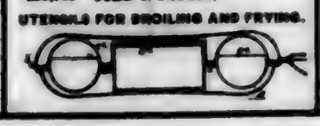
120,762. JONATHAN MILLER. HINGES.



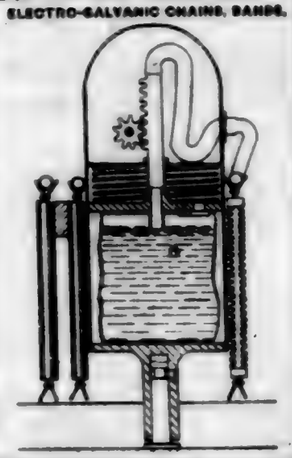
120,763. JOHN O. HOBLIT. BROILERS.



120,764. JOHN O. HOBLIT. UTENSILS FOR BROILING AND FRYING.



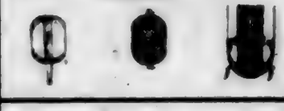
120,765. ISAC LOUIS PULVERMACHER. ELECTRO-GALVANIC CHAINS, BANDS.



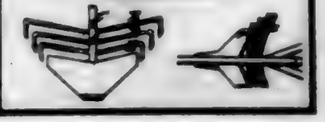
120,766. JOHN ADAM SAU. SAW-FILERS.



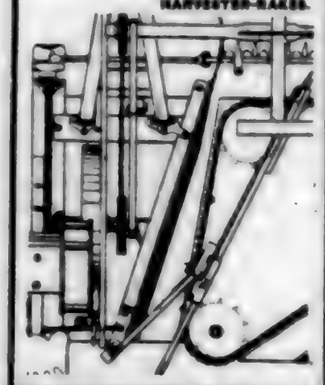
120,774. HENRY T. REEVES. CUTLERY.



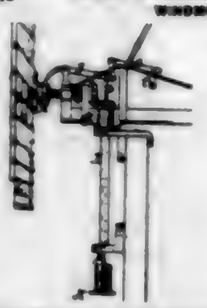
120,775. RICHARD B. ROBBINS. POTATO-DIGGERS.



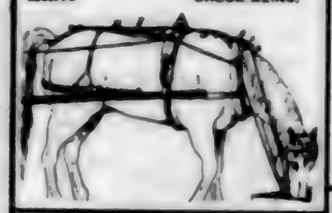
120,777 JOHN M. ROBERSON. HARVESTER-RAKES.



120,778 ARABEL D. BUDDOCK. WINDMILLS.



120,779 JOHN SCHOFIELD. CHECK-REINS.



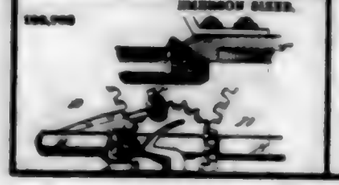
LUDWIG FRIEDRICH SCHWENKEL. 120,780 EXTENSION CHAIRS.



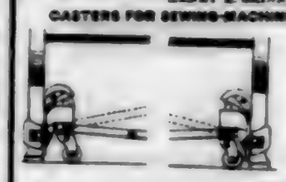
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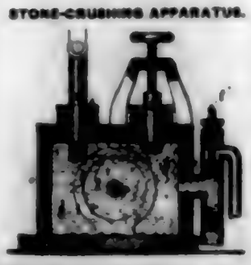
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120,783 HENRY A. SKINNER. CASTERS FOR SEWING-MACHINES.



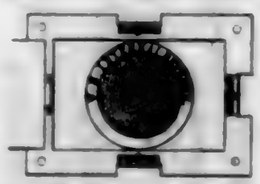
120,784 AUSTIN H. [illegible]. STONE-CRUSHING APPARATUS.



120,785 SMITH AND DISTRICK CLOTHES-DRIERS.



120,786 ROBERT H. SMITH. REVENUE-STAMP PROTECTORS.



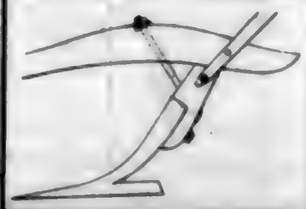
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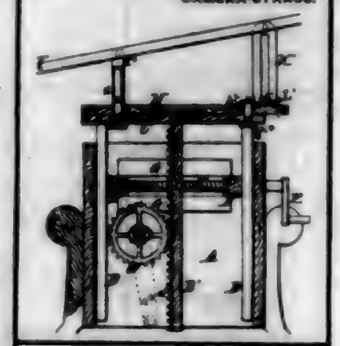
120,788 WILLIAM G. BROOT. BREECH-LOADING FIRE-ARMS.



120,789 SAMUEL SNIDER. CULTIVATORS.



120,790 CHARLES H. SHIVELY. CAMERA-STANDS.



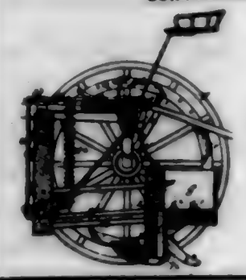
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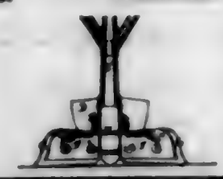
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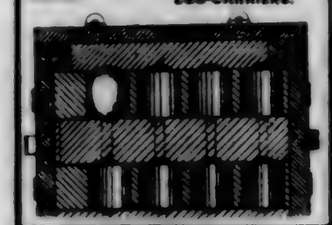
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120,794 ALEXANDER C. TAYLOR. CULTIVATORS.



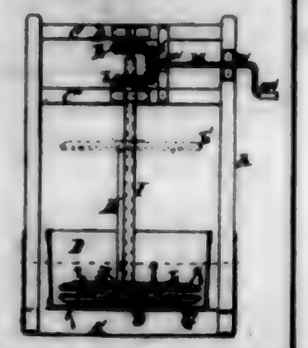
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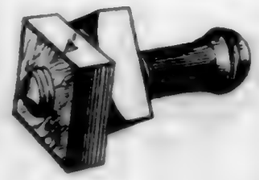
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120,797 MILOW L. TOMPKINS. WASHING-MACHINES.



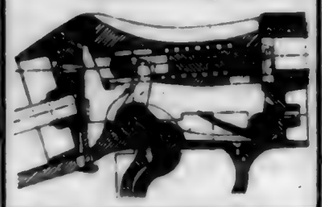
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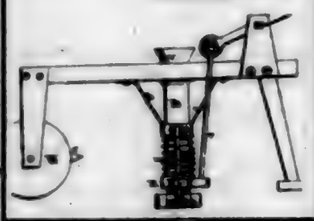
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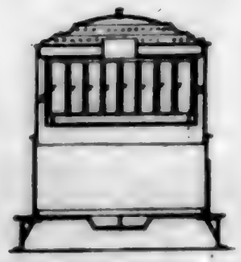
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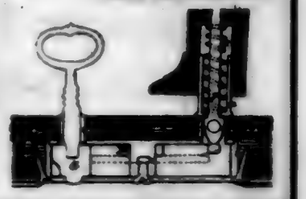
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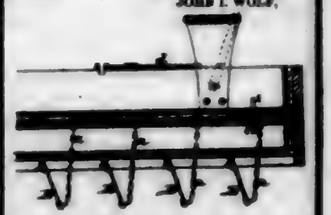
120,802 JOHN W. O. WEBB. HEATING-STOVES.



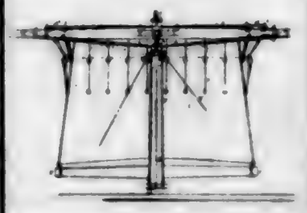
120,803 ELBERT B. WEYBURN. LOCKS FOR PIANOS, &c.



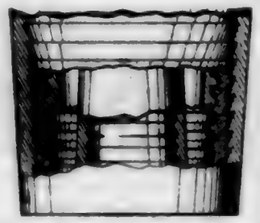
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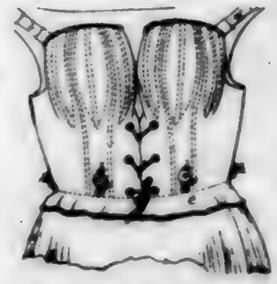
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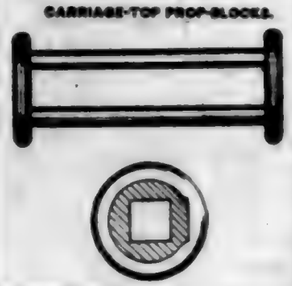
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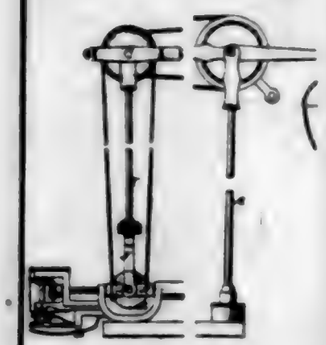
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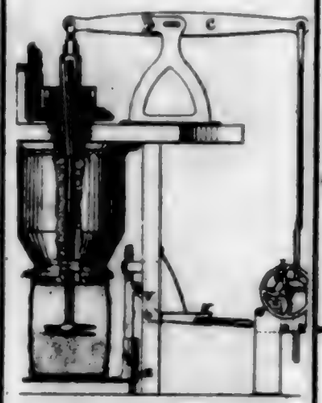
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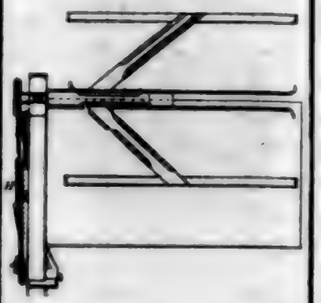
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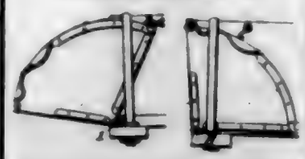
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4,624 JOHN H. KELLER.
HARVESTER-REELS.



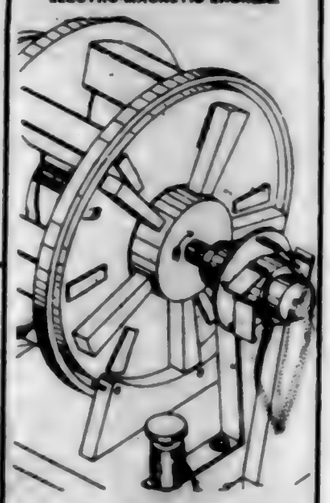
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END-GATES FOR WAGONS.



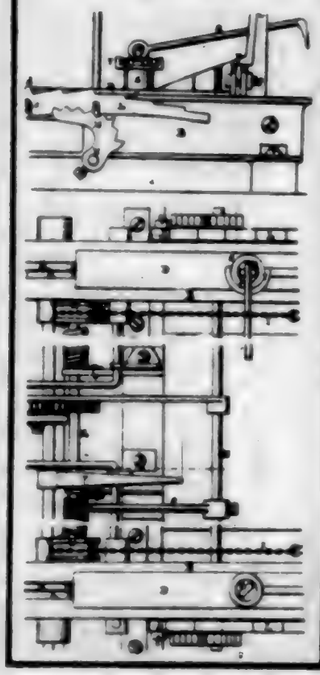
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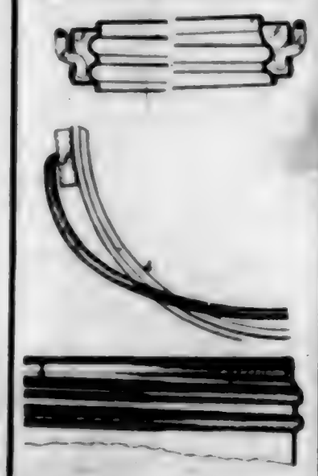
4,627 JACOB P. TIBBALS,
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4,628 EDWARD H. STRAINS,
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4,629 JOHN K. CHACE.
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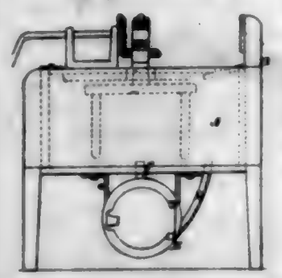


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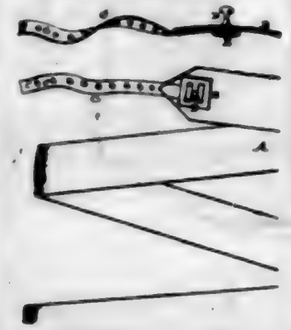


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ISSUED FROM
THE UNITED STATES PATENT OFFICE
NOVEMBER 14, 1871.

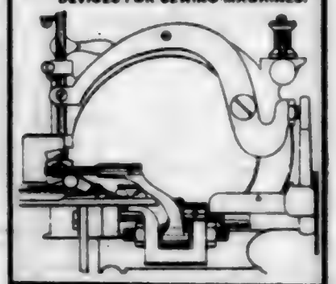
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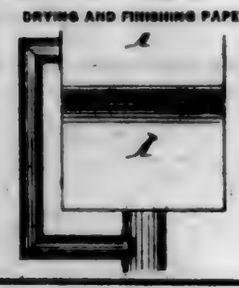
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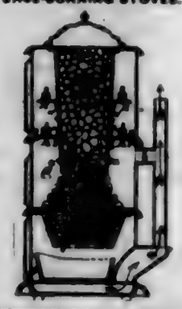
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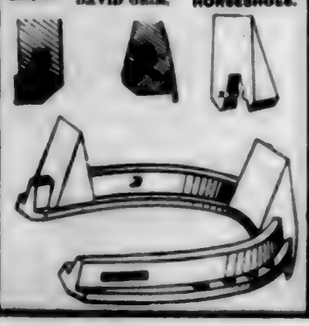
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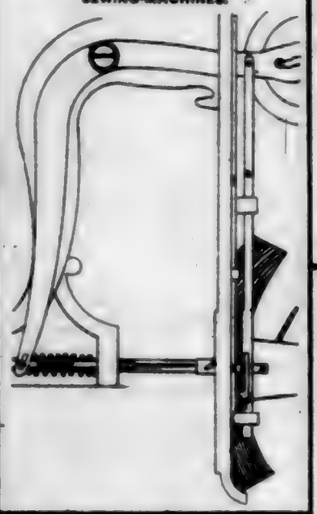
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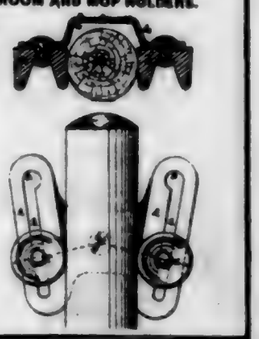
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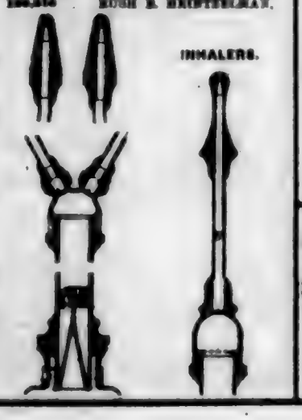
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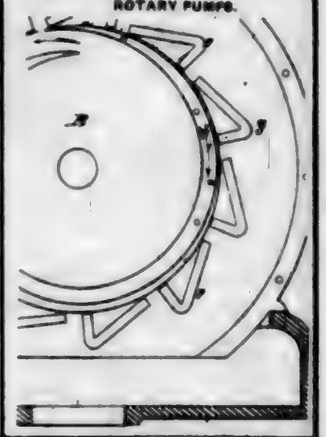
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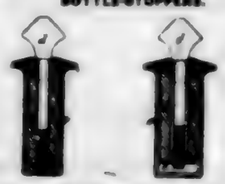
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ROTARY PUMPS.



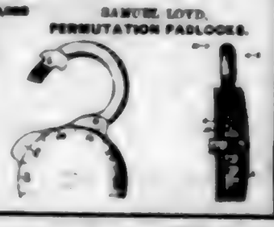
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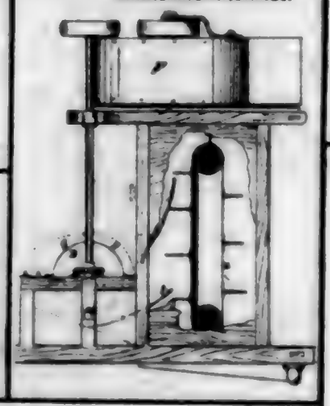
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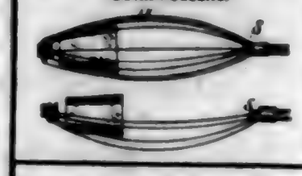
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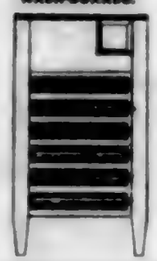
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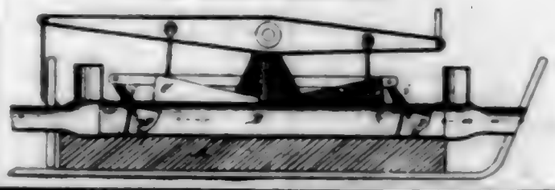
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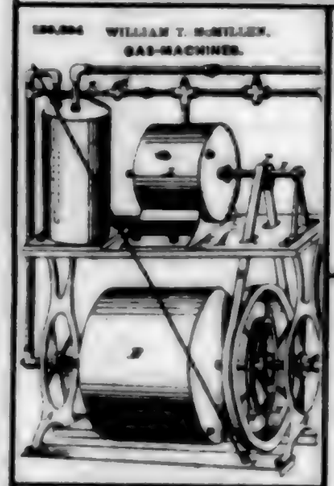
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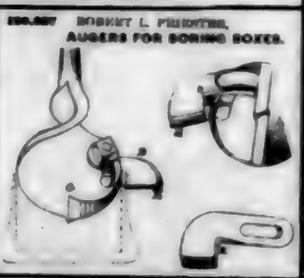
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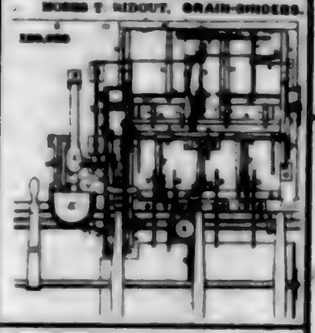
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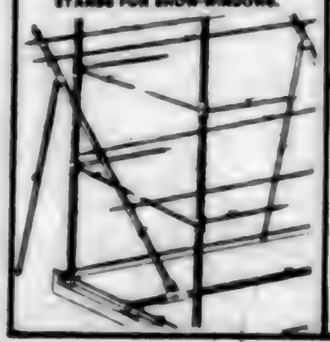
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120,838 ROBERT T. RIDOUT, GRAIN-BINDERS.



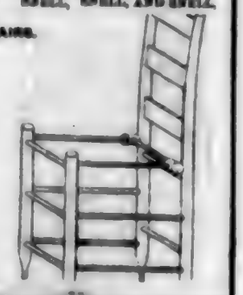
120,839 JOSEPH S. PALMERSTON, STANDS FOR SHOW-WINDOWS.



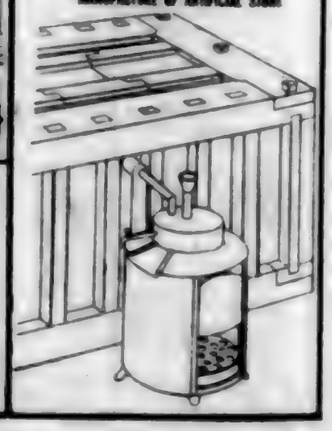
JOHN SEDDON, METALLIC ROOFINGS. 120,840.



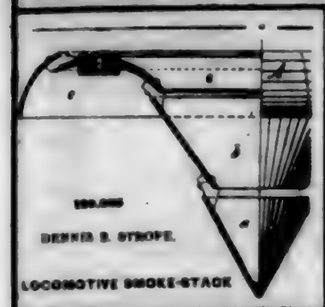
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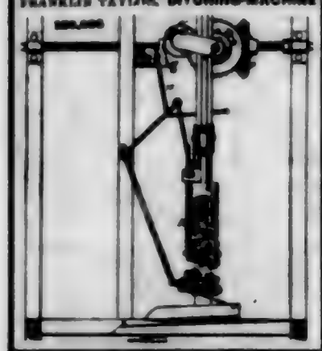
120,842 DANIEL M. SPROULL, MANUFACTURE OF ARTIFICIAL STONE



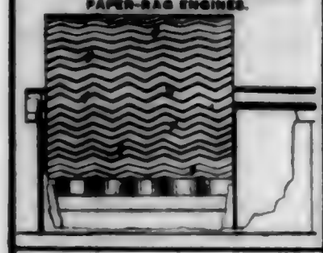
120,835 DENNIS B. STROPE. LOCOMOTIVE SMOKE-STACK



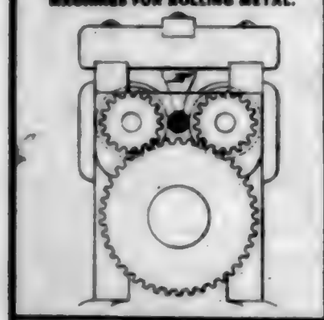
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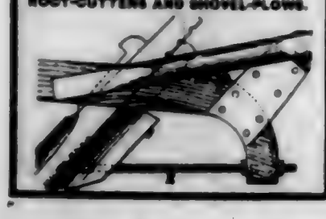
120,837 TAYLOR AND BRIGHTMAN, PAPER-RAG ENGINES.



120,838 LEOPOLD THOMAS, MACHINES FOR ROLLING METAL.



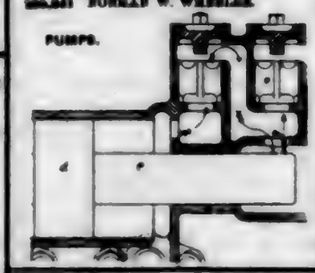
120,839 GEORGE THUMP. ROOT-CUTTERS AND SHOVEL-PLOWS.



120,840 JOHN W. O. WEBB, COOKING-STOVES.



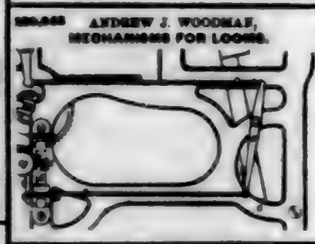
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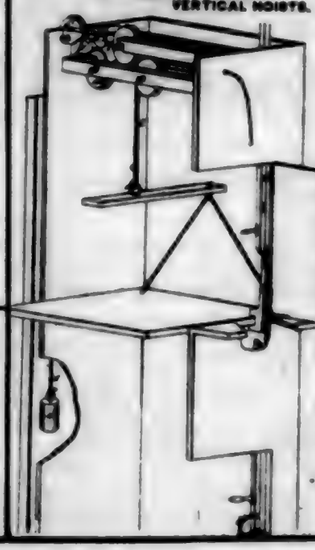
120,842 JOSEPH WHITWORTH, BREECH-LOADING ORDNANCE.



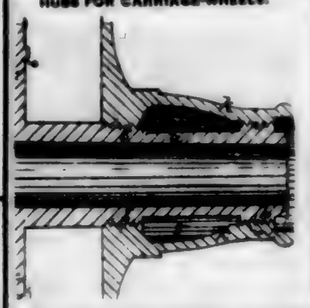
120,843 ANDREW J. WOODMAN, MECHANISMS FOR LOOMS.



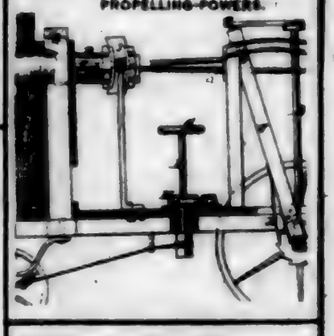
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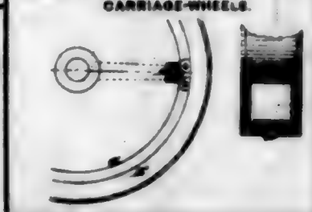
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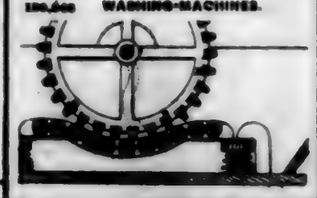
120,846 NATHANIEL B. BALDWIN, PROPELLING-POWERS.



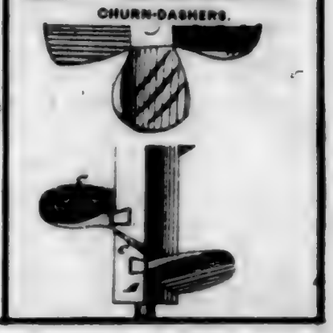
120,847 ISAAC E. BOWER, CARRIAGE-WHEELS.



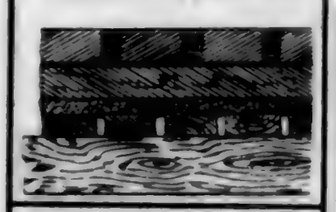
CAMPBELL, CAMPBELL, AND BROWER. 120,848 WASHING-MACHINES.



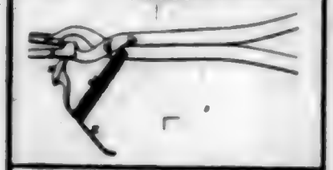
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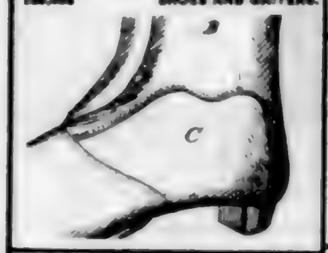
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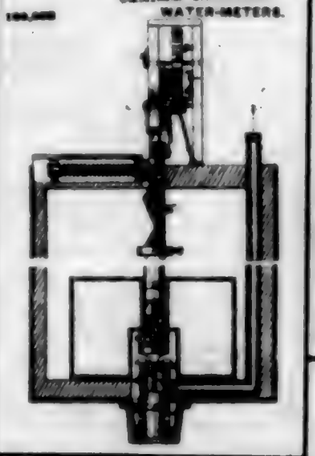
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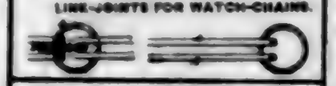
120,852 FREEMAN P. BUSHELL. SHOES AND GAITERS.



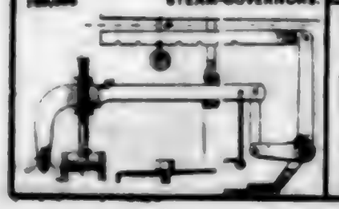
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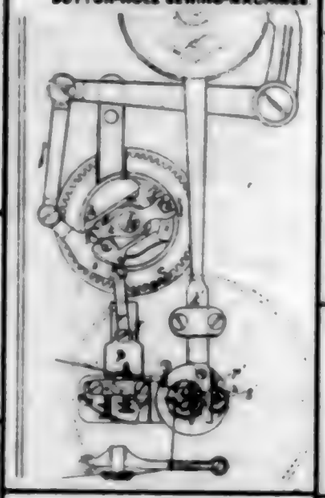
120,854 CHARLES B. CARPENTER. LINK-JOINTS FOR WATCH-CHAINS.



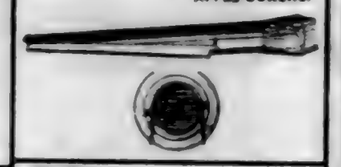
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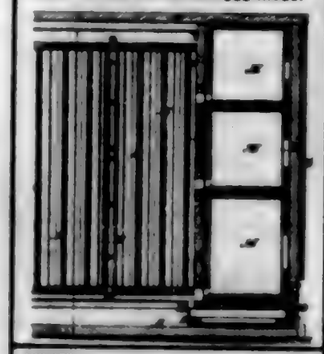
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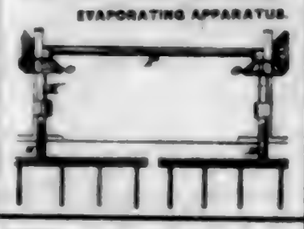
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120,858 COLLINS AND GERSHMAN. BEE-HIVES.



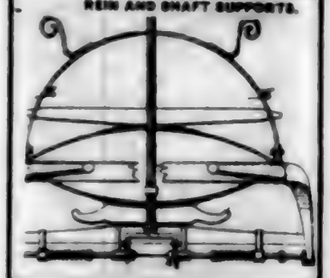
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120,860 HENRY H. CORNELL. COMBINATION-LEVER BRIDLE-BITS.



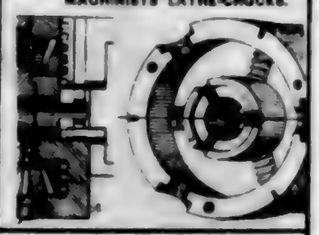
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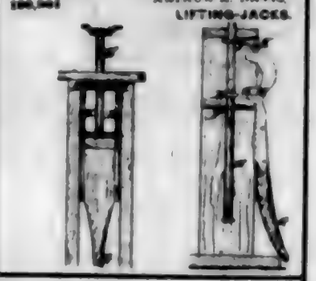
120,862 CHARLES WILLIAM CURTIS. MANUFACTURE OF GUNPOWDER.



120,863 AUSTIN F. CUSHMAN. MACHINISTS' LATHE-CHUCKS.



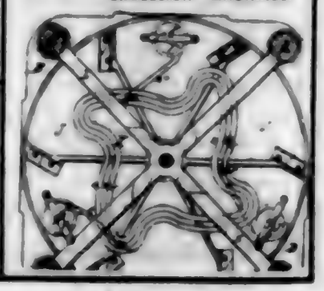
120,864 ARTHUR A. DAVIS. LIFTING-JACKS.



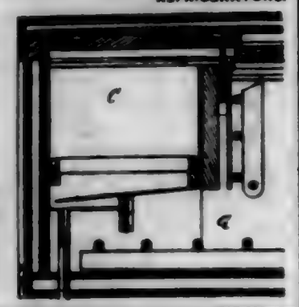
120,865 JOHN H. FARNHAM. SPRING-BEDS.



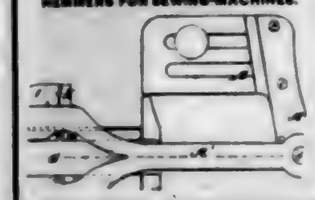
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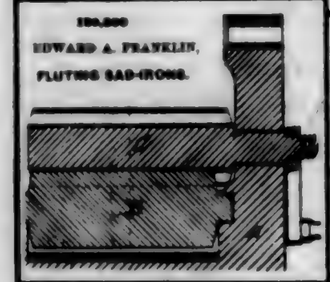
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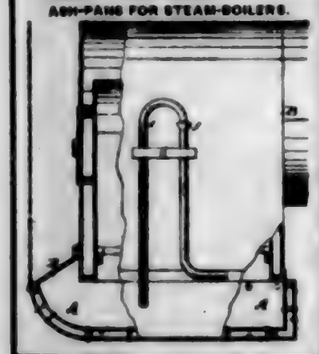
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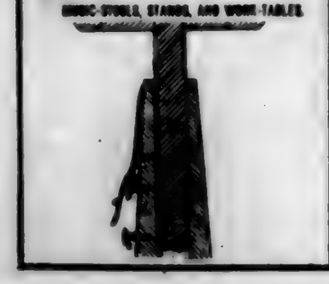
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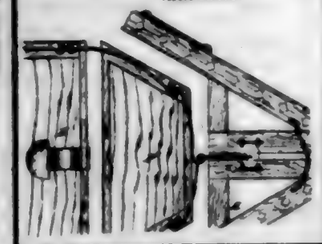
120,870 JOHN GATES. ASH-PANS FOR STEAM-BOILERS.



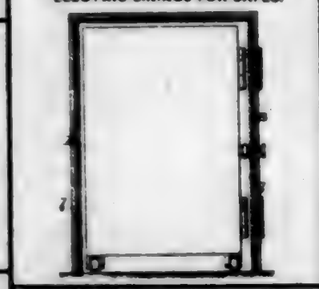
120,871 GEORGE W. GRISWOLD. MUSIC-STOOLS, STANDS, AND WORK-TABLES.



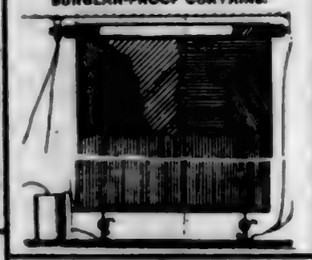
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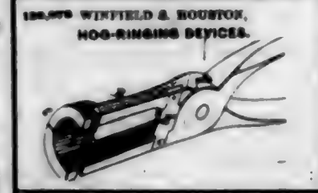
120,873 EDWIN HOLMES. ELECTRIC LININGS FOR SAFES.



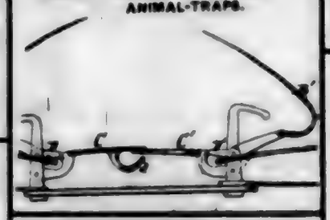
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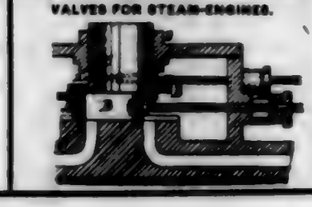
120,875 WINFIELD S. HOUSTON. HOG-RINGING DEVICES.



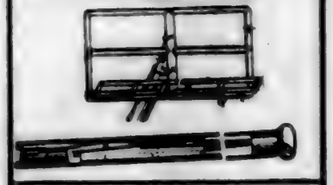
120,876 NATHAN S. HOWELL. ANIMAL-TRAPS.



120,877 HUNTINGTON AND HEMPSTEAD. VALVES FOR STEAM-ENGINES.



120,878 WILLARD C. JAMES. MUSIC-STANDS.



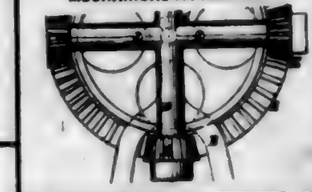
120,879 JOHN JOHNSON. SPRING-BEDS.



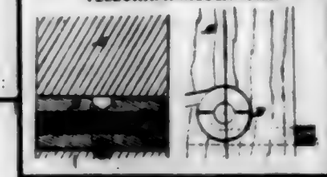
120,880 WILLIAM JONES. GAS-BURNER REGULATORS.



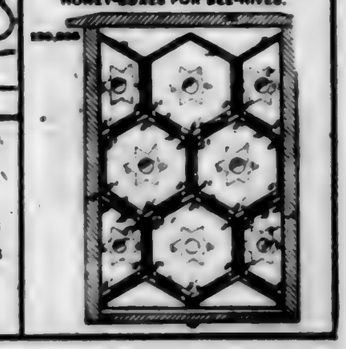
120,881 WILLIAM F. JONES. MECHANICAL MOVEMENTS.



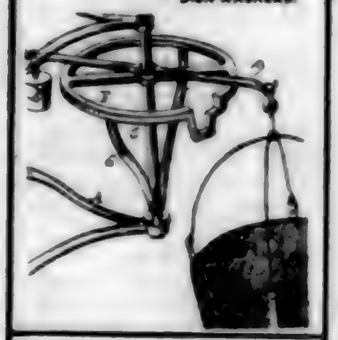
120,882 GEORGE W. KIDWELL. TELEGRAPH-INSULATORS.



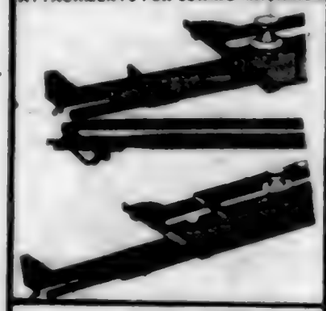
120,883 ELLERY CHANNING LEWIS. HONEY-BOXES FOR BEE-HIVES.



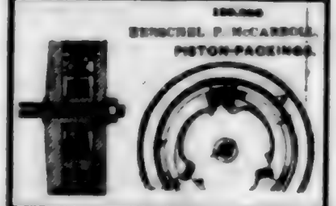
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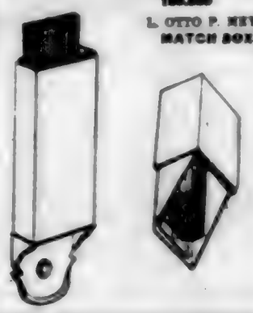
120,881 WILLIAM HENRY LEWITT. ATTACHMENTS FOR SEWING-MACHINES.



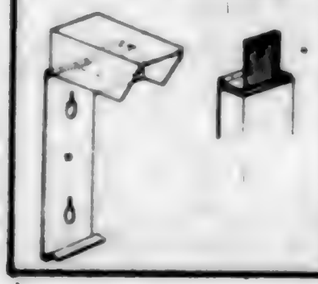
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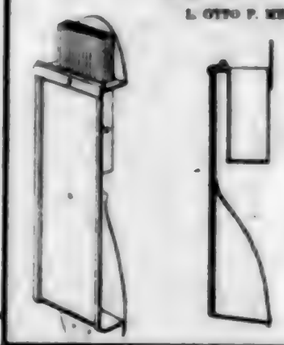
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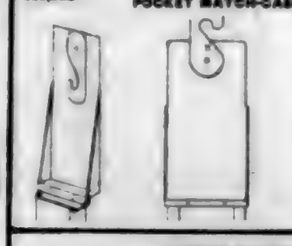
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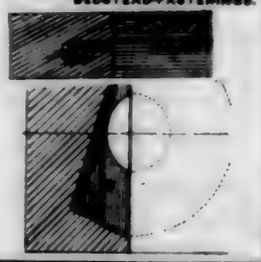
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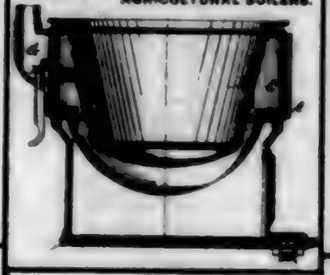
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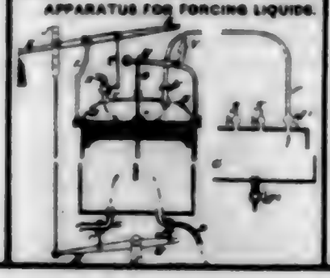
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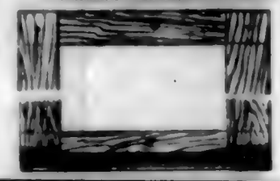
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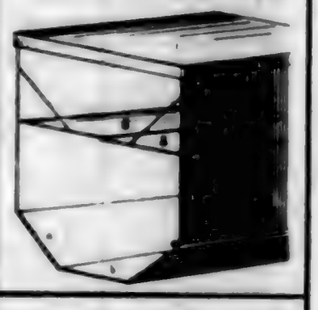
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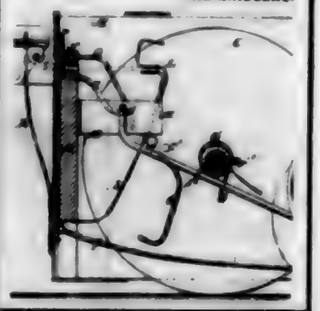
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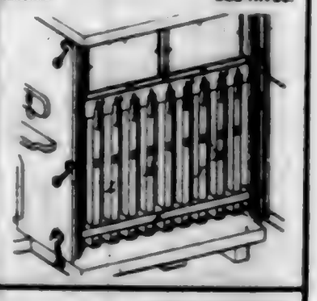
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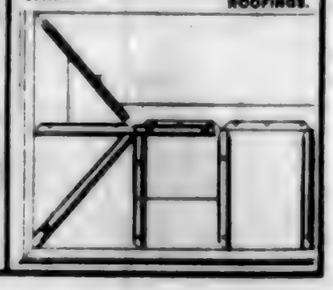
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120,893 MARTIN B. SANDERS. BEE-HIVES.



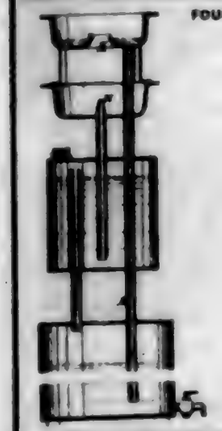
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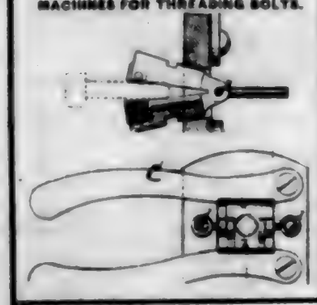
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120,896 HENRY R. SAWTELL. FOUNTAINS.



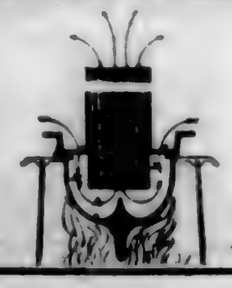
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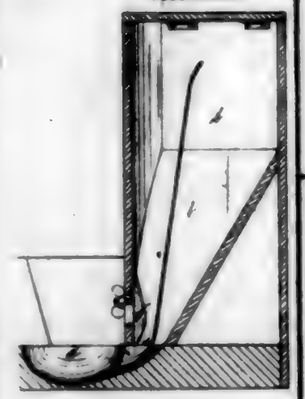
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120,899 WILLIAM SHAW. PORTABLE HEATING APPARATUS.



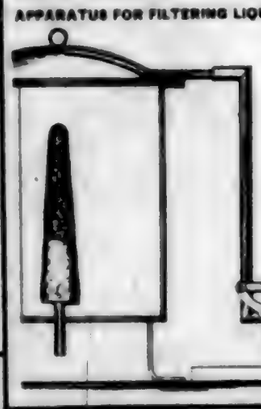
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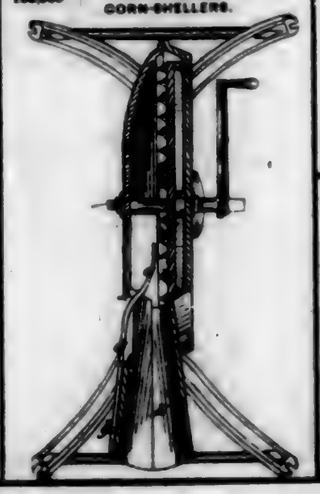
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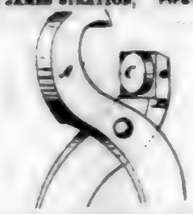
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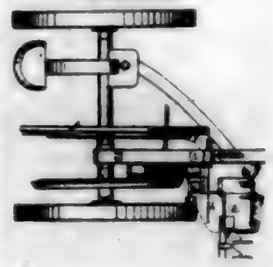
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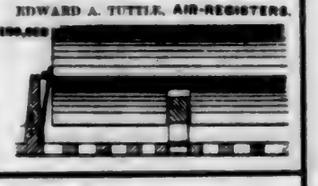
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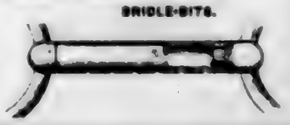
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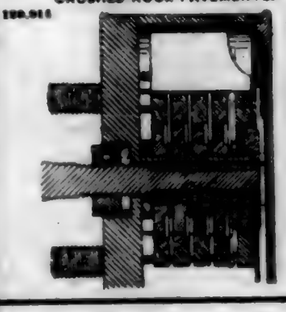
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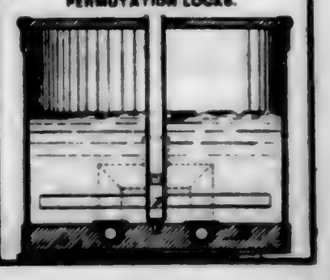
120,913 ALBERT VANAUKEN. BRIDLE-BITS.



120,914 AARON VAN CAMP. ASPHALTIC AND CRUSHED-ROCK PAVEMENTS.



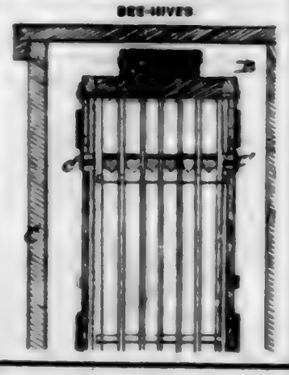
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120,917 MILES S. WATKINS. FIRE-PLACE GRATES.



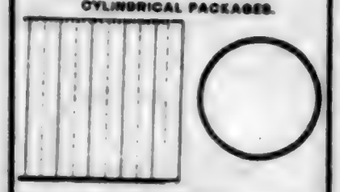
120,918 JOHN WHEELDON. BEE-HIVES.



120,919 OTIS G. WHITE. DENTISTS' AND BARBERS' CHAIRS.



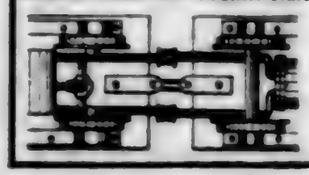
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120,921 EDWARD J. WILLCOX. FOLDING CHICKEN-COOPS.



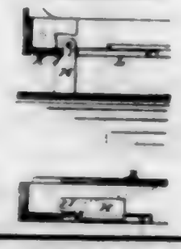
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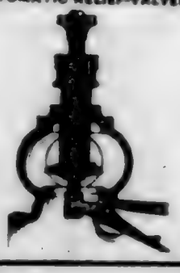
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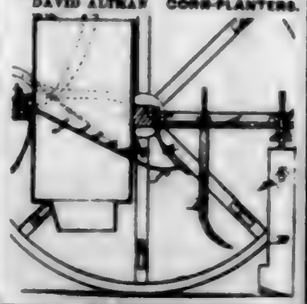
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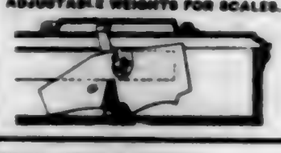
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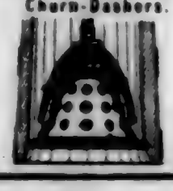
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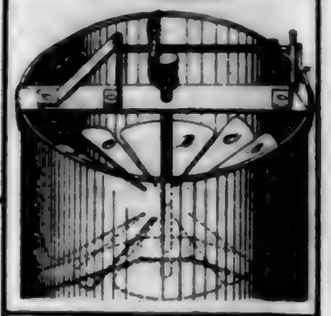
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120,928 EZRA J. ASHTON. Churn-Dashers.



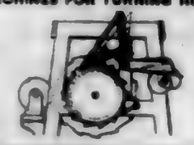
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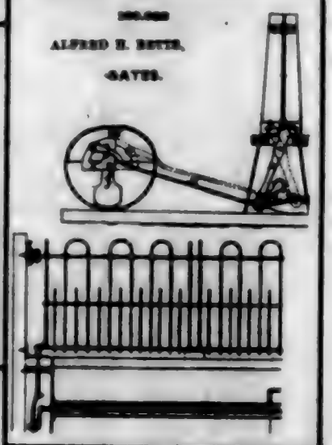
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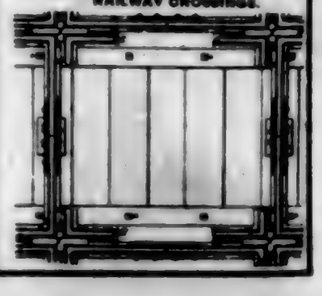
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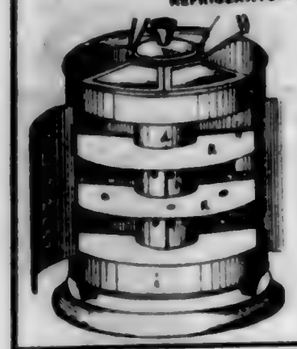
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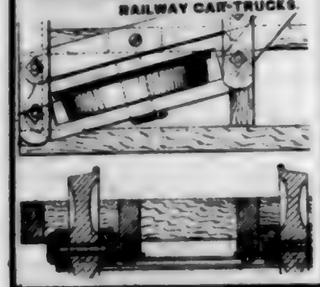
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120,934 WILLIAM BOOK. REFRIGERATORS.



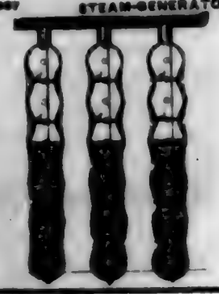
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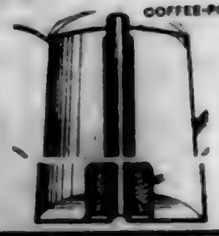
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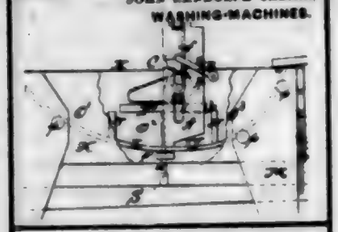
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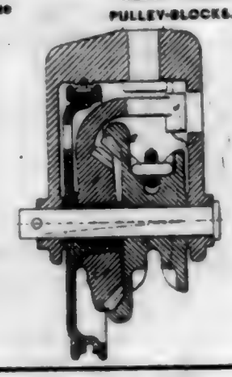
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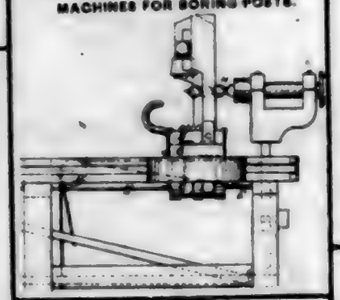
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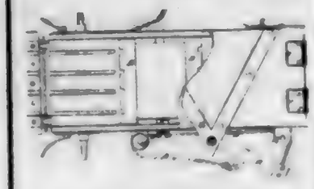
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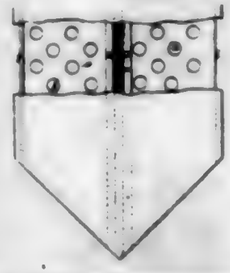
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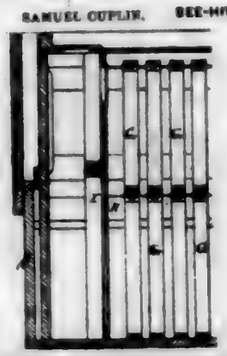
120,942 THOMAS J. CORNING. BALING-PRESSES.



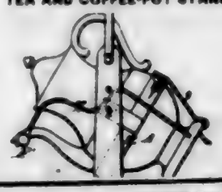
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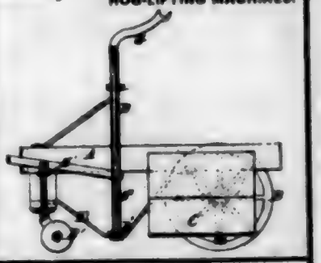
120,944 SAMUEL CUPLIN. BEE-HIVES.



120,945 PHILIP DAVID. TEA AND COFFEE-POT STANDS.



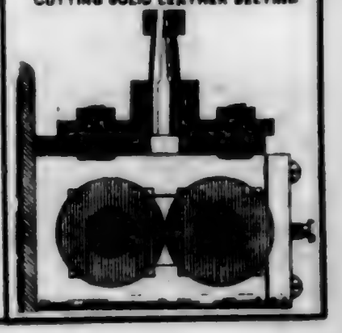
120,946 JOSEPH DAGLEY. HOG-LIFTING MACHINES.



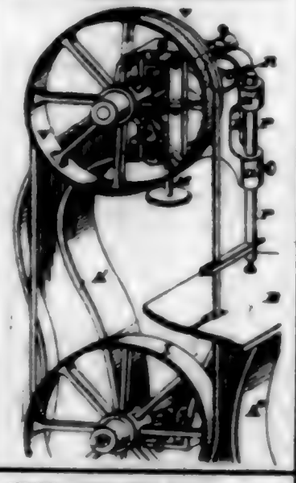
120,947 AUGUSTUS BALL DAVIS. WRENCHES.



120,948 DICKERSON AND WARREN. CUTTING SOLID LEATHER BELTING



120,949 DOANE AND McKEE.
SAND SAWING-MACHINES.



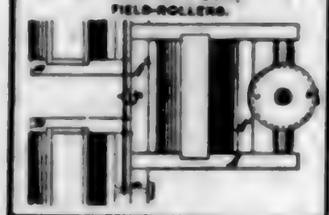
120,950 PETER FERGUSON
MECHANICAL MOVEMENTS.



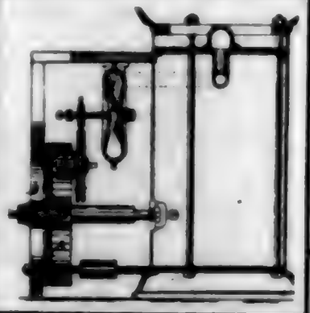
120,951 JAMES H. GILLIS.
RIGGING-CLAMPS.



120,952 GEORGE H. DOW.
FIELD-ROLLERS.



120,953 LEWIS B. FITCH.
DRIVING-GEARS FOR PORTABLE FORGES.

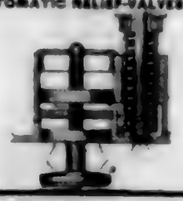


EDWIN GOMEZ.
MODES OF EXPLODING TORPEDOES.

120,954



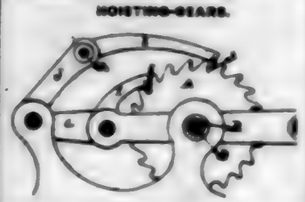
120,955 JAMES GARLAND.
AUTOMATIC RELIEF-VALVES.



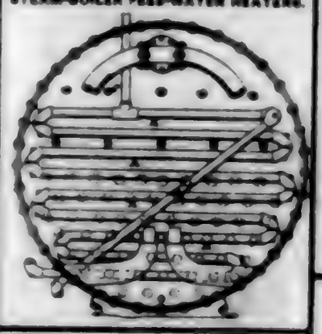
120,956 JAMES ALEXANDER GRANT, BRUSHES.



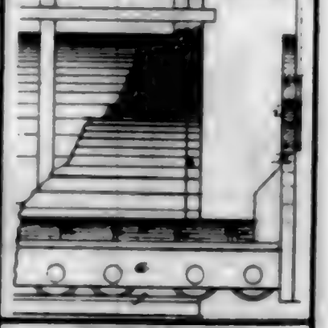
120,957 GEORGE DURRAH.
HOISTING-GEARS.



120,958 BENJAMIN GARVIN.
STEAM-BOILER FEED-WATER HEATERS.



120,959 WILLIAM P. HALL.
KILNS FOR BURNING BRICK, LIME, &c.



120,960 JOHN EMERY.
STILTS.



120,961 OSCAR S. EWING.
ANIMAL-TRAPS.



DWIGHT GIBBONS. SEATED URINALS.

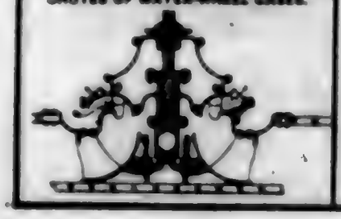
120,962



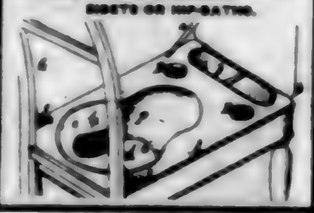
120,963 WILLIAM S. HALLADAY.
GUIDES FOR SEWING-MACHINES.



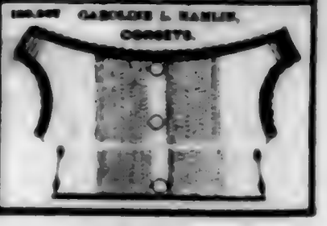
120,964 JOHN T. FANNING.
GATES OF WATER-WHEEL CASES.



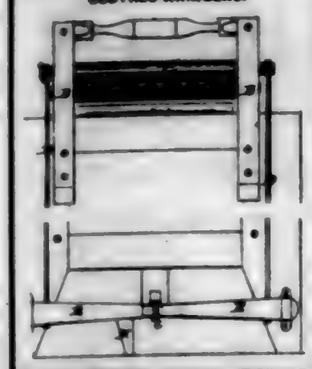
120,965 DWIGHT GIBBONS.
SEATS OR HIP-BATHS.



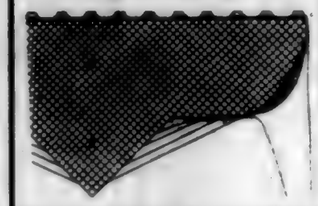
120,966 CAROLINE L. HANLY.
CORSETS.



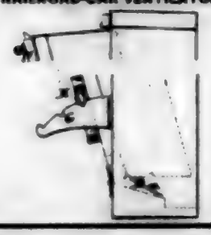
120,968 JAMES W. HAMPTON.
CLOTHES-WRINGERS.



120,969 ROBERT JEFFERY.
FISHING-SEINES.



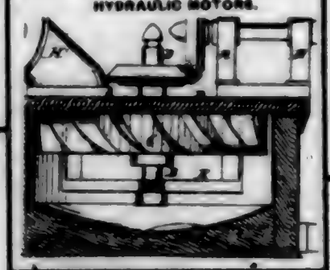
120,970 DANIEL C. JUSTISON.
RAILROAD-CAR VENTILATORS.



120,971 MILO HARRIS.
BINDING ATTACHMENTS FOR SEWING-MACHINES.



120,972 JOHN HENRY JENNINGS.
HYDRAULIC MOTORS.



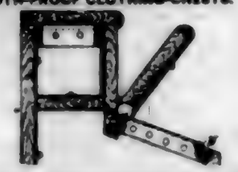
AUSTIN KELLEY, LADIES' DRESSES.
120,973



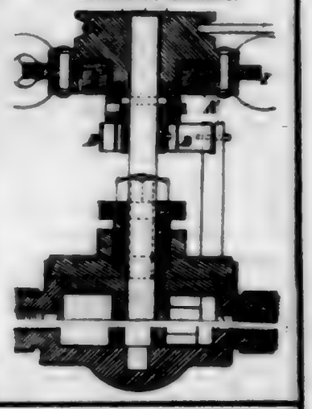
120,974 GEORGE CLIFFE HATCH.
POSTAGE-STAMP HOLDERS.



120,975 RALPH S. JENNINGS.
MOTH-PROOF CLOTHING-CHESTS.



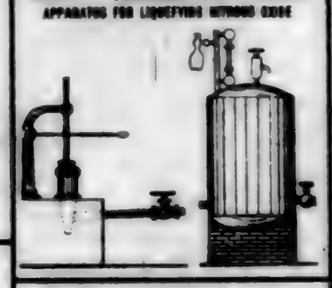
120,976 BENJAMIN S. LAWSON.
ENGINE-GOVERNORS.



120,977 LOUIS CHRISTIAN HOFFMEISTER.
WINDOW-SHADE FIXTURES.



120,978 JOHNSTON AND JOHNSTON.
APPARATUS FOR LIQUEFYING NITROUS OXIDE



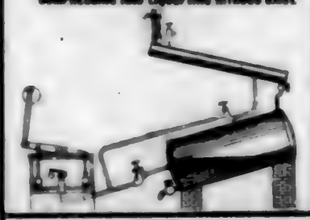
SAMUEL LESSIG, SR. GRAIN-SEPARATOR
120,979



120,980 SAMUEL HOOPER.
ORE-CRUSHING MACHINES.



120,981 JOHNSTON AND JOHNSTON.
CONDENSING AND LIQUEFYING NITROUS OXIDE



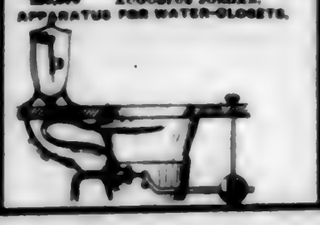
120,982 HENRY C. LOCKWOOD.
RAILWAY CAR-WHEELS.



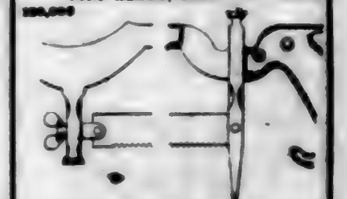
120,983 AARON J. HULL. PUMPS.



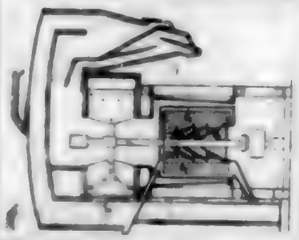
120,984 AUGUSTUS JORDAN.
APPARATUS FOR WATER-CLOSETS.



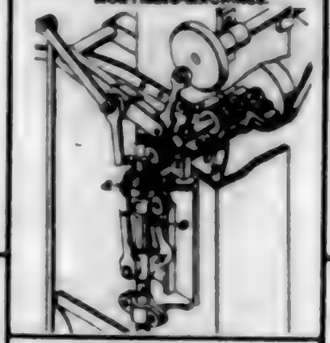
120,985 JOHN MADDY, GRAFTING-TOOLS.



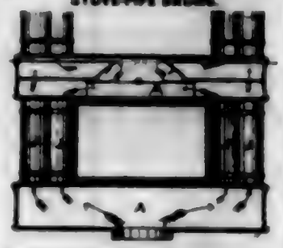
JAMES A. MALONEY.
SCORING AND DECORATING-MACHINES.



EYERS AND SMITH.
MORTISING-MACHINES.



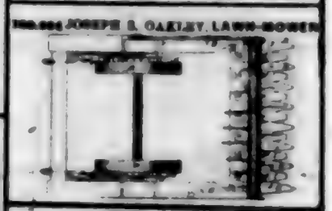
LEWIS BACHER.
STOVE-PIPE DRUMS.



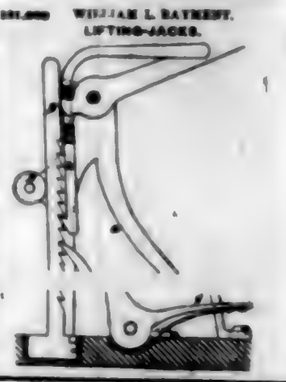
JOB HAINES.
WATCHMAKERS' CHUCKS.



JOSEPH S. OAKLEY. LAWN-MOWER.



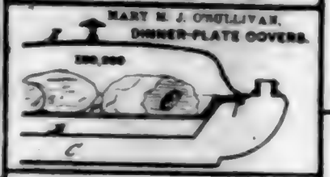
WILLIAM L. RATHBUN.
LIFTING-JACKS.



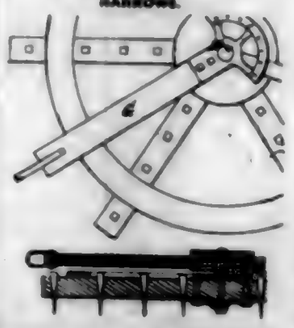
BENJAMIN F. MEADE. FENCES.



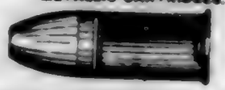
MARY M. J. O'SULLIVAN.
DINNER-PLATE COVERS.



WILLIAM SEWSTON.
HARROWS.



HENRY METCALFE.
METALLIC CARTRIDGES.



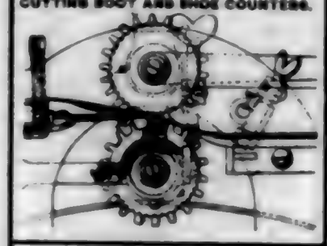
PHINEAS W. PHILLIPS.
CURTAIN-FIXTURES.



FREDERICK L. MILLER.
SOLDERING-APPARATUS.



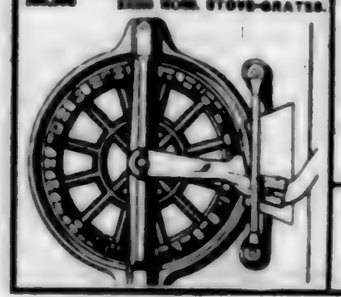
SYLVANUS C. PHINNEY.
CUTTING BOOT AND SHOE COUNTERS.



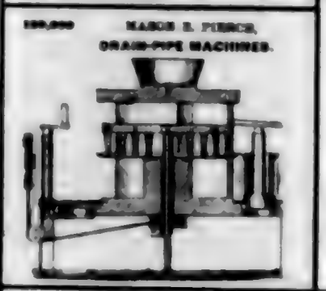
CHARLES E. HOE.
MAIN-SPRING ATTACHMENTS FOR WATCHES.



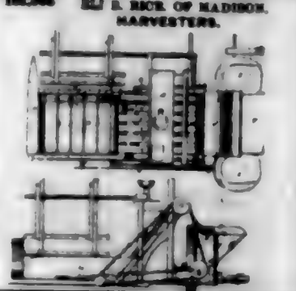
ISAAC WOOD. STOVE-GRATES.



MARSH S. PIERCE.
DRAIN-PIPE MACHINES.



ELI H. RICE OF MADISON.
HARVESTERS.



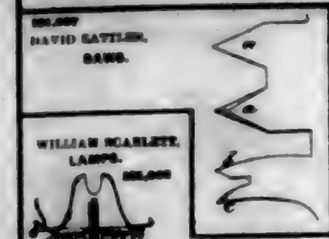
CLARK M. PLATT. BUTTONS.



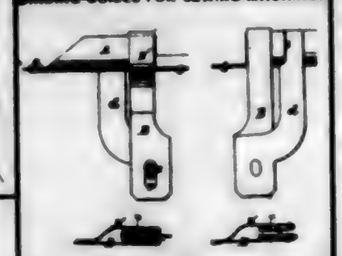
JOHN D. SATER. LINE-HOLDERS.



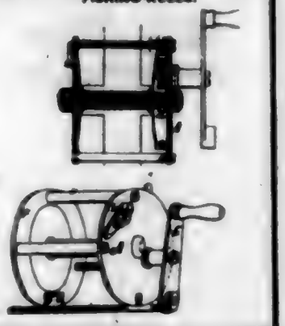
DAVID SAVILLE.
SAWS.



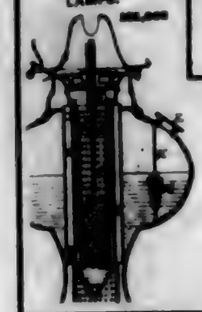
WILLIAM T. SMITH.
GUIDES FOR SEWING-MACHINES



SILAS B. TERRY.
FISHING-REELS.



WILLIAM SCARLETT.
LAMPS.



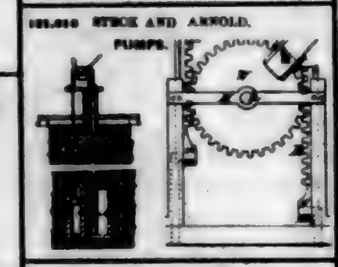
PHILIP A. SNYDER.
SNAPS AND BUCKLES COMBINED.



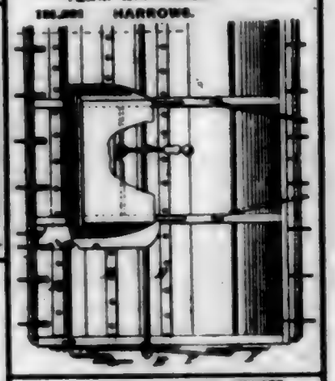
HERMANN SNYDER.
FEED-REGULATORS FOR LIQUIDS.



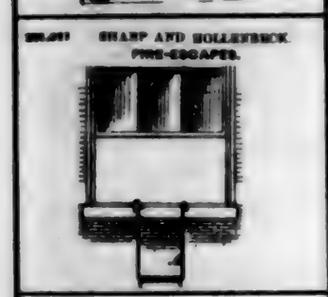
STRUCK AND ARNOLD.
PUMPS.



TEAGE AND TEAGE.
HARROWS.



SHARP AND HOLLENBECK.
FIRE-ESCAPES.



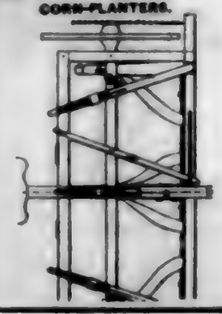
ALLAN TALBOTT.
THIMBLES FOR MAKING ATTACHMENTS TO STEAM-BOILERS.



CHARLES H. THORNTON.
HARNESS-MOUNTINGS.



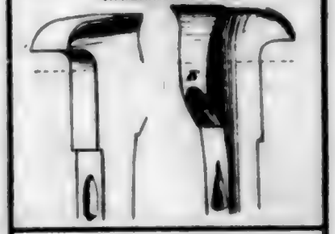
DAVID J. SHIKERS.
CORN-PLANTERS.



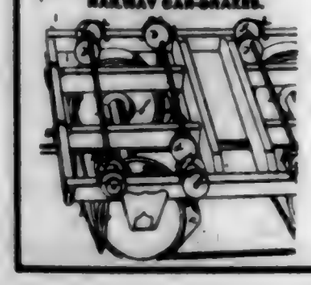
JULIUS F. TALLANT
ROTARY STEAM-VALVES.



THEODORE R. TIMBY.
RAILROAD SPIKES.



WILLIAM F. H. SMITH.
RAILWAY CAR-BRAKES.



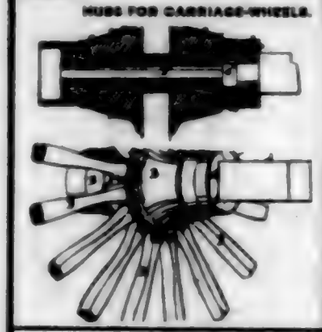
WILLIAM TEAGUE.
STOVE-LIDS.



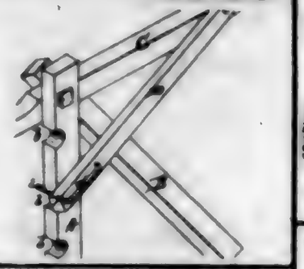
MORTON TOWER.
RAILWAY CAR-BASKETS.



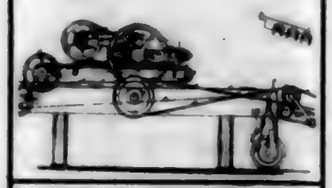
121,025 ROLLAND S. VICK.
HUBS FOR CARRIAGE-WHEELS.



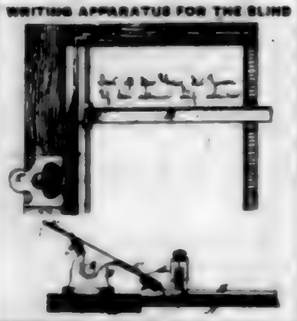
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WAGON-JACKS.



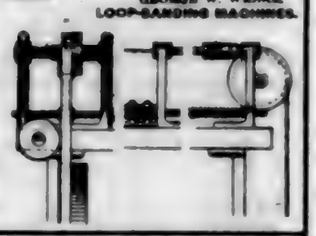
4,036 OLIVER ERON CRANE.
MANUFACTURE OF LOZENGES.



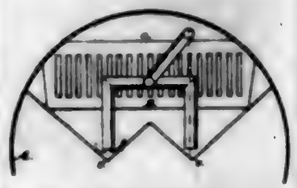
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WRITING APPARATUS FOR THE BLIND



121,028 GEORGE W. WENKS.
LOOP-SANDING MACHINES.



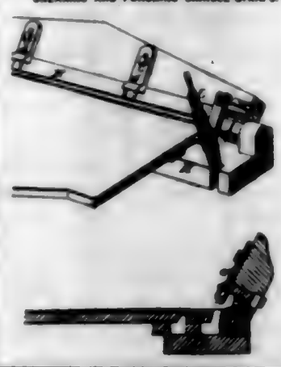
4,038 COLLINS WOOD DEANE.
SEDIMENT-COLLECTORS
FOR STEAM-BOILERS.



121,029 JAMES M. WHITING.
ELASTIC CAR-WHEELS.



4,039 THEODORE E. HARRIS.
SHEARING AND PUNCHING SHINGLE-STRAPS.



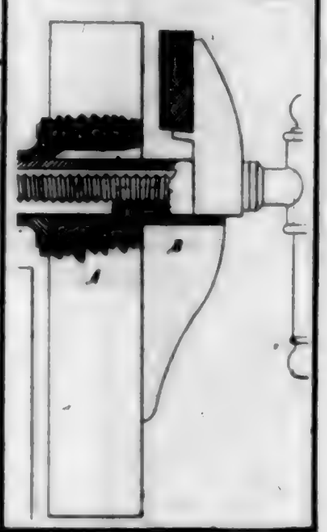
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HANKS FOR SAILS.



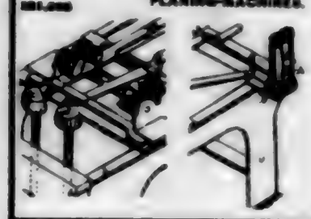
121,031 WARREN AND STOCK.
WRENCHES.



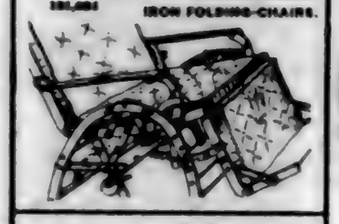
4,037 JOHN SIMPSON.
VISES.



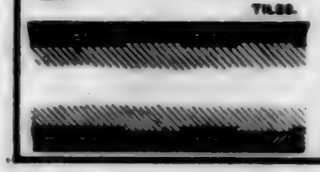
121,032 ANDREW J. WATSON.
PLANING-MACHINES.



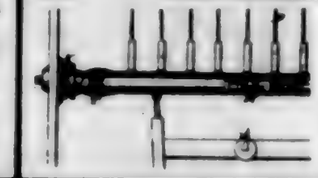
121,033 GEORGE WILSON.
IRON FOLDING-CHAIRS.



121,034 DAVID H. WATTS.
TILES.

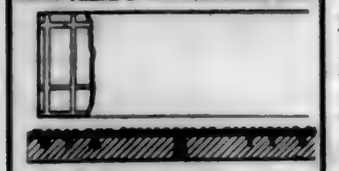


121,035 JAMES E. WISNER.
HORSE HAY-RAKES.

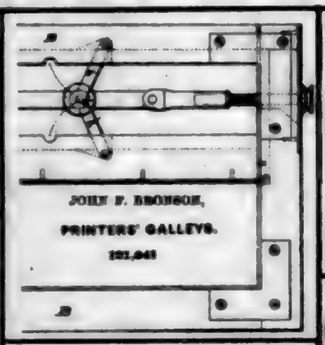


ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
NOVEMBER 21, 1871.

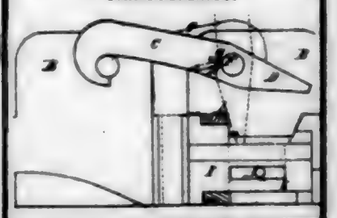
121,036 FRANK H. AIKEN, STEREOTYPES.



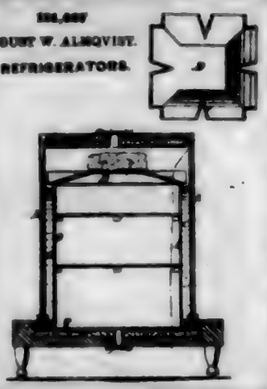
JOHN F. BRONSON,
PRINTERS' GALLEYS.
121,041



121,037 JOHN M. ENOS AND JOAB ENOS.
CAR-COUPLINGS.



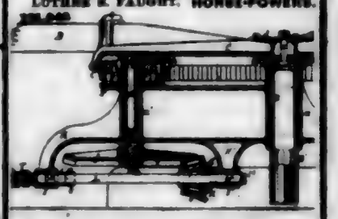
121,038 AUGUST W. ALMQVIST.
REFRIGERATORS.



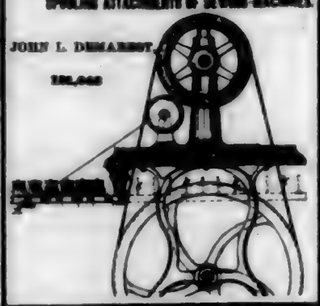
121,039 GEORGE R. CLARKE.
WASHING AND WRINGING MACHINES.



LUTHER R. FAUGHT. HORSE-POWERS.
121,040



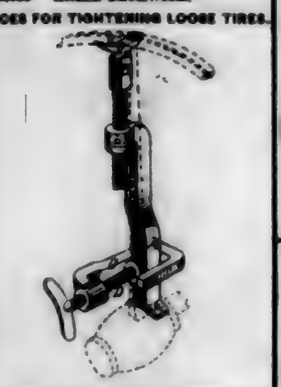
SPOOLING ATTACHMENTS OF SEWING-MACHINES.
JOHN L. DEMARBOIS.
121,042



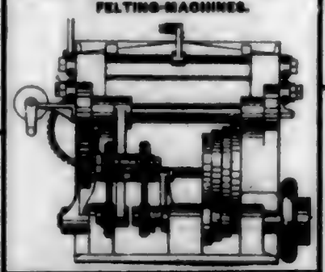
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HOBBS F. GALE.
CIGAR-LIGHTERS.



121,044 HIRAM BROKWITH.
DEVICES FOR TIGHTENING LOOSE TIRES.



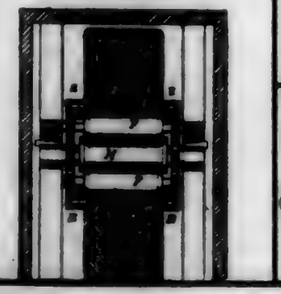
121,045 RUDOLPH BICKERHEYER.
FELTING-MACHINES.



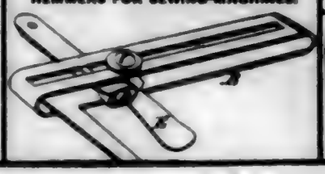
121,046
HAYWARD A. HARVEY.
BRUSHES.



121,047 JOHN D. BERRY.
JOURNAL-BOXES.



121,048 HERBERT A. ELLIS.
HEMMERS FOR SEWING-MACHINES.



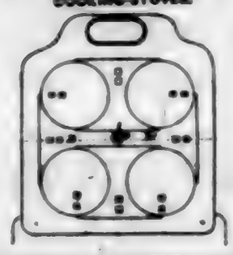
121,049
JOHN B. REVERLING,
CAR-COUPLINGS.



121,050 JOEL ADAMS HOWELL.
MARINE TORPEDO



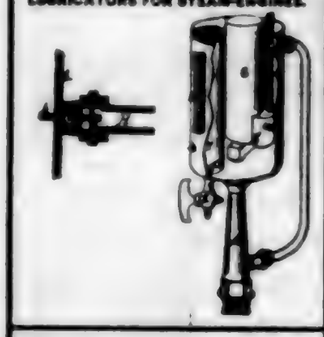
SEYMOUR KETCHUM,
COOKING-STOVES.



JOSEPH KNAPP,
HANDLES FOR FRUIT-BASKETS.



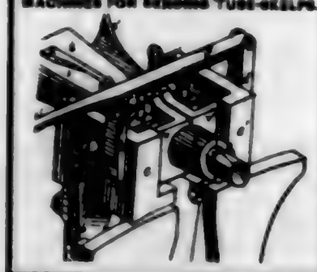
CHARLES LYNCH,
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OSCAR HADDAOK, KITES.



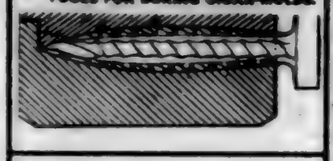
GEORGE WATERSON,
MACHINES FOR SEWING TUBE-SKELPS.



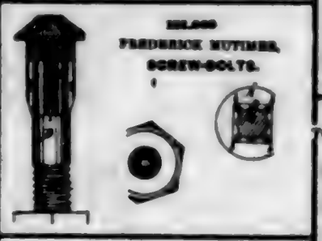
EDWARD WILDER,
GORE CUTTER-BENCHES AND KNIVES.



MOSELEY AND BRAUDE,
TOOLS FOR BORING CIGAR-MOLDS.



FREDERICK MUTIMER,
SCREW-BOLTS.



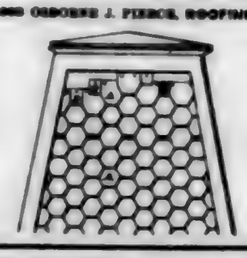
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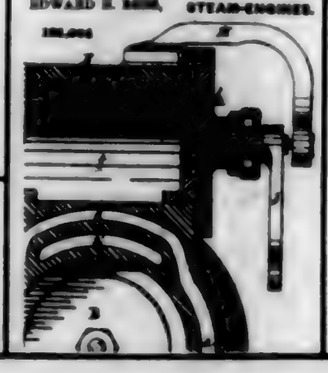
THOMAS B. PROSSER,
SMOKE-STACKS FOR ENGINES.



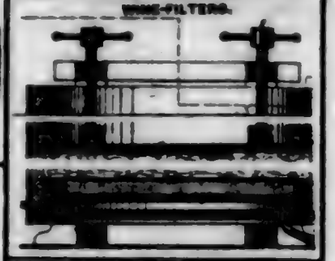
OSBORNE J. PIERCE, ROOFINGS.



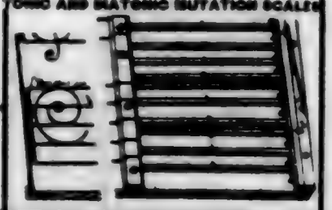
EDWARD H. REED, STEAM-ENGINES.



AUGUST F. SCHMIDT,
WINE-FILTERS.



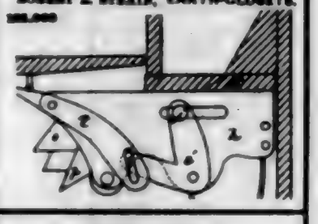
JAMES H. SCOTT,
TONIC AND SNATONIC SUTATION SCALES.



LEWIS THAYER STETSON,
PERCHES FOR FOWLS.



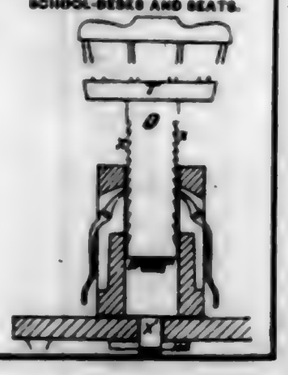
ROBERT D. STRAIN, EARTH-CLOSETS.



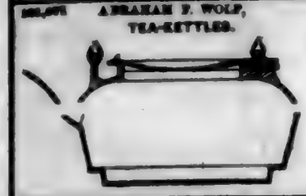
ALBERT M. UTLEY,
BLACKING-BOXES.



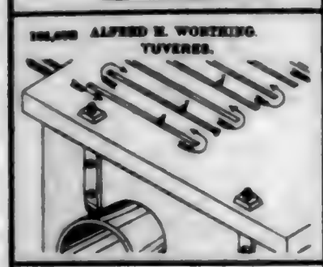
WILEY WATSON,
SCHOOL-DESKS AND SEATS.



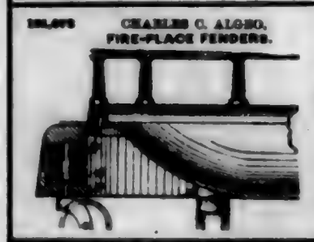
ABRAHAM P. WOLF,
TEA-KETTLES.



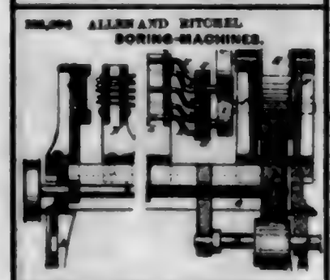
ALFRED H. WORTHING,
TUYERES.



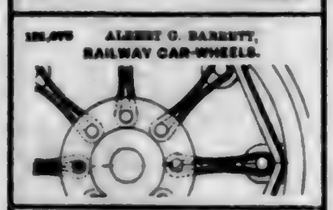
CHARLES C. ALGEO,
FIRE-PLACE FENDERS.



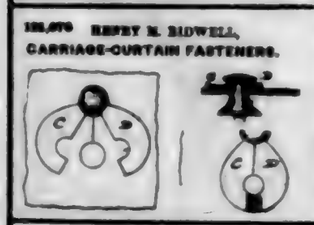
ALLEN AND RITCHEL,
BORING-MACHINES.



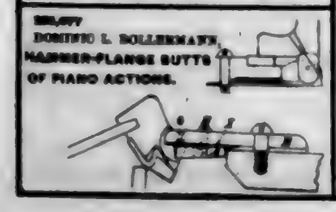
ALBERT C. BARRETT,
RAILWAY CAR-WHEELS.



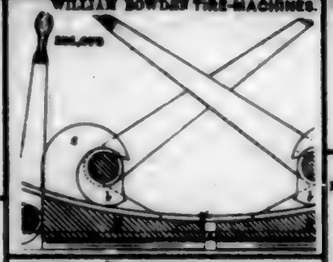
HENRY M. RIDWELL,
CARRIAGE-CURTAIN FASTENERS.



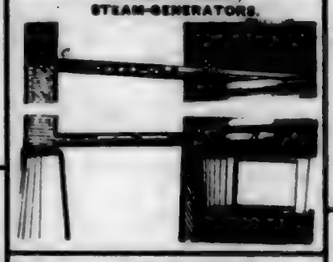
DORIVIC L. BOLLEMAER,
HAMMER-FLANGE BUTTS
OF PIANO ACTIONS.



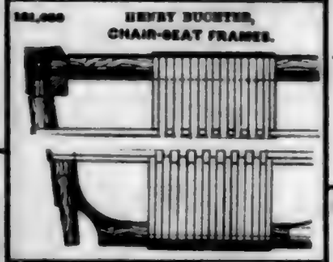
WILLIAM BOWLES FIRE-MACHINES.



ALVAN D. BROCK,
STEAM-GENERATORS.



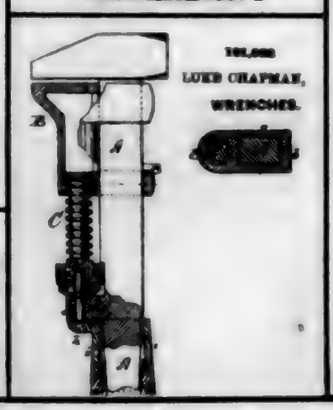
HENRY BUCHTEL,
CHAIR-SEAT FRAMES.



WALTER S. BUNGIE,
LIFTING-JACKS.



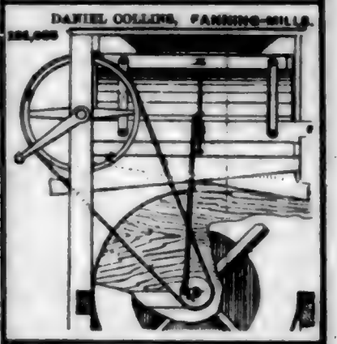
LUKE CHAPMAN,
WRENCHES.



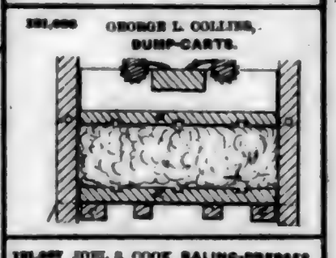
THOMAS H. CLARKE, DRAWING-KNIVES.



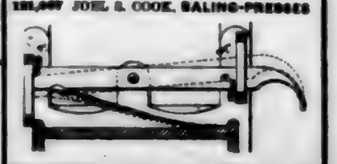
DANIEL COLLINS, FANNING-MILLS.



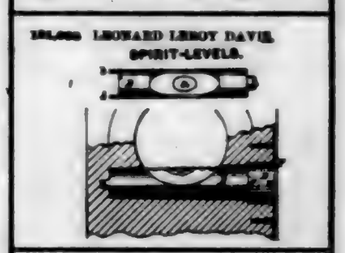
GEORGE L. COLLIER,
DUMP-CARTS.



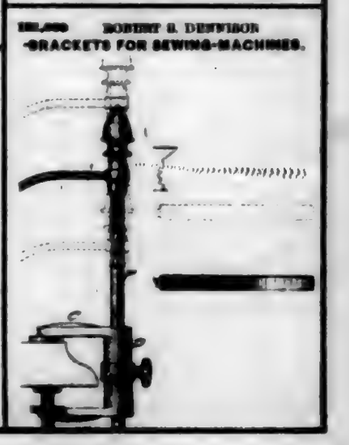
JOEL S. COOK, BALING-PRESSES



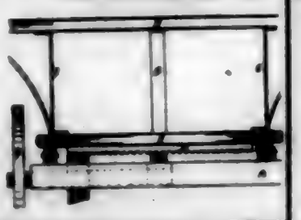
LEONARD LEROY DAVIS,
SPIRIT-LEVELS.



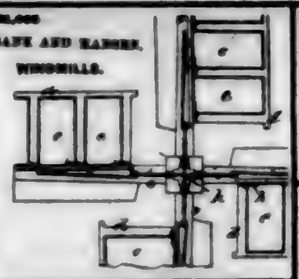
ROBERT S. DENNISON
BRACKETS FOR SEWING-MACHINES.



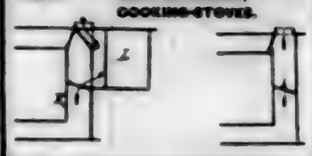
121,090 PATRICK H. DONOHOO, TABLES FOR HARVESTERS.



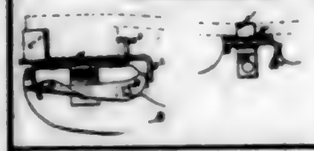
121,091 FRANK AND RANNEY, WINDMILLS.



121,092 LEVI HERRINGER, COOKING-STOVES.



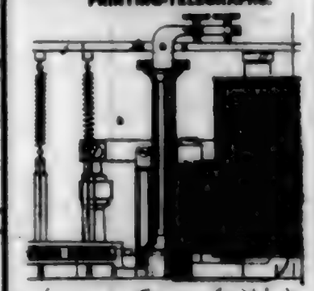
121,093 EDWARD LAWSON FEWKETT, SKATE-FASTENINGS.



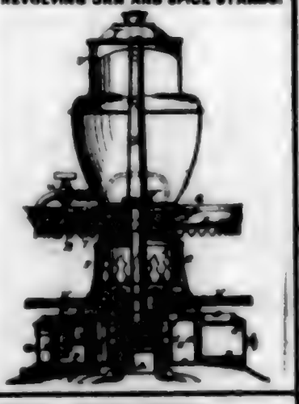
121,094 EDWARD L. GAYLORD, KEYS FOR SEWING-MACHINE LOCKS.



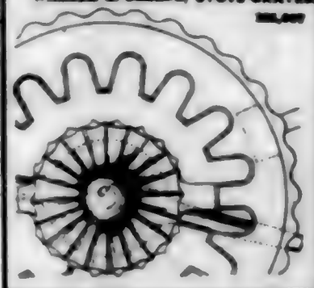
121,095 RICHARD HERRING, PRINTING-TELEGRAPHS.



121,096 WILLIAM JOHN EVANS, REVOLVING URN AND SPICE STANDS.

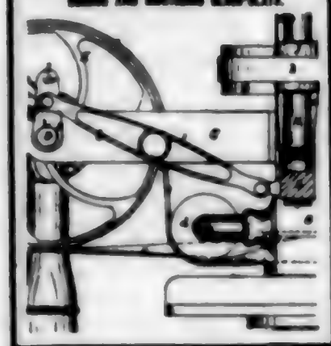


121,097 WILLIAM A. GREEVE, STOVE-GRATES.

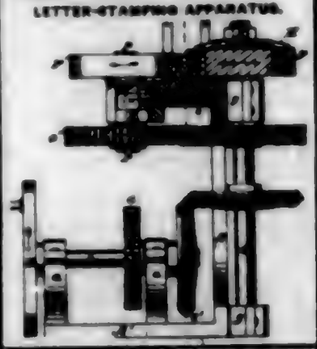


121,098 JOHN C. KAUNA, SASH-HOLDERS.

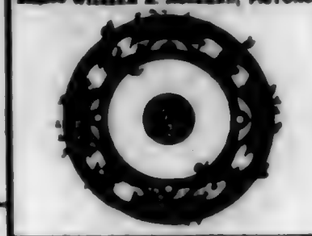
121,099 THOMAS FLEMING, [illegible]



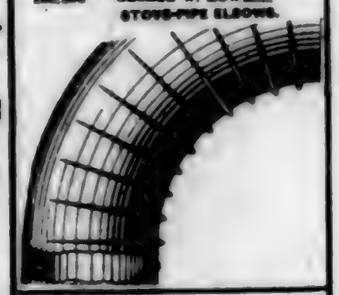
121,100 THOMAS C. HANGRAVE, LETTER-STAMPING APPARATUS.



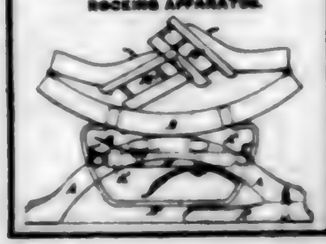
121,101 WILLIAM H. HOLLAND, PISTONS.



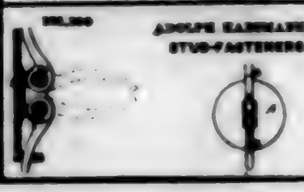
121,102 GEORGE W. HOWELL, STOVE-PIPE ELBOWS.



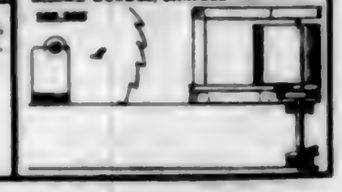
121,103 JOHN F. FOWLER, ROCKING APPARATUS.



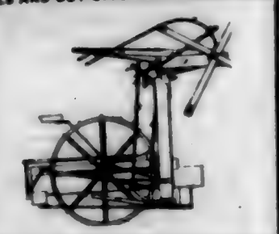
121,104 ADOLPH HARNEAFF, STUD-FASTENERS.



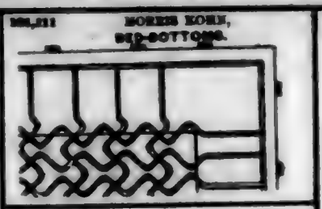
ELISHA WOODS, SHINGLE-MACHINES.



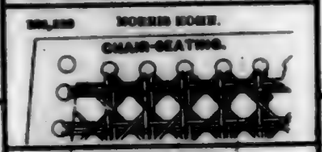
121,107 JOHN H. KELLER, REELS AND CUT-OFFS FOR HARVESTERS.



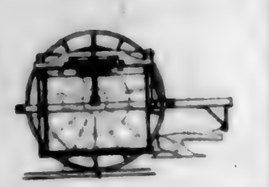
121,111 MORRIS KOHN, BED-BOTTOMS.



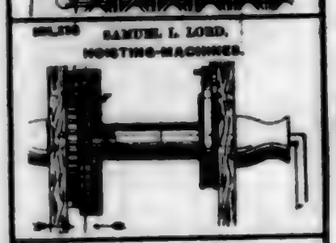
121,112 MORRIS KOHN, CHAIR-SEATING.



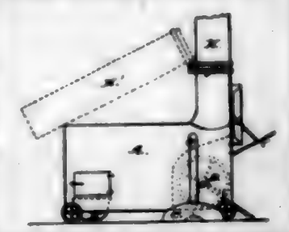
121,113 JESSE KIPP, EXCAVATING-CARTS.



121,114 SAMUEL L. LORD, HOISTING-MACHINES.



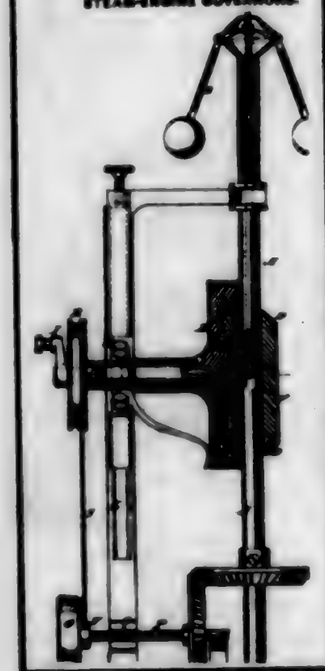
121,115 McKENZIE AND STRIDER'S APPLIANCES FOR PREPARING AND USING THE BARK.



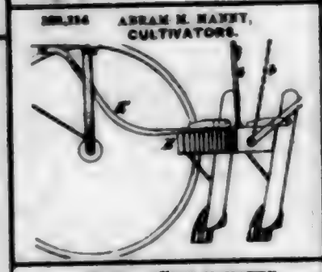
121,116 GEORGE F. MORSE, SOLDERING GLASS AND METAL SURFACES, &C.



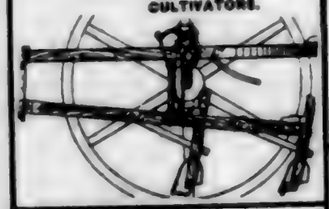
121,117 AARON E. KLINE, STEAM-ENGINE GOVERNORS.



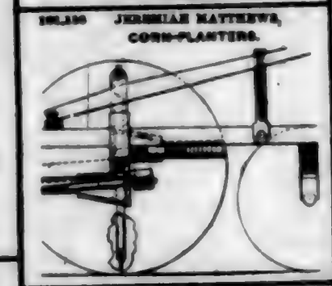
121,118 ABRAM H. HANEY, CULTIVATORS.



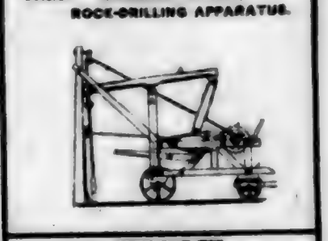
121,119 ABRAM H. HANEY, CULTIVATORS.



121,120 JEREMIAH MATTHEWS, CORN-PLANTERS.



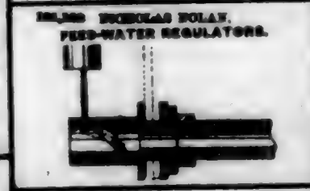
121,121 LYCURGUS NELSON, ROCK-DRILLING APPARATUS.



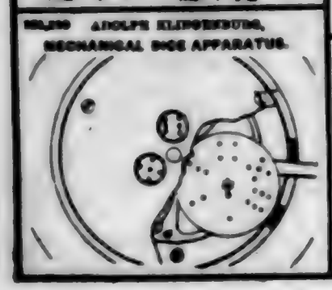
121,122 JOHN DAY HIX, COTTON AND HAY PRESSES.



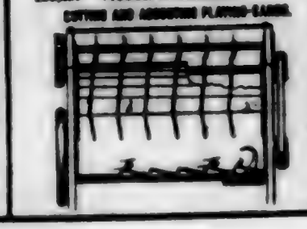
121,123 NICHOLAS ROLAY, FEED-WATER REGULATORS.



121,124 ADOLPH KLIPPERBURG, MECHANICAL DOG APPARATUS.



121,125 VICTOR E. MAUGER, COTTON AND ASBESTOS PLAITED CABLE.



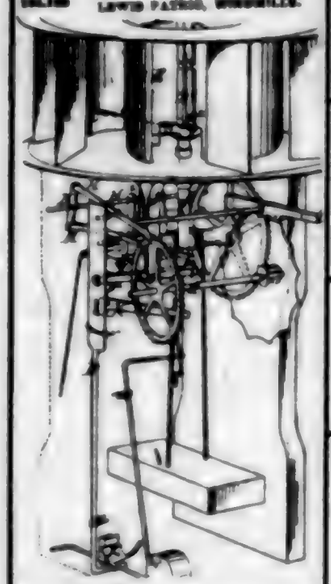
121,126 CHARLES H. OWEN, CLEARERS FOR HARVESTERS.



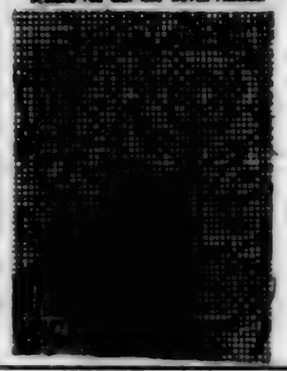
121,124 LEHMAN G. PALMER.
KNITTING AND LOOPING RODS FOR CARPETS.



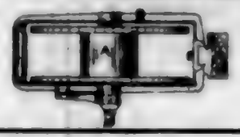
121,125 LEWIS PATRIC, WINDMILLS.



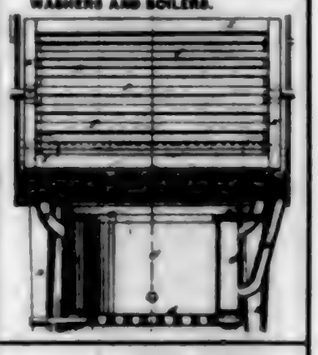
121,126 ISAAC ERNY,
SCREENS FOR COAL AND WOVEN FABRICS.



121,127 CHARLES H. STRAFFIN,
CLOTHES-LINE REELS.



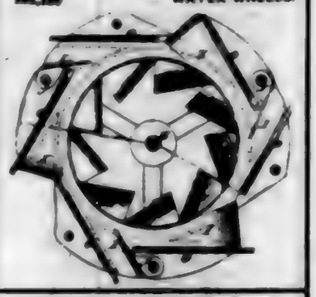
121,128 TAYLOR AND CRISMAN
WASHERS AND BOILERS.



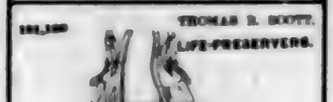
121,129 SAMUEL D. REYNOLDS,
ROAD-DRESSERS.



121,130 DE WITT C. TELLER,
WATER-WHEELS.



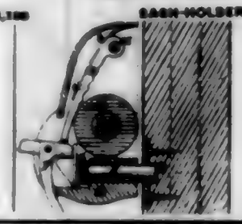
121,131 CHARLES SCHILLING,
MECHANISMS FOR LOOMS.



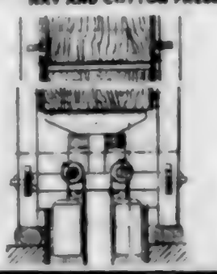
121,132 THOMAS B. SCOTT,
LIFE-PRESERVERS.



121,133 CHARLES T. TREGLE,
SASH-HOLDERS.



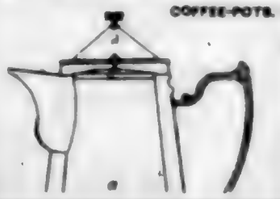
121,134 JOHN J. SMILEY,
HAY AND COTTON PRESSES.



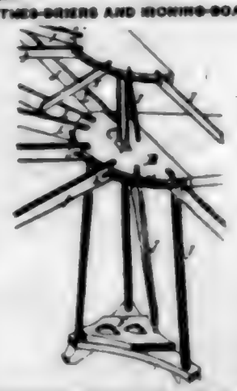
121,135 LANCASTER THOMAS
SHEET-METAL CANS.



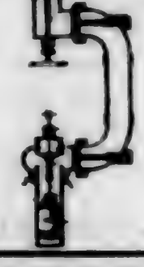
121,136 JAMES WILLARD PATTERSON
COFFEE-POTS.



121,137 MARTIN POWER,
CLOTHES-DRIERS AND IRONING-BOARDS.



121,138 FREDERICK BYTHAM,
DEVICES FOR FILLING BARRELS.



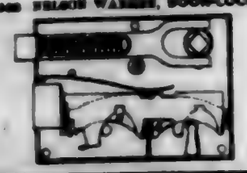
121,139 ISRAEL TOWNSEND,
RAILWAY CAR-BRAKES.



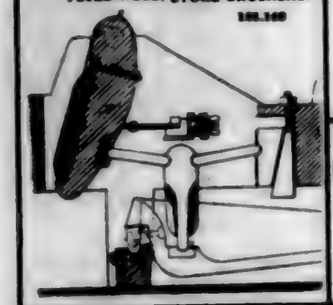
121,141



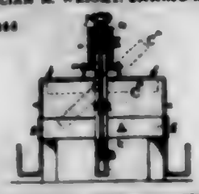
121,142 HIRAM WARREN, DOOR-LOCKS.



121,143 PETER WOOD, STONE-CRUSHERS.



121,144 WILLIAM H. WRIGHT, SAWING-MACHINE.



121,145 JAMES H. ALLEN,
RAILWAY CAR-SEATS.



121,146 AARON BAUMAN.
BUCKETS FOR CHAIN-PUMPS.



121,147 JONAS D. BROE,
MACHINISTS' VISES.

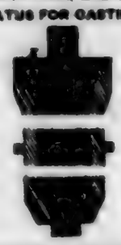


121,148 JOHN FREDERICK BRODE,
CAR-BRAKES.

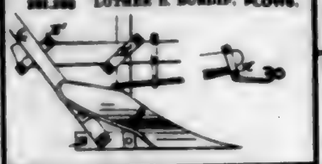


BRODIE, SMITH, AND TYLER.
APPARATUS FOR CASTING PIPES.

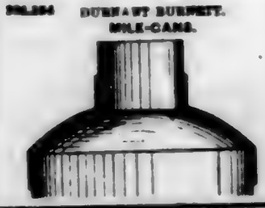
121,149



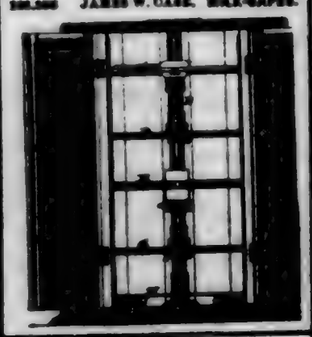
121,150 LUTHER B. BURDIF, PLOWS.



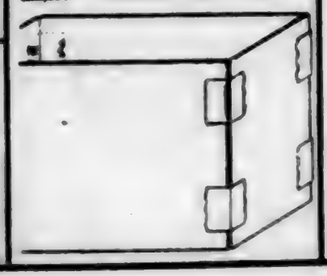
121,151 DURHAM BURNETT,
MILK-CANS.



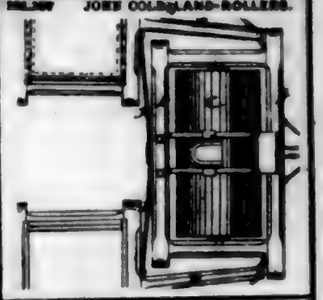
121,152 JAMES W. CASE, MILK-CANS.



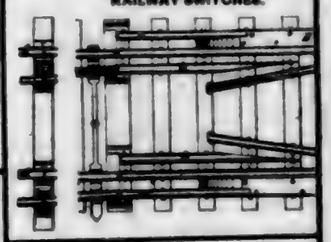
121,153 JOSEPH COHN, BOXES.



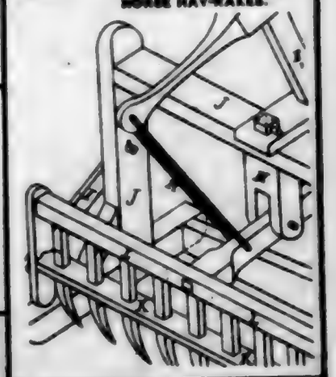
121,154 JOHN COLDLAND-ROLLERS.



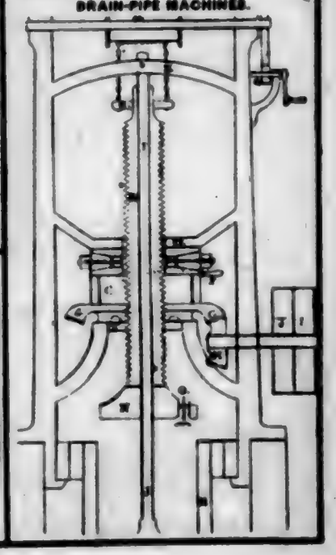
121,155 CHARLES LEE COOKE,
RAILWAY SWITCHES.



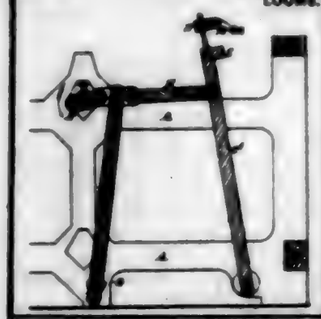
121,156 LUCIAN A. CROCKETT,
HORSE HAY-RAKES.



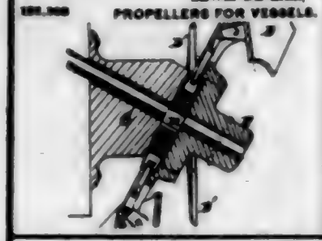
121,157 ALBERT J. DAVIS
DRAIN-PIPE MACHINES.



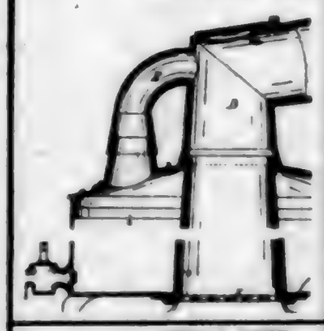
121,161 HENRY G. DAVIS. LOOMS.



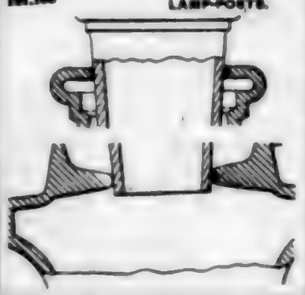
121,162 LEWIS DE LILL. PROPELLERS FOR VESSELS.



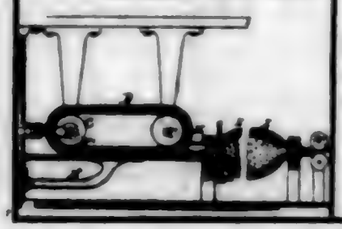
121,163 NICHOLAS GERGES. COOKING APPARATUS.



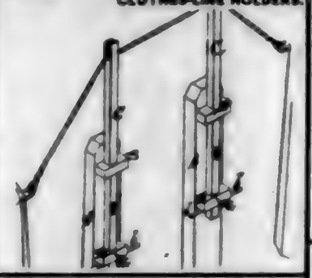
121,164 LYMAN A. GOUCH. LAMP-POSTS.



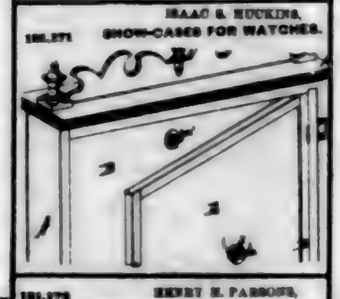
121,165 JAMES KNOX GRIFFITH. MANUFACTURE OF ROOFING, FLOORING,



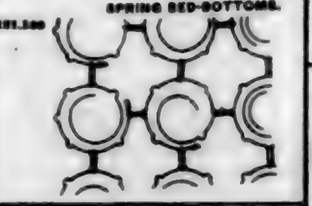
121,166 JOSEPH B. HARBECKER. CLOTHES-LINE HOLDERS.



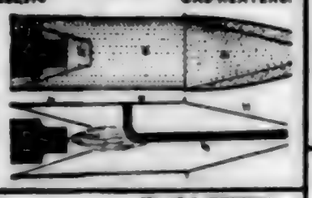
121,167 JOHN W. HANNAN. MILK-CAN HANDLES.



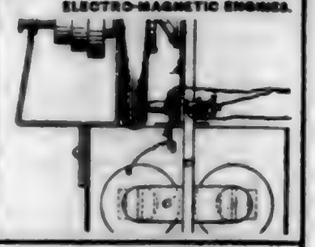
121,168 HARROW HARD. SPRING SEED-BOTTOMS.



121,169 DAVID GREENE HASKINS. GAS-HEATERS.

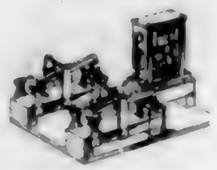


121,170 SOLOMON JONES. ELECTRO-MAGNETIC ENGINES.

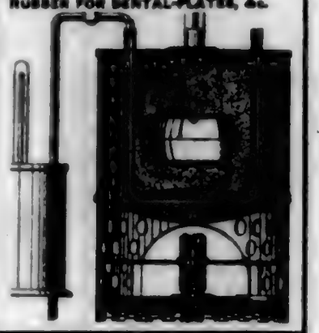


121,171 ISAAC S. HUCKINS. SHOW-CASES FOR WATCHES.

121,172 HENRY H. PARSONS. MACHINES FOR MAKING AXES.



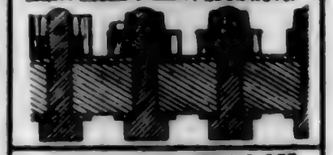
121,173 CYRUS H. KELSEY. RUBBER FOR DENTAL-PLATES, &c.



121,174 SALEM T. LANE. LOCK-NUTS.



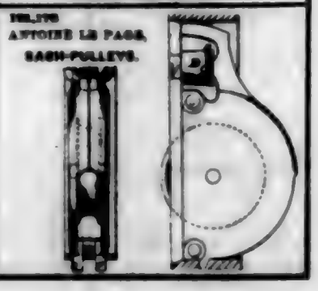
121,175 SALEM T. LANE. LOCK-NUTS.



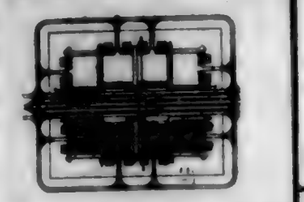
121,176 CHARLES C. LEE. SHAFT-TUGS FOR HARNESS.



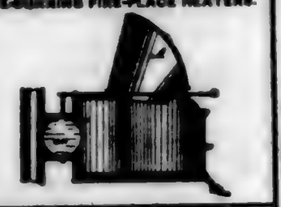
121,177 ANTOINE LE PAGE. SASH-PULLEYS.



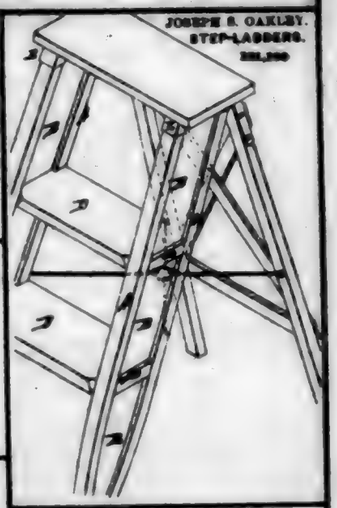
121,179 THALES LINDSLEY. BRICK-KILNS.



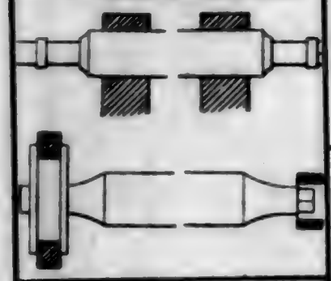
121,180 WILLIAM L. McDOWELL. BASE-BURNING FIRE-PLACE HEATERS.



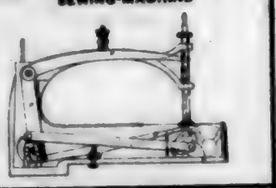
121,181 JOSEPH S. OAKLEY. STEP-LADDERS.



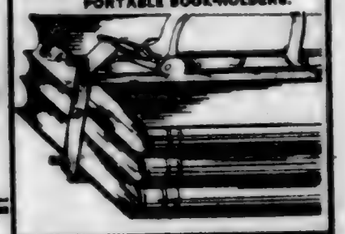
121,182 LORDELL AND MEGAW. FINISHING CHILLED ROLLS.



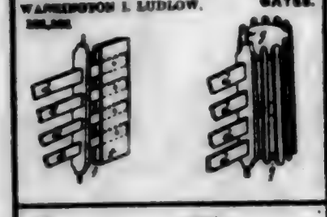
121,183 LINCOLN A. MERRIAM. SEWING-MACHINE



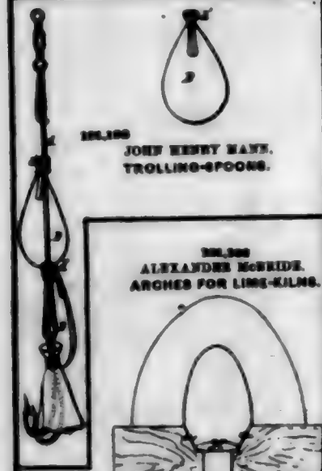
121,184 HERMAN A. OESTERLE. PORTABLE BOOK-HOLDERS.



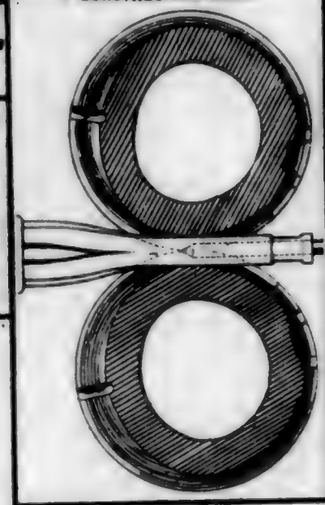
121,185 WASHINGTON I. LUDLOW. GATES.



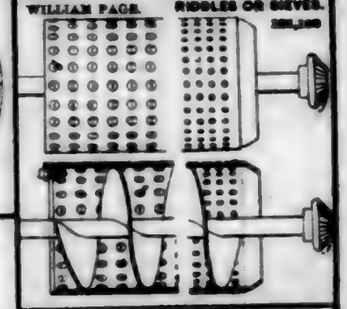
121,186 JOHN HENRY MANN. TROLLING-SPOONS.



121,187 JAMES MONTGOMERY. CONSTRUCTING AXLES.



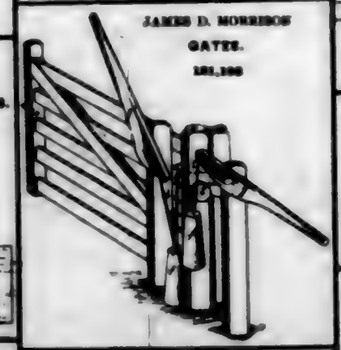
121,188 WILLIAM PAGE. RIDDLES OR SIEVES.



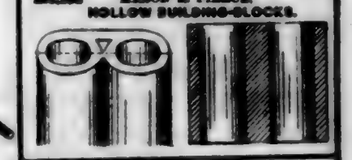
121,189 ALEXANDER McBRIDE. ARCHES FOR LIME-KILNS.



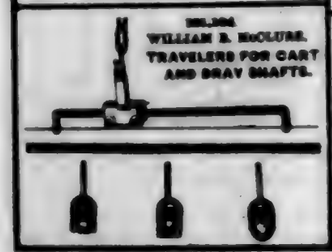
121,190 JAMES D. MORRISON. GATES.



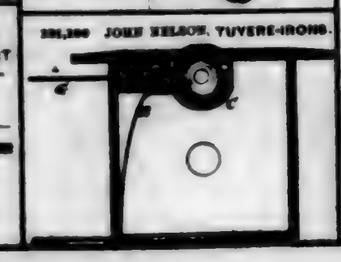
121,191 MASON B. PIERCE. HOLLOW BUILDING-BLOCKS.



121,192 WILLIAM B. McCLURE. TRAVELERS FOR CART AND DRAY SHAFTS.



121,193 JOHN NELSON. TUYERE-IRONS.



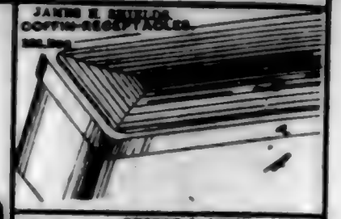
121,194 LOUIS T. PFOTT. COMBINED WISPS AND FLASKS.



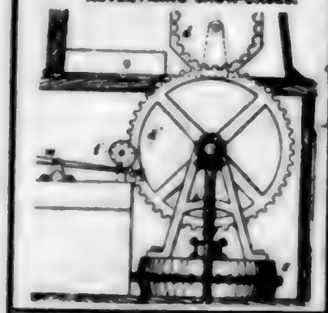
121,195 WILLIS READ, WATER-WHEELS.



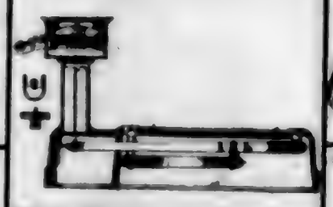
JAMES E. SHIELDS, COFFIN-REST FASTENER.



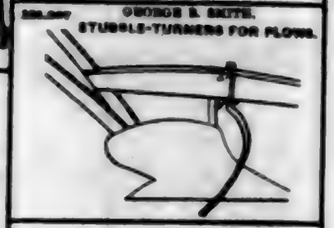
121,200 WILLIAM H. REITZ, ADVERTISING SHOW-CASES.



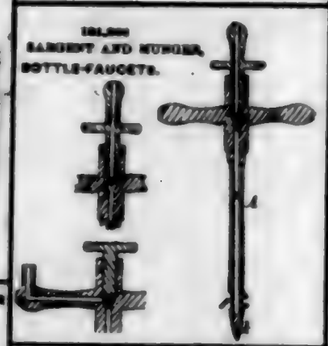
NATHAN FAIRBANK, PLATFORM-SCALES.



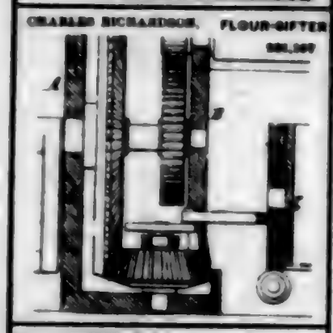
GEORGE B. SMITH, STUBBLE-TURNERS FOR PLOWS.



121,202 SARGENT AND MUNGER, BOTTLE-FAUCETS.



CHARLES RICHARDSON, FLOUR-SIFTER 121,207



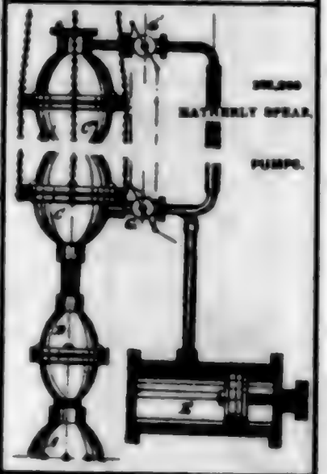
121,208 SMITH AND HOPKINS, CLOTHES-DRIERS.



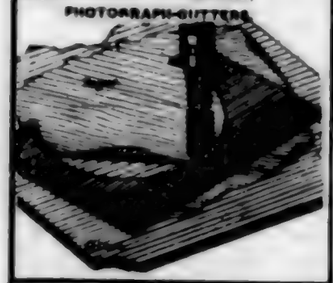
121,209 JOHN SCHOFIELD, CHECK-REIN ATTACHMENTS.



121,210 NATHERLY SPEAR, PUMPS.



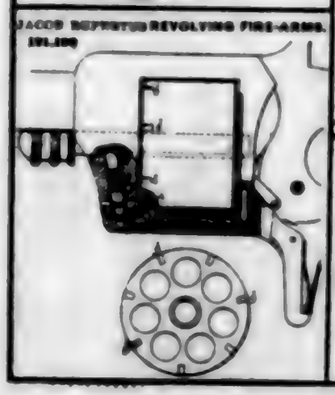
121,196 WILLIAM W. ROBINSON, PHOTOGRAPH-CUTTERS.



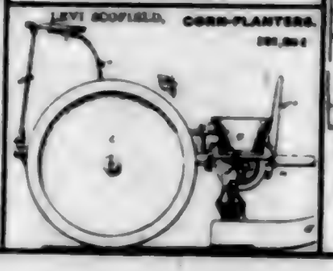
121,203 JOSEPH J. SCHROYER, WASHING-MACHINE



JACOB REPPETO, REVOLVING FIRE-ARMS. 121,206



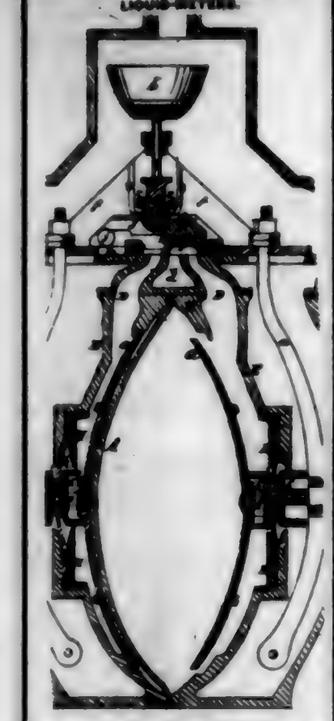
LEVI SCOFIELD, CORN-PLANTERS. 121,204



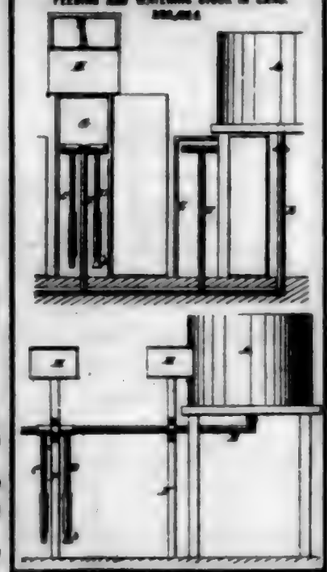
LINDA APGAR, CORSET AND SKIRT SUPPORTER 121,205



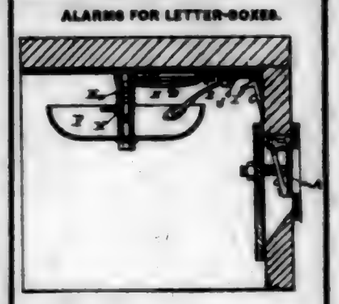
121,211 D. BRAINARD SPOONER, LIQUID-MEYERS.



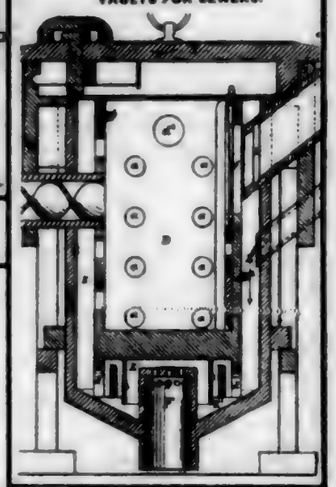
STARK, FISHER AND FITCH, FEEDING AND WATERING STOCK IN CARS. 121,214



121,215 ALFRED TAYLOR, ALARMS FOR LETTER-BOXES.

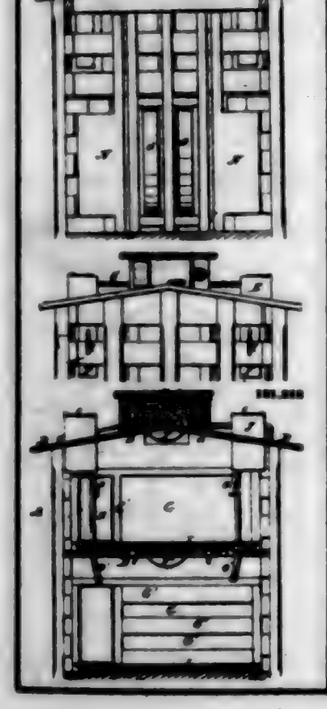


121,216 LOUIS D. TREDWAY, VAULTS FOR SEWERS.



121,217 JACOB STRAUB, COMPOSITION SADDLERY GOODS.

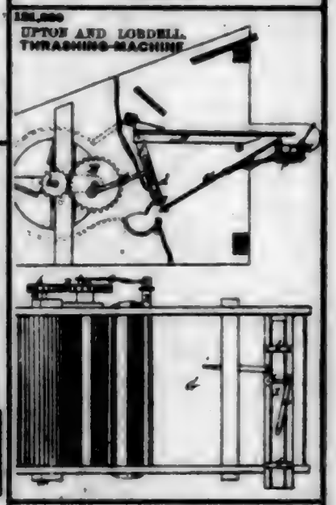
STARK, FISHER AND FITCH, RAILWAY STOCK-CARS.



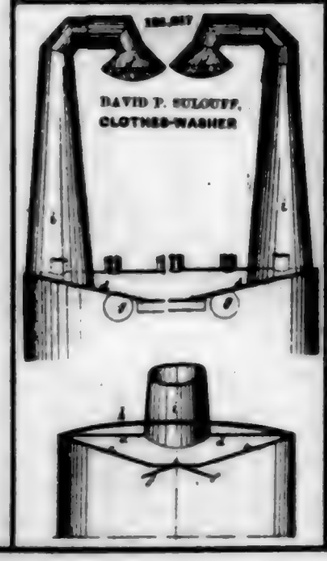
121,218 DAVID P. SULOUFF, CLOTHES-WASHERS.



121,219 UPTON AND LOBDELL, THRASHING-MACHINE



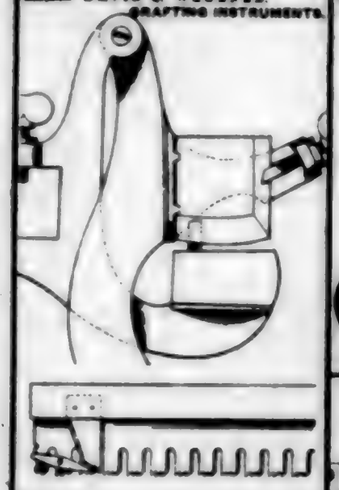
121,217 DAVID P. SULOUFF, CLOTHES-WASHER



121,221 THEOPHILUS VAN KANNEL, TAGS.



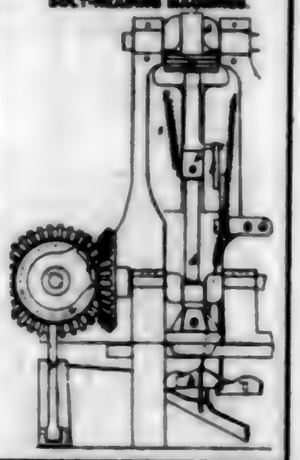
DAVID S. WAGONER.
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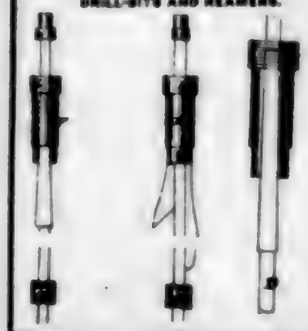
GALEN T. LAMB.
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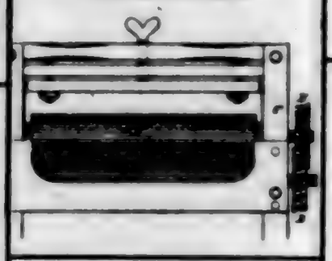
JAMES MIRTEN.
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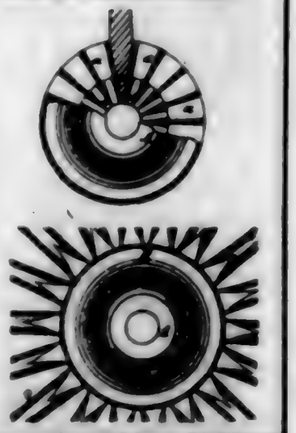
PETER W. WARD.
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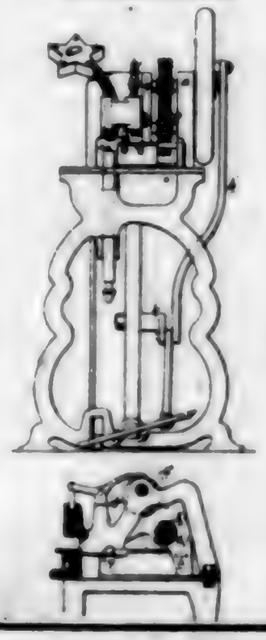
ROBERT B. HUGUPIX.
CLOTHES-WRINGERS.



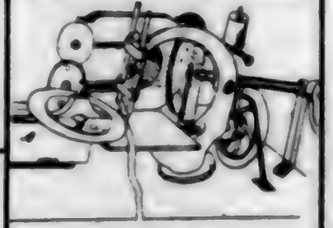
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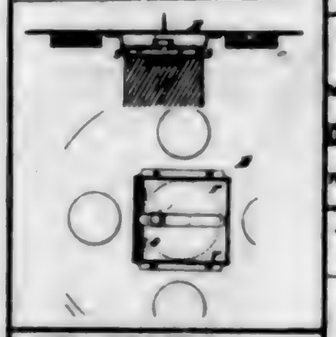


GERHARD WUNDERLICH.
EYELETING-MACHINES.



AGUR JUDSON.
CUTTING AND SEWING OVAL SEAMS.

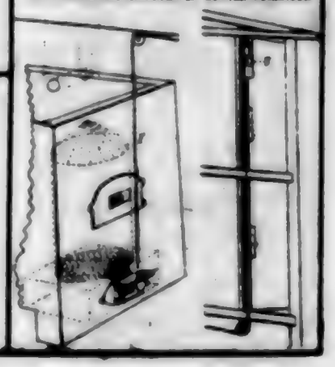




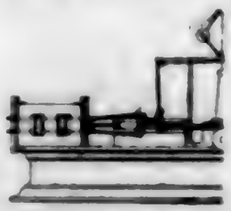
GOLD AND FOREST.
STEAM-HEATING APPARATUS.



ALBERT E. MERRIOW.
REGULATING THE DRAUGHT OF HOT-AIR FURNACES.



JOHN E. McKAY.
VARIABLE CUT-OFF GEARINGS.

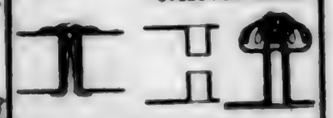


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ISSUED FROM
THE UNITED STATES PATENT OFFICE
NOVEMBER 28, 1871.

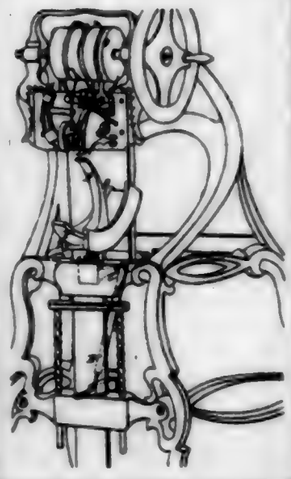
CHARLES ADAMS.
MANUFACTURE OF IRON.



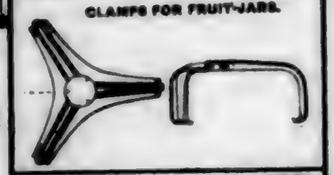
HENRY BERRY.
STUDS FOR SHIRTS.



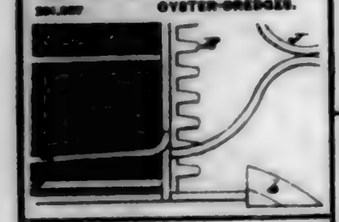
WILLIAM DUCHEMIN.
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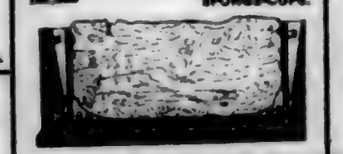
IRA BUCKMAN, JR.
CLAMPS FOR FRUIT-JARS.



WILLIAM CORNELIUS BAKER.
OYSTER-DREDGES.



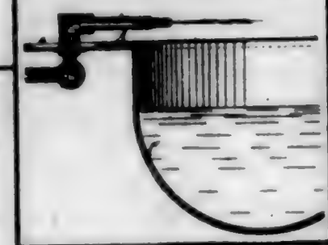
SETH C. CATLIN.
SPONGE-CUPS.



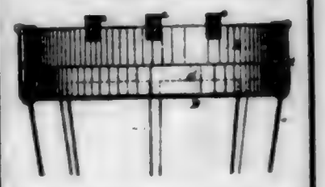
JOHN W. BLAKE.
CULTIVATORS AND HORSE-HOES.



GUSTAVUS CUPPER.
ILLUMINATING APPARATUS.



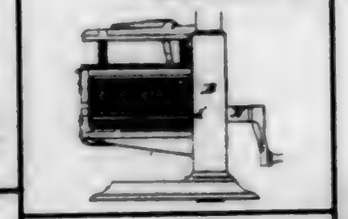
AARON S. DICKMAN.
COVERS FOR FRUIT-BASKETS.



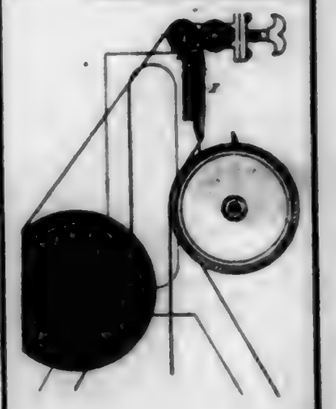
JAMES P. BRACE.
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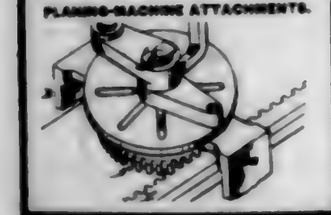
EDWARD MORTIMER DEEY.
FLUTING-MACHINES.



FRANK A. FLETCHER.
PAPER-CUTTING MACHINES.



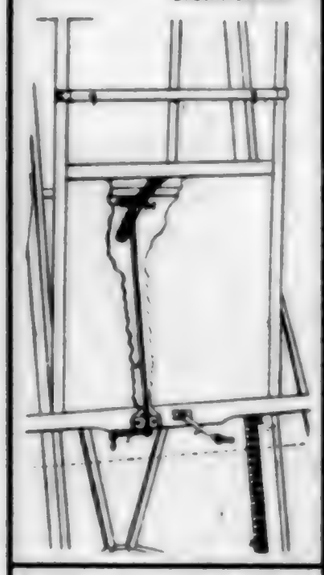
BRADLOW AND SWIEBEL.
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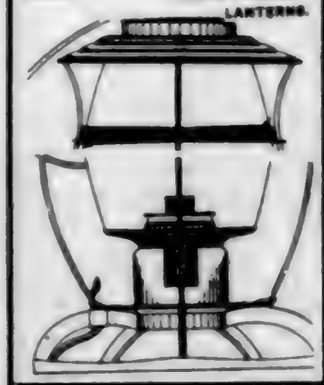
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121,240 JOHN CHARLES FOSSIN, STUDIO EASELS.



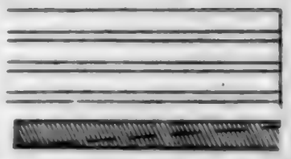
121,241 ALONZO FRENCH, LANTERNS.



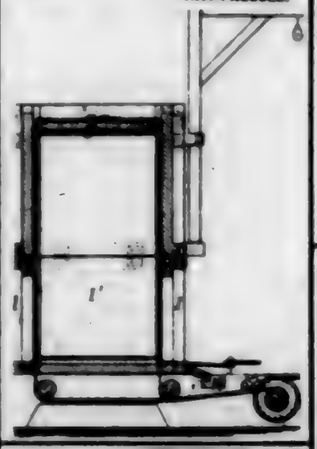
121,242 JOSHUA GRAY, CURTAIN-FIXTURES.



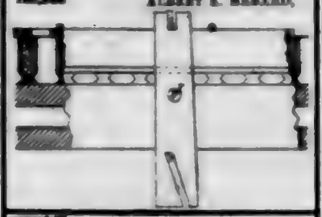
121,243 FRANK ELMER HALL, STALL-FLOORS.



121,244 FINLAY F. HAMILTON, HAY-PRESSES.



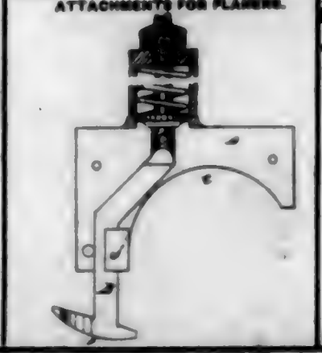
121,245 REED ORGANS. ALBERT E. HEBARD,



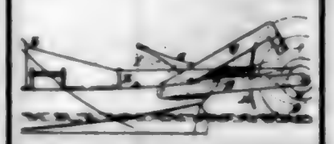
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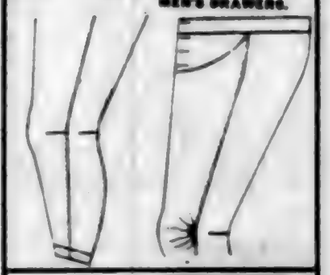
121,248 ALONZO S. HEWLETT, ATTACHMENTS FOR PLANERS.



121,249 PERA S. LAKE, OYSTER-DREDGES.



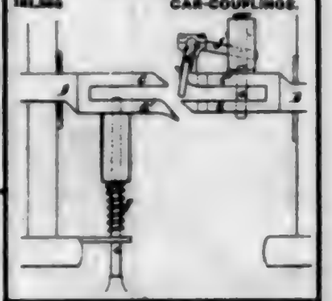
121,250 KILLIAN V. S. LANSINGH, JR. MEN'S DRAWERS.



121,251 WHITMAN LESLIE, SLEIGHS.



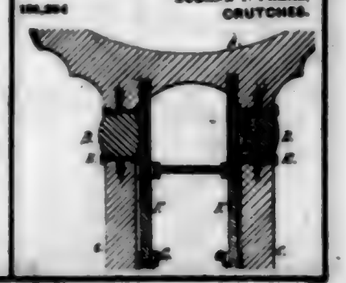
121,252 MORGAN AND GERRY, CAR-COUPLINGS.



121,253 JOHN H. MORSE, COMBINED LATCHES AND LOCKS.



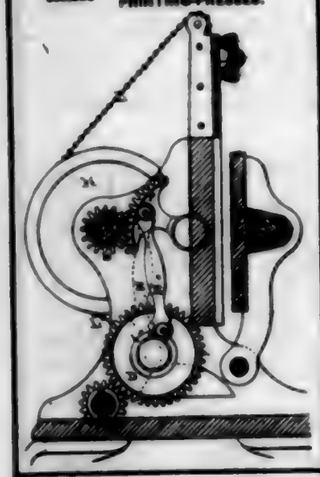
121,254 EUGENE T. PEARL, CRUTCHES.



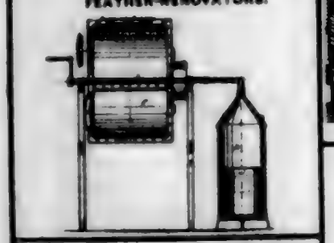
121,255 ANTON PRIES. ARMS FOR RAILWAY CAR-SEATS.



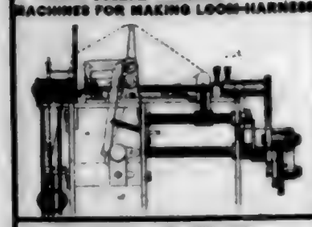
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121,257 SOLOMON B. SHOEMAKER, FEATHER-RrenovATORS.



121,258 JOSEPH SLADDIN, MACHINES FOR MAKING LOOM-HARNESS



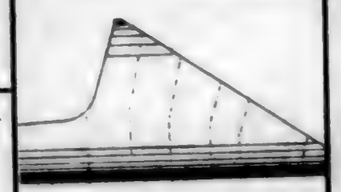
121,259 WILLIAM A. SLAYMAKER, HINGES FOR SEATS.



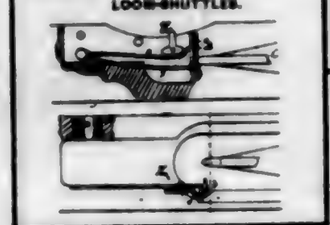
121,260 HARRY B. SMITH AND RUFUS FOLSOM STEM-WINDING AND SETTING WATCHES



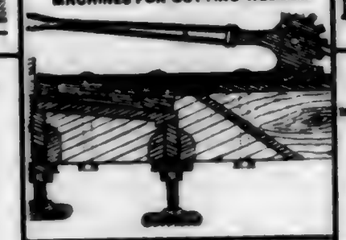
121,261 JOHN HIRON SWEET, BRAKE FOR HARVESTING-MACHINES.



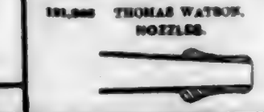
121,262 FREDERICK O. TUCKER, LOOM-SHUTTLES.



121,263 NORMAN WARNER, MACHINES FOR CUTTING WEDGES.



121,264 THOMAS WATSON, NOZZLES.



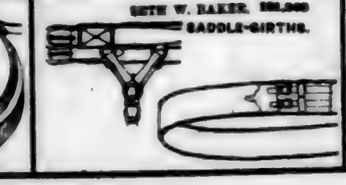
121,265 WILLIAM D. ALFORD, CASTING FEMALE SCREWS.



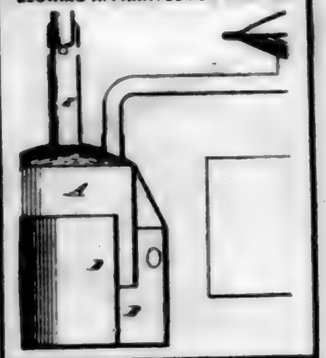
121,266 JOHN ASHLEY AND GEORGE W. ASHLEY, CULTIVATORS. 121,267



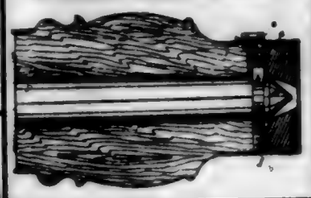
121,268 SETH W. BAKER, SADDLE-GIRTHS.



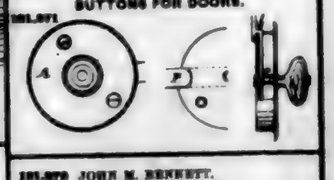
121,269 JOHN F. BARKER, BLOWING APPARATUS FOR ORGANS.



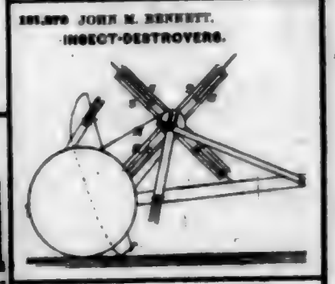
121,270 JOHN WILLIAMS BEAL, ATTACHING WHEELS TO AXLES.



121,271 GEORGE F. BEARDSLEY, BUTTONS FOR DOORS.



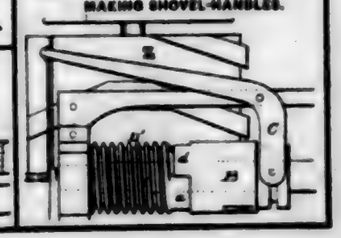
121,272 JOHN M. BENNETT, INSECT-DESTROYERS.



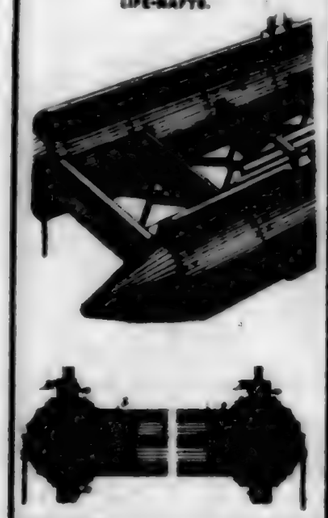
121,273 FREDERICK BRUNS, FLAT-IRON HOLDERS.



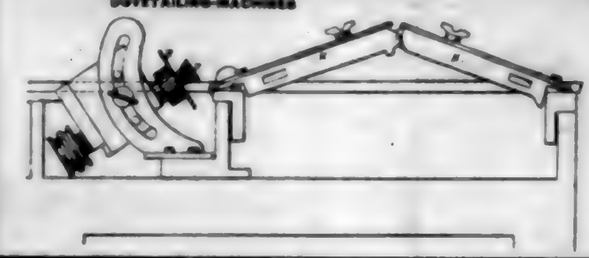
121,274 HENRY B. BUTTERFIELD, MAKING SHOVEL-HANDLES.



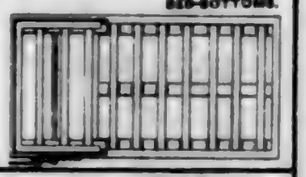
121,280 HERVEY G. CALKIN. LIFE-RAFTS.



121,281 ARAHEL DAVIS. DOVETAILING-MACHINES



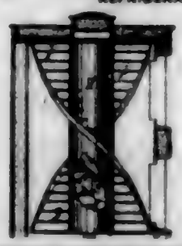
121,282 DEMING, DEMING, AND ALDEN. BED-BOTTOMS.



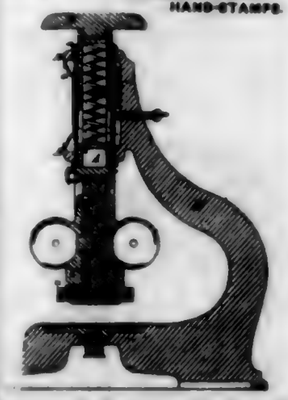
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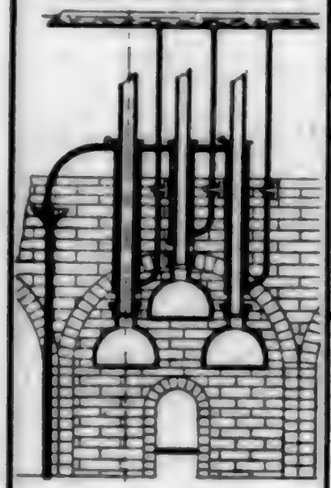
121,284 JOSEPH F. DICK. REFRIGERATORS.



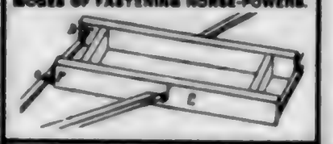
121,285 BENJAMIN B. HILL. HAND-STAMPS.



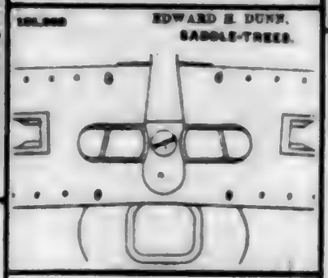
121,286 MOSES COOMBS, JR. STAND-PIPES OF GAS-RETORTS.



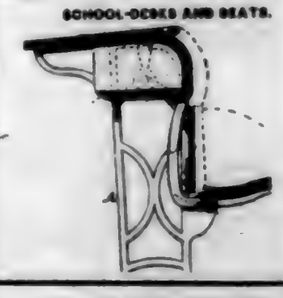
121,287 HIRAM CHARLES DREW. MODES OF FASTENING HORSE-POWERS.



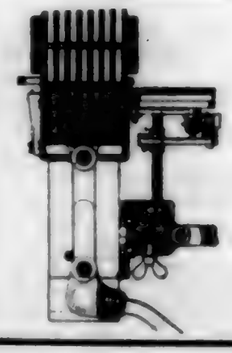
121,288 EDWARD H. DUNN. SADDLE-TREES.



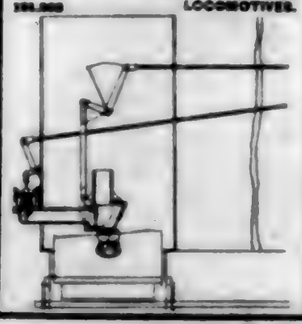
121,289 WENDELL P. HOOD. SCHOOL-DESKS AND SEATS.



121,290 CHRISTOPHER AND MONTGOMERY. MACHINE-GUNS.



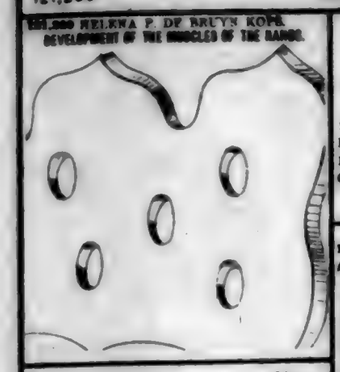
121,291 RICHARD S. GILLESPIE. LOCOMOTIVES.



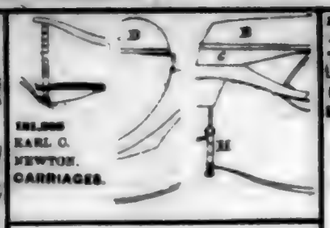
121,292 KELLOGG AND GEORGE E. IVES. COVERED BUCKETS.



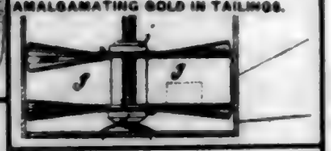
121,293 HELENA P. DE BRUYN KOPS. DEVELOPMENT OF THE MUSCLES OF THE HANDS.



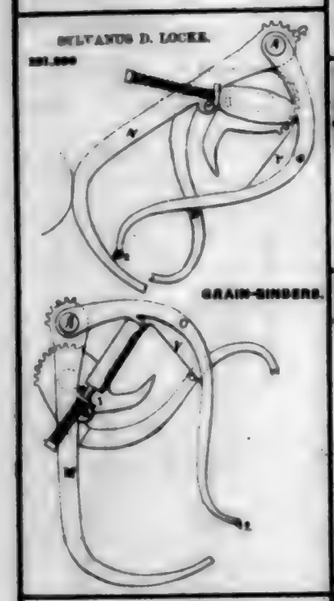
121,294 EARL C. NEWTON. CARRIAGES.



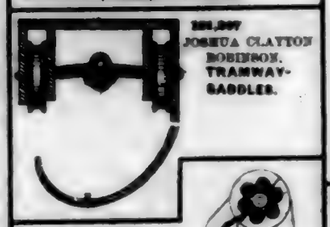
121,295 THOMAS A. PRATT. AMALGAMATING GOLD IN TAILINGS.



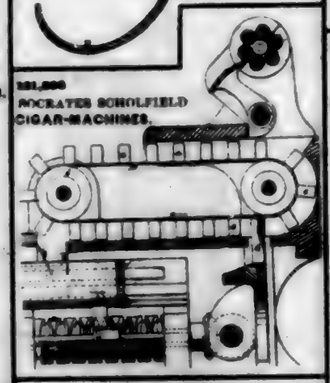
121,296 SYLVANUS D. LOCKE. GRAIN-SINDERS.



121,297 JOSHUA CLAYTON ROBINSON. TRAMWAY-SADDLES.



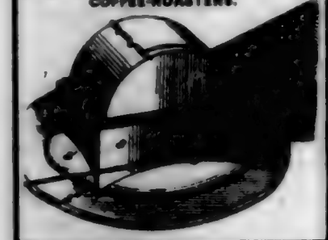
121,298 SOCRATES SCHOLFIELD. CIGAR-MACHINES.



121,299 ALPHEUS B. MAYARD. COPY-HOLDERS.



121,300 DANIEL D. MARTIN. COFFEE-ROASTERS.



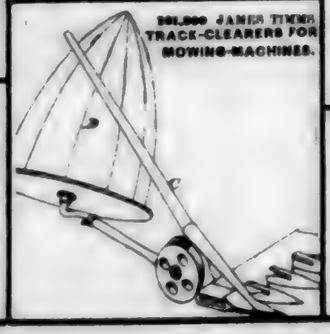
121,301 SARAH O. MATTESON. ATTACHMENTS FOR SEWING-MACHINES.



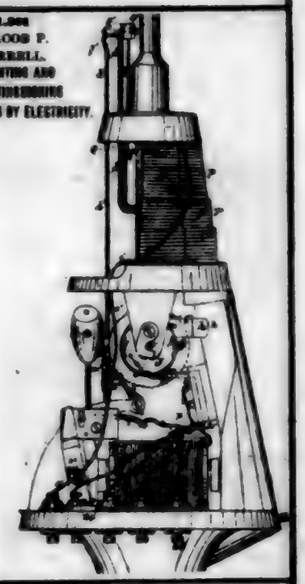
121,302 EDWARD H. STEARNS. HANDLING LOGS IN SAW-MILLS.



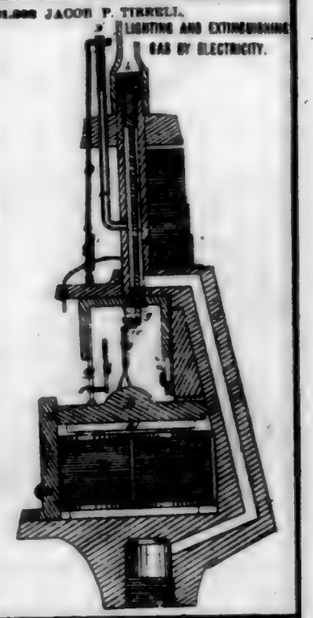
121,303 JAMES TIMMS. TRACK-CLEARERS FOR MOWING-MACHINES.



121,304 JACOB P. TERRELL. LIGHTING AND EXTINGUISHING GAS BY ELECTRICITY.



121,305 JACOB P. TERRELL. LIGHTING AND EXTINGUISHING GAS BY ELECTRICITY.



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121,307 IRVING F. WILCOX. BASKET-SPLINTS.



121,305. WILLIAM E. WORTHEN, SECURING WEATHER-TILING AND SIDING.

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121,308. ALLEN AND DEWEY, ELECTRIC GAS-LIGHTERS.

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121,311. SAMUEL BARRITT, SHOE-QUARTERS.

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121,313. JOSEPH BAYNE, MOTIVE POWER.

121,314. JOHN GULICK BAKER, CHEESE-CUTTING MACHINES.

121,315. BALL AND STARKWEATHER, ROCK-DRILLING MACHINES.

121,316. CHARLES J. BEASLEY, COTTON-PRESSES.

121,317. CHARLES BENDER, METALLIC COLUMNS.

121,318. CLEMENT BENSINGER, PRUNING-SHEARS.

121,320. GEORGE F. BLAKE, VALVES FOR DIRECT-ACTING ENGINES.

121,321. EDWARDS H. BURCHARD, TEA AND COFFEE POTS.

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121,323. JACOB A. BOYCE, WASHING-MACHINES.

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121,326. DAVID BRADLEY AND ASA DOSEY, WASHING-MACHINES.

121,327. WILLIAM BURNAM, SEWING-MACHINE ATTACHMENTS FOR BUTTON-HOLES.

121,328. CHARLES F. CHICKERING, UPRIGHT PIANOS.

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WILLIAM H. CUMMINGS. KNIFE-POLISHERS.

JAMES ENGLISH. CANAL-BOATS.

ANDREW H. [illegible]. BULLETIN-BOARDS.

THOMAS W. GODWIN. OSCILLATING-ENGINES.

CHARLES DEAN. CHUCKS FOR SCREW-CUTTING.

JAMES L. BUTTS. NUT-LOCKING DEVICES.

FERDINAND DIEDRICHS. STOVE-PIPE ELBOWS.

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BERNARD GOLDSMITH. BINDERS FOR SEWING-MACHINES.

CHARLES BATOR. CURTAIN-FIXTURES.

JAMES B. FINLEY. TRACE-COUPLINGS.

HENRY GOSTING. CORN-PLANTERS.

JOHN A. HANNA. CARRIAGE-SEAT JOINTS.

MINARD V. NOLLEY. TELEGRAPH-INSULATORS.

THOMAS HARTLEY. STOVE-GRATES.

WILLIAM F. GOULD. STEAM-VALVES.

JOHN O. HOUGH. SAWING-MACHINE.

ARDEN A. HEATH. STEAM-ENGINES.

ELIJAH D. GOVE. LOOM PICKING MECHANISMS.

MARIA C. HUBBARD. WASH-BOILERS.

WILLIAM LINDSAY HENDERSON. COTTON-GINS.

CHARLES H. HYDE. CLOTHES-DRIERS AND AWNINGS COMBINED.

JOHN GRACIE. SOLDERING APPARATUS.

ALBERT H. HEWITT. ATTACHMENTS FOR SEWING-MACHINES.

HENRY A. HYLE. PIPE-WRENCHES.

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SAMUEL HODGINS. GAITER-PATTERNS.

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121,378 ROBIN JOHNSON, POTATO-DIGGERS.

121,379 FRANCIS MARY JONES, MONUMENTS.

121,380 W. THOMAS JORDAN, CULTIVATORS.

121,381 HORACE M. KEITH PLOWS.

121,382 SILAS R. KENYON, CORN-PICKING AND HUSKING-MACHINES.

121,383 KEYES AND ARETA, SMELTING LEAD AND OTHER ORES.

121,384 THEODORE KRAUSCH, HOISTING APPARATUS.

121,385 THEODORE KRAUSCH, MALT-HOUSES.

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121,401 A. MUHL, MANUFACTURE OF ICE.

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121,405 PALMER AND STORKE, BENCH-PLANES.

121,406 JAMES PATERSON, CAPSULING BOTTLES.

121,407 WILLIAM H. H. PRAIRE, BALING-PRESSES.

121,408 JAMES D. PETTIT, WAGON-BODIES.

121,411 EBENEZER W. PHELPS, MODE OF BALANCING PULLEYS.

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121,413 WILLIAM E. PHELPS. COAL-CHUTES.

121,414 GEORGE W. PITTMAN. HEMP-DRAWING MACHINES.

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121,423 ANDROSS ROGERS. FIELD-ROLLERS.

121,424 JAMES SHAND. STEAM-BOILERS.

121,425 RACE AND HOOPER. GAUGES FOR STAVE-JOINTERS.

121,427 LORENZO D. B. SHAW. STEAM OR WATER ENGINES.

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121,429 JAMES SHALL. HYDRANTS.

121,430 ALPHEUS D. SMITH. FAUCETS.

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121,432 FREDERICK H. SMITH. METALLIC COLUMNS.

121,433 AUGUST SPITZMILLER. BASE-BURNING STOVES.

121,434 HENRY P. STICHTER. COMBINED POTATO-MASHERS, STEAK-POUNDERS, AND ICE-BREAKERS.

121,435 JOHN H. STONE. MACHINES FOR MAKING SHEET-METAL SCREW-NECKS AND SCREW-CAPS FOR CANS.

121,436 JOHN D. TROYER. STUMP-EXTRACTORS.

121,437 JOHN C. WALKER AND WILLIAM LAPISH. RED-BOTTOMS.

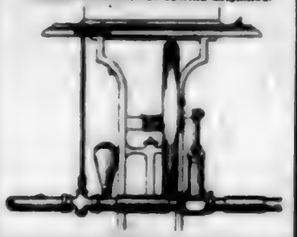
121,438 JOHN C. WANDS. METALLIC ROOFINGS.

121,439 WILLIAM M. WATKINS. CULTIVATORS.

121,440 AUGUSTE WELLER, BREAST-PINS.



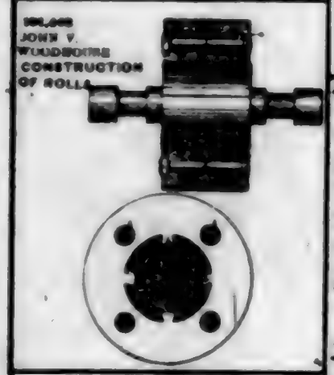
121,441 WELCH AND WELCH, PNEUMATIC MOTORS FOR SEWING-MACHINES.



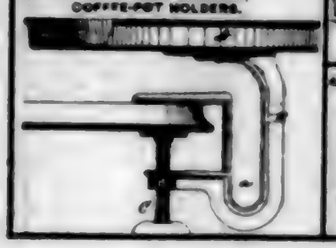
121,442 JAMES A. WOOD, SELF-ACTING GATES.



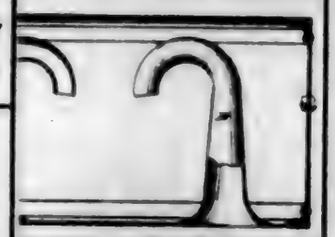
121,443 JOHN V. WOODHOUSE, CONSTRUCTION OF ROLLS.



121,444 WOODS AND LIBERMAN, COFFEE-POT HOLDERS.



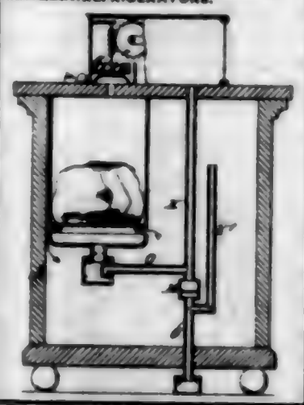
121,445 ALBERT SIPSER, STEAM-BOILER SEDIMENT-COLLECTORS.



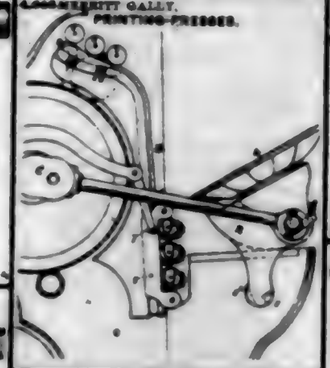
121,446 AUGUSTUS G. BOURN, OVERSHOES.



4,648 ANDREW FULLER AND LOUIS P. REICHERT, REFRIGERATORS.



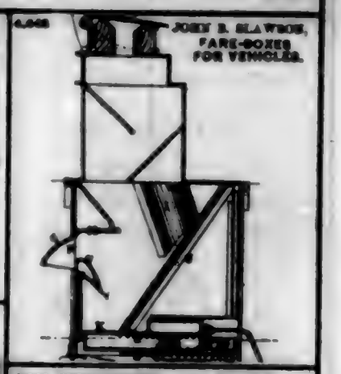
4,649 MERRITT GALLY, PRINTING-PRESSES.



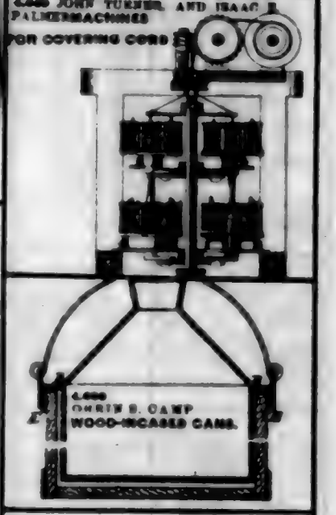
4,650 GEORGE GIBB AND WILLIAM GIBB, WHIFFLETREES.



4,651 JOHN R. SLAWSON, FARE-BOXES FOR VEHICLES.



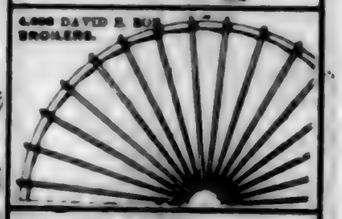
4,652 JOHN TURNER AND ISAAC E. PALMER, MACHINES FOR COVERING CORD.



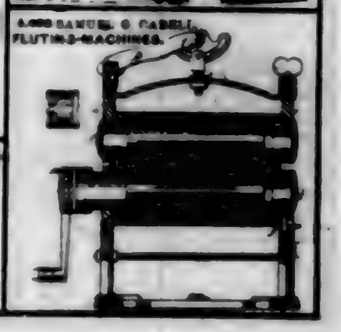
4,653 CHRIS S. CAMP, WOOD-INCASED CANS.



4,654 DAVID E. BUE, BROILERS.



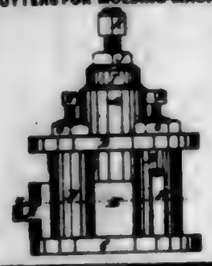
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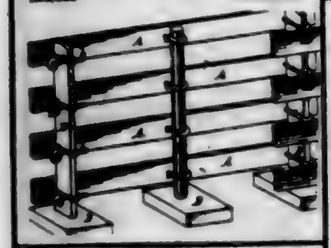
4,656 SAMUEL C. CABELL, FLUTING-MACHINES.

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ISSUED FROM
THE UNITED STATES PATENT OFFICE
DECEMBER 5, 1871.

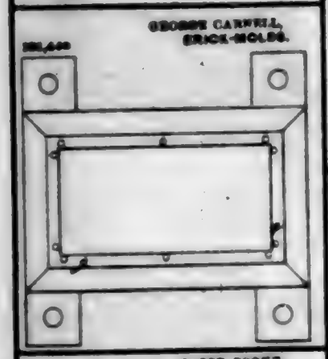
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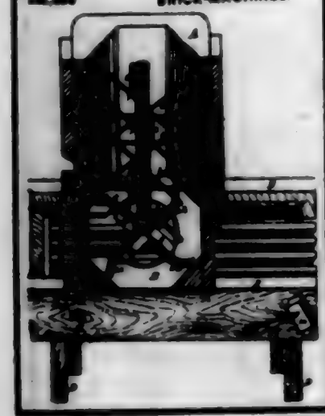
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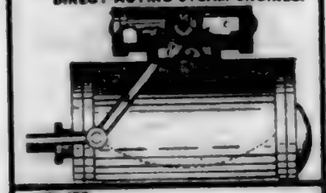
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121,450 JACOB COOKE, BRICK-MACHINES.

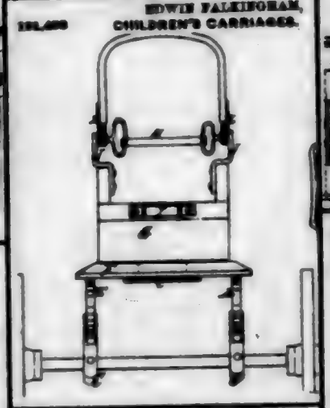


121,451 CHARLES P. DEANE, DIRECT-ACTING STEAM-ENGINES.

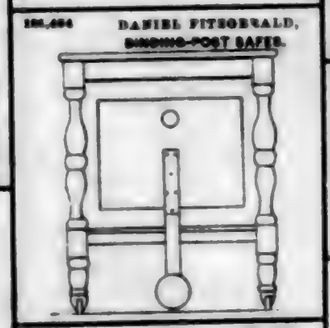


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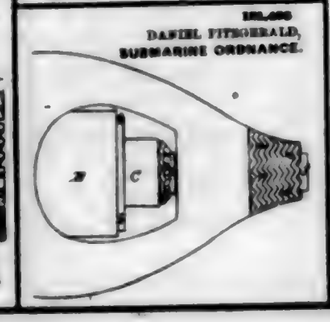
121,453 EDWIN FALKINGHAM, CHILDREN'S CARRIAGES.



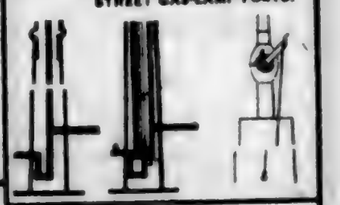
121,454 DANIEL FITZGERALD, DINING-POST BASES.



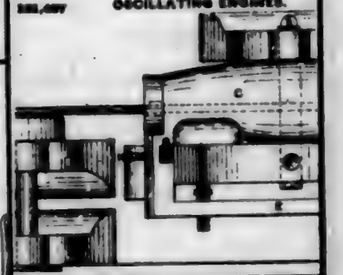
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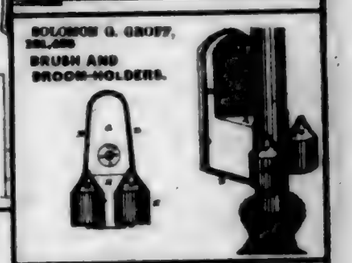
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121,457 ALFRED GOULDING, OSCILLATING ENGINES.



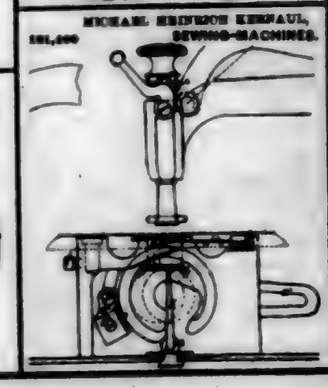
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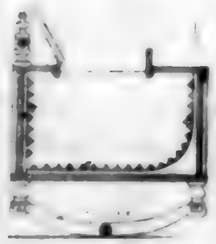
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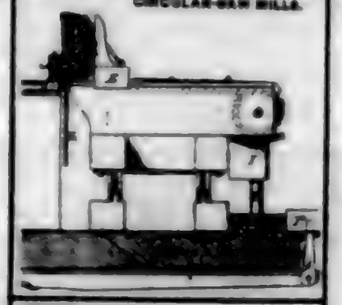
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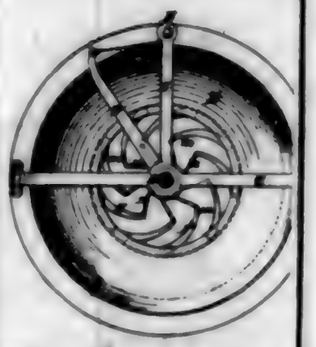
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121,462 LEWIS C. PATTEE. CIRCULAR-SAW MILLS.

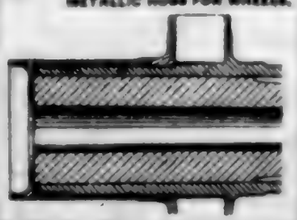


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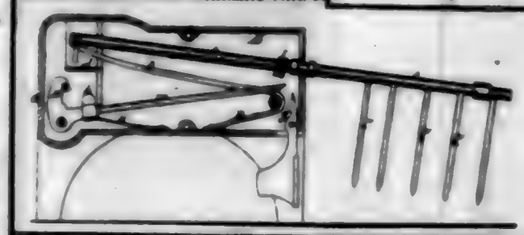


121,464 PHILIPP PAUL. MEDICAL COMPOUNDS OR EYE-WASHES.

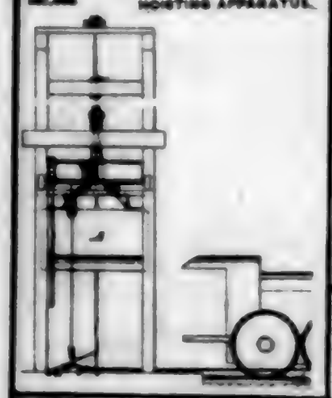
121,465 JOHN MOUL. METALLIC HUBS FOR WHEELS.



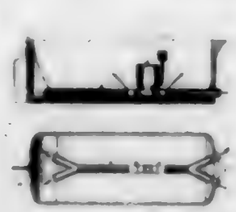
121,466 HENRY POLLEY. ANIMAL-TRAPS.



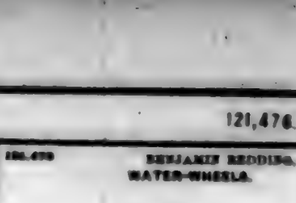
121,467 JESSE NICHOLSON. HOISTING APPARATUS.



121,468 PHALL AND DEVERES. CANAL-BOATS.



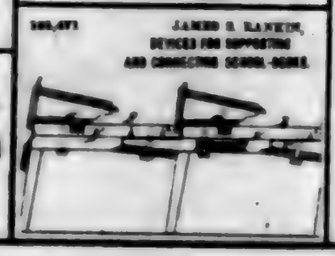
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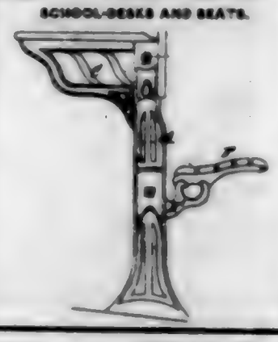
121,470 JESSE HUNSAKER. DETACHABLE DRAFT-HOOKS.



121,471 JAMES S. RANKIN. DEVICES FOR SUPPORTING AND CONNECTING SCHOOL-DESKS.



121,472 JAMES S. RANKIN. SCHOOL-DESKS AND SEATS.

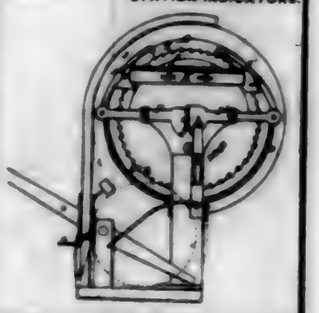


121,473 CHARLES LOUIS THIERY. MACHINES FOR MAKING WATCH-CASES.



121,474 HENRY VANDER WEYDE. MODE OF APPLYING TINTS TO PHOTOGRAPHS.

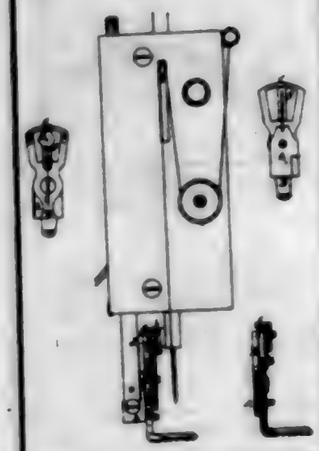
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121,476 ARON JAMES PARKER. EDGE-PLANES FOR BOOT-AND-SHOE MAKERS.

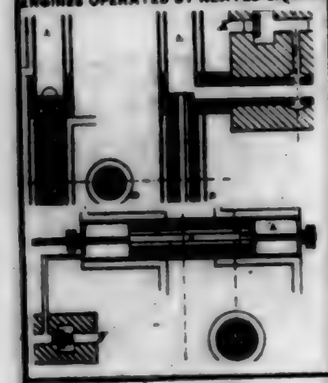


121,477 JOHN H. WILKINS. SEWING-MACHINES.

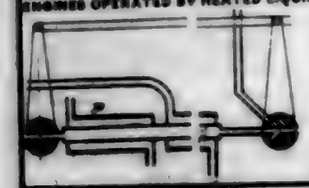


121,478 DANIEL B. AVERILL. MANUFACTURE OF PAINTS.

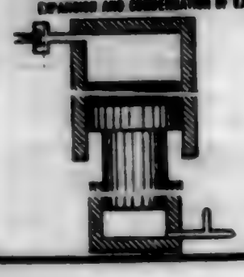
121,479 JAMES S. BALDWIN. ENGINES OPERATED BY HEATED LIQUIDS



121,480 JAMES S. BALDWIN. ENGINES OPERATED BY HEATED LIQUIDS



121,481 JAMES S. BALDWIN. APPARATUS FOR FORCING LIQUIDS BY THE EXPANSION AND CONDENSATION OF GASES.



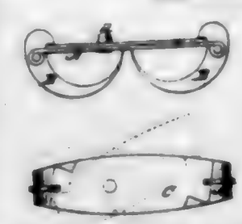
121,482 VIRGIL A. BOND. PIPES AND CIGAR-HOLDERS.



121,483 DANIEL W. BOWMAN. CULTIVATORS.



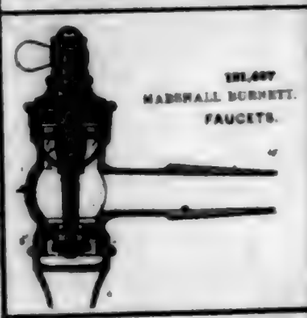
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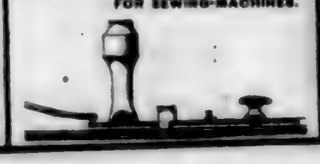
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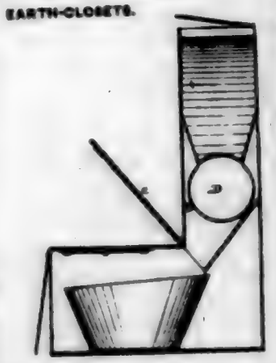
121,486 MARSHALL BURNETT. FAUCETS.



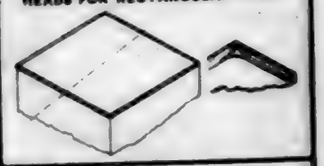
121,487 RICHARD G. BUSH. TUCK-FOLDING ATTACHMENTS FOR SEWING-MACHINES.



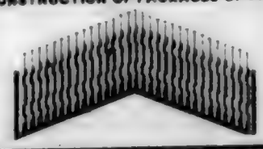
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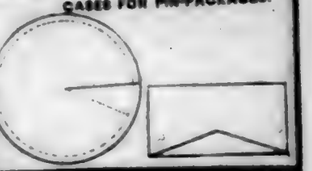
121,489 EDWARD T. COVELL. HEADS FOR RECTANGULAR CANS.



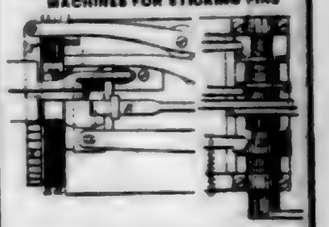
121,490 CHAUNCY O. CROSBY. CONSTRUCTION OF PACKAGES OF PINS.



121,491 CHAUNCY O. CROSBY. CASES FOR PIN-PACKAGES.



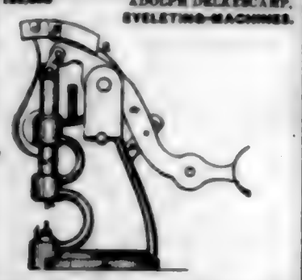
121,492 CHAUNCY O CROSBY MACHINES FOR STICKING PINS



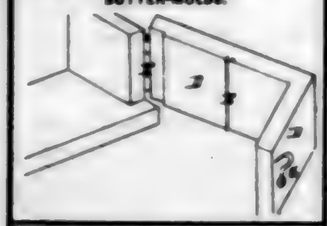
121,493 AUSTIN F. CUSHMAN. CHUCKS FOR METAL TURNING-LATHES.



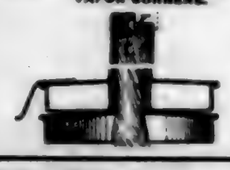
121,495 ADOLPH DELKESCAMP, EYELETING-MACHINES.



121,496 ANTHONY J. DERRICK, BUTTER-MOLDS.



121,497 TRUMAN P. DOANE, VAPOR-BURNERS.



121,498 GEORGE W. DOTY, KNUCKLE-PROTECTORS FOR WASHING CLOTHES.



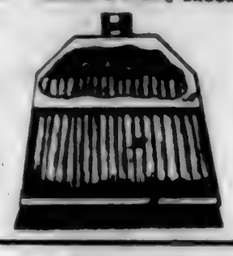
121,499 WILLIAM H. ELLIOT, BREECH-LOADING FIRE-ARMS.



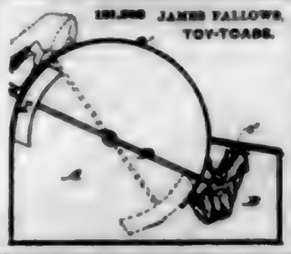
ERULBERT AND VON FIEDA, 121,500 ICE-PITCHERS.



121,501 THOMAS E. EVANS, BROOMS.

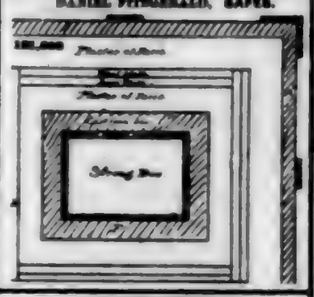


121,502 JAMES FALLOWS, TOY-TOADS.

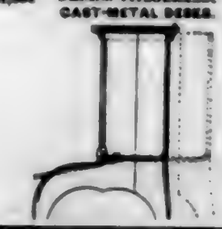


DANIEL FITZGERALD, SAFES.

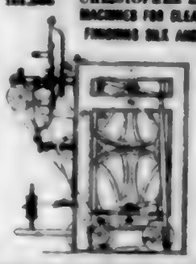
121,503



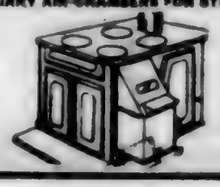
DANIEL FITZGERALD, 121,504 CAST-METAL DESKS.



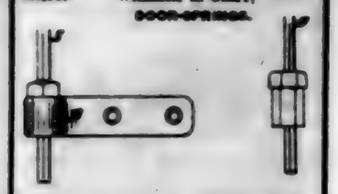
121,505 CHRISTOPHER L. HEINE, MACHINE FOR CLEANING AND FINISHING FLAX AND THREAD.



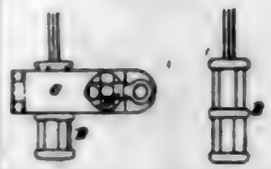
121,506 JOHN H. GOODFELLOW, AUXILIARY AIR-CHAMBERS FOR STOVES.



121,507 WILLIAM H. GRAY, DOOR-SPRINGS.



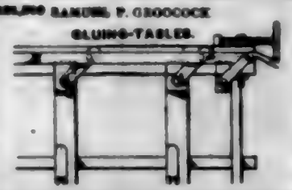
121,508 WILLIAM H. GRAY, DOOR-SPRINGS.



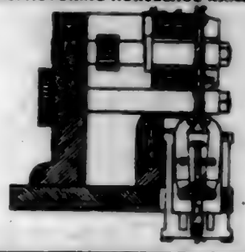
121,509 HENRY G. GRIGGS, SUSPENDERS.



121,510 SAMUEL P. GROCOCK GLUING-TABLES.



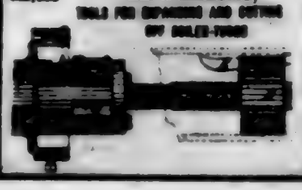
121,511 GEORGE L. HALL, MANUFACTURING HORSESHOE-NAILS.



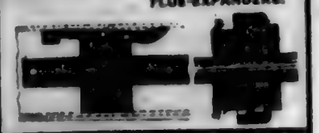
121,512 IRA S. HAMILTON, SWAGING-TOOLS FOR BOILER-TUBES.



121,513 IRA S. HAMILTON, TOOLS FOR EXPANDING AND SETTING BOILER-TUBES.



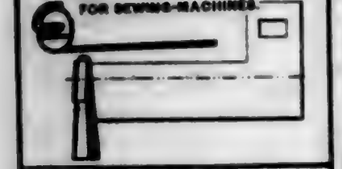
121,514 IRA S. HAMILTON. FLUE-EXPANDERS.



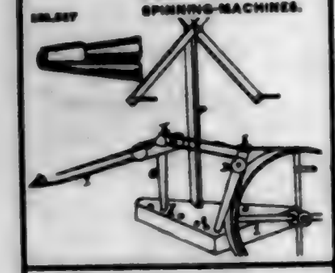
121,515 JOHN T. HANCOCK, EJECTORS FOR FORCING LIQUIDS.



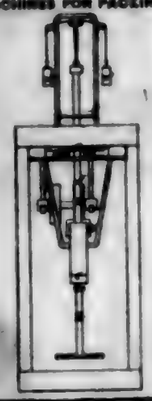
NILO HARRIS, 121,516 HEMMERS AND BINDERS FOR SEWING-MACHINES.



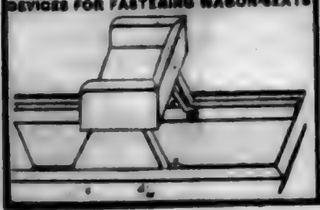
GEORGE H. HATROCK 121,517 SPINNING-MACHINES.



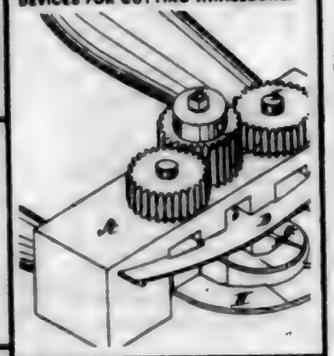
121,518 CORNELIUS S. HAYNES, MACHINES FOR PACKING SUGAR.



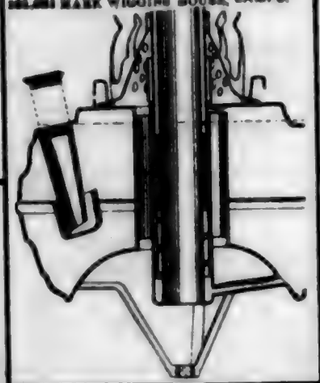
GARET G. HEERMANCE, 121,519 DEVICES FOR FASTENING WAGON-SEATS.



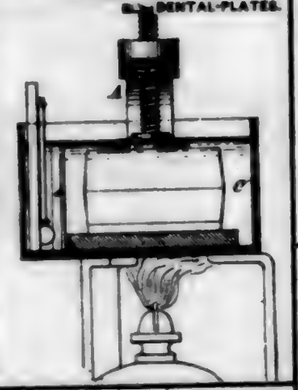
121,520 FRANK H. HIBBARD. DEVICES FOR CUTTING WHALEBONE.



121,521 MARK WIGGINS HOUSE, LAMPS.

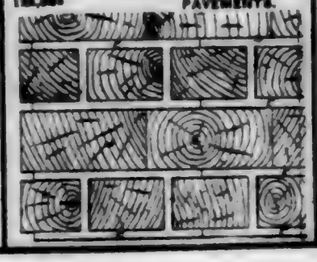


JOHN W. HYATT, JR., 121,522 APPARATUS FOR MOLDING DENTAL-PLATES.

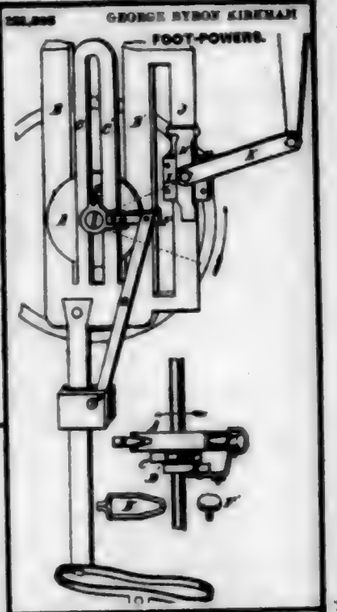


CHARLES L. JONES, 121,523 COMPOUNDS FOR CURE OF HOG CHOLERA.

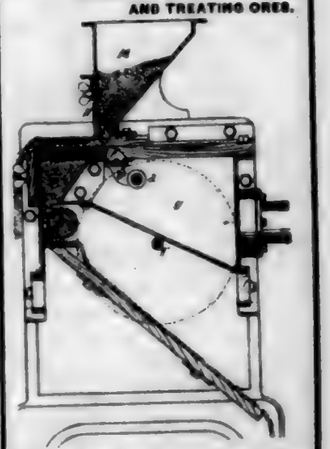
JOHN STAFFORD KELLY, 121,524 PAVEMENTS.



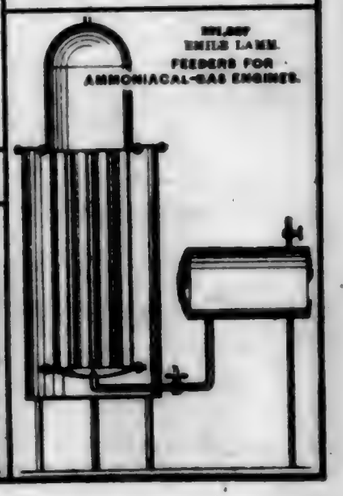
121,525 GEORGE BYRON KIRKHAM. FOOT-POWERS.



STEPHEN E. KROM, 121,526 MACHINES FOR SEPARATING AND TREATING ORES.



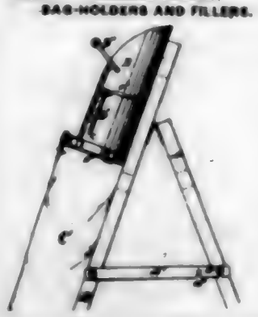
121,527 EMILE LAMM. FEEDERS FOR AMMONIACAL-GAS ENGINES.



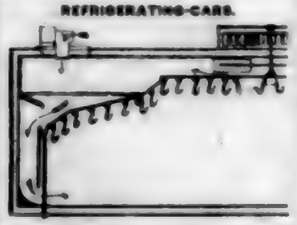
JOHN B. LOW. 121,528
BRIDLE-BLINDERS FOR HORSES.



121,529 WILLIAM P. LUM.
SAD-HOLDERS AND FILLERS.



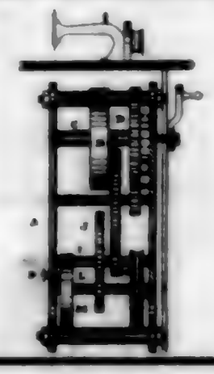
121,530 AZEL STORRS LYMAN.
REFRIGERATING-CARS.



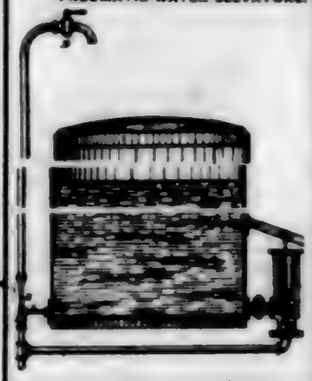
121,531 WILLIAM W. LYMAN.
SASH-HOLDERS.



121,532 JAMES A. MACAULEY.
MOTORS FOR SEWING-MACHINES.



121,533 PHILIP W. MACKENZIE.
PNEUMATIC WATER-ELEVATORS.



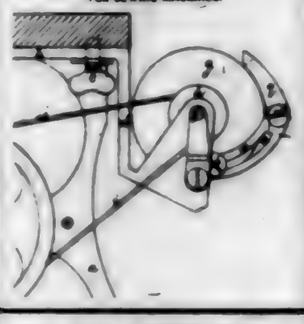
121,534 NATHAN McKELPHERE.
CURE OF CANCER.

121,535 THOMAS MERKLE.
SHOVEL-PLOWS.

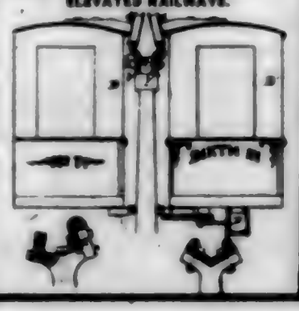


121,536 ALEXANDER MILES.
CLEANSING THE HAIR.

121,537 RUSSELL S. MORSE.
SCRIBING-GUIDING ATTACHMENTS FOR SEWING-MACHINES.



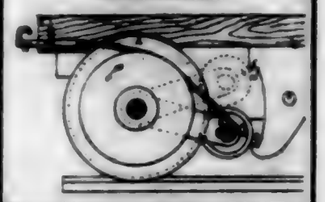
121,538 JOHN B. NEWBROUGH.
ELEVATED RAILWAYS.



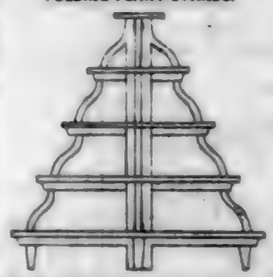
121,539 JOHN B. NEWBROUGH.
CARS FOR ELEVATED RAILWAYS.



121,540 JOHN NORTH.
CAR-STARTERS.



121,541 BENJAMIN B. HOUSE.
FOLDING PLANT-STANDS.



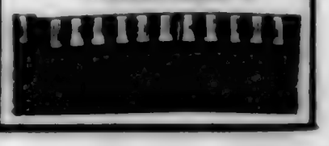
PEET AND WILLIS 121,542
PROCESSES OF CONSTRUCTING WATER AND STEAM VALVES.



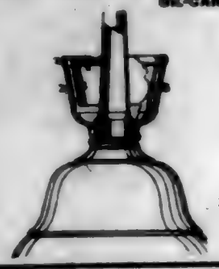
121,543 ISAAC NEWTON PEIRCE.
SCHOOL-DESKS.



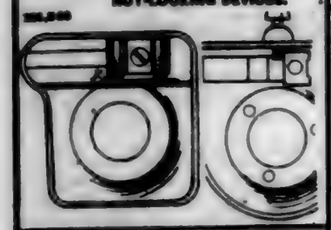
121,544 ROBERT C. PHILLIPS.
WOODEN PAVEMENTS.



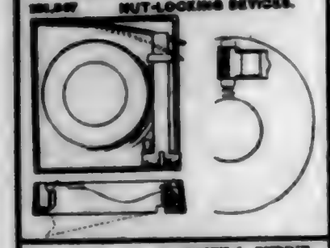
121,545 GILBERT STEWART PRIOR.
OIL-CANS.



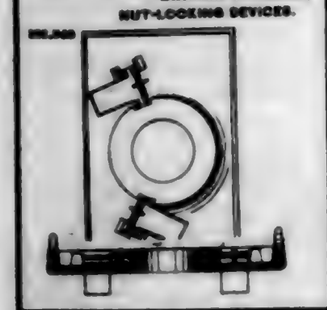
121,546 HADWEN L. PURDIE.
NUT-LOCKING DEVICES.

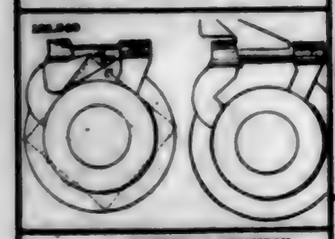


121,547 HADWEN L. PURDIE.
NUT-LOCKING DEVICES.

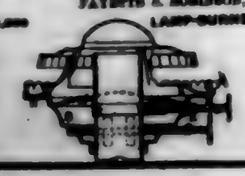


121,548 HADWEN L. PURDIE.
NUT-LOCKING DEVICES.

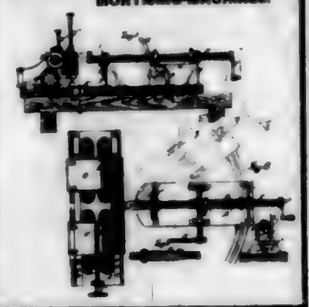




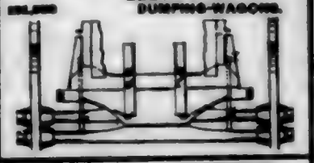
121,549 PATENTS A. ROBINSON.
LAMP-BURNERS.



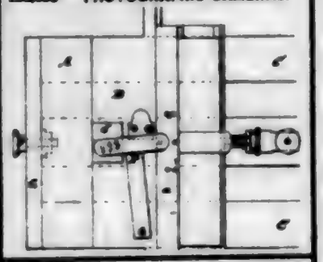
121,550 ENOCH J. ROWE.
MORTISING-MACHINES.



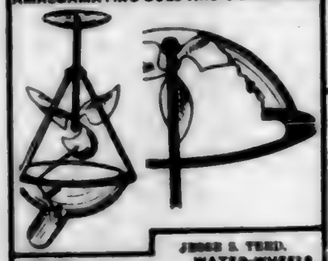
121,551 LEXOR B. SNOW.
DUMPING-WAGONS.



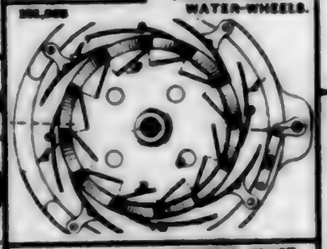
JOHN STOCK AND JACOB STOCK.
121,552 PHOTOGRAPHIC CAMERAS.



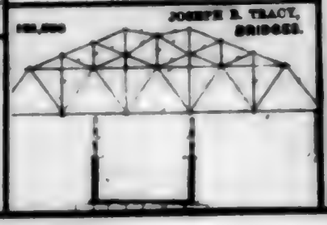
121,553 PERCIVAL T. G. STOCKMAN.
AMALGAMATING GOLD AND SILVER ORES.



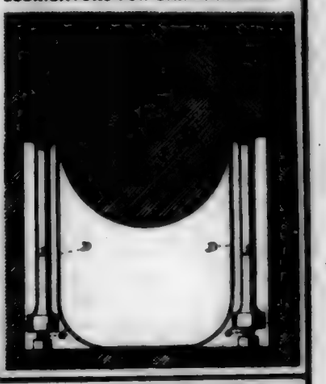
121,554 JESSE S. TEED.
WATER-WHEELS.



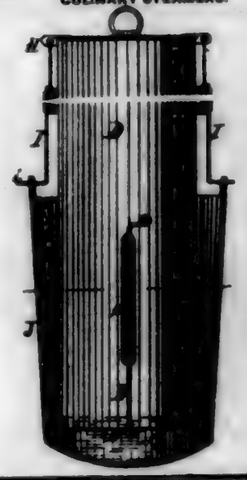
121,555 JOSEPH B. TRACY.
BRIDGES.



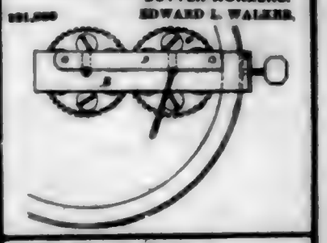
121,556 STEPHEN UNTICH.
LUBRICATORS FOR CAR-JOURNALS.



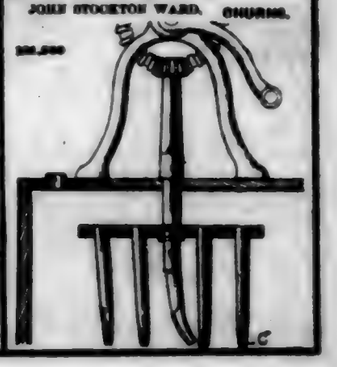
121,557 CHARLES H. WAHLGREN.
CULINARY STEAMERS.



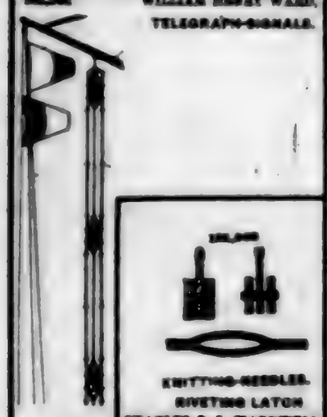
121,558 BUTTER-WORKERS.
EDWARD L. WALKER.



121,559 JOHN STOCKTON WARD. CHURNS.



121,561 WILLIAM HENRY WARD, TELEGRAPH-SIGNALS.

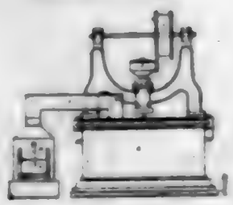


121,562 KNITTING-NEEDLES, RIVETING LATCH — CHARLES P. S. WARDWELL.

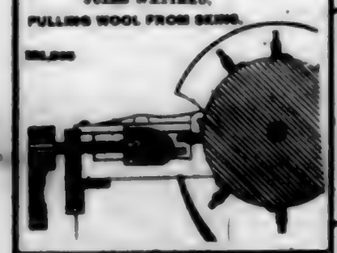
121,563 WARREN AND UNDERWOOD, JUMP-SEATS.



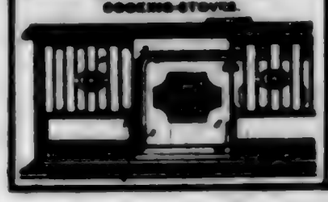
121,564 JULES WATTEAU, BLEACHING WOOL.



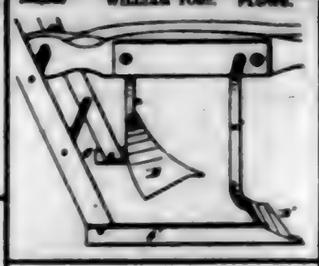
121,565 JULES WATTEAU, PULLING WOOL FROM SKINS.



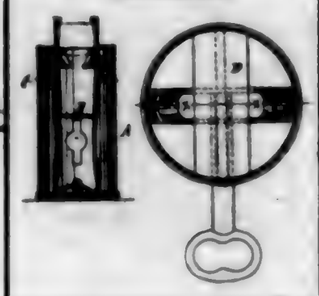
121,566 JEREMIAH A. WHATLEY, COOKING-STOVES.



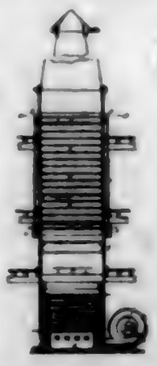
121,567 WILLIAM TOBY, PLOWS.



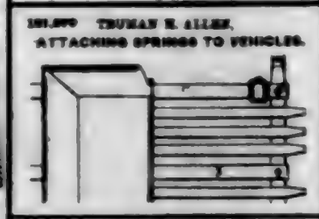
121,568 FRANK ADAMS, WHIP-SOCKETS.



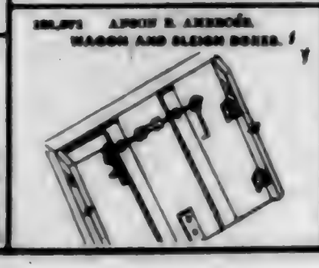
121,569 CHARLES ALDEN, APPARATUS FOR DRYING AND PRESERVING ANIMAL AND VEGETABLE SUBSTANCES.



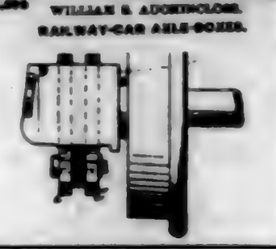
121,570 TRUMAN S. ALLEN, ATTACHING SPRINGS TO VEHICLES.



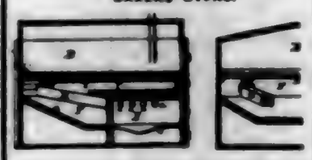
121,571 AARON S. ARNOLD, WAGON AND SLEIGH BOXES.



121,572 WILLIAM S. ADDINGTON, RAILWAY-CAR AXLE-BOXES.



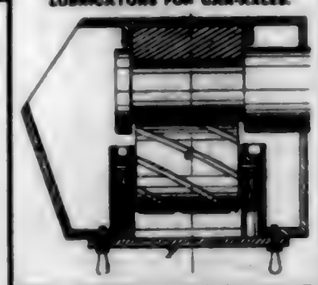
121,573 GEORGE B. BAILEY, BAKERS' OVENS.



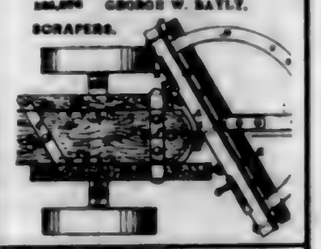
121,574 WINTHROP BALL, JR., AXLES FOR VEHICLES.



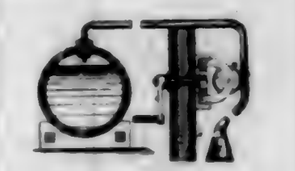
121,575 JOSEPH BARBER, LUBRICATORS FOR CAR-AXLES.



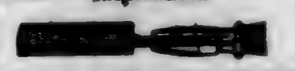
121,576 GEORGE W. BATLY, SCRAPERS.



121,577 FRANZ BLUEMER, PRESERVING AND FORCING MEAT WITH COLD AIR.



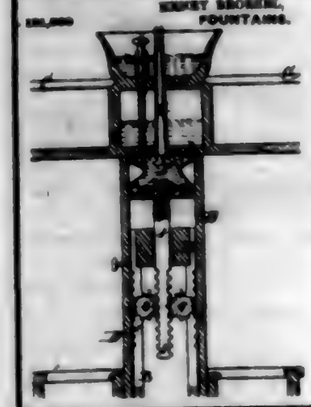
121,578 CORNELIUS BLISS, JR., AND JOHN ALLEN, BROOM-HEADS.



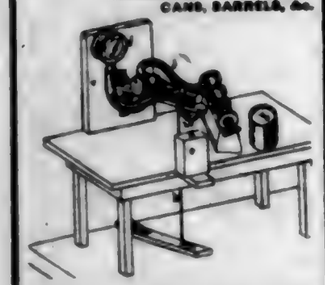
121,579 JAMES A. BOSTWICK, TAPS FOR OIL-CANS.



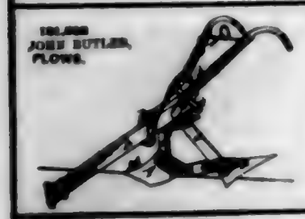
121,580 HENRY BROSIUS, FOUNTAINS.



121,581 WILLIAM O. BROOKS, APPARATUS FOR TESTING CANS, BARRELS, &c.



121,582 JOHN BUTLER, PLOWS.



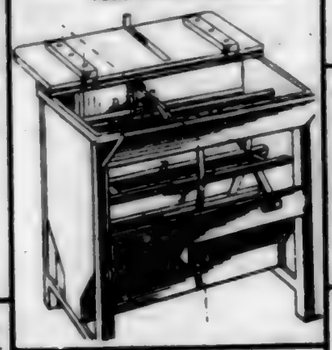
121,583 HENRY CAMPBELL, LAMP-BRACKETS OR SUPPORTS.



121,584 WILLIAM JAMES CAMPBELL, TICKET-HOLDERS.

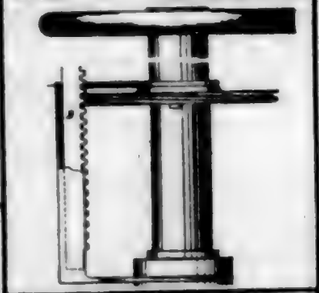


121,585 CHARLES EDWIN CANAL, FLOUR-BOLT VIBRATORS.

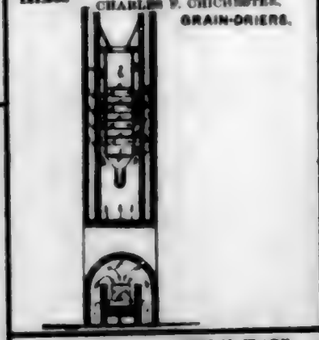


121,586 JOHN F. CAVARLY, PURIFYING ACETIC ACID.

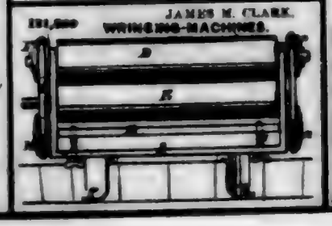
121,587 JOHN C. CHAPMAN, VALVE-INDICATORS.



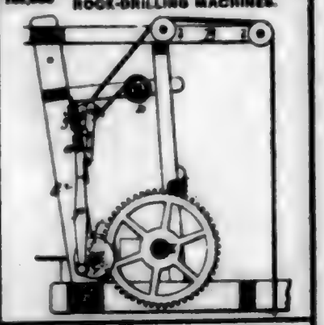
121,588 CHARLES F. CHICHESTER, GRAIN-DRIERS.



121,589 JAMES M. CLARK, WRINGING-MACHINES.



121,590 COATE AND JOHN, ROCK-DRILLING MACHINES.



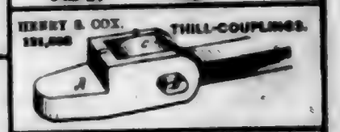
121,591 COTTON AND HAY PRESSES. EDWIN S. COLLINS.



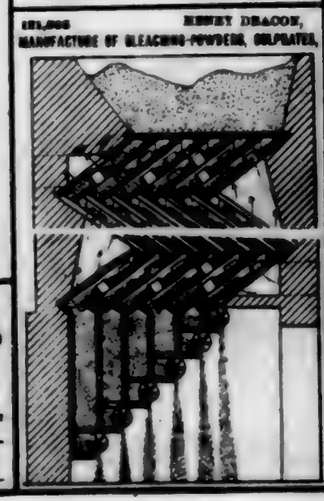
121,592 ABNER M. COMSTOCK, CHERRY-STONERS.



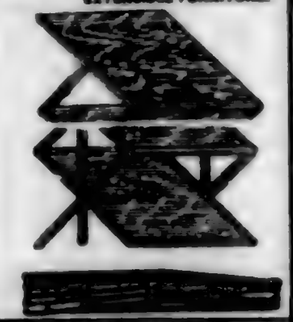
121,593 HENRY S. COX. THILL-COUPLINGS.



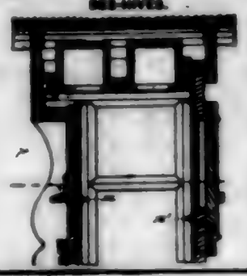
121,594 HENRY DRACOX, MANUFACTURE OF BLEACHING-POWDERS, SULPHATES,



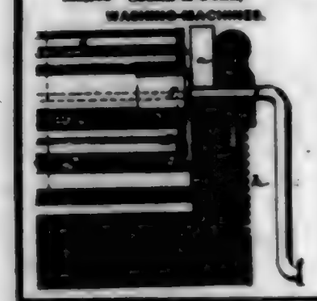
121,596 JOSEPH HAGEN DIETER, EXTENSIBLE FURNITURE.



121,597 AARON F. DICKEY, BEE-HIVES.



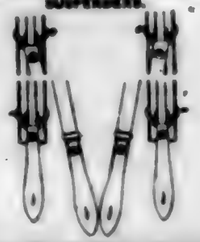
121,598 OSCAR L. DOBE, WASHING-MACHINES.



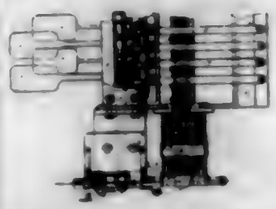
121,599 DENTAL FORCEPS. PERTRAM A. DURHAM.



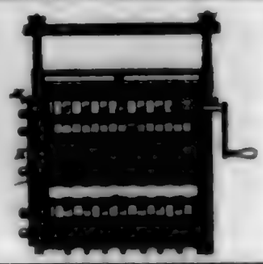
121,600 ROBERT HENRY HIGT, SUSPENDERS.



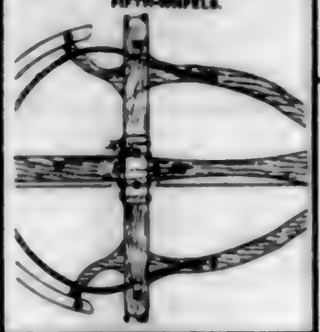
121,601 THOMAS A. EDISON, PERFORATING PAPER FOR TELEGRAPHIC PURPOSES.



121,602 GEORGE H. FATMAN, MACHINES FOR PRINTING HAM-TAGS.



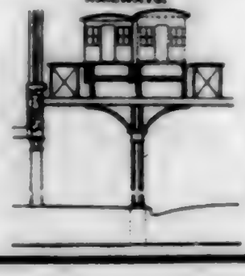
121,603 AMARIAH FINLEY, FIFTH-WHEELS.



121,604 MILES FINK, CHURNS.



121,605 DANIEL FITZGERALD, RAILWAYS.



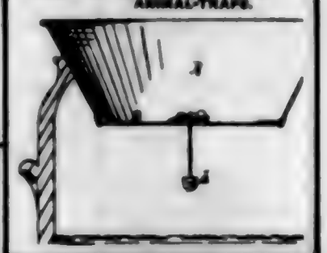
121,606 FOSSEARD AND WADSWORTH, METALLIC CARTRIDGES.



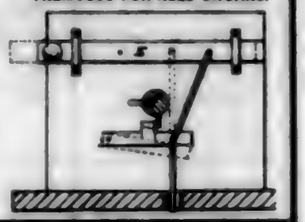
121,607 VINCENT FOUNTAIN, JR., DUNDA.



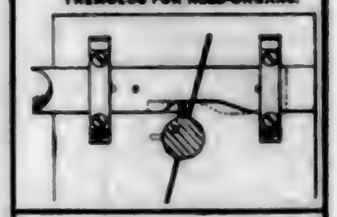
121,608 DUDLEY M. FRANCISCO, ANIMAL-TRAPS.



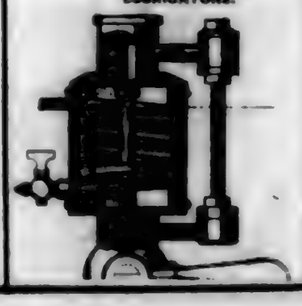
121,609 LEVI E. FULLER, TREMOLOS FOR REED ORGANS.



121,610 LEVI E. FULLER, TREMOLOS FOR REED-ORGANS.



121,611 WILLIAM T. GARRATT, LUBRICATORS.



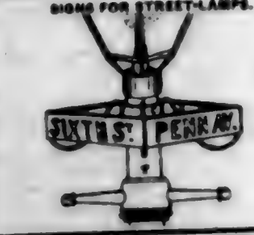
121,612 ALPHONSO B. GORDON, GRAIN-CARS.



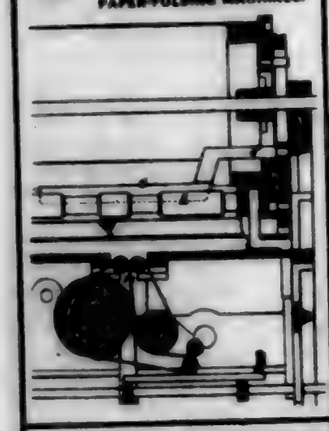
121,613 MARQUIS L. GORMAN, CULTIVATORS.



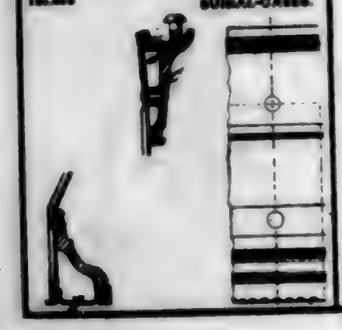
121,614 GRAHAM, SNYDER, AND O'BRIEN, SIGNS FOR STREET-LAMPS.



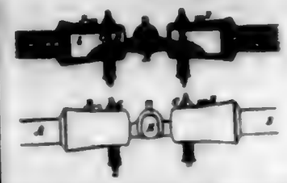
121,615 RICHARD B. GUBBINS, PAPER-FOLDING MACHINES.



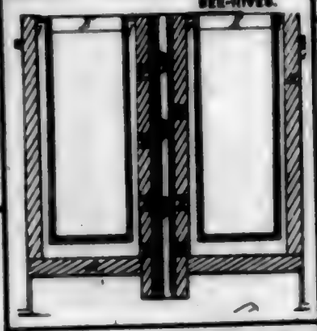
121,616 JOSEPH HACKETT, BURIAL-CASES.



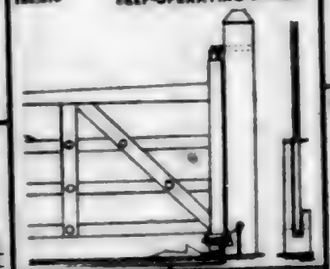
121,617 HALLETT AND BALLETT, CAR-COUPLINGS.



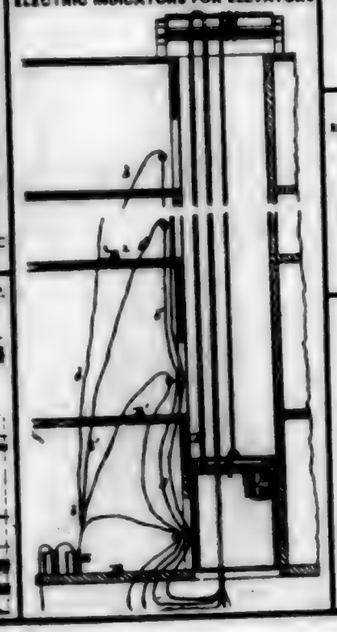
121,618 JASPER N. HIERONYMUS, BEE-HIVES.



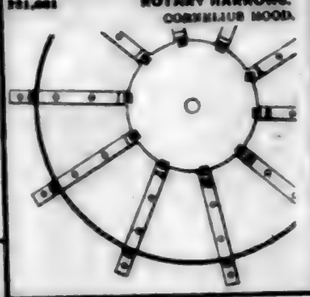
121,619 ALBERT H. HOLMES, SELF-OPERATING GATES.



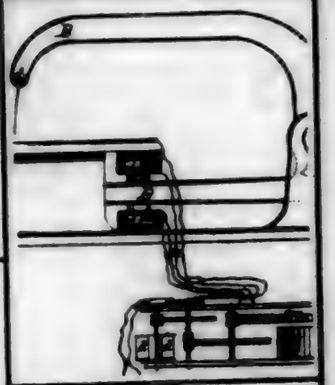
121,620 EDWIN HOLMES, ELECTRIC INDICATORS FOR ELEVATORS.



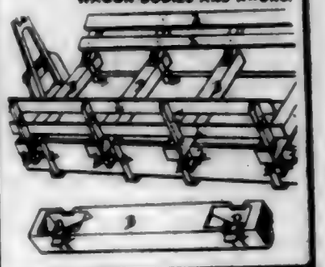
121,621 ROTARY HARROWS. CORNELIUS HOOD.



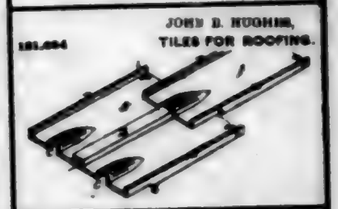
121,622 GEORGE M. HOPKINS, ELECTRO-MAGNETIC SEWING-MACHINES.



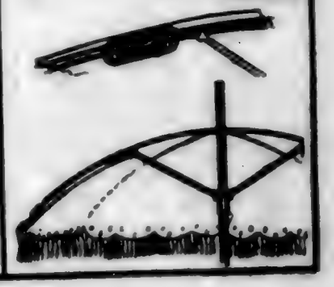
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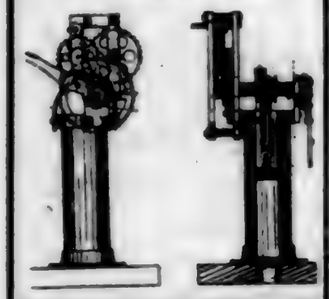
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121,625 JAMES LOUIS JACQUIN, PARASOLS.



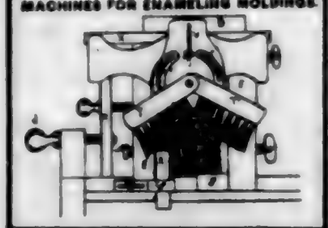
121,626 THOMAS B. JEFFERY.
PNEUMATIC MOTORS.



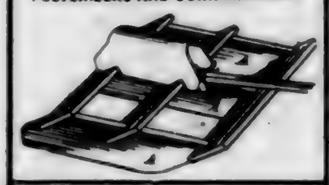
121,627 EPHRAIM S. JOHNSON.
ORNAMENTING PENCIL-CASES.



121,628 JOHN JOHNSON.
MACHINES FOR ENAMELING MOLDINGS.



121,629 THOMAS BROWN JONES.
PULVERIZERS AND CORN-MARKERS.

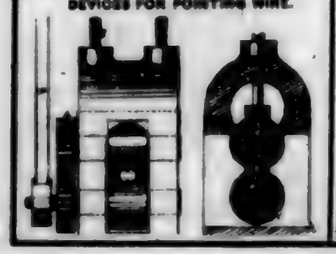


KABBOW AND KABBOW. GLOVES.
121,630

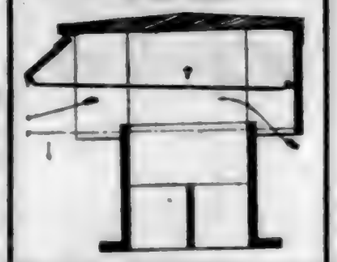


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EXTRACTS FROM HEMLOCK BARK.

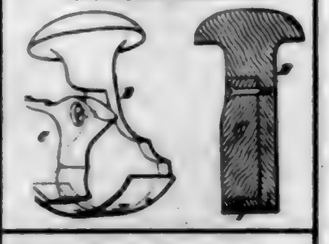
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DEVICES FOR POINTING WIRE.



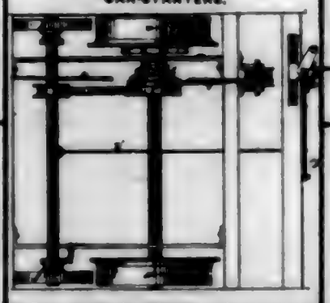
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CHIMNEY-TOPS.



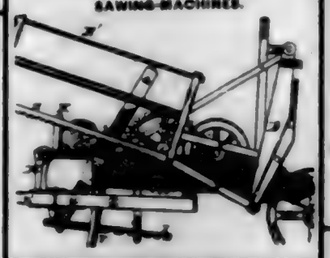
121,634 HERVEY KIMBALL.
STENCILING APPARATUS.



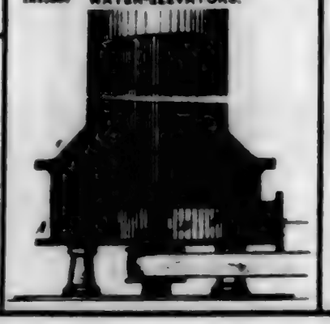
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CAR-STARTERS.



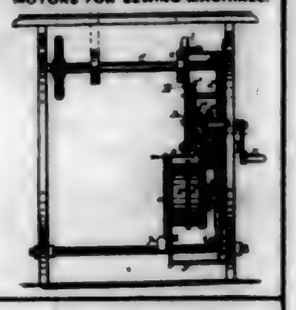
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SAWING-MACHINES.



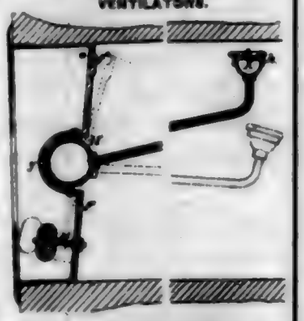
121,637 THOMAS J. LOVEGROVE.
WATER-ELEVATORS.



121,638 GEORGE W. MANSON.
MOTORS FOR SEWING-MACHINES.

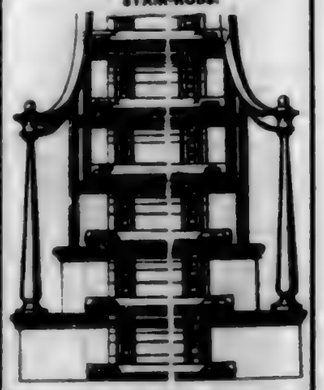


121,639 AMBROSE MARRIOTT.
VENTILATORS.

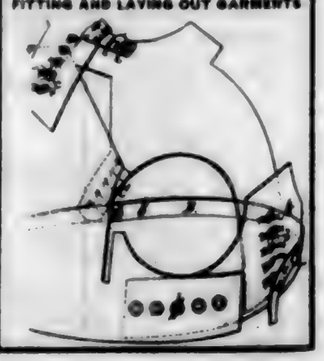


121,640 WILLIAM S. MARSH.
PRESERVING EGGS.

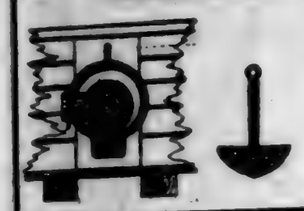
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STAIR-RODS.



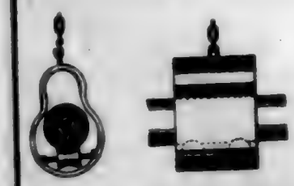
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FITTING AND LAYING OUT GARMENTS



121,643 GEORGE MELVILLE McCLAIN.
TRAVELERS FOR VESSELS.

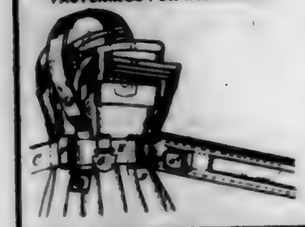


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STIRRUPS FOR CART AND DRAY SHAFTS

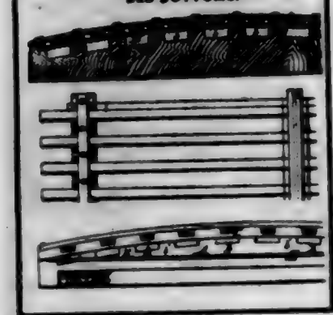


121,645 JOHN McDONALD.
HARDENING IRON AND STEEL.

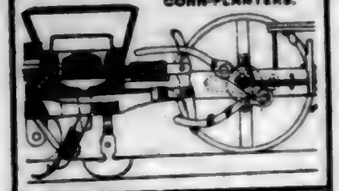
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FASTENINGS FOR MAIL-BAGS.



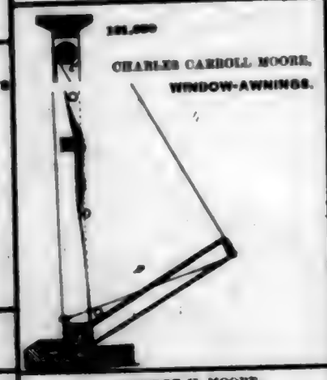
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BED-BOTTOMS.



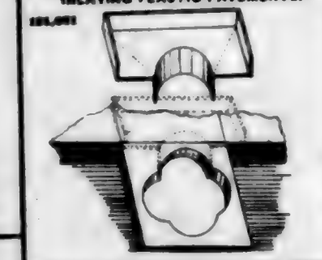
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CORN-PLANTERS.



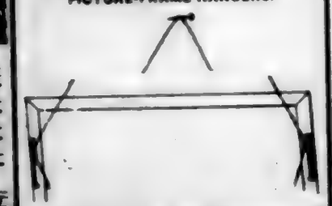
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CHARLES CARROLL MOORE.
WINDOW-AWNINGS.



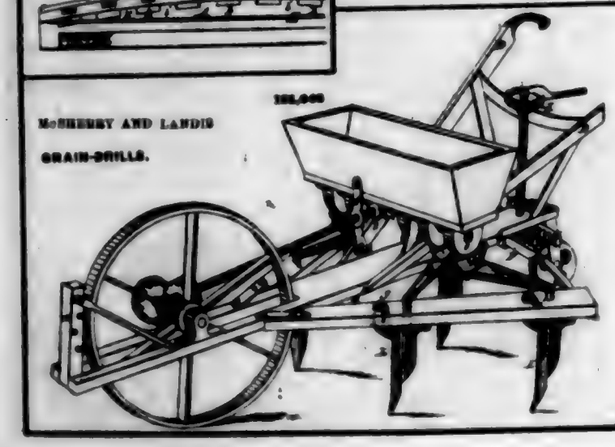
GEORGE M. MOORE.
INLAYING PLASTIC PAVEMENTS.
121,650



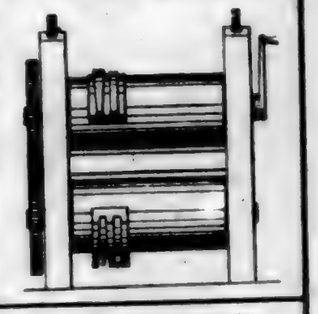
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PICTURE-FRAME HANGERS.



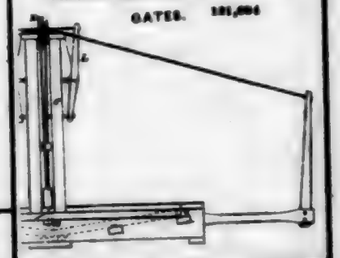
McSHERRY AND LANDIS
121,652
GRAIN-DRILLS.



121,653 SAMUEL C. MURDOCH.
ROLLING HARROW-TEETH.



VINCENT CAMPBELL NEWLAND.
GATES. 121,654



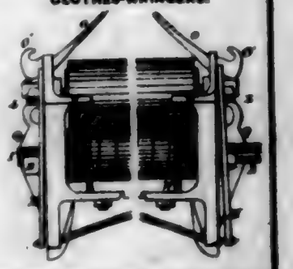
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REFRIGERATORS.



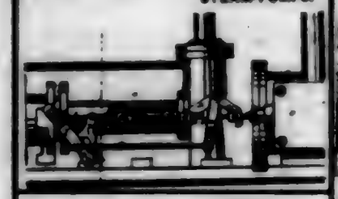
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DRAFT-POLES FOR HORSE-CARS.



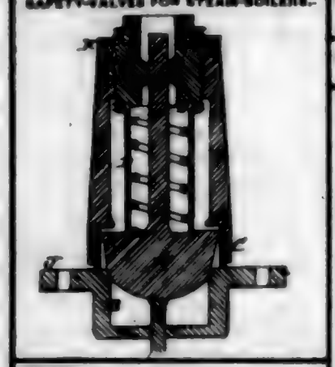
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CLOTHES-WRINGERS.



121,658 ALBERT PERRY, STEAM-PUMPS.



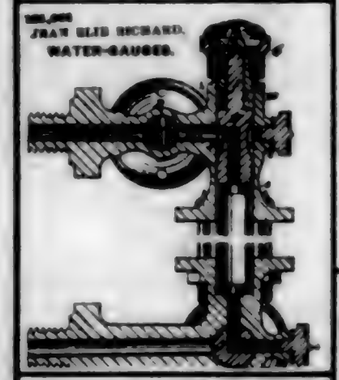
121,659 ANDREW J. PRESCOTT, SAFETY-VALVES FOR STEAM-BOILERS.



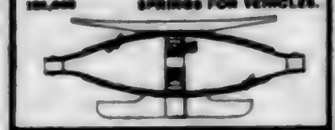
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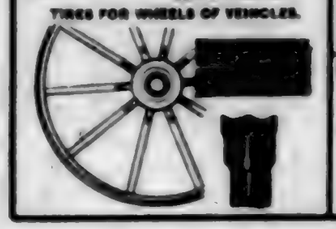
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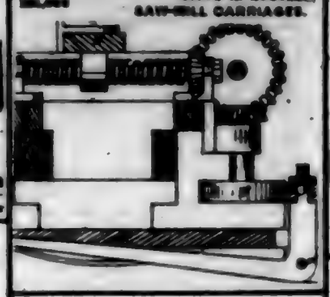
121,662 LEWIS HUNTER, SPRINGS FOR VEHICLES.



121,663 LEWIS HUNTER, TIRES FOR WHEELS OF VEHICLES.



121,664 TITUS H. RUSSELL, SAW-MILL CARRIAGES.

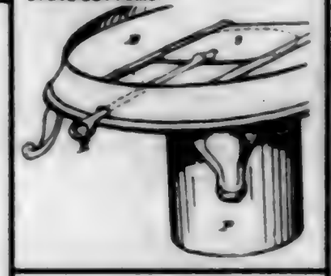


121,665 E. DELMAR DE HAYS SAINT CUR, COFFEE-ANTIDOTES.

121,666 SCHROEDER AND WURST, LIFE-DETECTORS FOR COFFINS.



121,667 DANIEL SCHUYLER, STOVE-BOTTOMS.



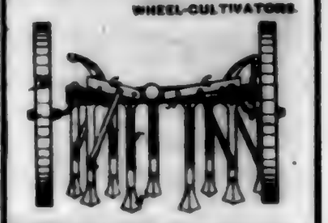
121,668 HATS OR BONNETS. DAVID SCHNEIDER.



121,669 THEODORE SHARING, FRUIT AND VEGETABLE PARERS.



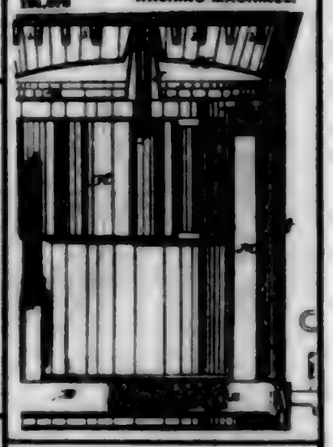
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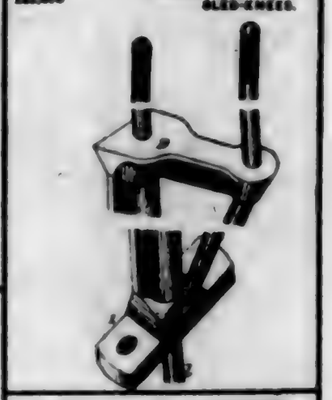
121,671 JOHN A. SHANNON, PAPER-FILES.



121,672 BRIGHAM, WASHING-MACHINES.

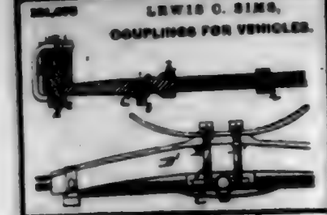


121,673 ALBERT L. SHEARS, SLED-KNEES.

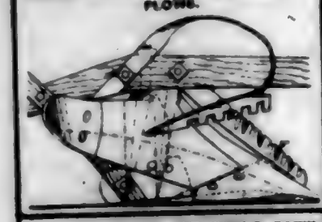


121,674 CHARLES SHERRIFF, IMITATION HAIR-CLOTHS.

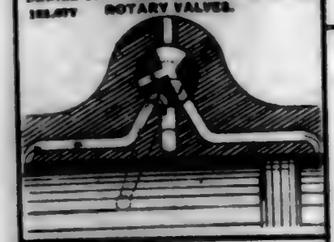
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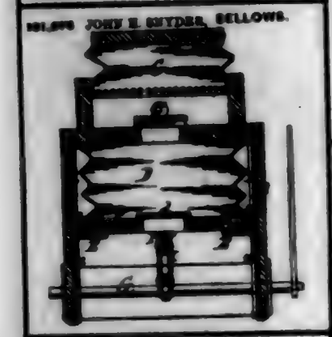
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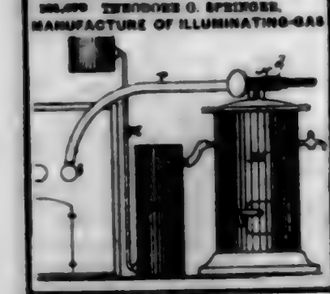
121,677 DANIEL BROWNELL AND JOHN D. BOWN, ROTARY VALVES.



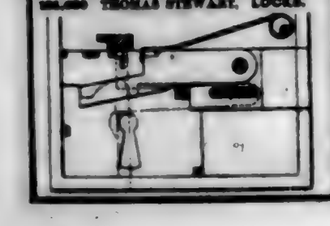
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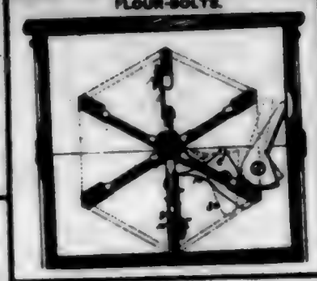
121,679 THEODORE G. SPERGEL, MANUFACTURE OF ILLUMINATING-GAS



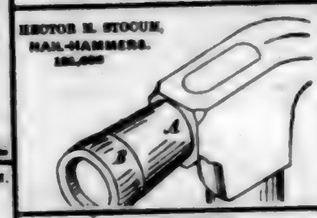
121,680 THOMAS STEWART, LOCKS.



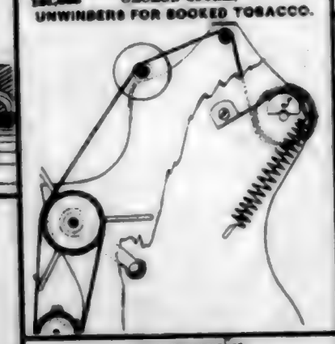
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121,682 HECTOR H. STOCUM, NAIL-HAMMERS.



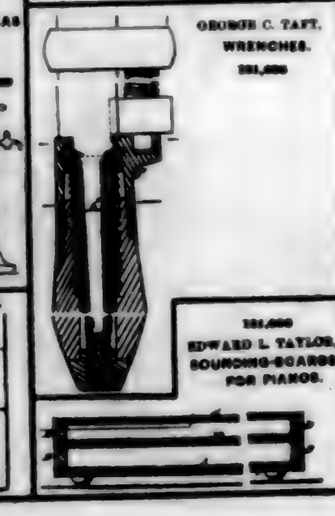
121,683 GEORGE STORM, UNWINDERS FOR BOOKED TOBACCO.



121,684 JOHN SULLIVAN, DEVICES FOR ADMINISTERING PILLS.

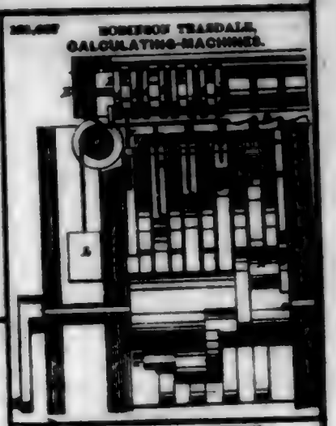


121,685 GEORGE C. TAFT, WRENCHES.



121,686 EDWARD L. TAYLOR, SOUNDING-BOARDS FOR PIANOS.

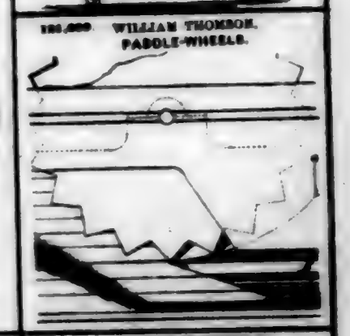
ROBERSON TRASDALE, CALCULATING-MACHINES.



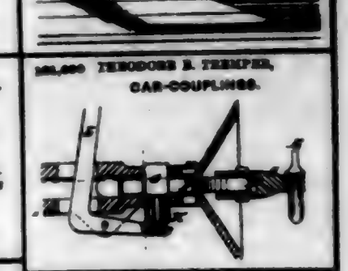
THOMPSON AND COLEMAN, SUPPORTING AND LOWERING COFFINS.



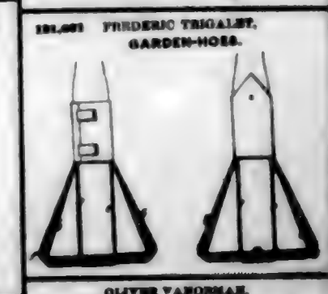
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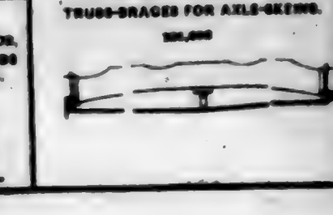
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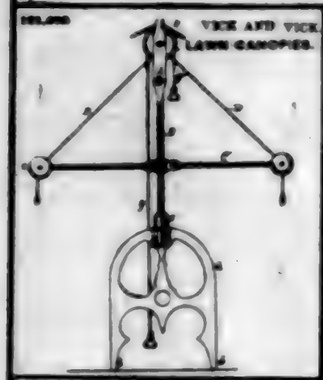
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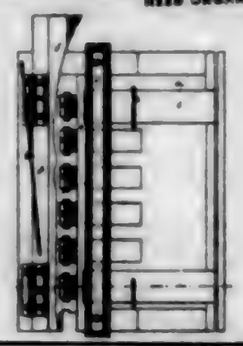
OLIVER VANORMAN, TRUSS-BRACES FOR AXLE-SKEINS.



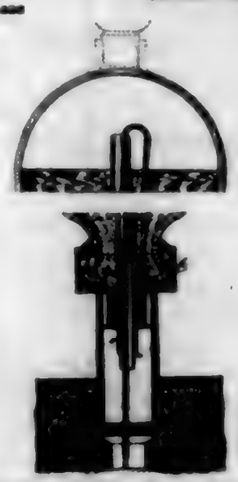
121,693 VICK AND VICK. LAWN CANOPIES.



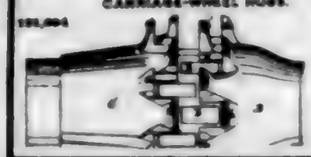
121,694 GEORGE W. WOODRUFF. REED ORGANS.



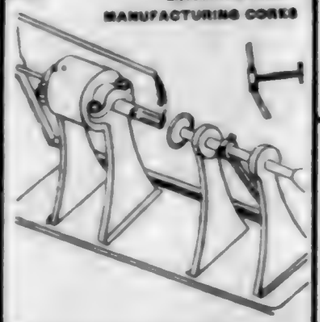
4,660 JOHN B. WICKERSHAM. LUBRICATORS.



121,695 HOLLAND E. VICK. CARRIAGE-WHEEL HUBS.



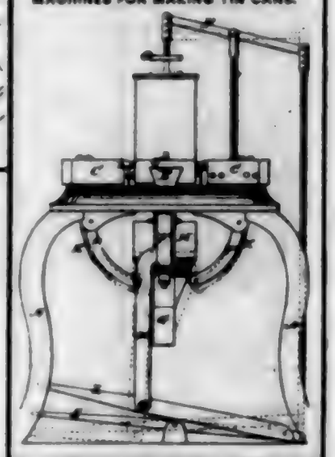
4,661 MARY F. CROCKER. MACHINES FOR MANUFACTURING CORKS



121,696 FELIX WALKER. SASH-HOLDERS.

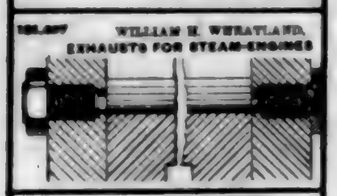


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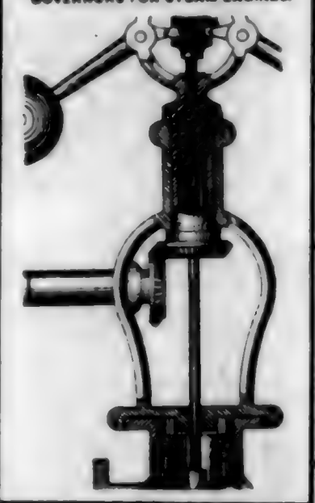


121,697 WILLIAM GEORGE WEBB. ORNAMENTATION OF GLASS. CONDENSED-STEAM

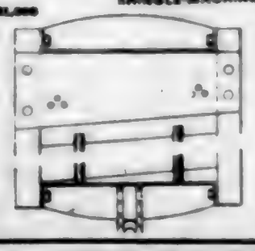
121,698 WILLIAM H. WHEATLAND. EXHAUSTS FOR STEAM-ENGINES



4,663 JUNIUS JUDSON. GOVERNORS FOR STEAM-ENGINES.



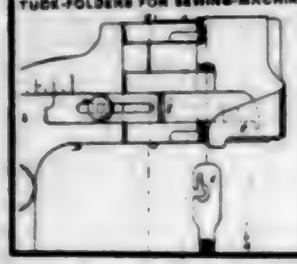
121,699 JULIUS P. WILDER. SHINGLE-MACHINES.



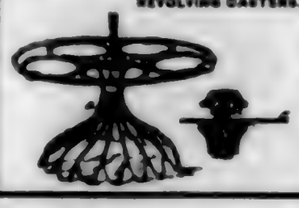
4,664 HALVOR HALVORSON. LAMPS.



121,700 WOODBURY AND WOODBURY. TUCK-FOLDERS FOR SEWING-MACHINES.



4,665 4,667 CYRUS H. LATHAM AND JOHN S. LUDD. REVOLVING CASTERS.



4,666 BENJAMIN W. HEALEY IRON TENDER-FRAMES.



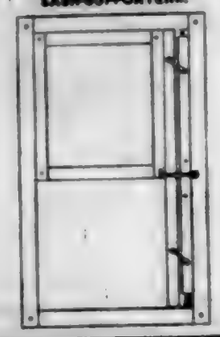
4,668 CHARLES McBURNEY. VULCANIZED-RUBBER BELTINGS.

4,669 CHARLES H. WILLCOX. SEWING-MACHINE NEEDLES.

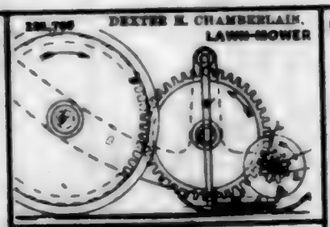


ILLUSTRATIONS OF PATENTS
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DECEMBER 12, 1871.

121,701 WILLIAM HAMMOND BROWN. SASH-SUPPORTERS.



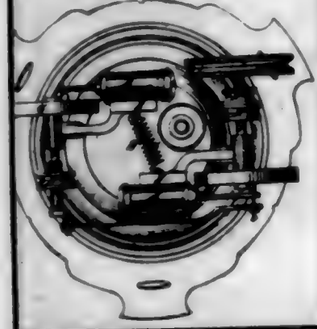
121,702 DEXTER H. CHAMBERLAIN. LAWN-MOWER



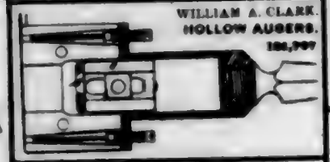
121,703 WILLIAM A. CLARK. CARRIAGE-WHEELS.



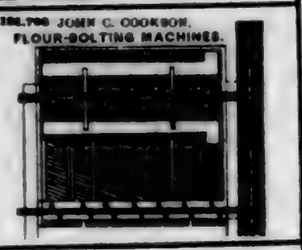
121,704 ALEXANDER BUCKMAN. TOY STEAM-ENGINES.



121,705 WILLIAM A. CLARK. HOLLOW AUGERS.



121,706 JOHN C. COOKSON. FLOUR-BOLTING MACHINES.



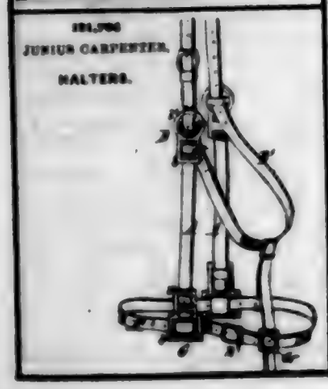
121,707 WILLIAM A. CARON. DOOR-PLATES.



121,708 DARRAH AND CUTSHALL. CATTLE-GUARDS FOR RAILWAYS.



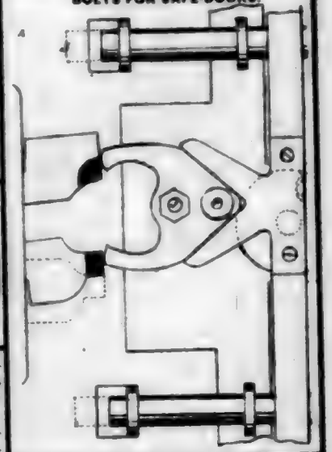
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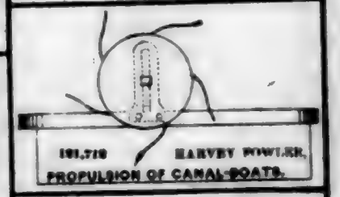
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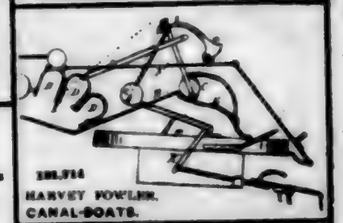
121,711 FARREL AND WEIMAR. BOLTS FOR SAFE-DOORS.



121,712 HARVEY FOWLER. PROPULSION OF CANAL-BOATS.

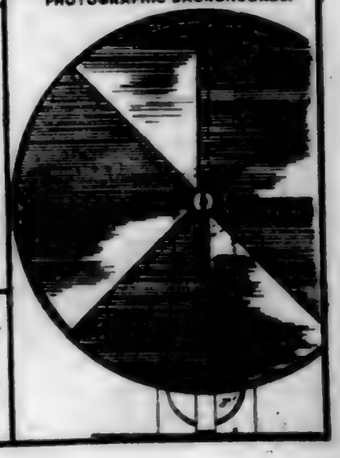


121,713 HARVEY FOWLER. PROPULSION OF CANAL-BOATS.



121,714 HARVEY FOWLER. CANAL-BOATS.

121,715 ALBERT R. GOULD. PHOTOGRAPHIC BACKGROUNDS.



121,716 PATRICK H. GRIFFIN HYDRANTS.

ISAAC D. JOHNSON, LIFTING-JACKS.

WILLIAM H. MCPHERSON, BEDSTEAD-FASTENINGS.

121,717 EDWARD A. HILL, ELECTRIC FIRE-ALARMS.

121,719 NATHAN B. MORSE

121,720 GEORGE AUGUSTUS KEENE, CLOTHES-DRIERS.

121,721 ELIAS P. READ SEED-BOTTOMS.

WILLIAM A. SINNAR, BOTTLE-WRAPPER 121,722

121,723 JACOB HAAS, MATTRESSES.

121,724 ELIAS P. READ SEED-BOTTOMS.

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121,726 JOHN HAFFLAND DEVICES FOR LOCKING NUTS.

121,727 CARLTON W. ROBERTS, STRIKING MECHANISM OF CLOCKS.

121,728 PATRICK BOWE, MACHINES FOR PRESSING CLOTH.

121,729 JOSEPH E. BAXTER, LINKS.

GILES BOLIVAR BOX, CATTLE-PUMPS. 121,731

121,732 NATHAN THOMPSON, MOLDS FOR CASTING.

121,733 EDWARD ALDOM, SPRING-PERCHES FOR BIRD-CAGES.

121,734 RUFUS S. SANFORD, RAILWAY RAILS.

JOHN VALENTINE, PITCHING-MACHINE 121,737

ALLEN AND RITCHEL, BOLT AND NUT-THREADING MACHINES. 121,740

WATSON SANFORD, STOVE-GRATE 121,735

121,736 EDWARD WHITEHEAD, PROPULSION OF VESSELS.

121,744 JOHN P. ALLEN, OILING APPARATUS FOR CRANK-PINS.

121,745 HARVEY S. BARNES, MOTIVE-POWERS FOR SEWING-MACHINES

121,738 SAMUEL SPRINGER, BEDSTEADS.

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121,742 NATHAN THOMPSON, JOINTS FOR FOLDING FURNITURE.

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HENRY LAHR, HEATING-STOVES.

121,743 ALLEN H. BAUMAN, APPARATUS FOR DRYING SAND AND GRAVEL.

KING, RAYNER, AND BERRIE.
KNIFE-CLEANERS.

JAMES V. CHERRINGTON.
WASHING-MACHINES.

CALVERT B. COTTRELL.
PISTONS FOR PRINTING-PRESSES.

MICHAEL CRAVEN.
RESTS FOR CLOTH-SHEARING MACHINES.

JAMES H. ELSWORTH.
WARMING BUILDINGS WITH STEAM.

WILLIAM P. CLARK.
DRAUGHT-COCKS.

VELESIUS W. CROWSON.
COVERINGS FOR WHIPS.

THOMAS JAMES BURKE.
PROPULSION OF CANAL-BOATS.

JOHN COCHRAN.
CHURNS.

HENRY DAVIES.
BLAST-FURNACES.

HIRAM C. CHANDLER.
AUTOMATIC FLY-BRUSHES.

MARION H. COE.
DEVICES FOR MAKING BALE-TIES.

ANDREW J. CHASE.
REFRIGERATOR.

FREDERICK COELNER.
SHOE-FASTENINGS.

SAMUEL T. DICKINSON TINKHAM'S-TONGS.

JOHN WESLEY CHERRY.
FENCE

ELISHA B. COLE.
BASKETS.

EDWARD DUFFER.
SCREENS FOR COAL-GAS PURIFIERS.

DANIEL P. EATON.
STAMP-CANCELERS.

BRIDGET FERRON.
CULINARY BOILER

ALFRED B. GODDARD.
LIFTING-JACKS.

EDWARD F. EDGECOMB.
TOOL-HOLDERS FOR GRINDERS.

JACOB FRECKER.
HYDRANTS.

JOHN A. GERHART.
WAGON-BRAKES.

ANDREW S. HALLIDIE.
ENDLESS ROPE-WAYS.

WILLIAM EVERS.
BAGATELLE GAMES AND APPARATUS.

HENRY S. GILLETTE.
MACHINES FOR SAWING STONE.

HENRY W. HAMILTON.
HAY-LOADERS.

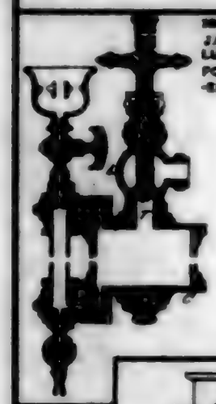
CARL FOGELBERG.
KEY-BOARDS FOR REED AND PIPE ORGANS.

VITRUVIUS FRASER.
COMBINED LATCHES AND LOCKS.

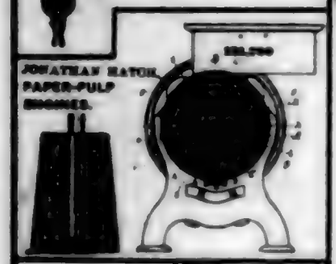
HARRY C. GOODRICH.
CORDING ATTACHMENTS FOR SEWING-MACHINES.

EMMONS HAMLIN.
KEY-BOARD MUSICAL INSTRUMENTS.

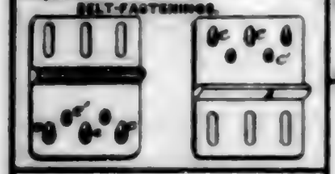
121,770 JAMES HARPER. LUBRICATORS FOR STEAM-ENGINES.



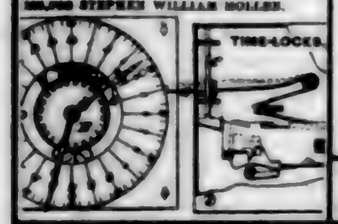
121,771 JONATHAN HATCH. PAPER-PULP ENGINES.



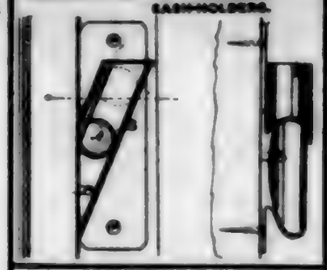
121,772 JOHN W. HICKS. BELT-FASTENINGS.



121,773 STEPHEN WILLIAM HOLLIS. TIME-LOCKS.



121,774 HUBBARD AND HUBBARD. SASH-HOLDERS.



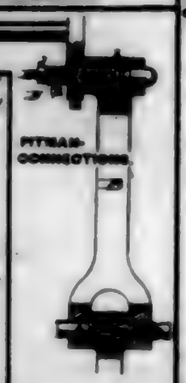
121,775 JOHNSON AND BOTTNER. TRUNK-LID SUPPORTS.



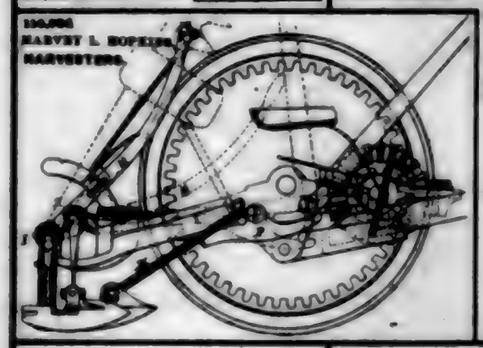
121,776 ALBERT D. JUDD. MATCH-BOXES.



121,777 ANSON KINGSLEY.



121,778 MARVEL L. HOPKINS. HARVESTERS.

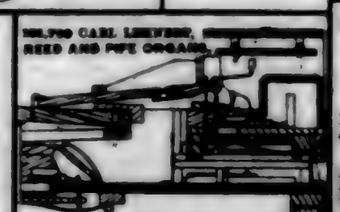


121,779 PITMAN. CONNECTIONS.

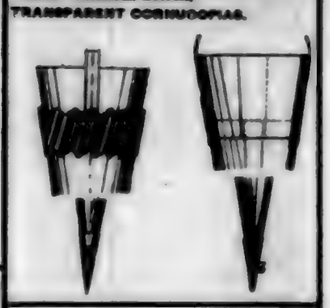
121,780 JOHN HOLMES. HORSE-RAKES.



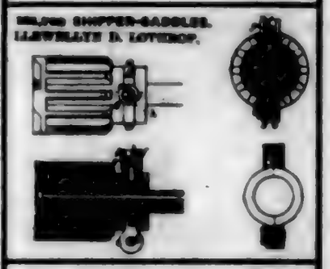
121,781 CARL LINDBERG. REED AND PIPE ORGANS.



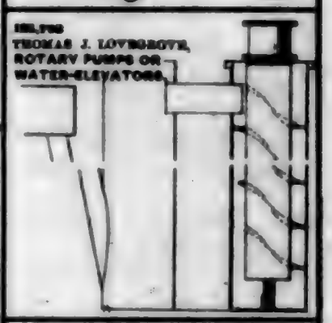
121,782 WILLIAM LOSEE. TRANSPARENT CORNUCOPIAS.



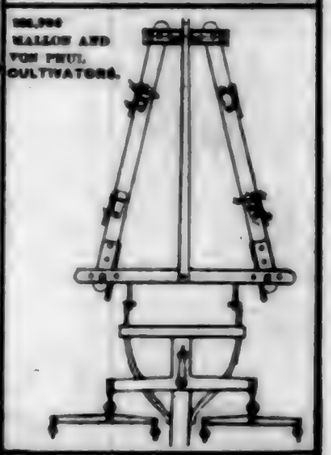
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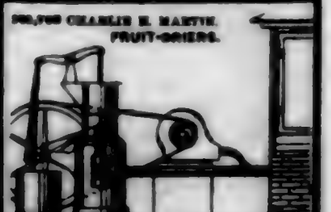
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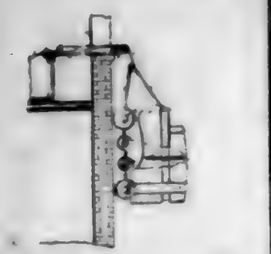
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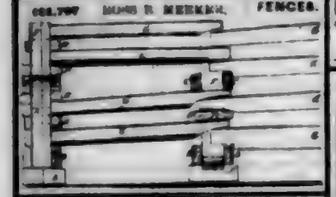
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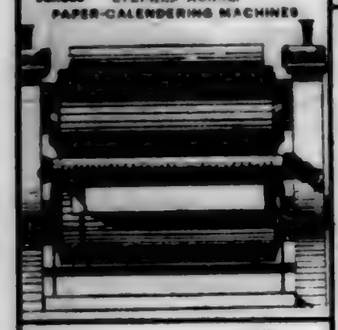
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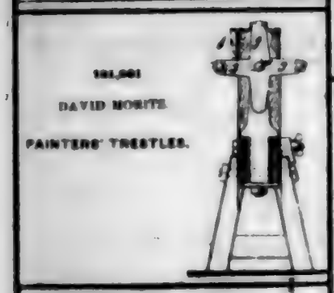
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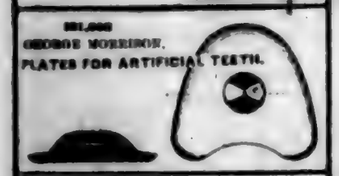
121,798 STEPHEN MOORE. PAPER-CALENDERING MACHINES.



121,799 DAVID MORITZ. PAINTERS' TRESTLES.



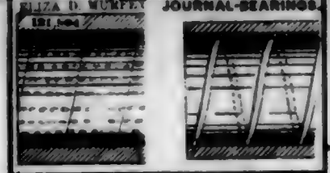
121,800 GEORGE MORRISON. PLATES FOR ARTIFICIAL TEETH.



121,801 FRANCIS B. MORSE. DIES FOR MAKING CARRIAGE-STEPS.

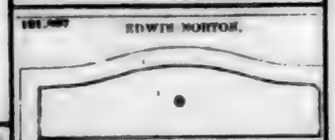


121,802 ELIZA D. MURPEY. JOURNAL-BEARINGS.

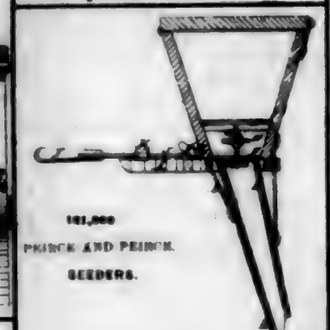


121,803 ELIZA D. MURPEY. PACKINGS AND BEARINGS.

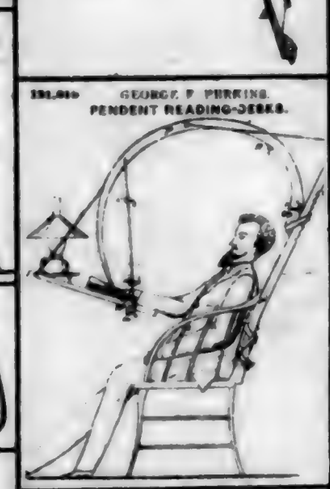
121,804 EDWIN MORTON. DIES FOR MAKING BLANKS FOR STOVE-PIPE ELBOWS.



121,805 ALVIN PAYNE. METALLIC CARTRIDGES.



121,806 PRINCE AND PRINCE. SEEDERS.



121,807 GEORGE F. PERRINE. PENDENT READING-DESKS.

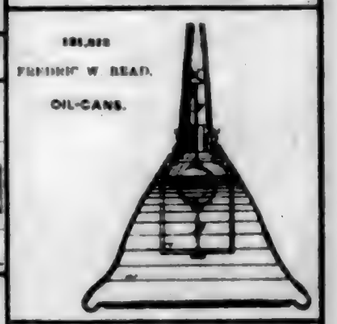
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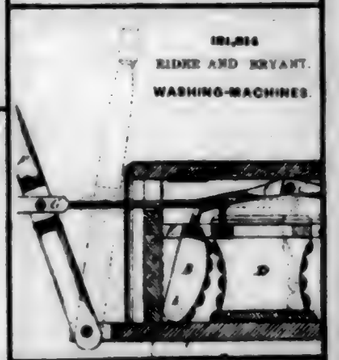
121,809 JOHN W. PLOUFF. WASH-BOILERS.



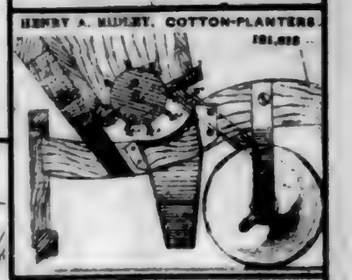
121,810 FREDRIC W. READ. OIL-CANS.



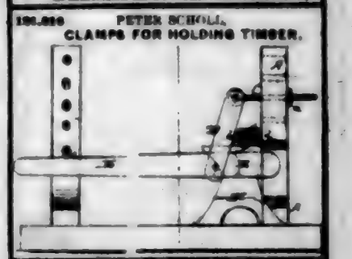
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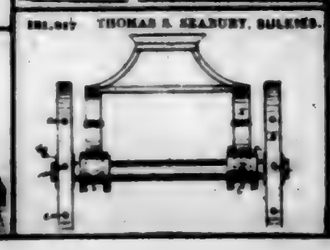
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121,813 PETER SCHOLL. CLAMPS FOR HOLDING TIMBER.



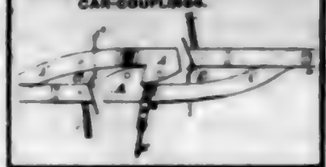
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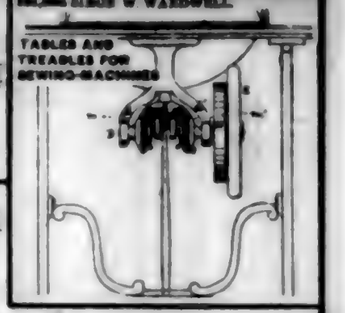
121,818 FRANCIS M. HEWSON. RIDING-SADDLES.



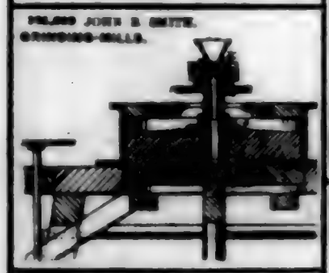
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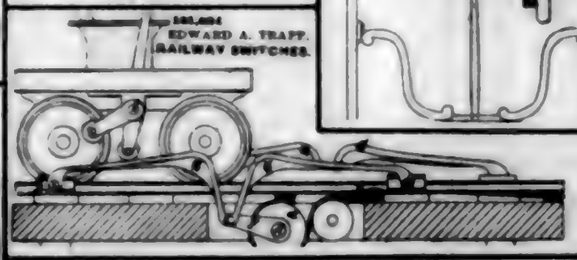
121,820 GIDEON W. WARDWELL. TABLES AND TREADLES FOR SEWING-MACHINES.



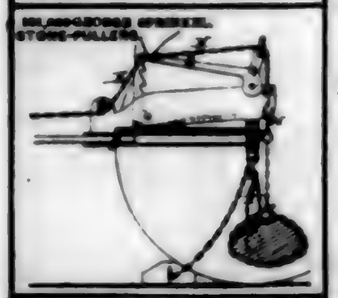
121,821 JOHN B. SMITH. GRINDING-MILLS.



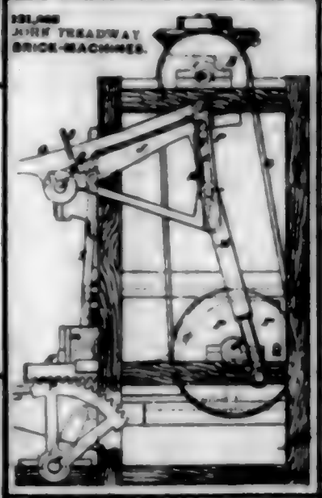
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121,823 GEORGE SPENCER. STONE-PULLERS.



121,824 JOHN TREADWAY. BRICK-MACHINES.

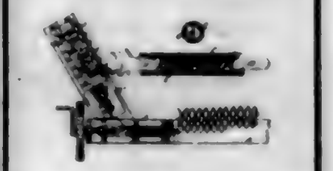


121,825 WILLIAM H. WATERBURY. HAT-SWEATS FROM WATER-PROOF PAPER.

121,826 WATSON AND ORR. LOOM-SHUTTLES.



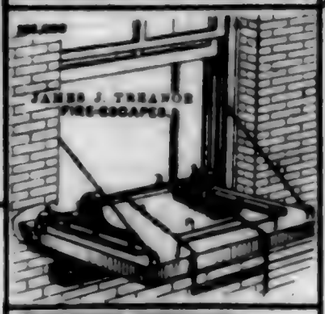
121,827 FREDERICK C. CHARLES WEBB. RAISING WIRE-NETTINGS.



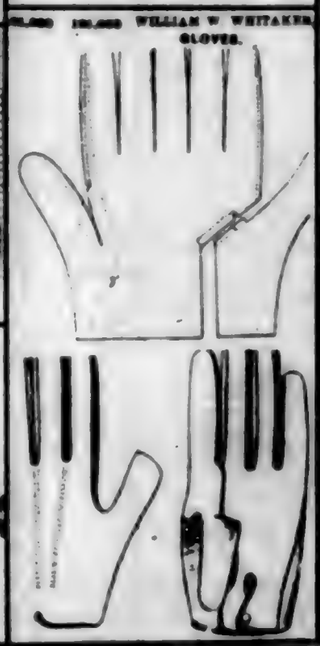
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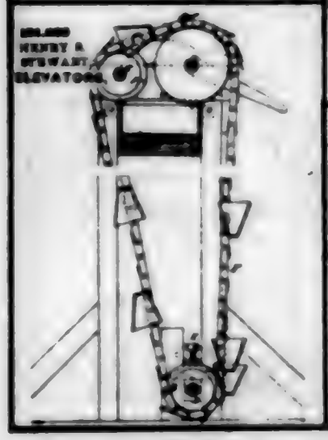
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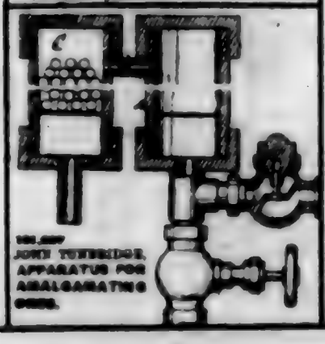
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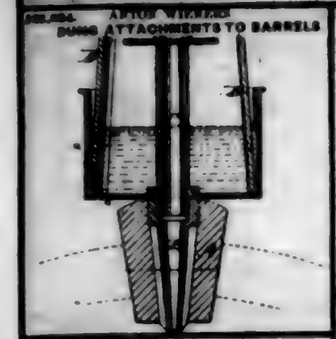
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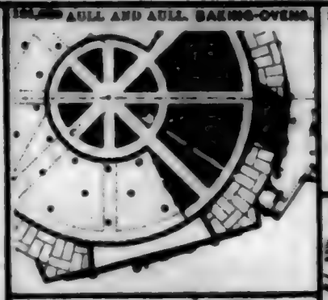
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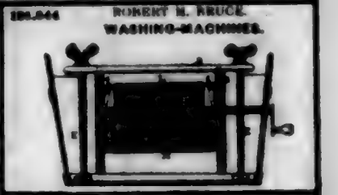
121,834 ALTON WIXSON. BUNG ATTACHMENTS TO BARRELS



121,835 AULL AND AULL. BAKING-OVENS.



121,836 ROBERT M. BRUCE. WASHING-MACHINES.



121,837 ERASTUS T. BUSSELL. CEILING ORNAMENTS.



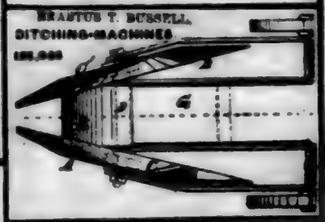
121,838 OLIVER F. WILCHESTER. SWIVEL-LOOPS FOR FIRE-ARMS.



121,839 HENRY A. BATHURST. BEE-HIVES.



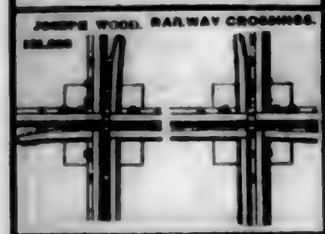
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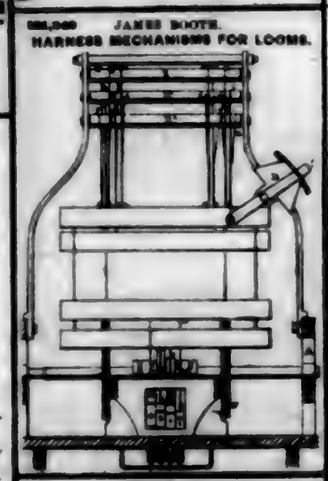
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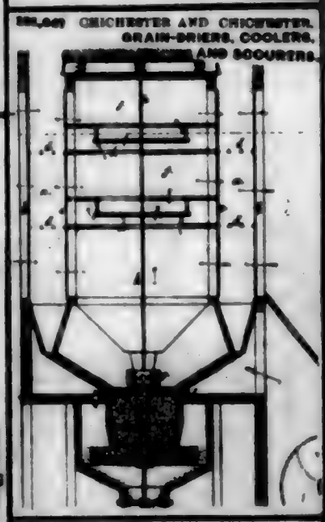
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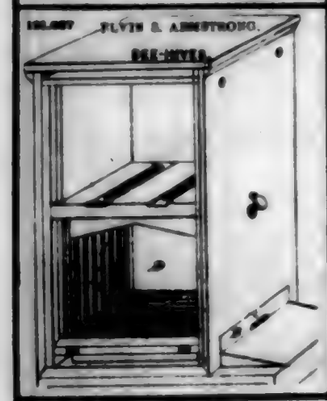
121,843 JAMES BOOTH. HARNESS MECHANISMS FOR LOOMS.



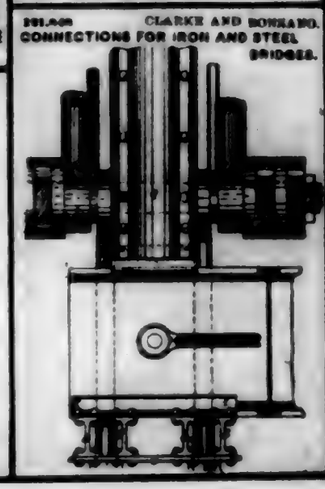
121,844 CHICHESTER AND CHICHESTER. GRAIN-DRIERS, COOLERS, AND SCOURERS.



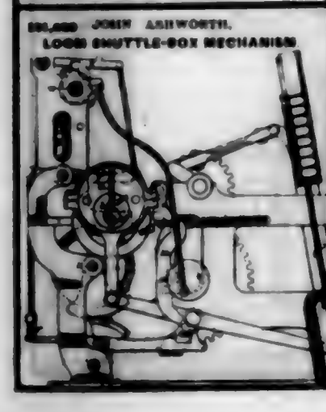
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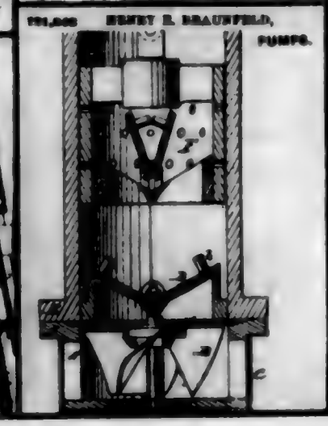
121,846 CLARKE AND HOWARD. CONNECTIONS FOR IRON AND STEEL BRIDGES.



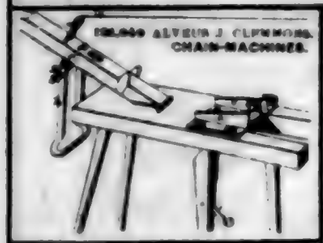
121,847 JOHN ASHWORTH. LOOM SHUTTLE-BOX MECHANISM



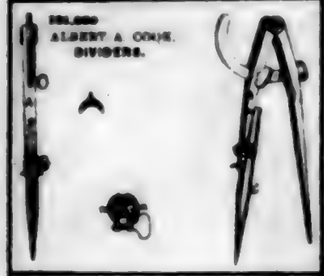
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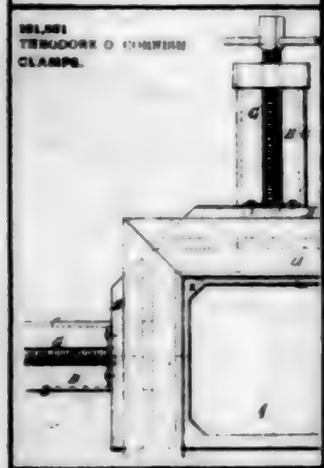
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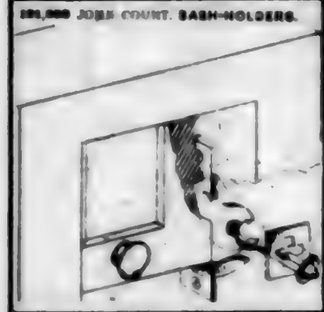
121,850 ALBERT A. ODLE. DIVIDERS.



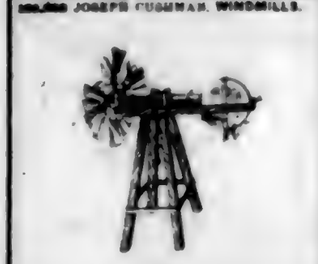
121,851 THEODORE O. CHERRY. CLAMPS.



121,852 JOHN COUNT. SASH-HOLDERS.



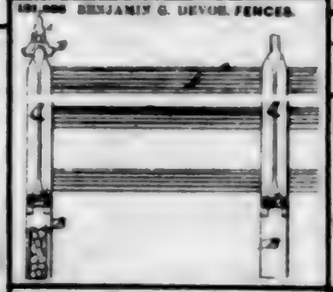
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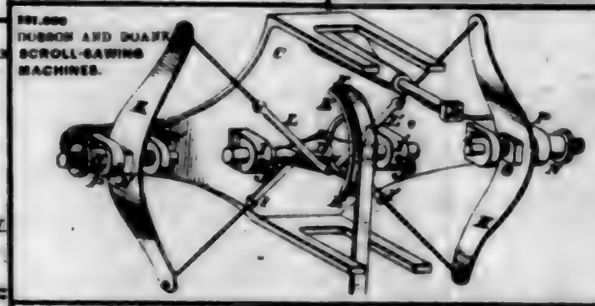
121,854 THOMAS DAMON. APPARATUS FOR TRANSMITTING AND APPLYING POWER.



121,855 BENJAMIN G. DEVOE. FENCES.



121,856 DUBOSON AND DUANE. SCROLL-SAWING MACHINES.



121,857 WILLIAM T. DOLE. CARRIAGE-HUB.



121,858 HEPHTHALI A. DURHAM. DENTAL FORCEPS.

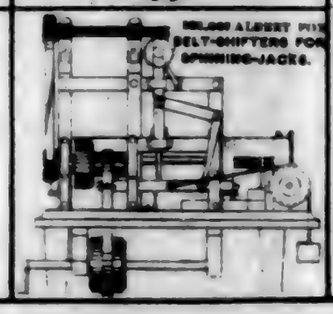


121,859 DIXON AND DIXON. MANUFACTURE OF JAPANNED OR TRAVELED HOOP-SKIRTS.

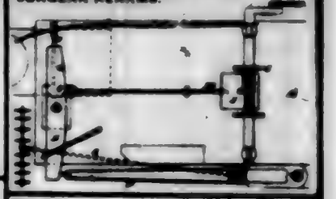
121,860 DAVID EVANS. PAPERING OR PUTTING UP NEEDLES.



121,861 ALBERT PITT. BELT-SHIFTERS FOR SPINNING-JACKS.



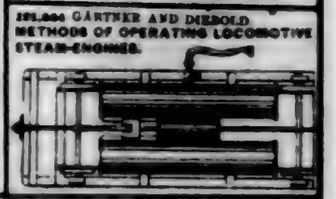
121,862 WILLIAM T. GARDINER. BURGLAR-ALARMS.



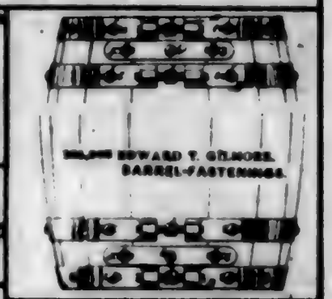
121,863 JAMES H. GARRETT. HARNESS-PADS.



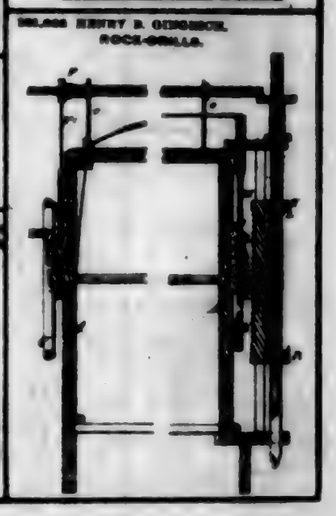
121,864 GÄRTNER AND DIEBOLD. METHODS OF OPERATING LOCOMOTIVE STEAM-ENGINES.



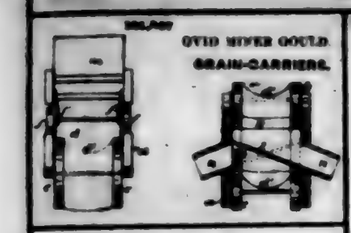
121,865 EDWARD T. GILMORE. BARREL-FASTENINGS.



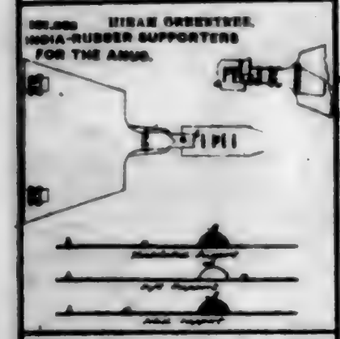
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121,867 OVID MYER GOULD. GRAIN-CARRIERS.



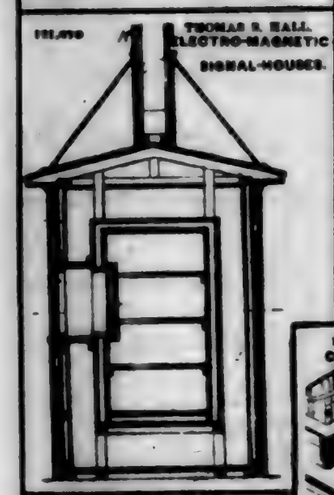
121,868 HIRAM GREENTREE. INDIA-RUBBER SUPPORTERS FOR THE ANUS.



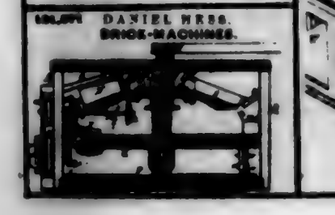
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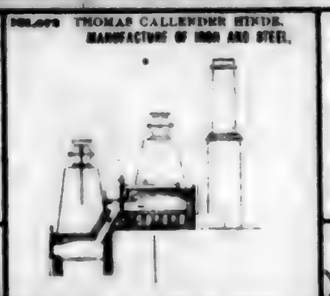
121,870 THOMAS S. HALL. ELECTRO-MAGNETIC SIGNAL-HOUSES.



121,871 DANIEL HESS. BRICK-MACHINES.



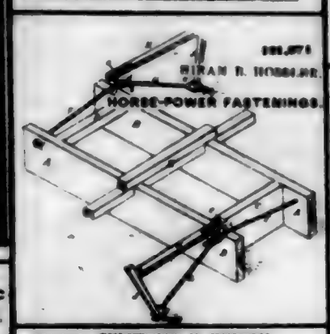
121,872 THOMAS CALLENDER HINDE. MANUFACTURE OF IRON AND STEEL.



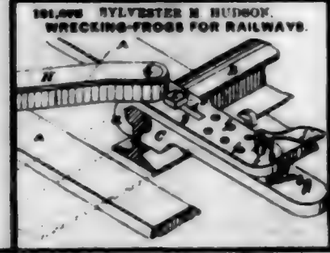
121,873 CARL HOFFMANN. IMPLEMENTS FOR HANDLING BOXES AND PACKAGES.



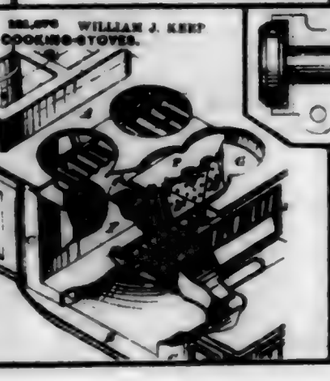
121,874 HIRAM B. HOBBS. HORSE-POWER FASTENINGS.



121,875 SYLVESTER M. HUDSON. WRECKING-FROGS FOR RAILWAYS.



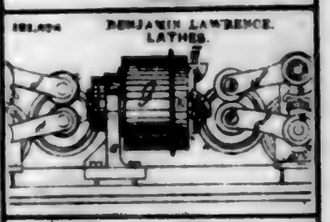
121,876 WILLIAM J. KEEP. COOKING-STOVES.



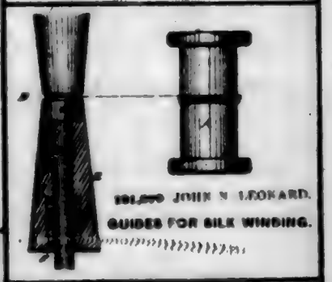
121,877 WILLIAM J. KEEP. STOVE-PIPE DAMPERS.



121,878 BENJAMIN LAWRENCE. LATHES.



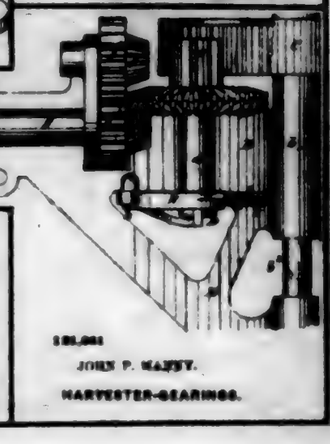
121,879 JOHN N. LEONARD. GUIDES FOR SILK WINDING.



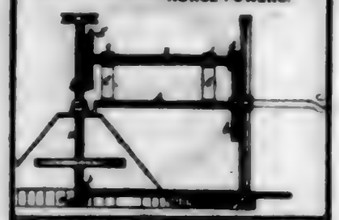
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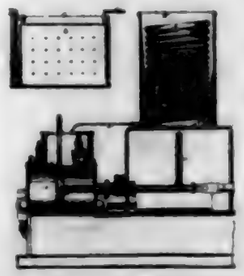
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121,902 MARMADUKE AND STEWART. HORSE-POWERS.



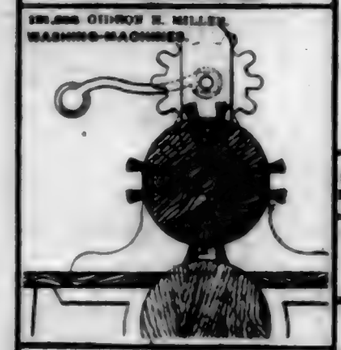
121,903 ANDREW MÜHL, JR. MACHINE



121,904 CHARLES PUTNAM BRIDGES.



121,905 OTHROW H. MILLER. WASHING-MACHINES.

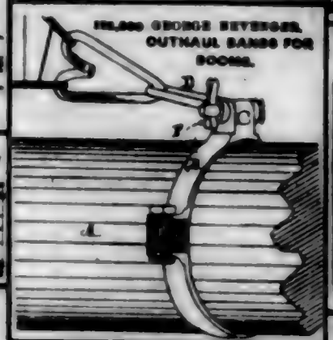


121,906 CHARLES MOTTER, JR. MANUFACTURE OF STEEL IN CRUCIBLES

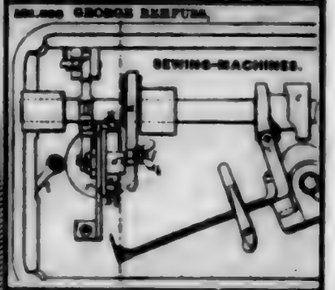
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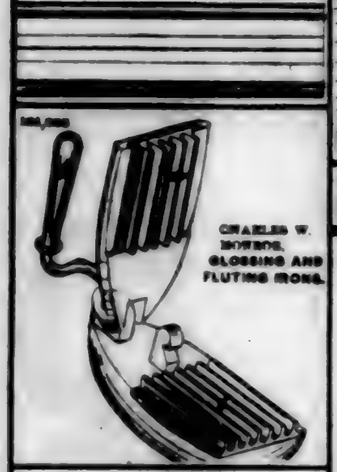
121,908 GEORGE REEVES. OUTHAUL BANDS FOR BOOMS.



121,909 GEORGE REEVES. SEWING-MACHINES.



121,910 STEPHEN E. MYERS. LIGHTNING-RODS.



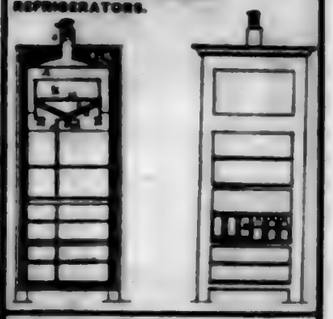
121,911 CHARLES W. BOWERS. GLOSSING AND FLUTING IRONS.

121,912 PHILLIP W. RICHARDS. STUFFING-BOXES.



121,913 EDWARD A. L. ROBERTS. MANUFACTURE OF NITRO-GLYCERINE.

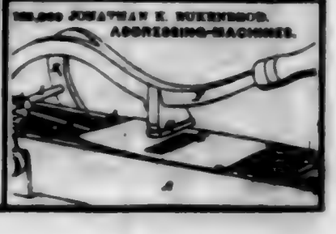
121,914 JEREMIAH BOKER. REFRIGERATORS.



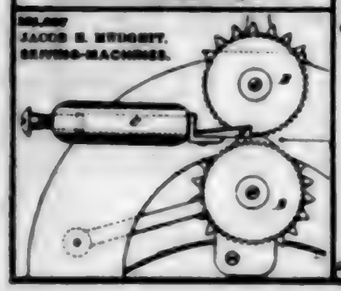
121,915 NORRILL AND SMITH. DESKS, TABLES, AND SHELVES COMBINED.



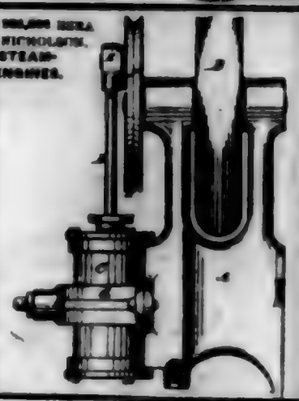
121,916 JONATHAN K. BURRINGTON. ADDRESSING-MACHINES.



121,917 JACOB E. WRIGHT. SEWING-MACHINES.

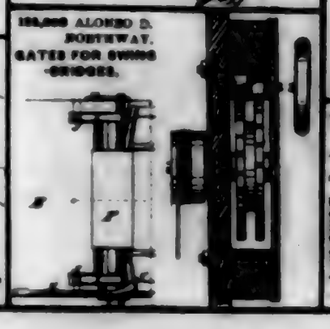


121,918 ZERA NICHOLSON. STEAM-ENGINES.

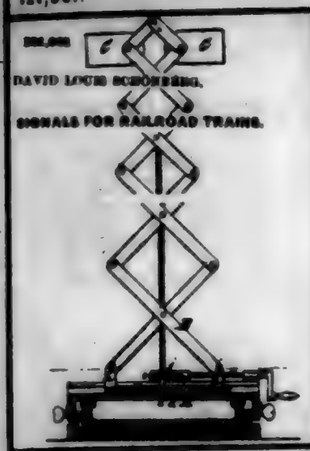


121,919 THOMAS H. PERCIVAL. MECHANICAL MOVEMENTS.

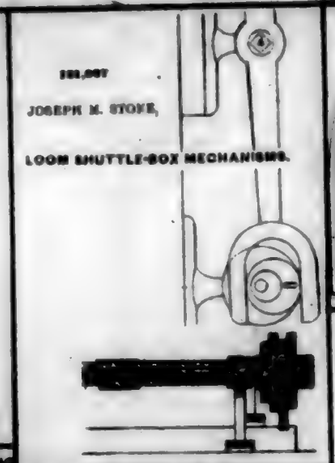
121,920 ALONZO D. NORTHWAY. GATES FOR SWING-BRIDGES.



121,901 DAVID LOUIS BOROWSKI. SIGNALS FOR RAILROAD TRAINS.



121,902 JOSEPH M. STOVE. LOOM SHUTTLE-BOX MECHANISMS.

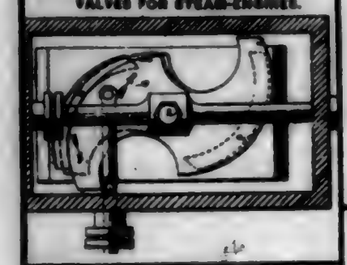


121,903 BENJ. F. THOMAS. FIRE-PLACES.



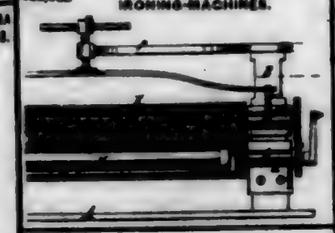
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121,905 CHARLES B. SMITH. VALVES FOR STEAM-ENGINES.

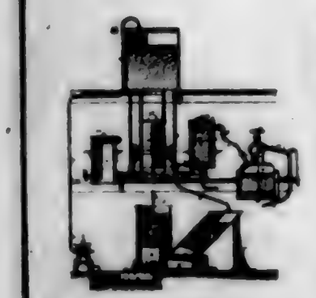


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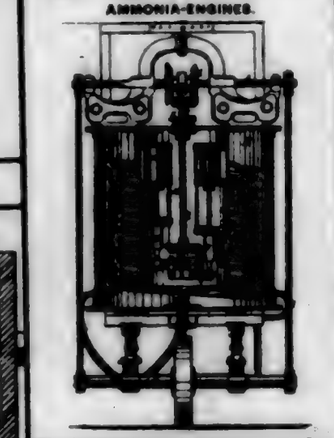
121,907 GILBERT F. TAYLOR. IRONING-MACHINES.



121,908 THOMAS SEDL. APPARATUS FOR SEPARATING FATTY MATTERS FROM VEGETABLE SUBSTANCES.

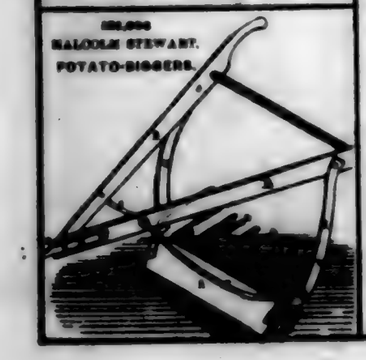


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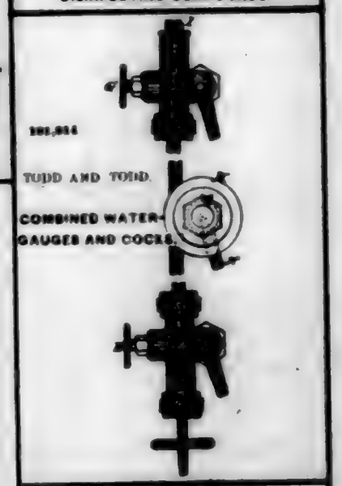


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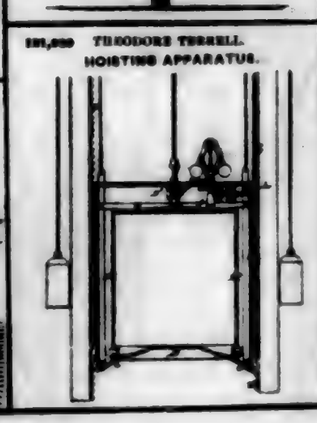
121,911 MALCOLM STEWART. POTATO-DIGGERS.



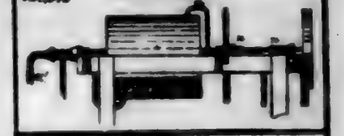
121,912 TODD AND TODD. COMBINED WATER-GAUGES AND COCKS.



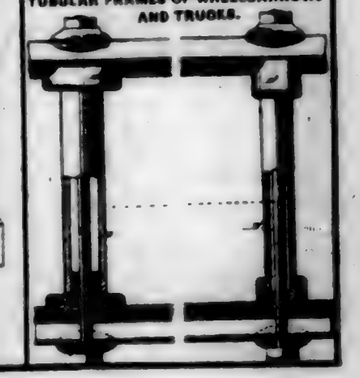
121,913 THEODORE TERRELL. HOISTING APPARATUS.



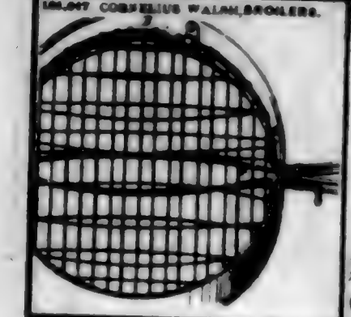
121,914 JAMES TURNER. DRIERS.



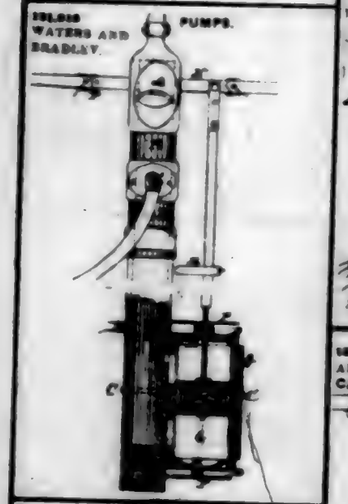
121,915 BROKWITH W. TUTHILL. TUBULAR FRAMES OF WHEELBARROWS AND TRUCKS.



121,917 CORNELIUS WALSH, BROILERS.



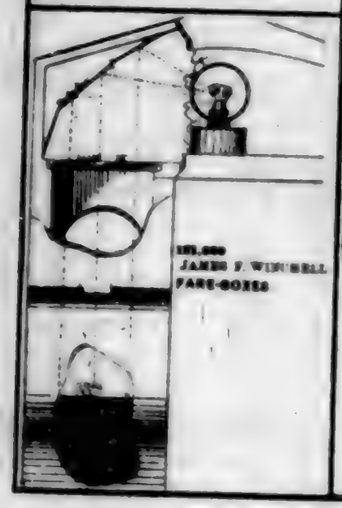
121,918 WATERS AND BRADLEY. PUMPS.



121,919 GARDNER A. WATKINS. PREPARING RATTAN FOR CHAIR-SEATS



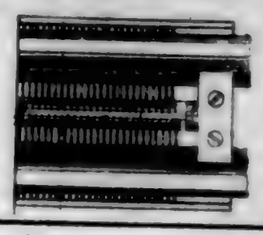
121,920 JAMES F. WINNELL. FARE-BOXES



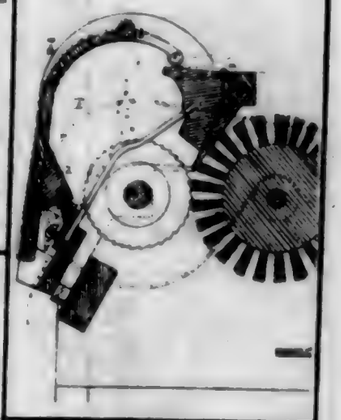
121,921 MARK L. WIER. SHAMPOOING APPARATUS.



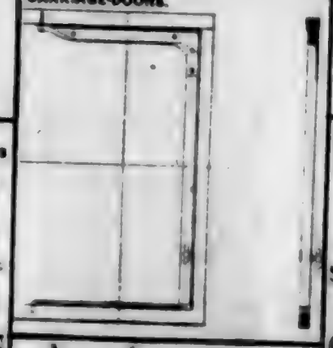
121,922 NATHANIEL CLARK. KNITTING-MACHINES.



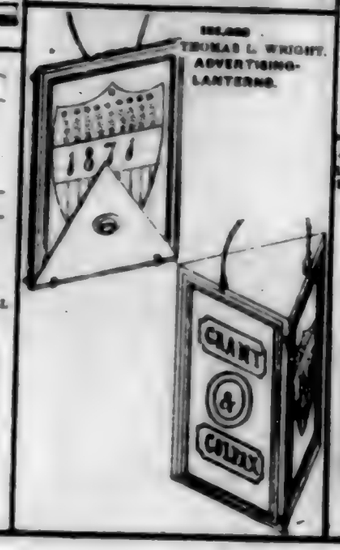
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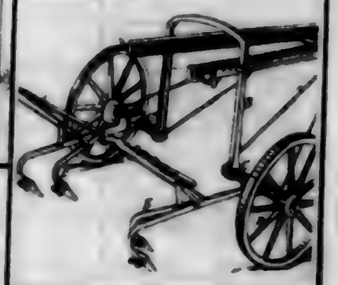
121,924 ALEXANDER WRIGHT. CARRIAGE-DOORS.



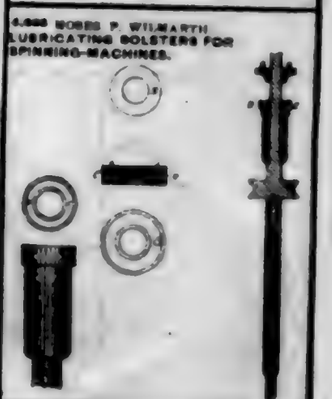
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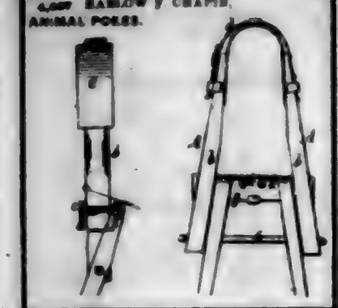
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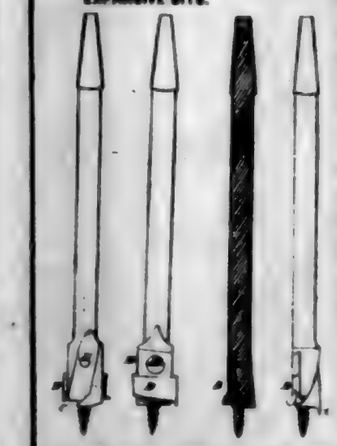
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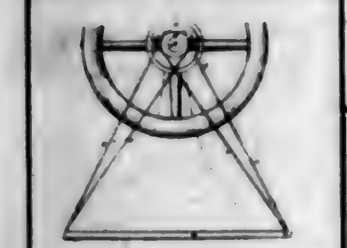
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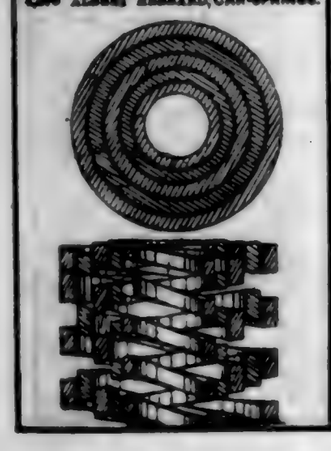
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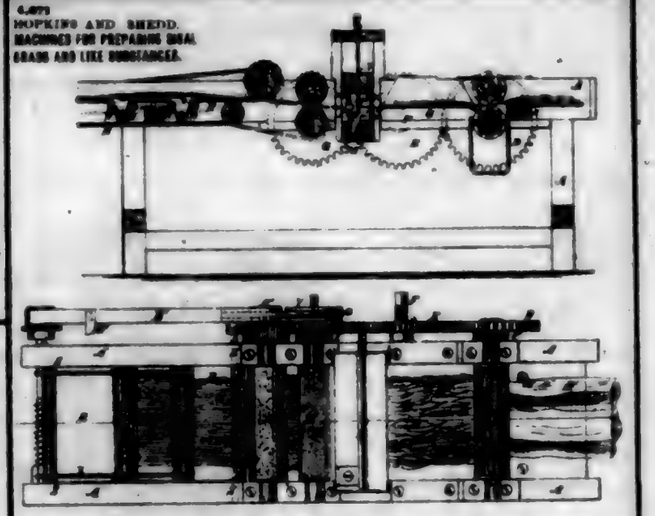
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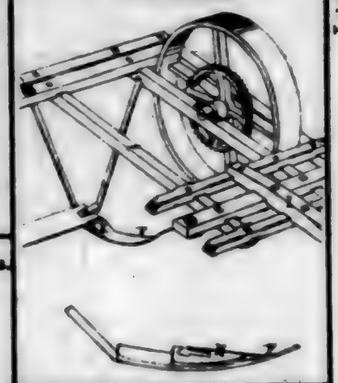
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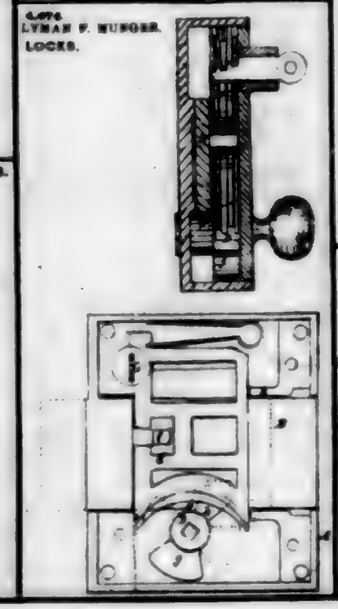
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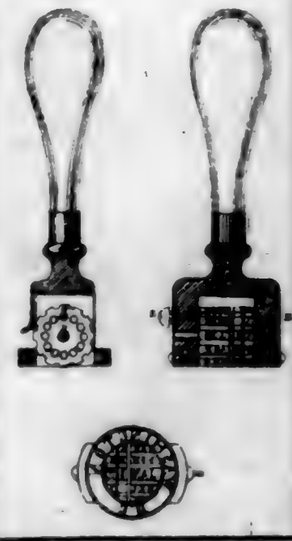
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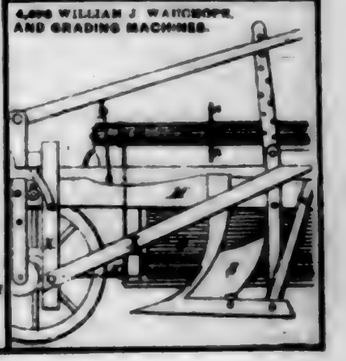
4,674 LYMAN F. WUFORD. LOCKS.



4,675 THOMAS J. W. ROBERTSON. HAND-STAMPS.

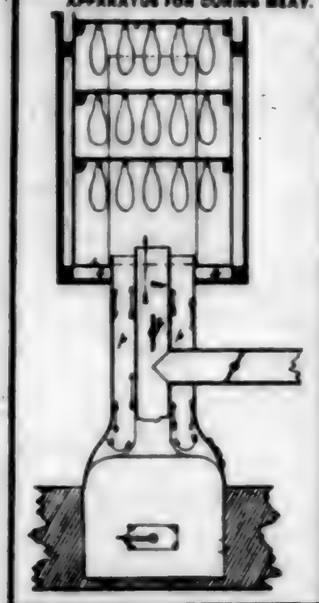


4,676 WILLIAM J. WAINSCOTT. AND GRADING MACHINES.

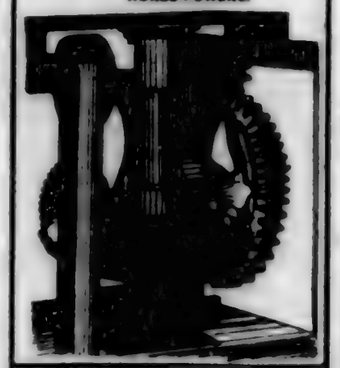


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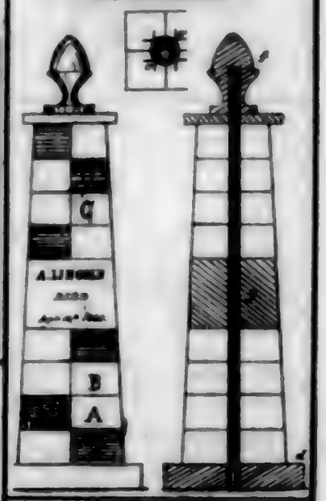
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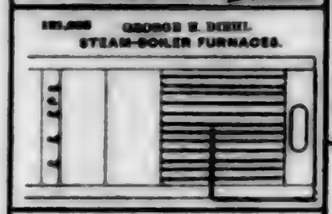
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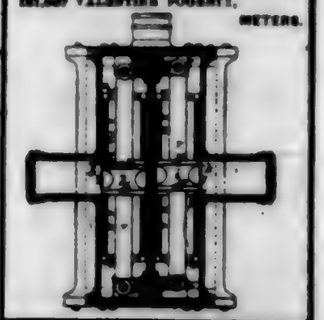
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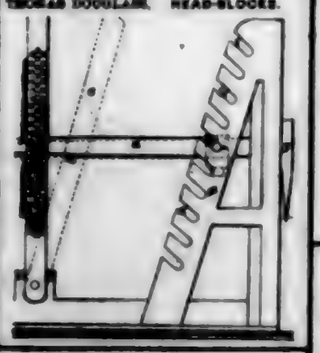
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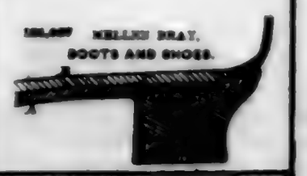
121,829 VALENTINE FOGERTY, METERS.



121,830 THOMAS DOUGLASS. HEAD-BLOCKS.



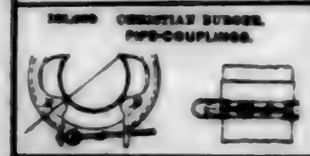
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WILLIAM HAMMOND BROWN, 121,832 BAGGAGE-TRUCKS.

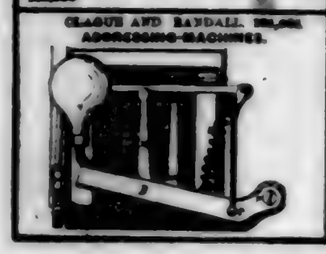


121,833 CHRISTIAN BURGER. PIPE-COUPLINGS.



DOMENIC CARDUZZO. LIQUID SOAPS. 121,834

CLAGUE AND RANDALL. 121,835 ADDRESSING-MACHINES.



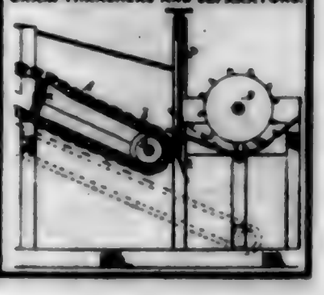
EDWARD EVANS. STEAM-ENGINES. 121,836



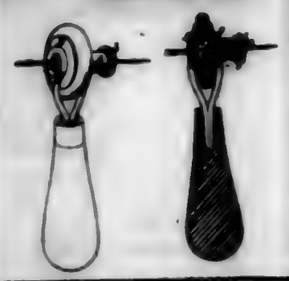
JOHN T. FOLEY. 121,837 SIGNS FOR STREET-LAMPS.



121,838 CHARLES A. HALL, GRAIN-THRASHERS AND SEPARATORS.



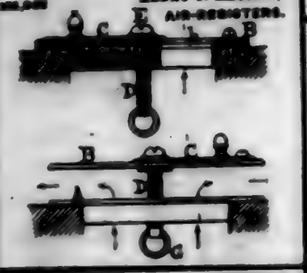
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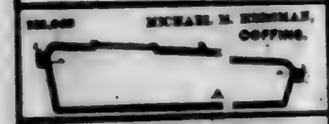
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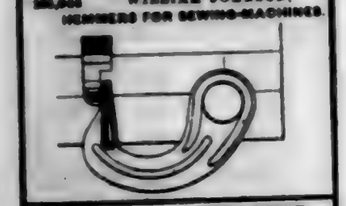
121,842 HENRY P. HAYDEN, AIR-REGISTERS.



121,843 MICHAEL H. HINEMAN, COFFINS.



121,844 WILLIAM JOHNSON. HEMMERS FOR SEWING-MACHINES.

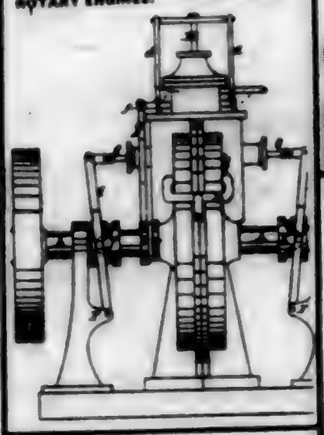


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LA MOTTE, SAER, AND CLAYTON, 121,846 COLORED PAPER.

121,847 ROTARY ENGINES. RUFUS LEACH.

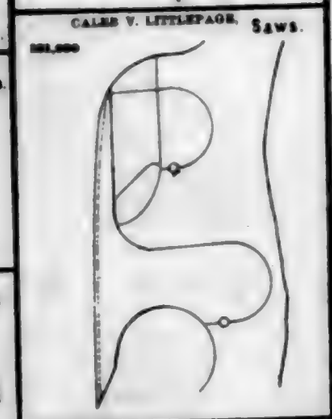


121,848 CHARLES LEFFIO. REMOVING TIN FROM TIN-SCRAP.

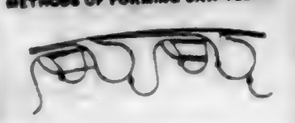
JOSEPH LESSLER, 121,849 LAWN-SPRINKLERS.



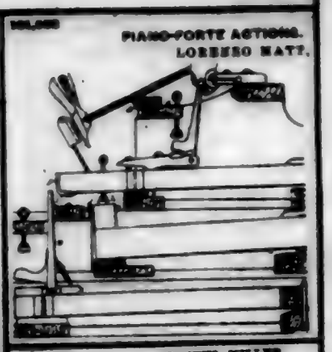
CALEB V. LITTLEPAGE. 121,850 SAWS.



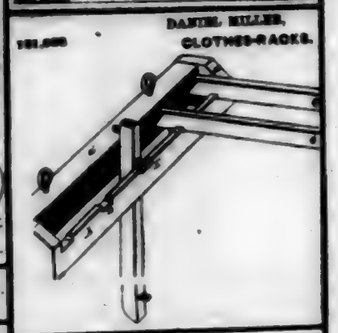
121,851 CALEB V. LITTLEPAGE. METHODS OF FORMING SAW-TEETH.



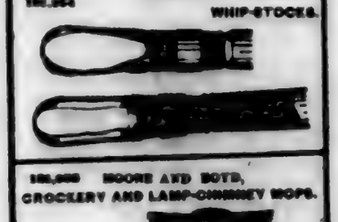
PIANO-FORTE ACTIONS. 121,852 LORENZO NATT.



DANIEL MILLER, 121,853 CLOTHES-RACKS.



WILLIAM H. MILLIKIN, 121,854 WHIP-STOCKS.



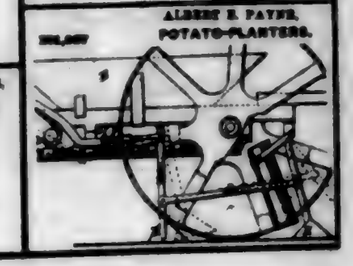
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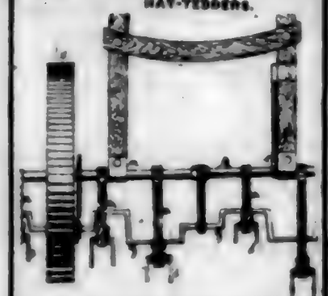
JASON NEWSOM, 121,856 SECURING RAILWAY RAILS TO IRON TIES.



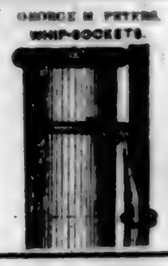
ALBERT E. PAYNE, 121,857 POTATO-PLANTERS.



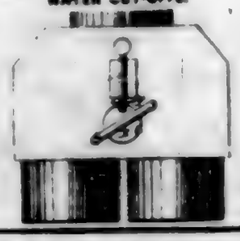
121,958 JOHN C. PERRY. HAY-TEDDERS.



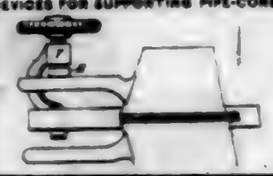
121,959 GEORGE M. PETERS. WHIP-SOCKETS.



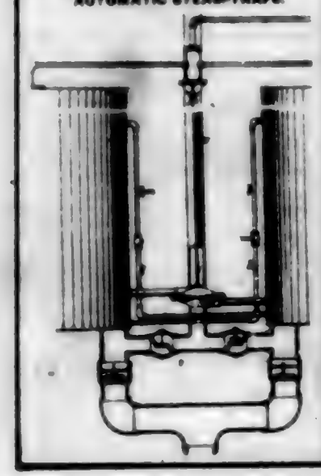
121,960 PHILIP B. PETERS. WATER CUT-OFFS.



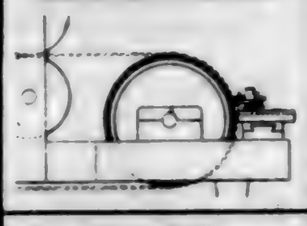
121,961 CHARLES J. C. PETERSEN. DEVICES FOR SUPPORTING PIPE-CORES.



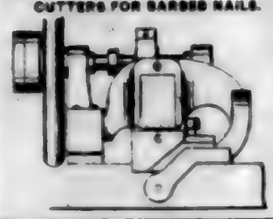
121,962 WILLIAM EDGAR PRALL. AUTOMATIC STEAM-TRAPS.



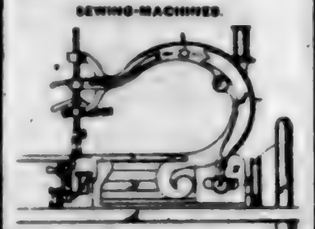
121,963 BENJAMIN F. RADFORD. MANUFACTURE OF BELT-KNIVES.



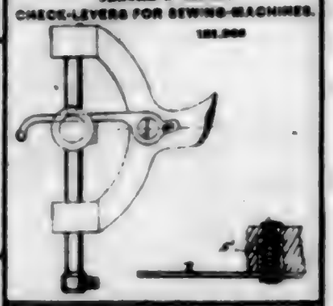
121,964 EDWARD RILEY. CUTTERS FOR BARBED NAILS.



121,965 JEROME B. SECOR. SEWING-MACHINES.



121,966 JEROME B. SECOR. CHECK-LEVERS FOR SEWING-MACHINES.



121,967 JEROME B. SECOR. NEEDLE-HOLDING DEVICES FOR SEWING-MACHINES.



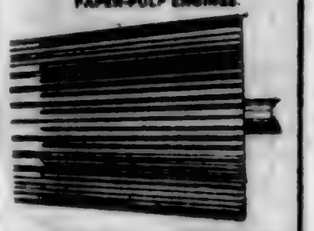
121,968 HENRY F. SHAW. GOVERNORS.



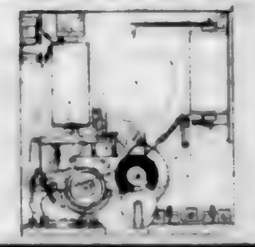
121,969 SAMUEL J. SHAW. MODES OF CUTTING SOCK AND SHOE SOLES.



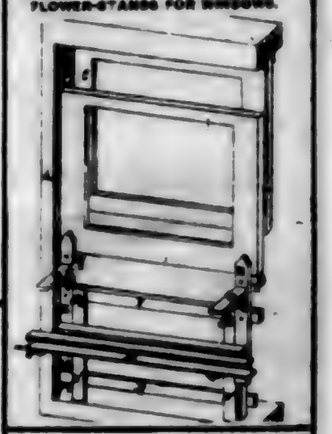
121,970 CHARLES SMITH. PAPER-PULP ENGINES.



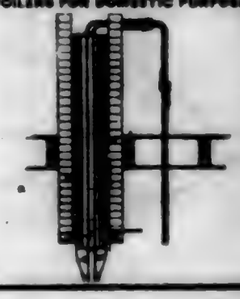
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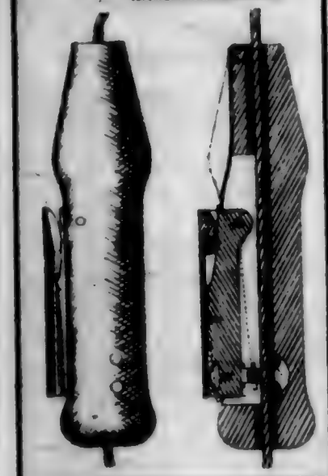
121,972 FRANCIS W. TEFT. FLOWER-STANDS FOR WINDOWS.



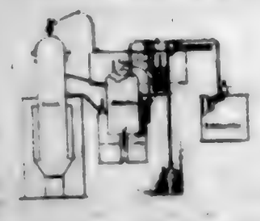
121,973 FRANKLIN TILL. BOILERS FOR DOMESTIC PURPOSES.



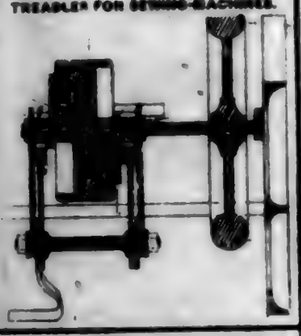
121,974 JOHN TURNBULL. HAND-PROTECTORS.



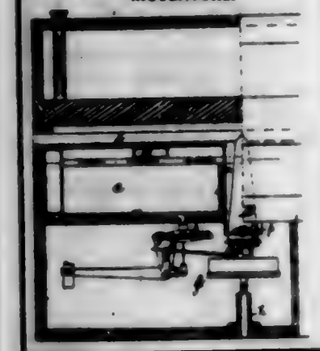
121,975 ALEXANDER C. TWINING. MACHINES USING AMMONIA.



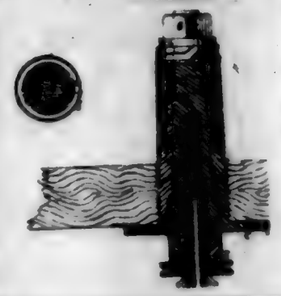
121,976 JOHN S. WINSLOW. TREADLES FOR SEWING-MACHINES.



121,977 WOODWARD AND MILLETT. INCUBATORS.



121,978 JAMES H. ALEXANDER. FAUCETS.



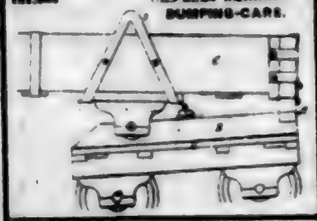
121,979 JOHN HENRY ANSELL. STEAM-BOILERS.



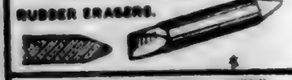
121,980 DANIEL ARNDT. DOOR-SECURERS.



121,981 CHARLES BARRETT. DUMPING-CARS.



121,982 WILLIAM H. BARTHOLOMEW. RUBBER ERASERS.



121,983 CALVIN T. BEERE. MANUFACTURE OF BARN-FORKS.

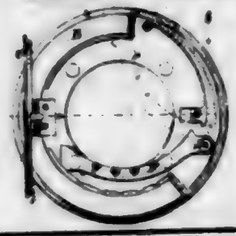


121,984 LOUIS BUDENHEIMER. COMPOUND OR FEVER-AND-AGUE CURE.

121,985 HENRY BULTHOFF. STAMP-GUIDES.



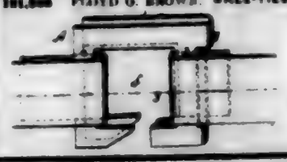
121,986 FRANKLIN W. BROWN. REVENUE-STAMP CANCELERS.



121,987 BROOKS AND EVERETT. SEAL-LOCKS.

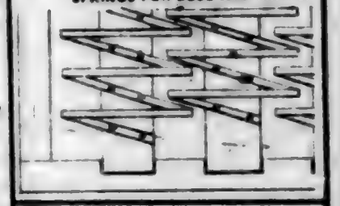


121,988 FLOYD O. BROWN. SALE-TIES.

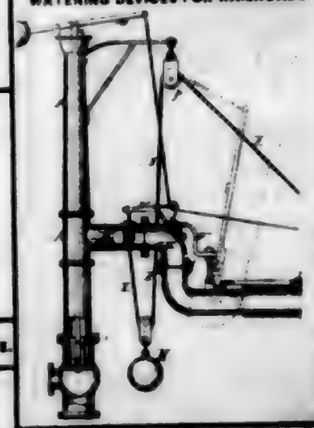


121,989 ISAAC BROWN. CURE OF CHILLS AND FEVER.

121,990 JAMES P. CHAMBERLIN. SPRINGS FOR BEDS AND SEATS.



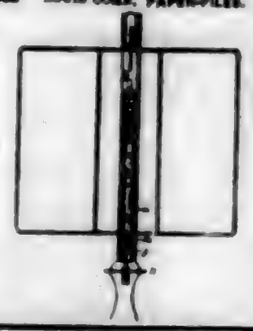
121,991 DANFORTH CHENEY. WATERING DEVICES FOR RAILROADS.



121,992 SAMUEL L. CLEMENS. DETACHABLE STRAPS FOR GARMENTS.

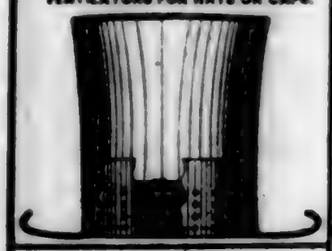


122,000 LOUIS COHN, PAPER-FILES.

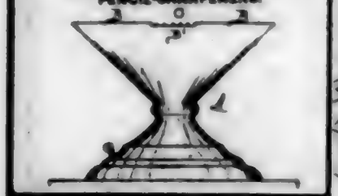


LEFFERT S. CORNELL, 122,001
BRINE FOR MANUFACTURE OF SALT.

122,002 WILLIAM DALE,
VENTILATORS FOR HATS OR CAPS.



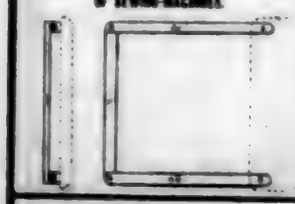
122,003 DAVIS AND ELLIOTT,
PENCIL-SHARPENERS.



122,004 HARDIMAN DEMONTROT,
HAIR WEAVING AND
MOUNTING APPARATUS.



122,005 ARTHUR DICKINSON,
MEANS FOR EXTENDING THE TABLES
OF SEWING-MACHINES.



122,006 DODSON AND BRAY,
BEE-HIVES.

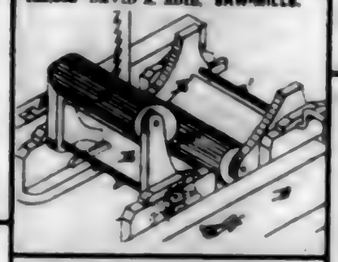


122,007 ERASTUS P. DOYER,
STEAM-RADIATORS.



122,008 J. JOSEPH EAGLETON,
JAPANNED FURNITURE-SPRINGS.

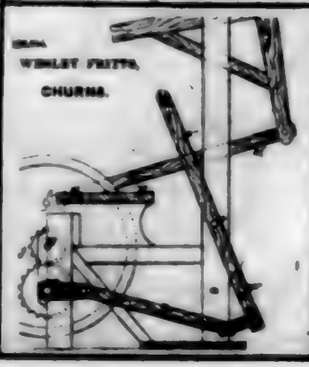
122,009 DAVID A. EDIE, SAW-MILLS.



122,010 JOHN FAUSSETT, GATES.



122,011 WINSLEY FRITTS,
CHURNS.



122,012 WILLIAM S. GAVAN,
ADVERTISING-ALBUMS.



122,013 JAMES GILLIS,
BUNG-INSERTERS.



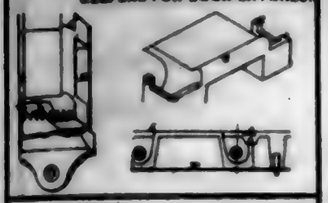
122,014 GEORGE S. GREEN,
HARVESTER-REELS.

122,015 THOMAS HAGERTY,
PUNCHING-MACHINES.

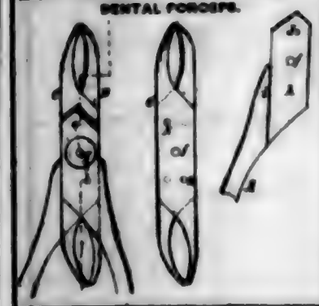
122,016 ABIJAH WHITNEY HALL,
COMBINED FRICTION AND
RATCHET CLUTCHES.

122,017 WILLIAM P. HALL,
STEAM-BOILER CASINGS
AND FURNACES.

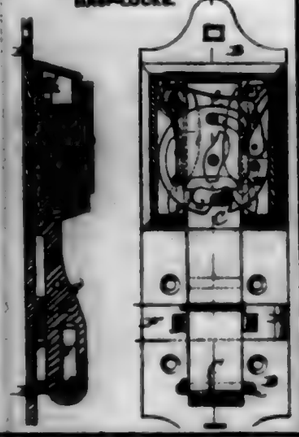
122,018 WILLIAM HARVEY,
KEEPERS FOR DOOR-LATCHES.



122,019 LEONARD GEORGE HASKINS,
DENTAL FORCEPS.



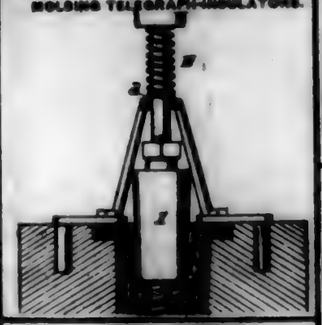
122,020 WILLIAM D. HEISTER,
HASP-LOCKS.



122,021 J. HERBERT HELM,
PROJECTILES.



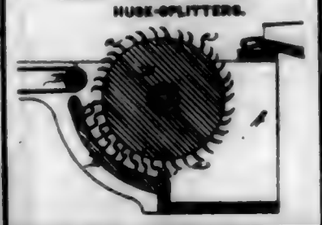
122,022 ROBERT HEMINGRAY,
MOLDING TELEGRAPH-INSULATORS.



122,023 SAMUEL S. HICHCOCK,
CASTERS FOR FURNITURE.



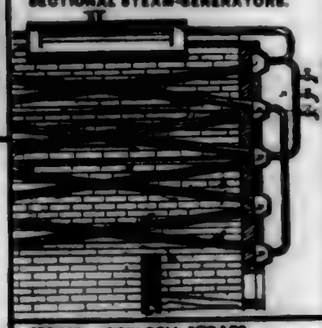
122,024 HENRY HOLLIS,
HUSK-SPLITTERS.



122,025 GEORGE A. HOWE,
ABRASIVE PAPER-HOLDERS.



122,026 DEWITT C. HOWELL,
SECTIONAL STEAM-GENERATORS.



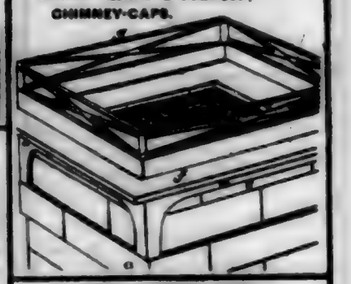
122,027 COW-BELL STRAPS.
JOSEPH H. HUGHES AND ABRAHAM HUGHES.



122,028 CHARLES JARVIS,
LINE-CONNECTORS.



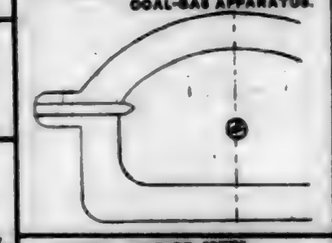
122,029 AARON B. JOHNSON,
CHIMNEY-CAPS.



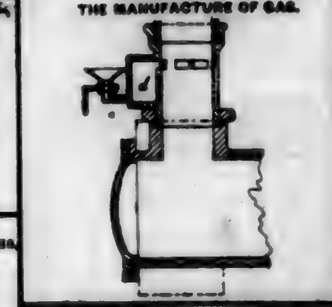
122,030 ALBERT L. JONES,
PAPER FOR PACKING.



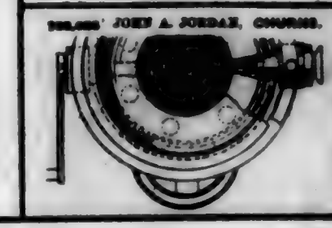
122,031 EDWARD JONES,
COAL-GAS APPARATUS.



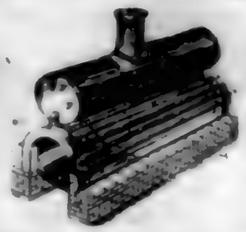
122,032 EDWARD JONES,
APPARATUS FOR
THE MANUFACTURE OF GAS.



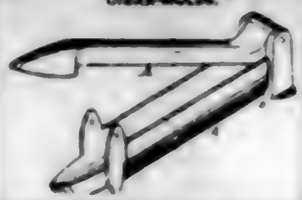
122,033 JOHN A. JORDAN, CHURNS.



122,027 JAMES JOSEPH JORDAN
STEAM-GENERATORS.



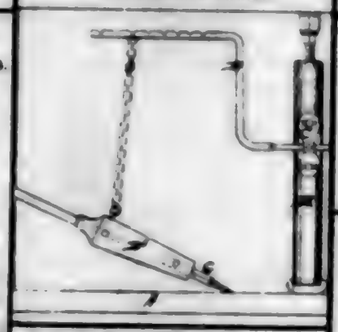
122,028 LAMAYE AND LYONS
CIGAR-MOLDS.



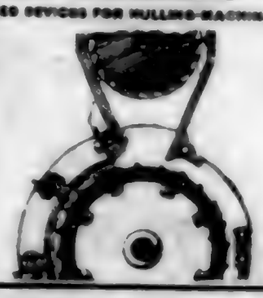
122,029 ALEXANDER LOWE,
UTERINE SUPPORTERS.



122,030 ISAAC LAMPLUGH,
COAL-MINING TOOLS.



122,031 DAVID KARNWEILER,
FEED DEVICES FOR MULLING-MACHINES.

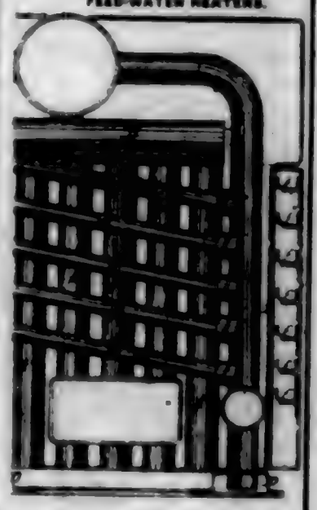


122,032 WASHINGTON I. LUDLOW,
POSTAL-CARDS.



122,033 KHARRIKO AND KHARRIKO,
PROCESSES FOR PREPARING OILS
FOR CERTAIN PURPOSES.

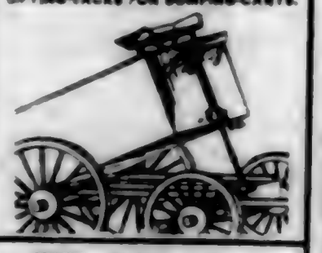
122,034 MIRADEAU N. LYNN,
STEAM-GENERATORS AND
FEED-WATER HEATERS.



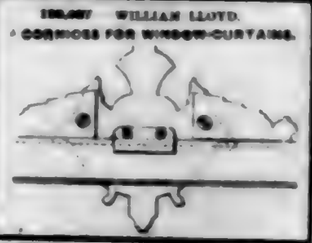
122,035 WEITZNER AND HANDLETT
MOCCASIN BOOTS AND SHOES.



122,036 ROBERT B. LITTLE,
LIFTING-JACKS FOR DUMPING-CARTS.



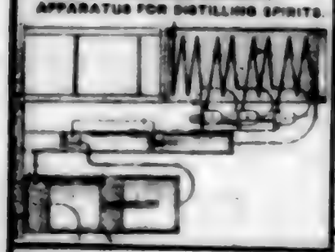
122,037 WILLIAM LLOYD,
CORNICES FOR WINDOW-CURTAINS.



122,038 JEROME KIDDER,
NEEDLE-ELECTRODES.



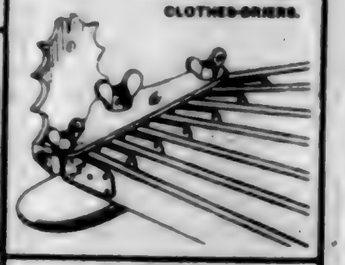
122,039 GOTT HARD KLEINER,
APPARATUS FOR DISTILLING SPIRITS.



122,040 HENRY C. LOCKWOOD,
ADJUSTABLE AND DETACHABLE
STRAPS FOR GARMENTS.



122,041 WILLIAM C. MAYNARD
CLOTHES-DRIERS.



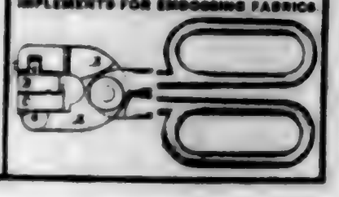
122,042 PRUDENCE A. LA FRANCE,
ROTARY ENGINES.



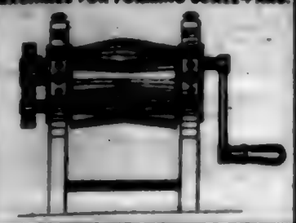
122,043 A. GENEVA LOCKWOOD
HORSE HAY-RAKES.



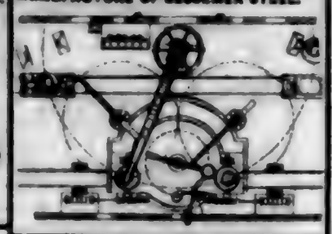
122,044 JAMES W. BAKER,
IMPLEMENTS FOR EMBOSSING FABRICS



122,045 FREDERICK MEYER,
MACHINES FOR FORMING SCALE-PANS.



122,046 JOHN B. PEARCE,
MANUFACTURE OF BESSEMER STEEL.



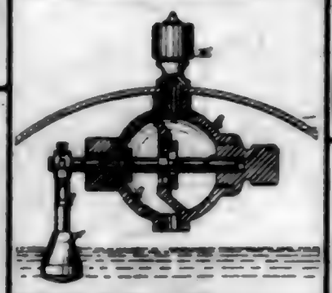
122,047 DAVID R. PROCTOR,
SPARK-ARRESTERS.



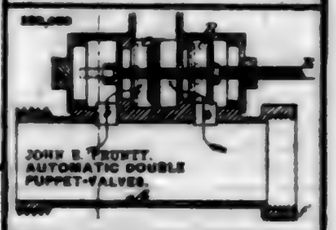
122,048 CHARLES MICHEL,
PROPULSION OF VESSELS.



122,049 JOHN PETERS,
STEAM-BOILER FLOAT-VALVES.



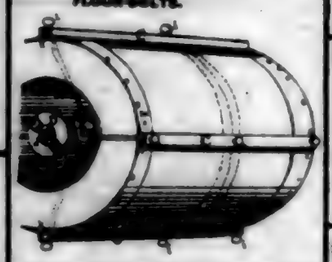
122,050 JOHN E. PRUITT,
AUTOMATIC DOUBLE
PUPPET-VALVES.



122,051 JOSEPH MOWAGHAN,
PEN AND PENCIL CASES.



122,052 HIRAM N. SPERRY,
FLOUR-BOLTS.



122,053 ANDREW RICHARDSON,
VAULT-COVER LOCKS.



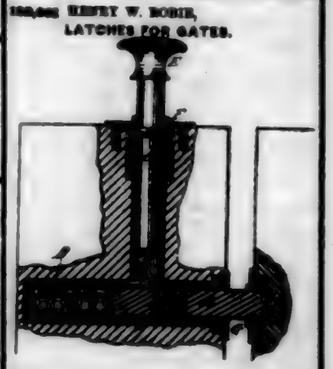
122,054 THOMAS H. B. MOREHOUSE,
BED-BOTTOMS.



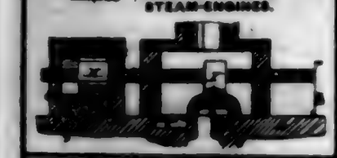
122,055 MYRON D. PHELPS,
LIGHTNING-RODS.



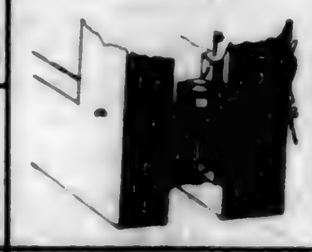
122,056 HENRY W. ROBIE,
LATCHES FOR GATES.



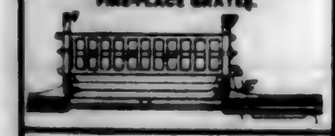
122,057 FRASER BUTLEY,
STEAM-ENGINES.



122,058 JOSEPH T. POPE,
SHUTTER-WORKERS.



122,059 DAVID PAIGE,
FIRE-PLACE GRATES.



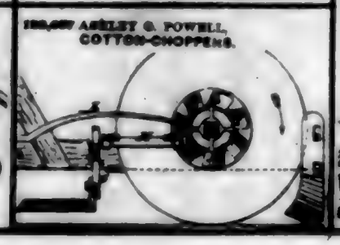
122,060 JOHN L. BOERER, HARVESTERS.



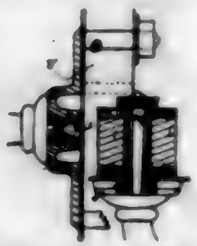
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WILLIAM P. PATTON,
MEAT-CHOPPERS.



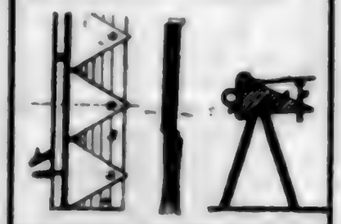
122,062 ASHLEY G. POWELL,
COTTON-CHOPPERS.



122,063 CYRUS W. BALADER.
TOP-JOINTS AND THEIR CONNECTIONS.



122,064 ISAAC G. BAUDERS.
SHARPENING HARVESTER-KNIVES.

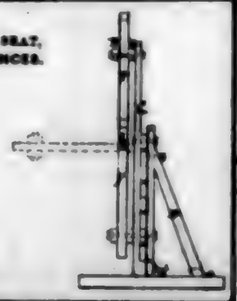


122,065 GEORGE W. BOULLAY.
COMPOUNDS OF VEGETABLE ALKALOIDS

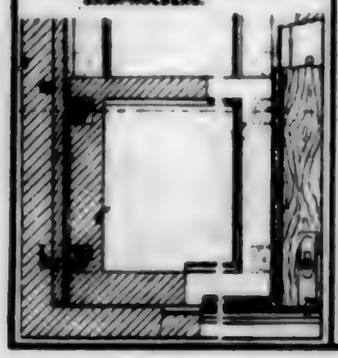
122,066 BOSIVER AND TAYLOR.
SWINGS FOR CHILDREN.



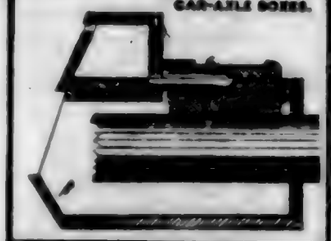
122,067
JAMES L. BRAT.
FLOOD-FENCES.



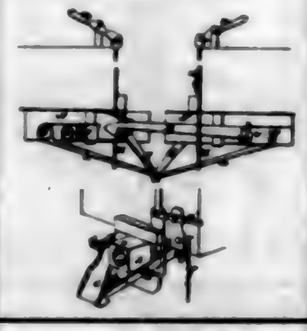
122,068 RAPHAEL BOND BELDIN.
SASH-HOLDERS.



122,069 HERMAN SIMMONS AND DAVID FORBES.
CAR-AXLE BOXES.



122,070 WILLIAM H. SKINNER.
CAR-COUPLINGS.

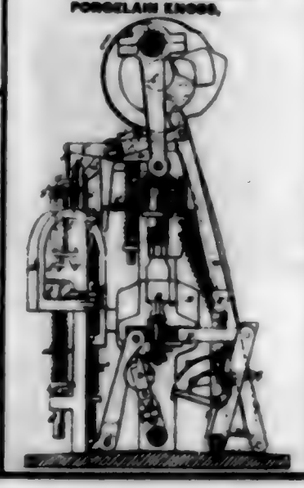


122,071



WILLIAM A. SLEPPY.
CLOTHES-DRIERS.

122,072 THOMAS J. SLOAN.
MACHINES FOR MAKING
PORCELAIN KNOBS.



122,073 ROBERT W. SMITH.
ANTI-FRICTION JOURNAL-BOXES.

122,074 WILLIAM H. SPARKS.
AXLES FOR VEHICLES.



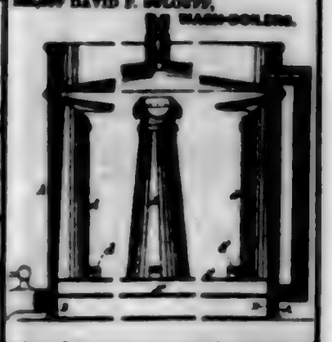
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CHURN-DASHERS.



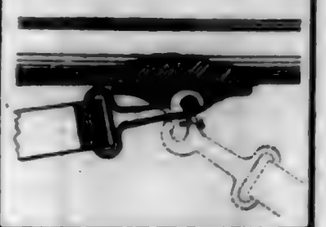
122,076 WILLIAM H. STOUT.
MOLDS FOR SEWER-PIPES.



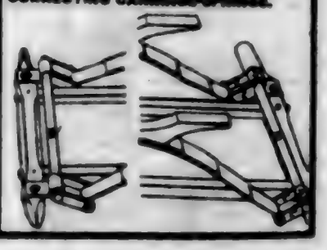
122,077 DAVID P. SULOUFF.
WASH-BOILERS.



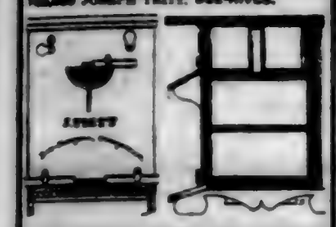
122,078 JAMES THORNTON AND BRENT G.
LATTA, MOLD-BACK ATTACHMENTS TO
VEHICLES



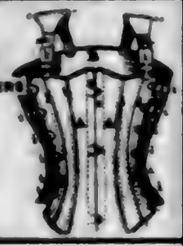
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JOHN A. TOPLIFF AND GEORGE H. HAY.
CONNECTING CARRIAGE-SPRINGS.



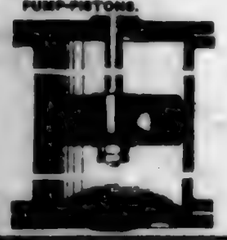
122,080 JOSEPH TEITE. BEE-HIVES.



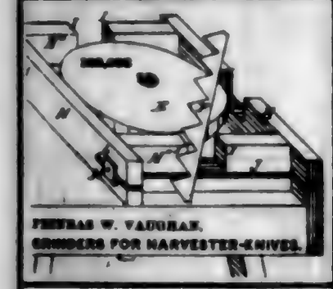
122,081
MARY J. O. VANDERBRAND.
CORSET AND
SKIRT-SUPPORTER
COMBINED.



122,082 JOHN VAN TASSEL.
PUMP-PISTONS.

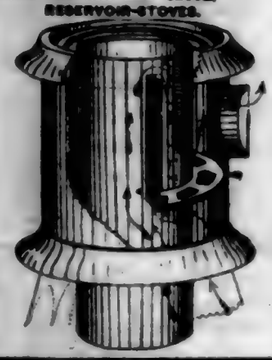


122,083



PERRAS W. VAUGHAN.
GRINDERS FOR HARVESTER-KNIVES.

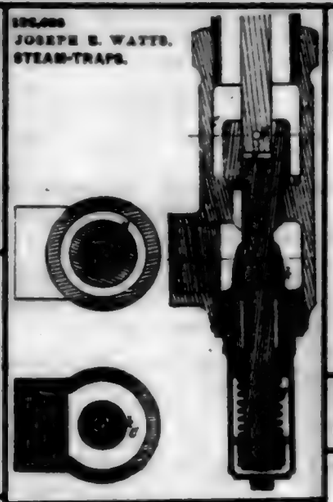
122,084 VROOMAN AND GLUTE.
RESERVOIR-STOVES.



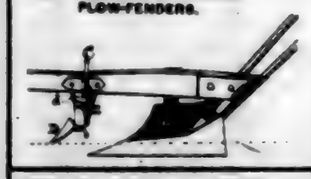
122,085 PRESTON WARE.
BOOTS AND SHOES.



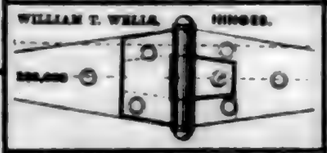
122,086 JOSEPH E. WATTS.
STEAM-TRAPS.



122,087 ALANSON P. WEBBER.
PLOW-FENDERS.



122,088 WILLIAM T. WELLS. HINGES.



122,089 WILLIAM WESTLAKE.
WASH-BOWLS.



122,090
HERRIDGE
WEEBLER.
FAGOTS FOR
METAL BARS.



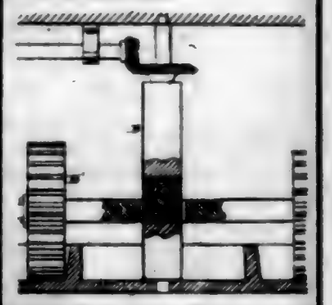
122,091 EDWIN V. WHITAKER.
GLOVES.



122,092
JOSEPH WILLIAMS.
SOLDERING IRONS.

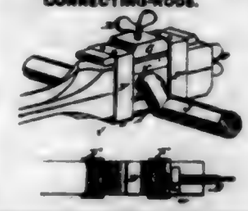


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JOSEPH R. WILSON.
WASHING-MACHINES.

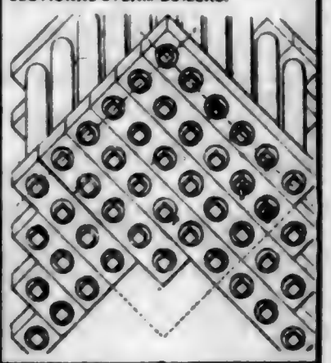


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JOSEPH R. WILSON.
EXTRACTING GREASE FROM FABRICS.

4,077 JOHN W. ESTY.
CONNECTING-RODS.



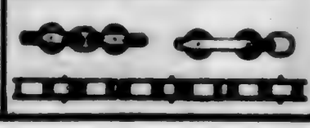
4,077 WILLIAM H. CORNELL.
SECTIONAL STEAM-BOILERS.



4,078
ROBERT H. LAFFERTY.
PUMPS.



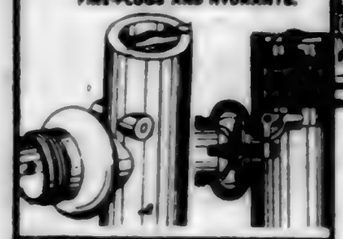
4,079 WILLIAM B. McCLURE.
BACK-CHAINS FOR CART-SADDLES.



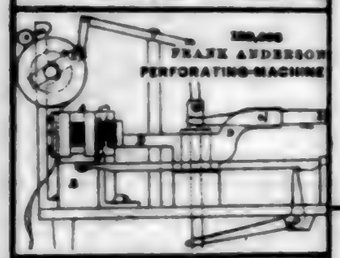
ILLUSTRATIONS OF PATENTS
ISSUED FROM
THE UNITED STATES PATENT OFFICE
DECEMBER 26, 1871.

122,096 FIELDING WALLACE ACRE. MUSICAL NOTATION.

122,097 ALBERT FRANCIS ALLEN. FIRE-PLUGS AND HYDRANTS.

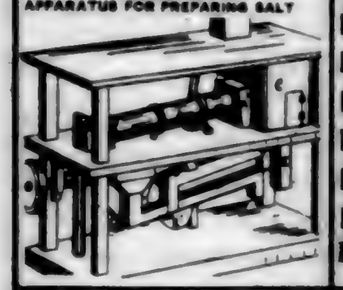


122,098 FRANK ANDERSON. PERFORATING-MACHINE.

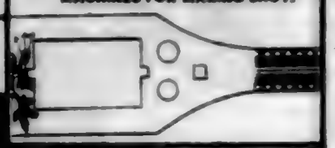


122,099 FRANCIS BAKER. PREPARING SALT.

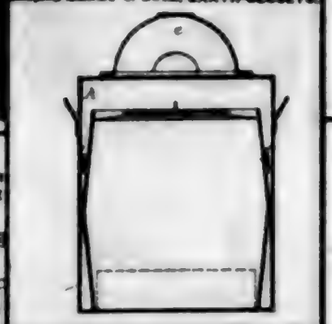
122,100 FRANCIS BAKER. APPARATUS FOR PREPARING SALT.



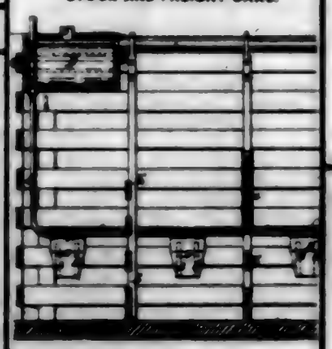
122,101 WILLIAM W. BRIGG. MACHINES FOR MAKING SHOT.



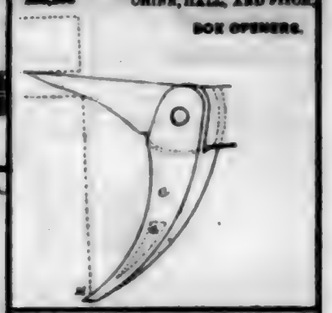
122,102 HENRY C. BULL. EARTH-CLOSETS.



122,103 JAMES B. CALKINS. STOCK AND FREIGHT CARS.

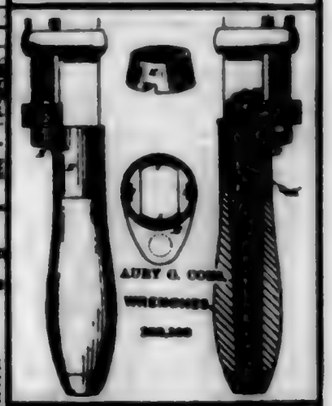


122,104 CRIPE, HALL, AND PITOK. BOX OPENERS.



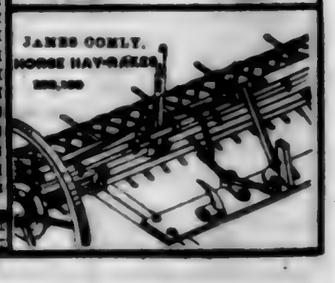
122,105 HENRY A. CLARK. TREADLE FOR SEWING-MACHINES.



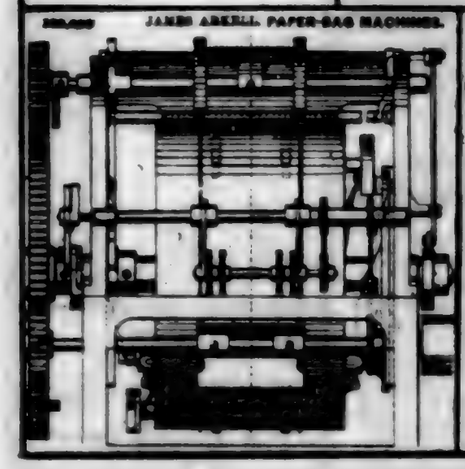


AUBY G. COBB. WRENCHES. 122,106

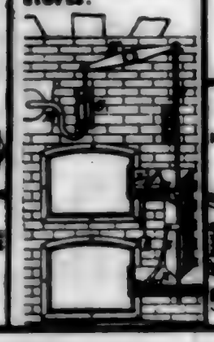
122,107 JAMES COMLY. HORSE HAY-RAKES.



122,108 JAMES ARKELL. PAPER-BAG MACHINES.

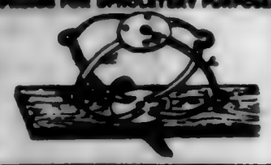


122,109 FERDINAND E. CHATAIN. DRAUGHT-REGULATORS FOR FURNACES AND STOVES.

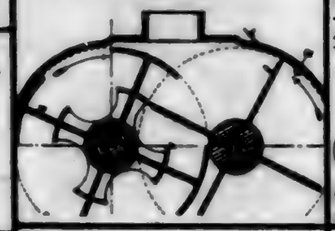


122,110 GUERRIER AND LEONARD. MARINE PAINTS.

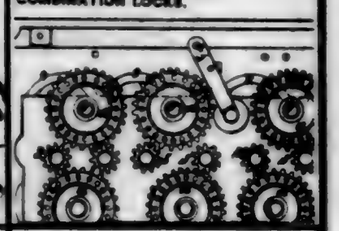
122,111 JAMES F. DUFFY. SPRINGS FOR UPHOLSTERY PURPOSES.



122,112 WILLIAM G. HYNDMAN. ROTARY BLOWER.



122,113 FRANKLIN PETER HARSEN. COMBINATION LOCKS.



122,114 CHARLES H. HOGLESTON. HEELS FOR BOOTS AND SHOES.



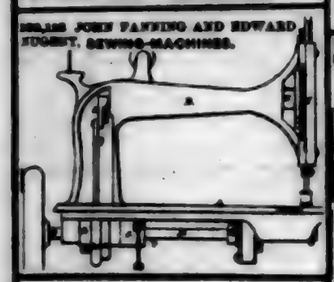
122,115 THOMAS A. B. HERON. CALF-WEANERS.



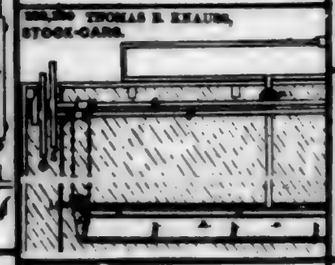
122,116 MARK MARTIN. GATES.



122,117 JOHN FANNING AND EDWARD SUGDEN. SEWING-MACHINES.



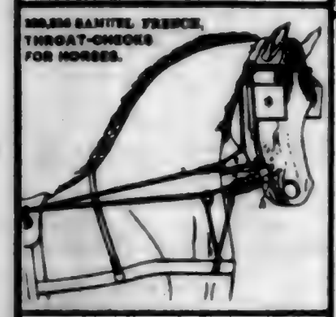
122,118 THOMAS B. KNAUSS. STOCK-CARS.



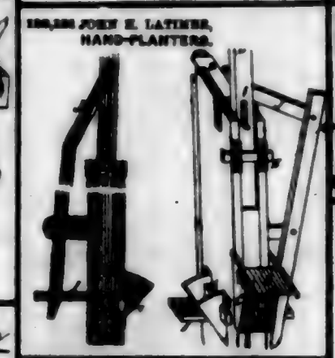
122,119 JAMES T. MILLIMAN. STOVE-LEGS.



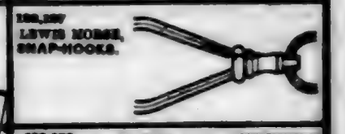
122,120 SAMUEL FRENCH. THROAT-CHOKES FOR HORSES.



122,121 JOHN H. LATIMER. HAND-PLANTERS.



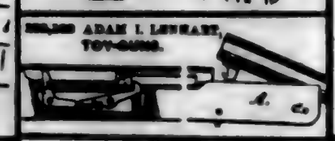
122,122 LEWIS MORSE. SNAP-HOOKS.



122,123 JOHN GODFREY GUENTHER. APPARATUS FOR RECTIFYING SPIRITS.



122,124 ADAM I. LEHRAY. TOY-GUNS.

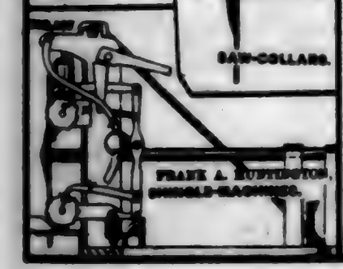


122,125 DANIEL MYERS. MACHINES FOR PITCHING BARRELS.

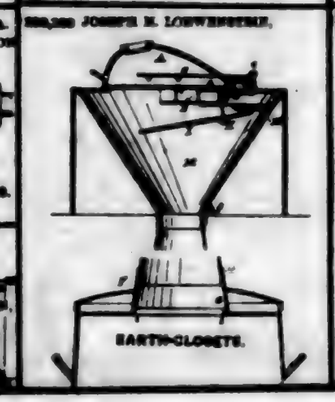


122,126 FRANK A. HUNTINGTON. SAW-COLLARS.

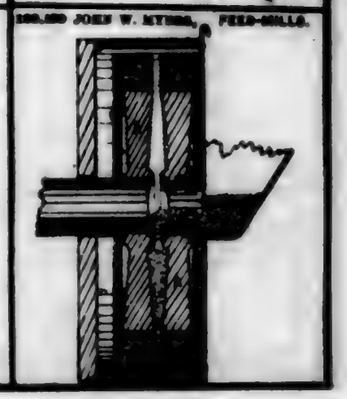
122,127 FRANK A. HUNTINGTON. SHINGLE-MACHINES.



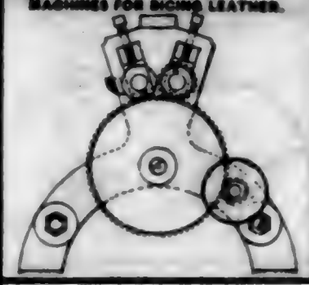
122,128 JOSEPH H. LOEWENSTEIN. EARTH-CLOSETS.



122,129 JOHN W. MYERS. FEED-MILLS.



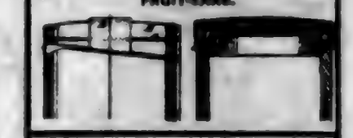
PERKINS, AND PEWCOMB.
MACHINES FOR REMOVING GREASE FROM LEATHER.



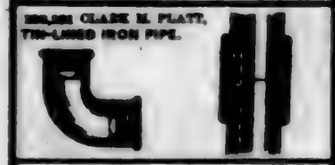
MACHINES FOR DICING LEATHER.

BENJAMIN F. WRIGHT.
PROCESSES OF TREATING RAWHIDE.

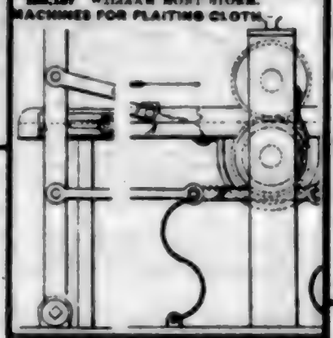
HANNAH U. ALLEN.
FRUIT-JARS.



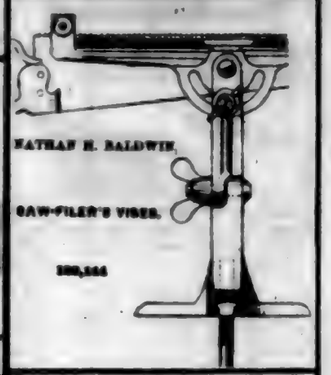
CLARK H. PLATT.
TIN-LINED IRON PIPE.



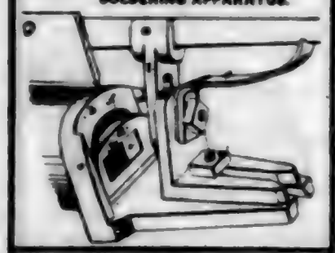
WILLIAM MONT STORM.
MACHINES FOR PLAITING CLOTH.



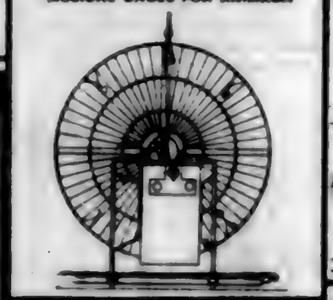
NATHAN H. BALDWIN.
SAW-FILER'S VISE.

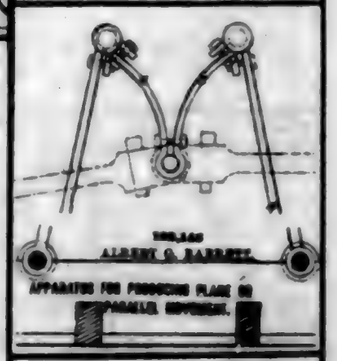


DAVID PORTHOUS.
SOLDERING APPARATUS.



ANTONIO SUPPERNIO.
MUSICAL CASES FOR ANIMALS.





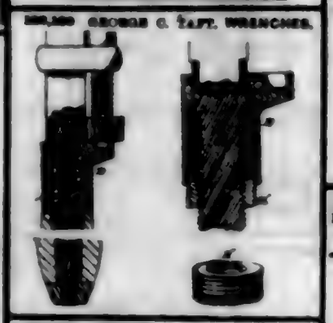
HENRY G. FOSTER.
BARRELS.



JOSEPH L. ROSS.
DRAWING-TABLE



GEORGE C. TAFT. WRENCHES.



LESTER D. BELKAP.
THILL-COUPLINGS.



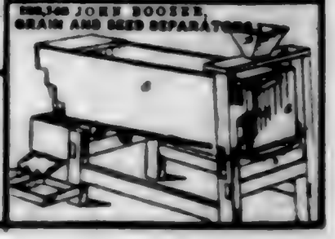
RALPH HOGLE.
COOLING COAL RODS AND SIFTERS.



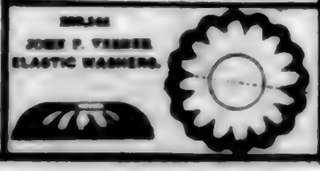
DANIEL G. TUCK.
SAFETY-CLASPS FOR POCKETS.



JOHN BOOSER.
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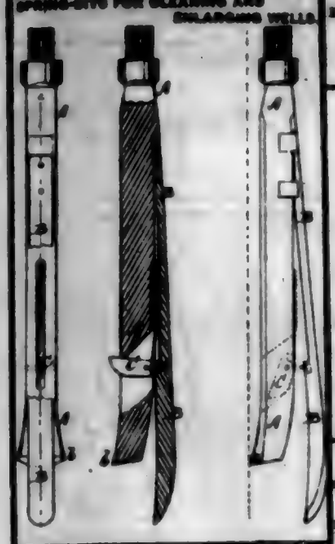
JOHN P. VERNER.
ELASTIC WASHERS.



HITCHELL AND TAYLOR.
FASTENERS FOR BAGS, &c.



STEVEN E. HOYT.
SPRING-GUN FOR CLEANING AND ENLARGING WELLS.

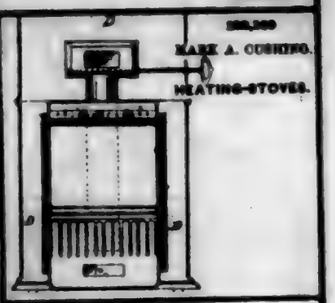


BENJAMIN TRASELIS BURGESS, JR.
HAIR-SWITCHES.

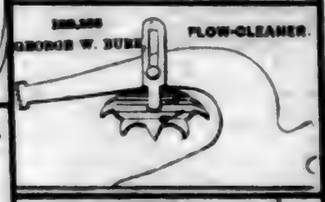


PERRY A. BURGESS.
BLIND-STOPS.

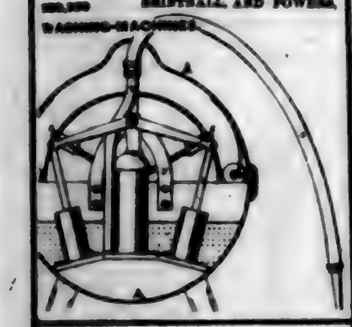
MARK A. CUSHING.
HEATING-STOVES.



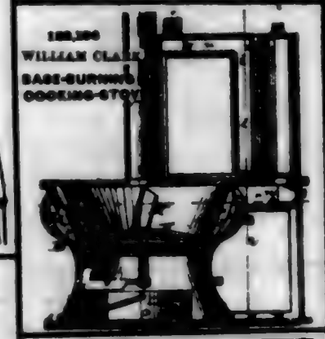
GEORGE W. BURR.
FLOW-CLEANER.



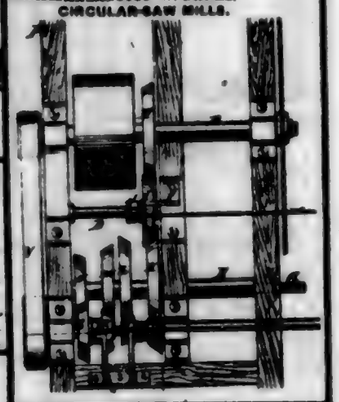
BRIDTHALL AND POWERS.
WASHING-MACHINES.



WILLIAM CLARK.
BASE-BURNING COOKING-STOVE.



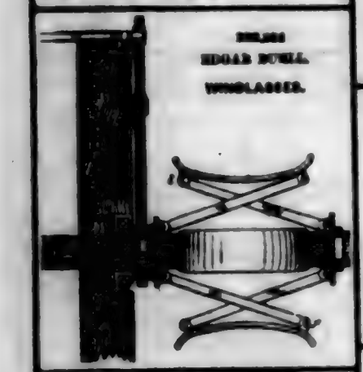
MALANCTON W. DANER.
CIRCULAR-SAW MILLS.



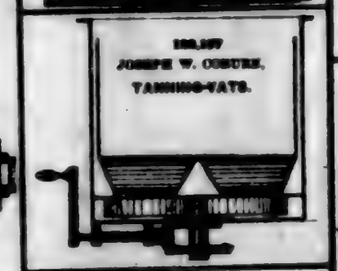
WILLIAM H. H. DOTY.
PLOWS.



EDGAR BUELL.
WINDLASSES.



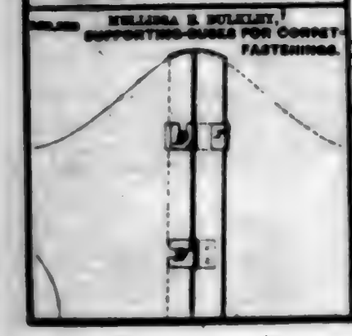
JOSEPH W. OSBURN.
TANNING-VATS.



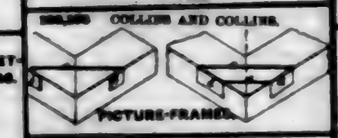
WILLIAM FAWCETT.
MODE OF COVERING HARNESS-MOUNTINGS.



WILLIAM B. BULKLEY.
SUPPORTING-GUARDS FOR CORSET-FASTENINGS.



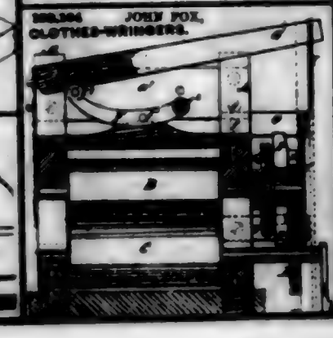
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JOSEPH CROCK.
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JOHN FOX.
CLOTHES-WRINGERS.



JOHN G. SEVERN.
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JAMES GILMORE. BUTTER-TUBS.

LEON GODEFROY.
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NATHAN HAYDEN.
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FREDERICK A. HALSWORTH.
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ADOLPH KOEHLER.
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STEPHEN D. LAWRENCE.
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THOMAS LEE. RETRACTORS FOR REVOLVING FIRE-ARMS.

JOHN MAYER. DETACHABLE BAR CHAIN.

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MICHAEL McNALLEY.
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MICHAELS, JR, AND COBLE.
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GUN-BARRELS.

EDMUND S. MYERS.
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FRANKLIN NALLEY.
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STEPHEN PARSONS.
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JOSEPH PEE.
CORN-PLANTERS.

ROBERT JAMES POND. JEWELRY-FASTENINGS.

HENRY H. QUACKENBUSH.
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PETER ROBINSON.
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JOHANN SCHMIDT.
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JOHN HENRY SCHMIDT.
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122,216 — TRISCOTT AND WHEELER, SHOE-FASTENINGS.

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122,224 — CARCOFF AND ROBINSON, POCKET-BOOK GUARDS.

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122,226 — HENRY CLOSTERMAN, KITCHEN-TABLES.

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JOSEPH W. CREMIN. LIQUID-METERS.

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WILLIAM T. DOLE. MODE OF COUPLING CARRIAGES.

LEONARD F. DUNN. THREAD-MEASURING APPARATUS.

GEORGE E. DYER. STUMP-EXTRACTORS.

FREDERICK ELLIA. LADDERS.

MARSHALL M. ELLIS. WINDOW CASINGS AND SASHES.

DAVID ZIMMERMAN EVANS. CULTIVATORS.

GEORGE P. FARMER. NEEDLE-THREADER AND SPOOL COMBINED.

HARRIET A. FARNAM. BEE-HIVES.

JAMES FLOWER. BORING-BARS FOR FACING THE ENDS OF CYLINDERS.

JOSEPH GARDNER. FIRE-EXTINGUISHERS

EDWIN GOMES. EXPLOSIVE COMPOUNDS.

JOHN GRAY. MACHINES FOR WRAPPING WIRE-CABLES.

JOHN GRAY. MACHINES FOR LAYING BRIDGE-CABLES

DARWIN A. GREENE. STEAM-ENGINES.

HENRY J. HAIGHT. INCUBATORS.

ALONZO F. HAVENS. COVERS FOR GAS-RETORTS.

HILL AND STEWART. REVOLVING HARROWS.

FRANCIS B. HULBERT. STEAM-BOILER TUBE-BUSHINGS.

JAMES L. JACKSON. TABLES FOR EMERY-GRINDERS.

PETER N. JACOBUS. DENTAL FORCEPS.

WILLIAM KELLY. MAKING STEEL CASTINGS.

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MICHAEL J. KERIGAN. MECHANISMS FOR A REED-ORGAN SWELL.

JOHN KNAPP. PRESERVING EGGS.

LUCIUS J. KNOWLES. SCREW-PRESSES.

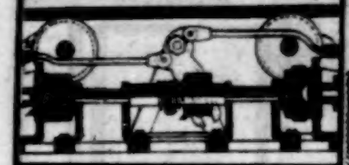
ELIZA J. LAKE. METHODS OF CUTTING CLOTH.

DANIEL MARTIN LAMB. PLOWS.

DORUS W. LANDVOIGT. RULING-MACHINES.

DENNIS LANE. HEAD-BLOCKS FOR SAW-MILLS.

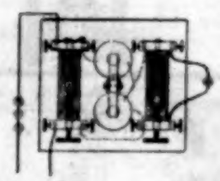
122,264 CHANCY H. LATHROP, RAILWAY CAR-BRAKES.



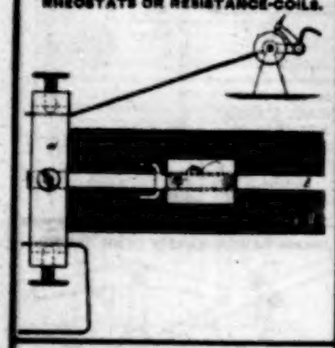
ARTHUR LE CLERCQ, COPYING-PRESSES.



GEORGE LITTLE, ELECTRO-MAGNETIC APPARATUS.



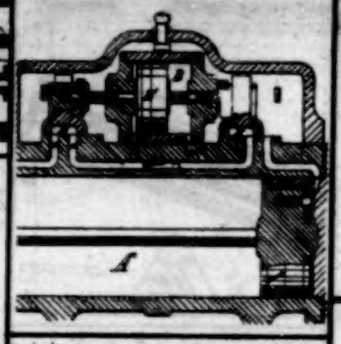
GEORGE LITTLE, RHEOSTATS OR RESISTANCE-COILS.



JOSEPH W. LYON, MECHANISM FOR OPERATING ATTACHMENTS IN SEWING-MACHINES.



JOHN C. MACDONALD, VALVE-GEARS FOR STEAM-ENGINES.



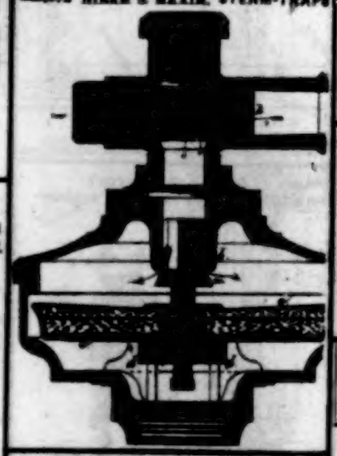
GEORGE M. MARSHALL, SHEARS FOR CUTTING METAL.



WILLIAM L. MARTIN, RAILWAY SWITCHES.



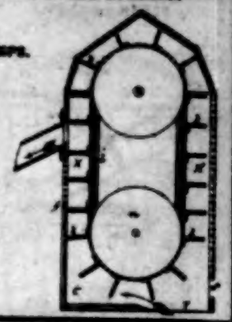
HIRAM S. MAXIM, STEAM-TRAPS.



WILLIAM H. McNEILL, DEODORIZING THE GASES FROM LARD-BOILING.



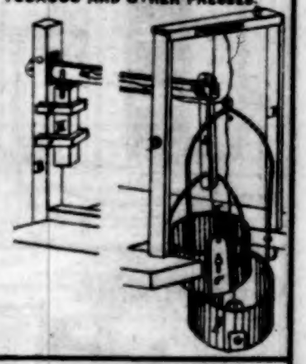
MURDOCH AND ROSLAND, BELT-PUMPS.



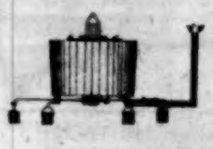
OBERCHAIN AND OBERCHAIN, TURBINE WATER-WHEELS.



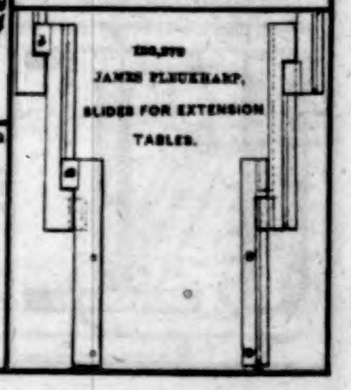
NATHANIEL H. PEPPER, TOBACCO AND OTHER PRESSES.



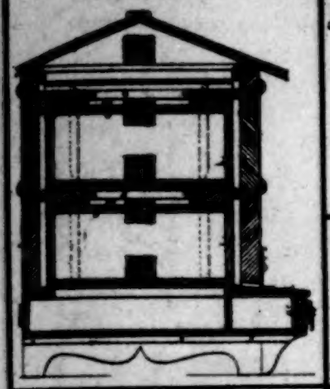
DARNEY N. M. PERROT, JOURNAL-BEARINGS.



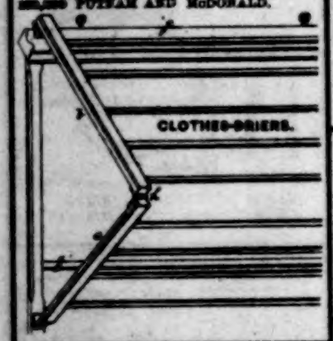
JAMES PLUCKHARP, SLIDES FOR EXTENSION TABLES.



JAMES S. PROCTER, BEE-HIVES.

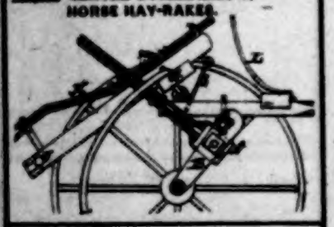


PUTNAM AND McDONALD, CLOTHES-DRIERS.

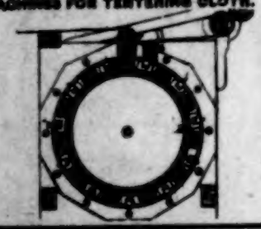


JAMES M. RAIL, COMPOSITIONS FOR LIQUID SOAP.

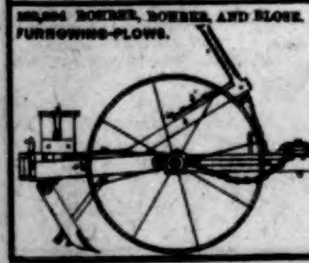
SAMUEL ROCKAFELLOW, HORSE HAY-RAKES.



GEORGE S. ROGERS, MACHINES FOR TENTERING CLOTH.



ROEHRIG, ROEHRIG, AND BLOSE, FURROWING-PLOWS.



GELSTON SANFORD, MACHINES FOR UNTWISTING AND PICKING HAIR-ROPES.



GEORGE W. SCHOFIELD, COMBINED HAND-PUNCHES AND SCREW-DRIVERS.



JOHN SLATCHER, SHOE-FASTENINGS.



HIRAM SMITH, SASH-BALANCES.

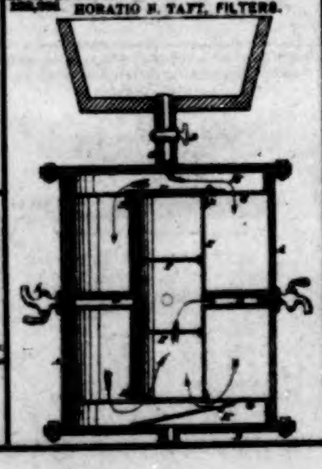


JACOB H. SNYDER, DISINTEGRATING WASTE VULCANIZED RUBBER.



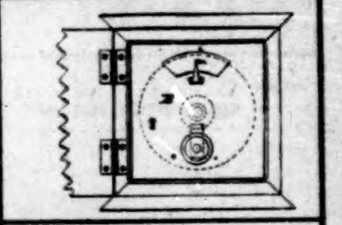
CHARLES P. SNOW, LIGHTNING-RODS.

HORATIO N. TAFT, FILTERS.



VIELLE AND ROBELLAZ, WATCHMEN'S TIME-CHECKS.

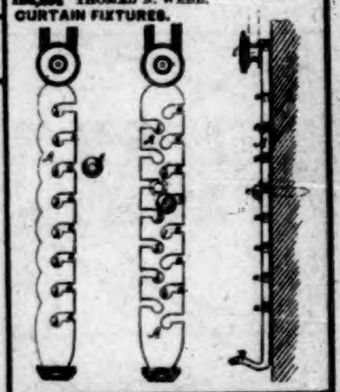




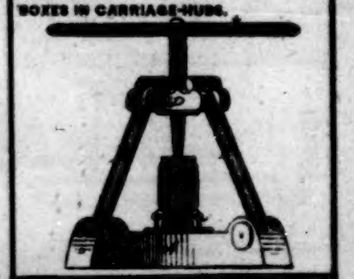
JAMES WAGER, HEATING-STOVES.



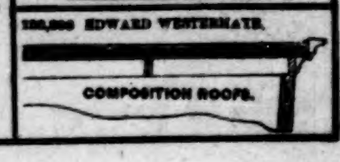
THOMAS N. WEBB, CURTAIN FIXTURES.



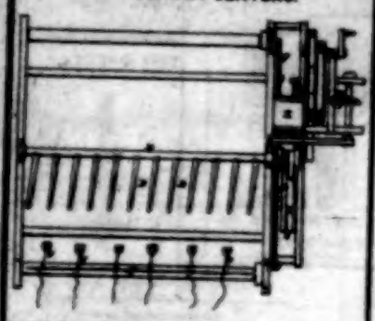
CHARLES WEIDIG, APPARATUS FOR SETTING BOXES IN CARRIAGE-HUBS.



EDWARD WESTERMAIR, COMPOSITION ROOFS.



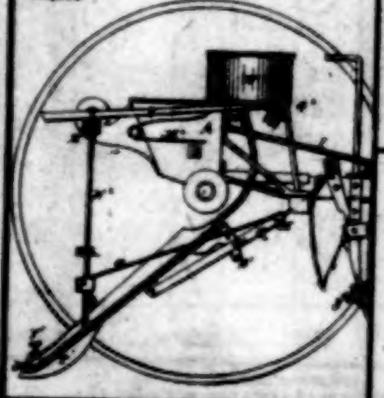
WHEELER AND WHEELER,
CARPET-BEATERS.



LOREN J. WICKS,
MACHINES FOR FILLING FRUIT-CANS



LYMAN WRIGHT AND ORISON G. EWINGS,
GRAIN-DRILLS.



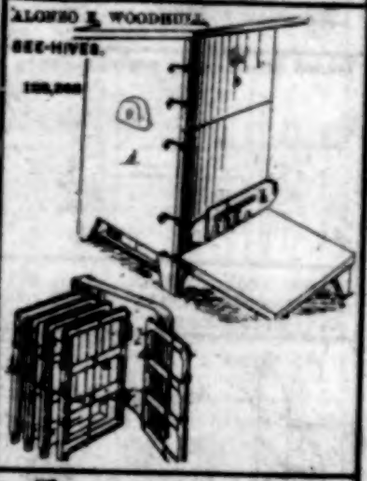
MATTHEW E. WILDMAN,
PROPELLING VESSELS.



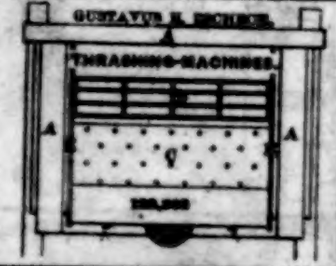
WRIGHT AND EWINGS,
SEEDING-MACHINES.



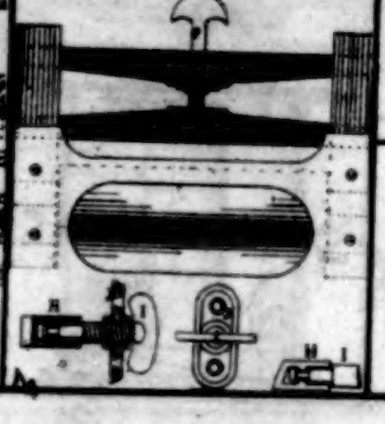
ALONZO E. WOODRUFF,
BEE-HIVES.



GUSTAVUS E. RICHTER,
THRASHING-MACHINES.



ROBERT B. HUGUENIN, ROLLERS AND
FASTENINGS FOR CLOTHES-WRINGERS.



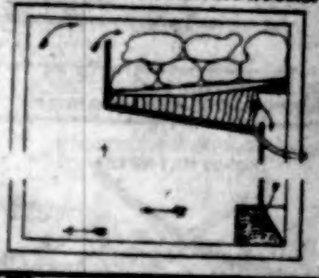
DANIEL A. JOHNSON,
THILL-COUPLINGS.



HENRY H. LOUER,
PUMP-ROD ATTACHMENTS.



AZEL S. LYMAN,
COOLING AND VENTILATING ROOMS.



WILLIAM MAGEE, COPPER ALLOYS.

THOMAS H. SAVERY EXPANDING PULLEY



JAMES HENRY BURTON,
MANUFACTURE OF GUN-BARRELS.



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